CHAPTER

3 WILDLAND-URBAN INTERFACE AREAS

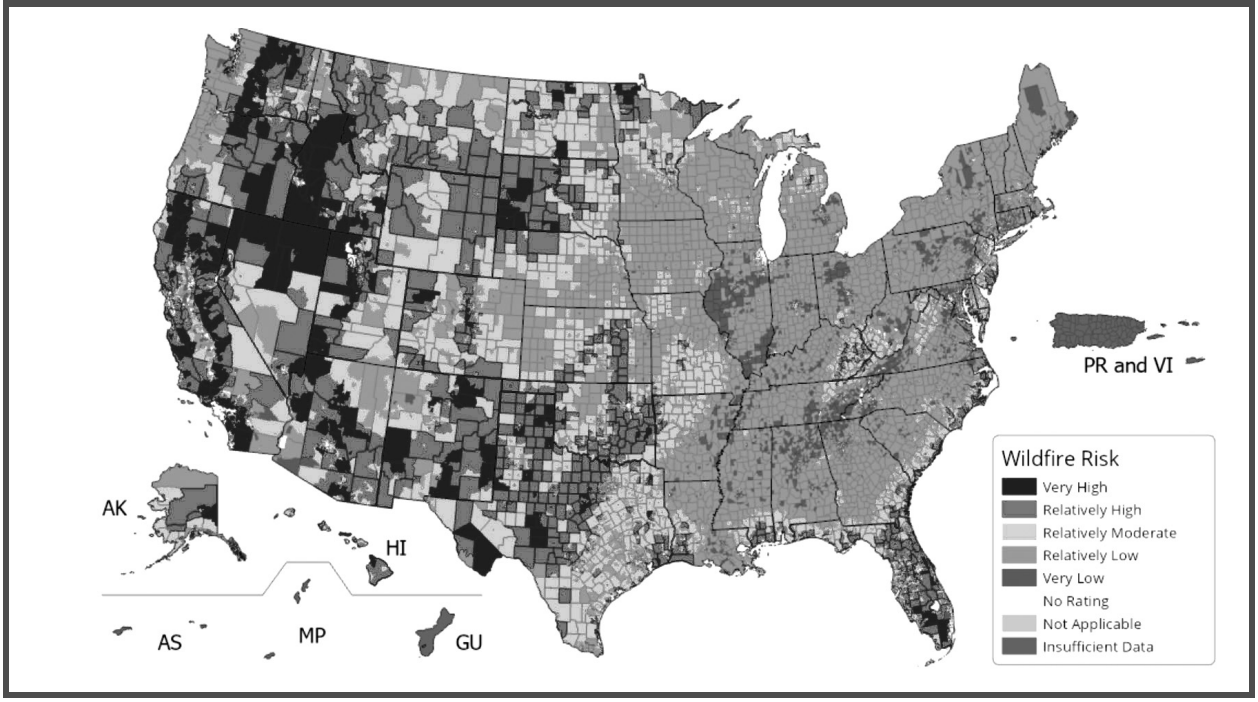
General Comments

This chapter establishes fundamental principles for IWUIC code application. Wildland-urban interface (WUI) areas are designated through a state or local legislative review process. The designated WUI is where the jurisdiction may enforce this code, where adopted, for life safety and fire protection.

A WUI area may not necessarily look like a forest nor is it solely a remote or arid western United States hazard. Classification as a WUI area is based on several factors, including vegetation types, ground slope, weather, geography and topography.

Commentary Figure 3(1) is a map of the Federal Emergency Management Agency (FEMA) Wildfire National Risk Index. In addition to the West, it shows there are many moderate to very high wildland fire risk areas in the highly populated Atlantic Seaboard as well as the less-populated areas of Kentucky, Virginia and West Virginia. Recent data suggest global climate changes are occurring that could significantly alter where WUI zones will develop.

Commentary Figure 3(1)—FEMA Wildfire National Risk Map



Purpose

This chapter provides procedural guidance for state or local jurisdictions to establish and assign specific WUI areas. Once designated, these areas must be recorded on maps available for public inspection and use.

SECTION 301—GENERAL

301.1 Scope. The provisions of this chapter provide methodology to establish and record *wildland-urban interface areas* based on the findings of fact.

C Any WUI area must be legally designated by the jurisdiction. When evaluating the expanse of a WUI boundary, there may be areas that occur within the larger boundary that do not have WUI fire characteristics. There may be developed areas facing little or no threat from the adjacent wildland area, and these should be excluded from the legally designated WUI zone(s). Not all jurisdictions will have WUI areas.

