

ORDINANCE NO. 3201-22

**AN ORDINANCE OF THE CITY COUNCIL OF THE CITY
OF SUNNYVALE TO AMEND CHAPTER 16.52 (FIRE
CODE) OF TITLE 16 (BUILDINGS AND CONSTRUCTION)
OF THE SUNNYVALE MUNICIPAL CODE TO ADOPT BY
REFERENCE THE 2022 CALIFORNIA FIRE CODE WITH
LOCAL AMENDMENTS AND RELATED FINDINGS**

WHEREAS, the International Fire Code (“IFC”) is a model fire code that regulates minimum fire safety requirements for new and existing buildings, facilities, storage and processes; and

WHEREAS, the IFC is in use or adopted in 42 states and is published every three years by the International Code Council; and

WHEREAS, in California, the California Building Standards Commission (“CSBC”) is responsible for administering the implementation of the California building codes, and adopts the IFC with new statewide amendments every three years; and

WHEREAS, this adopted code is known as the California Fire Code (“CFC”) and is found in Part 9 of Title 24 of the California Code of Regulations, and Title 24 is commonly referred to as the California Building Standards Code; and

WHEREAS, the State of California adopted the 2022 California Fire Code in January 2022, and published the documents on July 1, 2022; and

WHEREAS, all local jurisdictions are required to hold public hearings and adopt the CFC with any local amendments by January 1, 2023, or accept by default the version adopted by the State; and

WHEREAS, local amendments to the CFC must be supported with findings that are based on unique local climatic, geologic and topographic conditions of the area; and

WHEREAS, the City of Sunnyvale desires to amend Chapter 16.52 (Fire Code) of the Sunnyvale Municipal Code to adopt the California Fire Code with local amendments for implementation on January 1, 2023.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF SUNNYVALE DOES ORDAIN AS FOLLOWS:

SECTION 1. CHAPTER 16.52 AMENDED. Chapter 16.52 (Fire Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

Chapter 16.52

FIRE CODE

- 16.52.010. Title.**
- 16.52.020. Adoption by reference.**
- 16.52.030. Fire district designated.**
- 16.52.040. Hazardous materials.**
- 16.52.050. Duties are discretionary.**
- 16.52.060. Referenced codes.**
- 16.52.101. Scope and administration.**
- 16.52.103. Department of fire prevention.**
- 16.52.104. General authority and responsibilities.**
- 16.52.105. Permits.**
- 16.52.107. Fees. [Renumbered]**
- 16.52.108. Inspections. [Renumbered]**
- 16.52.109. Maintenance. [Renumbered]**
- 16.52.111. Board of appeals. [Renumbered]**
- 16.52.112. Violations. [Renumbered]**
- 16.52.114. Unsafe buildings. [Renumbered]**
- 16.52.113. Stop work or use order. [Renumbered]**
- 16.52.202. General definitions.**
- 16.52.315. General storage.**
- 16.52.401. Emergency planning and preparedness.**
- 16.52.403. Emergency preparedness.**
- 16.52.405. Emergency evacuation drills.**
- 16.52.503. Fire apparatus access roads.**
- 16.52.504. Access to building openings and doors.**
- 16.52.505. Premises identification.**
- 16.52.507. Fire protection water supplies.**
- 16.52.508. Fire command center.**
- 16.52.510. Emergency responder radio coverage.**
- 16.52.511. Firefighter air replenishment systems.**
- 16.52.512. High rise building emergency helicopter landing facility.**
- 16.52.605. Fuel-fired appliances.**
- 16.52.603. Electrical equipment, wiring and hazards. [Renumbered]**
- 16.52.608. Mechanical refrigeration. [Renumbered]**

- 16.52.901. Fire protection systems.**
- 16.52.903. Automatic sprinkler systems.**
- 16.52.904. Alternative automatic fire-extinguishing systems.**
- 16.52.905. Standpipe systems.**
- 16.52.909. Smoke control systems.**
- 16.52.913. Fire pumps.**
- 16.52.914. Fire protection based on special detailed requirements of use and occupancy.**
- 16.52.1011. Stairways.**
- 16.52.1031. Maintenance of means of egress.**
- 16.52.1103. Fire safety requirements for existing buildings.**
- 16.52.1202. Definitions**
- 16.52.1203. Emergency and standby power systems.**
- 16.52.1207. Electrical Energy Storage Systems (ESS).**
- 16.52.2311. Repair garages.**
- 16.52.3304. Precautions against fire.**
- 16.52.3311. Means of egress.**
- 16.52.5001. Hazardous materials: general.**
- 16.52.5003. Hazardous materials: general requirements.**
- 16.52.5004. Hazardous materials: storage.**
- 16.52.5601. Explosives and fireworks.**
- 16.52.5704. Flammable and combustible liquids.**
- 16.52.5706. Special operations.**
- 16.52.5707. On-demand mobile fueling.**
- 16.52.5809. Mobile gaseous fueling of hydrogen vehicles.**
- 16.52.6004. Highly toxic and toxic compressed gases.**
- 16.52.6405. Pyrophoric materials.**
- 16.52.7000. Modifications.**
- 16.52.7100. Flow requirements for buildings.**
- 16.52.7500. Fire hydrant spacing.**
- 16.52.8101. Fire apparatus and access roads.**
- 16.52.8102. Required access.**
- 16.52.8103. Minimum specifications.**
- 16.52.8104. Aerial fire apparatus access roads.**
- 16.52.8105. Multi-family residential developments.**
- 16.52.9000. Firefighter air replenishment systems.**
- 16.52.9080. Reference Standards**

