Board of Forestry and Fire Protection

Notice of Proposed Emergency Action, (pursuant to GOV § 11346.1) and Finding of Emergency Statement of Proposed Regulatory Action

Zone 0 Defensible Space
Notice Date: November 5, 2026

The Board of Forestry and Fire Protection (Board) has adopted emergency regulations to establish an ember-resistant zone within five feet of a building or structure as required by changes to Public Resources Code section 4291 and Government Code section 51182.4 and within five feet of an occupied structure as required by Government Code sections 51182 and 51182.4. Pursuant to Government Code section 11346.1, the Board provides notice of this proposed emergency action. This action is being taken in accordance with Government Code sections 51182.4, 11346.1, 11346.5(a)(2) through (6) inclusive, and 11349.6. The Board adopted the emergency regulations at its regular meeting on November 5, 2026 and plans on submitting them to the Office of Administrative Law (OAL) on or after November 13, 2026.

SUBMITTING COMMENTS

To comment on the proposed emergency action, you must submit the comment directly to OAL within **five (5) calendar days** of OAL's posting of the proposed emergency regulations on the OAL website. You may submit comments on the proposed emergency action to:

Mail:
OAL Reference Attorney
300 Capitol Mall, Suite 1250
Sacramento, California 95814

E-mail:
staff@oal.ca.gov

OAL will accept all comments submitted by the specified deadline.

When submitting a comment to OAL, you must also submit a copy of your comment to the rulemaking agency's specified contact person provided below.

Mail:
Tony Andersen
Executive Officer
Board of Forestry and Fire Protection
P.O. Box 944246
Sacramento, CA 944244-2460

E-mail:
publiccomments@BOF.ca.gov

Pursuant to **1 CCR § 48,** the notice required by Government Code section 11346.1(a) shall contain the following or substantially similar statement:

Government Code section 11346.1 (a)(2) requires that, at least five working days prior to submission of the proposed emergency action to the Office of Administrative Law, the adopting agency provide a notice of the proposed emergency action to every person who has filed a request for notice of regulatory action with the agency. After submission of the proposed emergency to the Office of Administrative Law, the Office of Administrative Law shall allow interested persons five calendar days to submit comments on the proposed emergency regulations as set forth in Government Code section 11349.6.

This regulation will be submitted to the Office of Administrative Law on or after **November 13, 2026. If the regulation is submitted to OAL on that date and is posted on its website, the public comment period will close at midnight on November 18, 2026.**

Pursuant to Title 1, California Code of Regulations (CCR), §§ 55(b)(1) through (4), the comment must be in writing, must arrive within five calendar days after the notice of the filing of the proposed emergency regulations is posted by OAL on its website, must contain a notation that they are submitted to OAL for consideration in connection with an emergency regulation review and identify the topic of the emergency regulations to which they relate, and must also be transmitted to the Board contact person for the emergency regulation filing.

The Board is not required to respond to comments submitted. However, should the Board choose to respond, it must submit its response to OAL within **eight (8) calendar days** following the date of submission of the proposed emergency regulation to OAL, unless specific exceptions are applicable. [Title 1 CCR § 55].

Pursuant to **GOV § 11346.1(a)(2)(A)**, the specific rule text associated with the proposed action immediately follows this notice.

EMERGENCY FINDINGS

Background

On September 29, 2020, Governor Newsom signed Assembly Bill 3074 (Stats. 2020, chapter 259) which was then filed with the Secretary of State on the same day and became effective January 1, 2021. Assembly Bill 3074 amended Sections 51182, 51186, and 51189 of the Government Code, and Section 4291 of the Public Resources Code, relating to fire prevention. This bill directed the Board to promulgate regulations to create an ember-resistant zone within five feet of a structure within the State Responsibility Area (SRA) and the Very High Fire Hazard Severity Zone (VHFHSZ) of Local Responsibility Areas (LRA) on or before January 1, 2023. On September 28, 2021, Governor Newsom signed Senate Bill 63, (Stats. 2021, chapter 382) which was filed with the Secretary of State on the same day and became effective January 1, 2022. In the months following the initial signing of AB 3074, the Board convened a working group of wildfire professionals, local agency representatives, representatives from the

Office of the State Fire Marshal (OFSM), representatives from interested industries, and scientists studying the spread of wildfire through communities. This working group met numerous times and discussed the potential extent of the new regulations. The working group shared those findings with the Board's Resource Protection Committee six times in 2021 and 2022, and the Board held a public workshop on the topic in 2022. After defining initial requirements for Zone 0, the Board directed Board staff to define the extent of fiscal and economic costs and benefits and to consult with the California Natural Resources Agency (CNRA) and the Governor's office. These tasks were ongoing throughout 2022, 2023, and 2024.

Government Code Section 51182(c)(1) states that "The State Board of Forestry and Fire Protection, in consultation with the Office of the State Fire Marshal, shall develop, periodically update, and post on its internet website a guidance document on fuels management pursuant to this chapter." Government Code 51186(b)(2)(A) states that "The requirement for an ember-resistant zone pursuant to Section 51182 shall not take effect for new structures until the State Board of Forestry and Fire Protection updates the regulations, pursuant to paragraph (1) of subdivision (a) of Section 51182, and the guidance document, pursuant to paragraph (2) of subdivision (c) of Section 51182." The Board adopted the updated guidance document at the August 19, 2026, Board meeting.

Facts Demonstrating the Existence of an Emergency

The Legislature Mandated in Government Code section 51182.4 that the Board Follow the Emergency Regulatory Process

Pursuant to **GOV § 11346.1(b)(2),** following is a description of the facts demonstrating the existence of an emergency and the need for immediate action, and demonstrating, by substantial evidence, the need for the proposed regulation to effectuate the statute being implemented, interpreted, or made specific and to address only the demonstrated emergency.

On February 6, 2025, after the catastrophic Los Angeles fires in January of that year, Governor Newsom issued Executive Order N-18-25, which directed the Board to create an ember-resistant zone within five feet of structures pursuant to Public Resources Code section 4291 and Government Code section 51182 on or before December 31, 2025 via the rulemaking process. The Board continued working on the issue in 2025, holding numerous public meetings, workshops, community tours, and also continued its fiscal impacts analysis, consultation with CAL FIRE and the OSFM, review of scientific research, and consultation with CNRA and the Governor's Office. On October 13, 2025, Governor Newsom signed Assembly Bill 1455 (Stats. 2025, chapter 731l hereafter AB 1455)) which was filed with the Secretary of State on the same day, and became effective upon filing (October 13, 2025). This bill clarified that the Board had authority over rulemaking for the LRA in addition to the SRA and that the adoption and re-adoption of these regulations does not constitute a project for purposes of CEQA.

Most critically, AB 1455 mandated that the Board use the emergency rulemaking process if the regular rulemaking process would inhibit its ability to meet the December 31, 2025 deadline.

The law enacted under AB 1455 states that "(i)f adopting the regulations described in subdivision (a) through the regular rulemaking process… would inhibit compliance with the December 31, 2025, deadline in Executive Order No. N-18-25, the regulations shall instead be adopted as emergency regulations, in which case the adoption of initial regulations shall be deemed in response to an emergency and the Office of Administrative Law shall consider the adoption of initial regulations as necessary for the immediate preservation of the public peace, health, safety, and general welfare." (Gov. Code section 51182.4(b).)

Government Code section 51182.4 reads as follows:

> *(a) The State Board of Forestry and Fire Protection shall adopt regulations to implement defensible space requirements for an ember-resistant zone required within five feet of a structure in the state responsibility area pursuant to Section 4291 of the Public Resources Code and a very high fire hazard severity zone pursuant to Section 51182 of this code.*
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> *(b) If adopting the regulations described in subdivision (a) through the regular rulemaking process pursuant to Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 would inhibit compliance with the December 31, 2025, deadline in Executive Order No. N-18-25, the regulations shall instead be adopted as emergency regulations, in which case the adoption of initial regulations shall be deemed in response to an emergency and the Office of Administrative Law shall consider the adoption of initial regulations as necessary for the immediate preservation of the public peace, health, safety, and general welfare.*
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> *(c) The State Board of Forestry and Fire Protection may readopt any emergency regulation authorized by this section that is the same as or substantially equivalent to an emergency regulation previously adopted pursuant to this section.*
>
> *(d) Notwithstanding Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2, any emergency regulations adopted or readopted pursuant to this section shall remain in effect until revised by the State Board of Forestry and Fire Protection.*
>
> *(e) The adoption or readoption of the regulations described in this section shall not constitute a project for purposes of Division 13 (commencing with Section 21000) of the Public Resources Code.*

Government Code section 51182.4 mandates that the Board "shall" use the emergency rulemaking process to adopt the Zone 0 regulations if the regular rulemaking process "would inhibit compliance with the December 31, 2025, deadline in Executive Order No. N-18-25."

By the time this mandate in AB 1455 was effective—October 13, 2025—meeting the December 31, 2025 deadline through the regular rulemaking process was not possible and therefore the emergency rulemaking process requirement in the statute was triggered. At that point (October 13, 2025), the timeline of the regular rulemaking process made it impossible for the Board to comply with the December 31, 2025, deadline via the regular rulemaking process. AB 1455, which included the directive to use emergency rulemaking, became effective on October 13, 2025. The regular rulemaking process includes a 10-day review period to publish a Notice of Proposed Action in the California Regulatory Notice Register, a minimum 45-day public comment period, a 30-working-day review period for OAL review of the final rulemaking package, a minimum 30-day period before the quarterly effective date pursuant to GC Section 11343.4, and also requires adequate time for the agency to prepare submittals and respond to comments (and hold another public comment period for 15 days if substantial changes are made following the public comments.) This process takes 115-plus days, and often takes longer.

