

**2001 California Historical Building Code  
California Code of Regulations, Title 24, Part 8**

PUBLISHED

by

**International Conference of Building Officials**

5360 WORKMAN MILL ROAD  
WHITTIER, CA 90601-2298  
(800) 423-6587

COPYRIGHT © 2002

by

**California Building Standards Commission**

2525 NATOMAS PARK DRIVE, SUITE 130  
SACRAMENTO, CALIFORNIA 95833-2936  
(916) 263-0916

PRINTED IN THE U.S.A.

# *Preface*

This document is Part 8 of the official 2001 triennial compilation and publication of the adoptions, amendments, and repeal of building regulations to the California Code of Regulations, Title 24, also referred to as the *California Building Standards Code*. This part is known as the *California Historical Building Code*.

The *California Building Standards Code* is published in its entirety every three years by order of the California legislature, with supplements published in intervening years. The California legislature delegated authority to various state agencies, boards, commissions, and departments to create building regulations to implement the state's statutes. These building standards have the same force of law, and take effect 180 days after publication, unless otherwise stipulated. The *California Building Standards Code* applies to all occupancies throughout the State of California as annotated.

A city, county, or city and county may establish more restrictive building standards reasonably necessary because of local climatic, geological, or topographical conditions. Findings of the local condition(s) and the adopted local building standard(s) must be filed with the California Building Standards Commission to become effective and may not be effective sooner than the effective date of this edition of the *California Building Standards Code*. Local building standards adopted to be applicable to previous editions of the *California Building Standards Code* do not apply to this edition without appropriate adoption and the required filing.

Should you have any questions regarding this code or wish to offer comments toward improving the format, please address your questions and comments to:

California Building Standards Commission  
2525 Natomas Park Drive, Suite 130  
Sacramento, CA 95833-2936

Phone: (916) 263-0916  
Fax: (916) 263-0959

[www.bsc.ca.gov](http://www.bsc.ca.gov)

## Part 8 contains alternative regulations for qualified historical buildings.

The State Historical Building Code (SHBC) is unique among state regulations. The authoring of the original SHBC required state agencies promulgating regulations for building construction to work in harmony with representatives of other design and construction disciplines. The result was a totally new approach to building codes for historical structures, which maintains currently acceptable life-safety standards.

These regulations are also unique in that they are performance-oriented rather than prescriptive. The provisions of the SHBC are to be applied by the enforcing authority of every city, county, city and county, or state agency in permitting repairs, alterations and additions necessary for the preservation, rehabilitation, relocation, related construction, change of use or continued use of a qualified historical building.

The authority for use of the SHBC is vested in Sections 18950 through 18961 of the Health and Safety Code. Section 18954 states, "The building department of every city or county shall apply the provisions of alternative building standards and building regulations adopted by the SHBC Board pursuant to Section 18959.5 in permitting repairs, alterations and additions necessary for the preservation, restoration, rehabilitation, moving or continued use of an historical building or structure. A state agency shall apply the alternative building regulations adopted by the SHBC Board pursuant to Section 18959.5 in permitting repairs, alter-

ations, and additions necessary for the preservation, restoration, rehabilitation, moving, or continued use of an historical building or structure."

However, be aware that in order to use the SHBC, the structure under consideration must be qualified by being designated as an historical building or structure. Section 18955 states: "For the purposes of this part, a qualified historical building or structure is any structure or collection of structures, and their associated sites deemed of importance to the history, architecture, or culture of an area by an appropriate local or state governmental jurisdiction. This shall include structures on existing or future national, state or local historical registers or official inventories, such as the National Register of Historic Places, State Historical Landmarks, State Points of Historical Interest, and city or county registers or inventories of historical or architecturally significant sites, places, historic districts, or landmarks."

The regulations of the SHBC have the same authority as state law and are to be considered as such. Liability is the same as for prevailing law.

The intent of the SHBC is to save California's architectural heritage by recognizing the unique construction problems inherent in historical buildings and by providing a code to deal with these problems.

## Historical Preface

The background of the State Historical Building Code can be traced to December 1973, when the State Department of Parks and Recreation published the California History Plan, Volume I, in which Recommendation No. 11 was proposed by the then California Landmarks Advisory Committee (later to become The State Historical Resources Commission). This proposal expressed a need for a new building code to meet the intent of protecting the public health and safety but retaining "enough flexibility to allow restoration of a Historic feature while still retaining its Historic integrity." Finding No. 11 of this History Plan supported this need by stating that "... restoration . . . is frequently made difficult by unnecessarily rigid interpretation of building . . . codes."

In March of 1974, the Landmarks Committee by resolution recommended that the Director of the State Department of Parks and Recreation and the State Architect initiate a study to develop this needed code. These two officials accepted this concept and jointly called a statewide meeting in Sacramento on May 14th of that year. Attending were representatives from both the public and private sectors, such as members of the building industry, design professions, local and state building officials, and others interested in this problem.

Out of this open conference a steering committee was formed to explore in depth the ways and means of implementing the new historical building code concept. This ad hoc committee was chaired by a representative from the California Council, American Institute of Architects and composed of a comprehensive cross section of the professional organizations and government agencies concerned with design and code enforcement.

Meetings began late in 1974 and continued into early 1975. By April of that year, a legislative subcommittee of the ad hoc group drafted a sample bill for the proposed code and requested that it be

carried by Senator James R. Mills, President Pro Tempore of the Senate. After further development and refinement, the enacting legislation to create the authority for the code and an advisory board to prepare regulations to implement it (SB 927, Mills) was supported by both the legislature and the public. It was signed by the governor in September 1975, and became effective January 1, 1976.

The members of the advisory board, which were required by law to include local and state building officials, individuals from the building industry and design professions as well as representatives from city and county governments, were appointed and held their first session in Sacramento, February 24, 1976. This Board's duties included the preparation of code regulations and the review of specific historic building cases, when officially requested by governing bodies.

Several of the Board's members were a part of the original ad hoc steering committee and thus provided a continuity and smooth transition from the inception of the code's philosophy to its pragmatic implementation in these performance-oriented regulations.

The first comprehensive regulations were codified in August and October 1979, after years of careful deliberation. Those regulations allowed all jurisdictions to utilize them at their discretion in replacing or modifying details of prevailing prescriptive codes.

Changes made in law in 1984 and 1991, and to the code, make the application of the State Historical Building Code statutes and regulations applicable for all agencies and at the discretion of the owner for local jurisdictions when dealing with qualified historical buildings.

These current performance regulations were adopted by the Board on June 23, 1998, and approved by the California Building Standards Commission on September 26, 2001.

# *Questions and Interpretations Contact List*

## *2001 California Code of Regulations, Title 24*

### **Board of Corrections**

Local Adult Jail Standards ..... (916) 324-1914  
Local Juvenile Facility Standards ..... (916) 324-1914

### **California Energy Commission**

Energy Hotline ..... (800) 772-3300  
Building Efficiency Standards  
Appliance Efficiency Standards  
Compliance Manual/Forms

### **California State Library**

Construction Standards ..... (916) 445-9617

### **Department of Consumer Affairs—Acupuncture Board**

Office Standards ..... (916) 263-2680

### **Department of Consumer Affairs—Board of Pharmacy**

Pharmacy Standards ..... (916) 445-5014

### **Department of Consumer Affairs—Bureau of Barbering and Cosmetology**

Barber and Beauty Shop and  
College Standards ..... (916) 327-6250

### **Department of Consumer Affairs—Bureau of Home Furnishings and Thermal Insulation**

Insulation Testing Standards ..... (916) 574-2041

### **Department of Consumer Affairs—Structural Pest Control Board**

Structural Standards ..... (916) 263-2540

### **Department of Consumer Affairs—Veterinary Medical Board**

Veterinary Hospital Standards ..... (916) 263-2610

### **Department of Food and Agriculture**

Meat & Poultry Packing Plant Standards ..... (916) 654-0504  
Dairy Standards ..... (916) 653-6582

### **Department of Health Services**

Organized Camps ..... (916) 324-2208  
Public Swimming Pools ..... (916) 324-2208  
Asbestos ..... (415) 540-2134

### **Department of Housing and Community Development**

Residential ..... (916) 445-9471  
A Guide to California Multi-Family Disabled  
Access Regulations Available  
Through CALBO ..... (916) 457-1103  
Manufactured Homes, Commercial Coaches, and  
Permanent Structures in Mobile Home Parks  
(General) ..... (916) 445-3338  
Mobile Homes—Permits & Inspections  
Northern Region ..... (916) 255-2501  
Southern Region ..... (909) 782-4420  
Employee Housing ..... (916) 445-9471

### **Department of Industrial Relations, Division of Occupational Safety and Health**

Places of Employment and  
Employee Safety ..... (415) 703-5100  
Elevators ..... (916) 263-7995  
Boiler Inspections ..... (510) 622-3052  
Pressure Vessels ..... (510) 622-3052  
Asbestos—Industrial Hygienist ..... (916) 574-2993

### **Department of Water Resources**

Gray Water Installations Standards ..... (916) 327-1620

### **Department of the Youth Authority**

Institutional Standards ..... (916) 262-1428

### **Division of the State Architect—Access Compliance**

Access Compliance ..... (916) 322-4700  
California Accessibility Reference Manual ... (916) 322-4700

### **Division of the State Architect—Structural Safety**

Public Schools ..... (916) 445-8100  
State-owned Buildings ..... (916) 445-8100  
Asbestos ..... (916) 445-8100  
State Building Inspector Information ..... (916) 445-8100

### **Office of Statewide Health Planning and Development**

Hospitals ..... (916) 654-2012  
Skilled Nursing Facilities ..... (916) 654-2012  
Clinics ..... (916) 654-2012  
Permits ..... (916) 654-3362

### **Office of the State Fire Marshal** ..... (916) 445-8200

### **State Historical Building Safety Board**

Alternative Building Standards ..... (916) 445-7627



## *How to Determine Where Changes Have Been Made*

Symbols in the margins indicate where changes have been made or language has been deleted.

|| This symbol indicates that a change has been made.

> This symbol indicates deletion of code language.



