Ordinance No. 5563

Adoption of an Ordinance Repealing Chapter 15.04 of the Palo Alto Municipal Code and Amending Title 15 to Adopt a New Chapter 15.04, the California Fire Code (2022 Edition) With Local Amendments and Related Findings

The Council of the City of Palo Alto does ORDAIN as follows:

SECTION 1. Title 15 of the Palo Alto Municipal Code is hereby amended by repealing in its entirety Chapter 15.04 and enacting a new Chapter 15.04 to read as follows:

CHAPTER 15.04
CALIFORNIA FIRE CODE,
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 9

Sections

15.04.010 2022 California Fire Code, Title 24, Part 9 adopted and amended.
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15.04.030 Section 102.5 Application of residential code.
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15.04.080 Sections 105.5.25 and 105.5.53 and Sections 105.5.55 through 105.5.59 Operational permits.
15.04.090 Sections 105.6.3 Cryogenic fluids and 105.6.12 Hazardous materials amended and Section 105.6.25 Construction permits added.
15.04.100 Sections 105.8.1 and 105.8.2 Fire and life safety.
15.04.110 Section 107.7 Certified Unified Program Agency Fees.
15.04.120 Section 108.1 Inspection authority.
15.04.130 Section 112.1.1 Enforcement/citation authority.
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15.04.160 Section 316.7 Roof guiderails at interior courts.
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15.04.280 **Section 903.2 Automatic sprinkler systems, where required.**

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15.04.320 **Section 903.4.3 Floor control valves.**

15.04.330 **Section 905.3.1 Standpipe systems.**

15.04.340 **Section 909.20.7 Smoke control systems - schedule.**

15.04.350 **Section 1008.3.3 Rooms and spaces.**

15.04.360 **Section 1031.2 Where required.**

15.04.370 **Section 1207.1.5 Large-scale fire test.**

15.04.380 **Section 1207.11.3 Location.**

15.04.390 **Section 3305.9 Fire walls.**

15.04.400 **Section 3312.1 and 3312.1.1.**

15.04.410 **Section 4902.1 Definition of wildland-urban interface fire area.**

15.04.420 **Section 4903.2 and 4903.3 through 4903.4 General requirements for wildland-urban interface fire areas.**

15.04.430 **Sections 4907.1 and 4907.4 Defensible space.**

15.04.440 **Section 5001.2.2.2 Health Hazards.**

15.04.450 **Section 5001.7 Hazard materials management plan electronic submissions.**

15.04.460 **Section 5003.1.3.1 Toxic, highly toxic, moderately toxic gases and similarly used or handled materials.**

15.04.470 **Section 5003.1.5 Other health hazards including carcinogens, irritants and sensitizers.**

15.04.480 **Section 5003.1.6 Additional secondary containment requirements.**

15.04.490 **Section 5003.2.2.1 Design and construction.**

15.04.500 **Section 5003.2.2.2 Additional regulations for supply piping for health hazard materials.**

15.04.510 **Section 5003.3.1 Unauthorized discharges.**

15.04.520 **Section 5003.5.2 Ventilation ducting.**

15.04.530 Section 5003.5.3 "H" Occupancies.

15.04.540 Section 5003.9.11 Fire extinguishing systems for workstations dispensing, handling or using hazardous materials.

15.04.550 Section 5003.10.4 Elevators utilized to transport hazardous materials.

15.04.560 Section 5004.2.1 Spill control for hazardous material liquids.

15.04.570 Sections 5004.2.2 and 5004.2.2.2 and Table 5004.2.2 Secondary containment for hazardous material liquids and solids.

15.04.580 Section 5004.2.3 Containment pallets.

15.04.590 Section 5704.2.7.5.8 Overfill prevention.

15.04.600 Section 5704.2.7.5.9 Automatic filling of tanks.

15.04.610 Section 5707.3.3 Site plan.

15.04.620 Section 6001.1 Site scope.

15.04.630 Section 6002.1 Definitions.

15.04.640 Section 6004.1 Highly toxic and toxic compressed gases.

15.04.650 Sections 6004.2 and 6004.2.1 Indoor storage and use.

15.04.660 Section 6004.2.1.4 and Table 6004.2.1.4 Quantities.

15.04.670 Section 6004.4 through 6004.4.8.2 General indoor requirements.

15.04.010 2022 California Fire Code, Title 24, Part 9 adopted and amended.

The California Fire Code, 2022 Edition, as adopted by the California Code of Regulations Title 24, Part 9, and Appendices B, C, D, E, F, G, H, and K is adopted as herein amended. One copy of the California Fire Code is on file and open to public inspection in the Office of the City Clerk. Additional copies of the secondary codes set forth within the California Fire Code, and the amendments set forth in this chapter, are on file and open to public inspection in the fire department administrative office.

Whenever the phrase "California Fire Code" appears in this code or in any ordinance of the city, such phrase shall be deemed and construed to refer to and apply to the "California Fire Code, 2022 Edition" as adopted by the California Code of Regulations Title 24, Part 9 and as adopted and amended by this chapter.

15.04.020 Local Amendments.

The provisions of this Chapter shall constitute local amendments to the cross-referenced provisions of the California Fire Code, 2022 Edition, and shall be deemed to replace the cross-referenced sections of said Code with the respective provisions set forth in this Chapter. Where used in this Chapter 15.04, ellipses shall indicate text of the California Fire Code, 2022 Edition, that has been adopted without amendment but is omitted for brevity.

15.04.030 Section 102.5 amended - Application of residential code.

Section 102.5 of the California Fire Code is amended to read as follows:

102.5 Application of residential code. Where structures are designed and constructed in accordance with the *California Residential Code*, the provisions of this code shall apply as follows:

1. Construction and design provisions:
   a. Provisions of this code pertaining to the exterior of the structure shall apply, including, but not limited to, premises identification, fire apparatus access, and water supplies.
   b. Provisions of this code pertaining to the interior of the structure shall apply when specifically required by this code including, but not limited to, Sections 903.2 through 903.3.7 and Section 907.2.10.
   c. Where interior or exterior systems or devices are installed, construction permits required by Section 105.6 of this code shall also apply.
2. Administrative, operational, and maintenance provisions: all such provisions of this code shall apply.

15.04.040 Section 103.2 Appointment deleted.

Section 103.2 of the California Fire Code is deleted.

15.04.050 Sections 105.3.9 Permits/Permit fees and 105.3.10 Operational permits.

Sections 105.3.9 and 105.3.10 are added to the California Fire Code to read as follows:

105.3.9 Permits/Permit fees. All permit fees shall be established by the City Council as set forth in the municipal fee schedule.

105.3.10 Operational permits. Operational permits are valid for one year at which time they must be renewed by paying a fee specified in the municipal fee schedule.

15.04.060 Table 105.5.9 Permit amounts for compressed gases.

Table 105.5.9 of the California Fire Code is amended to read as follows:

TABLE 105.5.9
PERMIT AMOUNTS FOR COMPRESSED GASES[1]

TYPE OF GAS	AMOUNT (cubic feet)[2] X 0.0283 for m^3
Carbon dioxide used in carbon dioxide enrichment systems	875(100 lbs)

Flammable (except cryogenic and liquefied petroleum gases)	200
Highly toxic	Any amount
Inert and simple asphyxiant	6,000
Irritant	200
Moderately toxic	20
Other health hazards	650
Oxidizing (including oxygen)	504
Pyrophoric	Any amount
Radioactive	Any amount
Sensitizer	200
Toxic	Any Amount
Unstable (reactive)	Any amount

For SI: 1 cubic foot = 0.0283m^3.

1 Refer to Chapters 27, 30, 32, 35, 37, 40 and 41 for additional requirements and exceptions.

2 Cubic feet measured at normal Temperature and pressure.

15.04.070 Table 105.5.22 Permit amounts for hazardous materials.

Table 105.5.22 of the California Fire Code is amended to read as follows:

TABLE 105.5.22
PERMIT AMOUNTS FOR HAZARDOUS MATERIALS

TYPE OF MATERIAL	*AMOUNT*
Carcinogens	10 pounds
Combustible liquids	See Section 105.6.16
Corrosive materials: Gases Liquids Solids	 See Section 105.6.8 55 gallons 500 pounds
Cryogens	See Section 105.6.10
Explosive materials	See Section 105.6.14
Flammable materials: Gases Liquids Solids	 See Section 105.6.8 See Section 105.6.16 10 pounds
Highly toxic materials:	

Gases	Any amount
Liquids	Any amount
Solids	Any amount
Moderately toxic gas	20 cubic feet
Organic peroxides:	
Liquids: Class I-IV	Any Amount
Liquids: Class V	No Permit Required
Solids: Class I-IV	Any Amount
Solids: Class V	No Permit Required
Oxidizing materials:	
Gases Liquids	504 Cubic Feet
Solids:	Any amount
	Any amount
Other health	
Hazards:	55 gallons
Liquids	500 pounds
Pyrophoric materials:	
Gases	Any amount
Liquids	Any amount
Solids	Any amount
Radioactive materials:	
Gases	Any Amount
Liquids	See Section 105.6.47
Solids	See Section 105.6.47
Toxic materials:	
Gases	Any amount
Liquids	Any amount
Solids	Any amount
Unstable (reactive) materials:	
Gases	Any amount
Liquids	Any amount
Solids	Any amount
Water reactive materials:	
Liquids	Any amount
Solids	Any amount

For SI: 1 gallon = 3.785 L, 1 pound = 0.454kg.

a. 20 gallons when Table 2703.1.1(1) Note k applies and hazard identification signs in accordance with Section 2703.5 are provided for quantities of 20 gallons or less.

b. 200 pounds when Table 2703.1.1(1) Note k applies and hazard identification signs in

accordance with Section 2703.5 are provided for quantities of 200 pounds or less.

15.04.080 Sections 105.5.25 and 105.5.53 and Sections 105.5.55 through 105.5.59 Operational permits.

Sections 105.5.25 and 105.5.53 of the California Fire Code are amended and Sections 105.5.55 through 105.59 are added to read as follows:

[. . .]

105.5.25 Hot work operations. An operational permit is required for hot work including, but not limited to:

1. Public exhibitions and demonstrations where hot work is conducted.
2. Use of portable hot work equipment inside a structure.