If the Board had noticed a public meeting to consider adoption of a final rulemaking package on October 14, 2025 (the day after AB 1455 went into effect with the latest directives to the Board on the Zone 0 regulations), the earliest day for such a meeting would have been October 24, 2025. If the regular rulemaking process were to have commenced on that day (with notice going out), it would not have been completed until at least February 28, 2026 and likely weeks later. The earliest effective date for these rules would have been April 1, 2026. This timeline shows that, at the time AB 1455 became effective law on October 13, 2025, the regular rulemaking process would have inhibited the Board from completing the rulemaking for Zone 0 regulations by December 31, 2025; as such, Government Code section 51182.4(b) requires that **"the regulations shall instead be adopted as emergency regulations, in which case the adoption of initial regulations shall be deemed in response to an emergency and the Office of Administrative Law shall consider the adoption of initial regulations as necessary for the immediate preservation of the public peace, health, safety, and general welfare."**

The author of AB 1455, California Assembly Member Bryan, described the December 31, 2025, deadline for the Zone 0 regulations as the "trigger to authorize the Board to adopt emergency regulations."[1] He also stated that "AB 1455 will authorize the Board to adopt emergency regulations. …"[2] This statute is clearly intended to authorize the Board to use the emergency rulemaking process if the regular rulemaking process would inhibit its ability to meet the December 31, 2025, deadline set forth in the Governor's Executive Order N-18-25. As the Board and its Zone Zero Advisory Committee were still considering public comments, scientific input, and the Legislature's recent enactment of AB 1455 in December 2025,[3] the regular rulemaking process would have inhibited its ability to enact regulations by December 31, 2025.

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[1] AB 1455, *Assembly Floor Analysis* (September 10, 2025) ("According to the Author" section on page 1); Bill Analysis - AB-1455 State Board of Forestry and Fire Protection: defensible space requirements: ember-resistant zones: emergency regulations: California Environmental Quality Act.

[2] AB 1455, *Senate Floor Analysis* (September 8, 2025) ("Arguments in Support" section on page 5); Bill Analysis - AB-1455 State Board of Forestry and Fire Protection: defensible space requirements: ember-resistant zones: emergency regulations: California Environmental Quality Act.

[3] *See* video record of December 8, 2026 Zone Zero Advisory Committee meeting: 12_08_2025 Part 1 ZONE ZERO REGULATORY ADVISORY COMMITTEE MEETING.mp4 | Powered by Box

The Legislature, in Government Code section 51182.4, mandated that the Board use the emergency rulemaking process if the regular rulemaking process would have inhibited completion by December 31, 2025. As shown, meeting the December 31, 2025 deadline was not possible at the time AB 1455 was effective and therefore a statutory emergency exists that required the adoption of Defensible Space Zone 0 as emergency regulations, and that the adoption of regulations related to these exemptions is necessary for the preservation of the public peace, health, safety, and general welfare in the state.

Beyond the Legislative Mandate in Government Code Section 51182.4, the Facts Demonstrate the Existence of an Emergency and the Need for Immediate Action

California is a wildfire-prone landscape, but a combination of climate change and growing numbers of structures in the Wildland Urban Interface (WUI) is increasing the impact of these fires. In "Enhancing California's Resiliency to Natural Catastrophes," the California Earthquake Authority states that "Climate change is systematically worsening fire conditions across the western United States and in fire-prone regions globally. Rising temperatures, prolonged drought, and compressed cool-seasons precipitation are lengthening the annual window during which fuels are dry enough to ignite easily and fire spreads faster than suppression resources can contain it."[4]

Kumar et al. (2025) states that "(w)hile climatic trends increased the frequency of high-risk fire-weather by 2.5-fold, the combination of this trend with wildland-urban interface expansion led to a 4.1-fold increase in the frequency of conditions conducive to extreme-impact wildfires from 1990 to 2022 across California."[5] An overview of wildfire impacts reveals an ongoing crisis: of the twenty most destructive wildfires in California, with records stretching back at least 175 years, sixteen occurred in the last decade.[6] Of the twenty largest wildfires recorded in the state, thirteen occurred in the last decade.[7] Of the twenty deadliest wildfires in California, nine occurred in the last decade.[8] Prior to 2025, California experienced the deadliest and most destructive wildfires in its history in 2017 and 2018, which caused the loss of more than 100 lives and the destruction of tens of thousands of homes and businesses.

In 2020 the Legislature found that "these recent wildfires in the western United States have occurred nearly four times more often, burned more than six times the land area, and lasted almost five times as long."[9] According to the CAL FIRE Incident Archive, since that finding over nine million acres in California burned in wildfires, 34,884 structures were destroyed, and there were at least 81 fatalities.[10] The LA Times reported that the January 2025 Palisades and Eaton

[4] California Earthquake Authority, Enhancing California's Resiliency to Natural Catastrophes Enhancing California's Resiliency to Natural Catastrophes (2025) (pages 18-20, citing numerous sources).
[5] Kumar, M., AghaKouchak, A., Abatzoglou, J. T., & Sadegh, M. (2025). Compounding effects of climate change and WUI expansion quadruple the likelihood of extreme-impact wildfires in California. Npj Natural Hazards, 2(1), 17.
[6] CAL FIRE August 4, 2026. *Top 20 Most Destructive California Wildfires*. https://www.fire.ca.gov/
[7] CAL FIRE October 2, 2024. *Top 20 Largest California Wildfires*. https://www.fire.ca.gov/
[8] CAL FIRE August 4, 2026. *Top 20 Deadliest California Wildfires*. https://www.fire.ca.gov/
[9] AB 3074.
[10] CAL FIRE Incident Archives

fires alone caused at least $250 billion in damages.[11] As stated in Executive Order N-18-25, the catastrophic 2025 fires including the Palisades, Eaton, Hurst, Lidia, Sunset, Woodley, and Hughes Fires were "not isolated incidents, but rather the latest examples of how a changing climate creates weather extremes that can combine with wildfire-susceptible fuel loads, even during California's traditionally wet season, to cause massive conflagrations… ." Cunningham et al. predict that areas within the Mediterranean biome, like California, will see one of the highest increases in fire radiative power, and that those increases will be twice as large under 2 °C warming compared to 1.5 °C. This growing risk, and the compounding loss of structures and lives, presents a clear danger to the citizens of the state of California, which the science shows is worsening. Pursuant to **Government Code section 11342.545** this situation calls for immediate action to avoid serious harm to the public peace, health, safety, or general welfare caused by the continuing and increasing threat of catastrophic wildfires.

AB 1455 mandates that the Board follow the emergency rulemaking process, as established above. The Board took the time necessary to consider thousands of public comments, visit numerous residential areas throughout the state impacted by wildfire, consult with homeowners, business owners, fire agencies, the OFSM, CNRA, and the Governor's Office on the many complicated impacts of these regulations. As the Board Chair stated at the December 2025 Zone Zero Advisory Committee meeting, the Board must take into account "the need for public buy-in…and the ability of individuals to implement those regulations and for the fire community to have clear and precise regulations that makes enforcement and education much easier… ."[12] After the passage of AB 1455, the Board and its Zone Zero Advisory Committee held an additional five public workshops, four town hall presentations, and three walking tours to address the changes in scope to Zone 0 regulations after changes to the authorizing statute. In total, since 2020, the Board held more than 12 public meetings and workshops, four town hall presentations, four walking tours, and numerous updates to the full Board to address the numerous concerns raised by the public throughout 2025 and early 2026. The Board continued to consult with the OSFM, CAL FIRE, and the Governor's Office during late 2025 and throughout 2026.

The fact that the regulations will be implemented over a three-year period (or five-year period, in certain circumstances) does not negate the existence of an emergency, as the Legislature mandated this process. The Legislature also mandated the phased approach[13] for implementation of the regulations for existing structures to permit individuals the time needed to do the work required by the regulations and also to lessen any financial impact on individuals. The increasing threat of extreme weather and wildfire to California communities within the SRA and the VHFHSZs of the LRA creates an immediate need for action, and that action (establishing Zone 0 around buildings and structures) takes time for homeowners and business owners to complete.

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[11] Vincent, R. (January 4, 2025) Estimated cost of fire damage balloons to more than $250 billion. Los Angeles Times https://www.latimes.com/business/story/2025-01-24/estimated-cost-of-fire-damage-balloons-to-more-than-250-billion

[12] 12_08_2025 Part 1 ZONE ZERO REGULATORY ADVISORY COMMITTEE MEETING.mp4 | Powered by Box

[13] Government Code sections 51182(d) and 51186, and Public Resources Code section 4291(g). All of these statutory requirements were in effect when the Legislature enacted Section 51182.4 (or were part of AB 1455) and therefore the existence of an emergency and the requirement to use the emergency rulemaking process does not alter the requirement to stage the implementation of the regulations for existing properties.

Code Sections Being Implemented by the Proposed Emergency Action

The Board is proposing action to implement the ember-resistant zone via adoption of **14 CCR §§ 1298.01, 1298.02, 1298.03, and 1298.04,** and to amend **14 CCR §§ 1299.01, 1299.02, and 1299.03.**

Technical, Theoretical, and/or Empirical Studies, Reports, or Documents Relied Upon

Pursuant to **Government Code section 11346.1(b)(2),** following is the list of each technical, theoretical and empirical study, report, or similar documents, if any, upon which the Board relied to make the "emergency" finding:

Assembly Bill 3074, Chapter 259, signed by the Governor September 29, 2020, Filed with the Secretary of State September 29, 2020.

Assembly Bill 1455, Chapter 731, signed by the Governor October 13, 2025, Filed with the Secretary of State October 13, 2025.

ASTM E136-26, Standard Test Method for Assessing Combustibility of Materials Using a Vertical Tube Furnace at 750 °C, January 12, 2026, ASTM International

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Butler, K., Johnsson, E. L., Maranghides, A., Nazare, S., Fernandez, M. G., McIntyre, R., ... & McLaughlin, C. (2022). Wind-driven fire spread to a structure from fences and mulch. NIST Technical Note 2228

California Earthquake Authority, Enhancing California's Resiliency to Natural Catastrophes Enhancing California's Resiliency to Natural Catastrophes (2025)
CAL FIRE (August 4, 2026). *Top 20 Deadliest California Wildfires*. https://www.fire.ca.gov/our-impact/statistics

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Insurance Institute for Business and Home Safety Post-Event Investigation: California Wildfires of 2017 and 2018. (2020).

Insurance Institute for Business and Home Safety. 2025 LA County Wildfires: Early Insights from Field Observations Insurance Institute for Business & Home Safety. (2025).

Johnsson, E.L., Butler, K.M., Fernandez, M.G., Tang, W., Nazaré, S., Deardorff, P., Arana, S., Maranghides, A. Wind-Driven Fire Spread to a Structure from Landscape Timbers. NIST Technical Note 2307. (2025).

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Kumar, M., AghaKouchak, A., Abatzoglou, J. T., & Sadegh, M. (2025). Compounding effects of climate change and WUI expansion quadruple the likelihood of extreme-impact wildfires in California. *Npj Natural Hazards*, *2*(1), 17.

