



Building Codes Toolkit

For Building Owners and Occupants

June 2021



FEMA

Contents

Building Codes Toolkit: Foreword.....	3
Building Codes Toolkit: Building Codes 101.....	4
Building Codes 101.....	4
What Are Adopted Building Codes and Standards?	4
Adoption and Enforcement.....	5
Permitting Process	6
Building Codes Toolkit: History of Building Codes	7
History of Building Codes.....	7
Origins of Modern Codes	7
Building Codes Throughout Time	8
Building Codes Today	8
Advocating for Communities Built to Code.....	8
Building Codes Toolkit: Checklist to Acquire a Building Permit	9
Checklist to Acquire a Building Permit.....	9
Create Project Plan	9
Pre-Application Meeting with Local Code Official.....	10
Complete and Submit Building Permit Application.....	11
Permit Review Process	11
Obtain Building Permit.....	11
On-site Inspections	12
Final Approval.....	12
Building Codes Toolkit: Checklist to Ask Your General Contractor	14
Checklist to Ask Your General Contractor.....	14
Building Codes Toolkit: Role of the Insurance Industry.....	18
Role of the Insurance Industry	18

The Different Types of Natural Hazard Insurance.....18

Building Codes Save on Insurance20

Building Codes Toolkit: Frequently Asked Questions 21

Frequently Asked Questions.....21

Building Codes Toolkit: Resources..... 27

Websites27

Additional Resources27

Building Codes Toolkit: Foreword

The new FEMA Building Science Branch Building Codes Toolkit offers basic guidance and tools to help building owners and occupants learn about building codes and the process of making a building stronger against natural hazards.

Building codes are the minimum design and construction requirements to protect the health and safety of building owners and occupants, and the public. In the past, building codes, how they are added into buildings, and their value to communities have only been understood by the technical community. FEMA knows it is also important for building owners and occupants to learn about building codes and how they protect lives and property.

This version of the Building Codes Toolkit includes updates to documents from the 2014 toolkit, as well as new documents that will help readers better understand building codes. The toolkit can be read as one publication or can be read as separate documents to give readers information specific to their needs. Step-by-step guidance along with background information of building codes is provided to help readers make informed decisions about building codes. Readers will learn the importance of building codes and how to go about adding them into their building.

This toolkit is meant to encourage more people to adopt and support building codes and standards. Areas that adopt building codes become safer and stronger against natural hazards. This results in less damage, costs, deaths, and injuries caused by the disaster. The FEMA Building Codes Toolkit can help building owners and occupants become one step closer to living in an area that is safer and stronger against natural hazards.

Building Codes Toolkit: Building Codes 101

This is the first document of the updated Building Codes Toolkit and is meant to give a general overview of building codes. This document can be read as the introduction to the full Building Codes Toolkit publication or as a separate fact sheet that provides a brief understanding of building codes.

The Building Codes 101 Fact Sheet explains what building codes are, their purpose, and who is in charge of adopting and enforcing modern, up-to-date building codes. The Building Codes 101 fact sheet will give the reader a general understanding of building codes so that they can properly follow the information and guidance provided in other documents.

Building Codes 101

We have little control how a natural hazard is going to impact where we live. Making sure our buildings are built to withstand natural disasters is one of the best things you can do to minimize the risks posed to your building or structure and the lives of those who live in them.

What Are Adopted Building Codes and Standards?

Building codes are a set of consensus standards and technical requirements that regulate the design, construction, alteration and maintenance of buildings. They specify the minimum legal requirements to protect the health and safety of building occupants. Building codes have been in use in the United States since the late 1800s when cities started to adopt and enforce building codes in response to large fires. The intent of early building codes was to decrease the risk of fire and, over time, the scope has expanded. Today's building codes address structural integrity, resistance to fire, wind, flood, snow, earthquakes, and tsunamis, life safety, building systems and construction materials.

The International Code Council (ICC) publishes updated model building codes every three years which are developed using a consensus-based process. In partnership with ICC, FEMA supports the development of building codes by monitoring, strengthening, and supporting disaster-resistant requirements of national building codes and standards.

Most states and local jurisdictions adopt the model building codes maintained by ICC instead of creating their own. ICC's family of International Codes include:

- **International Building Code (IBC)** – Applies to almost all types of new buildings International
- **Residential Code (IRC)** – Applies to new one- and two-family dwellings and townhouses of not more than three stories in height
- **International Existing Building Code (IEBC)** – Applies to the alteration, repair, addition or change in occupancy of existing structures.