   Exception: (deleted)
3. Fixed-site hot work equipment, such as welding booths.
4. Hot work conducted within a wildfire risk area.
5. Application of roof coverings with the use of an open-flame device.
6. (deleted)

[. . .]

105.5.53 Lithium batteries. An operational permit is required for an accumulation of more than 15 cubic feet (0.42 m) of lithium-ion and lithium metal batteries, where required by Section 322.1.

[. . .]

105.5.55 Liquid gas fueled equipment. An operational permit is required for liquid gas fueled equipment.

105.5.56 Battery operated equipment. An operational permit is required for commercial/industrial/research battery operated equipment.

105.5.57 Underground storage tank. An operational permit is required for Underground Storage Tanks.

105.5.58 Radioactive materials. An operational permit is required to store, use or handle any radioactive material or source.

105.5.59 Day care permit. An operational permit is required to operate a day care facility for more than six children or adults.

15.04.090 Sections 105.6.3 Cryogenic fluids and 105.6.12 Hazardous materials amended and Section 105.6.25 Construction permits added.

Sections 105.6.3 and 105.6.12 of the California Fire Code are amended, and 105.6.25 of the California Fire Code is added to read as follows:

[. . .]

105.6.3 Cryogenic fluids. A construction permit is required for installation of or alteration to stationary cryogenic fluid storage systems where the system capacity exceeds the amounts listed in Table 105.5.11. Maintenance performed in accordance with this code is not considered to be an alteration and does not require a construction permit.

[. . .]

105.6.12 Hazardous Materials. A construction permit is required to install, repair damage to, abandon, remove, place temporarily out of service, or close or substantially modify a storage facility or other area regulated by Chapter 50 where the hazardous materials in use and when equipment is modified or installed that uses, stores, processes, or conveys hazmat.

Exceptions:

1. deleted

2. For repair work performed on an emergency basis, application for permit shall be made within two working days of commencement work.

[. . .]

105.6.25 Underground fire service lines: installation or modification.
A construction permit is required for the installation, modification or removal from service of underground fire service lines.

15.04.100 Sections 105.8.1 and 105.8.2 Fire and life safety.

Subsections 105.8.1 and 105.8.2 are added to the California Fire Code to read as follows:

105.8.1 Fire and life-safety plan review. Fire and life-safety plan review of all new construction, all remodels, and all additions shall be performed by the Fire Chief or his designee.

105.8.2 Site Map and Floor plans. The fire code official may require as a condition of final

permit approval, a site map including the use of standard or approved Palo Alto Fire Department symbols. Features would include interior floor plans, on-site hydrant locations, FDC locations, key safe locations, alarm panel locations, electrical panel locations, stairwell and elevator locations, water shut off locations, hazardous materials locations, and other significant design elements or fire service features. The site map is to be provided in a format compatible with the City's Geographic Information System (GIS) at time of construction. This requirement applies to newly constructed buildings, facilities where hazardous materials are used or stored in quantities exceeding permit amounts in Section 105, additions or permitted remodels when in the opinion of the fire code official a site map is warranted.

15.04.110 Section 107.7 Certified Unified Program Agency Fees.

Section 107.7 is added to the California Fire Code to read as follows:

107.7 Certified Unified Program Agency (CUPA) Fees. Pursuant to the Participating Agency Agreement between the County of Santa Clara and the City of Palo Alto dated July 1, 1997, or as amended, the Fire Department is authorized to collect fees associated with the CUPA programs. The CUPA fees will be collected on an annual basis or as specified in the Palo Alto Municipal Fee Schedule.

15.04.120 Section 108.1 Inspection authority.

Section 108.1 of the California Fire Code is amended to read as follows:

108.1 Inspection authority. The fire code official is authorized to inspect, as often as necessary, buildings and premises, including such other hazards or appliances designated by the fire code official for the purposes of ascertaining and causing to be corrected any conditions which would reasonably tend to cause fire or contribute to its spread, result in an unauthorized discharge of hazardous materials, or amount to any violation of this code or any other law or standard affecting fire and life safety.

15.04.130 Section 112.1.1 Enforcement/citation authority.

Section 112.1.1 is added to the California Fire Code to read as follows:

112.1.1 Penal code citation authority. The employee positions designated in this section are authorized to exercise the authority provided in California Penal Code section 836.5 for violations of the California Fire Code. The designated employee positions are: Fire Chief, Deputy Fire Chief, Fire Marshal, Fire Inspector, Hazardous Materials Specialist and Hazardous Materials Inspector.

15.04.140 Section 112.4 Violation penalties.

Section 112.4 of the California Fire Code is amended to read as follows:

112.4 Violation penalties. It is unlawful for any person to violate any provision or to fail to comply with any of the requirements of this Title 15 or any permits, conditions, or variances granted under this Title, and violators shall be subject to any penalty or penalties authorized by law, including but not limited to: administrative enforcement pursuant to Chapters 1.12 and 1.16 of the Palo Alto Municipal Code; and criminal enforcement pursuant to Chapter 1.08 of the Palo Alto Municipal Code. Each separate day or any portion thereof during which any violation of this chapter occurs or continues shall be deemed to constitute a separate offense.

When the Fire Chief or his/her designee determines that a violation of this Chapter has occurred, the Fire Chief or his/her designee may record a notice of pendency of code violation with the Office of the County Recorder stating the address and owner of the property involved. When the violation has been corrected, the Fire Chief or his/her designee shall issue and record a release of the notice of pendency of code violation.

[. . .]

15.04.150 Definitions Section 202

Except as noted herein, Section 202 is adopted in full. The following definitions are amended or added to Section 202 of the California Fire Code to read as follows:

3D PRINTER. A machine used in the additive manufacturing process for fabricating objects through the deposition of a material using a print head, nozzle, or another printer technology.

ADDITIVE MANUFACTURING. A process of joining materials to make objects from 3D model data, usually layer upon layer, sometimes referred to as 3D printing. The Code recognizes two types of additive manufacturing:

1. Industrial additive manufacturing. 3D printing operations that typically utilize combustible powders or metals, an inert gas supply, a combustible dust collection system, or that create a hazardous (classified) location area or zone outside of the equipment.

2. Non-industrial additive manufacturing. 3D printing operations that do not create a hazardous (classified) location area outside of the equipment, and do not utilize an inert gas supply or a combustible dust collection system.

CORROSIVE LIQUID. Corrosive liquid is:

1) any liquid which, when in contact with living tissue, will cause destruction or irreversible alteration of such tissue by chemical action; or

2) any liquid having a pH of 2 or less or 12.5 or more; or

3) any liquid classified as corrosive by the U.S. Department of Transportation; or

4) any material exhibiting the characteristics of corrosivity in accordance with Title 22, California Code of Regulations §66261.22.

FALSE ALARM. The willful, knowing, or negligent initiation or transmission of a signal, message, or other notification of an event of fire when no such danger exists.

MAXIMUM THRESHOLD QUANTITY (MAX TQ). Maximum threshold quantity is the maximum quantity of a moderately toxic or toxic gas, which may be stored in a single vessel before a more stringent category of regulation is applied. The following equation shall be used to calculate the Max TQ:

Max TQ (pounds) = LC50 (ppm) x 2 lb.

MODERATELY TOXIC GAS. A moderately toxic gas is a chemical or substance that has a median lethal concentration (LC50) in air more than 2000 parts per million but not more than 5000 parts per million by volume of gas or vapor, when administered by continuous inhalation for an hour, or less if death occurs within one hour, to albino rats weighing between 200 and 300 grams each.

OTHER HEALTH HAZARD MATERIAL. Other health hazard material is a hazardous material which affects target organs of the body, including but not limited to, those materials which produce liver damage, kidney damage, damage to the nervous system, act on the blood to decrease hemoglobin function, deprive the body tissue of oxygen or affect reproductive capabilities, including mutations (chromosomal damage), sensitizers or teratogens (effect on fetuses), carcinogens, and irritants.

SECONDARY CONTAINMENT. Secondary containment is that level of containment that is external to and separate from primary containment and is capable of safely and securely containing the material, without discharge, for a period of time reasonably necessary to ensure detection and remedy of the primary containment failure.

SPILL CONTROL. Spill control is that level of containment that is external to and separate from the primary containment and is capable of safely and securely containing the contents of the largest container and prevents the materials from spreading to other parts of the room.

WILDLAND-URBAN INTERFACE FIRE AREA. Wildland-urban interface fire area is a geographical area identified by the State of California as a “Fire Hazard Severity Zone” in accordance with Public Resources Code Sections 4201 through 4202 and Government Code Sections 51175 through 51189, or other areas designated by the enforcing agency to be at a significant risk from wildfires. Within the city limits of the City of Palo Alto, “Wildland-Urban Fire Interface Area” shall also include all areas west of Interstate 280, and all other areas recommended as a “Very High Fire Hazard Severity Zone” by the Director of the California Department of Forestry.

WORKSTATION. A workstation is a defined space or independent principal piece of equipment using hazardous materials with a hazard rating of 1.

15.04.160 Section 316.7 Roof guiderails at interior courts.

Section 316.7 of the California Fire Code is added to read as follows:

316.7 Roof guardrails at interior courts. Roof openings into interior courts that are bounded on all sides by building walls shall be protected with guardrails. The top of the guardrail shall not be less than 42 inches in height above the adjacent roof surface that can be walked on. Intermediate rails shall be designed and spaced such that a 12-inch diameter sphere cannot pass through.

15.04.170 320.3.13 Safety certification.

Section 320.3.13 of the California Fire Code is added to read as follows:

320.3.13 Safety certification. The equipment, process, training procedures and occupancy associated with industrial additive manufacturing may be required by the fire code official to receive a safety certification from Underwriter's Laboratory or equivalent.

15.04.180 Section 322.4.2.2.1 through 322.4.2.2.3 Maximum quantity in a control area.

Section 322.4.2.2.1 through 322.4.2.2.3 are added to the California Fire Code to read as follows:

322.4.2.2.1 Maximum quantity in a control area. The aggregate amount of lithium batteries stored and handled in a single control area shall not exceed 9,000 pounds (4086 kg).