16.52.010. Title.
[Text unchanged.]

16.52.020. Adoption by reference.

The “2021 International Fire Code” in its entirety, along with Appendices B, C, D, E, F, G, H, I, L, N, O as published by the International Code Council, Inc., and amendments to sections of the 2021 International Fire Code adopted by the State Building Standards Commission in California Code of Regulations (CCR)

Title 24, Part 9 known as the 2022 California Fire Code; is hereby adopted by reference, with changes and modifications as hereinafter set forth, as the Fire Code of the city of Sunnyvale.

16.52.030 – 16.52.050

[Text unchanged.]

16.52.060 Referenced codes.

California Fire Code Section 1.1.5 is hereby amended by adding Section 1.1.5.1 to read:

1.1.5.1. Reference to codes. Whenever reference is made in this code to a building, mechanical, plumbing, or electrical code, such reference shall mean the version of such code as amended and adopted by the city of Sunnyvale.

16.52.101-16.52.103

[Text unchanged.]

16.52.104 General authority and responsibilities.

(a)-(b) [Text unchanged]

(c) **Prohibited use, display or sales of devices.**

California Fire Code Section 104.13 is hereby amended to read:

104.13 Prohibited use, display or sale of devices. The fire code official may prohibit the use, display or sale of any device, material or object that is designed to be used in such a manner as to violate any provisions of this code, or if the use or sale of such constitutes a distinct hazard to life or property. Any materials shown by nationally recognized fire test to have a life hazard greater than that indicated by the manufacturer's literature and controlled by building code interior finish regulations or fire code decorative material regulations is either prohibited or shall be installed or used with such additional fire safety features as are necessary to substantially reduce the life hazard.

(d) **Standby fire personnel and fire watch personnel.**

California Fire Code Section 104.14 is hereby amended to read:

104.14 Standby fire personnel and fire watch personnel. The fire code official has the authority to require, at no cost to the jurisdiction, standby fire personnel and/or fire watch personnel if in the opinion of the fire code official potentially hazardous conditions or reductions in a life safety feature exist. The owner, agent, or lessee shall provide one or more qualified persons, as required and approved, to be on duty. Such standby fire personnel or fire watch personnel shall be subject to the fire code official's orders at all times and remain on duty during the times such places are open to the public, when such activity is being conducted,

or as required by the fire code official. Fire watch personnel are not employees or agents of the city.

16.52.105. Permits.

(a) – (h) [Text unchanged]

(i) **Retention of construction documents.**

California Fire Code is hereby amended by deleting Section 106.4 in its entirety.

(j) **Revocation of permits.**

California Fire Code Section 105.4 is hereby amended to read:

[A] 105.4 Revocation of permits. Revocation of permits shall be in accordance with this section.

(k) **Revocations, suspensions and denials of requests to renew permits.**

California Fire Code Section 105.4 is hereby amended by adding Sections 105.4.1 through 105.4.2.6 to read:

[A] 105.4.1 Nonemergency revocations, suspensions and denials of requests to renew permit. In accordance with applicable law, the fire code official may revoke or suspend a permit or deny a request to renew any permit upon evidence submitted to the fire code official that conditions or circumstances have changed so that continued use of the permit would be unsafe or would violate this code or the conditions of the permit. Such conditions or circumstances include, but are not limited to:

1. The permit has been used by a person other than the person to whom the permit was issued,
2. The permit has been used for a location other than that for which it was issued,
3. Any of the conditions or limitations in the permit or the code has been violated,
4. The permittee failed, refused or neglected to comply within the time provided with orders or notices duly served in accordance with the provisions of this code,
5. There has been a false statement or misrepresentation as to a material fact in the application or plans on which the permit or application was based, or
6. The permit was issued in error or in violation of any code, regulation or other law.

105.4.1.1 Notification. [Text unchanged; renumbered]

105.4.1.2 Requesting a hearing. [Text unchanged; renumbered]

105.4.1.3 Hearing. [Text unchanged; renumbered]

105.4.1.4 Final decision. [Text unchanged; renumbered]

105.4.1.5 Further appeals. Further appeals shall be in accordance with Section 111 of this code.

105.4.2 Emergency revocations, suspensions and denials of requests to renew permits. [Text unchanged; renumbered]

105.4.2.1 Surrendering permits. [Text unchanged; renumbered]

105.4.2.2 Suspending activities. [Text unchanged; renumbered]

105.4.2.3 Requesting an appeal. [Text unchanged; renumbered]

105.4.2.4 Hearing. [Text unchanged; renumbered]

105.4.2.5 Final decision. [Text unchanged; renumbered]

105.4.2.6 Further appeals. Further appeals shall be in accordance with Section 111 of this code.

(l) Carnivals and fairs.

California Fire Code Section 105.5.5 is hereby amended to read:

[A] 105.6.4 Carnivals and fairs. An operational permit is required to conduct a carnival, fair or outdoor assembly event. See also 105.38, Outdoor Assembly Event.

(m) Explosives.