Figure 1. Facts about Building Codes

Adoption and Enforcement

State, local, and/or tribal jurisdictions are responsible for adopting and enforcing building codes. In some cases, an area might adopt a code and make changes to it based on aspects specific to the location where the building codes will be used. As of January 2020, 35%¹ of communities in the nation have adopted a building code and have a system in place for building regulation. However, many areas still have not adopted a building code or have weakened building codes by making changes to them.

Many areas are at risk of damage from earthquakes, hurricanes, floods, tornados, wildland fires, and other natural hazard events. Adoption and enforcement of up-to-date building codes is the best line of defense against such events. Building owners and local communities can also protect themselves by building above minimum code to protect lives and property.

Property owners, planners, designers, contractors, elected officials, emergency managers, and other decision makers must understand building codes and their value. Decision-makers must also support the adoption and enforcement of updated building codes to make buildings stronger against natural disasters. Incorporating building codes into communities and building above the minimum code requirements are both important steps to becoming safer and stronger against disasters.

¹ Based on the [FEMA National Building Code Adoption Tracking Portal](#)

Permitting Process

It is important to understand building code requirements before starting any construction project. Local building codes define the necessary permitting, inspection and rebuilding techniques. Most remodeling projects and all new construction require one or more building permits before work can begin.

If a building permit is not obtained for a project that needs one, the building owner may be subject to legal action. If the project is completed without a building permit and does not meet building code standards, the building department may require that additional work be done at the owner's expense.

After construction is finished, any other work to bring a building up to code will in most cases be more expensive than if the building was originally built to code. Designing and building to code not only helps save lives and property. It can also save time, money and potential legal action.

Building Codes Toolkit: History of Building Codes

This document provides readers with information about the development of building codes throughout time. It gives an overview of the origins of building codes, the creation of modern building codes, as well as building codes today and how it is important for areas to adopt the latest codes and standards.

The last two pages of the History of Building Codes document include the FEMA Policies and Regulations Related to Building Codes and Standards timeline. This timeline lists dates related to building codes and standards since 1977 that can give readers a deeper understanding of the history of building codes.

History of Building Codes

Cultures throughout history have valued safe and strong building codes. Building integrity dates as far back as 2000 B.C. to the Code of Hammurabi, where builders who constructed faulty buildings would be punished with death. Much time has elapsed since 2000 B.C., and although our need for building codes remains the same, our motivation for the adoption and implementation of them has changed.

Origins of Modern Codes

The origin of modern building codes as we know them today are fostered by four factors:

1. The Insurance industry who promotes the establishment of standards to minimize accidents/claims;
2. Social organizations who look to eliminate squalor and impact on health;
3. Local governments who develop regulations to deliver health and safety to taxpayers; and
4. Disasters. It is through the adoption and implementation of building codes that we can mitigate loss of life and property.



Figure 2. Four factors of modern building codes

Building Codes Throughout Time

Building codes and standards are sets of regulations designed to keep building owners and occupants safe against natural disasters. The Earthquake Hazards Reduction Act of 1977 established the need for creating and promoting model building codes to make buildings more resilient against natural hazards.

Over time, the advocacy for model building codes increased, and in 2000, the first nationwide minimum consensus model codes were published. Since 2000, states and communities across the country that have adopted the consensus model codes have saved and estimated \$32 billion in building damage according to FEMA's [Building Codes Save](#) study.

Building codes specific to different hazards and types of construction have been developed over the years by the International Code Council (ICC), and are updated every three years. This three-year cycle of updating the codes provides communities with the most up-to-date information in making buildings stronger and safer against natural hazards.

Building Codes Today

Today's building codes are designed to provide building owners and occupants with homes that will keep them safe against natural hazards prone to their area. The most up-to-date version of the codes are the 2021 International Codes (I-Codes). While the 2021 I-Codes are the strongest set of building codes to date, it is important to remember that they are the minimum life safety requirement. The minimum life safety requirement is the minimum action that can be taken to make buildings resistant against hazards. For stronger buildings that can better withstand natural hazards, it is recommended that you build your home above the minimum life safety requirements. Visit www.inspecttoprotect.org to learn how strong the building codes are in your area.

Advocating for Communities Built to Code

Building codes are intended for everyone and are available worldwide. However, many individuals do not understand the importance of having a home or building with up-to-date building codes. Learning more about the building codes in your community is the first step to creating a world with safe and resilient buildings. If your area has not adopted the latest building codes and standards, it is important to encourage the need for stronger buildings to reduce the risk of life and property.

Building Codes Toolkit: Checklist to Acquire a Building Permit

This document is intended to inform building owners and occupants of the general process for acquiring a building permit. The Checklist to Acquire a Building Permit walks readers through each stage they will encounter while in this process.

Detailed descriptions of each phase for acquiring a building permit are provided along with check boxes that allow users to track their progress. A notes section is provided at the end of the document for readers to write any additional information that may be useful for them in this process.