322.4.2.2.2 Number of control areas. The maximum number of control areas within a building shall be four.

322.4.2.2.3 Group H, Division 2 occupancy. Storage and handling of more than 9,000 pounds of lithium batteries per control area shall be in an approved Group H, Division 2 occupancy constructed in accordance with the Building Code and provided throughout with approved automatic smoke detection and radiant-energy detection systems.

15.04.190 Section 401.5 Making false report.

Section 401.5 of the California Fire Code is amended to read as follows:

401.5 Making false report. A person shall not, knowingly or unknowingly, give, signal, or transmit a false alarm. Initiation or transmission in a twelve-month period of three or more signals, messages, or other notifications of an event of fire when no such danger exists shall be presumed negligent.

15.04.200 Section 503.1 Fire access roadways.

Section 503.1 of the California Fire Code is amended to read as follows:

> **503.1 Fire access roadways.** Where required, fire apparatus access roads shall be provided and maintained in accordance with Sections 503.1.1 through 503.1.3 and as per Fire Department Access Road Standards.
>
> [. . .]

15.04.210 Section 503.2.1 Dimensions.

Section 503.2.1 of the California Fire Code is amended to read as follows:

> **503.2.1 Dimensions.** Fire apparatus access roads shall have an unobstructed width of not less than 20 feet (6096 mm) exclusive of shoulders, or as required by Appendix D, except for approved security gates in accordance with Section 503.6, and an unobstructed vertical clearance of 13 feet 6 inches (4115 mm).

15.04.220 Section 503.2.2 Authority.

Section 503.2.2 of the California Fire Code is amended to read as follows:

> **503.2.2 Authority.** The fire code official shall have the authority to require or permit modifications to the required access widths and/or vertical clearance where they are inadequate for fire or rescue operations or where necessary to meet the public safety objectives of the jurisdiction.

15.04.230 Section 504.5 Access control devices.

Section 504.5 of the California Fire Code is amended to read as follows:

> **504.5 Access control devices.** When access control devices including bars, grates, gates, electric or magnetic locks or similar devices, which would inhibit rapid fire department emergency access to within and throughout the building, are installed, such devices shall be approved by the fire code official. All electrically powered access control devices shall be provided with an approved means for deactivation or unlocking from a single location or otherwise approved by the fire code official or his/her designee. Access control devices shall also comply with Chapter 10 Egress.

15.04.240 Section 505.1.1 and 505.1.2 Premises identification.

Sections 505.1.1 and 505.1.2 of the California Fire Code are added to read as follows:

> **505.1.1 Address illumination.** Address identification required by Section 505.1 shall be

illuminated.

505.1.2 Address identification size. Address numbers and letters required by Section 505.1 shall be sized as follows:

1. When the structure is between thirty-six (36) and fifty (50) feet from the road or other emergency means of access, a minimum of one-half inch (0.5") stroke by six inches (6") high is required.

2. When the structure is fifty (50) or more feet from the road or other emergency means of access, a minimum of one inch (1") stroke by nine inches (12") high is required.

15.04.250 Section 509.1.2 Fire protection equipment identification.

Section 509.1.2 of the California Fire Code is added to read as follows:

509.1.2 Fire Protection equipment identification. Exterior fire control valves, standpipes, hose valves, fire department connection, post indicators, fire service backflow preventers and other fire department appurtenances are to be painted red for identification.

15.04.260 Sections 603.11 through 603.13.

Section 603.11 through 603.13 is added to the California Fire Code to read as follows:

603.11 Immersion heaters. All electrical immersion heaters used in dip tanks, sinks, vats and similar operations shall be provided with approved over- temperature controls and low liquid level electrical disconnects. Manual reset of required protection devices shall be provided.

603.12 Electric vehicle service equipment – car chargers. Electric vehicle service equipment shall be equipped with collision protection and an emergency power disconnect switch as determined necessary by the Fire Code Official.

603.13 Energy storage system equipment - power walls. Energy storage systems equipment shall be equipped with collision protection as determined necessary by the Fire Code Official.

15.04.270 Section 605.5.2.1.1 Prohibitive locations.

Section 605.5.2.1.1 of the California Fire Code is amended to read as follows:

605.5.2.1.1 Prohibitive Locations. The storage or use of portable outdoor gas- fired heating appliances is prohibited in any of the following locations:

1. Inside of any occupancy where connected to the fuel gas container.

2. Inside of tents, canopies and membrane structures.

3. On exterior balconies and rooftops.

   Exception: intentionally deleted

15.04.280 Section 903.2 Automatic sprinkler systems, where required.

Section 903.2 of the California Fire Code is amended to read as follows:

903.2 Automatic sprinkler systems, where required. Approved automatic sprinkler systems in new buildings and structures and in existing modified buildings and structures, shall be provided in the locations described in this section. Automatic fire sprinklers shall be installed per the requirements set forth in Sections 903.2.1 through 903.2.18 and as follows, whichever is the more restrictive:

1. An automatic sprinkler system shall be provided throughout all new buildings and structures.

   Exception: New non-residential occupancies, buildings or structures that do not exceed 350 square feet of building area and contain no interior plumbing fixtures.

2. An automatic sprinkler system shall be provided throughout all existing buildings when modifications are made that create conditions described in Sections 903.2.1 through 903.2.18, or that create an increase in fire area to more than 3,600 square feet or when the addition is equal or greater than 50% of the existing building square footage whichever is more restrictive.

3. An automatic sprinkler system shall be provided throughout all new or altered basements used for storage/utility/occupancy or habitable space regardless of size and throughout existing basements that are expanded by more than 50%. If the addition or alteration is only the basement, then only the basement is required to be fire sprinkler protected.

4. An automatic sprinkler system shall be installed throughout when either the roof structure and/or exterior wall structure have been removed, altered and/or replaced in at least 50% of the existing structure.

5. An automatic sprinkler system shall be installed throughout when any change in use or occupancy creates a more hazardous fire/life safety condition, as determined by the Fire Chief.

   Exception: Spaces or areas in telecommunications buildings used exclusively for telecommunications equipment, associated electrical power distribution equipment, batteries and standby engines, provided that those spaces or areas are equipped throughout with an automatic smoke detection system in accordance with Section 907.2 and are separated from the remainder of the building by not less than 1-hour fire barriers constructed in accordance with Section 707 or not less than 2-hour horizontal assemblies constructed in

accordance with Section 711, or both.

[. . .]

15.04.290 903.3.1.1 NFPA 13 sprinkler systems.

Section 903.1.1.1 of the California Fire Code is amended to read as follows:

903.1.1.1 NFPA 13 sprinkler systems. Where the provisions of this code require that a building or portion thereof be equipped throughout with an automatic sprinkler system in accordance with this section, sprinklers shall be installed throughout in accordance with NFPA 13 and State and local requirements except as provided in Section 903.3.1.1.

1. For new buildings having no designated use or tenant, the minimum sprinkler design density shall be Ordinary Hazard Group II / 1500 square feet.
2. Where future use or tenant is determined to require a higher density, the sprinkler system shall be augmented to meet the higher density.
3. Light hazard shall be hydraulically designed to a 1500 square foot most remote area or as required by the fire code official.
4. Laboratory areas within buildings shall be hydraulically designed to Ordinary Hazard II density.
5. Parking areas where mechanical vehicle storage equipment is used the fire sprinkler system shall be hydraulically designed to Extra Hazard II density.
6. In multi-residential apartments, townhomes, and condominiums

[. . .]

15.04.300 Section 903.3.1.2 NFPA 13R sprinkler systems.

Section 903.3.1.2 of the California Fire Code is amended to read as follows:

903.3.1.2 NFPA 13R sprinkler systems. Where allowed in buildings of Group R occupancies, automatic sprinkler systems shall be installed throughout in accordance with NFPA 13 and State and local standards.

[. . .]

15.04.310 Section 903.3.1.3 and 903.3.1.3.1 NFPA 13D sprinkler systems.

Section 903.3.1.3 of the California Fire Code is amended and 903.3.1.3.1 is added to read as follows:

903.3.1.2 NFPA 13D sprinkler systems. Where allowed, automatic sprinkler systems

installed in one-and two-family dwellings shall be installed throughout in accordance with NFPA 13D and State and local standards. Fire sprinkler protection shall be provided under rear covered patios extending over 4 ft perpendicular from the exterior of the structure.

903.3.1.3.1 Increase in fire sprinkler design criteria. Structures determined by the fire code official to have higher firefighting hazardous condition, or located in the Wildland-Urban Interface Fire Area, shall have an increase in fire sprinkler design criteria as determined by the fire code official.

15.04.320 Section 903.4.3 Floor control valves.

Section 903.4.3 of the California Fire Code is amended to read as follows:

903.4.3 Floor control valves. Automatic sprinkler systems serving buildings two (2) or more stories in height shall have valves installed so as to control the system independently on each floor including basements.

15.04.330 Section 905.3.1 Standpipe systems.

Section 905.3.1 of the California Fire Code is amended to read as follows:

905.3.1 Standpipe systems. A Class I Standpipe System shall be installed in new buildings or buildings being retrofitted with a fire sprinkler system where the roof edge/parapet is greater than 27 feet above the lowest level of Fire apparatus access roadway and in below grade levels.

15.04.340 Section 909.20.7 Smoke control systems - schedule.

Section 909.20.7 is added to the California Fire Code to read as follows:

909.20.7 Smoke control systems - schedule. A routine maintenance and operational testing program shall be initiated immediately after the smoke control system has passed the acceptance tests. A written schedule for routine maintenance and operational testing shall be established and both shall occur at least annually.

15.04.350 Section 1008.3.3 Rooms and spaces.

Section 1008.3.3 of the California Fire Code is amended to read as follows:

1008.3.3 Rooms and spaces. In the event of power supply failure, an emergency electrical system shall automatically illuminate all of the following areas:

1. Electrical equipment rooms.
2. Fire command centers.
3. Fire pump rooms.

4. Generator rooms.
5. Public restrooms.

15.04.360 Section 1031.2 Where required.

Section 1031.2 of the California Fire Code is amended to read:

1031.2 Where required. In addition to the means of egress required by this chapter, emergency escape and rescue openings shall be provided in Group R occupancies:

Basements and sleeping rooms below the fourth story above grade plane shall have not fewer than one emergency escape and rescue opening in accordance with this section. Where basements contain one or more sleeping rooms, an emergency escape and rescue opening shall be required in each sleeping room but shall not be required in adjoining areas of the basement. Such openings shall open directly into a public way or to a yard or court that opens to a public way.

