Office of the City Manager

REVISED
AGENDA MATERIAL

Meeting Date: **April 15, 2025**

Item Number: **2**

Item Description: **Modification and Adoption of Berkeley Fire Code Local Amendments (Reviewed by the Public Safety Committee)**

Supplemental/Revision Submitted By: David Sprague, Fire Chief

"Good of the City" Analysis:
The analysis below must demonstrate how accepting this supplement/revision is for the "good of the City" and outweighs the lack of time for citizen review or evaluation by the Council.

These revised materials are being submitted due to continued, substantive discussions between Fire Department staff and Councilmembers. These discussions have resulted in meaningful improvements to the clarity and accessibility of both the proposed code language and supporting staff reports.

The enhancements made are editorial in nature and do not alter the substance, application, or enforcement of the previously proposed fire code provisions. Rather, they serve to simplify and clarify the language to better communicate the intent and implementation of the code to residents, property owners, and enforcement personnel.

The improvements reflect a collaborative effort to make the code more understandable and user-friendly—thereby reducing the likelihood of confusion or misinterpretation. The benefits of this increased clarity and responsiveness to Council input outweigh the disadvantage of reduced time for review.

Consideration of supplemental or revised agenda material is subject to approval by a two-thirds roll call vote of the City Council. (BMC 2.06.070)

A minimum of **42 copies** must be submitted to the City Clerk for distribution at the Council meeting. This completed cover page must accompany every copy.

Copies of the supplemental/revised agenda material may be delivered to the City Clerk Department by 12:00 p.m. the day of the meeting. Copies that are ready after 12:00 p.m. must be delivered directly to the City Clerk at Council Chambers prior to the start of the meeting.

Supplements or Revisions submitted pursuant to BMC § 2.06.070 may only be revisions of the original report included in the Agenda Packet.

Office of the City Manager

ACTION CALENDAR
April 15, 2025

To: Honorable Mayor and Members of the City Council

From: Paul Buddenhagen, City Manager

Submitted by: David Sprague, Fire Chief

Subject: Modification and Adoption of Berkeley Fire Code Local Amendments

RECOMMENDATION

1. Adopt the first reading of an Ordinance (Attachment 1) which proposes to amend certain portions of Section 19.48.020 of the Berkeley Municipal Code ("Amendments to the California Fire Code");
2. Adopt a Resolution (Attachment 2) setting forth findings as to local conditions applicable to the revised portions of Section 19.48.020 that require more stringent standards than those provided by the 2022 California Fire Code ("CFC") and amending Resolution number 70,611–N.S.;
3. In compliance with state law on adopting such codes by reference, hold a public hearing following the first reading, and before the second reading, and schedule the second reading and public hearing for May 6, 2025.

POLICY COMMITTEE RECOMMENDATION

On March 24, 2025, the Public Safety Committee adopted the following action: M/S/C (Blackaby/O'Keefe) to send item to City Council with a positive recommendation. Vote: Ayes – O'Keefe, Blackaby; Noes – None; Abstain – Kesarwani; Absent – None.

SUMMARY

Fire Code:

On December 6, 2022 the Berkeley City Council adopted the current edition of the Berkeley Fire Code (BFC), which was based on the State of California adoption of the 2022 California Fire Code. On June 4, 2024 the City Council adopted mid-cycle amendments that were issued by the State of California to the 2022 California Fire Code. These new amendments took effect on July 1, 2024. On February 11, 2025 at a Special Meeting, the Council referred the following proposals to Staff; (1) Create a new Fire Zone within the Fire Code to include – at minimum - the areas between Wildcat Canyon Rd. to the east, Grizzly Peak Blvd to the west, and the Berkeley City Limits to the south and north; and (2) Repeal the Berkeley Fire Code (BMC Chapter 19.48) and reenact BMC Chapter 19.48 to include an Ember Resistant Zone (Zone 0) and other

defensible space best practices and schedule a Public Hearing for the first reading on April 15, 2025 pursuant to state law.

Local jurisdictions may adopt local amendments to the California Fire Code (CFC), and to any supplemental building standards which may subsequently amend the CFC. These local Berkeley fire code amendments address local conditions specific to our community that effect our local fire risks and life safety. The City has adopted multiple fire code amendments in the past that are designed to address these concerns.

Fire Risk:

Fire is a natural and recurring feature~~historical part~~ of our landscape since long before modern city planning or residential settlement of the Berkeley Hills. Eliminating the likelihood of fire has been proven both inadequate and ill-informed. Post-incident analysis and laboratory testing suggest that we should focus our efforts on protecting ~~the~~ threatened structures instead.

This report provides evidence that informs the most up to date recommendations that protect homes from wildfire and wildfire initiated urban conflagration. Best practice requires removing flammable materials and maintaining vegetation to minimize wildfire exposure, particularly within the critical Ember Resistant Zone (Zone 0) and surrounding Home Ignition Zones 1 and 2. These measures require elimination of all combustible materials from within 5 feet of a structure, including vegetation and accessories.

These mitigations work best when they are taken on by a contiguous group of homes. To be effective, the Berkeley Fire department will focus inspection efforts on residences on Panoramic Hill and east of Grizzly Peak Blvd. Phase I will cover the Panoramic Mitigation Area and the Grizzly Peak Mitigation Area. Phase II will include remaining parts of the CALFIRE Very High Fire Hazard Severity Zone. Later phases will finish work in the Very High Zone. Following additional City Council review and approval, additional areas~~slices~~ of the High Fire Hazard Severity Zone will ~~would~~ be ~~included~~ brought into compliance with defensible space requirements until all of the High Fire Hazard Severity Zone is ~~included~~ in in compliance with defensible space requirements. The Department will be able to provide a better estimate of how long subsequent phases will take once staff have begun work in Phase I.

FISCAL IMPACTS OF RECOMMENDATION

Substantial staff time will be required to update and implement these Fire Code modifications including updating all public facing documents and websites, modifications to the City's inspection software, inspection guides, forms and training for staff.

CURRENT SITUATION AND ITS EFFECTS

Amendments to the Berkeley Municipal Code, Section 19.48 – Berkeley Fire Code:

A city, county, or city and county may establish more restrictive building standards as reasonably necessary because of local climatic, geological or topographical conditions. Findings of the local condition(s) and the adopted local building standard(s) must be filed with the California Building Standards Commission. Berkeley has long elected to establish more restrictive building standards in accordance with Calif. Health & Safety Code Sections 18941, 17958, 17958.5, 17958.7 and other statutes.

The City's adoption of stringent fuel mitigation and exterior hazard abatement standards is designed to decrease the risk of structure fires spreading to adjacent vegetation and the risk of vegetation fires and wildfires spreading to structures. The Council bases these standards, in part, upon its finding (Attachment 2) that the climatic, vegetative, geological, and topographical conditions within the City create a grave risk of wildfire and resulting loss of life and property.

Staff's recommendations on modifications to local amendments in addition to the previously approved local amendments to adopt in this cycle's fire code, include:

1. **Modify Section 4902.1 General** to rename Berkeley Fire Zones 1, 2 and 3 to the Flatlands Mitigation Area (Zone 1), Hills Mitigation Area (Zone 2) and Panoramic Mitigation Area (Zone 3) ~~Mitigation Zones~~, ~~respectively~~ and to create the Grizzly Peak Mitigation ~~Zone~~ Area (Zone 4) to encompasses the area east of Grizzly Peak Boulevard ~~and~~ to the ~~City~~ city boundary ~~to the north and south~~.

~~2. **Modify Section 4904.4 Berkeley Fire Hazard Severity Zones** to exclude Hills Mitigation Zone (Zone 2) from Section 4907.6.~~

~~3.~~2. **Add Section 4907.6 Mitigations Required (Zone 0)~~Specific requirements~~** to establish the requirements for removing flammable materials and maintaining vegetation to minimize wildfire risk, particularly within the critical Ember Resistant Zone (Ignition Zone 0) and surrounding Ignition Zones 1 and 2. These measures aim to reduce ignition risks from embers, radiant heat, and direct flame by implementing evidence-based practices.

Precipitating Conditions:

The fire tragedy suffered by the Los Angeles area is the most recent demonstration that wildfire is a recurring feature of our landscape, even more so as climate change results in more frequent extreme weather events. Maintaining the status quo in communities with exposure to wildfire will inevitably result in similar, disastrous outcomes. Below is a partial list of recent wildfires that remind us of the potential for destruction of property and loss of life that is possible in Berkeley. We have the opportunity and agency to take actions to reduce the probability of wildfire loss in our community.

Fire Name	County	Acres	Date	Structures	Deaths
Lahaina	Maui	2,170	08/2023	2,200	102
Camp	Butte	153,336	11/2018	18,804	86
Tunnel	Alameda	1,600	10/1991	2,900	29
Thomas	Ventura, Santa Barbara	281,893	12/2017	1,063	23
Tubbs	Napa, Sonoma	36,807	10/2017	5,643	22
Eaton	Los Angeles	14,117	01/2025	7,000+	16
North Complex	Plumas, Butte	318,935	08/2020	2,352	15
Cedar	San Diego	273,246	10/2003	2,820	15
Palisades	Los Angeles	23,713	01/2025	6,000+	11

These wildfires transitioned into areas of dense structures due to key vulnerabilities that enabled their devastating fire behavior. Common factors included widespread pre-2008 construction which lacks modern fire-resistant standards as found in the California Building Code, lack of home hardening measures to retrofit these vulnerable structures; delays in statewide adoption of ember resistant zone “Zone 0”, and the need for more stringent and focused fire prevention measures in vulnerable neighborhoods particularly at points where wildfire pathways enter communities. These factors have, again and again, contributed to vegetative wildfires penetrating communities, igniting structures, and transitioning into a wind driven structure-to-structure conflagration[1], which overwhelm available firefighting resources. It is time to voraciously engage with what we know will save homes and lives.

Adoption of unadulterated, scientifically validated mitigation measures proven to reduce the vulnerability of a neighborhood from ignition during a wildfire offers the best chance of minimizing the probability of vegetative to urban fire transition. This staff report outlines a trio of policies aimed at achieving a community that is safer from wildfire. These policies are structured around proactive measures to be implemented at the demonstrated most effective point -- before a fire occurs.

BACKGROUND AND DISCUSSION

The City of Berkeley has climatic, geological, and topographical conditions, which require local amendments to mitigate potential hazards, and to reduce loss of life caused by fires or natural disasters. To address local fire and life safety impacts, the City of Berkeley has adopted local amendments to address local conditions which are more protective than the CFC requirements. These include requiring sprinkler systems

[1] CAL FIRE TV. (2025, January 26). *CAL FIRE: When hones fall like dominos.* [Video]. YouTube. https://youtu.be/LfTVKfcBvEk?si=q0MpxZ9w1gNFr3yz

and fire alarms for existing hotels, fraternities, and sororities, and measures to improve firefighter safety and operations in high-rise construction.

Fire History in Berkeley and Around the East Bay

Berkeley and the East Bay Hills have a cyclical relationship with wildfire. Before European colonizers arrived, California experienced many small, frequent fires[2]. These low-intensity fires benefitted the landscape because they cleaned out underbrush — which otherwise serve as fuel for larger fires — and helped native species regenerate. Along with other wildfire prone regions, the East Bay has suffered from the exclusion of traditional wildfire patterns from the landscape for over 150 years. This has resulted in a triad of risk: an abundance of vegetative fuel, a dense urban development of vulnerable homes, and an undersized network of roadways relative to the volume of vehicles. This is not new information, a 1974 report prepared for the city regarding the fire risk for Panoramic Hill states the following:

> Panoramic Hill originally was composed of grasslands and brush on the ridges with dense tree and other growth along the creeks. However, man has altered the environment greatly.... Within the neighborhood, residents have planted dense stands of trees and other vegetation, such that the homes look as though they had been built within the forest.[3]

The suppression of natural fire patterns to protect a now populated topography has not eliminated the risk but rather held it back as the fuel load – both vegetative and built- has increased. The effects of climate change have exacerbated the historical problem, compressing the rainy season and increasing the drying of fuels. This combination creates a fire problem that is now demonstrably more destructive when it overwhelms suppression efforts. The immediate Berkeley area has experienced a significant wildfire on average every 20 years[4] since 1905, with 2024 marking the 33rd year since the last major fire in the area. Since 2020, the city has been moving with great haste to revisit our historical thinking to research and bring best practices in wildfire planning, prevention and response to Berkeley.

[2] Hao, C., (2022, October 15). This one fact will completely change how you think about California wildfires. *The San Francisco Chronicle.* https://www.sfchronicle.com/projects/2022/california-wildfire-history/
[3] Berkeley Planning Department, June 1974. *Panoramic Hill Area Development and Environmental Resources Study., p. 38.*
[4] East Bay Parks (retrieved February 1, 2025). https://www.ebparks.org/sites/default/files/history_all_fires.pdf

Progress thus far

The Berkeley City Council unanimously declared wildfire prevention and safety a top priority on October 15, 2019[5]. This declaration helped establish this issue as one of the key priorities of the 2020 Measure FF tax.

Since the passage of Measure FF, the Department has created and funded a Wildland Urban Interface (WUI) Division. The WUI Division has annually inspected all private property in Fire Zones 2 and 3. Thus far, that has resulted in 21,856 inspections. These have uncovered 11,042 violations, of which 9,972 have been resolved.

The WUI Division also provides a number of free services to the community. In 2024 crews removed 3,234 cubic yards of green waste from private property using these services. A home hardening mesh program has also been launched which provides CBC Chapter 7A compliant ember resistant mesh to homes in the highest hazard area, including the current Berkeley Fire Zone 3, proposed Grizzly Peak Mitigation ~~Zone~~Area, and both recognized and budding FireWise communities. That program has thus far provided material to 50 homes and continues to expand as material and staff time allow. Crews are about to embark on a vegetation (fuel) mitigation project along common public rights of way and critical evacuation routes and in 2025 a $1 million CAL FIRE grant will be leveraged to assist low income and disabled homeowners with vegetation management on private property.

A Focused and Phased Approach

The effectiveness of the City's Defensible Space Inspection program is reduced by the size of the impacted geographic region, as well as being limited by laws that require permission from residents to enter private property. While the Fire Department is launching a program in 2025 to pre-authorize inspector entry, moving over 9,000 parcels through this degree of modification will take too long.

The current Defensible Space Inspection program does not meet the threshold that would adequately prepare a neighborhood for exposure to a wildfire – primarily it lacks Ignition Zone 0. A more effective fire code must be combined with home hardening to meet minimum thresholds to create resilience. The resilience of an individual property only increases if done in conjunction with adjacent properties. Thus, successful implementation and enforcement will be more effective if concentrated in one region of the City at a time.