## TABLE OF CONTENTS

<b>Chapter 8-1 ADMINISTRATION</b>			
Section 8-101 — Title, Purpose and Intent	1	Section 8-502 — General	9
Section 8-102 — Application	1	Section 8-503 — Escape or Rescue Windows and Doors	9
Section 8-103 — Organization and Enforcement	1	<b>Chapter 8-6 ALTERNATIVE ACCESSIBILITY PROVISIONS</b>	
Section 8-104 — Review and Appeals	1	Section 8-601 — Purpose, Intent and Scope	11
Section 8-105 — Construction Methods and Materials	2	Section 8-602 — Basic Provisions	11
Section 8-106 — SHBSB Rulings	2	Section 8-603 — Preferred Alternatives	11
<b>Chapter 8-2 DEFINITIONS</b>		Section 8-604 — Equivalent Facilitation	11
Section 8-201 — Definitions	3	Section 8-605 — Exceptions	12
Section 8-202 — A	3	<b>Chapter 8-7 ALTERNATIVE STRUCTURAL REGULATIONS</b>	
Section 8-203 — B	3	Section 8-701 — Purpose, Intent and Scope	13
Section 8-204 — C	3	Section 8-702 — General	13
Section 8-205 — D	3	Section 8-703 — Structural Survey	13
Section 8-206 — E (No definitions)	3	Section 8-704 — Nonhistorical Additions and Nonhistorical Alterations	13
Section 8-207 — F	3	Section 8-705 — Structural Regulations	13
Section 8-208 — G (No definitions)	3	Section 8-706 — Lateral Load Regulations	13
Section 8-209 — H	3	<b>Chapter 8-8 ARCHAIC MATERIALS AND METHODS OF CONSTRUCTION</b>	
Section 8-210 — I	3	Section 8-801 — Purpose, Intent and Scope	15
Section 8-211 — J (No definitions)	3	Section 8-802 — General Engineering Approach	15
Section 8-212 — K (No definitions)	3	Section 8-803 — Nonstructural Archaic Materials	15
Section 8-213 — L	4	Section 8-804 — Allowable Conditions for Specific Materials	15
Section 8-214 — M (No definitions)	4	Section 8-805 — Masonry	15
Section 8-215 — N (No definitions)	4	Section 8-806 — Adobe	15
Section 8-216 — O	4	Section 8-807 — Wood	16
Section 8-217 — P	4	Section 8-808 — Concrete	16
Section 8-218 — Q	4	Section 8-809 — Steel and Iron	16
Section 8-219 — R	4	Section 8-810 — Hollow Clay Tile	16
Section 8-220 — S	4	Section 8-811 — Veneers	16
<b>Chapter 8-3 USE AND OCCUPANCY</b>		Section 8-812 — Glass and Glazing	16
Section 8-301 — Purpose and Scope	5	<b>Chapter 8-9 MECHANICAL, PLUMBING AND ELECTRICAL REQUIREMENTS</b>	
Section 8-302 — General	5	Section 8-901 — Purpose, Intent and Scope	19
Section 8-303 — Residential Occupancies	5	Section 8-902 — Mechanical	19
<b>Chapter 8-4 FIRE PROTECTION</b>		Section 8-903 — Plumbing	19
Section 8-401 — Purpose, Intent and Scope	7	Section 8-904 — Electrical	20
Section 8-402 — Fire-resistive Construction	7	<b>Chapter 8-10 HISTORIC DISTRICTS, SITES AND OPEN SPACES</b>	
Section 8-403 — Interior Finish Materials	7	Section 8-1001 — Purpose, Scope and Applicability	23
Section 8-404 — Wood Lath and Plaster	7	Section 8-1002 — Site Relations	23
Section 8-405 — Occupancy Separation	7	<b>History Note Appendix</b>	
Section 8-406 — Maximum Floor Area	7	25	
Section 8-407 — Vertical Shafts	7		
Section 8-408 — Roof Covering	7		
Section 8-409 — Fire Alarm Systems	7		
Section 8-410 — Automatic Fire-extinguishing Systems	7		
<b>Chapter 8-5 MEANS OF EGRESS</b>			
Section 8-501 — Purpose, Intent and Scope	9		



## Chapter 8-1 ADMINISTRATION

### SECTION 8-101 — TITLE, PURPOSE AND INTENT

**8-101.1 Title.** These regulations shall be known as the State Historical Building Code and will be referred to herein as “the SHBC.”

**8-101.2 Purpose.** The purpose of this code is to provide regulations for the preservation, restoration, rehabilitation, relocation or reconstruction of buildings or structures designated as qualified historical buildings or properties (as defined in Section 8-218). Such regulations are intended to provide alternative solutions for the preservation of qualified historical buildings or properties, to provide access for persons with disabilities, to provide a cost-effective approach to preservation, and to provide for the reasonable safety of the occupants or users. These regulations require enforcing agencies to accept reasonably equivalent alternatives to the regular code (as defined in Section 8-219) when dealing with qualified historical buildings or properties.

**8-101.3 Intent.** It is the intent of these regulations to facilitate the preservation and continuing use of qualified historical buildings or properties while providing reasonable safety for the building occupants and access for persons with disabilities.

### SECTION 8-102 — APPLICATION

**8-102.1 Application.** These regulations are applicable for all issues regarding building code compliance for qualified historical buildings or properties. These regulations are to be used in conjunction with the regular code to provide alternatives to the regular code to facilitate the preservation of qualified historical buildings or properties. These regulations shall be used whenever compliance with the regular code is required for qualified historical buildings or properties.

**8-102.1.1 Additions, alterations and repairs.** It is the intent of these regulations to allow nonhistorical expansion or addition to a qualified historical building or property provided:

1. Nonhistorical additions shall conform to the requirements of the regular code. See Section 8-202—A.
2. Additions, alterations or repairs shall not cause a qualified historical building or structure to become unsafe or overloaded.

**8-102.1.2 Relocation.** Relocated qualified historical buildings or properties shall be sited to comply with the regular code or as provided for in this code. New nonhistorical construction related to relocation shall comply with the regular code. Historical reconstruction and restoration related to relocation may comply with the alternatives contained in this code.

**8-102.1.3 Change of occupancy.** For change of use or occupancy, see Chapter 8-3, Use and Occupancy.

**8-102.1.4 Continued use.** Qualified historical buildings or properties may have their existing use or occupancy continued if such use or occupancy does not constitute a distinct hazard to life safety as defined in this code.

**8-102.1.5 Unsafe buildings.** When a qualified historical building or property is determined to be unsafe as defined in the regular code, the requirements of this code are applicable to the work necessary to correct the unsafe conditions. Work to remedy the building shall be limited to the correction of the unsafe conditions, and

it shall not be required to bring the entire building in compliance with regular code.

**NOTE:** See Section 8-703, Structural Survey, to determine when a structural survey is required.

### SECTION 8-103 — ORGANIZATION AND ENFORCEMENT

**8-103.1 Authority.** The state or local enforcing agency, pursuant to authority provided under Section 18954 of the Health and Safety Code, shall apply the provisions of this code in permitting repairs, alterations and additions necessary for the preservation, restoration, reconstruction, rehabilitation, moving or continued use of a qualified historical building or property when so elected by the private property owner.

**8-103.2 State Enforcement.** All the state agencies per Section 18958 of the Health and Safety Code shall administer and enforce this code with respect to qualified historical buildings or properties under their respective jurisdiction.

**8-103.3 Liability.** Prevailing law regarding immunity of building officials is unaffected by the use and enforcement of this code.

### SECTION 8-104 — REVIEW AND APPEALS

**8-104.1 State Historical Building Safety Board (SHBSB).** In order to provide for interpretation of the provisions of this code and to hear appeals, the SHBSB shall act as a review body to state and local agencies or any affected party.

**8-104.2 SHBSB Review.** When a proposed design, material or method of construction is being considered by the enforcing agency, the agency chief, the building official or the local board of appeals may file a written request for opinion to the SHBSB for its consideration, advice or findings. In considering such request, the SHBSB may seek the advice of other appropriate private or public boards, individuals, or state or local agencies. The SHBSB shall, after considering all of the facts presented, including any recommendation of other appropriate boards, agencies or other parties, determine if, for the purpose intended, the proposal is reasonably equivalent to that allowed by these regulations in proposed design, material or method of construction, and it shall transmit such findings and its decision to the enforcing agency for its application. The Board shall recover the costs of such reviews and shall report the decision in printed form, copied to the California Building Standards Commission.

**8-104.3 SHBC Appeals.** If any local agency administering and enforcing this code or any person adversely affected by any regulation, rule, omission, interpretation, decision or practice of the agency enforcing this code wishes to appeal the issue for resolution to the SHBSB, either of these parties may appeal directly to the Board. The Board may accept the appeal only if it determines that issues involved are of statewide significance. The Board shall recover the costs of such reviews and shall make available copies of decisions in printed form at cost, copied to the California Building Standards Commission.

**8-104.4 Costs for Board Action and Informational Material.** An estimate of the review and appeals process can be provided by contacting:

Executive Director  
The State Historical Building Safety Board

Cost information and availability of the codes, hearing information, informational and background material, and Board decisions are available from the same source.

**8-104.5 Local Agency Fees.** Local agencies, when actively involved in the appeal, may also charge affected persons reasonable fees not to exceed the cost of obtaining reviews and appeals from the Board.

## **SECTION 8-105 — CONSTRUCTION METHODS AND MATERIALS**

**8-105.1 Repairs.** Repairs to any portion of a qualified historical building or property may be made in-kind with historic materials and the use of original or existing historic methods of construction, subject to conditions of this code. (See Chapter 8-8.)

**8-105.2 Alternatives to the State Historical Building Code.** It is the intent of this code to allow the use of these alternatives or any other acceptable regulation or methodology of design or construction in whole or in part, with the regular code, or in any combination of the regular code and this code. These regulations are not

intended to preclude the use of any proposed alternative or method of design or construction not specifically prescribed or otherwise allowed by these regulations. Any other alternative may be submitted for evaluation to the appropriate enforcing agency for review and acceptance. The enforcing agency may request that sufficient evidence or proof be submitted to substantiate any claims that may be made regarding such alternatives. Any alternative offered in lieu of that prescribed or allowed in this code shall be reasonably equivalent in quality, strength, effectiveness, durability and safety to that of this code.

## **SECTION 8-106 — SHBSB RULINGS**

**8-106.1 General.** Rulings of the SHBSB (i.e., formal appeals case decisions, code interpretations and administrative resolutions, etc.) that are issues of statewide application are required to be submitted to the California Building Standards Commission in printed form. The purpose of these rulings is to provide guidance for similar cases or issues.

**NOTE:** The past appellate and interpretive rulings of the SHBSB are being compiled and catalogued and will be published as an appendix with the State Historical Building Code.

## Chapter 8-2 DEFINITIONS

### SECTION 8-201 — DEFINITIONS

For the purpose of this code, certain terms and phrases, words, and their derivatives shall be construed as specified in this chapter. Additional definitions and/or terms may appear in the various other chapters relative to terms or phrases primarily applicable thereto. Any reference to “authority having jurisdiction” does not necessarily preclude the appellate process of Section 8-104.3.

### SECTION 8-202 — A

**ADAPTIVE REUSE.** The process of adapting a property, site, building, or structure for a use other than that for which it was originally designed or previously used.