Exceptions:

1. In Groups R-1 and R-2 occupancies constructed of Type I, Type IIA, Type IIIA or Type IV construction equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1.
2. Group R-2.1 occupancies meeting the requirements for delayed egress in accordance with Section 1010.2.13 may have operable windows that are breakable in sleeping rooms permanently restricted to a maximum of 4-inch open position.
3. Emergency escape and rescue openings are not required from basements or sleeping rooms that have an exit door or exit access door that opens directly into a public way or to a yard, court or exterior egress balcony that opens to a public way.
4. Storm shelters and basements used only to house mechanical equipment not exceeding a total floor area of 200 square feet (18.58 $m^{2)}$

15.04.370 Section 1207.1.5 Large-scale fire test.

Section 1207.1.5 of the California Fire Code is amended to read:

1207.1.5 Large-scale fire test. Where required elsewhere in Section 1207, large-scale fire testing shall be conducted in accordance with NFPA 855, and UL 9540A. The testing shall be conducted or witnessed and reported by an approved testing laboratory and show that a fire involving one ESS will not propagate to an adjacent ESS, and where installed within buildings, enclosed areas and walk-in units will be contained within the room, enclosed area or walk-in unit for a duration equal to the fire-resistance rating of the room separation specified in Section 1207.7.4. The test report shall be provided to

the fire code official for review and approval in accordance with Section 104.8.2.

15.04.380 Section 1207.11.3 Location.

Section 1207.11.3 of the California Fire Code is amended to read:

1207.11.3 Location. ESS shall be installed only in the following locations:

1. Detached garages and detached accessory structures.
2. Attached garages separated from the dwelling unit living space and sleeping units in accordance with Section R302.6.
3. Outdoors *installations* or on the exterior side of the exterior walls *shall not be located* not less than 3 feet (914 mm) from doors and windows directly entering the dwelling unit and *shall not be located below or above any emergency escape and rescue openings.*
4. Enclosed utility closets, basements, storage or utility spaces within dwelling units with finished or noncombustible walls and ceilings. Walls and ceilings of unfinished wood-framed construction shall be provided with not less than 5/8-inch (15.9 mm) Type X gypsum wallboard.
5. ESS shall not be installed in sleeping rooms, closets, spaces opening directly into sleeping rooms or in habitable spaces of dwelling units.

15.04.390 Section 3305.9 Fire walls.

Section 3305.9 is added to the California Fire Code to read as follows:

3305.9 Fire walls. When firewalls are required, the wall construction shall be completed (with all openings protected) immediately after the building is sufficiently weather-protected at the location of the wall(s).

15.04.400 Section 3312.1 and 3312.1.1.

Section 3312.1 of the California Fire Code is amended to read as follows:

3312.1 Stairways required. Each level above the first story in new multi-story buildings shall be provided with at least two usable exit stairways after the floor decking is installed. The stairways shall be continuous and shall discharge to grade level. Stairways serving more than two floor levels shall be enclosed (with openings adequately protected) after exterior walls/windows are in place. Exit stairs in new and in existing, occupied buildings shall be lighted and maintained clear of debris and construction materials at all times.

Exception: For new multi-story buildings, one of the required exit stairs may be obstructed on not more than two contiguous floor levels for the purposes of stairway construction (i.e., installation of gypsum board, painting, flooring, etc.).

3312.1.1 Required means of egress. All new buildings under construction shall have a least one unobstructed means of egress. All means of egress shall be identified in the Fire Protection Plan.

15.04.410 Section 4902.1 Definition of wildland-urban interface fire area.

The definition of "wildland-urban interface fire area" in Section 4902.1 is amended to read as follows:

WILDLAND-URBAN INTERFACE FIRE AREA (WUI) A geographical area identified by the State of California as a "Fire Hazard Severity Zone" in accordance with 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. Within the city limits of the City of Palo Alto, "Wildland-Urban Interface Fire Area" shall also include all areas west of Interstate 280, and all other areas recommended as a "Very High Fire Hazard Severity Zone" by the Director of the California Department of Forestry.

15.04.420 Sections 4903.2 and 4903.3 through 4903.4 General requirements for wildland-urban interface fire areas.

Sections 4903.2 amended and 4903.3 through 4903.4 are added to the California Fire Code to read as follows:

4903.2 Contents. The fire protection plan shall be based on a project-specific wildfire hazard assessment that includes considerations of location, topography, aspect, and climatic and fire history. The plans shall identify conformance with all applicable state wildfire protection regulations, statutes and applicable local ordinances, whichever are more restrictive. The plan shall address fire department access, egress, road and address signage, water supply, building ignition and fire-resistance factors, fire protection systems and equipment, defensible space and vegetation management in addition to fuel reduction in accordance with Public Resources Code (PRC) 4290; the defensible space requirements in accordance with PRC 4291 or Government Code 51182; and the applicable building codes and standards for wildfire safety. The plan shall identify mitigation measures to address the project's specific wildfire risk and shall include the information required in Section 4903.2.1.

4903.3 Cost. The cost of fire protection plan preparation and review shall be the responsibility of the applicant.

4903.4 Plan retention. The fire protection plan shall be retained by the fire code official.

15.04.430 Sections 4907.1 and 4907.4 Defensible space.

Section 4907.1 is amended and Section 4907.4 is added to the California Fire Code to read as follows:

4907.1 General. Hazardous vegetation and fuels shall be managed to reduce the severity of potential exterior wildfire exposure to buildings and to reduce the risk of fire spreading to buildings as required by applicable laws and regulations. Defensible space will be managed around all buildings and structures in State Responsibility Areas (SRA) as required in Public Resources Code 4291. Persons owning, leasing, controlling, operating or maintaining buildings or structures in, upon or adjoining the Wildland-Urban Interface Fire Area and persons owning, leasing or controlling land adjacent to such buildings or structures, shall at all times:

1. Maintain an effective defensible space by removing and clearing away flammable vegetation and combustible growth from areas within 30 feet (9144 mm) of such buildings or structures.

   Exception: Single specimens of trees, ornamental shrubbery or similar plants used as ground covers, provided that they do not form a means of rapidly transmitting fire from the native growth to any structure.

2. Maintain additional effective defensible space by removing brush, flammable vegetation and combustible growth located 30 feet to 100 feet (9144 mm to 30480 mm) from such buildings or structures, when required by the fire code official due to steepness of terrain or other conditions that would cause a defensible space of only 30 feet (9144 mm) to be insufficient.

   Exception: Grass and other vegetation located more than 30 feet (9144 mm) from buildings or structures and less than 18 inches (457 mm) in height above the ground need not be removed where necessary to stabilize the soil and prevent erosion.

3. Remove portions of trees, which extend within 10 feet (3048 mm) of the outlet of a chimney.

4. Maintain trees adjacent to or overhanging a building free of deadwood.

5. Maintain the roof of a structure free of leaves, needles or other dead vegetative growth.

6. Remove flammable vegetation a minimum of 10 feet around liquefied petroleum gas tanks/containers.

7. Firewood and combustible materials shall not be stored in unenclosed spaces beneath buildings or structures, or on decks or under eaves, canopies or other projections or overhangs. The storage of firewood and combustible material within the defensible space shall be located a minimum of 30 feet (6096 mm) from structures and separated from the crown of trees by a minimum horizontal distance of 15 feet (4572 mm).

Exception: Firewood and combustible materials not for consumption on the premises shall be stored as approved by the fire code official.

8. Clear areas within 10 feet (3048 mm) of fire apparatus access roads and driveways to of non-fire-resistive vegetation growth.

Exception: Grass and other vegetation located more than 30 feet (9144 mm) from buildings or structures and less than 18 inches (457 mm) in height above the ground need not be removed where necessary to stabilize the soil and prevent erosion.

[. . .]

4907.4 Corrective Actions. The executive body is authorized to instruct the fire code official to give notice to the owner of the property upon which conditions regulated by Section 4907.1 exist to correct such conditions. If the owner fails to correct such conditions, the executive body is authorized to cause the same to be done and make the expense of such correction a lien upon the property where such condition exists.

15.04.440 Section 5001.2.2.2 Health Hazards.

Section 5001.2.2.2 of the California Fire Code is amended to read as follows:

5001.2.2.2 Health Hazards. The material categories listed in this section are classified as health hazards. A material with a primary classification as a health hazard can also pose a physical hazard.

1. Highly toxic, toxic and moderately toxic.
2. Corrosive materials.
3. Moderately toxic gas.
4. Other health hazards.

15.04.450 Section 5001.7 Hazard materials management plan electronic submissions.

Section 5001.7 is added to the California Fire Code to read as follows:

5001.7 HMMP Electronic submissions Each applicant for a permit, a renewed permit, or an amended permit pursuant to this title shall file an electronic submission of all hazardous materials through California Environmental Reporting System (CERS) for the fire chief's approval, to be known as a hazardous materials management plan (HMMP), which shall demonstrate the suitable storage of hazardous materials. The HMMP may be amended at any time with the consent of the fire chief. The HMMP shall be a public record except as otherwise specified. Section 18.23.100 in Title 18 identifies notification requirements of the availability of the HMMP. Approval of the HMMP shall mean that the HMMP has provided adequate information for the purposes of evaluating the permit

approval. Such approval shall not be understood to mean that the city has made an independent determination of the adequacy of that which is described in the HMMP electronic submission.

15.04.460 Section 5003.1.3.1 Toxic, highly toxic, moderately toxic gases and similarly used or handled materials.

Section 5003.1.3.1 is added to the California Fire Code to read as follows:

5003.1.3.1 Toxic, highly toxic, moderately toxic gases and similarly used or handled materials. The storage, use, and handling of toxic, highly toxic and moderately toxic gases in amounts exceeding Table 60004.2 or 60004.3 shall be in accordance with this Chapter and Chapter 60. Any toxic, highly toxic or moderately toxic material that is used or handled as a gas or vapor shall be in accordance with the requirements for toxic, highly toxic or moderately toxic gases.