Legislative classification of WUI areas must be based on findings of fact. Appendix E provides guidance on determining the boundary of the WUI area. Once WUI area boundaries are established, they must be recorded or mapped to identify properties that are within the boundary where these requirements will apply. See Commentary Figure 301.1.

Commentary Figure 301(1)—Distant Wildland Fire Threatening Urban Dwellings

Photo courtesy of Getty Images

301.2 Objective. The objective of this chapter is to provide simple baseline criteria for determining *wildland-urban interface areas*.

C See the commentary to Section 301.1.

SECTION 302—WILDLAND-URBAN INTERFACE AREA DESIGNATIONS

302.1 Declaration. The legislative body shall declare the *wildland-urban interface areas* within the jurisdiction. The *wildland-urban interface areas* shall be based on the findings of fact. The *wildland-urban interface area* boundary shall correspond to natural or man-made features.

C Using Appendices C and E as a guide, the legislative body should evaluate areas within its jurisdiction. The WUI boundary should follow natural or man-made features such as ravines, rivers, roads or developed lands. The intent is to provide a clear boundary demarcation. For example, the boundary of one portion of the WUI area may be a highway, development or a body of water. This helps provide easily recognized features where the code applies. These natural and man-made boundaries are often boundaries that firefighting operations will use as an anchor for fire line construction to stop fire spread.

302.2 Mapping. The *wildland-urban interface areas* shall be recorded on maps available for inspection by the public.

C The WUI area(s) must be recorded and clearly mapped. Just like the adopting ordinance for the code itself, it must be available for use and review by the public. The map will be important when a developer, owner or designer is planning a new project. If the project is within the WUI area, they need to know whether the code provisions apply.

It also is important to distinguish between those areas where the jurisdiction has designated WUI zones for code enforcement from those that simply might be perceived as hazardous areas. Commentary Figure 3(1), for example, includes a variety of risk areas, but not all are legally designated for application of this code. See Commentary Figure 302.2.

Commentary Figure 302.2—Map Identifying the Boundary of the Wildland-Urban Interface Area