The Department will strive to implement these same recommendations in iterative phases that can be adjusted as the department and community continue the work of

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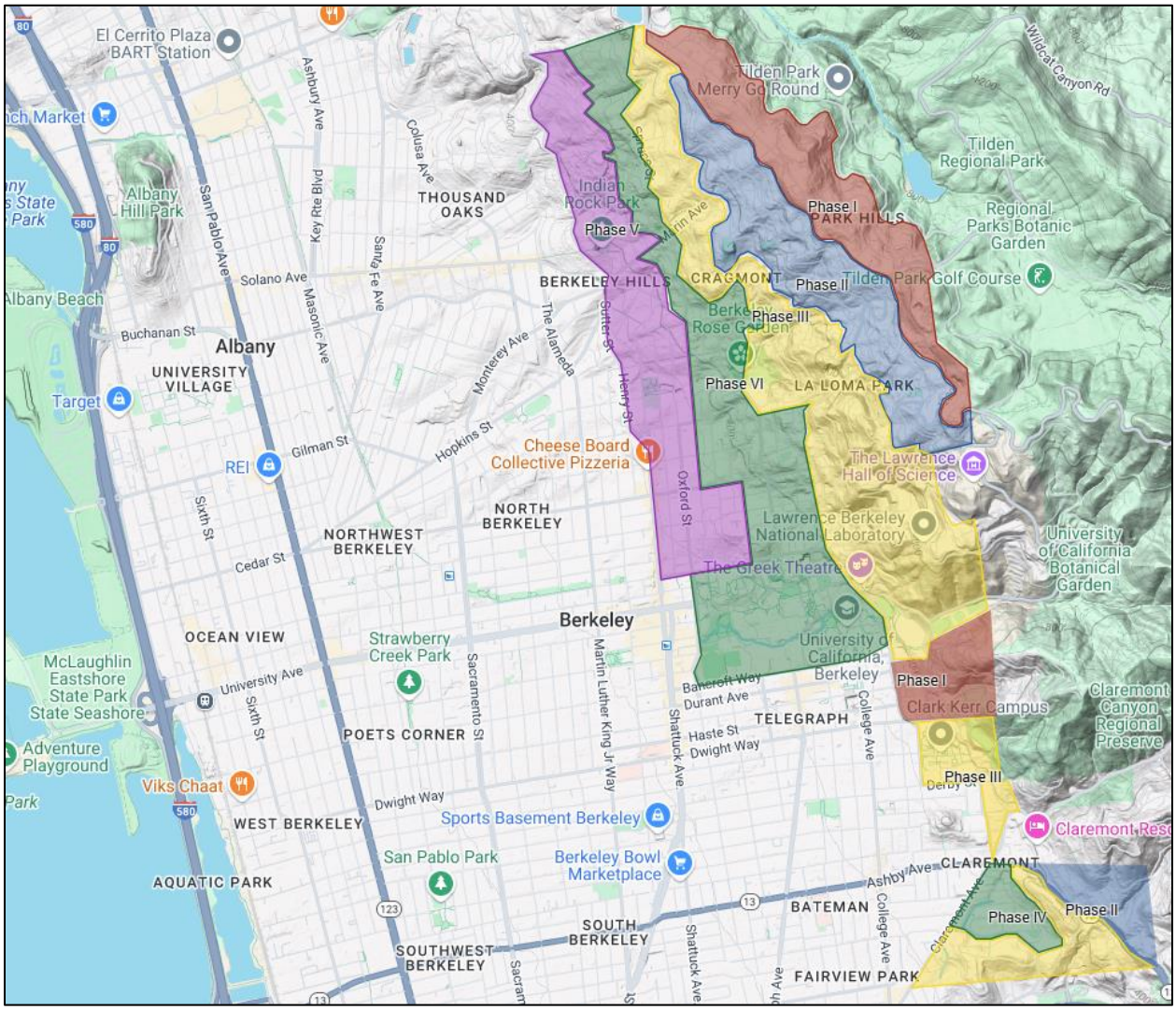
reducing the community's wildfire risk. A map showing conceptual phasing for this work is below.



Limitations of Other Areas of Focus

Focusing on the values at risk (homes), and working outwards, is better supported by the evidence than trying primarily to address the origin of the fire, although these measures often receive less attention.[6] The vegetative landscape east of Berkeley is dominated by large trees, some of which are more fire hazardous than others. While mitigation of these trees is discussed as a solution, removal of trees will not eliminate the risk or threat of fire. In many of the above referenced destructive fires, the initial

[6] Dale, L., Barrett, K. (2023). Missing the Mark : Effectiveness and Funding in Community Wildfire Risk Reduction. *Headwaters Economics, Columbia Climate School.* HE_2023_Missing-the-Mark-Wildfire.pdf

exposure into the built environment was from grass and low-lying shrubs. Removal of mature trees without a methodical and ongoing approach to additional mitigations will result in similar fire prone conditions; grasslands still pose a significant regional threat[7], especially if those grasslands are not held in check by either regular intervals of naturally occurring fire, tree canopies, or aggressive fuel mitigation. The “historical” landscape before the arrival of non-native tree species was fire-dependent, as well. The admittedly limited evidence around vegetation thinning beyond the immediate area around homes suggests limited effectiveness[8],[9] and one study suggests thinning may actually increase the chance of crown fires[10]; where fire moves into the treetops and can move exponentially faster than on the ground. In all research, extreme weather appears to nullify most interventions[11], however, there are many wildfire scenarios that are much more likely, and thus much more manageable, than just the worst-case scenario under extreme conditions: the measures outlined in these amendments are thus still critically important.

Because the forested lands are outside of the City’s jurisdiction, and the limited evidence informing thinning and removal is inconclusive at best, prioritizing elsewhere will be more protective.

[7] Cheney, N.P., Coleman, J., 1988. The level of fire risk associated with plantations. In:
Paper presented to Plantation 2020 The Local Government Perspective, 13–14
May 1988. Old Parliament House, King George Terrace Park, Canberra. P. 3
[8] Mirra, I.M., Oliveria, T.M., Barros, A.M.G., Fernandes, P.M. (2017). Fuel Dynamics following fire hazard reductions treatments in blue gum (*Eucalyptus globulus)* plantations in Portugal. *Forest Ecology and Management 398.* P.1.
[9] Weise, C.L., Brussee, B.E., Coates, P.S., Shinneman, D.J., Crist, M.R., Aldridge, C.L., Heinrichs, J.A., Ricca, M.A. (2023, September). A retrospective assessment of fuel break effectiveness for containing rangeland wildfires in the sagebrush biome. *Journal of Environmental Management 341*(1). https://www.sciencedirect.com/science/article/abs/pii/S0301479723006916 ct
[10] Price, O.A., Bradstock, R.A., (2012). The efficacy of fuel treatment in mitigating property loss during wildfires: Insights from analysis of the severity of the catastrophic fires in 2009 in Victoria, Australia. *Journal of Environmental Management. Volume 113.* p. 154
[11] Price, O.A., Bradstock, R.A., (2012). The efficacy of fuel treatment in mitigating property loss during wildfires: Insights from analysis of the severity of the catastrophic fires in 2009 in Victoria, Australia. *Journal of Environmental Management. Volume 113.* p. 1 p. 153

Why implementing home hardening and Ignition Zone 0 together is key to hazard reduction

Two entities, widely considered to lead the science and best practices for wildfire mitigation, are cited here. The first is the National Institutes for Science and Technology (NIST) Wildland Urban Interface Division[12] and the Insurance Institute for Business and Home Safety (IBHS)[13], an independent, 501(c)(3) nonprofit scientific research and communications organization supported by property insurers, reinsurers, and affiliated companies. IBHS helps develop standards used by many insurers to establish how insurable a home is by understanding if they are prepared and defensible.

Based on this research, many after action reports, and lived experience during numerous wildfires, the U.S. Fire Service has an understanding of the mitigations required to protect homes from wildfire. There is sufficient evidence to implement measures that would mitigate the cause of up to 90% of structure ignitions. The City of Berkeley has the ability to adopt these scientifically validated mitigation measures to reduce the vulnerability of our neighborhoods to wildfire ignition. Implementing these mitigations at scale sets our city on a path to a fire adapted future characterized by a significant reduction in the probability of a vegetative wildfire transitioning to an urban conflagration. However, to be protective, these mitigations must be considered as a package.

Clear evidence shows that limited enforcement of a code that does not meet the current consensus requirements results in inadequate mitigation of risk. When it comes to mitigations against wildfire loss, both NIST and IBHS agree that "something is not better than nothing". Wildfires pose an ignition threat to structures from both direct flame and embers, with embers being especially hazardous since they can travel long distances beyond municipal and property boundaries. While we can reduce the risk of wildfire spreading on the ground by managing vegetation and removing flammable materials around homes, embers remain a significant challenge. To truly protect a home, it must be "hardened" to resist both fire and embers—meaning it is built or retrofitted with materials and features that can withstand these exposures. Partial hardening offers some protection in mild conditions but is nearly useless during fast moving wildfires as fire is opportunistic and finds gaps. The volume of embers a home is subjected to under these conditions requires complete compliance, as any one penetrating ember can result in the ignition that leads to complete structure loss. Additionally, accessory structures like sheds, pergolas, hot tubs or vehicles located too close to a home can catch fire and spread flames to the house. To provide homes the best chance of survival on their own [without organized suppression efforts] during a wildfire, they need

[12] NIST. (2025, February 1). *Wildland Urban Interface Group.* https://www.nist.gov/el/fire-research-division-73300/wildland-urban-interface-fire-73305
[13] Insurance Institute for Business & Home Safety (2025, February 1). *IBHS.* https://ibhs.org/risk-research/wildfire/

thorough ember and fire hardening, along with thoughtful management of nearby hazards.

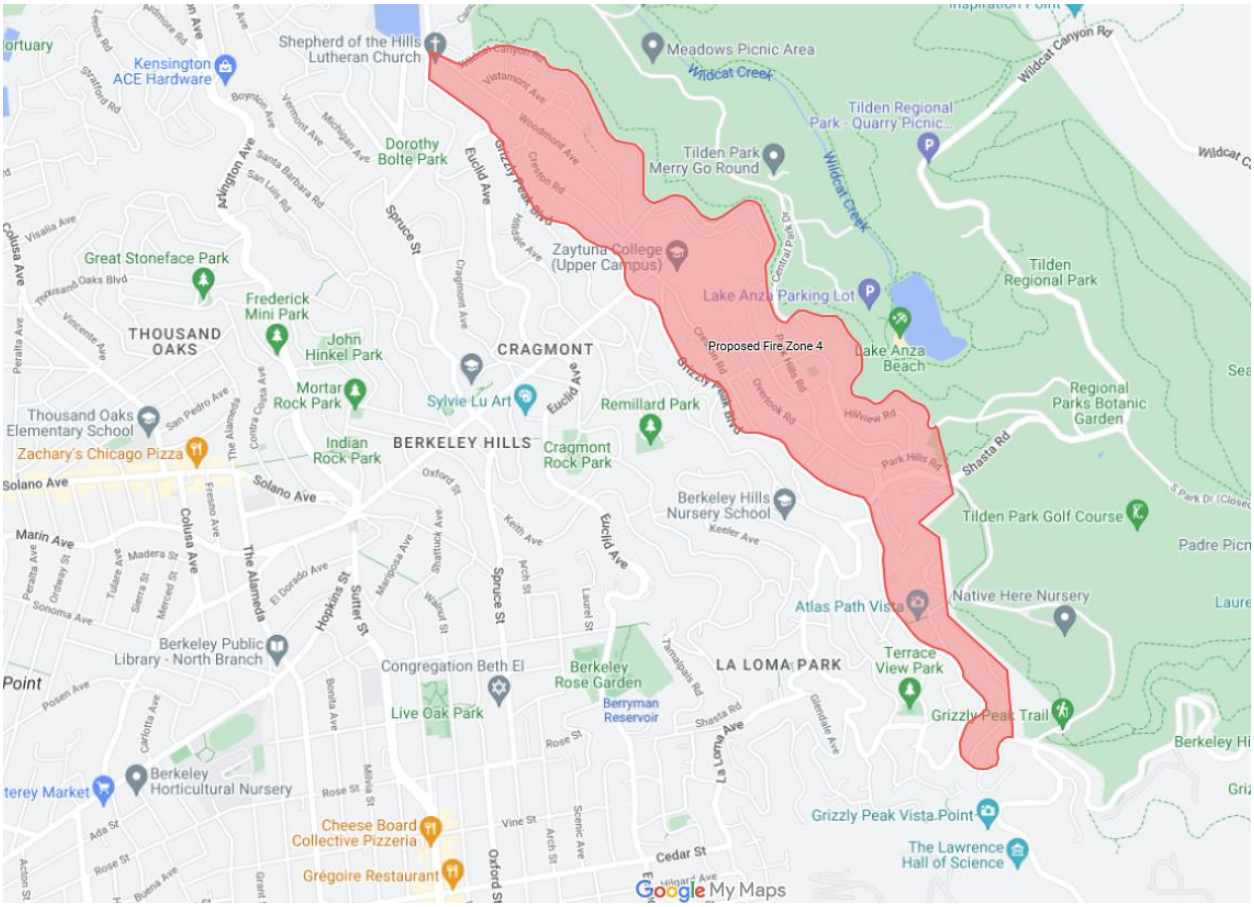
Mitigating some vegetation without, for instance, enforcing the ember resistant zone in the first five feet around a home to the proven standard, is not measurably helpful. Neither is a private property with compliant vegetation where the home is not built to the current Chapter 7A of the building code (or retrofitted and hardened[14]), which provides the standard by which homes in the Wildland Urban Interface (WUI) should be built. This is because each mitigation action is complementary and provides a defense that other mitigations rely on. The wildfire scenario we may encounter is so persistent, that mitigating one part without the other will not save the home.

Creating Ignition Zone 0 and hardening a home is effective at reducing wildfire risk, but will not stop fires from spreading between houses once a structure catches fire. This is because the heat energy produced from a burning house can be much greater than the heat from burning vegetation. In the Berkeley Hills, most homes are close together, making it easier for fires to spread from one house to another. If the fire department cannot respond quickly enough, house-to-house fires become the biggest danger. Fighting just one house fire, during normal weather conditions typically requires five to six fire apparatus and at least 15 firefighters – during an urban conflagration, it is frequently the case that only one fire engine and between two to four firefighters will be assigned to a home. To give firefighters more time to respond and for residents to evacuate, we must take strong preventive actions now, before a wildfire ignites that will slow down its transition from vegetative fire to structural conflagration.

In partnership with stakeholders from throughout the community, we are proposing a trio of policies designed to develop a community that is prepared for exposure to wildfire. These policies are structured around durable pre-fire measures proven to reduce the risk of structure ignitions.