15.04.470 Section 5003.1.5 Other health hazards including carcinogens, irritants and sensitizers.

Section 5003.1.5 is added to the California Fire Code to read as follows:

5003.1.5 Other health hazards including carcinogens, irritants and sensitizers. The storage, use, and handling of materials classified as other health hazards including carcinogens, irritants and sensitizers in amounts exceeding 810 cubic feet for gases, 55 gallons for liquids and 5,000 pounds for solids shall be in accordance with this Section 5003.

15.04.480 Section 5003.1.6 Additional secondary containment requirements.

Section 5003.1.6 is added to the California Fire Code to read as follows:

5003.1.6 Additional secondary containment requirements. In addition to the requirements set forth in Section 5004.2, an approved containment system is required for any quantity of hazardous materials that are liquids or solids at normal temperature and pressure (NTP), where a spill is determined to be a plausible event and where such an event would endanger people, property or the environment. The approved containment system may be required to include a combination of spill control and secondary containment meeting the design and construction requirements set forth in section 5004.2.

15.04.490 Section 5003.2.2.1 Design and construction.

Section 5003.2.2.1 of the California Fire Code is amended to read as follows:

5003.2.2.1 Design and construction. Piping, tubing, valves, fittings and related

components used for hazardous materials shall be in accordance with the following:

1. Piping, tubing, valves, fittings and related components shall be designed and fabricated from materials compatible with the material to be contained and shall be of adequate strength and durability to withstand the pressure, structural and seismic stress, and exposure to which they are subject.
2. Piping and tubing shall be identified in accordance with ASME A13.1 and the Santa Clara County Fire Chiefs Marking Requirements and Guidelines for Hazardous Materials and Hazardous Waste to indicate the material conveyed.
3. Manual valves or automatic remotely activated fail-safe emergency shutoff valves shall be installed on supply piping and tubing and provided with ready access at the following locations at the following locations:
    a. The point of use.
    b. The tank, cylinder or bulk use.
4. Manual emergency shutoff valves and controls for remotely activated emergency shutoff valves shall be clearly visible, provided with ready access and identified in an approved manner.
5. Backflow prevention or check valves shall be provided when the backflow of hazardous materials could create a hazardous condition or cause the unauthorized discharge of hazardous materials.
6. Where gases or liquids having a hazard ranking of: Health hazard Class 3 or 4, Flammability Class 3 or 4, or Reactivity Class 4 in accordance with NFPA 704 are carried in pressurized piping above 15 pounds per square inch gauge (psig)(103 Kpa), an approved means of leak detection, emergency shutoff and excess flow control shall be provided. Where the piping originates from within a hazardous material storage room or area, the excess flow control shall be located within the storage room or area. Where the piping originates from a bulk source, the excess flow control shall be located as close to the bulk source as practical.

    Exceptions:

    a. Piping for inlet connections designed to prevent backflow.
    b. Piping for pressure relief devices.
7. Secondary containment or equivalent protection from spills or leaks shall be provided for piping for liquid hazardous materials and for highly toxic and toxic corrosive gases above threshold quantities listed in Tables 6004.2 and 6004.3. Secondary containment includes, but is not limited to, double- walled piping.

    Exceptions:

    a. Secondary containment is not required for toxic corrosive gases if the piping is constructed of inert materials.

b. Piping under sub-atmospheric conditions if the piping is equipped with an alarm and fail-safe-to-close valve activated by a loss of vacuum.

8. Expansion chambers shall be provided between valves whenever the regulated gas may be subjected to thermal expansion. Chambers shall be sized to provide protection for piping and instrumentation and to accommodate the expansion of regulated materials.

15.04.500 Section 5003.2.2.2 Additional regulations for supply piping for health hazard materials.

Section 5003.2.2.2 of the California Fire Code is amended to read as follows:

5003.2.2.2 Additional regulations for supply piping for health hazard materials. Supply piping and tubing for gases and liquids having a health hazard ranking of 3 or 4 in accordance with ASME B31.3 and the following:

1. Piping and tubing utilized for the transmission of toxic, highly toxic, or highly volatile corrosive liquids and gases shall have welded or brazed connections throughout except for connections within an exhausted enclosure if the material is a gas, or an approved method of drainage or containment is provided for connections if the material is a liquid.
2. Piping and tubing shall not be located within corridors, within any portion of a means of egress required to be enclosed in fire-resistance-rated construction or in concealed spaces in areas not classified as Group H Occupancies.

   Exception: Piping and tubing within the space defined by the walls of corridors and the floor or roof above or in concealed space above other occupancies when installed in accordance with Section 415.11.7.4 of the California Building Code as required for Group H5 occupancies.
3. All primary piping for toxic, highly toxic and moderately toxic gases shall pass a helium leak test of 1x10-9 cubic centimeters/second where practical, or shall pass testing in accordance with an approved, nationally recognized standard. Tests shall be conducted by a qualified "third party" not involved with the construction of the piping and control systems.

15.04.510 Section 5003.3.1 Unauthorized discharges.

Section 5003.3.1 of the California Fire Code is amended to read as follows:

5003.3.1 Unauthorized discharges. In the event hazardous materials are released in quantities reportable under state, federal or local regulations or when there is a threatened release that presents a threat to health, property or the environment, the fire code official shall be notified immediately in an approved manner and the following

procedures required in accordance with Sections 5003.3.1.1 through 5003.3.1.4.

15.04.520 Section 5003.5.2 Ventilation ducting.

Section 5003.5.2 is added to the California Fire Code to read as follows:

5003.5.2 Ventilation ducting. Ducts venting hazardous materials operations shall be labeled with the hazard class of the material being vented and the direction of flow.

15.04.530 Section 5003.5.3 "H" Occupancies.

Section 5003.5.4 is added to the California Fire Code to read as follows:

5003.5.3 "H" Occupancies. In "H" occupancies, all piping and tubing may be required to be identified when there is any possibility of confusion with hazardous materials transport tubing or piping. Flow direction indicators are required.

15.04.540 Section 5003.9.11 Fire extinguishing systems for workstations dispensing, handling or using hazardous materials.

Section 5003.9.11 is added to the California Fire Code to read as follows:

5003.9.11 Fire extinguishing systems for workstations dispensing, handling or using hazardous materials. Combustible and non-combustible workstations which dispense, handle or use hazardous materials shall be protected by an approved automatic fire extinguishing system.

Exception: Internal fire protection is not required for Biological Safety Cabinets that carry NSF/ANSI certification where quantities of flammable liquids in use or storage within the cabinet do not exceed 500 ml.

15.04.550 Section 5003.10.4 Elevators utilized to transport hazardous materials.

Section 5003.10.4 of the California Fire Code is amended to read as follows:

5003.10.4 Elevators utilized to transport hazardous materials.

5003.10.4.1 When transporting hazardous materials, elevators shall have no other passengers other than in the individual(s) handling the chemical transport cart.

5003.10.4.1.1 When transporting cryogenic or liquefied compressed gases, there shall be no occupants in the elevator.

5003.10.4.2 Hazardous materials liquid containers shall have a maximum capacity of 20 liters (5.28 gal).

5003.10.4.3 Highly toxic, toxic, and moderately toxic gases shall be limited to a container of a maximum water capacity of 1 lb.

5003.10.4.4 When transporting cryogenic or liquefied compressed gases means shall be provided to prevent the elevator from being summoned to other floors.

15.04.560 Section 5004.2.1 Spill control for hazardous material liquids.

Section 5004.2.1 of the California Fire Code is amended to read as follows:

5004.2.1 Spill control for hazardous material liquids. Rooms, buildings or areas used for storage of hazardous material liquids shall be provided with spill control to prevent the flow of liquids to adjoining areas. Floors in indoor locations and similar surfaces in outdoor locations shall be constructed to contain a spill from the largest single vessel by one of the following methods:

1. Liquid-tight sloped or recessed floors in indoor locations or similar areas in outdoor locations.
2. Liquid-tight floors in indoor and outdoor locations or similar areas provided with liquid-tight raised or recessed sills or dikes.
3. Sumps and collection systems, including containment pallets in accordance with Section 5004.2.3.
4. Other approved engineered systems.

Except for surfacing, the floors, sills, dikes, sumps and collection systems shall be constructed of noncombustible material, and the liquid-tight seal shall be compatible with the material stored. When liquid-tight sills or dikes are provided, they are not required at perimeter openings having an open-grate trench across the opening that connects to an approved collection system.

15.04.570 Sections 5004.2.2 and 5004.2.2.2 and Table 5004.2.2 Secondary containment for hazardous material liquids and solids.

Table 5004.2.2 is deleted in its entirety.

Sections 5004.2.2 and 5004.2.2.2 of the California Fire Code are amended to read as follows:

5004.2.2 Secondary containment for hazardous material liquids and solids. Buildings, rooms or areas used for the storage of hazardous materials liquids or solids shall be provided with secondary containment in accordance with this section.

[. . .]

5004.2.2.2 Incompatible Materials. Incompatible materials shall be separated from each other in independent secondary containment systems.

15.04.580 Section 5004.2.3 Containment pallets.

Section 5004.2.3 of the California Fire Code is amended to read as follows:

5004.2.3 Containment pallets. Combustible containment pallets shall not be used inside buildings to comply with Section 5004.2 where the individual container capacity exceeds 55 gallons (208 L) or an aggregate capacity of multiple containers exceeds 1,000 gallons (3785 L) for liquids or where the individual container capacity exceeds 550 pounds (250 kg) or an aggregate of multiple containers exceeds 10,000 pounds (4540 kg) for solids.

Where used as an alternative to spill control and secondary containment for outdoor storage in accordance with the exception in Section 5004.2, containment pallets shall comply with all of the following:

1. A liquid-tight sump accessible for visual inspection shall be provided;
2. The sump shall be designed to contain not less than 66 gallons (250L);
3. Exposed surfaces shall be compatible with material stored;

Containment pallets shall be protected to prevent collection of rainwater within the sump of the containment pallet.