California Fire Code Section 105.5.16 is hereby amended to read:

[A] 105.5.16 Explosives. [Renumbered, text unchanged]

(n) Limits established by law.

California Fire Code Section 105.5.16.1 is hereby amended to read:

105.5.16.1 Limits established by law. [Text unchanged, renumbered.]

- (o) **Outdoor assembly event.** [Text unchanged; renumbered.]
California Fire Code Section 105.5.38 is hereby amended to read as follows:

105.5.38 Outdoor assembly event. An operational permit is required to conduct an outdoor assembly event where planned attendance exceeds 1,000 persons or where permanent or temporary installation of barricades or fencing confine more than 100.

Exception: Events held at Group R, Division 3 occupancies.

- (p) **Hot work operations.** [Text unchanged; renumbered.]
California Fire Code Section 105.5.25 is hereby amended to read:

[A] 105.5.25 Hot work operations. [Text unchanged; renumbered.]

- (q) **LP-gas.** [Text unchanged; renumbered.]
California Fire Code Section 105.5.29 is hereby amended to read:

[A] 105.5.29 LP-gas. [Text unchanged; renumbered.]

- (r) **Miscellaneous combustible storage.** [Text unchanged; renumbered.]
California Fire Code Section 105.5.31 is hereby amended to read:

[A] 105.5.31 Miscellaneous combustible storage. [Text unchanged; renumbered.]

- (s) **Lithium batteries.** [Text unchanged; renumbered.]
California Fire Code Section 105.6.53 is hereby amended to read:

105.6.53 Lithium batteries. An operational permit is required to store or handle lithium batteries or cells in quantities exceeding 1,000 pounds or for an accumulation of more than 15 cubic feet (0.42m).

- (t) **Child-care center.** [Text unchanged; renumbered.]
California Fire Code Section 105.5.55 is hereby amended to read as follows:

105.5.55 Child-care center. [Text unchanged; renumbered.]

- (u) **Emergency responder radio coverage system.** [Text unchanged; renumbered.]

California Fire Code Section 105.5.56 is hereby amended to read as follows:

105.5.56 Emergency responder radio coverage system. [Text unchanged; renumbered.]

(aa) **Firefighter air replenishment system.** [Text unchanged; renumbered.]

California Fire Code Section 105.5.57 is hereby amended to read as follows:

105.5.57 Firefighter air replenishment system. [Text unchanged; renumbered.]

(bb) **Group home.** [Text unchanged; renumbered.]

California Fire Code Section 105.5.58 is hereby amended to read as follows:

105.5.58 Group home. [Text unchanged; renumbered.]

(cc) **Hazardous material stabilization.** [Text unchanged; renumbered.]

California Fire Code Section 105.5.59 is hereby amended to read as follows:

105.5.59 Hazardous material stabilization. [Text unchanged; renumbered.]

(dd) **Helicopter lifts.** [Text unchanged; renumbered.]

California Fire Code Section 105.5.60 is hereby amended to read as follows:

105.5.60 Helicopter lifts. [Text unchanged; renumbered.]

(ee) **Hospitals and psychiatric hospitals.** [Text unchanged; renumbered.]

California Fire Code Section 105.5.61 is hereby amended to read as follows:

105.5.61 Hospitals and psychiatric hospitals. [Text unchanged; renumbered.]

(ff) **Residential care facility for the elderly.** [Text unchanged; renumbered.]

California Fire Code Section 105.5.62 is hereby amended to read as follows:

105.5.62 Residential care facility for the elderly. [Text unchanged; renumbered.]

(gg) **Residential care facility for the chronically ill.** [Text unchanged; renumbered.]

California Fire Code Section 105.5.63 is hereby amended to read as follows:

105.5.63 Residential care facility for the chronically ill. [Text unchanged; renumbered.]

(hh) **Temporary assembly occupancy.** [Text unchanged; renumbered.]

California Fire Code Section 105.5.64 is hereby amended to read as follows:

105.5.64 Temporary assembly occupancy. [Text unchanged; renumbered.]

(ii) **Fire fighter air replenishment system.** [Text unchanged; renumbered.]

California Fire Code Section 105.6.25 is hereby amended to read as follows:

105.6.25 Fire fighter air replenishment system. [Text unchanged; renumbered.]

16.52.107. Fees. [Text unchanged, renumbered.]

California Fire Code Section 106 is hereby amended to read:

[A] **107.1 Fees.** [Text unchanged; renumbered.]

[A] **107.2 Schedule of permit fees.** [Text unchanged; renumbered.]

[A] **107.3 Related fees.** [Text unchanged; renumbered.]

107.7 Refunds. [Text unchanged; renumbered.]

16.52.108. Inspections. [Text unchanged; renumbered]

(a) **Special inspections.**

California Fire Code Section 108.5 is hereby amended to read:

108.5 Special inspections. [Text unchanged]

16.52.109. Maintenance. [Text unchanged; renumbered]

(a) **Overcrowding.**

California Fire Code Section 109.6 is hereby amended to read:

[A] **1096 Overcrowding.** [Text unchanged; renumbered.]