[14] CAL FIRE. (Retrieved 2025, February 1). *Home Hardening: Address your home's vulnerabilities to better withstand wildfire.* https://www.fire.ca.gov/home-hardening

Proposal 1: Establishing Grizzly Peak Mitigation ~~Zone~~ Area (Zone 4), East of Grizzly Peak



Map: New proposed Grizzly Peak Mitigation ~~Zone~~ Area (Zone 4). A quarter mile buffer that will help prevent the transition of a wind driven wildfire to a structure-to-structure conflagration[15]

While the City's existing Defensible Space Inspection program has resulted in considerable progress, engagement, and compliance, it has also demonstrated the limitations of implementing change across a large swath of the City.

Adopting Ignition Zone 0 and home hardening in this proposed Grizzly Peak Mitigation ~~Zone~~ Area (Zone 4) would create a buffer of prepared parcels along the eastern perimeter of the community with fewer vulnerabilities that can lead to structure ignition. Specifically, these homes would be more resistant to wildfire ignition through the combination of defensible space that minimizes the structure's exposure to direct flame and radiant heat, reduces the presence of receptive fuel beds capable of supporting

15 https://www.google.com/maps/d/viewer?hl=en&mid=1tNP0IWFdz2ACKj2v6ejjTLBBaboYc9o&ll=37.87781780237876%2C-122.25571155&z=14

ember caused ignitions, and seals the structure against ember intrusion. The more time it takes a vegetative fire to ignite combustibles around homes and homes themselves, the more time there is for the community to evacuate and for firefighting resources from around the region to amass in Berkeley and suppress the ignitions that do occur. Recent experience in Paradise[16] (CA), Santa Rosa[17] (CA), Lahaina[18] (HI), Boulder County[19] (CO), and Los Angeles[20] (CA) clearly shows the results of wildfire becoming established in high density neighborhoods. Berkeley also has lessons painted in our institutional memories from 1991[21] and 1923[22]

Prioritizing our resources in strategically targeted areas will benefit all of Berkeley. By focusing education, incentives, and enforcement on these adjoining properties we can achieve network effects and create a wildfire buffer. Contiguous properties that implement the scientifically validated best practices that follow will form a resilient unit, rather than a scattered, salt-and-pepper approach with some mitigated properties surrounded by those with unmitigated hazards. In fact, post-incident analysis of the Camp Fire in Paradise shows that, had the town of Paradise met the parameters that follow, a 53% reduction in loss would have occurred[23].

Why did we choose these specific regions to begin this work?

While a fire can ignite anywhere in the community, few locations within the built environment provide enough vegetative fuel to provide the "runway" necessary for a wildfire to gain the size, speed and energy required to transition to a structure-to-

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[16] Porter, K., Scawthorn, C., Sandink, D. (2021) An impact analysis for the National Guide for Wildland-Urban Interface Fires., *Institute for Catastrophic Loss Reduction.* https://www.iclr.org/wp-content/uploads/2021/05/ICLR-SPA-Risk-Impact-Analysis-for-the-National-WUI-Fire-Guide-2021.pdf

[17] Garrison, J. (2025, January 22). This California city lost thousands of homes to fire. Santa Rosa's rebuilding has lessons for L.A. *The Los Angeles Times.* https://www.latimes.com/california/story/2025-01-22/santa-rosa-offers-hope-lessons-for-rebuilding-after-la-fires#:~:text=On%20the%20night%20of%20Oct,at%20low%20risk%20for%20wildfire.

[18] Kerber, S., Alkonis, D., (2024) Lahina Fire Comprehensive Timeline Report. *UL Research Institutes Fire Safety Research Institute.* https://fsri.org/research-update/lahaina-fire-incident-analysis-report-released-attorney-general-hawaii

[19] Giammanco, I.M., Hedayati, F., Hawks, S.R., Sanchez Monroy, Z.S., Sluder, E. (2023). The Return of Conflagration in Our Built Environment. *IBHS Wildfire Reseach Report.* https://ibhs.org/suburban_wildfire_conflagration_whitepaper/

[20] IBHS. (2025). 2025 LA County Wildfires: Early Insights. *The Insurance Institute for Business & Home Safety.* https://ibhs.org/wp-content/uploads/2025-LAFires-EarlyInsights-FINAL.pdf

[21] Sullivan, M., Fowler, D., Ed. (1993 December). Report on the Response of the Berkeley Department of Fire and Emergency Services to the Berkeley-Oakland Conflagration of 1991. *City of Berkeley Department of Fire and Emergency Services.*

[22] Andrews, R.E., Raines, H. (1923). Report on the Berkeley, California Conflagration of September 17, 1923. *National Board of Fire Underwriters Committee on Fire Prevention and Engineering Standards.*

[23] Chamberlain, M., Lee, R., Deacon, T., Watkins, N., David, K., Lei, F., Meftah, I. (2023) *Town of Paradise California Resilience Challenge Task 1 to Task 4; Risk Reduction, Climate Change, and Insurance Premiums. Milliman and CoreLogic.*

structure conflagration. The most likely scenario for a wildfire of this magnitude to occur is from an ignition to the east of the city within Tilden or Wildcat Canyon Regional Parks. Such an ignition, during a Diablo Wind event, has the potential to significantly impact the eastern edges of Berkeley. If the properties at Berkeley's eastern edge are not prepared to receive wildfire, they may facilitate a wildland fire's transition to a structure-to-structure conflagration that would burn west toward the Bay until the wind stops or changes direction.

In addition to areas on Panoramic Hill (known as Panoramic Mitigation ~~Zone~~Area), properties between Grizzly Peak Blvd and Wildcat Canyon Rd (proposed Grizzly Peak Mitigation ~~Zone~~Area) have one of the greatest wildfire exposure and access challenges in Berkeley. As such, it is important to implement focused wildfire risk reduction efforts in these areas. These efforts include education, incentives and enforcement to encourage adoption of enhanced defensible space and home hardening requirements that meet the scientific threshold for meaningful risk reduction. The areas east of Grizzly Peak Blvd are bounded by relatively wide roads, whose non-burnable features form a fire break separating private property from park lands and homes on the eastern aspect from those on the opposite west facing slope.

Proposal 2: Ignition Zone (Zone Zero) and Best Practice Modifications to the Fire Code in the Grizzly Peak Mitigation Area and Panoramic Mitigation ~~Zones~~Areas

In August 2020, following Governor Gavin Newsom's proclamation of a State of Emergency due to widespread wildfires, the California State Legislature enacted Assembly Bill 3074 (AB 3074). This legislation established a critical new fire mitigation measure known as the "ember-resistant zone," or Zone 0. The law aimed to enhance existing defensible space requirements by requiring the five-foot perimeter surrounding structures in Fire Hazard Severity Zones[24] to be cleared of combustible materials, a practice proven to significantly reduce the risk of structural ignition during wildfires.

We know that during a wildfire, embers from burning material fly long distances ahead of the fire front. When these embers find receptive fuel beds, which are often at the base of structures[25], they can start new spot fires ahead of the main body of fire, essentially expanding the fire front exponentially. When these spot fires are adjacent to structures, those structures can also ignite.

Under the timeline mandated by AB 3074, new homes were expected to comply with Ignition Zone 0 regulations beginning in 2023, with existing homes required to comply starting in 2024. However, despite the legislative directive, the State delayed the formal rulemaking process necessary to implement these requirements until it was spurred to

[24] CAL FIRE. (retrieved February 1, 2025). Fire Hazard Severity Zones. *Cal Fire.* https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones

[25] Quarles, S. L., Standohar, C., Hedayati, F., & Gorham, D. (2023). Factors Influencing Ember Accumulation Near a Building. International Journal of Wildland Fire

action by the LA Wildfires that ignited in January of 2025. The delay in rulemaking has been attributed to political and administrative challenges. If the State affirms Zone 0 as expected by December of 2025, new structures built in the Very High Fire Hazard Severity Zone must comply within one year, and existing structures within the Very High Fire Hazard Severity Zone must comply within three years.

During this same period of time, the insurance industry and the California Department of Insurance adopted Ignition Zone 0 as one component of how they measure wildfire risk. The absence of Ignition Zone 0 from the Statewide fire code means that few communities are enforcing this standard. This then places homeowners in peril: even if their properties comply with the state and local code, they may face insurance non-renewal - or damage and destruction during a wildfire - because their property does not meet these scientifically validated standards. Further, the few homeowners who voluntarily adopt Ignition Zone 0 face significant risk from adjacent properties that have not adopted this mitigation measure.

The scientifically validated version of Ignition Zone 0 eliminates combustible material within the first five feet of a home and any outbuildings, attached decks, and stairs. Ignition Zone 0 also includes the area *under* attached decks and stair landings. Materials not allowed include weeds, grass, plants (including climbing vines), debris, wood mulch products, combustible fencing and gates, plastic trash and recycle cans, trellis, pergolas, shade coverings, combustible planters, privacy walls, boats, RVs, and other material that could be ignited by embers or direct flame. A version of Ignition Zone 0 that does not fully adopt this standard, and allows fuel to remain, has not been studied and the benefits of a partial Ignition Zone 0 adoption have not been established.

Proactive steps to maintain Insurance

One common point of frustration with the current standards is that the existing fire code is less strict than the risk evaluation process of many insurers, who often follow the above-described evidence, leaving homeowners free of violations following an inspection, but unable to obtain insurance or facing non-renewal. Full adoption, and enforcement of the recommendations, outlined in this report would also align the affected home with industry standards for establishing risk. Because this would take place in a region, rather than with an individual property, congruent homes would meet the designation, likely reducing the overall neighborhood risk score. While the Department cannot guarantee this would increase eligibility in traditional insurance markets, it would align City requirements with the scientifically validated best practices adopted by that industry. Additionally, in cases where traditional insurance is still not an option, following these standards gives a home the scientifically validated best chance of survival during a wildfire.

ENVIRONMENTAL SUSTAINABILITY AND CLIMATE IMPACTS

Wildfires that transition to a structure-to-structure conflagration have acute and far-reaching consequences, not only for the environment and climate but also for the stability and well-being of impacted communities. These fires release large amounts of pollutants into the air, including soot and carbon dioxide, which contribute to climate change and degrade air quality. Additionally, toxic byproducts from burning structures, vehicles, and other synthetic material can pose significant health risks to residents and responders.

The water used to combat these fires is often sourced from the city's potable water supply. Once used, it can become contaminated with chemicals, ash, and debris, potentially polluting groundwater and local waterways.

The destruction of homes, businesses, and critical infrastructure leads to substantial economic burdens that jeopardize the financial stability of impacted communities. Rebuilding efforts require significant financial investment, as well as the production, transportation, and installation of new materials—all of which generate additional emissions. For individual residents, the loss of a home or business can lead to long-term financial instability, displacement, and increased insurance costs.

Beyond the physical and financial toll, these disasters leave lasting emotional and psychological scars on affected communities. Residents may experience trauma, anxiety, and grief, particularly when lives are lost, homes are destroyed, or neighborhoods are permanently altered. The social fabric of a community can be disrupted as families and businesses struggle to recover, sometimes forcing relocation and reducing neighborhood cohesion.

Investing in a strong fire code is one tool the city uses to reduce the frequency and severity of fires. Effective fire prevention also contributes to environmental sustainability by reducing emissions, preserving water resources, and minimizing the need for costly rebuilding efforts. A commitment to strong fire safety regulations ultimately benefits the entire community—protecting public health, safeguarding financial resources, and ensuring a resilient and sustainable future.

RATIONALE FOR RECOMMENDATION

The fire and seismic danger and other local conditions justify the proposed local amendments that are stricter than the California Fire Code.

A city, county, or city and county may establish more restrictive building standards as reasonably necessary because of local climatic, geological or topographical conditions. The City’s adoption of stringent fuel mitigation and exterior hazard abatement standards is designed to decrease the risk of structure fires spreading to adjacent vegetation and the risk of vegetation fires spreading to structures. The Council bases these standards, in part, upon its finding that the climatic, vegetative, geological, and topographical conditions within the City create a grave risk of wildfire and resulting loss of life and property.

ALTERNATIVE ACTIONS CONSIDERED

None.

CONTACT PERSON

David Sprague, Fire Chief, 510-981-3473

Attachments:
1: Ordinance – “Amendment of Section 19.48.020 of the Berkeley Municipal Code (“Amendments to The California Fire Code”)”
2: Resolution - “Adopting Findings as to Local Climatic, Geological And Topographical Conditions Rendering Reasonably Necessary Various Enumerated Local Fire Standards That Are More Stringent Than Those Mandated By The California Fire Code And Amending Resolution No. 70,611–N.S.”
3: California Department of Insurance - Safer from Wildfire Standard
4: IBHS Wildfire Prepared Home - Base Designation Checklist

ATTACHMENT 1

ORDINANCE NO. ##,###–N.S.
REPEALING AND RE-ENACTING BERKELEY MUNICIPAL CODE CHAPTER 19.48 (BERKELEY FIRE CODE)

BE IT ORDAINED by the Council of the City of Berkeley as follows:

Section 1. That Berkeley Municipal Code Chapter 19.48 is hereby repealed and reenacted as to read as follows:

Chapter 19.48

BERKELEY FIRE CODE*

Sections:

Section 19.48.010 Adoption of the California Fire Code

A. The California Fire Code, 2022 edition, as adopted in Title 24, Part 9 of the California Code of Regulations, including Chapter 1 (excluding Section 103), Chapter 3, Section 503 of Chapter 5, Sections 1103.5.6 through 1103.5.6.3 (new sections as created by BMC 19.48.020, Amendments to the California Fire Code), Appendix Chapters D, E, F, L (as amended by BMC 19.48.020, Amendments to the California Fire Code) and O published by the International Code Council not included in the California Building Standards Code, are adopted by this reference into this Chapter, and are hereby adopted and made a part of this Chapter as though fully set forth herein, subject to the modifications thereto which are set forth this ordinance. One copy of this Code is on file in the office of the City Clerk of the City of Berkeley.

B. This chapter shall be known as the "Berkeley Fire Code" and shall be referred to in this chapter as "this code".

C. This Chapter will become effective on June 1, 2025.

Section 19.48.020 Amendments to the California Fire Code

The following additions, changes and deletions to the 2022 California Fire Code, as detailed below, are adopted as part of the Berkeley Fire Code.

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Chapter 1 of the California Fire Code is adopted in its entirety subject to the modifications thereto which are set forth below.

CHAPTER 1 – SCOPE AND ADMINISTRATION

SECTION 101 SCOPE AND GENERAL REQUIREMENTS

[A] Section 101.1 Title. These regulations shall be known as the Berkeley Fire Code ~~shall be known as the *Fire Code* of~~, shall be known as the Berkeley Fire Code**,** hereinafter referred to as "this code."

SECTION 102 APPLICABILITY

[A] 102.6 Historic buildings. The provisions of this code relating to the construction, alteration, repair, enlargement, restoration, relocation or moving of buildings or structures shall not be mandatory for existing buildings or structures identified and classified by the state or local jurisdiction as historic buildings where such buildings or structures do not constitute a distinct hazard to life or property. Fire protection in designated historic buildings shall be provided with an approved fire protection plan as required in Section 1103.1.1 in accordance with the 2022 California Historical Code.

