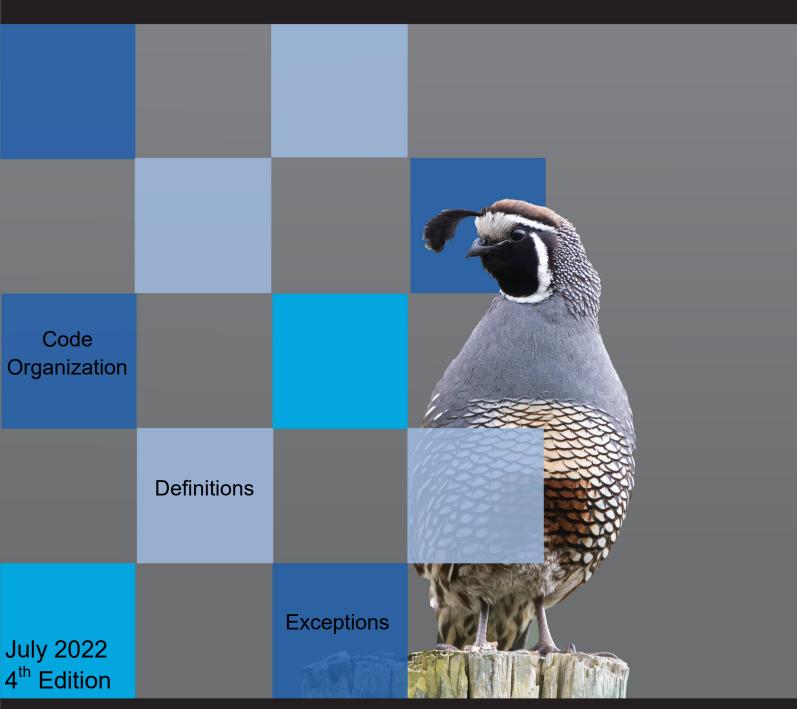
CODE BOOK FUNDAMENTALS

Information for the proper interpretation and application of laws, regulations and building codes





C A L I F O R N I A
BUILDING STANDARDS COMMISSION

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Some of CBSC's publications available on the website's Resources page:

Guide to Title 24 Public Guide to the Building

It's Your Building Department Standards Adoption Process

Guide for Local Amendments of Frequently Asked Questions

Building Standards Glossary of Terms

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Introduction and Purpose

The California Building Standards Commission (CBSC) has created this publication to help users of laws, regulations and code books make accurate interpretations and appropriately apply requirements. It covers six fundamental principles that should be understood when using and applying laws, regulations and local ordinances. If some principles are overlooked or not completely understood, mistakes can result. The six fundamentals are:

- Organizational Structure
- Section Identifiers
- Application Limitations
- Definitions
- Exceptions
- Guidance from Code Authors

After reading about each fundamental, take the quiz to confirm understanding of the topic. Quiz answers are provided at the end of the publication. Some quiz questions will require access to the Health and Safety Code (HSC), the California Building Standards Code, Title 24 of the Code of Regulations (Title 24), or model codes, which can be found online using the following links:

- Title 24 can be viewed from the <u>Codes tab of CBSC's website</u> at dgs.ca.gov/BSC/Codes.
- The HSC can be accessed via the <u>California Legislative Information website</u> <u>leginfo.legislature.ca.gov/faces/codes</u>. From the list of California Laws, select HSC, Division 13 and scroll to the desired section number or use the search boxes to enter the code and section number.
- Model codes:
 - International Building Code (IBC) codes.iccsafe.org/content/IBC2021P2
 - o <u>Uniform Plumbing Code (UPC)</u> epubs.iapmo.org/2021/UPC/
 - <u>National Electrical Code (NEC)</u> nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=70 (profile creation required)

Throughout this publication, the word "code" is used in a generic sense to mean any law, regulation, ordinance or model code referenced in the text.

Organizational Systems

Each code, whether a federal law, federal regulation, state law, state regulation, local ordinance, model code, or other code, has an organizational system or hierarchy. Unfortunately, no two are exactly alike. Each federal, state, county, city or private code development organization determines their own method of organization—there is no standard system. The importance of understanding a code's organizational system cannot be overemphasized as it is vital to the proper and effective use of the code's contents.