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Syphard, A.D., Brennan, T.J., and Keeley, J.E. (2017). The Importance of Building Construction Materials Relative to Other Factors Affecting Structure Survival During Wildfire. International Journal of Disaster Risk Reduction. 21: 140-147.

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Valachovic, Y., Quarles, S.L., and Swain, S.V. (2021). Reducing the Vulnerability of Buildings to Wildfire: Vegetation and Landscaping. UC ANR Publication 8695.

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Authority and Reference Cited

Pursuant to **GOV § 11346.1(b)(2)**, following is the information required by **GOV § 11346.5(a)(2)** (the reference to the authority(s) under which the regulation is proposed and a reference(s) to the particular code sections or other provisions of law that are being implemented, interpreted, or made specific).

14 CCR § 1298.01 Authority cited: Sections 51182 and 51182.4, Government Code. Reference: Sections 51177, 51178, 51179, 51181, and 51184, Government Code.

14 CCR § 1298.02 Authority cited: Sections 51182 and 51182.4, Government Code. Reference: Sections 51178, 51179, 51181 and 51186 Government Code; and Sections 18908 and 18917, Health and Safety Code.

14 CCR § 1298.03 Authority cited: Sections 51182 and 51182.4, Government Code. Reference: Sections 50022.2, 51177, 51178, 51179, 51181, and 51183, Government Code; and Section 7, Article XI, California Constitution.

14 CCR § 1298.04 Authority cited: Section 51182, 51182.4, and 51186, Government Code. Reference: Section 66313, Government Code.

14 CCR § 1299.01 Authority cited: Sections 4290 and 4291, Public Resources Code; and Section 51182.4, Government Code. Reference: Section 4291, Public Resources Code.

14 CCR § 1299.02 Authority cited: Sections 4290 and 4291, Public Resources Code; and Section 51182.4, Government Code. Reference: Section 4291, Public Resources Code; and Sections 18908 and 18917, Health and Safety Code.

14 CCR § 1299.03 Authority cited: Sections 4290 and 4291, Public Resources Code; and Section 51182.4, Government Code. Reference: Section 4291, Public Resources Code; and Sections 18908 and 18917, Health and Safety Code.

Pursuant to **1 CCR § 20(c)(1)**, the following documents are incorporated by reference in these regulations.

ASTM E136-26, Standard Test Method for Assessing Combustibility of Materials Using a Vertical Tube Furnace at 750 °C, January 12, 2026, ASTM International

Availability of Documents

The Board had available the entire rulemaking file, including all information considered as a basis for this proposed regulation, available for public inspection and copying throughout the rulemaking process at its office in Sacramento, California.

Pursuant to **1 CCR §50(b)(3)(A)** and **GOV § 11346.1(a)(2),** the Board provided a five working-day notice. The proposed action was, at a minimum, posted on the Board's website (pursuant to **GOV § 11346.4(a)(6)**), sent to the Board mailing list (pursuant to **GOV § 11346.4(a)**), and

widely distributed via email (pursuant to **GOV § 11340.85**) at least five working days prior to being submitted to the Office of Administrative Law.

INFORMATIVE DIGEST

Pursuant to Chapter 3 of Part 2 of Division 4 of the Public Resources Code and Chapter 6.8 of Part 1 of Division 1 of the Government Code, the Board is responsible for regulatory action covering defensible space as pertains to wildfire.

This rulemaking uses the terms State Responsibility Area ("SRA") and Local Responsibility Areas ("LRA"). The SRA is defined under PRC section 4125 and is the portion of California where the state has the primary financial responsibility for preventing and suppressing wildfires. The SRA does not include land within city limits or under federal ownership. Local Responsibility Areas are within incorporated cities and certain unincorporated county areas: they are districts where local fire agencies provide fire protection. Land that is under federal ownership is covered by federal laws and is not considered by this rulemaking.

Fire Hazard Severity Zones are defined by the State Fire Marshal pursuant to Government Code section 51178 and adopted by local agencies pursuant to Government Code section 51179. Local agencies may choose to increase the fire hazard severity of any part of their jurisdiction. The Very High Fire Hazard Severity Zone (VHFHSZ) is the highest fire hazard severity zone. The zone designations are reviewed every five years pursuant to Government Code section 51181. While the Fire Marshal designates Fire Hazard Severity Zones in both SRA and LRA, these regulations only apply to occupied structures in those parts of the LRA that are designated as a VHFHSZ. The rulemaking also applies to all buildings or structures within the SRA, regardless of the fire hazard severity classification of the lands those parcels are on.

The Board promulgated defensible space regulations in 2006 and 2013, which established requirements for Zone 1 (0-30 feet around a structure) and Zone 2 (30-100 feet around a structure). These regulations focused on fuels modification to allow for safe places for firefighters to fight the fire, and to remove sufficient fuels so that high-intensity "crown" fires would become lower-intensity, less dangerous, less damaging and easier to fight "ground" fires. These rules applied only in the SRA, as the Board did not then have rulemaking authority for defensible space standards in lands where the state did not have primary financial responsibility for fire protection services. To recognize the existing terminology, the new ember-resistant zone was named "Zone 0" to indicate that it is the area immediately adjacent (0-5 feet) to a structure.

AB 3074 (Freidman, 2020) states in the findings that "Ember ignitions are responsible for the majority of wildland fire home ignitions. Establishing a five-foot ember-resistant zone around a structure to eliminate specified materials near structures that will likely be ignited by embers provides important new protections that enhance a home's chance of surviving a wildfire." This is supported by research: in the National Institute of Standards and Technology (NIST) Technical Note 1635, "A Case Study of a Community Affected by the Witch and Guejito Fires" the authors analyze a wildfire moving through a community. Embers precede the wildfire itself and are the direct cause of structure ignition in some cases. However, in over 40% of the

structure ignitions, vegetation fires were ignited by embers immediately adjacent to the structure, and then the structure itself was ignited due to contact with the flames started by the embers. Escobedo et al. (2025) found the presence of bare ground within two meters of a building within a wildfire footprint to be one of the most important factors in building survival. The Insurance Institute for Business and Home Safety (IBHS) research center simulated ember exposure of structures during a wildfire event: burning materials that simulated ember ignition of vegetation were placed three and five feet away from the building, and the temperature of adjacent walls was measured under varying simulated wind conditions. At three feet, the temperature of the exterior wall consistently reached over 200°C, the minimum temperature for structure ignition. None of the exterior wall temperatures taken with a simulated ember fires at five feet reached this temperature threshold.

After the passage of AB 3074, the Board undertook a review of the scientific literature on combustible materials frequently found within five feet of a structure (Zone 0). The materials identified as the most common hazards in several post-fire studies and with the largest body of available research include: mulch, firewood, combustible debris on the roof and rain gutters, combustible items under decks, trees, other vegetation, fences and gates, and sheds.

This rulemaking requires additional protections near certain vulnerabilities in a structure where home ignition often occurs. These locations include: decks, balconies, exterior staircases, and pergolas, which are most often constructed with flammable materials; the edges of siding materials; under eaves; weak points in exterior walls including windows, doors, and vents. Hakes et al. (2016) states that “During the 2007 Witch Creek and Guejito fires, decks were observed to be one of the most significant sources of ignition. Of sixteen damaged homes, the ignition location was most often a detached structure or decking. Similar observations were made during the Waldo Canyon fire, where wooded slopes with overhanging decks created a large hazard. Most of these ignitions were thought to originate from firebrands (embers) or local flame contact. One issue is that deck material is tested for flame spread properties and ignition potential from direct flame contact, but is not tested for ignition from firebrand exposure or for its potential to ignite an adjacent structure with radiant energy.” In these cases, the large boards of decks became involved in fires after smaller fires were ignited under the deck surface. Hakes also notes that “Eaves and vents have been recognized as significant sources of ignition of homes in the WUI. Vents provide an opening through which burning brands may penetrate the interior of a structure, often the attic. Eaves serve as a connection point between siding and roofing assemblies, where potential vulnerabilities can occur.” While window vulnerability varies based on single-paned versus double-paned glass and the material of the window casing, “the most rapid flame spread resulted from penetrations at windows, both from flames exiting the burning structures and from flames entering/heating broken windows on an unignited assembly.” Hakes also states that “Without proper clearance around the base of a structure, firebrand accumulation can lead to ignition of nearby vegetation or other fuels (e.g. mulch, wood piles) which can in turn lead to direct flame contact and radiant heat exposure to siding materials on the exterior walls.”

Both authorizing statutes require the Board to update a guidance document to reflect the new regulations. Under Public Resources Code section 4291(g)(1) and Government Code section 51186(b)(2)(A), the requirements for new structures shall not take effect until the Board

updates and posts a defensible space guidance document. Under Government Code section 51184(a), these defensible space requirements do not apply to any land or water areas managed for habitat for threatened or endangered species, lands kept in a natural state as habitat for wildlife, plant, or animal communities, open space lands that are environmentally sensitive, and other lands having scenic values as declared by local agencies having responsibility for fire protection or by state or federal law. Under Government Code section 51183, a local agency may exempt structures with exteriors constructed entirely of nonflammable materials or conditioned upon the contents and construction of the structure, and may vary the requirement for management of defensible space around the structure as a result. These specifications are specific to lands within the LRA.

The **problems** are as follows: due to statutory changes that addressed the wildfire crisis, the Board is required to create regulations with provisions for a zero to five foot ember-resistant zone within the Very High Fire Hazard Severity Zone of Local Responsibility Areas and to update the defensible space regulations within the State Responsibility Area to include provisions for a zero to five foot ember-resistant zone, and to update the regulations for Zone 1 within the State Responsibility to align with the new ember-resistant zone.

The **purpose** is to establish standards for a zero to five foot ember-resistant zone around structures based on findings about ember-driven structure ignition in both the Very High Fire Hazard Severity Zone of Local Responsibility Areas and in the State Responsibility Area and to update the existing defensible space standards for consistency with the new ember-resistant zone.

The **effect** of the proposed action will be enforceable, science-based standards for an ember-resistant zone within five feet of a structure in areas with elevated fire risk, thereby reducing the risk of structure loss due to wildfire in those parts of California that are most vulnerable to wildfires.

The **benefit** of the proposed action is homes, businesses, and communities that are more resilient to wildfire.

The proposed action does not differ substantially from an existing comparable federal regulation or statute.

The Board performed a search of existing regulations and concluded that the proposed regulation is not inconsistent or incompatible with existing state regulations.