(b) **Hazard abatement.** [Text unchanged]

109.7 Hazard abatement. [Text unchanged.]

16.52.111. Board of appeals. [Text unchanged; renumbered] California Fire Code Section 1111.1 is hereby amended to read:

111.1.1 Appeals. The Office of the City Clerk maintains guidelines and procedures for the Board of Appeals.

16.52.112. Violations. [Text unchanged; renumbered.]

(a) **Unlawful acts.**

California Fire Code Section 1121 is hereby amended to read as follows:

[A] **112.1 Unlawful acts.** [Text unchanged; renumbered.]

(b) **Violation penalties.**

California Fire Code Section 112.4 is hereby amended to read:

[A] **112.4 Violation penalties.** [Text unchanged; renumbered.]

(c) **Civil penalties.**

California Fire Code Section 112.4.2 is hereby amended to read:

112.4.2 Civil Penalties. [Text unchanged; renumbered.]

16.52.114. Unsafe buildings. [Text unchanged; renumbered.]

(a) **General.**

California Fire Code Sections 114.1 – 114.1.2 is hereby amended to read:

[A] **114.1 General.** [Text unchanged; renumbered.]

[A] **114.1.1 Unsafe conditions.** [Text unchanged; renumbered.]

[A] **114.1.2 Structural hazards.** When an apparent structural hazard is caused by the faulty installation, operation or malfunction of any of the items or devices governed by this code, the *fire code official* is authorized

to immediately notify the building code official in accordance with Section 114.1.

(b) Notification.

California Fire Code Section 114.5 is hereby amended to read:

114.5 Notification. [Text unchanged; renumbered.]

16.52.113. Stop work or use order. [Text unchanged, renumbered.]

(a) Order.

California Fire Code Section 113.1 is hereby amended to read:

[A] 113.1 Order. [Text unchanged; renumbered.]

(b) Issuance.

California Fire Code Section 113.2 is hereby amended to read:

[A] 113.2 Issuance. [Text unchanged; renumbered.]

(c) Emergencies.

California Fire Code Section 113.3 is hereby amended to read:

[A] 113.3 Emergencies. [Text unchanged; renumbered]

(d) Failure to comply.

California Fire Code Section 113.4 is hereby amended to read:

[A] 113.4 Failure to comply. [Text unchanged; renumbered.]

16.52.202. General definitions.

California Fire Code Section 202 is hereby amended by adding and amending the following definitions:

BONFIRE. [Text unchanged.]

CORROSIVE LIQUID. [Text unchanged.]

FIRE CHIEF. [Text unchanged.]

FIRE DEPARTMENT. [Text unchanged.]

FIREFIGHTER AIR REPLENISHMENT SYSTEM (FARS). [Text unchanged.]

LARGE SCALE FIRE TESTING. Testing a representative energy storage system that induces a significant fire into the device under test and evaluates whether the fire will spread to adjacent energy system units, surrounding

equipment, or through an adjacent fire resistance-rated barrier.

MODERATELY TOXIC GAS. 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.

HEALTH HAZARD – OTHER. 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 increase hemoglobin function, deprive the body tissue of oxygen or affect reproductive capabilities, including mutations (chromosomal damage), sensitizers of teratogens (effect on fetuses).

SECONDARY CONTAINMENT. [Text unchanged.]

SPILL CONTROL. [Text unchanged.]

WORKSTATION. A defined space or an independent principal piece of equipment using flammable or unstable (Class 3 or 4 as ranked by NFPA 704) hazardous materials where a specific function, laboratory procedure or research activity occurs. *Approved or listed* hazardous materials storage cabinets, flammable liquid storage cabinets or gas cabinets serving a workstation are included as part of the workstation. A workstation is allowed to contain ventilation equipment, fire protection devices, detection devices, electrical devices and other processing and scientific equipment.

16.52.315. General storage.

(a) **Storage under stairways.**

California Fire Code Section 315.3.5 is hereby amended to read:

315.3.5 Storage under stairways. [Text unchanged]

16.52.401. Emergency planning and preparedness. [Text unchanged.]

16.52.403. Emergency preparedness requirements.

(a) **Duties.**

California Fire Code Section 403.11.1.1 is hereby amended to read:

403.11.1.1 Duty times. [Text unchanged; renumbered.]

16.52.405. Emergency evacuation drills. [Text unchanged.]

(a) **Initiation.**

California Fire Code Section 405.8 is hereby amended to read:

405.8 Initiation. [Text unchanged; renumbered]

16.52.503 Fire apparatus access roads [Text unchanged]

16.52.504 Access to building openings and doors.

(a) Access control devices.

California Fire Code is hereby amended by adding Section 504.5 to read:

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 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. Access control devices must also comply with Chapter 10 Means of Egress.

16.52.505 Premises identification. [Text unchanged]

16.52.507 Fire protection water supplies.

(a)-(b) [Text unchanged]

(c) Hydrant for standpipe system.

California Fire Code Section 507.5.1.1 is hereby amended to read:

507.5.1.1 Hydrant for standpipe system. Buildings equipped with a standpipe system installed in accordance with Section 905 shall have a hydrant within 50 feet (15 m) of the fire department connections on the same side of the road.

Exception: The distance shall be permitted to exceed 50 feet (15 m) where approved by the *fire code official*.

(d) Hydrant for automatic sprinkler system.

California Fire Code Section 507.5.1.2 is hereby amended to read:

507.5.1.2 Hydrant for automatic sprinkler system. Buildings equipped with an automatic sprinkler system installed in accordance with Section 903 shall have a hydrant within 50 feet (15 m) of the fire department connections on the same side of the road.