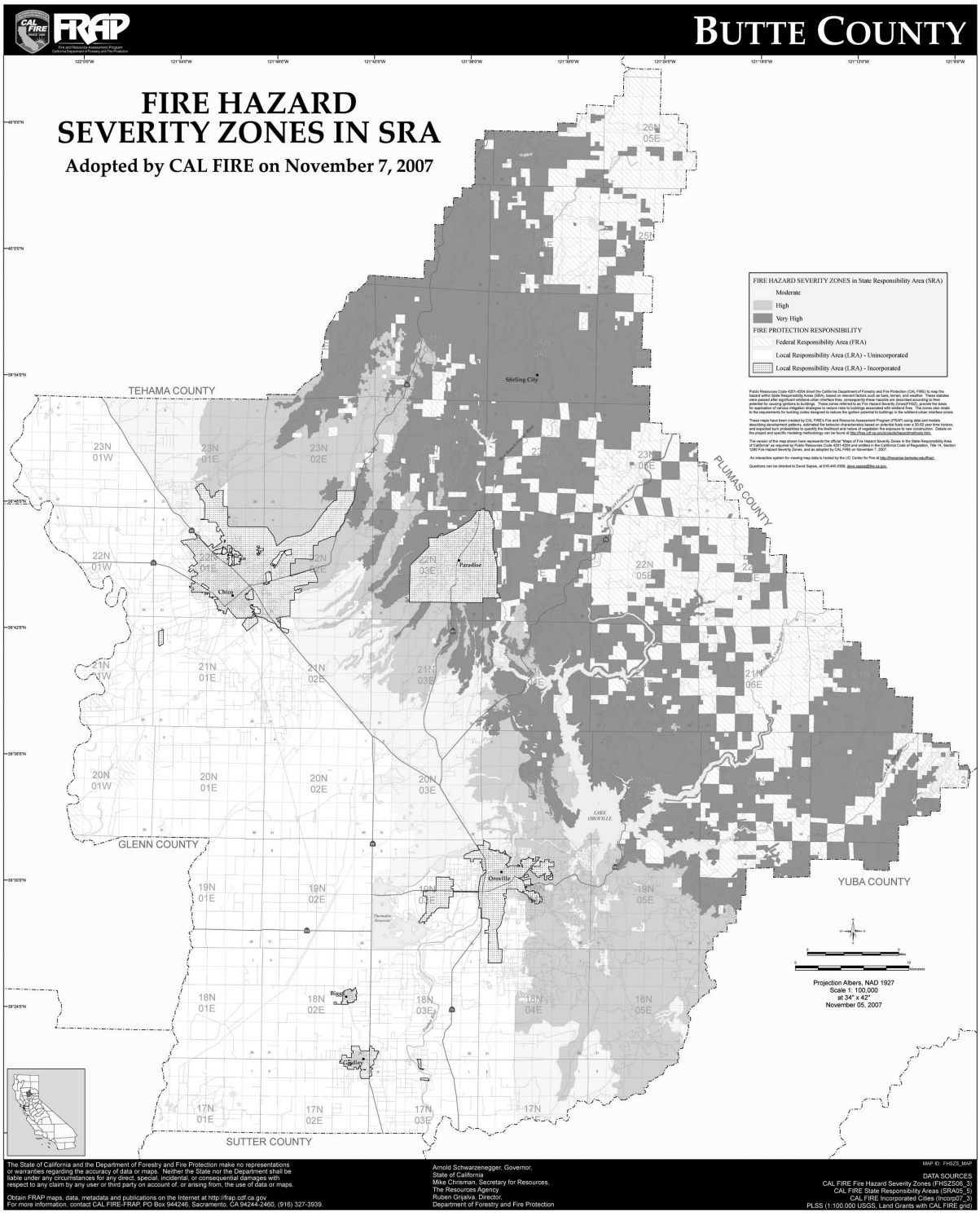


Photo courtesy of Butte County, CA; Morgan Hill Fire Department, CA

302.3 Review of wildland-urban interface areas. The *code official* shall reevaluate and recommend modification to the *wildland-urban interface areas* in accordance with Section 302.1 on a 3-year basis or more frequently as deemed necessary by the legislative body.

C This section is intended to ensure code adoption and enforcement remains current. Vegetation on undeveloped land may evolve over time from one fire hazard (such as sparse low grasses) to another (dense underbrush beneath a combustible tree canopy). Like growing vegetation, a jurisdiction's characteristics can change and grow. As development occurs, some vegetation may be removed or modified. Consider the fire hazard differences between a forested area and a dense urban area where trees and vegetation are scarce because they have been replaced with structures, streets, parking lots and concrete. Just as construction codes are reviewed and revised on a 3-year cycle, this section mandates the WUI area boundary be reviewed and reevaluated. The legislative body that adopts this code may require a more frequent review schedule.

CHAPTER

4 WILDLAND-URBAN INTERFACE AREA REQUIREMENTS

General Comments

This chapter provides generic structural fire protection requirements within the designated wildland-urban interface area. Some of the requirements in this chapter also are included in the *International Fire Code*® (IFC®) and are applicable if the IFC is adopted.

The International Codes® (I-Codes®) are "model" codes that jurisdictions can adopt as written or, if state law allows, they may be amended. When two adopted codes include a conflicting regulation, such as fire protection water supplies, the project must comply with the specific requirement applicable to the project. For example, where the model IFC and this code require a minimum fire flow of 1,000 gallons per minute (gpm), a local jurisdiction could amend Section 404.5 of this code to allow 500 gpm as a minimum fire flow in the wildland-urban interface. In that case, the 500-gpm requirement would prevail because it is specific to designated areas where this code is enforced.

Purpose

This chapter is intended to provide requirements for fire department emergency vehicle access, fire protection water supplies and site-specific fire protection plans within each designated wildland-urban interface area.

SECTION 401—GENERAL

401.1 Scope. *Wildland-urban interface areas* shall be provided with emergency vehicle access and water supply in accordance with this chapter.

C This section establishes requirements for emergency vehicle access and firefighting water supplies within the legally designated wildland-urban interface area. (See Section 302.1.)

401.2 Objective. The objective of this chapter is to establish the minimum requirements for emergency vehicle access and water supply for buildings and structures located in the *wildland-urban interface areas*.

C This section emphasizes these requirements are the minimum standards the jurisdiction is willing to accept in the designated wildland-urban interface area. There may be other, more restrictive jurisdictional standards. For example, the Road Department or Public Works Department may have requirements that are more restrictive than this code.

Section 202 defines a building as "Any structure intended for supporting or sheltering any occupancy." The *International Building Code*® (IBC®) Section 202, Definitions, explains a structure is "that which is built or constructed." Therefore, dwellings, barns, riding stables, offices and similar uses qualify as buildings and structures, where pumphouses, storage tanks, windmills, ground-mounted solar panels and similar nonoccupied facilities are solely considered structures.

401.3 General safety precautions. General safety precautions shall be in accordance with this chapter. See also Appendix A.