Pursuant to **GOV § 11346.1(b)(2),** following is the information required by **GOV § 11346.5(a)(4**):

There are no other matters as are prescribed by statute applicable to the specific state agency or to any specific regulation or class of regulations.

Pursuant to **GOV § 11346.1(b)(2),** following is the information required by **GOV § 11346.5(a)(5**):

The Board finds that the proposed regulation does not impose a mandate on local agencies or school districts.

Pursuant to **GOV § 11346.1(b)(2),** following is the information required by **GOV § 11346.5(a)(6**):

No costs or savings to any state agency are expected.

The proposed regulation does not impose a reimbursable cost to any local agency or school district (under Part 7 (commencing with Section 17500 of Division 4)). No reimbursement is required by this act pursuant to Section 6 of Article XIII B of the California Constitution for certain costs that may be incurred by a local agency or school district because, in that regard, this act creates a new crime or infraction, eliminates a crime or infraction, or changes the penalty for a crime or infraction, within the meaning of Section 17556 of the Government Code, or changes the definition of a crime within the meaning of Section 6 of Article XIII B of the California Constitution.

There are no other nondiscretionary costs or savings imposed on local agencies. There are no costs or savings in federal funding to the State.

Proposed Emergency Regulations

The Board took action to authorize emergency rulemaking at the direction of the Legislature. Sections 1298.01 through 1298.04 pertain to the VHFHSZ of the LRA while sections 1299.01 through 1299.03 pertain to the SRA.

Adopt 14 CCR § 1298.01 The proposed action adopts a purpose and overview of the defensible space requirements as it pertains to the ember-resistant zone surrounding occupied structures in the VHFHSZ of the LRA. The problem is that changes to the authorizing statute (Government Code sections 51182 and 51182.4) require new regulations that establish requirements for an ember-resistant zone in the space within five feet of an occupied structure. The purpose of this section is to outline the scope and purpose of those regulations. This is necessary to maintain the clarity and consistency of the defensible space regulations.

Adopt 14 CCR § 1298.02 The proposed action adopts definitions specific to defensible space requirements. The problem is that the creation of new defensible space requirements requires specific defined terms to clarify what is needed for compliance. The purpose of these proposed regulations is to define terms specific for compliance with defensible space requirements. These proposed regulations are necessary to establish clear and consistent requirements for the ember-resistant zone.

In subsection (a), the definition for “Combustible Material” is adopted. This term is used elsewhere in the rule text to establish what types of materials are not permitted, unless specified, within Zone 0 (the ember-resistant zone), and includes examples of ordinary flammable materials such as grasses, weeds, wood, plants, and petroleum-based items capable of burning. The defined term is used to separate out the subset of items that are likely to combust when wildfire conditions are present, as opposed to noncombustible items. The purpose of this term is to

distinguish between a general category of items or materials that are likely to ignite from embers and transmit flames and those that are not. This is necessary, as the Legislature directed the Board “to consider the elimination of materials in the ember-resistant zone that would likely be ignited by embers” to implement the purpose of the regulations—to prevent structure ignition. (Gov. Code section 51182).

In subsection (b) the definition for “Defensible Space” is adopted. This mirrors the use of the term for the State Responsibly Area Defensible Space rules in 14 CCR §1299.02(c), aligning the standards for the two sections. This is necessary to maintain consistent standards for the State and Local Responsibility Areas.

In subsections (c) and (e) the definitions for “Existing Occupied Structure” and “New Occupied Structure” are adopted. The authorizing statute has separate effective dates for existing structures and new structures; this definition provides a standard to separate the two categories. This is necessary to provide a specific date to clarify enforcement standards.

In subsection (d) the definition for “Ladder Fuels” is adopted. This term is specific to the maintenance of trees to minimize structure ignition. Ladder fuels applies to vegetative fuels that can transmit fire to other vegetation, to structures, or to other combustible material. The problem is that vegetation near homes increases the likelihood of ignition of a structure during an ember-driven wildfire event. The purpose of this proposed language is to balance the protection of a structure during a wildfire event and the need to minimize costs to residents while maximizing the benefits gardens and trees can bring to a home. This defined term is necessary to ensure comprehension of the regulatory guidelines for vegetation around homes in 14 CCR § 1298.04.

In subsection (f) the definition for “Noncombustible Material” is adopted. This term is used in the rule text to define the permissible material for outbuildings, patios, and attached fences and gates within the Zone 0 ember-resistant zone. The use of the ASTM E136-26 test and the incorporation of that text by reference provides a clear metric for which materials meet the standards for fully ignition-resistant materials as pertains to outbuildings, attached fences and gates, and patios within Zone 0. This is necessary to provide an enforceable standard for construction materials including those materials used in patios, attached fences and gates, and outbuildings that allows certification of defined standards commonly used in the construction and home improvement industries.

In subsection (g) the definition for “Non-woody Plant” is adopted. This term is specific to the growth form of plants with a lower fuel potential. Non-woody vegetation carries less inherent risk of high-intensity combustion, and so is regulated differently than woody (dry, hard) vegetation (Whelan, 1995). The problem is that vegetation near homes increases the likelihood of ignition of vegetation from embers and these flames then spread to a structure during an ember-driven wildfire event. The purpose of this proposed language is to balance the protection of a structure during a wildfire event and the need to minimize costs to residents while maximizing the benefits gardens and trees can bring to a home. This defined term is necessary to aid those impacted by the rules to understand which plants are permitted under the regulatory guidelines for vegetation around homes in section 1298.04.

In subsection (h) the definition for “Occupied Structure” is adopted. The term is used in the authorizing statute (Government Code section 51182) to specify the scope of the regulation: it is defined here to clarify which structures meet the standards of an occupied structure. The definition further specifies that “attached” includes self-supporting decks, stairs, or pergolas that are within one foot of a building or structure. The authorizing statute was updated in 2020 under AB 3072 to specify that buildings or structures included any attached decks. This update is necessary to bring the definition in line with statute, to protect vulnerable areas from ember-ignition, and to make reasonable allowances for the enforcement challenge provided by small gaps between buildings and decks.

In subsection (i) the definition for “Outbuilding” is adopted. These include small structures (less than 120 square feet) that are not used for human habitation, such as a wood shed or bike shed. For the purposes of the regulations, outbuildings are not occupied structures but have specific requirements to minimize the risk of ember ignition that could cause flames to spread to an adjacent occupied structure during a wildfire event. The problem is that sheds and other adjacent small structures often are constructed without consideration of the building code and have an elevated risk of ignition during a wildfire event. The ignition of an adjacent structure, even a small one, significantly increases the risk that nearby structures will ignite. Buildings which meet the standards of an occupied structure will themselves need to meet the defensible space requirements in the regulations, while outbuildings are not permitted within Zone 0 unless constructed entirely of noncombustible materials. The definition mirrors the language in the requirements for the State Responsibility Area, aligning the regulations for the two areas. This is necessary to prevent structure ignition and to improve the clarity and consistency of the regulations to ensure that those impacted understand that a wood shed, bike shed, or other outbuilding that is not made entirely of noncombustible material cannot be located within five feet of one’s home or business.

In subsection (j) the definition for “Tree” is adopted. This term applies to specific types of woody vegetation that have, at maturity, characteristics that can be maintained to manage ladder fuels and thus minimize the risks of structure ignition during a wildfire event. The problem is that vegetation near structures increases the likelihood of ignition of vegetation from embers and these flames then spread to a structure during an ember-driven wildfire event. The purpose of this proposed regulation is to balance the protection of a structure during a wildfire event and the need to minimize costs to residents while maximizing the benefits gardens and trees can bring to a home. This defined term is necessary to aid those impacted by the regulations to understand which plants are permitted around occupied structures in 14 CCR § 1298.04.

In subsection (k) the definition for “Vegetation” is adopted. The term applies to plants, including trees, both living and dead, that are found in the defensible space around occupied structures. The problem is that vegetation adjacent to occupied structures can ignite during ember-borne wildfire conditions and spread fire to the structure. The purpose of this proposed regulation is to balance the protection of a structure during a wildfire event and the need to minimize costs to residents while maximizing the benefits of gardens and trees. This defined term is necessary for comprehension of the regulatory guidelines for vegetation, including trees, around homes in 14 CCR § 1298.04.

Adopt 14 CCR § 1298.03 The proposed action adopts provisions for a local agency responsible for fire protection to develop alternative practices, as required in Government Code section 51182, for compliance with the defensible space requirements. It requires that alternative practices be based off of factors including location-based fire risk, lot size, structure density, composition of the structure exterior pursuant to Government Code section 51183, local fire hazards, potential response to emergency conditions, geography/topography, and/or compliance with home-hardening regulations under the California Wildland-Urban Interface Code building standards (CWUI), or a combination of the preceding. The alternative practices shall be enacted by ordinance by the local agency responsible for fire protection and supported with a written finding, by the head of the local agency's department, division, or entity delegated to provide fire protection, that the alternative practices provide for, at a minimum, substantially similar practical effects as those stated in the regulations. Substantially similar practical effects means that the alternative practices will provide an Occupied Structure with substantially similar protection from ember ignition during a wildfire event and will provide substantially similar safety considerations for emergency personnel responding to a wildfire event as the regulations in this article. The problem is that California is a state with many variables that affect the risks of fire spread within a community including: urban versus rural areas, structure separation distance, local fire hazards for ignition and evacuation, limitations in fire protection response, specific terrain features that impact wildfire spread, and structures that implement the home-hardening regulations passed in 2008. The purpose of this adopted text is to allow local governments and fire protection agencies to adapt the state regulations to address the needs of their communities. This is necessary to address variable wildfire risks and protection measures throughout the state and to comply with Government Code section 51182.

Adopt 14 CCR § 1298.04 The proposed action adopts standards and specifies the scope of the ember-resistant Zone 0, which is an area which begins at the exterior surface of the exterior wall (or attached deck, stairs, or pergola) of a structure and extending out five feet horizontally or to the property line (whichever comes first). The problem is that there are no specifications for an ember-resistant zone within five feet of a building or structure and the Legislature directed the Board to create one. The purpose of this update is to specify where the ember-resistant defensible space zone is and which materials are permitted within it. This is necessary to promote the clarity and consistency of the regulations and to carry out the directive from the Legislature in Government Code sections 51182 and 51182.4.