Exception: The distance shall be permitted to exceed 50 feet (15 m) where approved by the *fire code official*.

(e)-(f) [Text unchanged]

16.52.508. Fire command center.

(a) Location and access.

California Fire Code Section 508.1.1 is hereby amended to read:

508.1.1 Location and access. The location and access of *the fire command center* shall be approved by the *fire code official*. The *fire command center* shall be located adjacent to an *approved* fire apparatus access road and be accessible directly from the exterior of the building.

(b) Required features.

California Fire Code Section 508.1.6 is hereby amended to read:

508.1.6 Required features. The *fire command center* shall comply with NFPA 72 and shall contain the following features:

1. The emergency voice/alarm communication system control unit.
2. The fire department communications system.
3. Fire alarm system zoning annunciator panel required by Section 907.6.4.3.
4. Annunciator unit visually indicating the location of the elevators and whether they are operational.
5. Status indicators and controls for air distribution systems.
6. The firefighter's control panel required by Section 909.16 for smoke control systems installed in the building.
7. Controls for unlocking interior exit *stairway* doors simultaneously.
8. Sprinkler valve and water-flow detector display panels.
9. Emergency and standby power status indicators.
10. A telephone for fire department use with controlled access to the public telephone system.
11. Fire pump status indicators.
12. Schematic building plans indicating the typical floor plan and detailing the building core, *means of egress*, *fire protection systems*, fire-fighting equipment and fire department access, and the location of *fire walls*, *fire barriers*, *fire partitions*, *smoke barriers* and smoke partitions.
13. An *approved* Building Information Card that contains, but is not limited to, the following information:
 - 13.1 General building information that includes: property name, address, the number of floors in the building above and below grade, use and occupancy classification (for mixed uses, identify the different types of occupancies on each floor), estimated building population (i.e., day, night, weekend);

- 13.2 Building emergency contact information that includes: a list of the building's emergency contacts (e.g., building manager, building engineer, etc.) and their respective work phone number, cell phone number, and e-mail address;
- 13.3 Building construction information that includes: the type of building construction (e.g., floors, walls, columns, and roof assembly);
- 13.4 Exit stair information that includes: number of exit stairs in the building, each exit stair designation and floors served, location where each exit stair discharges, exit stairs that are pressurized, exit stairs provided with emergency lighting, each exit stair that allows reentry, exit stairs providing roof access; elevator information that includes: number of elevator banks, elevator bank designation, elevator car numbers and respective floors that they serve, location of elevator machine rooms, location of sky lobby, location of freight elevator banks;
- 13.5 Building services and system information that includes: location of mechanical rooms, location of building management system, location and capacity of all fuel oil tanks, location of emergency generator, location of natural gas service;
- 13.6 *Fire protection system* information that includes: locations of standpipes, location of fire pump room, location of fire department connections, location of firefighter air replenishment system features and stations, location of emergency responder radio system controller, floors protected by *automatic sprinklers*, location of different types of *automatic sprinkler systems* installed (e.g., dry, wet, pre-action, etc.); and
- 13.7 Hazardous material information that includes: location of hazardous material, quantity of hazardous material.
- 14. Work table and chairs.
- 15. Generator supervision devices, manual start and transfer features.
- 16. Public address system, where specifically required by other sections of this code.
- 17. Elevator fire recall switch in accordance with ASME A17.1.
- 18. Elevator emergency or standby power selector switch(es), where emergency or *standby power* is provided.
- 19. *A master switch for unlocking elevator lobby doors permitted by Section 1008.1.4.6.*
- 20. On-site fire protection water tank fill valve control switch, tank level indicators, tank low-level alarm, and tank fill signal.
- 21. Building security system controls and related equipment.

22. All control panels shall be permanently identified in an approved manner as to function.
23. Other fire protection equipment and system controls as required by the fire code official.

Fire command centers shall not be used for the housing of any boiler, heating unit, generator, combustible storage, or similar hazardous or combustible storage.

(c) Ventilation [Text unchanged]

16.52.510. Emergency responder radio coverage.

(a) Emergency responder radio coverage in new buildings.

California Fire Code Section 510.1 is hereby amended to read:

510.1 Emergency responder radio coverage in new buildings. Approved radio coverage for emergency responders shall be provided within all buildings meeting any one of the following conditions:

1. There are more than 3 stories above grade plane (as defined by the Building Code Section 202);
2. The total building area is 30,000 square feet or more;
3. The total basement area is 5,000 square feet or more;
4. Where required by the fire code official and radio coverage signal strength levels are not consistent with the minimum levels set forth in Section 510.4.1.

Exceptions:

1. Where approved by the fire code official, a wired communication system in accordance with Section 907.2.13.2 shall be permitted to be installed or maintained in lieu of an approved radio coverage system.
2. Where determined by the fire code official that a system is not needed.
3. In facilities where emergency responder radio coverage is required and such systems, components or equipment required could have a negative impact on the normal operations of that facility, the fire code official shall have the authority to accept an automatically activated emergency responder radio coverage system.
4. Buildings and areas of buildings that have minimum radio coverage signal strength levels of the Silicon Valley Regional Interoperability Authority (SVRIA) P25 Phase 2 700 MHz Digital Trunked Radio System within the building in accordance with Section 510.4.1 without the use of an indoor radio coverage system.