15.04.590 Section 5704.2.7.5.8 Overfill prevention.

Section 5704.2.7.5.8 of the California Fire Code is amended to read as follows:

5704.2.7.5.8 Overfill prevention. An approved means or method in accordance with Section 5704.2.9.7.5 shall be provided to prevent overfill of all Class I, II and IIIA liquid storage tanks. Storage tanks in refineries, bulk plants or terminals regulated by Sections 5706.4 or 5706.7 shall have overfill protection in accordance with API 2350.

An approved means or method in accordance with Section 5704.2.9.7.5 shall be provided to prevent the overfilling of Class IIIB liquid storage tanks connected to fuel-burning equipment inside buildings.

Exception: Outside aboveground tanks with a capacity of 1320 gallons (5000 L) or less shall comply with Section 5704.2.9.7.5.1 (1.1)

15.04.600 Section 5704.2.7.5.9 Automatic filling of tanks.

Section 5704.2.7.5.9 is added to the California Fire Code to read as follows:

5704.2.7.5.9 Automatic filling of tanks. Systems that automatically fill flammable or combustible liquid tanks shall be equipped with an approved overfill protection system that sends an alarm signal to a constantly attended location and immediately stops the filling of the tank. The alarm signal and automatic shutoff shall be tested on an annual basis and records of such testing shall be maintained on-site for a period of five (5) years.

15.04.610 Section 5707.3.3 Site plan.

Section 5707.3.3 of the California Fire Code is amended to read as follows:

5707.3.3 Site plan. A site plan shall be developed for each location at which mobile fueling occurs. The site plan shall be in sufficient detail to indicate the following:

1. All buildings and structures.
2. Lot lines or property lines.
3. Electric car chargers.
4. Solar photovoltaic parking lot canopies.
5. Appurtenances on site and their use and function
6. All uses adjacent to the lot lines of the site.
7. Fueling locations.
8. Locations of all storm drain openings and adjacent waterways or wetlands.
9. Information regarding slope, natural drainage, curbing, impounding.
10. How a spill will be kept on the site property.
11. Scale of the site plan.

15.04.620 Section 6001.1 Site scope.

Section 6001.1 of the California Fire Code is amended to read as follows:

6001.1 Site scope. The storage and use of highly toxic, toxic and moderately toxic materials shall comply with this chapter. Compressed gases shall also comply with Chapter 53.

Exceptions:

1. Display and storage in Group M and storage in Group S occupancies complying with Section 5003.1 1.
2. Conditions involving pesticides or agricultural products as follows:

   2.1. Application and release of pesticide, agricultural products and materials intended for use in weed abatement, erosion control, soil amendment or similar applications when applied in accordance with the manufacturer's instruction and label directions.

   2.2. Transportation of pesticides in compliance with the Federal Hazardous Materials Transportation Act and regulations thereunder.

   2.3. Storage in dwellings or private garages of pesticides registered by the U.S. Environmental Protection Agency to be utilized in and around the home,

garden, pool, spa and patio.

15.04.630 Section 6002.1 Definitions.

The following definition is added to section 6002.1 of the California Fire Code as defined in Chapter 2 of the California Fire Code and local amendments:

MODERATELY TOXIC GAS. A moderately toxic gas is a chemical or substance that has a median lethal concentration (LC50) in air more than 2000 parts per million but not more than 5000 parts per million by volume of gas or vapor, when administered by continuous inhalation for an hour, or less if death occurs within one hour, to albino rats weighing between 200 and 300 grams each.

15.04.640 Section 6004.1 Highly toxic and toxic compressed gases.

Section 6004.1 of the California Fire Code is amended to read as follows:

6004.1.1 The storage and use of highly toxic, toxic, and moderately toxic compressed gases shall comply with this section.

6004.1.1 Special limitations for indoor storage and use by occupancy. The indoor storage and use of highly toxic, toxic, and moderately toxic compressed gases in certain occupancies shall be subject to the limitations contained in Sections 6004.1.1.1 through 6004.1.1 .3.

6004.1.1.1 Group A, E, I or U occupancies. Moderately toxic, toxic and highly toxic compressed gases shall not be stored or used within Group A, E, I or U occupancies.

Exception: Cylinders not exceeding 20 cubic feet (0.566 m3) at normal temperature and pressure (NTP) are allowed within gas cabinets or fume hoods.

6004.1.1.2 Group R occupancies. Moderately toxic, toxic, and highly toxic compressed gases shall not be stored or used in Group R occupancies.

6004.1.1.3 Offices, retail sales and classrooms. Moderately toxic, toxic and highly toxic compressed gases shall not be stored or used in offices, retail sales or classroom portions of Group B, F, M or S occupancies.

Exception: In classrooms of Group B occupancies, cylinders with a capacity not exceeding 20 cubic feet (0.566 m3) at NTP are allowed in gas cabinets or fume hoods.

15.04.650 Sections 6004.2 and 6004.2.1 Indoor storage and use.

Sections 6004.2 and 6004.2.1 of the California Fire Code are amended to read as follows:

6004.2 Indoor storage and use. The indoor storage and use of highly toxic, toxic, and moderately toxic compressed gases shall be in accordance with Sections 6004.2.1

through 6004.2.2.10.3.

6004.2.1 Applicability. The applicability of regulations governing the indoor storage and use of highly toxic, toxic, and moderately toxic compressed gases shall be as set forth in Sections 6004.2.1.1 through 6004.2.1.4.

15.04.660 Section 6004.2.1.4 and Table 6004.2.1.4 Quantities.

Section 6004.2.1.4 and Table 6004.2.1.4 of the California Fire Code are added to read as follows:

6004.2.1.4 Quantities. The indoor storage or use of highly toxic, toxic, and moderately toxic gases in amounts exceeding the minimum threshold quantities per control area set forth in Table 6004.2.1.4 but not exceeding maximum allowable quantity per control area set forth in Table 5003.1.1(2) shall be in accordance with Sections 5001, 5003, 6001, 6004.1, and 6004.4.

Table 6004.2.1.4

Minimum Threshold Quantities for Highly Toxic, Toxic and Moderately Toxic Gases for Indoor Storage and Use	
Highly Toxic	20 cubic feet
Toxic	405 cubic feet
Moderately Toxic	405 cubic feet

15.04.670 Section 6004.4 through 6004.4.8.2 General indoor requirements.

Section 6004.4 through 6004.4.8.2 of the California Fire Code is added to read as follows:

6004.4. General indoor requirements. The general requirements applicable to the indoor storage and use of highly toxic, toxic, and moderately toxic compressed gases shall be in accordance with Sections 6004.4 through 6004.4.8.2

6004.4.1 Cylinder and tank location. Cylinders shall be located within gas cabinets, exhausted enclosures or gas rooms. Portable and stationary tanks shall be located within gas rooms or exhausted enclosures.

Exception:

1. Where a gas detection system is provided in accordance with 6004.4.8

6004.4.2. Ventilated areas. The room or area in which gas cabinets or exhausted enclosures are located shall be provided with exhaust ventilation. Gas cabinets or exhausted enclosures shall not be used as the sole means of exhaust for any room or area.

6004.4.3. Piping and controls. In addition to the requirements of Section 5003.2.2, piping and controls on stationary tanks, portable tanks, and cylinders shall comply with the following requirements:

1. Stationary tanks, portable tanks, and cylinders in use shall be provided with a means of excess flow control on all tank and cylinder inlet or outlet connections.

Exceptions:

1. Inlet connections designed to prevent backflow.

2. Pressure relief devices.

6004.4.4 Gas rooms. Gas rooms shall comply with Section 5003.8.4 and both of the following requirements:

1. The exhaust ventilation from gas rooms shall be directed to an exhaust system.

2. Gas rooms shall be equipped with an approved automatic sprinkler system. Alternative fire-extinguishing systems shall not be used.

6004.4.5 Treatment systems. The exhaust ventilation from gas cabinets, exhausted enclosures and gas rooms, required in Section 6004.4.1 shall be directed to a treatment system. The treatment system shall be utilized to handle the accidental release of gas and to process exhaust ventilation. The treatment system shall be designed in accordance with Sections 6004.2.2.7.1 through 6004.2.2.7.5 and Chapter 5 of the California Mechanical Code.

Exceptions:

1. Highly toxic, toxic, and moderately toxic gases—storage. A treatment system is not required for cylinders, containers and tanks in storage where all of the following controls are provided:

a. Valve outlets are equipped with gas-tight outlet plugs or caps.

b. Hand wheel-operated valves have handles secured to prevent movement.

c. Approved containment vessels or containment systems are provided in accordance with Section 6004.2.2.3.

2. Highly toxic, toxic, and moderately toxic gases —use. Treatment systems are not required for highly toxic, toxic, and moderately toxic gases supplied by stationary tanks, portable tanks, or cylinders where a gas detection system complying with Section 6004.4.8 and listed or approved automatic-closing fail-safe valves are provided. The gas detection system shall have a sensing interval not exceeding 5 minutes. Automatic-closing fail-safe valves shall be located immediately adjacent to cylinder valves and shall close when gas is detected at the permissible exposure limit (PEL) by a gas sensor monitoring the exhaust system at the point of discharge from the gas cabinet, exhausted enclosure, ventilated enclosure or gas room.

6004.4.5.1. Design. Treatment systems shall be capable of diluting, adsorbing, absorbing, containing, neutralizing, burning or otherwise processing the contents of the largest single vessel of compressed gas. Where a total containment system is used, the system shall be designed to handle the maximum anticipated pressure of release to the system when it reaches equilibrium.

6004.4.5.2. Performance. Treatment systems shall be designed to reduce the maximum allowable discharge concentrations of the gas to one-half immediate by dangerous to life and health (IDLH) at the point of discharge to the atmosphere. Where more than one gas is emitted to the treatment system, the treatment system shall be designed to handle the worst-case release based on the release rate, the quantity and the IDLH for all compressed gases stored or used.

6004.4.5.3. Sizing. Treatment systems shall be sized to process the maximum worst-case release of gas based on the maximum flow rate of release from the largest vessel utilized. The entire contents of the largest compressed gas vessel shall be considered.