Checklist to Acquire a Building Permit

This document equips and helps building owners understand the general process for acquiring a building permit before starting new construction, rebuilding, or mitigation work. It should not be used as a substitute for understanding the building codes and regulations in your community.

Changes, additions, and remodeling projects may not require all drawings and submittals listed. However, in some cases, a design professional may be needed to create a signed and sealed set of plans before submitting for a building permit. The details of every project should be reviewed to make sure they meet your local building codes and regulations.

Create Project Plan

As the building owner, you must decide the scope of your project and the expertise that is required to complete it successfully. Complex projects, such as new construction, may require the help of an architect and/or engineer to plan and create the designs. The design planning process is also a good opportunity for you to ask about mitigation techniques that could be added as part of the project to reduce any risks from natural hazards. Most mitigation techniques are a lot less expensive to apply to buildings if they are added as part of the building's scheduled maintenance and upgrade.

You also need to decide if you should hire a general contractor for the construction process of your project. It is strongly recommended that you hire a general contractor for new construction, rebuilding, or mitigation work. For help with hiring a general contractor, review the Checklist of Questions to Ask Your General Contractor. Discuss with your local code official if you have any questions when planning the scope of your project and determining if you should hire a design professional or general contractor.

- ☐ Project plan (See Basic Project Planning Template)
- ☐ Checklist of Questions to Ask Your General Contractor

Pre-Application Meeting with Local Code Official

Local code officials can offer advice on how to make your project a success and avoid problems that could cost you time and money. Discussing plans with a code official will help determine if you need a permit for your project, if there are other local requirements that need to be met, and what documents are required for your application.

- ☐ Permits are generally required for the following:
- ☐ New construction of buildings or structures
- ☐ Mitigation or retrofit work
- ☐ Alterations, repairs or additions to existing buildings or structures
- ☐ Rehabilitation of historic properties
- ☐ Changes to electrical, mechanical and plumbing systems
- ☐ Development in the floodplain

Note: The above list of construction projects is not all inclusive; please consult your local code official to determine requirements for your project.



Figure 3. A local building code inspector inspects an above-ground shelter that performed well in a heavily damaged area

Complete and Submit Building Permit Application

After talking with a local code official on requirements, make sure you have all the forms, documents, and plans needed for submitting your building permit request. The materials should be detailed enough so that the staff reviewing them would be able to construct the project by easily visualizing every detail.

Generally, the following documents are required:

- ☐ Local application form and fee
- ☐ Project plan (See Basic Project Planning Template)
- ☐ Other potential local requirements: maps; photographs; other federal, state, and local permits; architectural/engineering designs; construction plans; energy calculations; and/or post disaster damage inspection (i.e. substantial damage estimation for flood)

Permit Review Process

Once the application documents and fees are submitted, the local code official will review the project and determine if it meets the local building code, zoning, environmental, and construction requirements. For new or complex projects, the building department will evaluate your project designs during the permit review process. Due to the detail involved in such construction designs, the review process can be quite lengthy depending upon the community. To avoid permit and construction delays, work closely with your design professional to make sure all required documents are complete and submitted as part of the permitting application, leaving plenty of time for review.

If your plan meets these requirements, a permit is issued. If not, the local code official will note items that need to be addressed and may recommend solutions to help correct the issues found in your application. Once you meet all the conditions and/or make the corrections, your building permit will be approved. Generally, you will need the following during the review process:

- ☐ Application submission confirmation (i.e. receipts, etc.)
- ☐ Copies of application submitted
- ☐ Local code official contact information

Obtain Building Permit

When your permit is issued, you have legal permission to start construction that follows the approved plans, local building code requirements, and other applicable laws and regulations. Based on the size of the project, a fee may be collected to cover the cost of the application, the review, and the inspection process. Separate permits may be required for electrical, plumbing, heating, and air-conditioning work, or other locally required specialties. Generally, the building department provides the following documents once a permit is approved:

- ☐ Building permit

- ☐ Job/Inspection card
- ☐ Set of stamped/approved construction documents



Figure 4. Two construction workers fix a roof on a home that had been damaged in Crisfield, Maryland after Hurricane Sandy came through the area.