Most codes are divided into segments so that individual subjects may be addressed separately. The names given to the segments are not the same in all codes. The reader must recognize the different uses of names in order to understand the application of the code provisions. Some codes, because of their size or subject matter, need extensive subdividing into small subject areas, and the subjects are usually further broken down with the addition of numbers and letters.

The most common names used to subdivide codes are, in no particular order:

- Chapter
- Title
- Article
- Part
- Division
- Section

The table below illustrates how several common codes are organized (in descending order):

Federal Law:	Code of Federal Regulations:	California Law:	California Code of Regulations:	IBC & UPC (model code):	NEC (model code):
Title	Title	Code Name	Title	Chapter	Chapter
Subtitle	Part	Title	Part or Division	Part	Article
Chapter	Subpart	Division	Chapter	Section	Part
Subchapter	Section	Part	Subchapter		Section
Part		Chapter	Article		
Subpart		Article	Sub-article		
Division		Section	Section		
Section		(Note: exceptions	(Note: exceptions		
		exist)	exist)		

Notice that each code is organized differently, and that the organizational names used in one code may not have the same placement in another.

Quiz #1 – Organizational Systems

Answers and references for all quizzes are provided at the end of this publication. The quizzes are also available to take online by scanning the QR code or clicking the link provided below each quiz.

- 1. The organization of the California Building Code (Part 2 of Title 24, based on the International Building Code) is mostly by:
 - a. Chapter, Article, Section
 - b. Article, Section
 - c. Volume, Chapter, Section
 - d. Division, Article, Chapter, Section
- 2. The organization of the California Electrical Code (Part 3 of Title 24, based on the National Electrical Code) is by:
 - a. Chapter, Article, Part, Section
 - b. Article, Chapter, Section, Part
 - c. Chapter, Section
 - d. Division, Article, Chapter, Section
- 3. The organization of most chapters of the California Plumbing Code (Part 5 of Title 24, based on the Uniform Plumbing Code) is by:
 - a. Chapter, Article, Section
 - b. Article, Section
 - c. Chapter, Section
 - d. Division, Article, Chapter, Section
- 4. The organization of state laws in the Health and Safety Code is most often by:
 - a. Chapter, Article, Section
 - b. Title, Article, Section
 - c. Chapter, Section
 - d. Division, Part, Chapter, Article, Section



Organizational Systems Quiz

Section Identifiers

Generally, the smallest and last segments of a code's hierarchy, after the names, are numbers and letters. Again, there is no standard method.

Some codes use numbers that identify the segment where the section is located. For example, in the International Building Code (IBC) section number "1202" is in Chapter 12. The National Electrical Code (NEC) uses the article number as part of the section number, and the first digit of the article number will identify the chapter number. For example, Section 250.52 is in Article 250 of Chapter 2. There are several other numbering styles used in published codes.

Once the numbering style is established, the contents of each subsection may need to be organized in another hierarchy. Styles include alphabetical, numerical, or a combination of these to identify elements of the subsections or subdivisions. Here is a fictitious example of a common code section hierarchy (only the titles are shown, without regulatory text):

Section 100. Buildings

- a. Large Buildings, 5,000 or more square feet
 - 1. Publicly owned
 - 2. Privately owned
 - A. Commercial Use
 - B. Residential Use
- b. Small Buildings, less than 5,000 square feet
 - 1. Publicly owned
 - 2. Privately owned
 - A. Commercial Use
 - B. Residential Use
 - 1. Multi-family Rental Housing
 - 2. Single Family Dwelling
 - i) Owner Low-income Program Assisted
 - ii) No Public Funding Assistance

Another method of section numbering does not use alpha identifiers. In several common codes, Section 100(b)(2)(B)(2)(ii) above would instead be Section 100.2.2.2.2.2, as shown below.