C This chapter focuses upon infrastructure and planning associated with the building. If Appendix A, General Requirements, is adopted, it applies to the vegetation around the structure, along the roadways and adjacent to water sources.

I-Code appendices comprise two categories: regulatory and informational. Each appendix includes a reference to one of the two categories. The standards and rules found in the regulatory appendices cannot be enforced unless legally adopted by the jurisdiction.

SECTION 402—APPLICABILITY

402.1 Subdivisions. Subdivisions shall comply with Sections 402.1.1 and 402.1.2.

C Section 202 defines "subdivision(s)" as "the division of a tract, lot or parcel of land into two or more lots, plats, sites or other divisions of land." It does not provide a distinction between residential or commercial subdivisions, so the code applies to all wildland-urban interface subdivisions.

402.1.1 Access. New subdivisions, as determined by this jurisdiction, shall be provided with fire apparatus access roads in accordance with the *International Fire Code* and access requirements in accordance with Section 403.

C Fire apparatus access road requirements in this code and the IFC apply to new subdivisions. Due to the likelihood of a subdivision's higher-density development and use compared to remote, individual buildings or structures, this section establishes fire apparatus access road requirements similar to those in suburban and urban areas. IFC Section 503.2 provides specific road design criteria, such as:

- Minimum roadway width of 20 feet.

- Minimum roadway clear height of 13 feet 6 inches.
- Roadway surfaces must be designed to support fire apparatus.
- Turning radii must be approved by the fire code official.
- Approved turnarounds are required at the end of long dead-end roads.
- Bridge construction must meet minimum load-bearing standards or be otherwise identified.
- Road grades must be within the locally approved limits.
- Angles of approach and departure must be approved by the fire code official.

IFC Sections 503.5 and 503.6 address security barricades and gates across roadways. These requirements in the IFC must be satisfied along with the requirements of this chapter. See 2024 *IFC® Code and Commentary*, Chapter 5, for additional information.

402.1.2 Water supply. New subdivisions as determined by this jurisdiction shall be provided with water supply in accordance with Section 404.

C New subdivisions must provide an adequate fire protection water supply. These requirements are enforced when the subdivision is approved. The term "new" should be construed to mean the subdivision was created after the adoption of the code. These requirements are not retroactive to existing subdivisions.

402.2 Individual structures. Individual structures shall comply with Sections 402.2.1 and 402.2.2.

C New individual structures must have fire apparatus access and fire protection water supplies. An example might include a timber-harvesting firm that constructs a repair garage for its equipment. Sections 402.2.1 and 402.2.2 apply to an existing property—whether or not in a subdivision—where the landowner decides to build. These requirements are applied at the time of building permit for new construction or projects.

402.2.1 Access. Individual structures hereafter constructed or relocated into or within *wildland-urban interface areas* shall be provided with fire apparatus access in accordance with the *International Fire Code* and driveways in accordance with Section 403.2. Marking of fire protection equipment shall be provided in accordance with Section 403.5 and address markers shall be provided in accordance with Section 403.6.

C Fire apparatus access roads must be provided to new structures when either of the following situations occurs:

- A new structure is erected on the property.
- A structure located elsewhere is moved to this new location. The structure under consideration was not on this specific piece of property before, and by adding it increases the hazard to undeveloped land. This may include construction shacks, job trailers, fueling depots or similar uses.

402.2.2 Water supply. Individual structures hereafter constructed or relocated into or within *wildland-urban interface areas* shall be provided with a conforming water supply in accordance with Section 404.

Exceptions:

1. Structures constructed to meet the requirements for the class of ignition-resistant construction specified in Table 503.1 for a nonconforming water supply.
2. Buildings containing only private garages, carports, sheds and agricultural buildings with a floor area of not more than 600 square feet (56 m^2).

C Like Section 402.2.1, the water supply requirement applies to newly built structures and those moved to the site. While this section requires a "conforming" water supply, it also provides two exceptions. See the commentary to Section 404.2 for an explanation of a "conforming" water supply.

Exception 1 addresses an option found in Chapter 5. Table 503.1 requires the structure to be more fire resistant if the water supply does not meet the code requirements as "conforming." For example, in Commentary Figure 402.2.2, notice that when the water supply and the defensible space conform to the code requirements, Class 3 ignition-resistant construction is permitted. However, when the water supply is nonconforming, Class 2 ignition-resistant construction is required. See the commentary to Section 503.1 for further information.

Exception 2 exempts small structures not exceeding 600 square feet. These smaller buildings are not the property's primary structure and are considered a minimal threat to the primary structure.