On-site Inspections

Inspections are done to make sure the work being completed complies with the permit, local building codes, city/county approved plans, etc. You will be informed by the local code official as to (approximately) how many inspections may be needed for your project. Inspectors will fill out an inspection card, noting any items that do not comply, and this becomes the official inspection record. Throughout this process, keep a strong coordination with your local code official to make sure your project meets all local requirements and to minimize any costly mistakes. If you have hired a contractor, this will be the responsibility of the contractor, but you should review to make sure inspection approvals are secured. Generally, the following documents are needed as part of the on-site inspections:

- ☐ Building permit
- ☐ Job/Inspection card issued by Permitting authority
- ☐ Set of construction documents stamped/approved by Permitting authority

Final Approval

Once construction is complete and it is determined that your building was built to code, the local code official will provide you with documentation of final approval. This documentation will be recorded and stored at your local building department. You will have the personal satisfaction of knowing your project was done correctly and meets

the minimum building code standards. In regard to safety, you can always do more, but you cannot afford to do less. Safe building practices help to protect not only you, your family, and your home, but also your entire community.

- ☐ Certificate of Zoning Compliance
- ☐ Certificate of Completion
- ☐ Utility Certificate
- ☐ Certificate of Occupancy

Notes

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper has a slight shadow on the right side, suggesting it's resting on a surface. There is no handwriting or other markings on the paper.

Building Codes Toolkit: Checklist to Ask Your General Contractor

The Checklist of Questions to Ask Your General Contractor document is an update to the version found in the 2014 Building Codes Toolkit. It gives building owners and occupants the basic questions they should ask when in the process of hiring a general contractor.

This document is meant to help building owners with hiring a credible contractor who will construct with the codes and standards enforced in the building owner's area. The document provides check boxes next to each question so the user can easily note which questions have been asked. A notes section is provided at the end of the document that allows users to write any further questions or information they gathered throughout this process.

Checklist to Ask Your General Contractor

This document gives building owners and occupants basic knowledge, consumer protection, and questions to ask when hiring a general contractor to perform new construction, remodeling, rebuilding, or mitigation work.

☐ **Is the contractor licensed for the type of work proposed?**

It is important that you verify that any individual or company you are considering is properly licensed. To verify they are licensed, ask for a copy, check the expiration dates, and contact the issuing authority to verify their license is in good standing. In some states, there is no state-wide licensing for certain trades such as general contractors; rather it is done on a local level either by the county or the city. Some counties do not have licensing requirements; however, for your safety it is recommended that you work with a verified licensed professional. In some jurisdictions, in addition to being licensed, general contractors are also required to be bonded. Being bonded means a bonding company has secured money that is available to anyone who files and wins a claim against the general contractor.

☐ **How many building permits has the contractor obtained in this jurisdiction in the last two years?**

This question will help the building owner determine a contractor's experience level with working in the area the structure resides. Some general contractors are based outside of the building owner's jurisdiction² and may not be familiar with how to obtain a permit in your area. Make sure that your general contractor is familiar with your local building code requirements and permitting process, is credible, and has worked with municipal jurisdictions in the past.

² This is particularly true following a disaster, when local resources are overwhelmed and out of state general contractors are needed to support fact recovery.

☐ **Will the contractor proactively incorporate mitigation techniques as part of the construction project?**

Most mitigation efforts are cheaper to apply to structures if planned as part of the building's scheduled maintenance and upgrade. Applying mitigation work would help decrease risks to the building from natural hazards and their effects. For example, to decrease or eliminate the damage to outside elements caused by earthquake forces, you could brace chimneys, secure wall panel anchors, and brace large windows.

☐ **Does the contractor have experience repairing or rebuilding building damaged during a natural hazard?**

It is essential that your general contractor check with your local code official regarding permits before repairing or rebuilding a structure damaged by natural disaster. There are often strict local requirements on how and where structures can be renovated. Consulting your local code official will ensure your repairs or rebuild is compliant with local standards. If you are in a federally designated disaster county, you can also visit Disaster Recovery Centers to talk with FEMA Hazard Mitigation specialists about rebuilding advice. To find the Disaster Recovery Center nearest you, see the [Disaster Recovery Center Locator](#) on [FEMA.gov](#).

☐ **Has the contractor used FEMA to get technical guidance on a project? If not, would they be willing to do so? Are they aware of FEMA technical guidance?**

It is your responsibility as the building owner to set the scope of the project and, if the scope includes mitigation, it is valuable for your general contractor to understand the FEMA guidance pertaining to your project. In general, your general contractor should be mindful of mitigation techniques that will help ensure your building and occupants are protected.

FEMA offers an array of technical guidance materials all focused on minimizing the damage that can occur as a result of a natural disaster. To order FEMA technical guidance publications, please call 1-800-480-2520 or visit the various hazard sections on the [FEMA Building Science Branch website](#) of [FEMA.gov](#).

☐ **Can the contractor provide proof of their general liability insurance before you sign a contract with them?**

General liability insurance protects your building from damage or negligence of the general contractor, his employees, and any sub-general contractors brought onto your property. For your protection, make sure anyone you are considering has a general liability insurance policy by asking for a copy of their insurance certificate, checking the expiration dates, and calling the issuing authority to verify their insurance is valid.