Section 100. Buildings

100.1 Large Buildings, 5,000 square feet or more

100.1.1 Large Buildings, Publicly Owned

100.1.2 Large Buildings, Privately Owned

100.1.2.1 Large Buildings, Privately Owned, Commercial Use

100.1.2.2. Large Buildings, Privately Owned, Residential Use

100.2. Small Buildings, less than 5,000 square feet

100.2.1 Small Buildings, Publicly Owned

100.2.2 Small Buildings, Privately Owned

100.2.2.1 Small Buildings, Privately Owned, Commercial Use

100.2.2.2 Small Buildings, Privately Owned, Residential Use

100.2.2.2.1. Small Buildings, Privately Owned, Residential Use, Multi-family Rental Housing

100.2.2.2.2. Small Buildings, Privately Owned, Residential Use, Single Family Dwelling

100.2.2.2.2.1 Small Buildings, Privately Owned, Residential Use, Single Family Dwelling, Owner Low-income Program Assisted

100.2.2.2.2 Small Buildings, Privately Owned, Residential Use, Single Family Dwelling, No Public Funding Assistance

It is critically important to understand the organizational hierarchy since it determines the proper application of a section's provisions.

Citing a 2,500 square foot residential building as being in violation of Section 100(B) in the first example would be incorrect because there are two provisions identified by the capital letter "B" and they are substantially different. For that size and type of structure, the correct citation would be Section 100(b)(1)(B). Never skip any part of the section numbering when citing code in oral or written communications. In legal proceedings, incorrect code references may be enough to have a case terminated without an adjudication or decision.

Quiz #2 - Section Identifiers

- 1. Which of the following best describes the section numbering methods of the California Building Code in Part 2 of Title 24 based on the International Building Code?
 - a. 100.1.1
 - b. 100.A.1
 - c. 100(a)(1)
- 2. Which of the following best illustrates the section numbering methods of the California Plumbing Code in Part 5 of Title 24 based on the Uniform Plumbing Code?
 - a. 100.1a
 - b. 100.1.1
 - c. 100(a)(1)
- 3. Which of the following best illustrates the section numbering method used in Health and Safety Code Section 18930?
 - a. 18930.1.1.2
 - b. 18930.1,a,1.2
 - c. 18930(a)(1)



Application Limitations

In some codes, requirements found in one segment cannot be applied to construction that is the subject of another segment of the code. In other codes, this may be allowed, depending on the organization of the published code, as described above, and the preamble that identifies the use of the segment.

For example, if a code is first divided into chapters, then articles, then parts, and finally into sections, the requirements contained in Chapter 3, Article 2, Part 4, Section 697 may or may not be able to be used in combination with the requirements found in another chapter, article and part. The user must ascertain how the provisions of each segment apply.

At the beginning of most code segments, there is a preamble that identifies the purpose, use and limitations of the provisions to follow. It may be titled "Application," "Scope," "Use," "Intent," "Purpose," "Application and Scope" or something similar.

This fictitious example of "Application and Scope" below shows how the code illustrates the correct application of the regulations.

Chapter 6 Roofs

Article 1 Wood Shakes

Section 6-100.1 Application and Scope

- a. The provisions of this Article apply throughout the state, and preempt any code, ordinance or other requirement on the same subject by any city, county, or city and county government.
- b. The provisions of this Article apply only to existing one- and two-story buildings, used as dwellings, with wood shake roofs.
- c. The provisions of this Article do not apply to residential buildings located within a Severe High Fire Hazard Zone designated by the State Fire Marshal.

In the above example, the provisions of Section 6-100.1 apply only to existing one- and two-story buildings with wood shake roofs used as dwellings. It does not apply to new dwellings, dwellings of more than two stories, dwellings with other than wood shake roofs, or dwellings that are located in a Severe High Fire Hazard Zone. These provisions will preempt any local code.

The provisions of Article 1 are limited by the "Application and Scope" in Section 6-100.1 and may not be applied to buildings subject to the other articles within Chapter 6, unless specified by a cross reference in the respective preamble. This demonstrates why it is important to recognize a code's organizational scheme, and to read the preamble of each segment.