**ADDITION.** A nonhistorical extension or increase in floor area or height of a building or structure.

**ALTERATION.** A modification to a building or structure that affects usability of the building or structure, or part thereof. Alterations include, but are not limited to, remodeling, renovation, rehabilitation, reconstruction, historic restoration, changes or rearrangement of the structural parts or elements, and changes or rearrangements in the plan configuration of walls and full-height partitions.

**ARCHITECTURAL SIGNIFICANCE.** Importance of a historic property based on physical aspects of its design, materials, form, style or workmanship.

### SECTION 8-203 — B

**BUILDING.** Any structure used or intended for supporting or sheltering any use or occupancy.

### SECTION 8-204 — C

**CHARACTER-DEFINING FEATURE.** Those visual aspects and physical elements that comprise the appearance of a historic building, structure or property, and that are significant to its historic, architectural and cultural values, including the overall shape of the structure, building or property, its materials, craftsmanship, decorative details, interior spaces and features, as well as the various aspects of its site and environment.

**CONSERVATION.** The practice of prolonging the physical and aesthetic life of prehistoric and historic material culture through documentation, preventive care, treatment and research.

**CULTURAL RESOURCE.** Building, site, structure, object, or district evaluated as having significance in prehistory or history.

### SECTION 8-205 — D

**DISTINCT HAZARD.** Any clear and evident condition that exists as an immediate danger to the safety of the occupants. Conditions that do not meet the requirements of current regular codes and ordinances do *not*, of themselves, constitute a distinct hazard. Section 8-104.3, SHBC Appeals, remains applicable.

**DISTRICT.** A historic district possessing a significant concentration, linkage, or continuity of sites, buildings, structures, or

objects, or combination thereof, united historically or aesthetically by plan or physical development.

### SECTION 8-206 — E

No definitions.

### SECTION 8-207 — F

**FACILITIES.** A building and such other structures, topography, or development that may be within the confining or legal limits of the qualified historic property, site, group of such sites, historic district or districts.

**FIRE HAZARD.** Any condition or act which increases, or may increase the hazard or menace of fire to a greater degree than customarily recognized by the authority having jurisdiction, or any condition or act which could obstruct, delay, hinder or interfere with the operations of firefighting personnel or the egress of occupants in the event of fire. Section 8-104.3, SHBC Appeals, remains applicable.

### SECTION 8-208 — G

No definitions.

### SECTION 8-209 — H

**HISTORIC FABRIC OR MATERIALS.** Original and later-added significant construction materials, architectural finishes or elements in a particular pattern or configuration which form a historical property, as determined by the authority having jurisdiction.

**HISTORICAL SIGNIFICANCE.** Importance for which a property has been evaluated and found to be historic, as determined by the authority having jurisdiction.

### SECTION 8-210 — I

**IMMINENT THREAT.** Any condition within or affecting a structure which, in the opinion of the authority having jurisdiction, would qualify a building or structure as dangerous to the extent that the life, health, property or safety of the public, its occupants or those performing necessary repair, stabilization or shoring work are in immediate peril due to conditions affecting the building or structure. Potential hazards to persons using, or improvements within, the right-of-way may not be construed to be imminent threats solely for that reason if the hazard can be mitigated by shoring, stabilization, barricades or temporary fences.

**INTEGRITY.** Authenticity of a property’s historic identity, evidenced by the survival of physical characteristics that existed during the property’s historic or prehistoric period.

### SECTION 8-211 — J

No definitions.

### SECTION 8-212 — K

No definitions.

**SECTION 8-213 — L**

**LIFE-SAFETY EVALUATION.** An evaluation of the life-safety hazards of a building or structure based on procedures similar to those contained in *NFPA 909, Standard for the Protection of Cultural Resources, Appendix B, Fire Risk Assessment in Heritage Premises*.

**SECTION 8-214 — M**

No definitions.

**SECTION 8-215 — N**

No definitions.

**SECTION 8-216 — O**

**OBJECT.** Used to distinguish from buildings and structures those constructions or monuments that are primarily artistic in nature or are relatively small in scale and simply constructed. Although it may be, by nature or design, movable, an object is associated with a specific setting or environment.

**SECTION 8-217 — P**

**PERIOD OF SIGNIFICANCE.** The length of time when a historic building, property or site was associated with important events, activities, or persons, or attained the characteristic which qualifies it for listing or registration.

**PRESERVATION.** The act or process of applying measures necessary to sustain the existing form, integrity, and materials of a historic property, building or structure. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. New exterior additions are not within the scope of this treatment; however, the limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-related work to make properties functional is appropriate within a preservation project.

**SECTION 8-218 — Q**

**QUALIFIED HISTORICAL BUILDING OR PROPERTY.** Any building, site, structure, object, district or collection of structures, and their associated sites, deemed of importance to the his-

tory, architecture or culture of an area by an appropriate local, state or federal governmental jurisdiction. This shall include designated buildings or properties on, or determined eligible for, official national, state or local historical registers or official inventories, such as the National Register of Historic Places, California Register of Historical Resources, State Historical Landmarks, State Points of Historical Interest, and officially adopted city or county registers, inventories, or surveys of historical or architecturally significant sites, places or landmarks.

**SECTION 8-219 — R**

**RECONSTRUCTION.** The act or process of depicting, by means of new construction, the form, features, and detailing of a nonsurviving site, landscape, building, structure or object for the purpose of replicating its appearance at a specific period of time.

**REGULAR CODE.** The adopted regulations that govern the design and construction or alteration of nonhistorical buildings, structures and properties within the jurisdiction of the enforcing agency.

**REHABILITATION.** The act or process of making possible a compatible use for a property, building or structure through repair, alterations and additions while preserving those portions or features which convey its historical, cultural, or architectural values.

**RELOCATION.** The act or process of moving any structure or a portion of a structure that may be moved to a new site, or a different location on the same site.

**REPAIR.** Renewal, reconstruction or renovation of any portion of an existing property, site or building for the purpose of its continued use.

**RESTORATION.** The act or process of accurately depicting the form, features and character of a property, building or structure as it appeared at a particular period of time by the means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period. The limited and sensitive upgrading of mechanical, electrical and plumbing systems and other code-required work to make properties functional is appropriate within a restoration project.

**SECTION 8-220 — S**

**STRUCTURE.** That which is built or constructed, an edifice or a building of any kind, or any piece of work artificially built up or composed of parts joined together in some definite manner.

## Chapter 8-3 USE AND OCCUPANCY

### SECTION 8-301 — PURPOSE AND SCOPE

**8-301.1 Purpose.** The purpose of this chapter is to provide alternative regulations for the determination of occupancy classifications and conditions of use for buildings or structures designated as qualified historical buildings or properties.

**8-301.2 Scope.** Every qualified historical building or property for which a building permit has been requested shall be classified prior to permit issuance according to its use or the character of its occupancy in accordance with the regular code and applicable provisions of this chapter.

### SECTION 8-302 — GENERAL

**8-302.1 Existing Use.** The use or character of occupancy of a qualified historical building or property, or portion thereof, shall be permitted to continue in use regardless of any period of time in which it may have remained unoccupied or in other uses, provided such building or property otherwise conforms to all applicable requirements of this chapter.

**8-302.2 Change in Occupancy.** The use or character of the occupancy of a historical building may be changed from its historic use or character provided the building conforms to the requirements applicable to the new use or character of occupancy as set forth in this code. Such change in occupancy shall not mandate conformance with new construction requirements as set forth in prevailing regular code, provided the new use or occupancy does not create a fire hazard or other condition detrimental to the safety of occupants or of firefighting personnel.

**8-302.3 Occupancy Separations.** Required occupancy separations of more than one hour may be reduced to one-hour fire-resistive construction with all openings protected by not less than three-fourths-hour fire-resistive assemblies of the self-closing or automatic-closing type when the building is provided with an approved automatic sprinkler system throughout the entire building in accordance with prevailing code. Doors equipped with automatic-closing devices shall be of a type which will function upon activation of a device which responds to products of combustion other than heat.

Required occupancy separations of one hour may be omitted when the building is provided with an approved automatic sprinkler system throughout.

**8-302.4 Maximum Floor Area.** Regardless of the use or character of occupancy, the area of a one-story historical building may have, but shall not exceed, a floor area of 15,000 square feet (1393.5 m<sup>2</sup>) unless such increase is otherwise permitted in prevailing code. Multistory buildings (including basements and cellars) shall be in accordance with regular code requirements.

**EXCEPTION:** Historic buildings provided with an approved automatic sprinkler system may be unlimited in floor area without fire-resistive area separation walls.

**8-302.5 Maximum Height.** The maximum height and number of stories of a historical building shall not be limited because of construction type, provided such height or number of stories does not exceed that of its designated historical design.

**8-302.6 Fire-resistive Construction.** See Chapter 8-4.

**8-302.7 Light and Ventilation.** Existing provisions for light and ventilation which do not, in the opinion of the enforcing agency, constitute a safety hazard may remain. See Section 8-303.6 for residential requirements. See Section 8-503, Escape or Rescue Windows and Doors.

### SECTION 8-303 — RESIDENTIAL OCCUPANCIES

**8-303.1 Purpose.** The purpose of this section is to provide alternative regulations for those buildings or structures designated as qualified historical buildings or properties and classified as residential occupancies. These regulations require enforcing agencies to accept any reasonably equivalent alternatives to the regular code when dealing with qualified historical buildings and properties.

**8-303.2 Intent.** It is the intent of these regulations to preserve the integrity of qualified historical buildings and properties while maintaining a reasonable degree of protection of life, health and safety for the occupants.

**8-303.3 Application and Scope.** The provisions of this section shall apply to all qualified historical buildings used for human habitation. Those dwelling units intended only for display, or public use with no dwelling use involved, need not comply with the requirements of this section.

#### 8-303.4 Alternative Exit Definitions.

**8-303.4.1 Exit ladder device.** An exit ladder device is a permanently installed, fixed, folding, retractable, or hinged ladder intended as a means of emergency egress from areas of the second or third stories. Unless approved specifically for a longer length, the use shall be limited to 25 feet (7620 mm) in length. Exit ladders are permitted in areas serving an occupant load of less than 10 persons.

**8-303.4.2 Fire escapes.** See Chapter 8-5.

**8-303.5 Room Dimensions.** Rooms used for sleeping purposes may contain a minimum of 50 square feet (4.6 m<sup>2</sup>) floor area provided there is maintained an average ceiling height of 7 feet (2134 mm). Other habitable rooms need only be of adequate size to be functional for the purpose intended.