The radio coverage system shall be installed and maintained in accordance with Sections 510.4 through 510.6 of this code and with the applicable provisions of NFPA1221,

Standard for the Installation, Maintenance and Use of Emergency Services Communication Systems.

The coverage shall be based upon the existing coverage levels of the public safety communication systems of the jurisdiction at the exterior of the building. This section shall not require improvement of the existing public safety communication systems.

(b) [Text unchanged]

(c) **Permit required.**

California Fire Code Section 510.3 is hereby amended to read:

510.3 Permit required. A construction permit, for the installation of, or modification of, emergency responder radio coverage systems and related equipment is required as specified in Section 105.7.6. Maintenance performed in accordance with this code is not considered a modification and does not require a permit. A frequency change made to an existing system is considered to be new construction and will require a construction permit.

An operational permit is required to maintain an emergency responder radio coverage system as specified in Section 105.5.

(d)-(f) [Text unchanged.]

16.52.511. Firefighter air replenishment systems. [Text unchanged.]

16.52.512. High rise building emergency helicopter landing facility.

California Fire Code Section 512 is hereby amended to read: [Text unchanged.]

16.52.605 Fuel-fired appliances.

(a) **Prohibited locations.** California Fire Code Section 605.4.2.1.1 is hereby amended to read:

605.4.2.1.1 Prohibited locations. [text unchanged, renumbered]

16.52.603. Electrical equipment, wiring and hazards. [Renumbered]

(a) **Immersion heaters.**

California Fire Code Section 603 of Subsection 603.11 is hereby amended to read:

603.114 Immersion Heaters. [Text unchanged; renumbered.]

16.52.608. Mechanical refrigeration. [Renumbered]

(a) **Standby power.**

California Fire Code Section 608 of Subsection 608.19 is hereby

amended to read:

608.19 Standby power. [Text unchanged; renumbered.]

16.52.703 Penetrations

(a) Fire-resistant penetrations and joints

California Fire Code Section 703 is hereby amended by adding Section 703.3 to read:

703.3 Fire-resistant penetrations and joints. In high-rise buildings, in buildings assigned to Risk Category III or IV, or in fire areas containing Group R occupancies with an occupant load greater than 100, and other occupancies as determined necessary special inspections for through-penetrations, membrane penetration firestops, fire resistant joint systems and perimeter fire containment systems that are tested and listed in accordance with CBC Sections 714.4.1.2, 714.5.1.2, 715.3.1 and 715.4 shall be in accordance with Section 1705.18.1 or 1705.18.2.

16.52.901. Fire protection systems.

(a) Inspection, testing and maintenance.

California Fire Code Section 901.6 is hereby amended to read:

901.6 Inspection, testing and maintenance. Fire protection and life safety systems shall be maintained in an operative condition at all times, and shall be replaced or repaired where defective. Nonrequired fire protection systems and equipment shall be inspected, tested and maintained or removed when approved by the fire code official.

(b) Records.

California Fire Code Section 901.6.3 is hereby amended to read:

901.6.3 Records. Records of all system inspections, tests and maintenance required by the referenced standard shall be maintained on the premises for a minimum of five years and shall be electronically copied to the fire code official by the company that performed the inspection, testing or maintenance in a manner prescribed by the fire code official. Inspections and tests performed on fire alarm systems shall be documented on appropriate NFPA 72 forms.

16.52.903. Automatic sprinkler systems.

(a) Design criteria.

California Fire Code Section 903.1.1.1 is hereby amended to read:

903.1.1.1 Design criteria. The following design criteria shall be applied for NFPA 13 and NFPA 13D fire sprinkler systems:

1. The design criteria shall be set at 10 percent below the hydraulic curve drawn from the available water supply.

2. A maximum flow velocity of 20 feet per second shall not be exceeded.
3. Where corrosive conditions are known to exist due to moisture or fumes from corrosive chemicals or both, special types of fittings, pipes and hangers that resist corrosion shall be used or a protective coating shall be applied to all unprotected exposed surfaces of the sprinkler system.
4. The minimum size water meter for NFPA 13D systems shall be 1”.

(b) **Residential sprinkler systems.** [Text unchanged]

(c) **Where required.**

California Fire Code Section 903.2 is hereby amended to read:

903.2 Where required. Approved automatic sprinkler systems in new and existing buildings and structures shall be provided in the locations described in this Section or in Sections 903.2.1 through 903.2.12 and Sections 903.2.14 through 903.2.21, whichever is the more restrictive.

Exception: [Text unchanged.]

For the purposes of this Section, firewalls and fire barriers used to separate building areas shall be constructed in accordance with the California Building Code and shall be without openings or penetrations.

1. [Text unchanged.]
2. An automatic sprinkler system shall be provided throughout existing buildings and structures less than 3600 square feet, other than group R-3 occupancies and townhouses, when additions are made that increase the building area to 3600 square feet or greater, or that create conditions described in Sections 903.2.1 through 903.2.12 and Sections 903.2.14 through 903.2.21.

Exception: [Text unchanged.]

3. An automatic sprinkler system shall be provided throughout existing buildings and structures 3,600 square feet or greater, other than group R-3 occupancies and townhouses, when any addition is made, or that create conditions described in Sections 903.2.1 through 903.2.12 and Sections 903.2.14 through 903.2.21.