Quiz #3 – Application Limitations

- 1. Which of the following sections from the International Building Code provides application and scope for the related chapter?
 - a. 801
 - b. 1003.1
 - c. 1402.1
 - d. All of the above
- 2. Health and Safety Code Section 17950 provides the application and scope for the provisions within Part 1 of Division 13. It establishes that the provisions:
 - a. Apply throughout the state
 - b. Preempt any local ordinance on the subject
 - c. Apply to employee housing
 - d. All of the above
- 3. Health and Safety Code Section 17950 provides application and scope for the provisions within:
 - a. Part 1.5 of Division 13
 - b. All of the Health and Safety Code
 - c. All of Division 13 of the Health and Safety Code
 - d. None of the above
- 4. Section 101.2 of the Uniform Plumbing Code establishes that the code provisions apply to plumbing systems:
 - a. Only when newly constructed
 - b. Only when being altered
 - c. That are either new or existing
 - d. When altered but not repaired



Applications Limitations Quiz

Definitions

Terms, words, titles, and occasionally phrases, are defined within a code to precisely articulate the application of requirements. To utilize the code correctly, users must keep definitions in mind while applying the code requirements.

Definitions are found in different locations within a code. Most commonly, they are placed near the beginning of a code in a separate segment such as a chapter. These definitions generally apply throughout the code and the preamble will state: *The following definitions apply in this code*.

Definitions may also be found in a code segment where the use is applicable only within that chapter, article or section and nowhere else in the code. The preamble may state: "The following definitions will apply in this chapter" or "For the purposes of this section, house shall mean a detached single-family dwelling."

When there are different definitions located throughout the code, a note may read: "Except as provided elsewhere in this code the following definitions apply throughout this code." This is a flag that additional, more specific, definitions are provided within other areas of the code and may only apply to the segment in which they are located. Read all preambles to understand the intended application of definitions.

Here are two examples:

- In Volume 1 of the California Building Code (CBC) Part 2 of Title 24, definitions are provided in Chapter 2, and apply throughout the CBC, and additional definitions can be found in other chapters. Additionally, Section 201.3 within Chapter 2 states that words and terms that are not defined in the CBC, but are defined in the California Fire, Mechanical or Plumbing codes, also apply within the California Building Code, illustrating how important it is to read the application and scope provisions at the beginning of a code segment.
- In the California Electrical Code (CEC), Part 3 of Title 24, definitions that apply throughout the code are provided in Part I of Article 100 of Chapter 1. Definitions that apply only to systems with 1,000 volts or more are provided in Part II of Article 100, Chapter 1. There are additional definitions in several other articles of the CEC that apply in that article and wherever used in the code as explained in "Scope" of Article 100. For example, Articles 240, 250 and other articles provide definitions of terms used in those articles.

Following is an example of how one word is defined differently within one code.

In California Health and Safety Code (HSC), Division 13, Part 1.5, known as the State Housing Law, Section 17920(a) reads in part:

"17920. Definitions

As used in this part:

(a) Approved, means acceptable to the department."

Notice that the word "part" limits this definition of the word "approved" to its use within Part 1.5. Also in this law, the word "department" is defined to mean the California Department of Housing and Community Development (HCD). So, whenever something must be approved, HCD must approve it. But, this is not always true!

The above definition for the word "approved" applies throughout Part 1.5 except that in Section 17921.1(m)—only a few sections away, but still within Part 1.5—reads:

"Approved," when used in connection with any material, type of construction, or appliance in this section, means meeting the approval of the enforcement agency as the result of investigation and tests conducted by the agency or by reason of accepted principles or tests by national authorities, technical, health, or scientific organizations or agencies.

So, in Section 17921.1(m), the word "approved" has a specific and much narrower meaning than established by Section 17920(a) for Part 1.5.

Also, Section 17960.5—still in Part 1.5—reads in part:

For the purposes of this section, "approval" includes, but is not limited to, approval or conditional approval of a tentative subdivision or tentative parcel map or parcel map pursuant to the Subdivision Map Act (Division 2 (commencing with Section 66410) of Title 7 of the Government Code), condominium plan or other permit for a residential housing project.

Therefore, in HSC, Division 13, Part 1.5, the terms "approved" and "approval" are defined differently for three different situations.

Code users must read definitions carefully and understand to what segment of the code the definition applies because it may have significant bearing on the application of the code requirements. Code users should practice looking for definitions before determining the application of a code requirement, and with experience will recognize words within a code that are most likely to be defined.