SECTION 104 DUTIES AND POWERS OF THE FIRE CODE OFFICIAL

Section 104.13. Authority to arrest and issue citations. The Fire Chief, or their designee shall have authority to arrest or to cite any person who violates any provision of this Chapter involving the International Fire Code or the California Building Standards Code regulations relating to fire and panic safety as adopted by the State Fire Marshal, in the manner provided for the arrest or release on citation and notice to appear with respect to misdemeanors or infractions, as prescribed by Chapters 5, 5c and 5d of Title 3, Part 2 of the California Penal Code, including Section 853.6, or as the same hereafter may be amended. It is the intent of the City Council that the immunities provided in Penal Code Section 836.5 are applicable to aforementioned officers and employees exercising their arrest or citation authority within the course and scope of their employment pursuant to this Chapter.

Section 104.14 Authority to abate fire nuisance [Additional subsection]. The Fire Chief or the Fire Chief's designee shall have the authority to order the abatement of fire nuisances.

SECTION 105 PERMITS

105.5.18 Flammable and combustible liquids. An operational permit is required:

1. To use or operate a pipeline for the transportation within facilities of flammable or combustible liquids. This requirement shall not apply to the offsite transportation in pipelines regulated by the Department of Transportation (DOT) nor does it apply to piping systems.

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2. To store, handle or use Class I liquids in excess of 5 gallons (19 L) in a building or in excess of 10 gallons (37.9 L) outside of a building, except that a permit is not required for the following:

    2.1 The storage or use of Class I liquids in the fuel tank of a motor vehicle, aircraft, motorboat, mobile power plant or mobile heating plant, unless such storage, in the opinion of the fire code official, would cause an unsafe condition.

    2.2 The storage or use of paints, oils, varnishes or similar flammable mixtures where such liquids are stored for maintenance, painting or similar purposes for a period of not more than 30 days.

3. To store, handle or use Class II or Class IIIA liquids in excess of 25 gallons (95 L) in a building or in excess of 60 gallons (227 L) outside a building, except for fuel oil used in connection with oil-burning equipment.

4. To store, handle or use Class IIIB liquids in excess of 110 gallons in containers, or in tanks or portable tanks for fueling motor vehicles at motor fuel-dispensing facilities or where connected to fuel-burning equipment.

Exception: Fuel oil and used motor oil used for space heating or water heating.

5. To remove Class I or II liquids from an underground storage tank used for fueling motor vehicles by any means other than the approved, stationary on-site pumps normally used for dispensing purposes.

6. To operate tank vehicles, equipment, tanks, plants, terminals, wells, fuel-dispensing stations, refineries, distilleries and similar facilities where flammable and combustible liquids are produced, processed, transported, stored, dispensed or used.

7. To place temporarily out of service (for more than 90 days) an underground, protected above-ground or above-ground flammable or combustible liquid tank.

8. To change the type of contents stored in a flammable or combustible liquid tank to a material that poses a greater hazard than that for which the tank was designed and constructed.

9. To manufacture, process, blend or refine flammable or combustible liquids.

10. To engage in the dispensing of liquid fuels into the fuel tanks of motor vehicles at commercial, industrial, governmental or manufacturing establishments in accordance with Section 5706.5.4 or to engage in on-demand mobile fueling operations in accordance with Section 5707.

11. To utilize a site for the dispensing of liquid fuels from tank vehicles into the fuel tanks of motor vehicles, marine craft and other special equipment at commercial, industrial, governmental or manufacturing establishments in accordance with Section 5706.5.4 or, where required by the fire code official, to utilize a site for on-demand mobile fueling operations in accordance with Section 5707.

Section 105.5.55 Christmas tree sales lot. An operational permit is required to operate a Christmas tree sales lot.

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Section 105.5.56 Escort convoy service. Police and/or Fire Department convoy service is required for vehicle transportation of extremely hazardous materials.

Section 105.5.57 Fire Fighter Air Replenishment System (FARS). An annual operational permit is required to maintain a FARS system in accordance with Appendix L.

Section 105.5.58 General use permit. For any activity or operation not specifically described in this code, which the fire code official reasonably determines, may produce conditions hazardous to life or property.

Section 105.5.59 Parking facility, special events] An operational permit is required to use buildings or structures for vehicle parking, including parking for special events (i.e. football games, etc.).

Section 105.6.25 Fire fighter air replenishment system (FARS). A building permit is required for installation of or modification to a FARS system in accordance with Appendix L.

Section 105.6.26 Window bars, operational constraints and opening control devices. A building permit is required to install window bars or other equipment which imposes operational constraints and opening controls on emergency escape and rescue openings on exterior doors or windows of any sleeping rooms in accordance with fire code Section 1031.2.1 of this code.

SECTION 107 FEES

Section 107.2 Schedule of permit fees. Where a permit is required, a fee for each permit shall be paid as required, in accordance with the schedule ~~as established by the applicable governing body~~. of fees for permits and inspections as set forth by the City Council by resolution.

Section 107.4 Work commencing before permit issuance. A person who commences any work, activity or operation regulated by this code before obtaining the necessary permits shall be subject to a fee ~~established by the applicable governing authority, which shall be in addition to the required permit fees.~~ equivalent to three times the amount of the required fees to obtain a permit for that work, activity or operation regulated by this code.

Section 107.7. Expense of securing emergencies. The expense of securing any emergency that is within the responsibility for enforcement of the fire code official as given in Sections 104.1 or 104.11 is a charge against the person who caused the emergency. Damages and expenses incurred by any public agency having jurisdiction or any public agency assisting the agency having jurisdiction shall constitute a debt of such person and shall be collectible by the fire code official for proper distribution in the same manner as in the case of an obligation under contract expressed or implied. Expenses as stated above shall include, but not be limited to, equipment and personnel committed and any payments required by the public agency to outside business firms requested by the public agency to secure the emergency, monitor remediation, and clean up.

SECTION 111 MEANS OF APPEALS

Section 111.1 ~~Board of appeals established.~~ Appeals Procedure In order to hear and decide appeals of orders, decisions or determinations made by the fire code official relative to the application and interpretation of this code, ~~there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the fire code official.~~ an appeal therefore may be taken to the City Council by the applicant or permit holder. Notice of the appeal must be filed with the City Clerk of the City of Berkeley within ten days from the date of mailing of the fire code official's decision to the applicant or permit holder. The notice of appeal shall contain a statement of the reasons for the appeal. The City Clerk shall forward one copy thereof to the fire code official. Within thirty days after the filing of the notice of appeal, the fire code official shall transmit to the City Council all their records pertaining to the decision appealed from.

Section 111.1.1 Stay of Proceedings The filing of the notice of appeal shall stay all proceedings by all parties in connection with the matter upon which the appeal is taken until determination of the appeal as hereinafter provided, unless the fire code official determines that such a stay could result in an imminent threat to public safety.

Section 111.3 ~~Qualifications.~~ ~~The board of appeals shall consist of members who are qualified by experience and training to pass on matters pertaining to hazards of fire, explosions, hazardous conditions or fire protection systems, and are not employees of the jurisdiction.~~ **Decisions:** The City Council shall review the action of the fire code official and shall do any one of the following:

a. Refer the matter back to the fire code official.

b. If the facts stated in or ascertainable from the application, the Notice of Appeal, the written statement of the fire code official setting forth the reason for their decision, and the other papers, if any, constituting the record do not, in the opinion of the City Council, warrant further hearing, the City Council may affirm the decision of the fire code official. Such decision shall be final.

c. If, in the opinion of the City Council, said facts warrant further hearing, the City Council shall set the matter for hearing and shall give notice of the time and place of said hearing by mailing a copy of such notice by certified mail to the address of the applicant as stated in the Notice of Appeal, at least ten (10) days before the time fixed for the hearing. The City Council may continue the hearing from time to time.

d. Following such hearing, the City Council shall reverse, affirm wholly or partly modify any decision of the fire code official, or make any other decisions or determinations or impose such conditions as the facts warrant. Such decision or determination shall be final.

e. If none of the above actions have been taken by the City Council within thirty (30) days from the date the appeal first appears on the City Council agenda, then the decision of the fire code official shall be deemed affirmed and the appeal shall be deemed dismissed.

f. If the appeal is set for hearing but the disposition of the appeal has not been determined within ninety (90) days from the date the appeal first appears on the City Council agenda, then the decision of the fire code official shall be deemed affirmed and the appeal deemed dismissed.

111.4 Administration. The fire code official shall take immediate action in accordance with the decision of the ~~Board~~ City Council .

SECTION 112 VIOLATIONS

Section 112.1 Unlawful acts [Amended subsection]. It shall be unlawful for a person, firm or corporation to erect, construct, alter, repair, remove, demolish or utilize a building, occupancy, premises or system regulated by this code, or cause same to be done, in conflict with or in violation of any of the provisions of this code, or to create, maintain or allow to continue any fire hazard.

Section 112.4 Violation penalties. Persons who shall violate a provision of this code or shall fail to comply with any of the requirements thereof or who shall erect, install, alter, repair or do work in violation of the approved construction documents or directive of the fire code official, or of a permit or certificate used under provisions of this code, shall be guilty of a ~~[SPECIFY OFFENSE], punishable by a fine of not more than [AMOUNT] dollars or by imprisonment not exceeding [NUMBER OF DAYS], or both such fine and imprisonment~~ misdemeanor, but may be cited or charged, at the election of the enforcing officer or City Attorney, as infractions, subject to an election by the defendant under Penal Code Subsection 17 (d). Each day that a violation continues after due notice has been served shall be deemed a separate offense. In addition to all other legal remedies, civil or criminal (as set forth above), any violation of this code constitutes a public nuisance in accordance with B.M.C Chapter 1.26, and is subject to all provisions of B.M.C. Chapter 1.26, as well as abatement under B.M.C. Chapter 1.24, "Abatement of Nuisances". All such violations are also subject to the issuance of an administrative citation in accordance with B.M.C Chapter 1.28 at the discretion of the enforcing officer or the City Attorney.

SECTION 114 UNSAFE STRUCTURES OR EQUIPMENT

Section 114.7 Summary abatement. Where conditions exist that are deemed hazardous to life and property, the fire code official or fire department official in charge of the incident is authorized to abate summarily such hazardous conditions that are in violation of this code. Where the owner does not comply with an abatement order under Section 114.4 within the period specified, the City of Berkeley may perform or cause to be performed the necessary work. The costs incurred shall be recoverable under the procedures in Section 114.7.1

Section 114.7.1 Abatement process [Additional subsection] The abatement process shall be conducted in accordance with the notice and hearing requirements of the nuisance abatement provisions of Berkeley Municipal code chapter 1.24, including summary abatements of structures or premises determined by the City of Berkeley to constitute an imminent hazard or emergency condition.

Chapter 2 of the California Fire Code is adopted in its entirety subject to the modifications thereto which are set forth below.

CHAPTER 2 – DEFINITIONS

SECTION 202 GENERAL DEFINITIONS

Section 202 Definitions – BBERKELEY MARINA. The area shall mean all those, parts of the City of Berkeley west of the Interstate 80 Freeway

Section 202 (Definitions — F). FIRE HAZARD. Anything or act which increases or could cause an increase of the hazard or menace of fire to a greater degree than that customarily recognized as normal by persons in the public service regularly engaged in preventing, suppressing or extinguishing fire or anything or act which could obstruct, delay, hinder or interfere with the operations of the fire department or the egress of occupants in the event of fire. Fire hazards as defined herein are hereby declared to be public nuisances subject to abatement by the City of Berkeley.

Section 202 (Definitions — F). FIRE NUISANCE. Anything or act, which is annoying, unpleasant, offensive or obnoxious because of fire.

Section 202 (Definitions – J). JURISDICTION. The City of Berkeley. ~~The governmental unit that has adopted this code~~.

Section 202 (Definitions — W). WASTE OIL is a Class III-B waste liquid resulting from the use of Class III-B combustible liquids such as waste motor oil, hydraulic oil, lubricating oil, brake fluids and transmission fluids.

Chapter 5 of the California Fire Code is adopted in its entirety subject to the modifications thereto which are set forth below.

CHAPTER 5 – FIRE SERVICE FEATURES

SECTION 504 ACCESS TO BUILDING OPENINGS AND ROOFS

Section 504.1.1 Marking of Exterior Building Openings. Where exterior doorways are not otherwise marked with identification such as building addresses, room/suite numbers or business names which identify the area(s) they provide access to, or a functional description for the space, such opening shall be provided with signs or labels indicating the areas they serve. Doorways to be marked shall include but are not limited to doors serving building circulation (such as stairwells/exit passageways), potential hazards (such as trash rooms), and building service and utility spaces (such as electrical, gas, HVAC and elevator machine rooms). Signs/labels shall be permanent, weather and sunlight resistant with lettering not less than ¾" high with a 1/16" width stroke on a contrasting background. Such signs or labels shall be affixed to the door frame or wall above the door. Such signs and labels shall be maintained.

Exception: Doors associated with private dwellings, the main entrance to normally occupied spaces or when determined to be unnecessary by the fire code official.

Chapter 7 of the California Fire Code is adopted in its entirety subject to the modifications thereto which are set forth below.

CHAPTER 7 – FIRE AND SMOKE PROTECTION FEATURES

SECTION 705 DOOR AMD WINDOW OPENINGS

Section 705.2.5 Smoke - and heat-activated doors. Smoke-activated doors shall be maintained to self-close or automatically close upon detection of smoke. Existing fusible-link-type automatic-door closing devices are permitted if the fusible-link rating does not exceed 135□F (57□C). Doors required for fire and smoke separation for interior exit stairways and floor separation in R-1 or R-2 occupancies shall not be maintained in an open position with fusible links.

Chapter 9 of the California Fire Code is adopted in its entirety subject to the modifications thereto which are set forth below.

CHAPTER 9 – FIRE PROTECTION AND LIFE SAFETY SYSTEMS SECTION 903 AUTOMATIC SPRINKLER SYSTEMS

Section 903.2.10.1 Commercial parking garages. An automatic sprinkler system shall be provided throughout buildings used for storage of commercial motor vehicles ~~where the fire arear exceeds 5,000 square feet (464 m^2)~~.

Section 903.2.11.1 Stories without openings. An automatic sprinkler system shall be installed throughout all buildings having stories, including basements, ~~of all buildings where the floor area exceeds 1,500 square feet (139.4 m 2) and~~ where the story does not comply with the following types of exterior wall openings:

1. Openings below grade that lead directly to ground level by an exterior stairway complying with Section 1011 or an outside ramp complying with Section 1012. Openings shall be located in each 50 linear feet (15 240 mm), or fraction thereof, of exterior wall in the story on not fewer than one side. The required openings shall be distributed such that the lineal distance between adjacent openings does not exceed 50 feet (15 240 mm).
2. Openings entirely above the adjoining ground level totaling not less than 20 square feet (1.86 m 2) in each 50 linear feet (15 240 mm), or fraction thereof, of exterior wall in the story on not fewer than one side. The required openings shall be distributed such that the lineal distance between adjacent openings does not exceed 50 feet (15 240 mm) The height of the bottom of the clear opening shall not exceed 44 inches (1118 mm) measured from the floor.