Subsection (a) covers the area impacted by the ember-resistant Zone 0: the area within five feet around an occupied structure, beginning at the exterior surface of the exterior wall, attached deck, stairs, or pergola. This zone extends to five feet from the structure or to the property line, whichever is closer. The text also clarifies that the addition of a new structure on one property will have no impact on the requirements for Zone 0 compliance on an adjacent property. The problem is a lack of clarity as to whether additional protection measures are necessary if an adjoining landowner adds an additional building or structure to a property. The purpose of this proposed regulation is to clarify the scope of the regulations. This is necessary to promote the clarity and consistency of the regulations and to reflect the fact that a property owner is not legally responsible for maintenance of an adjoining property which they have no legal right to maintain.

Subsection (b) covers requirements for Zone 0 compliance. The problem is that ember-caused fires within five feet of a structure often result in structure ignition. The purpose of these requirements is to minimize the risk of ember-caused fires within five feet of a building or structure.

Paragraph (1) clarifies that these requirements include limitations on combustible materials within Zone 0 whenever flammable vegetative conditions exist, except as set forth in these regulations. The list of combustible materials not allowed within Zone 0 includes: vegetative debris, plastic and wood items, and mulches within five feet of an occupied structure. This is necessary because fine fuels in Zone 0 are risk factors for structure ignition. NIST Technical Note 2228 found that when a range of flammable mulches and pine straw were ignited under simulated ember-borne wildfire conditions, that fire would spread to adjacent structures and was capable of igniting other combustible materials in Zone 0, particularly including wooden fences. The limitations on combustible material within Zone 0 whenever flammable vegetative conditions exist is necessary to ensure consistency with current similar regulations for Zones 1 and 2 within 14 CCR 1299.03 and to clarify that compliance is not required when such conditions do not exist, such as when a home is surrounded by snow. The prohibition on mulches may qualify for temporary exceptions under Subparagraph (A) during new or continuing construction, as is necessary to conform with standard Stormwater Pollution Prevention Plan requirements under the Clean Water Act, or during an emergency as defined.

Paragraph (2) states that there shall be no leaves, needles, and other combustible materials on the roof and rain gutters of an occupied structure. This is necessary because flammable debris in gutters and on roofs can catch fire during ember-borne wildfire events and cause ignition of the structure. Hakes et al. (2016) reviewed several papers on structure ignition, both from after-wildfire surveys of affected neighborhoods and from experiments that simulated wildfire events. In several cases, debris collected in a gutter were ignited by firebrands, potentially spreading the fire to the home at the roof-gutter intersection. The risks of roof ignition from leaves, needles, and other vegetative materials is recognized in statute under Public Resources Code section 4291(a)(4) and Government Code section 51182(a)(4).

Paragraph (3) states that the areas under decks, balconies, pergolas, and stairs must be kept free of vegetation and combustible items. This is necessary because decks and similar structures are a significant source of structure ignition. Hakes et al. (2016) states that ignition of combustible materials stored under decks were a significant source of ignition during the Angora fire, and that experiments examining the response of decking material to simulated ember-borne wildfire conditions found that ember exposure for wooden decking material alone resulted in the material smoldering, but not producing flame, while ember exposure for wooden decking material with pine needles underneath resulted in ignition of all decking materials. Government Code section 51182(e) grants the Board authority to require removal of fuel or vegetation underneath decks.

Paragraph (4) states that firewood cannot be stored in Zone 0. This is necessary to limit structure ignition during a wildfire event: NIST Technical Note 2228 firewood for tendency to ignite and produce heat that could ignite an adjacent structure during a simulated ember-borne wildfire condition and found that it would be a risk factor. Removing large pieces of combustible

material—like firewood—from Zone 0 is necessary to reduce the likelihood of the wood igniting from ember or flame spread and then spreading to the occupied structure.

Paragraph (5) states that no new trees are permitted within Zone 0 and sets forth the maintenance standards for existing trees within Zone 0. This aligns with the requirements in the CWUI code 24 CCR section 603.4.2, which applies to the same fire hazard designations as the Zone 0 defensible space rules (the LRA VHFHSZ and SRA) and therefore ensures consistency with an existing state regulation. Existing trees must be maintained to meet the following requirements: so that there are no dead or dying branches; so that all living branches are at least ten feet away from the outlets of chimneys and stovepipes; so that there are no live tree branches under eaves or within one foot of an occupied structure when there is no eave; so that all ladder fuels have been removed, including those fuels in the first six feet or one third of the tree's total height, whichever is smaller; to ensure that all live branches are at least five feet above a roof, and to ensure that no live branches are within five feet of a deck, stairs, or pergola that is attached to an occupied structure or within two feet of windows, doors, or vents. The requirements for no dead or dying branches and for minimum distance from chimney and stovepipe outlets are necessary because the requirements of Government Code section 51182 (a)(2) and (3) mandate that people who own, lease, control, operate, or maintain an occupied structure within the LRA VHFHSZ must "remove that portion of a tree that extends within 10 feet of the outlet of a chimney or stovepipe" and must "maintain a tree, shrub, or other plant adjacent to or overhanging a building free of dead or dying wood." The standard that tree limbs not be present underneath eaves or within one foot of the occupied structure if there is no eave is necessary because of additional structure ignition risks from eaves per review from Hakes et al. (2016) and Quarles et al. (2011). The requirements for ladder fuels are necessary to limit the spread of ground fires into trees, and the spread of fires from trees to adjacent structures per input from fire professionals on the rulemaking process.

Paragraph (6) states that, in order to protect the most vulnerable parts of an occupied structure, no vegetation is permitted in those parts of Zone 0 that are under eaves, less than one foot from an occupied structure, less than five feet from an attached deck, stairs, or pergola, or less than two feet of windows, doors, posts, or vents. Decks, stairs, and pergolas are features of an occupied structure that are prone to ignition and tend to concentrate fuel immediately adjacent to the structure, leading to a high likelihood of ignition from radiant or conductive heat. Hakes et al. (2016) states "(d)uring the 2007 Witch Creek and Guejito fires, decks were observed to be one of the most significant sources of ignition. Of sixteen damaged homes, the ignition location was most often a detached structure or decking. Similar observations were made during the Waldo Canyon fire, where wooded slopes with overhanging decks created a large hazard. Most of these ignitions were thought to originate from firebrands (embers) or local flame contact. One issue is that deck material is tested for flame spread properties and ignition potential from direct flame contact, but is not tested for ignition from firebrand exposure or for its potential to ignite an adjacent structure with radiant energy." In these cases, the large boards of decks became involved in fires after smaller fires were ignited under the deck surface. Some of the features addressed in this paragraph are weak points in exterior walls of an occupied structure, where embers can enter the structure and ignite the contents. These include the base of the wall itself, windows, doors, and vents. Hakes et al. (2016) also notes that "(e)aves and vents have been recognized as significant sources of ignition of homes in the WUI. Vents provide an

opening through which burning brands may penetrate the interior of a structure, often the attic. Eaves serve as a connection point between siding and roofing assemblies, where potential vulnerabilities can occur." While window vulnerability varies based on single-paned versus double-paned glass and the material of the window casing, "the most rapid flame spread resulted from penetrations at windows, both from flames exiting the burning structures and from flames entering/heating broken windows on an unignited assembly." Quarles et al. (2011) states "(a) flame contact exposure can result from ignition of underlying vegetation and/or ignition of combustible exterior cladding with subsequent vertical flame spread to the under eave area. The joints in both open- and soffited- eaves were vulnerable to the penetration of flames into areas behind the joints. No differences were observed between open- and soffited-eaves when subjected to the 35 kW/m2 radiant exposure. Flaming ignition occurred at similar times and flames spread rapidly over the entire exposed surfaces." Hakes et al. (2016) states that "(w)ithout proper clearance around the base of a structure, firebrand accumulation can lead to ignition of nearby vegetation or other fuels (e.g. mulch, wood piles) which can in turn lead to direct flame contact and radiant heat exposure to siding materials on the exterior walls." Sluder et al. (2026) stated that "(w)ildfires expose structures to wind-driven embers, direct flame contact, and radiant heat. Accumulated embers can ignite combustible materials including landscape mulch, creating sustained exposure at the wall-foundation interface. Wind-driven ember ignitions in mulch can ignite adjacent combustible sheathing, with outcomes impacted by vertical separation distance, wind speed, mulch type, and wall geometry." These proposed regulations are necessary because these parts of a building are often the points where embers land and accumulate and smaller fires ignite and spread to the structure or, in the case of decks, stairs, and pergolas, where small fires become larger fires that threaten the structure. Additional distance of fuels from these vulnerable points provides additional protection from structure ignition.

Paragraph (7) states that those parts of Zone 0 that are not within the most vulnerable areas specified may have vegetation, but that vegetation must be either non-woody plants that are no more than three inches tall and free of dead or dying materials, including lawns and ground covers, non-woody plants that are between three and eighteen inches tall with no dead or dying material in plantings no more than one square foot in area which are set apart by at least two feet measured from the plants' widest points, or non-woody plants no more than eighteen inches in height in noncombustible pots no larger than five-gallon capacity and set apart by at least two feet measured from the plants' widest points and free of dead or dying material. Trees, which come under the definition of vegetation but have specific requirements within the regulations, are permitted pursuant to the requirements in Section 1298.04(b)(5)(A)-(F). The standards for vegetation are set by contemplation by the Board on the amount and risks of vegetation within Zone 0 igniting and spreading fire to the structure. NIST TN 1635 found that within the Witch and Guejito Fire, 79% of structures were ignited by fires spread from adjacent vegetation. Syphard et al. (2014) found that "(t)he most effective actions [in reducing structure loss] were reducing woody cover up to 40% immediately adjacent to structures and ensuring that vegetation does not overhang or touch the structure." Limitations on plants are drawn from requirements within White and Zipperer as pertains to features of plants that make them less likely to ignite and transmit flame. Limitations for ground cover height are drawn from the existing regulatory requirements for Zone 1 within the SRA; the same standards are applied here within the LRA VHFHSZ for consistency. Limitations of height of non-ground-cover plants are drawn from

consultation with fire professionals based on a rule of thumb that the average flame length is twice as long as the fuel height: if the plants within Zone 0 ignite, the flame length will likely not be long enough, even during a significant wind event, to form a cascading ignition of fire adjacent to the occupied structure. Limitations on spacing serve a similar purpose and also are necessary for emergency responders to have easier access to a structure during a wildfire event. Limitations for potted plant size draw from the same fire professional standards, while the limitations for the size of pots assume intervention from residents, neighbors, or firefighters during a wildfire event: a five-gallon pot holds 0.687 cubic feet of soil, which weighs between 50 and 85 pounds, depending on soil type (DownEaster 2015). It is standard practice for firefighters to remove potentially flammable materials from Zone 0 during a wildfire event, and this limitation on pot size means that moving pots quickly will be possible. Pots made of material are combustible, such as wood or plastic, are not permitted because NIST TN 2253 found that they could release up to 6 MJ of energy while burning. These standards are necessary to minimize the amount of fuel within Zone 0 which will reduce the intensity of fires in the zone, limit the spread of any fires to occupied structures, and allow firefighters easier access to extinguish fires that do start and to take preventative action during a wildfire event such as moving pots and containers away from the occupied structure.