**8-303.6 Light and Ventilation.** Windows in habitable rooms shall have an area of 6 percent of the floor area, or 6 square feet (0.56 m<sup>2</sup>), whichever is greater. Windows in sleeping rooms shall be openable (see Section 8-503). Dwelling occupancies need not be provided with electrical lighting.

**8-303.7 Alteration and Repair.** The alteration and repair of historical buildings may permit the replacement, retention and extension of original materials and the continued use of original methods of construction provided a life-safety hazard is not created or continued in existence.

The amount of alterations and repairs is not limited provided there is no nonhistorical increase in floor area, volume or size of the structure.

**8-303.8 Exiting.** See Chapter 8-5.



## Chapter 8-4 FIRE PROTECTION

### SECTION 8-401 — PURPOSE, INTENT AND SCOPE

**8-401.1 Purpose.** The purpose of this chapter is to provide alternative regulations for fire protection of buildings or structures designated as qualified historical buildings or properties. These regulations require enforcing agencies to accept any reasonably equivalent alternatives to the regular code when dealing with qualified historical buildings or properties.

**8-401.2 Intent.** The intent of these regulations is to preserve the integrity of qualified historical buildings and properties while maintaining a reasonable degree of fire protection based primarily on the life safety of the occupants and firefighting personnel.

**8-401.3 Scope.** This chapter shall apply when required by the provisions of Section 8-102.

### SECTION 8-402 — FIRE-RESISTIVE CONSTRUCTION

**8-402.1 Exterior Wall Construction.** The fire-resistance requirement for existing exterior walls and existing opening protection may be satisfied when an automatic fire-extinguishing system designed for exposure protection is installed. The automatic sprinklers may be installed on the exterior under the roof line with at least one sprinkler head located over each opening required to be protected. Additional sprinkler heads shall also be distributed along combustible walls that do not meet the fire-resistive requirement due to their relationship to property lines as required by regular code. Such sprinkler system may be connected to an adequate domestic water supply on the street-main side of the building shut-off valve. A shut-off valve may be installed for the sprinkler system provided it is locked in an open position.

**8-402.2 One-hour Construction.** Upgrading an existing qualified historic building or property to one-hour fire-resistive construction and one-hour fire-resistive corridors shall not be required regardless of construction or occupancy when one of the following is provided:

1. An automatic fire sprinkler system throughout.
2. An approved life-safety evaluation.
3. Other alternative measures are approved by the enforcing agency.

**8-402.3 Glazing in Fire-rated Systems.** Historic glazing materials in interior walls required to have one-hour fire rating may be approved subject to the concurrence of the enforcing agency when provided with approved smoke seals and when the area affected is provided with an automatic sprinkler system.

### SECTION 8-403 — INTERIOR FINISH MATERIALS

New nonhistoric interior wall and ceiling finish shall conform to the provisions of the regular code. Existing nonconforming materials used in interior wall and finishes may be surfaced with an approved fire retardant to increase the rating of the natural finish to within reasonable proximity of the required rating. For wood lath and plaster walls, see Section 8-404.

**EXCEPTION:** When an approved automatic sprinkler system is provided throughout the building, existing finishes need not be fire retardant.

### SECTION 8-404 — WOOD LATH AND PLASTER

Wood lath and plaster walls may be considered in accordance with codes, standards, and listings published prior to 1943 whereby a wood stud wall assembly with gypsum or lime plaster on hand split or sawn wooden lath obtains a one-half-hour fire-resistive rating. This rating may be increased for interior walls to as much as one hour by filling the wall with mineral fiber or glass fiber.

### SECTION 8-405 — OCCUPANCY SEPARATION

See Chapter 8-3.

### SECTION 8-406 — MAXIMUM FLOOR AREA

See Chapter 8-3.

### SECTION 8-407 — VERTICAL SHAFTS

Vertical shafts need not be enclosed when such shafts are blocked at every floor level by the installation of not less than 2 full inches (51 mm) of solid wood or equivalent construction installed as to prevent the initial passage of smoke and flame. Approved automatic sprinkler systems or other solutions may be considered on a case-by-case basis, in lieu of enclosure of vertical shafts and stairwells.

### SECTION 8-408 — ROOF COVERING

Existing or original roofing materials may be repaired or reconstructed subject to the following requirements:

1. The original or historic roofing system shall be detailed or modified as necessary in order to be capable of providing shelter to the building occupants and exclude dampness, while preserving the historic materials and appearance of the roof.
2. Wooden roof materials may be utilized where fire resistance is required provided they are treated with fire-retardant treatments to achieve an equivalence to a Class C fire-resistive rating, or as otherwise permitted on a case-by-case basis.

### SECTION 8-409 — FIRE ALARM SYSTEMS

Every qualified historical building or property shall be provided with fire alarm systems as required for the use or occupancy by the regular code or other approved alternative.

### SECTION 8-410 — AUTOMATIC FIRE-EXTINGUISHING SYSTEMS

**8-410.1** Every historical building which cannot be made to conform to the construction requirements specified in the regular code for the occupancy or use, and which constitutes a distinct fire hazard (for definition of "distinct hazard," see Section 8-205), shall be deemed to be in compliance if provided with an approved automatic fire-extinguishing system.

**EXCEPTION:** When an alternative life-safety system is approved by the enforcing agency.

**8-410.2** An automatic fire-extinguishing system shall not be used to substitute for or act as an alternative to the required number of exits from any facility. (See Chapter 8-5 for exiting requirements.)

**8-410.3** An automatic fire-extinguishing system shall be provided in all detention facilities.



## Chapter 8-5 MEANS OF EGRESS

### SECTION 8-501 — PURPOSE, INTENT AND SCOPE

**8-501.1 Purpose.** The purpose of this chapter is to establish minimum means of egress regulations for qualified historical buildings or properties. These regulations require enforcing agencies to accept reasonably equivalent alternatives to the means of egress requirements in the regular code.

**8-501.2 Intent.** It is the intent of these regulations to provide an adequate means of egress.

**8-501.3 Scope.** Every qualified historical building or portion thereof shall be provided with exits as required by this chapter when required by the provisions of Section 8-102.

### SECTION 8-502 — GENERAL

**8-502.1 General.** Except as provided in this section, exits shall conform or be made to conform to the provisions of the regular code.

**EXCEPTIONS:** 1. New fire escapes and fire escape ladders which comply with Section 8-502.2 shall be acceptable as one of the required means of egress.

2. Existing previously approved fire escapes and fire escape ladders shall be acceptable as one of the required means of egress provided they extend to the ground and are easily negotiated, adequately signed, and in good working order. Access shall be by an opening having a minimum width and height of 29 inches (737 mm) when open. No sill shall be more than 30 inches (762 mm) above the adjacent floor, landing or approved step.

3. The enforcing agency shall grant reasonable exceptions to specific provisions covered under applicable regulations where such exceptions will not adversely affect the life safety intended. (Examples: Existing door openings and corridor and stairway widths of less than the specified dimensions may be permitted, provided there is sufficient width and height for a person to pass through the opening or traverse the exit; existing stairways having risers and treads at variance with the specified rise and run for the occupant load and use are allowed.)

4. Upon specific case approval, the front or main exit door(s) need not be rehung to swing in the direction of exit travel provided other means or conditions of exiting, as necessary to serve the total occupant load served, are otherwise provided.

5. In lieu of total conformance with existing exiting requirements, the enforcing agency may accept any other condition which will allow or provide for the ability to quickly and safely evacuate any portion of a building without undue exposure and which will meet the intended exiting and life safety stipulated by these regulations.

**8-502.2 Fire Escapes and Fire Escape Ladders.** New fire escapes and new fire escape ladders shall comply with the following:

1. Access from a corridor shall not be through an intervening room.

2. All openings within 10 feet (3048 mm) shall be protected by three-fourths-hour fire assemblies. When located within a recess or vestibule, adjacent enclosure walls shall be of not less than one-hour fire-resistive construction.

3. Egress from the building shall be by a clear opening having a minimum dimension of not less than 29 inches (737 mm). Such openings shall be openable from the inside without the use of a key or special knowledge or effort. The sill of an opening giving ac-

cess shall not be more than 30 inches (762 mm) above the floor, step or landing of the building or balcony.

4. Fire escape stairways and balconies shall support the dead load plus a live load of not less than 100 pounds per square foot (4.79 kN/m<sup>2</sup>) and shall be provided with a top and intermediate handrail on each side. The pitch of the stairway shall not exceed 72 degrees with a minimum width of 18 inches (457 mm). Treads shall not be less than 4 inches (102 mm) in width and the rise between treads shall not exceed 10 inches (254 mm). All stair and balcony railings shall support a horizontal force of not less than 50 pounds per lineal foot (729.5 N/m) of railing.

5. Balconies shall not be less than 44 inches (1118 mm) in width with no floor opening other than the stairway opening greater than <sup>5</sup>/<sub>8</sub> inch (15.9 mm) in width. Stairway openings in such balconies shall not be less than 22 inches by 44 inches (559 by 1118 mm). The balustrade of each balcony shall not be less than 36 inches (914 mm) high with not more than 9 inches (287 mm) between balusters.

6. Fire escapes shall extend to the roof or provide an approved gooseneck ladder between the top floor landing and the roof when serving buildings four or more stories in height having roofs with less than 4 units vertical in 12 units horizontal (33.3% slope). Fire escape ladders shall be designed and connected to the building to withstand a horizontal force of 100 pounds (445 N) placed anywhere on the rung. All ladders shall be at least 15 inches (381 mm) wide, located within 12 inches (305 mm) of the building. Ladder rungs shall be <sup>3</sup>/<sub>4</sub> inch (19.1 mm) in diameter and shall be located 12 inches (305 mm) on center. Openings for roof access ladders through cornices and similar projections shall have minimum dimensions of 30 inches by 33 inches (762 by 838 mm).

The length of fire escapes and exit ladder devices shall be limited to that approved by the building official based on products listed by a recognized testing laboratory.

7. The lowest balcony shall not be more than 18 feet (5486 mm) from the ground. Fire escapes shall extend to the ground or be provided with counterbalanced stairs reaching to the ground.

8. Fire escapes shall not take the place of stairways required by the codes under which the building was constructed.

9. Fire escapes shall be kept clear and unobstructed at all times and maintained in good working order.

### SECTION 8-503 — ESCAPE OR RESCUE WINDOWS AND DOORS

Basements in dwelling units and every sleeping room below the fourth floor shall have at least one openable window or door approved for emergency escape which shall open directly into a public street, alley, yard or exit court. Escape or rescue windows or doors shall have a minimum clear area of 3.3 square feet (0.31 m<sup>2</sup>) and a minimum width or height dimension of 18 inches (457 mm) and be operable from the inside to provide a full, clear opening without the use of special tools.