☐ **Does the contractor carry workers' compensation insurance?**

Workers' compensation insurance protects you from liability if a worker is injured while on your property. It is always recommended to hire a fully insured general contractor. *Please note: if the general contractor does not have any employees, he may not need or have workers' compensation insurance.*

☐ **Will the contractor provide you with a list of past clients for whom they performed a similar job?**

A credible general contractor should have no problem providing multiple references. It is important to contact between three to five previous clients for whom the general contractor performed a similar job. Only then will you know the type of work they are capable of and the level of service you can expect.

Questions to ask the general contractor's references:

- ☐ Were you satisfied with the results of the project?
- ☐ Did the project come in according to budget and was it completed on a timely basis? If not, what types of problems or delays affected the overall cost?
- ☐ Would you hire the general contractor again? If not, ask why?

☐ **Will the contractor be hiring sub-contractors on this project?**

If so, ask for the name of everyone who will be hired and the type of work they will be doing so that you can verify their credentials and ensure they have the necessary insurance requirements (if applicable). A sub-contractor is an individual or business that signs a contract to perform part or all of the obligations of another's contract.

☐ **What kind of written warranty will the contractor give you?**

A credible general contractor should provide a written warranty agreement. The warranty should clearly spell out what is covered, what is not and for how long. At a minimum, a general contractor should guarantee a one-year warranty; although, two years is preferred.

☐ **How will your project be supervised?**

The general contractor or another lead individual should be assigned to oversee your project from start to finish. It is important that the project manager is not only experienced, but very familiar with the details of your plans and manages the daily operations of your project to ensure the work is done correctly and is compliant with the local building code. You should be given the contact information for this individual so you can ask questions and resolve any issues that arise through the project.

☐ **What will the payment schedule be?**

It is not unusual that a down payment is required for a contract; however, you should never pay a general contractor in full before the project is completed. If the project will extend over several months, ensure that the payment schedule is determined and outlined in a written contract before the work begins. Make payments in a way that they are traceable or get receipts for each of your payments.

☐ **Will the contractor obtain all of the required building permits?**

Although there is some cost and additional time required for obtaining building permits, it is recommended that this be done by your general contractor because it is your only assurance that your project will be done to code. By having your general contractor handle the permitting process/inspections, you gain an independent third party in your corner who offers you protection that the job will be done in full compliance with local building codes. If a

general contractor asks that you obtain the permit yourself, it is likely that they are unlicensed or unqualified for the job. See [Checklist to Acquire a Building Permit](#) in the FEMA Building Codes Toolkit.

☐ **Who will coordinate the required inspections as part of the building permit process?**

The general contractor should be willing to handle all aspects of the building permit process to include the required and/or recommended inspections that will take place during the construction process. It is strongly recommended that you are present for the inspection to make sure it takes place, you hear the feedback from the building department regarding the work being done, and you are aware of any corrections notices issued to the general contractor.

☐ **Will the contractor provide you with a written lien waiver at the end of the project?**

A lien waiver is a legal document from the general contractor/sub-contractor that verifies you have paid the general contractor in full for the services rendered. At the end of your project, your general contractor should have no problem providing you with a written lien waiver for both your original contract and any sub-general contractors that worked on your project. The lien waiver also ensures that the general contractor and/or any sub- contractors waive their right to place a lien on your property.

Notes

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Building Codes Toolkit: Role of the Insurance Industry

The insurance industry plays an important role in supporting building codes so that building owners and occupants are prepared for a natural hazard. This document teaches readers about how the insurance industry supports the adoption of up-to-date building codes and standards.

Different types of insurance are described in this document to help readers find the type that covers the natural hazard faced in their area. This document is meant to teach readers that purchasing insurance protects building owners and occupants' investments.

Role of the Insurance Industry

The insurance industry has great interest to support strong building codes because they see firsthand the personal and financial impact that poor standards and code enforcement can have on a family, community, or state. To make sure that the nation is better prepared, the insurance industry supports the adoption of strong statewide building codes.

The way buildings are constructed can have a great impact on minimizing damage resulting from natural disasters. Making buildings stronger against disaster damage will result in fewer insurance claims by building owners over the long-term. Less damage following a natural disaster speeds up the recovery process and causes less disruption for building owners. This also puts less pressure on the insurance marketplace and can minimize the impact that a natural disaster could have on premiums and the availability of insurance. Some insurance companies even offer discounts on insurance premiums to individuals building to or above code standards. Check with your state insurance office/department for specific requirements for your area.