Paragraph (8) concerns fences and gates within Zone 0. Subparagraph (A) states that fences and gates shall not be attached to an occupied structure unless they are constructed entirely from noncombustible material. Subparagraph (B) states that all fences and gates that are attached to an occupied structure, or come within one foot of an occupied structure, shall have a five-foot span of noncombustible material from the point of attachment. Subparagraph (C) states that after the effective date of the regulations, there shall be no new fences or gates constructed with within Zone 0, unless they are constructed entirely from noncombustible material. Subparagraph (D) states that the regulation does not apply to fence repairs. Fences made of combustible material, specifically combustible fences that are attached to a structure, present a risk to the structure during an ember-driven wildfire event. NIST TN 2228 found that “Combustible fences with mulch at their base were found to be high hazard, transporting fire through the community and providing a steady source of firebrands.” NIST TN 1635 found that within the Witch and Guejito Fire footprints, 45% of homes within the fire footprints with an attached wood fence were destroyed; significantly higher than the baseline loss rate. These standards for fences are necessary to minimize the amount of fuel within Zone 0, and particularly the fuel directly attached to an occupied structure, which will reduce the likelihood of fences ignited by embers to spread fire to the adjacent structure, and limit the intensity of fires in the zone. Permitting repairs is necessary to avoid unreasonable financial impacts and to allow compliance over time as required by the Legislature.

Paragraph (9) states that outbuildings are not permitted in Zone 0 unless they are constructed entirely of noncombustible materials. NIST TN 2253 compared necessary structure separation distance that led to likely survival of adjacent structures as applies to combustible and noncombustible sheds when the shed or the contents of the shed were ignited. This study found that the peak heat flux of a burning shed was commensurate to the amount of combustible fuel in shed construction. These experiments found that noncombustible sheds significantly reduced the flame exposure of the adjacent structure. This proposed regulation is necessary to minimize the rate of ember-caused ignition of buildings or structures within the VHFHSZ within the LRA and to lessen the likelihood of fire spreading to occupied structures from

outbuildings.

Subsection (c) covers the timelines for compliance with Zone 0 requirements. The problem is that the Legislature set varying timelines for compliance and authorized the Board to address the costs of compliance by allowing staging of Defensible Space implementation. The purpose of this section is to clarify timelines for implementation for anyone planning to build a new occupied structure, which by definition is one for which a permit application has yet to be filed.

Paragraph (1) states that per statutory requirements, new occupied structures must comply with all requirements of 14 CCR §1298.04(b) upon the effective date of the regulations. This is necessary to ensure compliance with Government Code section 51186.

Paragraph (2) states that existing occupied structures must comply with existing statutory requirements as stated within 14 CCR §1298.04(b)(2) as pertains to leaves and tree needles on roofs and gutters and (b)(5)(A), (B), and (C) as pertains to tree maintenance: Government Code section 51182 requires that trees be maintained so that there are no dead or dying branches hanging over the house and that live branches are at least ten feet away from chimney and stovepipe outlets. It also requires that a person who owns, leases, controls, operates, or maintains an occupied dwelling or occupied structure within a very high fire hazard severity zone shall at all times "(m)aintain the roof of a structure free of leaves, needles, or other vegetative materials." This language is necessary to meet existing statutory requirements. Existing structures must also comply with fence requirements under 1298.04(b)(8)(C) on the effective date of these regulations. This provision is necessary to clarify timelines for fence and gate compliance standards.

Paragraph (3) states that beginning three years after the effective date of these regulations, existing occupied structures must comply with requirements for combustible materials within Zone 0 pursuant to 1298.04(b)(1), the requirement that combustible materials not be stored under decks pursuant to 1298.04(b)(3), requirements for the storage of firewood pursuant to 1298.04(b)(4), and requirements pursuant to 1298.04(b)(5)(C), (D), (E), and (F), that trees be maintained to be free of ladder fuels, that live branches are not under eaves (or, where there are no eaves, be maintained so that they are at least one foot from walls) and that live branches be maintained five feet above the roof. This provision is necessary to address the direction from Government Code section 51182(d) that the regulations allow the staging of work for existing structures to support implementation of the ember-resistant zone and address the costs of compliance.

Paragraph (4) states that beginning three years after the effective date (or beginning five years after the effective date on a timeline set by a local agency) of these regulations, existing occupied structures must comply with requirements for removal of fuels under the eaves of an occupied structure or within one foot of a structure if there are no eaves pursuant to 1298.04(b)(6), vegetation maintenance requirements pursuant to 1298.04(b)(7), fence and gate requirements pursuant to 1298.04(b)(8)(A) and (B), and outbuilding requirements pursuant to 1298.04(b)(9). The problem is that these changes, while effective in preventing ember-caused structure ignition, take time and cost money to implement. Statute provides for a three-year compliance timeline; to address this, the Board has allowed local agencies responsible for fire protection to extend that

timeline to create an additional timeline on certain portions of the regulations for local compliance needs. This is necessary to address the direction within Government Code section 51182(d) that the regulations allow the staging of work for existing structures to support implementation of the ember-resistant zone and address the costs of compliance. This is necessary because the listed provisions are estimated to cause the bulk of the cost for implementation: if local agencies responsible for fire protection so choose, they can elect to extend the implementation timeline for some or all of these provisions to five years from the effective date.

Amend 14 CCR § 1299.01 The proposed action adds language regarding the purpose of the regulations to address the addition of the ember-resistant Zone 0 to the article, as directed by the Legislature in Public Resources Code section 4291. The added language states that a purpose of the regulations is to implement the defensible space requirements described in Section 4291 for the creation of an ember-resistant zone surrounding buildings and structures in the SRA. This is necessary to clarify the scope and purpose of the regulations following the Legislatures amendments to Section 4291 of the Public Resources Code.

Amend 14 CCR § 1299.02
The proposed action adopts several additional definitions, makes updates to some definitions, and alphabetizes existing definitions. The problem is that the modification of defensible space requirements within the article to include an ember-resistant Zone 0 requires specific defined terms to clarify what is needed for compliance. The purpose of these amendments is to define terms specific for compliance with defensible space requirements. The amendments are necessary to establish clear and consistent requirements for the ember-resistant zone.

In subsection (a) the definition for “Building or Structure”, as used in the authorizing statute (Public Resources Code 4291) is expanded to include an attached deck or other similar raised platform, as required by changes in statute. The definition further specifies that “attached” includes self-supporting decks, stairs, or pergolas that are within one foot of a building or structure. The authorizing statute was updated in 2020 under AB 3072 to specify that buildings or structures includes attached decks. This update is necessary to bring the definition in line with statute, to protect vulnerable areas from ember-ignition, and to make reasonable allowances for the enforcement challenge provided by small gaps between buildings and decks.

In subsection (b) the definition for “Combustible Material” is adopted. This term is used elsewhere in the rule text to establish what types of materials are not permitted, unless specified, within Zone 0 (the ember-resistant zone), and includes examples of ordinary flammable materials such as grasses, weeds, wood, plants, and petroleum-based items capable of burning. The defined term is used to separate out the subset of items that are likely to combust when wildfire conditions are present, as opposed to noncombustible items. The purpose of this term is to distinguish between a general category of items or materials that are likely to ignite from embers and transmit flames and those that are not. This is necessary, as the Legislature directed the Board “to consider the elimination of materials in the ember-resistant zone that would likely be ignited by embers” to implement the purpose of the regulations—to prevent structure ignition. (Public Resources Code section 4291).

The definitions for “Existing Building or Structure” (in subsection (d)) and “New Building or Structure” (in subsection (f)) are adopted. The authorizing statute has separate effective dates for existing structures and new structures; this definition provides a standard to separate the two categories. This is necessary to provide a specific date to clarify enforcement standards.

In subsection (e) a definition for “Ladder Fuels” is adopted. This term is specific to the maintenance of trees to minimize structure ignition. Ladder fuels applies to vegetative fuels that can transmit fire to other vegetation, to structures, or to other combustible material. The problem is that vegetation near homes increases the likelihood of ignition of a structure during an ember-driven wildfire event. The purpose of this proposed language is to balance the protection of a structure during a wildfire event and the need to minimize costs to residents while maximizing the benefits gardens and trees can bring to a home. This defined term is necessary to ensure comprehension of the regulatory guidelines for vegetation around homes in section 1299.03.

In subsection (g) the definition for “Noncombustible Material” is adopted. This term is used in the rule text to define the permissible material for outbuildings, patios, and attached fences and gates within the Zone 0 ember-resistant zone. The use of the ASTM E136-26 test and the incorporation of that text by reference provides a clear metric for which materials meet the standards for fully ignition-resistant materials as pertains to outbuildings, attached fences and gates, and patios within Zone 0. This is necessary to provide an enforceable standard for construction materials used in patios, attached fences and gates, and outbuildings that allows certification of defined standards commonly used in the construction and home improvement industries.

In subsection (h) the definition for “Non-woody Plant” is adopted. This term is specific to the growth form of plants with a lower fuel potential. Non-woody vegetation carries less inherent risk of high-intensity combustion, and so is regulated differently than woody (dry, hard) vegetation (Whelan, 1995). The problem is that vegetation near homes increases the likelihood of ignition of vegetation from embers and these flames then spread to a structure during an ember-driven wildfire event. The purpose of this proposed language is to balance the protection of a structure during a wildfire event and the need to minimize costs to residents while maximizing the benefits gardens and trees can bring to a home. This defined term is necessary to aid those impacted by the rules to understand which plants are permitted under the regulatory guidelines for vegetation around homes in section 1299.03.