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Section 903.2.11.2. Rubbish, Recycling and linen chutes. An automatic sprinkler system shall be installed at the top of rubbish and linen chutes and in their terminal rooms. Chutes shall have additional sprinkler heads installed at alternate floors and at the lowest intake. Where a rubbish chute extends through a building more than one floor below the lowest intake, the extension shall have sprinklers installed that are recessed from the drop area of the chute and protected from freezing in accordance with Section 903.3.1.1. Such sprinklers shall be installed at alternate floors, beginning with the second level below the last intake and ending with the floor above the discharge. Access to sprinklers in chutes shall be provided for servicing. Activation of any fire sprinkler in a chute shall activate a separate water flow switch to indicate waterflow in the chute. All fire sprinklers in the chute shall be controlled by a separate, electrically supervised control valve with tamper switch.

Section 903.2.22 Structures in the Berkeley Marina Area. An automatic sprinkler system shall be installed in all structures located in the Berkeley Marina Area in accordance with NFPA 13 standards.

Exceptions: Gear lockers not designed to permit human entry, municipal restrooms unattached to other structures, the existing City of Berkeley Harbor Master's office, and any temporary construction site structures.

Section 903.2.23 Public Self-Storage Buildings. An automatic sprinkler system shall be installed in any building erected or existing building that was converted and/or subdivided for public self-storage use on or after August 19, 1982, in accordance with NFPA 13 standards.

Section 903.2.24 Environmental Safety - Residential District. Reserved

Section 903.3.1.2 NFPA 13R sprinkler systems. Automatic sprinkler systems in Group R occupancies shall be permitted to be installed throughout in accordance with NFPA 13R *as amended in Chapter 80.*

1. Four stories or less above grade plane.
2. The floor level of the highest story is 30 feet (9144mm) or less above the lowest level of fire department vehicle access.
3. The floor level of the lowest story is 30 feet (9144mm) or less below the lowest level of fire department access.

The number or stores of Group R occupancies constructed in accordance with Sections 510.2 and 510.4 of the *California Building Code* shall be measured from grade plane.

Exception: Sprinkler systems in residential / commercial mix-use buildings are to be in accordance with NFPA 13.

Section 903.3.9 Floor control valves. Floor control valves and waterflow detection assemblies shall be installed at each floor where any of the following occur:

1. Buildings where the floor level of the highest story is located ~~more than~~ 30 feet or more above the lowest level of fire department vehicle access.
2. Buildings that are ~~four~~ three or more stories in height.
3. Buildings that are two or more stories below the highest level of fire department vehicle access.

Exception: In Group R-3 and R-3.1 occupancies, floor control valves and waterflow detection assemblies shall not be required.

Section 907.2 Where required—new buildings and structures. An approved fire alarm system installed in accordance with the provisions of this code and NFPA 72 shall be provided in new buildings and structures in accordance with Sections 907.2.1 through *907.2.29* and provide occupant notification in accordance with Section 907.5, unless other requirements are provided by another section of this code.

Not fewer than one manual fire alarm box shall be provided in an approved location to initiate a fire alarm signal for fire alarm systems employing automatic fire detectors or water-flow detection devices. Where an automatic and manual, or a manual fire alarm system is required by this code or Berkeley local ordinance, ~~other sections of this code allow~~ elimination of fire alarm boxes is prohibited. ~~due to sprinklers *or automatic fire alarm systems*, a single fire alarm box shall be installed at a location approved by the enforcing agency.~~

~~**Exceptions:**~~

~~1. The manual fire alarm box is not required for fire alarm control units dedicated to elevator recall control, supervisory service and fire sprinkler monitoring.~~

~~2. The manual fire alarm box is not required for GroupR-2 occupancies unless required by the fire code official to provide a means for fire watch personnel to initiate an alarm during a sprinkler system impairment event. Where provided, the manual fire alarm box shall not be located in an area that is open to the public.~~

~~3. The manual fire alarm box is not required to be installed when approved by the fire code official.~~

Section 907.2.1 Group A. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group A occupancies where the occupant load due to the assembly occupancy is 300 or more, or where the Group A occupant load is more than 100 persons above or below the lowest level of exit discharge. Group A occupancies not separated from one another in accordance with Section 707.3.10 of the *California Building Code* shall be considered as a single occupancy for the purposes of applying this section. Portions of Group E occupancies occupied for assembly purposes *with an occupant load of less than 1000* shall be provided with a fire alarm system as required for the Group E occupancy.

~~**Exception:** Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.~~

Every Group A building used for educational purposes shall be provided with a manual or automatic fire alarm system. This provision shall apply to, but shall not necessarily be limited to, every community college and university.

Exception: *Privately owned trade or vocational schools or any firm or company which provides educational facilities and instruction for its employees.*

Section 907.2.2 Group B. A manual fire alarm system, which activates the occupant notification system in accordance with Section 907.5, shall be installed in Group B occupancies where one of the following conditions exists:

1. The combined Group B occupant load of all floors is 500 or more.
2. The Group B occupant load is more than 100 persons above or below the lowest level of exit discharge.
3. The fire area contains an ambulatory care facility.
4. *For Group B occupancies containing educational facilities, see Section 907.2.2.2.*

   ~~**Exception:** Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.~~

Section 907.2.4 Group F. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group F occupancies where both of the following conditions exist:

1. The Group F occupancy is two or more stories in height.
2. The Group F occupancy has a combined occupant load of 500 or more above or below the lowest level of exit discharge.

   ~~**Exception:** Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.~~

Section 907.2.7 Group M. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group M occupancies where one of the following conditions exists:

1. The combined Group M occupant load of all floors is 500 or more persons.
2. The Group M occupant load is more than 100 persons above or below the lowest level of exit discharge.

Exceptions:

1. A manual fire alarm system is not required in covered or open mall buildings complying with Section 402 of the *California Building Code*.
2. ~~Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 and the occupant notification appliances will automatically activate throughout the notification zones upon sprinkler water flow.~~

Section 907.2.8.1 ~~Manual f~~Fire alarm system. A manual <u>and automatic</u> fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group R-1 occupancies.

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Exceptions:

1. A manual fire alarm system is not required in buildings not more than two stories in height where all individual sleeping units and contiguous attic and crawl spaces to those units are separated from each other and public or common areas by not less than 1-hour fire partitions and each individual sleeping unit has an exit directly to a public way, egress court or yard.
2. Manual fire alarm boxes are not required throughout the building where all the following conditions are met:
   2.1. The building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
   2.2. The notification appliances will activate upon sprinkler water flow.
   2.3. Not fewer than one manual fire alarm box is installed at an approved location.

Section 907.2.8.2 Manual and Aautomatic fire alarm systemsmoke detection system. An A manual and automatic smoke detectionfire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed throughout all interior corridors and common areas of Group R-1 occupancies. The detection device for this purpose shall be a smoke detector (or heat detector as approved), which is system connected and electronically supervisedserving sleeping units.

Exception: An automatic smoke detection system is not required in buildings that do not have interior corridors serving sleeping units and where each sleeping unit has a means of egress door opening directly to an exit or to an exterior exit access that leads directly to an exit.

Section 907.2.9.1 Automatic and Mmanual fire alarm system. An automatic and manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group R-2 occupancies where any of the following conditions apply:

1. The building is three or more stories in height and Any any dwelling unit or sleeping unit is located three or more stories above the lowest level of exit discharge.
2. Any dwelling unit or sleeping unit is located more than one story below the highest level of exit discharge of exits serving the dwelling unit or sleeping unit.
3. The building contains more than 16 dwelling units or sleeping units.
4. *Congregate residences with more than 16 occupants.*

Exceptions:

1. A fire alarm system is not required in buildings not more than two stories in height where all dwelling units or sleeping units and contiguous attic and crawl spaces are separated from each other and public or common areas by not less than 1-hour fire partitions and each dwelling unit or sleeping unit has an exit directly to a public way, egress court or yard.

~~2. Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 and the occupant notification appliances will automatically activate throughout the notification zones upon a sprinkler water flow.~~

~~3.~~ 2. A fire alarm system is not required in buildings that do not have interior corridors serving dwelling units and are protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, provided that dwelling units either have a means of egress door opening directly to an exterior exit access that leads directly to the exits or are served by open-ended corridors designed in accordance with Section 1027.6, Exception 3.

Section 914.3.9 Fire Fighter Air Replenishment Systems. New high-rise buildings shall install an approved Fire Fighter Air Replenishment System (FARS) or equivalent equipment or systems as determined by the fire code official to provide a breathing air supply for firefighting self-contained breathing air tanks. Such system or equipment shall provide adequate pressurized breathing air supply through a permanent piping system or other means acceptable to the fire code official for the replenishment of portable life sustaining air equipment carried by fire department, rescue and other personnel in the performance of their duties. Design, installation, testing and maintenance of such air replenishment systems shall be made in accordance with Appendix Chapter F of the California Plumbing Code. Each property owner shall be responsible for maintaining such equipment or systems including annual air sampling and testing.

Exceptions:

1. Buildings equipped with Firefighter Access Elevators as required by Berkeley Building Code section 403.6.1
2. Where an alternate method of supplying breathing air replenishment is approved by the fire code official.

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Chapter 11 of the California Fire Code is adopted in its entirety subject to the modifications thereto which are set forth below.

CHAPTER 11 – CONSTRUCTION REQUIREMENTS FOR EXISTING BUILDINGS

SECTION 1103 FIRE SAFETY REQUIREMENTS FOR EXISTING BUILDINGS

Section 1103.5 Sprinkler systems. An automatic sprinkler system shall be provided in existing buildings in accordance with Section 1103.5.1 through 1103.5.~~5.~~6.3

SECTION 1103.5.6 AUTOMATIC SPRINKLER REQUIREMENTS FOR EXISTING HOTELS

Section 1103.5.6.1 Definitions. For the purposes of this Section, the following terms shall be defined as follows:

1. "Hotel" shall mean any building, including motels, dormitories, rooming houses, fraternity houses and sorority houses, which contain six or more rooms which were intended or designed to be used, or which are used, for the purposes of renting, hiring or letting to residential occupants for sleeping purposes but shall not include apartment buildings as defined in this code.
2. "Story" is as defined in the Berkeley Building Code.
3. "First Story" is as defined in the Berkeley Building Code.
4. "Basement" is as defined in the Berkeley Building Code.
5. "Balcony, Exterior Exit" shall mean a landing or porch projecting from the wall of a building which serves as a required exit. The long side shall be at least 50 percent directly open to the exterior, and the open area above the guardrail shall be so configured as to prevent the accumulation of smoke or toxic gases.

   Application: This section shall apply to every hotel in which the rooms used for sleeping are rented or let above the ground floor, if the hotel was built prior to 1992**,** and also meets one of the following two conditions:

   The height of the hotel is three or more stories or two stories plus an inhabited basement, which is used for purposes other than exclusively servicing the maintenance and other needs of the building; or the hotel contains 20 or more rooms, or regularly accommodates 20 or more residential occupants.

   Exception: No hotel in which the exits from sleeping rooms lead either to the outside of the building either directly or via approved exit balconies with approved exterior stairways(s) in accordance with the requirements of the Berkeley Building Code is required to comply with this section.

Section 1103.5.6.2 Types of Fire Sprinklers. In the sleeping units of the building, only residential or quick response sprinkler heads shall be used.

Section 1103.5.6.3 Supervision of fire sprinkler systems. All automatic sprinkler systems installed under this subsection shall be monitored for supervision and alarms in accordance with Section 903.4.

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Section 1103.7 Fire Alarm Systems. An approved fire alarm system shall be installed in existing buildings and structures in accordance with Sections 1103.7.1 through 1103.7.6 and provide occupant notification in accordance with Section 907.5 unless other requirements are provided by other sections of this code. Existing high-rise buildings shall comply with Section 1103.7.9. Where an automatic and manual or a manual fire alarm system is required by this code or Berkeley local ordinance, elimination of fire alarm boxes in buildings equipped with an approved sprinkler system is prohibited.

Exception: Occupancies with an existing, previously approved fire alarm system.

Section 1103.7.5.1 Group R-1 hotels, ~~and~~ motels, and congregate residences manual and automatic fire alarm system. A manual and automatic fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in existing Group R-1 hotels, ~~and~~ motels, and congregate residences ~~more than~~with three or more stories or ~~with more than~~ 20 or more sleeping units.

~~**Exceptions:**~~

1. ~~A manual fire alarm system is not required in buildings less than two stories in height where all sleeping units, attics and crawl spaces are separated by 1-hour fire-resistance-rated construction and each sleeping unit has direct access to a public way, egress court or yard.~~
2. ~~A manual fire alarm system is not required in buildings not more than three stories in height with not more than 20 sleeping units and equipped throughout with an automatic sprinkler system installed in accordance with Sections 903.3.1.1 or 903.3.1.2.~~
3. ~~Manual fire alarm boxes are not required throughout the building where the following conditions are met:~~

   ~~3.1. The building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.~~

   ~~3.2. The notification appliances will activate upon sprinkler water flow.~~

   ~~3.3. Not less than one manual fire alarm box is installed at an approved location.~~

Section 1103.7.6 Group R-2. A manual and automatic fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in existing Group R-2 occupancies three or more stories in height or with 16 or more dwelling or sleeping units. Congregate residences shall retrofit existing manual-only fire alarm systems with manual and automatic fire detection. Other types of R-2 occupancies (such as apartment buildings) shall retrofit existing manual-only fire alarm systems with manual and automatic fire detection when the existing fire alarm control unit is replaced for any reason. Automatic detection shall be accomplished by use of a smoke detector (or heat detector as approved), which is system connected and electronically supervised. Detectors shall be installed in all interior corridors and common areas.

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Exceptions:

1. Where each living unit is separated from other contiguous living units by fire barriers having a fire-resistance rating of not less than 3/4 hour, and where each living unit has either its own independent exit or its own independent stairway or ramp discharging at grade.

2. ~~A separate fire alarm system is not required in buildings that are equipped throughout with an approved supervised automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 and having a local alarm to notify all occupants.~~

3. A fire alarm system is not required in buildings that do not have interior corridors serving dwelling units and are protected by an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, provided that dwelling units either have a means of egress door opening directly to an exterior exit access that leads directly to the exits or are served by open ended corridors designed in accordance with Section 1027.6, Exception 3.