The Different Types of Natural Hazard Insurance



Figure 5. Types of natural hazard insurance

EARTHQUAKE INSURANCE

Traditional earthquake insurance covers damage caused by an earthquake by identifying pure loss. It pays for costs that policyholders suffer from losing their home. There are three key factors that comprise what is covered: the dwelling, personal belongings, and additional living costs. Below are the items that an earthquake policy covers and the other elements that policyholders usually assume are covered.

Covers

- Repairs to your house and attached structures
- Your personal belongings, such as furniture and clothing
- Additional living expenses for when your home is uninhabitable after an earthquake

Does Not Cover

- Fires caused by an earthquake
- Vehicle damage
- Floods
- Sinkholes
- Masonry veneer such as brick, stone or rock used for your home's veneer

FLOOD INSURANCE

Floods are the Nation's most common and costly natural disaster and cause millions of dollars in damage every year. The National Flood Insurance Program aims to reduce the impact of flooding on private and public buildings. It does so by offering cheaper insurance to building owners, renters, and businesses and by encouraging areas to adopt and enforce floodplain management regulations. These efforts help mitigate the effects of flooding caused by events such as hurricanes on new and improved structures.

Examples of what is included in building coverage with flood insurance are:

Covers

- The insured building and its foundation
- The electrical and plumbing systems
- Foundation walls, anchorage systems, and staircases attached to the building
- Central air conditioner

Does Not Cover

- Damage caused by moisture, mildew, or mold that could have been avoided by the property owner
- Living expenses such as temporary housing
- Most self-propelled vehicles such as cars, including parts

HOMEOWNERS INSURANCE

Homeowners insurance protects your home, personal belongings, and business against the damage caused by different types of natural disasters. If a disaster strikes, having insurance for your home or business is the best way to make sure you will have the financial resources to help you repair, rebuild, or replace whatever is damaged. Not

all insurance policies are the same – coverage amounts, deductibles, and payment caps can vary greatly. Talk with your insurance professional to be sure your policy covers damage caused by disasters common to your area. The following are some examples of what homeowners insurance covers and does not cover.

Covers

- Hail
- Tornadoes
- Hurricane Wind
- Fires/Wildfires
- Volcanos

Does Not Cover

- Flooding
- Earthquakes

Building Codes Save on Insurance

Purchasing insurance protects building owners and occupants' investments. Along with buying insurance, adding up-to-date building codes into your building not only protects your investment through loss avoidance costs; it can also save you money each year through insurance incentives. Individuals building to or above-code standards often receive discounts on wind, fire, flood, and earthquake insurance premiums. To receive a discount, the home usually has to have been built before a certain year or upgraded to a certain standard. This is the case with the Fortified program by the Insurance Institute for Business and Home Safety. In many areas, the difference in premium can pay for the retrofits over a period of years. Check with your state insurance office/department for specific requirements for your area.

Building Codes Toolkit: Frequently Asked Questions

This document is meant to answer common questions readers may have about building codes. The document includes 14 questions and answers as well as a notes section for readers to write any information that may be useful to them.

Many questions include links to additional resources in case the reader's concerns are not fully addressed. Further information or assistance can always be found on the [FEMA website](#) or through the FEMA Building Science Helpline: 866-927-2104 or FEMA-Buildingsciencehelp@FEMA.dhs.gov.

Frequently Asked Questions

These frequently asked questions are meant to address common concerns of building owners and occupants related to building codes, the process, and available tools.

5. What are building codes?

Building codes are sets of regulations for the design, construction, alteration and maintenance of buildings. The building codes specify the minimum requirements to protect the health, safety and welfare of building occupants.

6. Why are building codes important?

Areas that adopt and enforce up-to-date building codes are safer and stronger, making them better able to withstand the harsh effects of natural disasters. Building codes are important because they protect you, your family, your building, and your area against hazards while minimizing economic and property loss.

7. Why are building codes important to me?

Modern, up-to-date building codes are designed to protect you from natural disasters such as earthquakes, hurricanes, floods and tornadoes. Building codes can help minimize injury and the loss of life and property, as well as costs from damage.

Did You Know?

According to the National Flood Insurance Program (NFIP) floods are the #1 most common natural disaster in the United States and people outside of high-risk areas file over 20% of NFIP claims and receive one-third of disaster assistance for flooding. For flood insurance and building code requirements, please visit FEMA [Building Science Branch's Building Codes Resources](#) on [FEMA.gov](#).

8. Who develops the building codes?

Most states and local jurisdictions adopt the ICC model building codes instead of creating their own. Some areas change the ICC codes where needed before adoption to address building issues specific to that area. Building codes are nationally developed consensus standards that are maintained by the International Code Council (ICC). The codes are developed through a consensus process which allows suggestions and input from ICC members as well as the public. The final decisions are then made by ICC voting members. The development of the I-Codes is a collaborative process. To achieve consensus, organizations such as FEMA, the American Society of Engineers (ASCE), the American Institute of Architects (AIA), the National Association of Home Builders (NAHB) and other industry stakeholders provide technical insight into the development of the latest building codes and standards. Other partners such as local building and fire officials that are members of the ICC also provide valuable input into the development of the codes.