Exception: [Text unchanged.]

4. An automatic sprinkler system shall be provided throughout existing buildings and structures 3600 square feet or greater, other than group R-3 occupancies and townhouses, when alterations or repairs are made that are in excess of 50 percent of the existing building area within a 12-month period, or that create conditions described in Sections 903.2.1 through 903.2.12 and Sections 903.2.14 through 903.2.21 or Chapter 11. For the purposes of this chapter,

alterations and repairs shall be determined by the *fire code official* and include, but not be limited to; changes in T-bar ceiling, changes in the means of egress system, extending travel distances that would otherwise require the addition of automatic fire sprinklers, and extended distances from fire apparatus access roads.

5. An automatic sprinkler system shall be provided when there is any change in the character of occupancy or in the use of any existing building or structure 3600 square feet or greater, when the *fire code official* determines the change would place the building into a more hazardous division of the same occupancy group, or into a different occupancy group, which constitutes a greater life safety¹ exposure or increased fire risk.²
6. An automatic sprinkler system shall be provided in all accessible combustible and noncombustible sub-floors, attic space, or areas above ceilings, which are greater than 6 inches (152.4 mm) in height and contain electrical or mechanical components, in a fire sprinklered structure.
Exceptions: [Text unchanged]
7. An automatic sprinkler system shall be provided throughout all new basements regardless of size, and throughout existing basements that are expanded by more than 50 percent.
8. Automatic sprinkler protection shall be provided in all storage areas that are within 5 feet (3048 mm) of the exterior building walls, roof overhangs, canopies or constitute an exposure to adjacent property.

Such sprinklers may be connected to the domestic water, supply if the structure is not otherwise required to be fire sprinklered. Systems using domestic water supply shall not be less than 1-inch (25.4-mm) diameter pipe. Sufficient coverage of the area shall be provided and an *approved* accessible shut-off valve is to be provided for each room or area. Where valves are subject to possible vandalism, an *approved* means of securing the valve in the open position shall be provided. Where there are no ceilings, an 18 square inch (11,613 square mm) heat baffle shall be provided not more than 6 inches (152.4 mm) above the

¹ Life Safety – Shall include, but not limited to: Increased occupant load, public assembly areas, public meeting areas, churches, indoor amusement attractions, buildings with complex exiting systems due to increased occupant loads, large schools/day-care facilities, large residential care facilities housing non-ambulatory clients.

² Fire Risks – Shall include, but not limited to: High-piled combustible storage, woodworking operations, hazardous operations using hazardous materials, increased fuel loads (storage of moderate to highly combustible materials), increased sources of ignition (welding, automotive repair with the use of flammable liquids and open flames)

sprinkler head. All exposed piping shall be brazed copper or steel.

(d) Chemical Fume Hood Fire Protection. California Fire Code Section 903.2 is hereby amended by adding Section 903.2.11.7 to read:

903.2.11.7 Chemical Fume Hood Fire Protection. Approved automatic fire extinguishing systems shall be provided in chemical fume hoods
Exception: Internal fire protection is not required where quantities of flammable liquids in use or storage within the cabinet do not exceed 500 ml.

(e) NFPA 13 sprinkler systems.

California Fire Code Section 903.3.1.1 is hereby amended to read:

903.3.1.1 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 as amended in Chapter 80 except as provided in Section 903.3.1.1.1 through 903.3.1.1.3.

Exception: For new buildings having no designated use or tenant, the minimum sprinkler design density shall be Ordinary Hazard Group 2.

(f) NFPA 13R sprinkler systems. [Renumbered, Text unchanged]

(g) Floor control valves. [Text unchanged]

California Fire Code Section 903.3.9 is hereby amended to read:

903.3.9 Floor control valves. [Text unchanged, renumbered]

(h) Riser shut-off valve. [Text unchanged; renumbered]

California Fire Code Section 903.3 is hereby amended by adding Section 903.3.10 to read:

903.3.10 Riser shut-off valve. [Text unchanged; renumbered]

(i) Corrosion-resistant paint.

California Fire Code Section 903.3.11 is hereby amended to read:

903.3.11 Corrosion-resistant paint. Throughout open parking garages and all areas with exposed exterior sprinkler piping, steel pipe shall be properly protected from corrosion by painting the pipe with corrosion-resistant paint.

(j) Floor control valves. [Text unchanged]

16.52.904. Alternative automatic fire extinguishing systems. [Text unchanged]

16.52.905. Standpipe systems. [Text unchanged]

16.52.909. Smoke control systems.

(a) **Schedule.**

California Fire Code Section 909.22.1 is hereby amended to read:

16.52.912 Fire department connections.

(a) **Installation.**

California Fire Code Section 912.1 is hereby added to read:

912.1 Installation. Fire department connections shall be installed not less than 30 inches (762 mm) nor more than 3 feet (914.4 mm) above the finished grade, and shall be equipped with an approved check valve and plugs or caps.

All 4-inch (101.6 mm) fire lines shall be equipped with a two-way fire department connection. All 6-inch (152.4 mm) fire lines shall be equipped with a four-way fire department connection.

The number of fire department connections shall be determined by the *fire code official*.