**EXCEPTION:** Escape or rescue windows in Group R-1 Hotel occupancies may comply with the regular code.



## Chapter 8-6 ALTERNATIVE ACCESSIBILITY PROVISIONS

### SECTION 8-601 — PURPOSE, INTENT AND SCOPE

**8-601.1 Purpose.** The purpose of this chapter is to provide alternative regulations to facilitate access and use by persons with disabilities to and throughout buildings or structures designated as qualified historical buildings or properties. These regulations require enforcing agencies to accept any reasonably equivalent alternatives to regular code when dealing with qualified historical buildings or properties.

**8-601.2 Intent.** It is the intent of this chapter to preserve the integrity of qualified historical buildings and properties while providing access to and use by persons with disabilities.

**8-601.3 Scope.** These regulations shall apply to every qualified historical building or property that is required to provide access to persons with disabilities.

### SECTION 8-602 — BASIC PROVISIONS

**8-602.1 Regular Code.** The regular code for access for persons with disabilities shall be applied to qualified historical buildings or properties unless strict compliance with the regular code will threaten or destroy the historical significance or character-defining features of the building or property.

**8-602.2 Alternative Provisions.** If the historical significance or character-defining features are threatened, alternative provisions for access may be applied pursuant to this chapter provided the following conditions are met:

1. Such alternative provisions shall be applied only on an item-by-item or a case-by-case basis. (See, e.g., Section 8-603.)
2. The alternative provisions are applied according to the priorities outlined in Section 8-603 whereby the alternative providing the greatest accessibility is listed first.
3. Documentation is provided stating the reasons for the application of the alternative provisions. Such documentation shall be maintained as a part of the public record.
4. If it is found that the application of the preferred alternatives listed in Section 8-603 threaten the historical significance or character defining features, the provisions of Sections 8-604 and 8-605 may be applied.

### SECTION 8-603 — PREFERRED ALTERNATIVES

The alternatives below each category are listed in order of priority. These alternatives apply only to the specific building standards listed below.

**8-603.1 Entry.** These alternatives do not allow exceptions for the requirement of level landings in front of doors, except as provided in Section 8-603.3. Alternatives listed in order of priority are:

1. Access to any entrance used by the general public and no further than 200 feet (60 960 mm) from the primary entrance.
2. Access at any entrance not used by the general public but open and unlocked with directional signs at the primary entrance and as close as possible to, but no further than 200 feet (60 960 mm) from, the primary entrance.

**8-603.2 Doors.** Alternatives listed in order of priority are:

1. Single-leaf door which provides a minimum 30 inches (762 mm) of clear opening.
2. Single-leaf door which provides a minimum 29<sup>1</sup>/<sub>2</sub> inches (749 mm) clear opening
3. Double door, one leaf of which provides a minimum 29<sup>1</sup>/<sub>2</sub> inches (749 mm) clear opening.
4. Double doors operable with a power-assist device to provide a minimum 29<sup>1</sup>/<sub>2</sub> inches (749 mm) clear opening when both doors are in the open position.

**8-603.3 Power-assisted Doors.** A power-assisted door or doors may be considered an equivalent alternative to level landings, strikeside clearance and door-opening forces required by the regular code.

**8-603.4 Toilet Rooms.** In lieu of separate-gender toilet facilities as required in the regular code, an accessible unisex toilet facility may be designated.

**8-603.5 Exterior and Interior Ramps and Lifts.** Alternatives listed in order of priority are:

1. A lift or a ramp of greater than standard slope but no greater than 1:10, for horizontal distances not to exceed 12 feet (3658 mm). Signs shall be posted at upper and lower levels to indicate steepness of the slope.
2. Access by ramps of 1:6 slope for horizontal distance not to exceed 13 inches (330 mm). Signs shall be posted at upper and lower levels to indicate steepness of the slope.
3. Access provided by experiences, services, functions, materials and resources through methods, including, but not limited to, maps, plans, videos, virtual reality, and related equipment, at accessible levels. This alternative shall be documented as required in Section 8-605.

### SECTION 8-604 — EQUIVALENT FACILITATION

Use of other designs and technologies, or deviation from particular technical and scoping requirements, are permitted if the application of the alternative provisions contained in Section 8-603 would threaten or destroy the historical significance or character-defining features of the building or site or cause unreasonable hardship.

Alternatives to Section 8-604 are permitted only where the following conditions are met:

1. Such alternatives shall be applied only on an item-by-item or a case-by-case basis.
2. The alternative design and/or technologies used will provide substantially equivalent or greater accessibility to, and usability of, the facility.
3. The official charged with the enforcement of the standards shall document the reasons for the application of the alternative design and/or technologies and their effect on the historical significance or character-defining features. Such documentation shall be in accordance with Section 8-602.2, Item 3, and shall include the comments of state or local accessibility officials and a local, officially designated organization of people with disabilities. Such documentation shall be recorded and entered into the permanent file of the enforcing agency.

**SECTION 8-605 — EXCEPTIONS**

If the historical significance or character-defining features would be threatened or destroyed by the application of alternative access standards as provided by this chapter, and no equivalent facilitation as provided in Section 8-604 is feasible, an exception from the literal requirements for full and equal access or any alternative provisions may be provided only if the following conditions are met:

1. Such exception is considered only on an item-by-item or a case-by-case basis.
2. Interpretive exhibits and/or equal services of the exempted significant historical aspects are provided for the public in a loca-

tion fully accessible to and usable by persons with disabilities, including persons with hearing and sight impairment.

3. Services are provided in an accessible location equal to those provided in the excepted location.

4. The official charged with enforcement of the standards shall document the reasons for the application of the alternative design and/or technologies and their effect on the historical significance or character-defining features. Such documentation shall be in accordance with Section 8-602.2, Item 3, and shall include the comments of state or local accessibility officials and a local, officially designated organization of people with disabilities. Such documentation shall be recorded and entered into the permanent file of the enforcing agency.

## Chapter 8-7 ALTERNATIVE STRUCTURAL REGULATIONS

### SECTION 8-701 — PURPOSE, INTENT AND SCOPE

**8-701.1 Purpose.** The purpose of this chapter is to provide alternative regulations for the structural safety of buildings or structures designated as qualified historical buildings or properties. These regulations require enforcing agencies to accept any reasonably equivalent alternatives to the regular code when dealing with qualified historical buildings or properties.

**8-701.2 Intent.** It is the intent of these regulations to encourage the preservation of qualified historical buildings while providing a reasonable level of structural safety for occupants and the public at large through the application of this code for such historical structures.

**8-701.3 Scope.** The alternative structural regulations provided by Section 8-705 are to be applied in conjunction with the regular code whenever a structural upgrade or reconstruction is undertaken for qualified historical buildings or properties.

### SECTION 8-702 — GENERAL

**8-702.1** These regulations shall not be construed to allow the enforcing agency to approve or permit a lower level of safety of structural design and construction than that which is reasonably equivalent to the regular code provisions in occupancies which are critical to the safety and welfare of the public at large, including, but not limited to, public and private schools, hospitals, municipal police and fire stations and essential services facilities.

**8-702.2** Nothing in these regulations shall prevent voluntary and partial seismic upgrades when it is demonstrated that such upgrades will improve life safety and when a full upgrade would not otherwise be required.

### SECTION 8-703 — STRUCTURAL SURVEY

**8-703.1** Every structure or portion of a structure to be evaluated for structural capacity under this code shall be surveyed for structural conditions by an architect or engineer knowledgeable in historical structures. The survey shall document deterioration or signs of distress. The survey shall determine the details of the structural framing and the system for resistance of gravity and lateral loads. Details, reinforcement and anchorage of structural systems and veneers shall be determined and documented.

**8-703.2** The results of the survey shall be utilized for designing modifications to the structural system to reach compliance with this code.

### SECTION 8-704 — NONHISTORICAL ADDITIONS AND NONHISTORICAL ALTERATIONS

New nonhistorical additions and nonhistorical alterations which are structurally separated from an existing historical structure shall comply with regular code requirements.

New nonhistorical additions which impose vertical or lateral loads on an existing structure shall not be permitted unless the affected part of the supporting structure is evaluated and strengthened, if necessary, to meet regular code requirements.

**NOTE:** For use of archaic materials, see Chapter 8-8.

### SECTION 8-705 — STRUCTURAL REGULATIONS

**8-705.1 Gravity Loads.** The capacity of the structure to resist gravity loads shall be evaluated and the structure strengthened as necessary. The evaluation shall include all parts of the load path. Where no distress is evident, and a complete load path is present, the structure may be assumed adequate by having withstood the test of time if anticipated dead and live loads will not exceed those historically present.

**8-705.2 Wind and Seismic Loads.** The ability of the structure to resist wind and seismic loads shall be evaluated. The evaluation shall be based on the requirements of Section 8-706.

Any unsafe conditions in the lateral-load-resisting system shall be corrected, or alternative resistance shall be provided. Additional resistance shall be provided to meet the minimum requirements of this code.

The architect or engineer shall consider additional measures with minimal loss of, and impact to, historic materials which will reduce damage and needed repairs in future earthquakes to better preserve the historical structure in perpetuity. These additional measures shall be presented to the owner for consideration as part of the rehabilitation or restoration.

### SECTION 8-706 — LATERAL LOAD REGULATIONS

**8-706.1 Lateral Loads.** The forces used to evaluate the structure for resistance to wind and seismic loads need not exceed 0.75 times the seismic forces prescribed by the 1995 edition of the *California Building Code* (CBC). The seismic forces may be computed based on the  $R_w$  values tabulated in the CBC for similar lateral-force-resisting systems. All deviations of the detailing provisions of the lateral-force-resisting systems shall be evaluated for stability and the ability to maintain load-carrying capacity at increased lateral loads.

Unreinforced masonry bearing wall buildings shall comply with Appendix Chapter 1 of the *Uniform Code for Building Conservation*™ (UCBC), 1994 edition, and as modified by this code. Reasonably equivalent standards may be used on a case-by-case basis when approved by the authority having jurisdiction.

**8-706.2 Existing Building Performance.** The seismic resistance may be based upon the ultimate capacity of the structure to perform giving due consideration to ductility and reserve strength of the lateral-force-resisting system and materials while maintaining a reasonable factor of safety. Broad judgment may be exercised regarding the strength and performance of materials not recognized by regular code requirements. (See Chapter 8-8, Archaic Materials and Methods of Construction.)

**8-706.2.1** All structural materials or members that do not comply with detailing and proportioning requirements of the regular code shall be evaluated for potential seismic performance and the consequence of noncompliance. All members which might fail and lead to possible collapse, or threaten life safety, shall be judged unacceptable and appropriate structural strengthening shall be developed.