Quiz #4 - Definitions

- 1. The definitions that apply throughout the California Building Code (Part 2 of Title 24) are located in:
 - a. Chapter 1
 - b. Chapter 2
 - c. Appendix 1
- 2. In the California Building Code (Part 2 of Title 24), if no definition is provided for a particular word, but there is a definition provided for that word in the California Plumbing, Mechanical, or Fire Code, it will:
 - a. Only apply in the code where the definition is found
 - b. Not apply in the California Building Code
 - c. Also apply in the California Building Code
- 3. In the California Plumbing Code (Part 5 of Title 24), the definitions in Chapter 2 apply:
 - a. Throughout the code
 - b. Only in Chapter 2 of the code
 - c. May be used interchangeably in any other Parts of Title 24
- 4. Definitions provided in Section 18905 of the Health and Safety Code are located in:
 - a. Chapter 1, and apply throughout Chapter 1
 - b. Chapter 1, Article 2, and apply throughout Part 2.5 of Division 13
 - c. Article 2 of Part 2.5 and apply throughout the Article
- 5. The definition of "press box" in Health and Safety Code Section 18934.9, applies:
 - a. Throughout Part 2.5
 - b. Throughout Division 13
 - c. Only in Section 18934.9



Definitions Quiz

Exceptions

Application and scope provisions within a code are one method used to limit or apply code requirements specifically to a subject. Exceptions are another way. Three forms of exceptions to recognize and understand to properly apply the code are explained below.

Often, exceptions immediately follow a code provision, as in this fictitious example:

Section 3456. Doorbell Required. All buildings must be provided a doorbell at the primary entrance that is powered by an electrical circuit of the building.

Exceptions:

- 1. Buildings with entry doors that are not locked and remain open to the general public at all times need not be provided doorbells.
- 2. Doorbells may be energized by solar energy with backup battery capability complying with Section 6789.

Exceptions can also be made by referencing another section that may have other requirements or allowances:

Except as provided in Section 1234, all buildings must be provided a doorbell at the primary entrance that is powered by an electrical circuit of the building.

The phrase "except as provided in" is the prompt that there is more to consider. To properly apply the requirement for a doorbell, the code user must also read Section 1234 which will provide additional information. For example, it may exempt buildings that have doors that are unlocked at all times, or provide alternatives to the basic requirement.

Another exception is one that supersedes another code provision, as in this fictitious example:

Notwithstanding Section 2345, all buildings of three stories or less must be provided a doorbell at the primary entrance that is powered by an electrical circuit of the building.

The word "notwithstanding" means that regardless of what Section 2345 requires, this section takes precedence and all buildings must be provided the specified doorbell. This method is used when the other section still has a purpose for some applications. Lawmakers use this method when enacting new laws to ensure that some other existing law will not conflict with, or preempt, the new requirements.

Exceptions sometimes make code application confusing and challenging. A best practice is to read the code requirements thoroughly, including all referenced codes. Connect with colleagues, architects or design professionals who may have institutional knowledge, or contact the appropriate model code publisher for an interpretation. Many design-professional and code development organizations provide training, as well. The local jurisdiction's building department may also be a good resource to help ensure proper application of the code.

Quiz #5 - Exceptions

- 1. The provisions of Section 307.1 of the California Building Code (Part 2 of Title 24) establishing the Group H Occupancy do not include a liquor store without bulk storage.
 - a. True
 - b. False
- 2. According to Health and Safety Code Section 17921(a), only the Department of Housing and Community Development shall propose for adoption all building standards that are to apply to residential dwellings.
 - a. True
 - b. False
- 3. Health and Safety Code Section 18960(c)(1) overrides the provisions of Health and Safety Code Section 18945(b).
 - a. True
 - b. False



Exceptions Quiz

Guidance from Code Authors

Many authorities that create and publish regulations provide guidance to ensure the proper understanding and use of the code. There are several forms of assistance that code users should look for:

Preambles provide important background information about the code, the organization publishing the code, how the code may be adopted and applied, and if there are any accompanying handbooks or guides that provide instructional information. Preambles may also include information about how to obtain interpretations and clarifications from the publishing organization, and how to submit proposed code changes.