4. A fire alarm system is not required in buildings that do not have interior corridors serving dwelling units, do not exceed three stories in height and comply with both of the following:

    4.1. Each dwelling unit is separated from other contiguous dwelling units by fire barriers having a fire-resistance rating of not less than ¾ hour.

    4.2. Each dwelling unit is provided with smoke alarms complying with the requirements of Section 907.2.11.

Section 1103.7.10 Monitoring of Group R Occupancies. All existing R occupancies that are required to provide both a fire alarm and fire suppression system shall have the system monitored by a central station, remote supervising station, or proprietary supervising station.

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Chapter 49 of the California Fire Code is adopted in its entirety subject to the modifications thereto which are set forth below.

CHAPTER 49 – REQUIREMENTS FOR WILDLAND-URBAN INTERFACE FIRE AREAS

SECTION 4902 DEFINITIONS

Section *4902.1 General.* *For the purpose of this chapter, certain terms are defined as follows:*

DIRECTOR. Director of the California Department of Forestry and Fire Protection (CAL FIRE).

FIRE PROTECTION PLAN. A document prepared for a specific premises, project or development, either existing or proposed for a Wildland-Urban Interface (WUI) area. It describes ways to minimize and mitigate potential for loss from wildfire exposure.

FIRE HAZARD SEVERITY ZONES. Geographical areas designated pursuant to California Public Resources Codes, Sections 4201 through 4204 and classified as Very High, High, or Moderate in State Responsibility Area or as Local Agency Very High Fire Hazard Severity Zones designated pursuant to California Government Code, Sections 51175 through 51189.

The California Code of Regulations, Title 14, Section 1280 entitles the maps of these geographical areas as "Maps of the Fire Hazard Severity Zones in the State Responsibility Area of California."

FLATLANDS MITIGATION ~~ZONE~~ AREA (ZONE 1) ~~shall~~ encompasses the entire City of Berkeley except for areas in the Hills Mitigation Area, Panoramic Mitigation Area and Grizzly Peak Mitigation ~~Zones~~Area.

FUEL BREAK. A natural or human caused change in fuel characteristics which affects fire behavior so that fires burning into them can be more readily controlled (NWCG PMS 205).

FIRE-RESISTANT VEGETATION. Plants, shrubs, trees and other vegetation that exhibit properties, such as high moisture content, little accumulation of dead vegetation, and low sap or resin content, that make them less likely to ignite or contribute heat or spread flame in a fire than native vegetation typically found in the region.

[Note: The following sources contain examples of types of vegetation that can be considered fire-resistant vegetation (Fire-resistant Plants for Home Landscapes, A Pacific Northwest Extension publication; Home Landscaping for Fire, University of California Division of Agriculture and Natural Resources; Sunset Western Garden Book)].

GRIZZLY PEAK MITIGATION ~~ZONE~~ AREA (ZONE 4) encompasses ~~the~~ those areas of the city east of Grizzly Peak Boulevard to the city boundary ~~west, north and south~~.

Homes addressed on, or with a structural frontage on either side of Grizzly Peak Boulevard are included in the ~~zone~~area.

The Grizzly Peak Mitigation ~~Zone~~ Area is designated as a Very-High Fire Hazard Severity Zone ~~and Wildland-Urban Interface area~~.

HILLS ~~MIGITATION~~ MITIGATION ~~ZONE~~ AREA (ZONE 2) encompasses those areas designated as Very High ~~and~~ or High Fire Hazard Severity Zones that are not included in the Grizzly Peak Mitigation Area or Panoramic Mitigation ~~Zones~~Area.

~~The Hills Mitigation Zone is designated as a Wildland-Urban Interface area.~~

This area includes areas of the City east / north east of the line formed by these roads. Homes addressed on, or with a structural frontage on either side of these road segments are included in the zone:

a. The Arlington Avenue from the Kensington Border to Marin Avenue

b. Sutter Street from the Southern portal of the Northbrae Tunnel to Eunice Street

~~b.~~c. Eunice Street from Sutter Street to Spruce Street

~~c.~~d. Spruce Street from Eunice Street to Hearst Avenue

~~d.~~e. Gayley Road from Hearst Avenue to Stadium Rim Way

~~e.~~f. Piedmont Avenue from Stadium Rim Way to ~~Bancroft~~ Dwight Way

~~f.~~g. Warring Street from Dwight Way to Derby Street

~~g.~~h. Belrose Avenue from Derby Street to Garber Street

~~h.~~i. Claremont Boulevard from Garber Street to Claremont Avenue

~~i.~~j. Claremont Avenue from Claremont Boulevard to the Oakland Border

~~j.~~k. Tunnel Road from Ashby Avenue to the Oakland Border

IGNITION-RESISTANT MATERIAL. A type of building material that complies with the requirements in Section 704A.2 in the ~~California~~ Berkeley Building Code.

LOCAL RESPONSIBILITY AREAS (LRA). Areas of the state in which the financial responsibility of preventing and suppressing fires is the primary responsibility of a city, county, city and county, or district.

PANORAMIC MITIGATION ~~ZONE~~ AREA (ZONE 3) encompasses those areas of the ~~City~~ city bounded by the line formed by these roads and by the City Limit to the east.

The entirety of the Panoramic Mitigation ~~Zone~~ Area is ~~within the area~~ designated as a Very High Fire

Hazard Severity Zone ~~and Wildland-Urban Interface area~~. Homes addressed on, or with a structural frontage on either side of these road segments are included in the zone:~~.~~

a. Canyon Road from the Oakland border to Stadium Rim Way
b. Stadium Rim Way from Canyon Road to Bancroft Way
c. Bancroft Way from Stadium Rim Way to Prospect Street
d. Prospect Street from Bancroft Way to Bancroft Steps
e. Bancroft Steps from Prospect Street to Warring Street
f. Bancroft Way from Warring Street to Piedmont Avenue
g. Piedmont Avenue from Bancroft Way to Dwight Way
h. Dwight Way from Piedmont Avenue to the Oakland border

STATE RESPONSIBILITY AREA (SRA). Lands that are classified by the Board of Forestry pursuant to Public Resources Code Section 4125 where the financial responsibility of preventing and suppressing wildfires is primarily the responsibility of the state.

WILDFIRE. Any uncontrolled fire spreading through vegetative fuels that threatens to destroy life, property, or resources as defined in Public Resources Code, Sections 4103 and 4104.

WILDFIRE EXPOSURE. One or a combination of radiant heat, convective heat, direct flame contact and burning embers being projected by vegetation fire to a structure and its immediate environment.

WILDLAND-URBAN INTERFACE (WUI). A geographical area identified by the state as a "Fire Hazard Severity Zone" in accordance with the Public Resources Code, Sections 4201 through 4204, and Government Code, Sections 51175 through 51189, or other areas designated by the enforcing agency to be at a significant risk from wildfires. ~~The Berkeley Hills, Panoramic, and Grizzly Peak Mitigation Zones are designated as Wildland-Urban Interface areas. See Government Code Chapter 6.8 Very High Fire Hazard Severity Zones and Public Resources Code Article 9 Fire Hazard Severity Area for the applicable referenced sections.~~

SECTION 4903 PLANS

Section 4903.3 Submittal, approval and fees. When required to submit a Fire Protection Plan or Vegetation Management Plan for any reason the responsible party shall prepare or cause to be prepared a Fire Protection Plan in accordance with the latest standards of the Berkeley Fire Department. The Fire Protection Plan shall be submitted to, reviewed and approved by the Berkeley Fire Department and shall be enforced and maintained by the responsible party or their designated agent. The Berkeley Fire Department may charge an appropriate fee for the review, approval and processing of the Fire Protection Plan in accordance with the hourly rate established by City Council resolution.

~~**SECTION 4904 FIRE HAZARD SEVERITY ZONES**~~

~~**Section 4904.4 Berkeley Fire Hazard Severity Zones.**~~

~~**HILLS MITIGATION ZONE** is designated a Very-High and High Fire Hazard Severity Zone and Wildland-Urban Interface Fire Area. All requirements of Berkeley Fire Code Chapter 49 and Berkeley Municipal Code Section 19.28.030 (Berkeley Building Code, Chapter 7A) shall apply to the areas designated as Very-High and all requirements of Berkeley Municipal Code Section 19.28.030 (Berkeley Building Code, Chapter 7A) shall apply to the areas designated as Very High and High.~~

~~**PANORAMIC MIGITATION ZONE** is designated a Very-High Fire Hazard Severity Zone and Wildland-Urban Interface Fire Area. All requirements of Berkeley Fire Code Chapter 49 and Berkeley Municipal Code Section 19.28.030, Berkeley Building Code, Chapter 7A shall apply.~~

~~**GRIZZLY PEAK MITIGATION ZONE** is designated a Very-High Fire Hazard Severity Zone and Wildland-Urban Interface Fire Area. All requirements of Berkeley Fire Code Chapter 49 and Berkeley Municipal Code Section 19.28.030 (Berkeley Building Code, Chapter 7A) and shall apply.~~

~~**VERY HIGH FIRE HAZARD SEVERITY ZONE** is also a Wildland-Urban Interface Fire Area. All requirements of Berkeley Fire Code Chapter 49 and Berkeley Municipal Code Section 19.28.030 (Berkeley Building Code, Chapter 7A) shall apply to the areas designated as Very-High and all requirements of Berkeley Municipal Code Section 19.28.030 (Berkeley Building Code, Chapter 7A) shall apply to these areas.~~

SECTION 4905 WILDFIRE PROTECTION BUILDING CONSTRUCTION

Section 4905.2 Construction methods and requirements within established limits. Within the limits established by law, construction methods intended to mitigate wildfire exposure shall comply with the wildfire protection building construction requirements contained in the ~~California Building Standards Code~~ Berkeley Building Code and Berkeley Residential Code, including the following:

1. ~~California Building Code, Chapter 7A.~~Chapter 7A of the Berkeley Building Code (B.B.C), Berkeley Municipal Code Section 19.28.030.
2. ~~California Residential Code~~ Section R337 of the Berkeley Residential Code (B.R.C.), Berkeley Municipal Code Section 19.29.050.
3. California Referenced Standards Code, Chapter 12-7A.

SECTION 4907 DEFENSIBLE SPACE

Property owners are not required or authorized by this code to enter the properties of another person to implement the requirements of this Section.

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Section 4907.34 RSpecific requirements. Persons owning, leasing, controlling, operating or maintaining buildings or structures in, or upon the Very High Fire Hazard Severity Zone or Wildland-Urban Interface Fire Areas shall at all times comply with the specific requirements set forth within the references listed in CFC Section 4907.3, as well as the following minimum requirements.

Persons owning, leasing or controlling land adjacent to such buildings or structures that are in the Wildland-Urban Interface Fire Area, regardless of the status of their land as developed or undeveloped, shall at all times comply with the specific requirements set forth within the references listed in CFC Section 4907.3, as well as the following minimum requirements. 5. The

Fire Code Official may require a property owner to perform hazardous vegetation and fuel management on their land to maintain defensible space up to 100 feet from structures located on adjacent properties.

Section 4907.4 Mitigations Required.

minimum area(s) of these properties that are required to comply with CFC Section 4907.3 and the following requirements are to be based on a 100-foot distance from structures on all adjacent lands, unless the fire code official determines that compliance with section 4907.4, Item 3 is required.

Property owners are not required or authorized by this code to enter the properties of another person to implement the requirements of this Section. Persons described aboveA person who owns, leases, controls, operates, or maintains lands shall at all times maintain:

1. Maintain an effective fuel break by removing and clearing away flammable vegetation and combustible growth from areas **within 100 feet** of such buildings or structures, but not beyond the property line.
2. In accordance with Government Code Section 51182, the amount and intensity of fuels management may vary within the 100-foot perimeter of the structure as determined by the inspecting fire department personnel, with more intense fuel reduction being used between 5 and 30 feet around the structure, and ana fire-resistant zone being required within 5 feet of the structure based on regulations promulgated by the State Board of Forestry and Fire Protection; and
3. Maintain additional fire protection or fuel break by removing brush, flammable vegetation and combustible growth located more than 100 feet from such buildings when the fire department determines that conditions exist which may cause a firebreak of 100 feet to be insufficient to provide reasonable fire safety against a wildfire burning under average weather conditions. This section does not require or authorize property owners to manage vegetation beyond their property lines; and

4.3. Zone 1:— 5 to 30 feet from any structure:

a. Remove any privacy hedges or contiguous vegetation that will create a pathway for fire to reach a Structure.

b. Maintain 6 feet of vertical clearance between branches and all other parts of trees overhanging the roof or other portion of any Structure or attached deck.

c. Maintain any tree, shrub, or other plant adjacent to or overhanging any Structure or attached deck free of dead branches, dead limbs, or other Combustible Material.

d. Maintain the roof and roof gutters of any structure, and the surface of any attached deck free of leaves, needles, or other vegetative materials~~Hazardous Vegetation, and Combustible Materials~~.

e. Maintain trees to remove Ladder Fuels so that foliage, twigs, or branches are greater than 8 feet above the ground or surface fuels.

f. Remove all branches within 10 feet of any chimney or stovepipe outlet.

g. Storage of firewood, lumber, or other Combustible Material is not permitted.

~~h. Remove any privacy hedges or rows of bushes that will create a pathway for fire to reach a Structure.~~

h. Keep low-growing shrubs, no higher than 6 feet in height, spaced apart or in small groupings of no more than 3 shrubs with a maximum aggregate diameter of 10 feet. Shrub groupings must be separated from other shrubs~~,~~ or shrub groupings by 15 feet such that no continuous path of vegetation is created. Where shrubs are located below or within a tree's drip line, the lowest tree branch shall be a minimum of three times the height of the understory shrubs or 10 feet, whichever is greater.

~~i. Keep low-growing shrubs spaced apart or in small groupings (no more than 3 shrubs or a maximum of 10 feet wide and 10 feet apart from other plantings) that result in a discontinuous path of vegetation.~~

~~j.~~i. If there are multiple structures, such as a shed, hot tub, and playset, ensure these structures are spaced at least 10 feet apart. Have at most three (3) of these structures within 30 feet of a building or structure ~~your home~~.

~~k.~~ Relocate exposed firewood piles outside of Zone 1 unless they are completely covered in a fire-resistant material.

~~l.~~j.

~~5.~~4. Zone 2: ~~–~~ 30 to 100 feet from any structure:

a. All exposed wood piles must have a minimum of ten feet (10 ft.) of clearance, down to bare mineral soil, in all directions.

b. ~~In this zone c~~Create horizontal and vertical spacing among shrubs and trees using the "Fuel Separation" method, the "Continuous Tree Canopy" method or a combination of both to achieve defensible space clearance requirements. Further guidance regarding these methods is contained in the State Board of Forestry and Fire Protection's, "General Guidelines for Creating Defensible Space, February 8, 2006," incorporated herein by reference.