**8-706.3 Load Path.** A complete and continuous load path, including connections, from every part or portion of the structure to the ground shall be provided for the required forces. It shall be verified that the structure is adequately tied together to perform as a unit when subjected to earthquake forces.

**8-706.4 Parapets.** Parapets and exterior decoration shall be investigated for conformance to the regular code requirements for anchorage and ability to resist prescribed seismic forces.

An exception to regular code requirements shall be permitted for those parapets and decorations which are judged not to be a hazard to life safety.

**8-706.5 Historical Records.** Past historical records of the structure or similar structures may be used in the evaluation, including the effects of subsequent alterations.

**8-706.6 Nonstructural Features.** Nonstructural features of a historic structure, such as exterior veneer, cornices and decorations, which might fall and create a life-safety hazard in an earthquake, shall be investigated. Their ability to resist seismic forces shall be verified, or the feature shall be strengthened.

**8-706.6.1** Partitions and ceilings of corridors and stairways serving an occupant load of 30 or more shall be investigated to determine their ability to remain in place when the building is subjected to earthquake forces.

## Chapter 8-8 ARCHAIC MATERIALS AND METHODS OF CONSTRUCTION

### SECTION 8-801 — PURPOSE, INTENT AND SCOPE

**8-801.1 Purpose.** The purpose of this chapter is to provide regulations for the use of historical methods and materials of construction that are at variance with regular code requirements or are not otherwise codified, in buildings or structures designated as qualified historical buildings or properties. These regulations require enforcing agencies to accept any reasonably equivalent alternatives to the regular code when dealing with qualified historical buildings or properties.

**8-801.2 Intent.** It is the intent of these regulations to provide for the use of historical methods and materials of construction that are at variance with specific code requirements or are not otherwise codified.

**8-801.3 Scope.** Any construction type or material that is, or was, part of the historic fabric of a structure is covered by this chapter. Archaic materials and methods of construction present in a historic structure may remain or be reinstalled or be installed with new materials of the same class to match existing conditions.

### SECTION 8-802 — GENERAL ENGINEERING APPROACH

Allowable stresses or ultimate strengths for archaic materials shall be assigned based upon similar conventional codified materials, or on tests as hereinafter indicated. The archaic materials and methods of construction shall be thoroughly investigated for their details of construction in accordance with Section 8-703. Testing shall be performed when applicable to evaluate existing conditions. The architect or structural engineer in responsible charge of the project shall assign allowable stresses or ultimate strength values to archaic materials. Such assigned allowable stresses, or ultimate strength values, shall not be greater than those provided for in the following sections without adequate testing, and shall be subject to the concurrence of the enforcing agency.

### SECTION 8-803 — NONSTRUCTURAL ARCHAIC MATERIALS

Where nonstructural historic materials exist in uses which do not meet the requirements of the regular code, their continued use is allowed by this code, provided that any public health and life-safety hazards are mitigated subject to the concurrence of the enforcing agency.

### SECTION 8-804 — ALLOWABLE CONDITIONS FOR SPECIFIC MATERIALS

Archaic materials which exist and are to remain in historic structures shall be evaluated for their condition and for loads required by this code. The structural survey required in Section 8-703 of this code shall document existing conditions, reinforcement, anchorage, deterioration and other factors pertinent to establishing allowable stresses and adequacy of the archaic materials. The remaining portion of this chapter provides additional specific requirements for commonly encountered archaic materials.

### SECTION 8-805 — MASONRY

For adobe, see Section 8-806.

**8-805.1 Existing Solid Masonry.** Existing solid masonry walls of any type, except adobe, may be allowed, without testing, a maximum value of 3 pounds per square inch (20.7 kPa) in shear where there is a qualifying statement by the architect or engineer that an inspection has been made, that mortar joints are filled and that both brick and mortar are reasonably good. The allowable shear stress above applies to unreinforced masonry, except adobe, where the maximum ratio of unsupported height or length to thickness does not exceed 12, and where minimum quality mortar is used or exists. Wall height or length is measured to supporting or resisting elements that are at least twice as stiff as the tributary wall. Stiffness is based on the gross section. Allowable shear stress may be increased by the addition of 10 percent of the axial direct stress due to the weight of the wall directly above. Higher-quality mortar may provide a greater shear value and shall be tested in accordance with UBC Standard 21-6.

#### 8-805.2 Stone Masonry.

**8-805.2.1 Solid-backed stone masonry.** Stone masonry solidly backed with brick masonry shall be treated as solid brick masonry as described in Section 8-805.1 and in the UCBC, provided representative testing and inspection verifies solid collar joints between stone and brick and that a reasonable number of stones lap with the brick wythes as headers or that steel anchors are present. Solid stone masonry where the wythes of stone effectively overlap to provide the equivalent header courses may also be treated as solid brick masonry.

**8-805.2.2 Independent wythe stone masonry.** Stone masonry with independent face wythes may be treated as solid brick masonry as described in Section 8-805.1 and the UCBC, provided representative testing and inspection verify that the core is essentially solid in the masonry wall and that steel ties are epoxied in drilled holes between outer stone wythes at floors, roof and at not to exceed 4 feet (1219 mm) on center in each direction, between floors and roof.

**8-805.2.3 Testing of stone masonry.** Testing of stone masonry shall be similar to UBC Standard 21-6, except that representative stones which are not interlocked shall be pulled outward from the wall and shear area appropriately calculated after the test.

**8-805.3 Reconstructed Walls.** Totally reconstructed walls utilizing original brick or masonry, constructed similar to original, shall be constructed in accordance with the regular code. Repairs or infills may be constructed in a similar manner to the original walls without conforming to the regular code.

### SECTION 8-806 — ADOBE

**8-806.1 General.** Unburned clay masonry may be constructed, reconstructed, stabilized or rehabilitated subject to this chapter. Alternative approaches which provide an equivalent or greater level of safety may be used, subject to the concurrence of the enforcing agency.

**8-806.2 Protection.** Provisions shall be made to protect adobe structures from moisture and deterioration. The unreinforced adobe shall be maintained in reasonably good condition. Particular attention shall be given to moisture content of adobe walls. Unmaintained or unstabilized walls or ruins shall be evaluated for safety based on their condition and stability. Additional safety measures may be required subject to the concurrence of the enforcing agency.

**8-806.3 Requirements.** Unreinforced new or existing adobe walls shall meet the following requirements. Where existing dimensions do not meet these conditions, additional strengthening measures may be required.

1. One-story adobe load-bearing walls shall not exceed a height-to-thickness ratio of 6.

2. Two-story adobe structures' height-to-thickness wall ratio shall not exceed 5 at the ground floor and 6 at the second floor, and shall be measured at floor-to-floor height when the second floor and attic ceiling/roof are connected to the wall as described below.

3. Nonload-bearing adobe partitions and gable end walls shall be evaluated for stability and anchored against out-of-plane failure.

4. A bond beam of reinforced concrete or an equivalent design of other materials shall be provided at the top of all adobe walls, and for two-story structures, at the second floor. The size and configuration of the bond beam shall be designed in each case to meet the requirements of the existing conditions and provide an effective brace for the wall.

5. Anchorage of the bond beam of the equivalent design of other materials to the adobe walls shall be provided with anchors or suitable design compatible with the adobe material.

**8-806.4 Repair or Reconstruction.** Repair or reconstruction of wall area may utilize unstabilized brick or adobe masonry designed to be compatible with the constituents of the existing adobe materials.

**8-806.5 Shear Values.** Existing adobe may be allowed a maximum value of 4 pounds per square inch (27.6 kPa) for shear, with no increase for lateral forces.

**8-806.6 Mortar.** Mortar may be of the same soil composition as that used in the existing wall, or in new walls as necessary to be compatible with the adobe brick.

## SECTION 8-807 — WOOD

**8-807.1 Existing Wood Diaphragms or Walls.** Existing wood diaphragms or walls of straight or diagonal sheathing shall be assigned shear resistance values appropriate with the fasteners and materials functioning in conjunction with the sheathing. The structural survey shall determine fastener details and spacings and verify a load path through floor construction. Shear values of Tables 8-8-A and 8-8-B may be used.

**8-807.2 Wood Lath and Plaster.** Wood lath and plaster walls and ceilings may be utilized using the shear values referenced in Section 8-807.1.

**8-807.3 Existing Wood Framing.** Existing wood framing members may be assigned allowable stresses consistent with codes in effect at the time of construction. Existing or new replacement wood framing may be of archaic types originally used if properly researched, such as balloon and single wall. Wood joints such as dovetail and mortise and tenon types may be used structurally, provided they are well made. Lumber selected for use and type need not bear grade marks, and greater or lesser species such as low-level pine and fir, boxwood and indigenous hardwoods and other variations may be used for specific conditions where they were or would have been used.

Wood fasteners such as square or cut nails may be used with a maximum increase of 50 percent over wire nails for shear.

## SECTION 8-808 — CONCRETE

**8-808.1 Materials.** Natural cement concrete, unreinforced rubble concrete and similar materials may be utilized wherever that material is used historically. Concrete of low strength and with less reinforcement than required by the regular code may remain with the architect or engineer assigning appropriate values of strength based on testing of samples of the materials. Bond and development lengths shall be determined based on historical information or tests.

**8-808.2 Detailing.** The architect or engineer shall carefully evaluate all detailing provisions of the regular code which are not met and shall consider the implications of these variations on the ultimate performance of the structure, giving due consideration to ductility and reserve strength.

## SECTION 8-809 — STEEL AND IRON

The hand-built, untested use of wrought or black iron, the use of cast iron or grey iron, and the myriad joining methods that are not specifically allowed by code may be used wherever applicable and wherever they have proven their worth under the considerable span of years involved with most historical buildings. Uplift capacity should be evaluated and strengthened where necessary. Fixed conditions or midheight lateral loads on cast iron columns that could cause failure should be taken into account. Existing structural wrought, forged steel or grey iron may be assigned the maximum working stress prevalent at the time of original construction.

## SECTION 8-810 — HOLLOW CLAY TILE

The historic performance of hollow clay tile in past earthquakes shall be carefully considered in evaluating walls of hollow clay tile construction. Suitable protective measures shall be provided to prevent blockage of stair shafts, exitways and public ways following an earthquake.

## SECTION 8-811 — VENEERS

**8-811.1 Terra Cotta and Stone.** Terra cotta, cast stone and natural stone veneers shall be investigated for the presence of suitable anchorage. Steel anchors shall be investigated for deterioration or corrosion. New or supplemental anchorage shall be provided as appropriate.

**8-811.2 Anchorage.** Brick veneer with anchorage at spacings greater than required by the regular code may remain provided the anchorages have not corroded. Nail strength in withdrawal in wood sheathing may be utilized to its capacity in accordance with code values.