6004.4.5.4 Stationary tanks. Stationary tanks shall be labeled with the maximum rate of release for the compressed gas contained based on valves or fittings that are inserted directly into the tank. Where multiple valves or fittings are provided, the maximum flow rate of release for valves or fittings with the highest flow rate shall be indicated. Where liquefied compressed gases are in contact with valves or fittings, the liquid flow rate shall be utilized for computation purposes. Flow rates indicated on the label shall be converted to cubic feet per minute (cfm/min) (m3/s) of gas at normal temperature and pressure (NTP).

6004.4.5.5 Portable tanks and cylinders. The maximum flow rate of release for portable tanks and cylinders shall be calculated based on the total release from the cylinder or tank within the time specified in Table 6004.2.2.7.5. Where portable tanks or cylinders are equipped with approved excess flow or reduced flow valves, the worst- case release shall be determined by the maximum achievable flow from the valve as determined by the valve manufacturer or compressed gas supplier. Reduced flow and excess flow valves shall be permanently marked by the valve manufacturer to indicate the maximum design flow rate. Such markings shall indicate the flow rate for air under normal temperature and pressure.

6004.4.6. Emergency power. Emergency power shall be provided for the following systems in accordance with Section 604:

1. Exhaust ventilation system.
2. Treatment system.
3. Gas detection system.
4. Smoke detection system.

6004.4.6.1. Fail-safe systems. Emergency power shall not be required for mechanical

exhaust ventilation and treatment systems where approved fail-safe systems are installed and designed to stop gas flow.

6004.4.7. Automatic fire detection system. An approved automatic fire detection system shall be installed in rooms or areas where highly toxic, toxic, and moderately toxic compressed gases are stored or used. Activation of the detection system shall sound a local alarm. The fire detection system shall comply with Section 907.

6004.4.8. Gas detection system. A gas detection system complying with Section 916 shall be provided to detect the presence of gas at or below the PEL or ceiling limit of the gas for which detection is provided.

Exceptions:

1. A gas detection system is not required for toxic and moderately toxic gases when the physiological warning threshold level for the gas is at a level below the accepted PEL for the gas.

A gas detection system is not required for highly toxic, toxic, and moderately toxic gases where cylinders, portable tanks, and all non-continuously welded connects are within a gas cabinet or exhausted enclosures.

6004.4.8.1. Alarms. The gas detection system shall initiate a local alarm and transmit a signal to an approved location.

6004.4.8.2. Shut off of gas supply. The gas detection system shall automatically close the shut off valve at the source on gas supply piping and tubing related to the system being monitored for whichever gas is detected.

Exception: Automatic shutdown is not required for highly toxic, toxic, and moderately toxic compressed gas systems where all of the following controls are provided:

1. Constantly attended / supervised.
2. Provided with emergency shutoff valves that have ready access.

SECTION 2. The Council adopts the findings for local amendments to the California Fire Code, 2022 Edition, attached hereto as Exhibit "A" and incorporated herein by reference.

SECTION 3. The Council finds that this project is exempt from the provisions of the California Environmental Quality Act ("CEQA"), pursuant to Section 15061 of the California Guidelines, because it can be seen with certainty that there is no possibility that the amendments herein adopted will have a significant effect on the environment.

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SECTION 4. This Ordinance shall become effective on the commencement of the thirty-first day after the day of its adoption.

INTRODUCED: October 17, 2022

PASSED: November 14, 2022

AYES: BURT, CORMACK, DUBOIS, FILSETH, KOU, STONE, TANAKA

NOES:

ABSENT:

ABSTENTIONS:

ATTEST:

DocuSigned by:
Lesley Milton
E30491CF3DB34FA...
City Clerk

DocuSigned by:
Patrick Burt
ED9E9CFB69E04FF...
Mayor

APPROVED AS TO FORM:

DocuSigned by:
Albert Yang
15B8C45220134DC...
Assistant City Attorney

APPROVED:

DocuSigned by:
Ed Shikada
F2DCA19CCC8D4F8...
City Manager

DocuSigned by:
293CF322E1294F0...
Director of Planning and Development Services

DocuSigned by:
Geoffrey Blackshire
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Fire Chief

EXHIBIT A

Findings for Local Amendments to the 2022 California Fire Code

The following local amendments to the 2022 California Fire Code make modifications as authorized by the California Health and Safety Code. In accordance with Section 18941.5 of said Code, Findings are hereby made to show that such modifications or changes are reasonably necessary because of local climatic, geological or topographical conditions.

I. PREAMBLE

I. Findings of fact

A. Pursuant to Section 17958.5 of the California Health and Safety Code, the report contained herein is submitted as the "Findings of Fact" document with regard to the adoption of the California Fire Code, 2022 Edition, and amendments. Under this adopting ordinance, specific amendments have been established which are more restrictive in nature than those adopted by the State of California (State Building Code Standards, State Housing and Community Development Codes) commonly referred to as California Code of Regulations, Titles 19, 24 and 25.

B. These amendments to the California Fire Code, 2022 Edition, have been recognized by the City of Palo Alto ("City") as tools for addressing the fire problems, concerns and future direction by which the authority can establish and maintain an environment which will afford a level of fire and life safety to all who live and work within the City's boundaries.

C. Under the provisions of Section 17958.5 of the Health and Safety Code, local amendments shall be based upon the following: climatic, geological/geographical, and topographical conditions. The findings of fact contained herein shall address each of these situations and shall present the local situation which, either singularly or in combination, caused the established amendments to be adopted.

1. Climactic Conditions:

The City, on an average, experiences an annual rainfall of 16" - 18". This rainfall can be expected between October and April of each year. However, during the summer months there is little, if any, measurable precipitation. During this dry period the temperatures are usually between 70-90 degrees with light to gusty westerly winds. These drying winds, combined with the natural vegetation which is dominant throughout the area, create a hazardous fuel condition which can cause, and has caused in the past, extensive grass and brush land fires. With more and more development encroaching into these wooded and grass covered areas, wind-driven fires could have severe consequences, as has been demonstrated on several occasions in Palo Alto and other

areas of the state. Fires in structures can easily spread to the wildland as well as a fire in the wildland into a structure.

Because of the weather patterns, a normal rainfall cannot always be relied upon. This can result in water rationing and water allocation systems, as demonstrated by the drought years of 1986-1991. Water shortages can also be expected in the future due to the current water storage capacities and increased consumption. The water supply for the Palo Alto fire department makes use of automatic fire sprinkler systems feasible as a means to reduce our dependency on large volumes of water for fire suppression.

2. Geological & Geographical Conditions:

Geographical Location. Palo Alto is located at the northern most part of Santa Clara County. Palo Alto is a major focus of the "Silicon Valley," the center for an expanding and changing electronics industry, as well as pharmaceutical, biomedical, and genetic research.

Seismic Location. Palo Alto is situated on alluvial solids between San Francisco Bay and the San Andreas Fault zone. The City's location makes it particularly vulnerable to damage to taller and older structures caused by seismic events. The relatively young geological processes that have created the San Francisco Bay Area are still active today. Seismically, the city sits between two active earthquake faults (San Andreas and the Hayward/Calaveras), and numerous potentially active faults. Approximately 55% of the City's land surface is in the high-to-moderate seismic hazard zones.

Seismic and Fire Hazards. Fire following an earthquake has the potential of causing greater loss of life and damage than the earthquake itself.

The majority of the City's high-rise structures are located in seismic risk zones. Should a significant seismic event occur, Public Safety resources would have to be prioritized to mitigate the greatest threat, and may not be available for every structural fire. In such event, individual structures, including high-rise buildings, should be equipped to help in mitigating the risk of damage.

Other variables may tend to intensify the situation:

a. The extent of damage to the water system;
b. The extent of isolation due to bridge and/or freeway overpass collapse;
c. The extent of roadway damage and/or amount of debris blocking the roadways;
d. Climatical conditions (hot, dry weather with high winds);
e. Time of day will influence the amount of traffic on roadways and could intensify the risk to life during normal business hours;
f. The availability of timely mutual aid or military assistance;
g. Many high-rise structures are located near areas of high fire danger necessitating special

precautions.

Transportation. Palo Alto is dissected by a major state highway (El Camino Real) and two major freeways (I-280 and U.S. 101), which potentially could negatively affect response times of fire suppression equipment.

Soil Conditions. Palo Alto lies at the southern end of San Francisco Bay and is built atop the alluvial deposits that surround the margins of the Bay. The alluvium was created by the flooding of many streams emptying into the San Francisco Bay depression, and from intermittent sea water inundation that has occurred over the last 2 or 3 million years. The areas closest to the Bay are overlain by unconsolidated fine silty clay, known as Bay Mud which varies in thickness from a few feet to as much as 30 feet. Generally, the older more stable alluvium is to the south and the younger less stable material is to the north. Bedrock lies beneath the area at depths of generally 300' or more.

3. Topographical Conditions:

The findings of fact for the topographical element, as would be expected, are closely associated with the geological/geographical element. With the elevation changes within the district, development is of course following the path of least resistance, creating a meandering pattern. This then does not lend itself to a good systematic street and road layout, which would promote easy traffic flow. It has, in fact, resulted in few major crosstown thoroughfares which tend to be heavily congested, primarily during commute hours and seasonal periods of the year. This creates barriers which reduce the response time of fire equipment and other emergency services. The topography of the district is being burdened by major structures. Employment areas are throughout the district. The people who work in these complexes have added to the traffic congestion throughout the city, thereby reducing the fire department's response time capabilities.

Inherent delays caused by the traffic patterns to many of these types of projects, make it necessary to mitigate this problem by requiring additional built-in automatic fire protection systems to provide early detection and initial control until the arrival of the fire department.

The topography of the district in much of the commercial and residential zones lies within or near a flood plane. Periodically, heavy rains and high tides cause region-wide flooding which not only delays response but also increases demands on fire personnel. The fire code amendments increase safeguards and initialize early response to help compensate for these physical delays.

As a result of the findings of facts which identify the various climatic, geological/geographical and topographical elements, those additional requirements as specified in the amendments to adopting ordinance for the California Fire Code 2022 Edition, by the City of Palo Alto area are considered reasonable and necessary modifications. The experience of several disastrous fires

within the city in addition to Santa Clara, Monterey, San Mateo, Alameda and Contra Costa counties have demonstrated the need for other fire protection features, the most significant of which was located in the Oakland/Berkeley Hills in which over 3,000 homes were destroyed and 25 human lives were lost. While it is clearly understood that the adoption of such regulations may not prevent the incidence of fire, the implementation of these various amendments to the Code may reduce the severity and potential of loss of life and property.