~~6.~~5. For both Zones 1 and 2:

a. Remove ~~all flammable~~ vegetative ~~on~~ and combustible material capable of transmitting fire to a structure as determined by the Fire Code Official.

b. Dead and dying woody surface fuels and aerial fuels shall be removed. Loose surface litter, normally consisting of fallen leaves or needles, twigs, bark, cones, and small branches, shall be permitted to a maximum depth of three inches (3 in.).

c. Cut annual grasses and forbs down to a maximum height of four inches (4 in.).

d. Non-irrigated brush is not permitted.

e. Vertical Spacing: Limb trees ~~and shrubs~~ by removing hanging bark, debris and branches that are within ~~eight~~ six feet (~~8~~ 6 ft.) of the ground, or ~~four~~ three times the height of the understory vegetation, whichever is greater. Where a tree ~~/ shrub~~ is not adaptable to limbing to the height described above, use a combination of limbing and/or modify and remove fuels adjacent to and underneath the ~~plant~~ tree to provide clearance above grade that is equivalent to ~~four~~ three times the height of the tallest understory fuel.

f. Maintain ~~H~~horizontal spacing between shrubs:

   i. Flat or mild slope (less than 20%): Two times the height of the shrub.

   ii. Mild to moderate slope (20-40%): Four times the height of the shrub

   iii. Moderate to steep slope (greater than 40%): Six times the height of the shrub

g. Maintain ~~S~~space between tree canopies~~s~~:

   i. Flat or mild slope (less than 20%): 10 feet.

   ii. Mild to moderate slope (20-40%): 20 feet.

   iii. Moderate to steep slope (greater than 40%): 30 feet.

h. ~~Trim trees regularly to keep branches a minimum of 10 feet from other trees.~~ New trees shall be planted and maintained so that the tree's drip line at maturity is a minimum of 10 feet from any structure or the canopy of other trees.

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Section 4907.6 Specific requirements. Effective January 1, 2026 the Grizzly Peak Mitigation Area and Panoramic Mitigation ~~Zones~~ Area shall be subject to 4907.6 instead of 4907.4.~~:~~

A person who owns, leases, controls, operates, or maintains lands shall at all times maintain:

~~Property owners are not required or authorized by this code to enter the properties of another person to implement the requirements of this Section.~~ ~~**Performance-Based Approach:** The prescriptive standards within this section must be met as a baseline. For situations that are not clearly covered by the prescriptive requirements, a performance-based approach using methods that are substantiated by evidence-based practices, research, or testing data deemed acceptable by the Fire Code Official may be used. The Fire Code Official reserves the authority to evaluate and approve proposed methods based on their ability to meet the established performance objectives.~~

~~This performance-based approach allows for innovation, adaptability, and site-specific solutions while maintaining the primary goal of reducing the ignition risk to vegetation and structures.~~

~~A variety of techniques, materials, and strategies may be used, provided they effectively achieve the following performance objectives:~~

1. ~~Maintain defensible space that mitigates the potential that vegetation, debris or other combustible material on a parcel creates a wildfire exposure to structures and accessory structures on the property or adjacent properties.~~
2. ~~Vegetation will be evaluated based on the type, density, configuration, and arrangement on a parcel and how those factors are likely to contribute, or prevent, the spread of fire by radiant heat, ember and direct flame. Each parcel must contribute to the resiliency and reduction of the ignition risk the community faces.~~
3. ~~Effectiveness of defensible space can be enhanced with improvements to the fire resistance of structures by completing "home hardening" retrofitting that is compliant with California Building Standards Code, including the following: California Building Code, Chapter 7A, California Residential Code, Section R337, California Referenced Standards Code, Chapter 12-7A, or other features deemed acceptable by the Berkeley Building Official.~~

~~Persons owning, leasing, or controlling, operating or maintaining buildings, structures or land adjacent to such buildings or structures that are in the Very High Fire Hazard Severity Zone or Wildland-Urban Interface Fire Area, regardless of the status of their land as developed or undeveloped, shall at all times comply with the specific requirements set forth within the references listed in CFC Section 4907.3, as well as the following minimum requirements. The minimum area(s) of these properties that are required to comply with CFC Section 4907.3 and the following requirements are to be based on a 100-foot distance from structures on all adjacent lands, unless the Fire Code Official determines that compliance with section 4907.6, No. 3 (below) is required.~~

~~Property owners are not required or authorized by this code to enter the properties of another person to implement the requirements of this Section. Persons described above shall at all times:~~

~~1. Create and maintain effective defensible space within 100 feet of such buildings or structures, not to exceed the property line, by removing and clearing away thinning flammable vegetation and combustible growth capable of readily transmitting fire from such areas as defined below.~~

~~2. In accordance with Government Code Section 51182, the amount and intensity of fuels management may vary within the 100-foot perimeter of the structure as determined by the inspecting fire department personnel, with more intense fuel reduction being used between 5 and 30 feet around the structure, and Zone 0 is required within 5 feet of Structures.~~

~~3. Maintain additional fire protection or fuel break by removing brush, flammable vegetation and combustible growth located more than 100 feet from such buildings when the Fire Code Official determines that conditions exist which may cause a firebreak of 100 feet to be insufficient to provide reasonable fire safety against a wildfire burning under average weather conditions. This section does not require or authorize property owners to manage vegetation beyond their property lines.~~

~~4.~~1. Zone 0: ~~—~~ 0 to 5 feet from any structure:

a. Maintain all ~~ground~~ areas within five (5) horizonal feet of any structure, ~~including any~~ outbuildings, attached deck ors~~,~~ stairs, ~~hot tubs~~ and the area under attached decks and stairs ~~landings~~ free of vegetative and non-vegetative combustible material.

i. ~~Combustible materials~~This includes ~~including~~ but ~~are~~is not limited to ~~vegetation~~shrubs, vegetative ground cover, climbing vines, combustible boards, timbers, firewood, debris, synthetic lawn, wood mulch products, ~~combustible fencing and gates (e.g.: wood/vinyl),~~ playsets, plastic trash and recycle cans, trellises, pergolas, shade coverings, ~~combustible~~ planters, attached window boxes, privacy walls, boats, RVs, and other material that could be ignited by embers, radiant heat, or direct flame.

~~i.~~ii. Hardscape materials, such as gravel, pavers, concrete, and other noncombustible mulch materials are permitted.

iii. Exception: Plants in pots are allowable if they are in areas that are not directly beneath, above, or adjacent to a window or eave; are kept in an unaffixed, non-combustible pot or container that is no larger than 5-gallon capacity; and set apart by 1.5 times the height of the plant or 12 inches, whichever is greater, from the structure and each other. These plants shall be no greater than 18 inches in height. Dead or dying material on, around and under the plants shall be removed.

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~~ii.~~iv. Exception: Hot tubs may be installed within five (5) horizontal feet of a structure, provided they comply with all Zone 0 clearance requirements applicable to structures.

b. ~~-~~No trees are permitted in Zone 0.

i. Exception: If the bole of a tree is present within Zone 0, that tree is permitted if it is taller than the adjacent Building or Structure's roof ridgeline, does not have any dead and dying branches;

ii. A~~and a~~ll live tree branches shall be kept:

1. ~~-t~~Ten feet (10') above the adjacent ~~B~~building or ~~S~~structure's roof ridgeline~~ or deck surface~~;

2. ~~, t~~Ten feet (10') away from chimneys and stovepipe outlets;~~,~~ and

3. ~~f~~Five feet (5') away from the sides of any Building, ~~ or~~ Structure, attached deck~~s,~~ or stairs, and hot tubs within five (5) feet of a structure.

c. The roof and rain gutters of a Building or Structure shall be kept clear of leaves, ~~and~~ needles, and vegetative material.

~~d. Combustible gates that are directly attached to a Building or Structure are not permitted in Zone 0.~~

~~e.~~d. Existing f~~F~~ences that are directly attached to a Building or Structure shall have a five foot (5 ft) non-combustible span at the point of attachment. After the effective date of this regulation, no new sections of combustible fence (parallel or perpendicular) are permitted within 5 feet of a ~~B~~building or ~~S~~structure including an attached deck.

~~f.~~e. Outbuildings are not permitted in Zone 0, unless constructed according to the standards in Chapter 7A (commencing with Section 701A.1) of Part 2 of Title 24 of the California Code of Regulations. Outbuildings that meet these standards shall be considered part of the Building or Structure.

~~5.~~2. Zone 1: ~~–~~ 5 to 30 Feet from any structure:

a. Remove any privacy hedges or contiguous vegetation that will create a pathway for fire to reach a Structure.

b. Keep low-growing shrubs, no higher than 6 feet in height, spaced apart or in small groupings of~~(~~ no more than 3 shrubs with ~~or~~ a maximum aggregate diameter of 10 feet. ~~wide~~ Shrub groupings must be separated from other shrubs or~~,~~ shrub groupings~~, or other plantings~~ by ~~and~~ 1~~0~~ 5 feet such ~~apart from other plantings)~~ that no continuous ~~result in a discontinuous~~ path of vegetation is created~~ .and from structures by a minimum of 30 feet~~. Where shrubs are located below or within a tree's drip line, the lowest tree branch shall be a minimum of three times the height of the understory shrubs or 10 feet, whichever is greater.

c. If there are multiple structures, such as a shed, hot tub, and playset, ensure these structures are spaced at least 10 feet apart. Have at most three (3) of these structures within 30 feet of ~~your home~~a building or structure.

d. Relocate exposed firewood piles outside of Zone 1 unless they are completely covered in a fire-resistant material.

~~6.~~3. Zone 2: ~~–~~ 30 to 100 feet from any structure:

a. All exposed wood piles must have a minimum of ten feet (10 ft.) of clearance, down to bare mineral soil, in all directions.

b. ~~In this zone c~~Create horizontal and vertical spacing among shrubs and trees using the "Fuel Separation" method, the "Continuous Tree Canopy" method or a combination of both to achieve defensible space clearance requirements. Further guidance regarding these methods is contained in the State Board of Forestry and Fire Protection's, "General Guidelines for Creating Defensible Space, February 8, 2006," incorporated herein by reference.

~~7.~~4. For both Zones 1 and 2:

a. Remove ~~all flammable~~ vegetative ~~on~~ and combustible material capable of transmitting fire to a structure as determined by the Fire Code Official.

b. Dead and dying woody surface fuels and aerial fuels shall be removed. Loose surface litter, normally consisting of fallen leaves or needles, twigs, bark, cones, and small branches, shall be permitted to a maximum depth of three inches (3 in.).

c. Cut annual grasses and forbs down to a maximum height of four inches (4 in.).

~~i. Annual grasses must be removed or cut to less than 4 inches.~~

d. Non-irrigated brush is not permitted.

e. Vertical Spacing: Limb trees ~~and shrubs~~ by removing hanging bark, debris and branches that are within ~~eight~~ six feet (~~8~~6 ft.) of the ground, or ~~four~~ three times the height of the understory vegetation, whichever is greater. Where a tree ~~/ shrub~~ is not adaptable to limbing to the height described above, use a combination of limbing and/or modify and remove fuels adjacent to and underneath the ~~plant~~ tree to provide clearance above grade that is equivalent to ~~four~~ three times the height of the tallest understory fuel.

f. Maintain ~~H~~horizontal spacing between shrubs:

i. Flat or mild slope (less than 20%): Two times the height of the shrub.

ii. Mild to moderate slope (20-40%): Four times the height of the shrub

iii. Moderate to steep slope (greater than 40%): Six times the height of the shrub

g. Maintain ~~S~~space between tree~~s~~ canopies~~s~~:

i. Flat or mild slope (less than 20%): 10 feet.

ii. Mild to moderate slope (20-40%): 20 feet.

iii. Moderate to steep slope (greater than 40%): 30 feet.

~~Trim trees regularly to keep branches a minimum of 10 feet from other trees.~~

h. New trees shall be planted and maintained so that the tree's drip line at maturity is a minimum of 10 feet from any structure or the canopy of other trees.

Section 4907.5 Corrective Actions. The fire department is authorized to take enforcement actions as necessary to achieve compliance with Chapter 49 of this code, including but not limited those actions specified in Sections 104.13 ("Authority to arrest and issue citations"), 112.4 ("Violation penalties") and 114.7 ("Summary abatement") of this code, and as authorized by Berkeley Municipal Code, Chapter 1.24, "Abatement of Nuisances", and in accordance with all other applicable portions of the Berkeley Municipal Code. Corrective actions may also include the use of abatement warrants and the imposition of property liens as appropriate and in accordance with law.

Section 4912 SUPPRESSION AND CONTROL OF HAZARDS IN WILDLAND-URBAN INTERFACE AREAS]

Section 4912.1 Permit. The fire code official is authorized to stipulate conditions for permits. Permits shall not be issued when public safety would be at risk, as determined by the fire code official.

Section 4912.2 Restricted Entry. The fire code official shall determine and publicly announce when Wildland-Urban Interface areas shall be closed to entry and when such areas shall again be opened to entry. Entry on and occupation of Wildland-Urban Interface areas, except public roadways, inhabited areas or established trails and camp sites which have not been closed during such time when the Wildland-Urban Interface areas are closed to entry, is prohibited.

Exceptions:

1. Residents and owners of private property within Wildland-Urban Interface areas and their invitees and guests going to or being upon their lands;
2. Entry, in the course of duty, by peace officers, and other duly authorized public officers, members of a fire department and members of the United States Forest Service

Section 4912.3 Trespassing on Posted Property

Section 4912.3.1 General. When the fire code official determines that a specific area within a Wildland-Urban Interface Areas presents an exceptional and continuing fire danger because of the density of natural growth, difficulty of terrain, proximity to structures or accessibility to the public, such areas shall be closed until changed conditions warrant termination of closure. Such areas shall be posted as hereinafter provided.

Section 4912.3.2 Signs. Approved signs prohibiting entry by unauthorized persons and referring to this section shall be placed on every closed area.

Section 4912.3.3 Trespassing. Entering and remaining within areas closed and posted is prohibited.

Exception: Owners and occupiers of private or public property within closed and posted areas, their guests or invitees, and local, state and federal public officers and their authorized agents acting in the course of duty.

Section 4912.4 Smoking. Lighting, igniting or otherwise setting fire to or smoking tobacco, cigarettes, pipes or cigars in Wildland-Urban Interface areas are prohibited.

Exception: Places of habitation or within the boundaries of established smoking areas or campsites as designated by the fire code official.

Section 4912.5 Spark Arresters. Chimneys used in conjunction with fireplaces, barbecues, incinerators or heating appliances in which solid or liquid fuel is used, upon buildings, structures or premises located within Wildland-Urban Interface areas shall be provided with a spark arrester. See Berkeley Building Code Section 705A.5 for specifications.

Section 4912.6 Tracer Bullets, Tracer Charges, Rockets and Model Aircraft. Tracer bullets and tracer charges shall not be possessed, fired or caused to be fired into or across Wildland-Urban Interface areas. Rockets, model planes, gliders and balloons powered with an engine, propellant or other feature liable to start or cause fire shall not be fired or projected into or across Wildland-Urban Interface Areas.