## SECTION 8-812 — GLASS AND GLAZING

**8-812.1 Glazing Subject to Human Impact.** Historic glazing material located in areas subject to human impact may be approved subject to the concurrence of the enforcing agency when alternative protective measures are provided. These measures may include, but not be limited to, additional glazing panels, protective film, protective guards or systems, and devices or signs which would provide adequate public safety.

**8-812.2 Glazing in Fire-rated Systems.** See Section 8-402.3.

TABLE 8-8-A—ALLOWABLE VALUES FOR EXISTING MATERIALS

EXISTING MATERIALS OR CONFIGURATIONS OF MATERIALS <sup>1</sup>	ALLOWABLE VALUES
	x14.594 for N/m
1. Horizontal diaphragms <sup>2</sup>	
1.1 Roofs with straight sheathing and roofing applied directly to the sheathing.	100 lbs. per foot for seismic shear.
1.2 Roofs with diagonal sheathing and roofing applied directly to the sheathing.	250 lbs. per foot for seismic shear.
1.3 Floors with straight tongue-and-groove sheathing.	100 lbs. per foot for seismic shear.
1.4 Floors with straight sheathing and finished wood flooring with board edges offset or perpendicular.	500 lbs. per foot for seismic shear.
1.5 Floors with diagonal sheathing and finished wood flooring.	600 lbs. per foot for seismic shear.
2. Crosswalls <sup>2,3</sup>	
2.1 Plaster on wood or metal lath.	Per side: 200 lbs. per foot for seismic shear.
2.2 Plaster on gypsum lath.	175 lbs. per foot for seismic shear.
2.3 Gypsum wallboard, unblocked edges.	75 lbs. per foot for seismic shear.
2.4 Gypsum wallboard, blocked edges.	125 lbs. per foot for seismic shear.
3. Existing footings, wood framing, structural steel and reinforced steel	
3.1 Plain concrete footings.	$f_c = 1,500$ psi (10.34 MPa) unless otherwise shown by tests <sup>4</sup> .
3.2 Douglas fir wood.	Allowable stress same as D.F. No. 1 <sup>4</sup> .
3.2 Reinforcing steel.	$f_t = 18,000$ lbs. per square inch (124.1 M/mm <sup>2</sup> ) maximum.
3.4 Structural steel.	$f_t = 20,000$ lbs. per square inch (137.9 N/mm <sup>2</sup> ) maximum <sup>4</sup> .

<sup>1</sup>Material must be sound and in good condition.

<sup>2</sup>A one-third increase in allowable stress is not allowed.

<sup>3</sup>Shear values of these materials may be combined, except the total combined value shall not exceed 300 pounds per foot (4380 N/m).

<sup>4</sup>Stresses given may be increased for combinations of loads as specified in the regular code.

TABLE 8-8-B—ALLOWABLE VALUES OF NEW MATERIALS USED IN CONJUNCTION WITH EXISTING CONSTRUCTION

NEW MATERIALS OR CONFIGURATIONS OF MATERIALS	ALLOWABLE VALUES <sup>1</sup>
1. Horizontal diaphragms <sup>2</sup> 1.1 Plywood sheathing nailed directly over existing straight sheathing with ends of plywood sheets bearing on joists or rafters and edges of plywood located on center of individual sheathing boards. 1.2 Plywood sheathing nailed directly over existing diagonal sheathing with ends of plywood sheets bearing on joists or rafters. 1.3 Plywood sheathing nailed directly over existing straight or diagonal sheathing with ends of plywood sheets bearing on joists or rafters with edges of plywood located over new blocking and nailed to provide a minimum nail penetration into framing and blocking of 1 <sup>5</sup> / <sub>8</sub> inches (41 mm).	225 lbs. per foot (3283 N/m).  375 lbs. per foot (5473 N/m).  75 percent of the values specified in the regular code.
2. Shear walls: (general procedure) Plywood sheathing applied directly over wood studs. No value shall be given to plywood applied over existing plaster or wood sheathing.	100 percent of the value specified in the regular code for shear walls.
3. Crosswalls: (special procedure only) 3.1 Plywood sheathing applied directly over wood studs. No value shall be given to plywood applied over existing plaster or wood sheathing. 3.2 Drywall or plaster applied directly over wood studs. 3.3 Drywall or plaster applied to sheathing over existing wood studs.	133 percent of the value specified in the regular code for shear walls.  100 percent of the values in the regular code. The values specified in the regular code reduced as noted <sup>3</sup> . (UBC Table 25-1, Footnote 1)
4. Tension bolts 4.1 Bolts extending entirely through unreinforced masonry walls secured with bearing plates on far side of a three-wythe-minimum wall with at least 30 square inches. (19 350 mm <sup>2</sup> ) of area <sup>4,5</sup> . 4.2 Bolts extending to the exterior face of the wall with a 2 <sup>1</sup> / <sub>2</sub> -inch (63.5 mm) round plate under the head and drilled at an angle of 22 <sup>1</sup> / <sub>2</sub> degrees to the horizontal, installed as specified for shear bolts <sup>4,5,7</sup> .	1,800 lbs. (8006 N) per bolt <sup>6</sup> . 900 lbs. (4003 N) per bolt for two-wythe walls <sup>6</sup> .  1,200 lbs. (5338 N) per bolt.
5. Shear bolts Bolts embedded a minimum of 8 inches (203 mm) into unreinforced masonry walls and centered in a 2 <sup>1</sup> / <sub>2</sub> -inch-diameter (63.5 mm) hole filled with dry-pack or nonshrink grout. Through bolts with first 8 inches (203 mm) as noted above and embedded bolts as noted in Item 4.2 <sup>5,7</sup> .	1/2-inch (12.7 mm) diameter = 350 lbs. (1557 N) <sup>6</sup> . 5/8-inch (15.9 mm) diameter = 500 lbs. (2224 N) <sup>6</sup> . 3/4-inch (19 mm) diameter = 750 lbs. (3336 N) <sup>6</sup> .
6. Infilled walls Reinforced masonry infilled openings in existing unreinforced masonry walls. Provide keys or dowels to match reinforcing.	Same as values specified for unreinforced masonry walls.
7. Reinforced masonry Masonry piers and walls reinforced per the regular code.	Same as values specified in the regular code <sup>8</sup> .
8. Reinforced concrete Concrete footings, walls and piers reinforced as specified in the regular code and designed for tributary loads.	Same as values specified in the regular code <sup>8</sup> .

<sup>1</sup>A one-third increase in allowable stress is not allowed, except as noted.

<sup>2</sup>Values and limitations are for nailed plywood. Higher values may be used for other fastening systems such as wood screws or staples when approved by the enforcing authority.

<sup>3</sup>In addition to existing sheathing value.

<sup>4</sup>Bolts to be 1/2-inch (12.7 mm) minimum diameter.

<sup>5</sup>Drilling for bolts and dowels shall be done with an electric rotary drill. Impact tools shall not be used for drilling holes or tightening anchors and shear bolt nuts.

<sup>6</sup>Other bolt sizes, values and installation methods may be used provided a testing program is conducted in accordance with regular code standards. Bolt spacing shall not exceed 6 feet (1830 mm) on center and shall not be less than 12 inches (305 mm) on center.

<sup>7</sup>Embedded bolts to be tested as specified in regular code standards.

<sup>8</sup>Stresses given may be increased for combinations of loads as specified in the regular code.

## Chapter 8-9

# MECHANICAL, PLUMBING AND ELECTRICAL REQUIREMENTS

### SECTION 8-901 — PURPOSE, INTENT AND SCOPE

**8-901.1 Purpose.** The purpose of this chapter is to provide alternative regulations for the mechanical, plumbing and electrical systems of buildings or structures designated as qualified historical buildings or properties. These regulations require enforcing agencies to accept any reasonable equivalent alternatives to the regular code when dealing with qualified historical buildings or properties.

**8-901.2 Intent.** It is the intent of these regulations to preserve the integrity of qualified historical buildings or properties while providing a reasonable level of protection from fire, health, and life-safety hazards (hereinafter referred to as safety hazards) for the building occupants.

**8-901.3 Scope.** These regulations are to be applied in combination with the regular code whenever application with the regular code is desired by owners of qualified historical buildings or properties.

**8-901.4 Safety Hazard.** No person shall permit any safety hazard to exist on premises under their control, or fail to take immediate action to abate such hazard. Existing systems which constitute a safety hazard when operational may remain in place provided they are completely and permanently rendered inoperative. Safety hazards created by inoperative systems shall not be permitted to exist. Requirements of the regular code concerning general regulations shall be complied with, except that the enforcing agency shall accept alternatives which do not cause a safety hazard.

**8-901.5 Energy Conservation.** Historical buildings covered by this part are exempted from compliance with energy conservation standards. When new appliances or equipment are added, they should comply with the regular code.

### SECTION 8-902 — MECHANICAL

**8-902.1 General.** Mechanical systems shall comply with the regular code unless otherwise modified by this chapter.

**8-902.1.1** The provisions of these regulations shall apply to the acceptance, location, installation, alteration, repair, relocation, replacement or addition of any heating, ventilating, air conditioning, domestic incinerators, kilns or miscellaneous heat-producing appliances or equipment within or attached to a historical building.

**8-902.1.2** Existing systems which do not, in the opinion of the enforcing agency, constitute a safety hazard may remain in use.

**8-902.1.3** The enforcing agency may approve any alternative to these regulations which would achieve equivalent life safety.

**8-902.2 Heating Facilities.** All dwelling-type occupancies covered under this chapter shall be provided with heating facilities. Wood-burning or pellet stoves or fireplaces may be acceptable as heating facilities.

**8-902.3 Fuel Oil Piping and Tanks.** Fuel oil piping and tanks shall comply with regular code requirements except that the enforcing agency may waive such requirements where the lack of compliance does not create a safety or environmental hazard.

**8-902.4 Heat-producing and Cooling Equipment.** Heat-producing and cooling equipment shall comply with the regular code requirements governing equipment safety, except that the enforcing agency may accept alternatives which do not create a safety hazard.

#### 8-902.5 Combustion Air.

**8-902.5.1** All fuel-burning appliances and equipment shall be provided a sufficient supply of air for proper fuel combustion, ventilation, and draft hood dilution.

**8-902.5.2** The enforcing agency may require operational tests for combustion air systems which do not comply with applicable requirements of the regular code.

#### 8-902.6 Venting of Appliances.

**8-902.6.1** Every appliance required to be vented shall be connected to an approved venting system. Venting systems shall develop a positive flow adequate to convey all combustion products to the outside atmosphere.

**8-902.6.2** Masonry chimneys in structurally sound condition may remain in use for all fuel-burning appliances. Terra cotta chimneys and Type C metallic vents installed in concealed spaces shall not remain in use unless otherwise mitigated and approved on a case-by-case basis.