For tips to protect yourself and your home, refer to “[Safety First-Disaster Preparedness](#)” a brochure published by ICC. To purchase this and all other ICC products, please visit www.iccsafe.org.

9. What are the different types of building codes?

The most popular building codes are the International Building Code (IBC), International Residential Code (IRC), International Fire Code (IFC), and the International Existing Building Code (IEBC). Some additional building codes designed for other types of construction include the International Wildland Urban Interface Code (IWUIC), International Plumbing Code (IPC), International Mechanical Code (IMC), and the International Energy Conservation Code (IECC). The ICC publishes new editions of the International Codes every three years. For a full list of the most recent family of building codes, visit: www.iccsafe.org/products-and-services/i-codes/the-i-codes.



Figure 6. Covers of the most popular building codes developed by ICC

Select an architect or general contractor that knows these codes, your local area, and can appropriately protect you and your property. Visit www.iccsafe.org to purchase all International Code Council products and www.nfpa.org to purchase the latest National Fire Protection products.

10. How are building codes adopted?

State and/or local jurisdictions usually decide to adopt building codes through a legislative and public policy process. Building code adoption is sometimes inconsistent across and within the same state, even in areas with high levels of hazard (i.e. earthquake, flooding, hurricanes, tornadoes, etc.). For instance, some states in the New

Madrid Seismic Zone (NMSZ) located in Central U.S. and local jurisdictions at risk of earthquakes have adopted the building codes but have made changes relating to the seismic provisions. Other areas have also been slow to adopt the latest code editions

11. Who is responsible for enforcing building codes?

Building Officials, Floodplain Management Officials, Fire Marshals, Code Enforcement Officers, Permit Clerks and Building Inspectors from the local Building and Fire Departments are responsible for enforcing the adopted building codes within an area. Building code enforcement is achieved through the review and approval of design plans, inspections of construction work, and issuance of building and occupancy permits.

12. Who is responsible for designing a structure with building codes?

The design professional (Architect, Engineer) and/or general contractor are responsible for adding the latest code requirements into their design plans. This makes sure that buildings and their occupants benefit from the positive effects of building to code and minimizing the impact of natural disasters.

13. What building codes are enforced by my jurisdiction?

Building codes are dependent upon the area in which you live. Please talk with your local building and/or planning department in order to find out what building codes have been adopted and are enforced in your area.

14. How can I properly start a construction retrofit project? (i.e. new building, rehabilitation, expansion, etc.) that meets my local building code requirements?

Please see the Basic Checklist to Acquire a Building Permit and Checklist of Questions to Ask Your General Contractor for more detailed information.

CodeMasters are handy reference tools that contain everything your design professional needs to know about the determination of seismic, wind, and flood resistant design criteria. Visit www.iccsafe.org to purchase the latest CodeMasters.

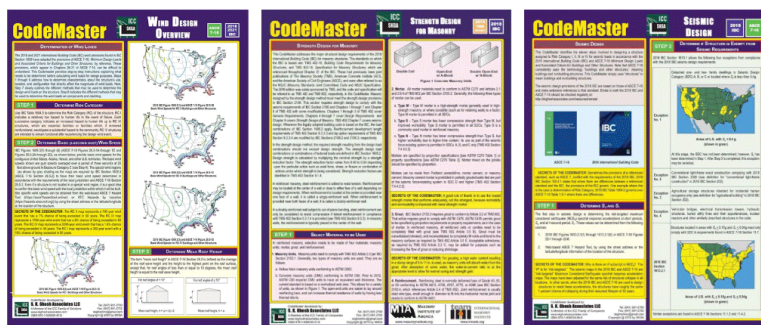


Figure 7. Covers of the CodeMasters publications

15. I have an old building; does this mean my property is not building code compliant?

Most existing buildings do not meet the current standards for new construction because of their age. This does not mean the building is out of compliance because older buildings are not required to be improved whenever the codes are updated. However, there are triggers within the building codes that can require building upgrades if building damage or changes exceed a particular threshold. For example, buildings located within the Special Flood Hazard Area (SFHA) that have sustained substantial damage would be required to meet the Flood Provisions of International Building or Residential Codes as they are repaired.