In the case of Title 24, the preamble pages appear before the table of contents and provide information about how to distinguish a California amendment from model code text. There is also information explaining how to use the matrix adoption tables and read margin marks.

Margin Marks are used in Title 24 and model codes such as the International Building Code and the National Electrical Code. Margin marks are not as common in state laws, state regulations or ordinances enacted by local government entities.

Margin marks identify code provisions that are new, amended, repealed or relocated since the previous edition of the code. The explanation of each margin mark is usually provided at the beginning of the code before the table of contents.

Italics and banners are used in some parts of Title 24 to distinguish California amendments from model code text and provide information regarding the type of occupancy or structure a code provision applies to. A banner identifies the state agency that has made the California addition or change shown in italics. A list of state agency acronyms is provided at the beginning of each part of Title 24, along with guidance for where to find more information about specific application of their provisions.

Matrix Adoption Tables are non-regulatory aids for the code user that show state agency adoptions in Title 24. Matrix adoption tables coincide with amendments identified by italics and banners in the text, and may assist a code user with identifying appropriate application of a California amendment in the absence of a banner. The purpose and use of Matrix Adoption Tables is explained in detail in CBSC's *Guide to Title 24* and at the front of each part of Title 24 that has the tables.

Indexes, which are located at the end of a code publication, can be very helpful when searching for requirements for a particular subject. For instance, the index in the CBC contains an extensive alphabetical listing of topics and the related code sections.

Highlighting is used in the National Electrical Code to illuminate changes, and is not used in other codes discussed in this guide.

Quiz #6 - Guidance from Code Authors

- 1. In the California Building Code, which margin mark symbol indicates an addition or change to California code language?
 - a. Two vertical lines
 - b. A chevron (less-than or greater-than symbol)
 - c. A single vertical line
 - d. A bold arrow
- 2. In the California Building Code, Chapter 4, which agencies adopt the entire chapter with amendments? (Hint: view the Matrix Adoption Table)?
 - a. BSC, HCD, OSHPD
 - b. SFM, HCD 1, HCD 2
 - c. DSA, SL, AGR
 - d. OSHPD, DWR, CEC
- 3. In the California Building Code, Chapter 14, Section 1404.1.1 contains a California amendment by:
 - a. BSC-CG, HCD-CG
 - b. CEC, SFM
 - c. HCD 1, HCD 2
 - d. DSA-SS, DSA-SS/CC, OSHPD 1, 1R, 2, 4 & 5
- 4. According to the *State Agency Information Contact List* in the California Building Code, which agency has responsibility for essential services buildings?
 - a. BSC Building Standards Commission
 - b. AGR Department of Food and Agriculture
 - c. DSA Division of the State Architect
 - d. DPH Department of Public Health



Guidance from Code Authors Quiz

Quiz Answers

Quiz #1	Answer	Reference
Question 1	С	California Building Code Table of Contents
Question 2	а	California Electrical Code Table of Contents
Question 3	С	California Plumbing Code Table of Contents
Question 4	d	Health and Safety Code online Index

Quiz #2	Answer	Reference
Question 1	а	California Building Code
Question 2	b	California Plumbing Code
Question 3	С	Health and Safety Code Section 18930

Quiz #3	Answer	Reference
Question 1	d	California Building Code
Question 2	d	Health and Safety Code Section 17950
Question 3	а	Health and Safety Code Section 17950
Question 4	С	Health and Safety Code Section 17950

Quiz #4	Answer	Reference
Question 1	b	California Building Code Chapter 2
Question 2	С	California Building Code Ch. 2 Section 201.3
Question 3	а	California Plumbing Code Chapter 2
Question 4	b	Health and Safety Code Section 18905
Question 5	С	Health and Safety Code Section 18934.5

Quiz #5	Answer	Reference
Question 1	а	California Building Code Section 307.1
Question 2	b	Health and Safety Code Sec.179219(a), 18945(b)
Question 3	а	Health and Safety Code Sec. 18960(c)(1)

Quiz #6	Answer	Reference
Question 1	а	California Building Code, Volume 1
Question 2	b	California Building Code, Volume 1
Question 3	d	California Building Code, Volume 1
Question 4	С	California Building Code, Volume 1