Section 4912.7 Explosives and Blasting. Explosives shall not be possessed, kept, stored, sold, offered for sale, given away, used, discharged, transported or disposed of within Wildland-Urban Interface areas except by permit from the fire code official.

Section 4912.8 Fireworks. Fireworks shall not be used or possessed in Wildland-Urban Interface areas. The fire code official is authorized to seize, take, remove or cause to be removed fireworks in violation of this section.

Exception: Fireworks allowed by the fire code official under permit when not prohibited by applicable local or state laws, ordinances and regulations.

Section 4912.9 Apiaries. Lighted and smoldering material shall not be used in connection with smoking bees in or upon Wildland-Urban Interface areas except by permit from the fire code official.

Section 4912.10 Open-Flame Devices. See Berkeley Fire Code Sections 308.1.6 Open Flame Devices and 308.1.6.1 Signals and Markers.

Section 4912.11 Outdoor Fires. Outdoor fires shall not be built, ignited or maintained in or upon Wildland-Urban Interface areas, except by permit from the fire code official.

Exception: Outdoor fires within habited premises or designated campsites, where such fires are built in a permanent barbecue, portable barbecue, outdoor fireplace, incinerator or grill and are a minimum of 30 feet (9144 mm) from a grass-, grain-, brush or forest-covered area.

Permits shall incorporate such terms and conditions, which will reasonably safeguard public safety and property.

Outdoor fires shall be prohibited in or upon Wildland-Urban Interface areas under the following conditions:

1. When red flag conditions exist as defined by the National Oceanic and Atmospheric Administration,
2. When a person age 17 or over is not present at all times to watch and tend such fire, or
3. When public announcement is made that open burning is prohibited. Permanent barbecues, portable barbecues, outdoor fireplaces, fire pits or grills shall not be used if solid or liquid fueled.

Section 4912.12 Incinerators and Fireplaces. Incinerators, outdoor fireplaces, fire pits, permanent barbecues and grills shall not be built, installed or maintained in Wildland-Urban Interface areas without prior approval of the fire code official. Existing incinerators, outdoor fireplaces, fire pits, permanent barbecues and grills shall be maintained in good repair and in a safe condition at all times. Openings in such appliances shall be provided with an approved spark arrester, screen or door.

Exception: When approved, unprotected openings in barbecues and grills necessary for proper functioning shall be allowed.

Section 4912.13 Dumping. Garbage, cans, bottles, papers, ashes, refuse, trash, rubbish or combustible waste material shall **not** be placed, deposited or dumped in or upon Wildland-Urban Interface areas or in, upon or along trails, roadways or highways in Wildland-Urban Interface areas.

Exception: Approved public and private dumping areas.

Section 4912.14 Disposal of Ashes. Ashes and coals shall not be placed, deposited or dumped in or upon Wildland-Urban Interface areas.

Exceptions:

1. In the hearth of an established fire pit, camp stove or fireplace;
2. In a noncombustible container with a tight-fitting lid, which is kept or maintained in a safe location not less than 10 feet (3048mm) from combustible vegetation or structures;
3. Where such ashes or coals are buried and covered with 1 foot (304.8mm) of mineral earth not less than 25 feet (7620 mm) from combustible vegetation or structures.

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Section 4912.15 Use of Fire Roads and Firebreaks. Motorcycles, motor scooters and motor vehicles shall not be driven or parked upon, and trespassing is prohibited upon, fire roads or firebreaks beyond the point where travel is restricted by a cable, gate or sign, without the permission of the property owner(s). Vehicles shall not be parked in a manner, which obstructs the entrance to a fire road or firebreak.

Exception: Public officers acting within their scope of duty. Radio and television aerials, guy wires thereto, and other obstructions shall not be installed or maintained on fire roads or fire breaks unless located 16 feet (4877 mm) or more above such fire road or firebreak.

Section 4912.16 Use of Motorcycles, Motor Scooters and Motor Vehicles. Motorcycles, motor scooters and motor vehicles shall not be operated within Wildland-Urban Interface areas, without a permit by the fire code official, except upon clearly established public or private roads. Permission from the property owner(s) shall be presented when requesting a permit.

Section 4912.17 Tampering with Fire Department Locks, Barricades and Signs. Locks, barricades, seals, cables, signs and markers installed within Wildland-Urban Interface areas, by or under the control of the fire code official, shall not be tampered with, mutilated, destroyed or removed. Gates, doors, barriers and locks installed by or under the control of the fire code official shall not be unlocked.

Section 4912.18 Liability for Damage. The expenses of fighting fires and securing emergencies, which result from a violation of this code, Chapter 6.15.030 of the Berkeley Municipal Code ("Unauthorized barbecues and fire on public property"), Sections 13000-13011 of the California Health and Safety Code, Sections 4421-4446 of the California Public Resources Code, or Sections 451, 451.5, 452 or 455 of the California Penal Code is a charge against the person(s) whose violation of the code section(s) caused the fire. Damages caused by such fires shall constitute a debt of such person(s) and shall be collectable by the fire code official in accordance with Section 107.7 of the BMC.

Chapter 50 of the California Fire Code is adopted in its entirety subject to the modifications thereto which are set forth below.

CHAPTER 50 – HAZARDOUS MATERIALS – GENERAL PROVISIONS

SECTION 5001 GENERAL

Section 5001.7 Hazardous materials transportation restrictions. No vehicle containing hazardous materials, including a hazardous materials transportation tank truck, trailer, semi-trailer or tank wagon containing flammable or combustible liquids, hazardous chemicals, liquefied petroleum gases, poisonous gases, or cryogenic fluids, shall be operated on any city street without a permit from the fire code official. A map showing the proposed route of the vehicle shall accompany applications for such permits. If a permit is granted, the map shall be carried at all times in the vehicle and the vehicle shall not deviate from the approved route as shown on the map. Such a permit may contain conditions, including restrictions on the hours within which certain routes may be used and limitations on the size of the vehicle allowed to travel the approved route. No route shall be approved that includes passage over or adjacent to subway entry or vent structures, through the Northbrae Tunnel, in any area designated an environmental safety residential district by the City of Berkeley's Zoning Ordinance, or in an area which may be designated as a hazardous fire area. Departure from the approved route, travel outside the permitted hours, and violation of any vehicle size limitation imposed, or failure to carry a map showing route approval shall constitute a violation of this Code. The transportation of extremely hazardous materials may, in the discretion of the fire code official, require both a permit and accompaniment by a Fire Department or Police Department convoy. The following streets contain purge chamber openings which lead directly into the subway section of the Bay Area Rapid Transit (BART) System in Berkeley and their use by tank vehicles or trailers for transportation or delivery of flammable or combustible liquids, hazardous chemicals, liquefied petroleum gases, poisonous gases, or cryogenic fluids is prohibited and a violation of this Code:

a. On Addison Street between Martin Luther King Jr. Way and Oxford Street;
b. On Shattuck Avenue between University Avenue and Dwight Way;
c. On Virginia Street between Franklin and Sacramento Streets;
d. On Sacramento Street between Virginia Street and Hearst Avenue;
e. On Hearst Avenue between McGee Avenue and Milvia Street;
f. On Adeline Street between Ward and Stuart Streets; and
g. On Adeline Street between Ashby Avenue and Woolsey Street

CHAPTER 56 – EXPLOSIVES AND FIREWORKS

SECTION 5601 GENERAL

5601.1.3 Fireworks. The possession, manufacture, storage, sale, handling and use of fireworks, including fireworks which are classified as Safe and Sane fireworks by the California State Fire Marshal's Office, are prohibited within the City of Berkeley.

Exceptions:

~~1. Storage and handling of fireworks as allowed in Section 5604.~~

~~2. Manufacture, assembly and testing of fireworks as allowed in Section 5605 and Health and Safety Code Division 11.~~

~~3~~1. The use of fireworks for fireworks displays, *pyrotechnics before a proximate audience and pyrotechnic special effects in motion pictures, television, theatrical or group entertainment productions as allowed in Title 19, Division 1, Chapter 6 Fireworks reprinted in* Section 5608 *and Health and Safety Code Division 11* when stored, transported, handled and used under the required fire department permit(s) and in accordance will all applicable requirements of Chapter 56.

~~4~~2. The possession, storage, sale, handling and use of specific types of Division 1.4G fireworks where allowed by applicable laws, ordinances and regulations, provided that such fireworks and facilities comply with NFPA 1124, CPSC 16 CFR Parts 1500 and 1507, and DOTn 49 CFR Parts 100– 185, as applicable for consumer fireworks *and Health and Safety Code Division 11*.

Section 5604.1 General. The storage and handling of explosives within City of Berkeley limits is prohibited. ~~Storage of explosives and explosive materials, small arms ammunition, small arms primers, propellant- actuated cartridges and smokeless propellants in magazines shall comply with the provisions of this section~~

Exception: Where expressly permitted by applicable laws, ordinances or regulations provided such storage and handling of explosives and explosive materials, small arms ammunition, small arms primers, propellant-actuated cartridges and smokeless propellants in magazines is conducted in accordance with Section 5604 and all applicable provisions of Chapter 56.

CHAPTER 57 – FLAMMABLE AND COMBUSTABLE LIQUIDS

SECTION 5701 GENERAL

Section 5701.4.1 Transfer of flammable and combustible liquids. Transfer to or from containers or mobile tanks, above ground or underground tanks of flammable and combustible liquids shall not be made from or on the street or public way except by written approval by the fire code official.

Exceptions:

1. Transfer of not more than 5 gallons flammable or combustible liquids using a listed or approved portable fuel container of not more than 5 gallons capacity.
2. The transfer of combustible liquids to or from approved, fixed mechanical or electrical system equipment such as a Standby or Emergency electric power generator when the transfer is completed by a commercial fuel vendor using approved dispensing equipment via a previously approved, fixed tank filling port which met code requirements at the time of installation.

SECTION 5704 STORAGE

Section 5704.2.11.1.1 Restrictions on underground storage tanks. The storage of flammable and combustible liquids in underground tanks is prohibited in all areas zoned solely for residential occupancies, closely built commercial properties, and any other area deemed unsafe by the fire code official.

Section 5704.2.13.1.4 Tanks abandoned in place. Tanks may be abandoned only under permit and following City of Berkeley Fire Department procedures. The owner shall demonstrate to the satisfaction of the City of Berkeley Toxics Management Division (TMD) that no unauthorized release has occurred. If the soil is contaminated, mitigation must be completed to the satisfaction of the Toxics Management Division (TMD). A notice shall be placed in the deed to the property. This notice shall describe the precise location of the closed underground storage tank, the hazardous substances that it contained, and the closure method. Tanks abandoned in place shall be as follows:

1. Flammable and combustible liquids shall be removed from the tank and connected piping.
2. The suction, inlet, gauge, vapor return and vapor lines shall be disconnected.
3. The tank shall be filled completely with an approved inert solid material.
4. Remaining underground piping shall be capped or plugged.
5. A record of tank size, location and date of abandonment shall be retained.
6. All exterior above-grade fill piping shall be permanently removed when tanks are abandoned or removed.

Section 5704.2.14 Removal and disposal of tanks. Removal and disposal of tanks shall comply with Sections 5704.2.14.1 and 5704.2.14.2. Removal of all tanks shall be authorized under a fire permit, abiding by City of Berkeley Fire Department procedures. The applicant shall submit the following:

1. **A site plan showing the location of the tanks.**
2. **A detailed description of the scope of work.**
3. **A site safety plan.**
4. **A vicinity map to the closest hospital, in an event of an emergency.**
5. **Proof of workers compensation insurance.**

The owner shall demonstrate to the satisfaction of the City of Berkeley Toxics Division that no unauthorized release has occurred. If the soil is contaminated, mitigation must be completed to the satisfaction of the Toxics Division or the California Water Board.

CHAPTER 61 – LIQUIFIED PETROLEUM GASES

SECTION 6104 LOCATION OF LP-GAS CONTAINERS

Section 6104.1.1 Restrictions on storage of LP-gas containers. It shall be unlawful to store any liquefied petroleum gas cylinder with a capacity greater than 2-1/2 lbs. water capacity or a portable tank within any structure or building with an occupancy classification of A, R-1, R-2 or R-4, unless specifically authorized by this Code.

APPENDIX B – FIRE FLOW REQUIREMENTS FOR BUILDINGS

Section B105.2 (Appendix B), Table B105.2, "Required Fire-Flow for Buildings Other Than One- And Two-Family Dwellings, Group R-3 And R-4 Buildings And Townhouses" [Amended Table]

TABLE B105.2
REQUIRED FIRE·FLOW FOR BUILDINGS
OTHER THAN ONE· AND
TWO-FAMILY DWELLINGS, GROUP R·3 AND R·4
BUILDINGS AND TOWNHOUSES

AUTOMATIC SPRINKLER SYSTEM (Design Standard)	MINIMUM FIRE-FLOW (gallons per minute)	FLOW DURATION (hours)
No automatic sprinkler system	Value in Table B105.1(2)	Duration in Table B105.1(2)
Section 903.3.1.1 of the *California Fire Code*	~~25~~50% of the value in Table B105.1(2)[a]	Duration in Table Bl 05.1(2) at the reduced flow rate
Section 903.3.1.2 of the *California Fire Code*	~~25~~50% of the value in Table B105.1(2)[b]	Duration in Table Bl05.1(2) at the reduced flow rate

For SI: 1 gallon per minute= 3.785 Lim.
a. The reduced fire-flow shall be not less than 1,000 gallons per minute.
b. The reduced fire-flow shall be not less than 1,500 gallons per minute.

APPENDIX L – REQUIREMENTS FOR FIRE FIGHTER AIR REPLENISHMENT SYSTEMS

SECTION L104 DESIGN AND INSTALLATION

Section L104.5.1 Stored pressure air supply. A stored pressure air supply shall be designed based on Appendix Chapter F of the California Plumbing Code ~~Chapter 24 of NFPA 1901~~ except that the provisions applicable only to mobile apparatus or not applicable to system design shall not apply. A stored pressure air supply shall store not less than 5,000 Standard Cubic Feet (SCF) of air or be capable of refilling not less than 50 empty breathing air cylinders of a size and pressure used by the fire department, whichever is greater.

Section 19.48.030 Validity. Should any section, paragraph, sentence or word of this Chapter or of the Code or Standards be declared invalid, all other portions of this Chapter shall remain in effect.

Section 2. Copies of this Ordinance shall be posted for two days prior to adoption in the display case located near the walkway in front of the Maudelle Shirek Building, 2134 Martin Luther King Jr. Way. Within 15 days of adoption, copies of this Ordinance shall be filed at each branch of the Berkeley Public Library and the title shall be published in a newspaper of general circulation.