16. I have an older building; how can I make my building safer and stronger?

The first steps in making an older building safer and stronger is to talk with your local Emergency Management Agency or Building Department to gain insight and understanding of the local hazards and risks, site traits, and the suggested improvements. Additionally, your local building department may be able to provide you basic information about the items that are typically included in a retrofit for a building of a certain era. It is recommended that an Architect, Engineer or licensed general contractor inspect the property in order to make specific recommendations. Please note that the recommendations you receive can vary depending on the year in which your building was built, the jurisdiction that you live in, and the hazards/risks in your area.

For more information, please:

- Refer to the FEMA Guidance catalogued in our [Resources](#) section of the Building Codes Toolkit
- Visit the [FEMA Building Science Publication website](#) where you will find links to publications and resources as they relate by hazard type
- Call FEMA Building Science Helpline: 866-927-2104 or email FEMA-Buildingsciencehelp@fema.dhs.gov
- Call International Code Council Call Center: 888-422-7233 and press 0 or email CareCenter@iccsafe.org

Did You Know?

FEMA's Hazard Mitigation Assistance (HMA) grant programs provide funding for activities that reduce disaster losses and protect life and property from disaster damage. Visit FEMA Hazard Mitigation grant page for more information.

17. Are there available grants or financial assistance in making my property code compliant?

Talk with your local building, grants department, or housing authorities for financial assistance. Also, check these websites for other potential assistance:

- www.fema.gov/grants
- www.disasterassistance.gov
- www.benefits.gov

- sba.gov/funding-programs/disaster-assistance

18. Where Can I find more information about building codes and proper construction standards?

Talk with your local code official or building/planning department.

- [FEMA](#)
 - [FEMA Building Codes & Technical Publications](#)
 - [FEMA Building Science Protecting Homes](#)
 - [FEMA Earthquake Publications](#)
 - [FEMA Earthquake Publications: Building Codes and Seismic Rehabilitation](#)
 - Contact the FEMA Helpline: BuildingScienceHelp@fema.dhs.gov
 - FEMA Publications Warehouse: To order hard copies of FEMA Publications, call 800-480-2520 or email fema-publication-warehouse@fema.dhs.gov. You must know the specific document number of the publication you are inquiring about and always request the most recent version of the publication when ordering from the warehouse.
 - [FEMA Ready.gov](#)
- [International Code Council](#)
 - [International Building Code](#)
 - [International Residential Code](#)
 - [International Existing Residential Building Code](#)
- [American Society of Civil Engineers](#)
- [Earthquake Engineering Research Institute](#)
- [Federal Alliance for Safe Homes](#)
- [Insurance Institute for Business and Home Safety](#)
- [National Association of Home Builders](#)

Notes

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Building Codes Toolkit: Resources

This document contains resources on where to get more information on building codes.

Websites

- [FEMA](#) has a collection of publications and resources online that are freely available to the public. Housed on a searchable web-based platform, this collection of publicly accessible FEMA information resources includes a variety of resources aimed for everyone – from homeowners to building professionals such as architects and engineers.
- The [International Code Council \(ICC\) Safety Toolkits](#) page is a one stop shop linking building owners and occupants, as well as people on the community level, with valuable resources and information developed by ICC and its partners.
- Use the [Federal Alliance for Safe Homes' \(FLASH\) Protect Your Home & Learn How to Be Prepared](#) site search engine to customize your own experience as you learn about the steps you can take to fortify your property. Let them know which hazard category you are concerned with or even just what state you're in and you will encounter information tailored to empower building owners and occupants in the form of videos, interactive tools and more.
 - [Inspect to Protect](#) is a free tool developed by the Federal Alliance for Safe Homes that will assist you in determining which building codes are used in your community today, or to assist you in contacting your local government for information about which building codes were used in the past.
- The [Insurance Institute for Business and Home Safety \(IBHS\)](#) maintains the www.disastersafety.org website which features projects to help home and business owners protect their property from damage caused by natural disasters. Want tips on hiring your next roofing contractor or what weekend wildfire preparedness steps you can take? Visit today.
- The [Earthquake Engineering Research Institute \(EERI\)](#) believes that a key piece to resilience is ensuring/insuring residents have a safe home to return to after an earthquake. Educating residents on mitigation/retrofit options is extremely important to a community's resilience. In pursuit of this, their [Mitigation Center](#) provides free educational resources for residents, students, and businesses.

Additional Resources

- [National Association of Home Builders \(NAHB\)](#)
- [Applied Technology Council \(ATC\)](#)
- [Ready.gov](#)

- [FloodSmart](#)
- [National Earthquake Hazard Reduction Program \(NEHRP\)](#)
- [United States Geological Survey \(USGS\)](#)
- [National Wind Impact Reduction Program \(NWIRP\)](#)
- [Dam Safety](#)
- [National Flood Insurance Program \(NFIP\)](#)