**8-902.6.3** The enforcing agency may require operational tests for venting systems which do not comply with applicable requirements of the regular code.

#### 8-902.7 Ducts.

**8-902.7.1** New ducts shall be constructed and installed in accordance with applicable requirements of the regular code.

**8-902.7.2** Existing duct systems which do not comply with applicable requirements of the regular code and do not, in the opinion of the enforcing agency, constitute a safety or health hazard may remain in use.

#### 8-902.8 Ventilating Systems.

**8-902.8.1** Ventilating systems shall be installed so that no safety hazard is created.

**8-902.8.2** Grease hoods and grease hood exhaust systems shall be furnished and installed in accordance with applicable requirements of the regular code. Existing systems which are altered shall comply with the regular code.

#### 8-902.9 Miscellaneous Equipment Requirements.

**8-902.9.1** The following appliances and equipment shall be installed so that no safety hazard is created: warm air furnaces, space heating equipment, vented decorative appliances, floor furnaces, vented wall furnaces, unit heaters, room heaters, absorption units, refrigeration equipment, duct furnaces, infrared radiant heaters, domestic incinerators, miscellaneous heat-producing appliances and water heaters.

**8-902.9.2** Storage-type water heaters shall be equipped with a temperature- and pressure-relief valve in accordance with applicable requirements of the regular code.

### SECTION 8-903 — PLUMBING

**8-903.1 General.** Plumbing systems shall comply with the regular code unless otherwise noted.

**8-903.1.1** The provisions of these regulations shall apply to the acceptance, location, installation, alteration, repair, relocation, replacement or addition of any plumbing system or equipment within or attached to a historical building.

**8-903.1.2** Existing systems which do not, in the opinion of the enforcing agency, constitute a safety hazard may remain in use.

**8-903.1.3** The enforcing agency may approve any alternative to these regulations which achieves reasonably equivalent life safety.

### **8-903.2 Dwelling-type Occupancies.**

**8-903.2.1** Where toilet facilities are provided, alternative sewage disposal methods may be acceptable if approved by the local health department. In hotels, where private facilities are not provided, water closets at the ratio of one for each 15 rooms may be acceptable.

**8-903.2.2** Toilet facilities are not required to be on the same floor or in the same building as sleeping rooms. Water-flush toilets may be located in a building immediately adjacent to the sleeping rooms. When alternative sewage disposal methods are utilized, they shall be located a minimum distance from the sleeping rooms or other locations as approved by the local health department.

**8-903.2.3** Kitchen sinks shall be provided in all kitchens. The sink and countertop may be of any smooth nonabsorbent finish which can be maintained in a sanitary condition.

**8-903.2.4** Hand washing facilities shall be provided for each dwelling unit and each hotel guest room. A basin and pitcher may be acceptable as adequate hand washing facilities.

**8-903.2.5** Hot or cold running water is not required for each plumbing fixture, provided a sufficient amount of water is supplied to permit the fixture's normal operation.

**8-903.2.6** Bathtubs and lavatories with filler spouts less than 1 inch (25.4 mm) above the fixture rim may remain in use provided there is an acceptable overflow below the rim.

**8-903.3 Materials.** Materials shall comply with the regular code requirements except that the enforcing agency shall accept alternative materials which do not create a safety hazard where their use is necessary to maintain the historical authenticity of the building.

**8-903.4 Drainage and Vent Systems.** Plumbing fixtures shall be connected to an adequate drainage and vent system. The enforcing agency may require operational tests for drainage and vent systems which do not comply with applicable requirements of the regular code. Vent terminations may be installed in any location which, in the opinion of the enforcing agency, does not create a safety hazard.

**8-903.5 Indirect and Special Wastes.** Indirect and special waste systems shall be installed so that no safety hazard is created. Chemical or industrial liquid wastes which may detrimentally affect the sanitary sewer system shall be pretreated to render them safe prior to discharge.

**8-903.6 Traps and Interceptors.** Traps and interceptors shall comply with the regular code requirements except that the enforcing agency shall accept alternatives which do not increase the safety hazard. Properly maintained "S" and drum traps may remain in use.

### **8-903.7 Joints and Connections.**

**8-903.7.1** Joints and connections in new plumbing systems shall comply with applicable requirements of the regular code.

**8-903.7.2** Joints and connections in existing or restored systems may be of any type that does not create a safety hazard.

**8-903.8 Water Distribution.** Plumbing fixtures shall be connected to an adequate water distribution system. The enforcing agency may require operational tests for water distribution systems which do not comply with applicable requirements of regular code. Prohibited (unlawful) connections and cross connections shall not be permitted.

**8-903.9 Building Sewers and Private Sewage Disposal Systems.** New building sewers and new private sewage disposal systems shall comply with applicable requirements of the regular code.

**8-903.10 Fuel-gas Piping.** Fuel-gas piping shall comply with the regular code requirements except that the enforcing agency shall accept alternatives which do not increase the safety hazard.

## **SECTION 8-904 — ELECTRICAL**

**8-904.1 General.** Electrical systems shall comply with the regular code unless otherwise noted.

**8-904.1.1** The provisions of these regulations shall apply to the acceptance, location, installation, alteration, repair, relocation, replacement or addition of any electrical system or portion thereof, the premise wiring, or equipment fixed in place as related to restoration within or attached to a qualified historical building.

**8-904.1.2** Existing systems, wiring methods and electrical equipment which do not, in the opinion of the enforcing agency, constitute a safety hazard may remain in use.

**8-904.1.3** The enforcing agency may approve any alternative to these regulations which achieves equivalent safety.

**8-904.1.4** Archaic methods that do not appear in present codes may remain and may be extended if, in the opinion of the enforcing agency, they constitute a safe installation.

### **8-904.2 Wiring Methods.**

**8-904.2.1** Where existing branch circuits do not include an equipment grounding conductor and, in the opinion of the enforcing agency, it is impracticable to connect an equipment grounding conductor to the grounding electrode system, receptacle convenience outlets may remain the nongrounding type.

**8-904.2.2** Ground fault circuit interrupter (GFCI) protected receptacles shall be installed where replacements are made at receptacle outlets that are required to be so protected by the regular code in effect at the time of replacement. Metallic face plates shall either be grounded to the grounded metal outlet box or be grounded to the grounding-type device when used with devices supplied by branch circuits without equipment grounding conductors.

**8-904.2.3** Grounding-type receptacles shall not be used without a grounding means in an existing receptacle outlet unless GFCI protected. Existing nongrounding receptacles shall be permitted to be replaced with nongrounding or grounding-type receptacles where supplied through a ground fault circuit interrupter.

**8-904.2.4** Extensions of existing branch circuits without equipment-grounding conductors shall be permitted to supply grounding-type devices only when the equipment grounding conductor of the new extension is grounded to any accessible point on the grounding electrode system.

**8-904.2.5** Receptacle outlet spacing and other related distance requirements shall be waived or modified if determined to be impracticable by the enforcing agency.

**8-904.2.6** For the replacement of lighting fixtures on an existing nongrounded lighting outlet, or when extending an existing nongrounding lighting outlet, the following shall apply:

1. The exposed conductive parts of lighting fixtures shall be connected to any acceptable point on the grounding electrode system, or
2. The lighting fixtures shall be made of insulating material and shall have no exposed conductive parts.

**EXCEPTION:** Lighting fixtures mounted on electrically nonconductive ceilings or walls where located not less than either 8 feet (2438 mm) vertically or 5 feet (1524 mm) horizontally from grounded surfaces.

**8-904.2.7** Lighting load calculations for services and feeders may be based on actual loads as installed in lieu of the “watts per square foot” method.

**8-904.2.8** Determination of existing loads may be based on maximum demand recordings in lieu of calculations provided all of the following are met:

1. Recordings are provided by the serving agency.
2. The maximum demand data is available for a one-year period.

**EXCEPTION:** If maximum demand data for a one-year period is not available, the maximum demand data shall be permitted to be based on the actual amperes continuously recorded over a minimum 30-day period by a recording ammeter connected to the highest loaded phase of the feeder or service. The recording should reflect the maximum demand when the building or space is occupied and include the measured or calculated load at the peak time of the year, including the larger of the heating or cooling equipment load.

3. There has been no change in occupancy or character of load during the previous 12 months.
4. The anticipated load will not change, or the existing demand load at 125 percent plus the new load does not exceed the ampacity of the feeder or rating of the service.



## Chapter 8-10

### HISTORIC DISTRICTS, SITES AND OPEN SPACES

#### SECTION 8-1001 — PURPOSE, SCOPE AND APPLICABILITY

**8-1001.1 Purpose.** It is the purpose of this chapter to permit alternative regulations and criteria to govern the impact of development or redevelopment on sites, open space, accessway, artifacts and landscaped areas coinciding with the rehabilitation, preservation, restoration, relocation or reconstruction of designated qualified historical buildings or properties.

**8-1001.2 Scope.** The range of forms and physical features to which alternative design standards and regulations may be applied include, but are not limited to, natural open space, including earth, rock, water and vegetation; landscaping, gardens and plant materials; landscape features, including walls, fences, trellises, yard lights, pools, lawn and garden ornamentations and the like; patios, courts, malls, play areas, shelters and promenades; pedestrian and vehicular access, including paths, sidewalks, driveways, parking spaces, service delivery, trash and garbage disposal areas; grading, topography and erosion control; and public utilities.

**8-1001.3 Applicability.** Alternative regulations and criteria shall apply to all sites, open space, accessways, artifacts and land-

scape areas associated with qualified historic buildings or historic districts.

#### SECTION 8-1002 — SITE RELATIONS

Insofar as regular regulations, standards and requirements may impact on sites, open space, accessway, artifacts and landscaped areas within historic districts or beyond the qualified historical property proper, those areas and physical features come within the purview of this code. A designated historic building or district may be considered to include the site, open space, accessway and landscaped areas beyond the immediate structure as these elements are an integral part of and significant to the historic structure or district. The relationship between a structure and its site is important and of special importance in historic districts. Districts consist of a series of buildings that form the urban character of the area and the ties to less-significant structures which support the district. Viewed as a whole, with the spaces between the structures (including streets, sidewalks, landscaping and street furniture) a total identity of place is created.



## HISTORY NOTE APPENDIX

### CALIFORNIA HISTORICAL BUILDING CODE (Title 24, Part 8, California Code of Regulations)

For prior history, see the History Note Appendix to the *California Historical Building Code*, 1998 Triennial Edition, effective July 1, 1999.

1. The 2001 Triennial Edition, *California Historical Building Code*, was published May 1, 2002. The California Building Standards Commission established November 1, 2002 as the effective date.