In subsection (i) the definition for “Outbuilding” is amended. These include small structures (less than 120 square feet) that are not used for human habitation, such as a wood shed or bike shed. For the purposes of the regulations, outbuildings are not buildings or structures but have specific requirements to minimize the risk of ember ignition that could cause flames to spread to an adjacent building or structure during a wildfire event. The problem is that sheds and other adjacent small structures often are constructed without consideration of the building code and have an elevated risk of ignition during a wildfire event. The ignition of an adjacent structure, even a small one, significantly increases the risk that nearby structures will ignite. Buildings which meet the standards of a building or structure will themselves need to meet the defensible space requirements in the regulations, while outbuildings are not permitted within Zone 0 unless constructed entirely of noncombustible materials. The definition mirrors the language in the requirements for the Local Responsibility Area, aligning the regulations for the two areas. This is

necessary to prevent structure ignition and to improve the clarity and consistency of the regulations to ensure that those impacted understand that a wood shed, bike shed, or other outbuilding that is not made entirely of noncombustible material cannot be located within five feet of one's home or business. This is also necessary to ensure consistency with existing requirements of 14 CCR section 1299.03 for outbuildings in Zone 1 (5-30 feet from buildings and structures), which requires that they have "minimum clearance: ten feet (10 ft.) of clearance to bare mineral soil and no flammable vegetation for an additional ten feet (10 ft.) around their exterior." As no outbuildings may currently be located in Zone 1 without at least 10 feet of clearance to bare mineral soil, it follows that an outbuilding may not currently be within five feet of a building or structure (i.e. within Zone 0).

In subsection (j) the definition for "Tree" is adopted. This term applies to specific types of woody vegetation that have, at maturity, characteristics that can be maintained to manage ladder fuels and thus minimize the risks of structure ignition during a wildfire event. The problem is that vegetation near structures increases the likelihood of ignition of vegetation from embers and these flames then spread to a structure during an ember-driven wildfire event. The purpose of this proposed regulation is to balance the protection of a structure during a wildfire event and the need to minimize costs to residents while maximizing the benefits gardens and trees can bring to a home. This defined term is necessary to aid those impacted by the regulations to understand which plants are permitted around occupied structures in 14 CCR § 1299.03.

In subsection (k), the definition for "Vegetation" is adopted. The term applies to plants, including trees, both living and dead, that are found in the defensible space around buildings and structures. The problem is that vegetation adjacent to buildings and structures can ignite during ember-borne wildfire conditions and spread fire to the structure. The purpose of this proposed regulation is to balance the protection of a structure during a wildfire event and the need to minimize costs to residents while maximizing the benefits of gardens and trees. This defined term is necessary for comprehension of the regulatory guidelines for vegetation, including trees, around homes in 14 CCR § 1299.03.

Amend 14 CCR § 1299.03

This section provides definitions of the different zones of defensible space and specifications for maintaining structure protections in each zone. The problem is that changes in the authorizing statute require updates to these regulations to integrate an ember-resistant Zone 0. The purpose of these changes is to clarify the scope of Zone 0 requirements, and necessary changes to the requirements for Zone 1 resulting from the creation of Zone 0.

The introductory phrase is modified to add "per Section 1299.01 through 1299.05" to the specification that defensible space must be maintained at all times. This change is necessary to reflect changes in the authorizing statute.

Subsection (a) is amended to include specifications for the ember-resistant zone, an area which begins at the exterior surface of the exterior wall (or attached deck, stairs, or pergola) of a structure and extending out five feet horizontally or to the property line, whichever comes first. These specifications include the name "Zone 0." The definition for Zone 1 is modified; instead of applying between zero and thirty feet from a structure, it applies between five and thirty feet from

a structure; Zone 0 now occupies the innermost layer of protections around a structure. The problem is a lack of clarity as to the requirements of the different defensible space zones. The purpose of this amendment is to clarify the scope of the regulations. This is necessary to promote the clarity and consistency of the regulations and implement the new Zone 0 within the current Zones 1 and 2, per the Legislature's direction to the Board in Public Resources Code section 4291.

Subsection (b) is amended to include Zone 0. The problem is that the existing description of Zones 1 and 2 does not include specifications for an ember-resistant zone within five feet of a building or structure. The purpose of this update is to specify where each defensible space zone is. This is necessary to promote the clarity and consistency of the regulations.

Subsection (c) is adopted to clarify that the addition of a structure on a neighboring property does not require any additional defensible space actions from a landowner. The problem is a lack of clarity as to whether additional protection measures are necessary if an adjoining landowner adds an additional building or structure to a property. The purpose of this amendment is to clarify the scope of the regulations. This is necessary to promote the clarity and consistency of the regulations.

Subsection 14 CCR § 1299.03(d) covers requirements for Zone 0 compliance. The problem is that ember-caused fires within five feet of a structure often result in structure ignition. The purpose of these requirements is to minimize the risk of ember-caused fires within five feet of a building or structure.

Paragraph (1) clarifies that these requirements include limitations on combustible materials within Zone 0, except as set forth in these regulations. This includes but is not limited to small flammable vegetative debris such as fallen leaves and tree needles, plastic and wooden items, and mulches within five feet of a building or structure. This is necessary because fine fuels in Zone 0 are risk factors for structure ignition. NIST Technical Note 2228 found that when a range of flammable mulches and pine straw were ignited under simulated ember-borne wildfire conditions, that fire would spread to adjacent structures and was capable of igniting other combustible materials in Zone 0, particularly including wooden fences. The limitations on combustible material within Zone 0 whenever flammable vegetative conditions exist is necessary to ensure consistency with current similar regulations for Zones 1 and 2 under 14 CCR 1299.03 and to clarify that compliance is not required when such conditions do not exist, such as when a home is surrounded by snow. The prohibition on mulches may qualify for temporary exceptions under Subparagraph (A) during new or continuing construction, as is necessary to conform with standard Stormwater Pollution Prevention Plan requirements under the Clean Water Act.

Paragraph (2) states that there shall be no leaves, needles, and other combustible materials apply to the roof and rain gutters of a building or structure. This is necessary because flammable debris in gutters and on roofs can catch fire during ember-borne wildfire events and cause ignition of the structure. Hakes et al (2016) reviewed several papers on structure ignition, both from after-wildfire surveys of affected neighborhoods and from experiments that simulated wildfire events. In several cases, debris collected in a gutter were ignited by firebrands, potentially spreading the fire to the home at the roof-gutter intersection. The risks of roof ignition from

leaves, needles, and other vegetative materials is recognized in statute under Public Resources Code section 4291(a)(4) and Government Code section 51182(a)(4).

Paragraph (3) states that the areas under decks, balconies, pergolas, and stairs must be kept free of vegetation and combustible items. This is necessary because decks and similar structures are a significant source of structure ignition. Hakes et al. (2016) states that ignition of combustible materials stored under decks were a significant source of ignition during the Angora fire, and that experiments examining the response of decking material to simulated ember-borne wildfire conditions found that ember exposure for wooden decking material alone resulted in the material smoldering, but not producing flame, while ember exposure for wooden decking material with pine needles underneath resulted in ignition of all decking materials. Public Resources Code section 4291(i) grants the Board authority to require removal of fuel or vegetation underneath decks.

Paragraph (4) states that firewood cannot be stored in Zone 0. This is necessary to limit structure ignition during a wildfire event: NIST Technical Note 2228 firewood for tendency to ignite and produce heat that could ignite an adjacent structure during a simulated ember-borne wildfire condition and found that it would be a risk factor. Removing large pieces of combustible material—like firewood—from Zone 0 is necessary to reduce the likelihood of the wood igniting from ember or flame spread and then spreading to the occupied structure.

Paragraph (5) states that no new trees are permitted within Zone 0 and sets forth the maintenance standards for existing trees within Zone 0. This aligns with the requirements in the CWUI code 24 CCR section 603.4.2, which applies to the same fire hazard designations as the defensible space rules: the LRA VHFHSZ and the SRA and therefore ensures consistency with an existing state regulation. Existing trees must be maintained to meet the following requirements: so that there are no dead or dying branches; so that all living branches are at least ten feet away from the outlets of chimneys and stovepipes; so that there are no live tree branches under eaves or within one foot of a building or structure when there is no eave; so that all ladder fuels have been removed, including those fuels in the first six feet or one third of the tree's total height, whichever is smaller; to ensure that all live branches are at least five feet above a roof, and to ensure that no live branches are within five feet of a deck, stairs, or pergola that is attached to a building or structure or within two feet of windows, doors, or vents. The requirements for no dead or dying branches and for minimum distance from chimney and stovepipe outlets are necessary because the requirements of PRC 4291(a)(2) and (3) mandate that people who own, lease, control, operate, or maintain a building or structure within the SRA must "Remove that portion of a tree that extends within 10 feet of the outlet of a chimney or stovepipe" and must (m)aintain a tree, shrub, or other plant adjacent to or overhanging a building free of dead or dying wood." The standard that tree limbs not be present underneath eaves or within one foot of the a building or structure if there is no eave is necessary because of additional risks from eaves per review from Hakes et al. (2016) and Quarles et al. (2011). The requirements for ladder fuels are necessary to limit the spread of ground fires into trees, or the spread of fires from trees to adjacent structures per input from fire professionals on the rulemaking process.