II. Specific Findings for Local Amendments

The majority of local amendments (those not specifically listed below) are made strictly to conform to other parts of the Palo Alto Municipal Code (PAMC) and for similar administrative purposes.

Based upon the findings of fact described in section I, the City Council also makes the following specific findings regarding local climatic, geological, and topographic conditions related to local amendments to the California and International Fire Codes found in Chapter 15.04 of Title 15 of the Palo Alto Municipal Code ("PAMC"):

1. The local amendments contained in PAMC sections 15.04.060 through 15.04.090, 15.04.150, 15.04.170, 15.04.180, 15.04.260, and 15.04.440 through15.04.670 - relating to general conditions for hazardous materials are necessary modifications to the California Fire Code flammable and hazardous materials sections because they maintain consistency with the Hazardous Materials Storage Ordinance which has been adopted county- wide since 1983. Requirements include safeguards such as monitoring, secondary containment, separation of non-compatibles which prevent incidents should a seismic event, unauthorized release or accident occur.

2. The local amendment contained in PAMC section 15.04.260- Immersion Heaters- is necessary as a fire control measure because it requires additional controls on process heating devices which are often activated when unattended. See Geological Findings 2.

3. The local amendments contained in PAMC 15.04.280 through 15.04.340 relating to fire sprinkler systems are necessary for faster control of fires in the dense populated area and areas in an extended response time of our community to confine a fire to the area of origin rather than spread toneighboring structures.

The modifications contained in these amendments provide additional fire extinguishing systems in new construction, major remodels, additions, and occupancy classification changes to help mitigate the problems identified in Findings 1, 2, and 3, above- Climatic, Geographical and Topographical.

4. The local amendment contained in PAMC section 15.04.320 - Floor control valves is

necessary to provide fire extinguishing control devices that allow systems to remain partially in service while repairs or maintenance are ongoing. See Findings 1 and 2 above- Climatic and Geographical.

5. The local amendments contained in PAMC section 15.04.350 provides emergency lighting, where emergency lighting is required, in public restrooms regardless of size for public safety. See Findings 1, 2, and 3 – Climatic, Geographical and Topographical.

6. The local amendment contained in PAMC section 15.04.360 matches the requirements for exceptions for emergency escapes in basements/storm shelters in local amendment contained in section 16.04.360. See Findings 1 and 2 – Climatic and Geographical.

7. The local amendments contained in PAMC section 15.04.370 and 15.04.380 are recommendations from Santa Clara County Fire Marshals Association to provide code reference to the installation of commercial ESS, and clarifying location for residential ESS to not interfere with emergency escapes or rescue openings.

8. The local amendments contained in PAMC sections 15.04.390 through 15.04.410 provide for additional fire and life safety measures during construction and demolition. See Findings 2 and 3, above- Geographical and Topographical.

9. The local amendments contained in PAMC sections 15.04.060 through 15.04.090, 15.04.150, 15.04.460, and 15.04.620 through 15.04.670 regarding toxic gases incorporate requirements established by the Model Toxic Gas Ordinance and California Fire Code. Administrative and restrictive measures include changes in definitions, quantities regulated, and utilizes County consensus guidelines established by other regional agencies which share similar climatic, geological/geographical, and topographical conditions. See Findings 1, 2 and 3, above- Climatic, Geographical and Topographical.

10. The local amendments contained in PAMC sections 15.04.410 through 15.04.430 set forth protections for urban-wildland interface areas that are necessary to mitigate the additional fire risks in the Palo Alto foothills hazardous fire zone. The modifications contained in these amendments provide for additional precautions against fire risks and additional fire extinguishing systems necessitated by the conditions listed in Findings 1, 2, and 3, above- Climatic, Geographical and Topographical.

11. The local amendments added in PAMC section 15.04.160 - Roof guardrails at interior courts provides for additional fire and life safety measures for firefighters on buildings with unconventional lightwells. See Findings 2 and 3, above- Geographical and Topographical.

12. The local amendments contained in PAMC section 15.04.020 set forth construction and design provisions for residential property to mitigate the additional risk of fire. The

modifications contained in this amendment provide for additional precautions against fire risks necessitated by the conditions listed in Findings 1, 2, and 3, above- Climatic, Geographical and Topographical.

13. The local amendments contained in PAMC section 15.04.100 are necessary to identify the individual responsible who will perform a fire plan review and the requirement of additional information is necessary to aid in a thorough review during the plan review process. The modifications contained in this amendment provide information that will help mitigate fire risks associated by the conditions listed in Findings 1, 2, and 3, above- Climatic, Geographical and Topographical.

14. The local amendment contained in PAMC section 15.04.120 is necessary to identify who has the authority and to establish the frequency to inspect buildings and premises. The modifications contained in this amendment provide for additional precautions to mitigate the problems identified in Findings 1, 2, and 3, above- Climatic, Geographical and Topographical.

15. The local amendment contained in PAMC section 15.04.190 is necessary to set forth a limit of the maximum number of false alarms the city of Palo Alto Fire Department will respond to.
This measure is necessary to prevent fire department resources from responding to non-emergency situations thereby being unavailable to respond to an actual emergency associated with Climatic, Geographical and Topographical conditions listed in Findings 1, 2 and 3 above.

16. The local amendments added in PAMC sections 15.04.200 through 15.04.250 – The Fire Access Roadways and Dimensions requirements are necessary to provide access for effective, efficient and safe firefighting operations. These measures are necessary to prevent a delay in fire department resources responding to and having access to an emergency situation associated with Climatic, Geographical and Topographical conditions listed in Findings 1, 2 and 3 above.

17. The local amendment added in PAMC section 15.04.270 – Prohibitive Locations, is necessary to restrict the use of portable outdoor gas-fired heating appliances in specific locations as these appliances can be a fire hazard that may also contribute to the uncontrolled spread of fire as a result of the Climatic, Geographical, and Topographical conditions described in Findings 1, 2, and 3 above.

18. The local amendment added in PAMC section 15.04.260 relating to the protection of energy storage systems is necessary to prevent potential damage and fire that may also contribute to the uncontrolled spread of fire as a result of the Climatic, Geographical, and Topographical conditions described in Findings 1, 2, and 3 above.

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Palo Alto , CA 94301
Vinhloc.Nguyen@CityofPaloAlto.org
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Geoffrey Blackshire Geoffrey.Blackshire@CityofPaloAlto.org Fire Chief Fire Services Security Level: Email, Account Authentication (None)	DocuSigned by: Geoffrey Blackshire 0FF7BFD933914C6... Signature Adoption: Pre-selected Style Using IP Address: 199.33.32.254	Sent: 11/21/2022 2:51:19 PM Resent: 11/29/2022 3:43:47 PM Viewed: 11/29/2022 3:54:58 PM Signed: 11/29/2022 3:56:24 PM
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Brad Eggleston Brad.Eggleston@CityofPaloAlto.org Director of Public Works City of Palo Alto Security Level: Email, Account Authentication (None)	DocuSigned by: Brad Eggleston DF8505A6373A4DF... Signature Adoption: Pre-selected Style Using IP Address: 199.33.32.254	Sent: 11/29/2022 3:56:35 PM Viewed: 11/29/2022 5:45:39 PM Signed: 11/29/2022 5:46:20 PM
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Kiely Nose Kiely.Nose@CityofPaloAlto.org Director, Administrative Services/CFO City of Palo Alto Security Level: Email, Account Authentication (None)	DocuSigned by: Kiely S. Nose 0513042E38B4409... Signature Adoption: Uploaded Signature Image Using IP Address: 73.162.77.140	Sent: 11/29/2022 5:46:29 PM Viewed: 12/1/2022 7:25:34 AM Signed: 12/1/2022 7:26:13 AM
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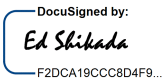
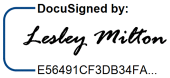
Signer Events	Signature	Timestamp
Jonathan Lait Jonathan.Lait@CityofPaloAlto.org Interim Director Planning and Community Environment City of Palo Alto Security Level: Email, Account Authentication (None) **Electronic Record and Signature Disclosure:** Not Offered via DocuSign	DocuSigned by:  293CF322E1294F6... Signature Adoption: Uploaded Signature Image Using IP Address: 99.88.42.180	Sent: 12/1/2022 7:26:27 AM Viewed: 12/1/2022 11:12:56 AM Signed: 12/1/2022 11:16:47 AM
Ed Shikada Ed.Shikada@CityofPaloAlto.org Ed Shikada, City Manager City of Palo Alto Security Level: Email, Account Authentication (None) **Electronic Record and Signature Disclosure:** Not Offered via DocuSign	DocuSigned by:  F2DCA19CCC8D4F9... Signature Adoption: Pre-selected Style Using IP Address: 199.33.32.254	Sent: 12/1/2022 11:16:58 AM Viewed: 12/1/2022 1:50:09 PM Signed: 12/1/2022 1:50:45 PM
Patrick Burt pat@patburt.org Mr Security Level: Email, Account Authentication (None) **Electronic Record and Signature Disclosure:** Not Offered via DocuSign	DocuSigned by:  ED9E9CFB89E64FF... Signature Adoption: Pre-selected Style Using IP Address: 98.37.159.0	Sent: 12/1/2022 1:50:55 PM Resent: 12/2/2022 10:23:28 AM Viewed: 12/2/2022 11:49:03 AM Signed: 12/2/2022 11:49:57 AM
Lesley Milton Lesley.Milton@CityofPaloAlto.org City Clerk City Clerk Security Level: Email, Account Authentication (None) **Electronic Record and Signature Disclosure:** Not Offered via DocuSign	DocuSigned by:  E56491CF3DB34FA... Signature Adoption: Pre-selected Style Using IP Address: 199.33.32.254	Sent: 12/2/2022 11:50:10 AM Viewed: 12/2/2022 11:55:06 AM Signed: 12/2/2022 11:55:38 AM

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