Paragraph (6) states that, in order to protect vulnerable parts of a building or structure, no vegetation is permitted in those parts of Zone 0 that are under eaves, less than one foot from a

building or structure, less than five feet from an attached deck, stairs, or pergola, or within two feet of windows, doors, posts, or vents. Decks, stairs, and pergolas are features of a building or structure that are prone to ignition and tend to concentrate fuel immediately adjacent to the structure, leading to a high likelihood of ignition from radiant or conductive heat. Hakes et al (2016) states “(d)uring the 2007 Witch Creek and Guejito fires, decks were observed to be one of the most significant sources of ignition. Of sixteen damaged homes, the ignition location was most often a detached structure or decking. Similar observations were made during the Waldo Canyon fire, where wooded slopes with overhanging decks created a large hazard. Most of these ignitions were thought to originate from firebrands (embers) or local flame contact. One issue is that deck material is tested for flame spread properties and ignition potential from direct flame contact, but is not tested for ignition from firebrand exposure or for its potential to ignite an adjacent structure with radiant energy.” In these cases, the large boards of decks became involved in fires after smaller fires were ignited under the deck surface. Some of the features addressed in this paragraph are weak points in exterior walls of a building or structure, where embers can enter the structure and ignite the contents. These include the base of the wall itself, windows, doors, and vents. Hakes et al. (2016) also notes that “(e)aves and vents have been recognized as significant sources of ignition of homes in the WUI. Vents provide an opening through which burning brands may penetrate the interior of a structure, often the attic. Eaves serve as a connection point between siding and roofing assemblies, where potential vulnerabilities can occur.” While window vulnerability varies based on single-paned versus double-paned glass and the material of the window casing, “the most rapid flame spread resulted from penetrations at windows, both from flames exiting the burning structures and from flames entering/heating broken windows on an unignited assembly.” Quarles et al. (2011) states “A flame contact exposure can result from ignition of underlying vegetation and/or ignition of combustible exterior cladding with subsequent vertical flame spread to the under eave area. The joints in both open- and soffited- eaves were vulnerable to the penetration of flames into areas behind the joints. No differences were observed between open and soffited eaves when subjected to the 35 kW/m2 radiant exposure. Flaming ignition occurred at similar times and flames spread rapidly over the entire exposed surfaces.” Hakes et al. (2016) states that “(w)ithout proper clearance around the base of a structure, firebrand accumulation can lead to ignition of nearby vegetation or other fuels (e.g. mulch, wood piles) which can in turn lead to direct flame contact and radiant heat exposure to siding materials on the exterior walls.” Sluder et al. (2026) stated “Wildfires exposure structures to wind-driven embers, direct flame contact, and radiant heat. Accumulated embers can ignite combustible materials including landscape mulch, creating sustained exposure at the wall-foundation interface. Wind-driven ember ignitions in mulch can ignite adjacent combustible sheathing, with outcomes impacted by vertical separation distance, wind speed, mulch type, and wall geometry.” These amendments are necessary because these parts of a building are often the points where embers land and accumulate and smaller fires ignite a structure or, in the case of decks, stairs, and pergolas, where small fires become larger fires that threaten the structure. Additional distance of fuels from these vulnerable points provides additional protection from structure ignition.

Paragraph (7) states that those parts of Zone 0 that are not within the most vulnerable areas specified may have vegetation, but that vegetation must be either non-woody plants that are no more than three inches tall and free of dead or dying materials, including lawns and ground covers, non-woody plants that are between three and eighteen inches tall with no dead or dying

material in plantings no more than one square foot in area and are set apart by at least two feet measured from the plants' widest points, or non-woody plants no more than eighteen inches in height in noncombustible pots under five gallon capacity and set apart by at least two feet from other pots measured from the plants' widest points. Trees are permitted pursuant to the requirements in Section 1299.03(d)(5)(A)-(F). The standards for vegetation are set by contemplation by the Board on the amount and risks of vegetation within Zone 0 igniting and spreading fire to the structure. NIST TN 1635 found that within the Witch and Guejito Fire, 79% of structures were ignited by fires spread from adjacent vegetation, and from work from Syphard et al (2014) which found that "The most effective actions [in reducing structure loss] were reducing woody cover up to 40% immediately adjacent to structures and ensuring that vegetation does not overhang or touch the structure". Limitations on plants are drawn from requirements within White and Zipperer as pertains to features of plants that make them less likely to ignite and transmit flame. Limitations for ground cover height are drawn from the existing regulatory requirements for Zone 1 within the SRA, and the standing requirements that protections within Zone 0 be more protective than those in Zone 1. Limitations of height of non-ground-cover plants are drawn from suggestions from fire professionals based on a rule of thumb that the average flame length is twice as long as the fuel height: if the plants within Zone 0 ignite, the flame length will not be long enough, even during a significant wind event, to form a cascading ignition of fire adjacent to the building or structure. Limitations on spacing serve a similar purpose. Limitations for potted plant size draw from the same fire professional standards, while the limitations for the pots themselves assume intervention from residents, neighbors, or firefighters during a wildfire event: a five-gallon pot holds 0.687 cubic feet of soil, which weighs between 50 and 85 pounds, depending on soil type (DownEaster, 2015). It is standard practice for firefighters to remove potentially flammable materials from Zone 0 during a wildfire event, and this limitation on pot size means that moving pots quickly will be possible. Pots made of material that can combust are not permitted because NIST TN 2253 found that they could release up to 6 MJ of energy while burning. These standards are necessary to minimize the amount of fuel within Zone 0 which will reduce the intensity of fires in the zone, limit the spread of any fires, and allow firefighters access to extinguish fires that do start and to take preventative action during a wildfire event.

Paragraph (8) concerns fences and gates within Zone 0. Subparagraph (A) states that fences and gates shall not be attached to a building or structure unless they are constructed entirely from noncombustible material. Subparagraph (B) states that all fences and gates that are attached to a building or structure, or come within one foot of an occupied structure, shall have a five-foot noncombustible space at the point of attachment. Subparagraph (C) states that after the effective date of the regulations, there shall be no new fences or gates constructed with within Zone 0, unless they are constructed entirely from noncombustible material. Subparagraph (D) states that the regulation does not apply to fence repairs. Fences made of combustible material, specifically combustible fences that are attached to a structure, present a risk to the structure during an ember-driven wildfire event. NIST TN 2228 found that "Combustible fences with mulch at their base were found to be high hazard, transporting fire through the community and providing a steady source of firebrands." NIST TN 1635 found that within the Witch and Guejito Fire footprints, 45% of homes within the fire footprints with an attached wood fence were destroyed; significantly higher than the baseline loss rate. These standards for fences are necessary to minimize the amount of fuel within Zone 0, and particularly the fuel directly attached to a building or structure, which will reduce the likelihood of fences ignited by embers to spread fire to the adjacent structure, and limit the intensity of fires in the zone. Permitting repairs is necessary to

avoid unreasonable financial impacts and to allow compliance over time as required by the Legislature.

Paragraph (9) states that outbuildings are not permitted in Zone 0 unless they are constructed entirely of Noncombustible materials. NIST TN 2253 compared necessary structure separation distance that led to likely survival of adjacent structures as applies to combustible and noncombustible sheds when the shed or the contents of the shed were ignited. This study found that the peak heat flux of a burning shed was commensurate to the amount of combustible fuel in shed construction. These experiments found that noncombustible sheds significantly reduced the flame exposure of the adjacent structure. This proposed amendment is necessary to minimize the rate of ember-caused ignition of buildings or structures within California's SRA.

Subsection (e) is adopted to clarify the timelines for compliance with Zone 0 requirements. The problem is that the Legislature set varying timelines for compliance and authorized the Board to address the costs of compliance by allowing staging of Defensible Space implementation. The purpose of this section is to clarify timelines for implementation for anyone planning to build a new building or structure, which by definition is one for which a permit application has yet to be filed.

Paragraph (1) states that per statutory requirements, a new building or structure must comply with all requirements of 14 CCR §1299.04(d) upon the effective date of the regulations. This is necessary to ensure compliance with Public Resources Code section 4291(g)(2).

Paragraph (2) states that existing buildings and structures must comply with existing statutory requirements as stated within 14 CCR §1299.03(d)(2) as pertains to leaves and tree needles on roofs and gutters and (d)(5)(A), (B), and (C) as pertains to tree maintenance: Public Resources Code section 4291(a)(2)-(4) require that trees be maintained so that there are no dead or dying branches hanging over the house and so that live branches are at least ten feet away from chimney and stovepipe outlets, and that a person who owns, leases, controls, operates, or maintains an building or structure within the SRA must maintain "the roof of a structure free of leaves, needles, or other vegetative materials". This language is necessary to meet existing statutory requirements. Existing structures must also comply with fence repair requirements under 1299.03(d)(8)(C) and (D) on the effective date of these regulations. This provision is necessary to clarify timelines for fence and gate compliance standards.

Paragraph (3) states that beginning three years after the effective date of these regulations, existing buildings or structures must comply with requirements for combustible materials within Zone 0 pursuant to 1299.03(d)(1), the requirement that combustible material not be stored under decks pursuant to 1299.03(d)(3), requirements for the storage of firewood pursuant to 1299.03(d)(4), and pursuant to 1299.03(d)(5)(C), (D), (E), and (F), the requirements that trees be maintained to be free of ladder fuels, that live branches are at not under eaves (or, where there are no eaves at least one foot from walls) and that live branches be maintained feet above the roof. This provision is necessary to address the direction from PRC Section 4291(d) that the regulations allow the staging of work for existing structures to support implementation of the ember-resistant zone and address the costs of compliance. The proposed actions reflect the

Legislature's direction to integrate the Zone 0 requirements within the defensible space requirements for SRA Zones 1 and 2 requirements.

Paragraph (4) states that beginning three years after the effective date of these regulations, or within five years on a timeline set by the Director, existing buildings or structures must comply with requirements for requirements for removal of fuels under the eaves of an occupied structure or within one foot of a structure if there are no eaves pursuant to 1299.03(d)(6), vegetation maintenance pursuant to 1299.03(d)(7), fence and gate requirements pursuant to 1299.03(d)(8)(A) and (B), and outbuilding requirements pursuant to 1299.03(b)(9). The problem is that these changes, while effective in preventing ember-caused structure ignition, are costly. Statute provides for a three-year compliance timeline; to address these costs, the Board has allowed the Director to extend that timeline to create an additional timeline for compliance needs. This is necessary to address the direction within PRC §4291(e)(2) that the regulations allow the staging of work for existing structures to support implementation of the ember-resistant zone and address the costs of compliance. This is necessary because the listed provisions are estimated to cause the bulk of the cost for implementation

Subsection 1299.03(f) (formerly subsection 1299.03(a)) applies to current Zone 1 requirements. Those items are now covered within the purview of Zone 0 are removed to integrate Zone 0 into the defensible space requirements. These include specifications for the roof and rain gutters of a building or structure as covered under paragraph (1) and for dead tree or shrub branches that overhang roofs, are below or adjacent to windows, or which are adjacent to wall surfaces are removed as covered under paragraph (2). Specifics about the requirement that all branches be kept at least ten feet from the outlet of a chimney or stovepipe are not changed. The problem is that these requirements apply to the area immediately adjacent to a building or structure, and Zone 1 now includes those areas that are at least five feet away from the edge of a building or structure, extending out to thirty feet from the edge of a building or structure. The purpose of this is to update the statutory changes that add the new ember-resistant zone immediately adjacent to a structure. This is necessary for the clarity and consistency of the regulations and to implement the Legislature's direction to the Board.

Non substantiative amendments
Made minor grammar corrections and numbering updates throughout.