(b) **Location.**

California Fire Code Section 912.2 is hereby added to read:

912.2 Location. With respect to hydrants, driveways, buildings and landscaping, fire department connections shall be so located that fire apparatus and hose connected to the system will not obstruct access to the buildings for other fire apparatus. All fire department connections shall be located within 25 feet (7620 mm) of the street or approved fire access lane, Fire department connections shall be within 50 feet (15240 mm) of a public hydrant and pointed toward the public street or other *approved* location.

(c) **Physical protection.**

California Fire Code Section 912.4.3 is hereby added to read:

912.4.3 Physical protection. All connections shall be protected against mechanical or vehicular damage provided in accordance with Section 312.

16.52.913. Fire pumps. [Text unchanged.]

16.52.1011. Stairways.

(a) Roof access

California Fire Code Section 1011.12.2 is hereby amended to read:

1011.12.2 Roof access. Where a *stairway* is provided to a roof, access to the roof shall be provided through a *penthouse* complying with Section 1511.2 of the *California Building Code*.

Exception: In buildings without an occupied roof, access to the roof shall be permitted to be a roof hatch or trap door not less than 16 square feet (1.5 m²) in area and having a minimum dimension of 2 feet 6 inches (762 mm).

16.52.1032. Maintenance of the means of egress. [Renumbered]

(a) Vehicular obstruction.

California Fire Code Section 1032 of Subsection 1032.3.2 is hereby amended to read:

1032.3.2 Vehicular obstructions. [Text unchanged; renumbered.]

(b) Seismic supports for storage shelves.

California Fire Code Section 1032 of subsection 1032.6.1 is hereby amended to read:

1032.6.1 Seismic supports for storage shelves. [Text unchanged.]

16.52.1103. Fire safety requirements for existing buildings.

(a) Emergency responder radio coverage in existing buildings.

California Fire Code Section 1103.2 is hereby amended to read:

1103.2 Emergency responder radio coverage in existing buildings. Existing buildings other than Group R-3, that do not have *approved* radio coverage for emergency responders within the building shall be equipped with such system or coverage within a timeframe established by the *fire code official*.

1. Whenever an existing wired communication system cannot be repaired or is being replaced, or where not *approved* in accordance with Section 510.1, Exception 1.

2. When undergoing substantial alteration as determined by the *fire code official*.

3. When determined by the *fire code official* that buildings, classes of buildings or specific occupancies do not have minimum radio coverage signal strength levels and pose an undue risk to emergency responders that cannot be reasonably mitigated by other means.

Exception: Where it is determined by the *fire code official* that the radio coverage system is not needed.

16.52.1202 Definitions

(a) Definitions.

California Fire Code Section 1202.1.1 is hereby added to read:

1202.1 Definitions. The following terms are defined in Chapter 2:

BATTERY SYSTEM, STATIONARY STORAGE.
BATTERY TYPES.
CAPACITOR ENERGY STORAGE SYSTEM.
CRITICAL CIRCUIT.
EMERGENCY POWER SYSTEM.
ENERGY STORAGE MANAGEMENT SYSTEMS.
ENERGY STORAGE SYSTEM (ESS).
ENERGY STORAGE SYSTEM, ELECTROCHEMICAL.
ENERGY STORAGE SYSTEM, MOBILE.
ENERGY STORAGE SYSTEM, WALK-IN UNIT.
ENERGY STORAGE SYSTEM CABINET.
ENERGY STORAGE SYSTEM COMMISSIONING.
ENERGY STORAGE SYSTEM DECOMMISSIONING.
FUEL CELL POWER SYSTEM, STATIONARY.
LARGE-SCALE FIRE TESTING
PORTABLE GENERATOR.
STANDBY POWER SYSTEM.

16.52.1203. Emergency and standby power systems. [Text unchanged; Renumbered.]

- (a) Refrigeration systems.** [Text unchanged; Renumbered.]
California Fire Code Section 1203 is hereby amended by adding Section 1203.2.20 to read:

1203.2.20 Refrigeration systems. [Text unchanged; Renumbered.]

- (b) Repair garages.** [Text unchanged; Renumbered.]
California Fire Code Section 1203 is hereby amended by adding Section 1203.2.21 to read:

1203.2.21 Repair garages. [Text unchanged; Renumbered.]

16.52.1207 Electrical Energy Storage Systems (ESS)

(a) Large-scale fire test.

California Fire Code Section 1207.1.5 is hereby added 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.

(b) Ongoing inspection and testing.

California Fire Code Section 1207.2.2.1 is hereby amended to read:

1207.2.2.1 Ongoing inspection and testing. Systems that monitor and protect the ESS installation shall be inspected and tested in accordance with the manufacturer's instructions and the operation and maintenance manual. Inspection and testing records shall be maintained in the operation and maintenance manual and made available to the fire code official upon request.

(c) Maximum allowable quantities.

California Fire Code Section 1207.5.2 is hereby amended to read:

1207.5.2 Maximum allowable quantities. Fire areas within rooms, areas and walk-in units containing electrochemical ESS shall not exceed the maximum allowable quantities in Table 1207.5. The allowable number of fire areas, maximum allowable quantity, and fire-resistance rating of fire-barriers shall comply with Table 1207.5.1.

Exceptions:

1. Where approved by the fire code official, rooms, areas and walk-in units containing electrochemical ESS that exceed the amounts in Table 1207.5 shall be permitted based on a hazardous mitigation analysis in accordance with Section 1207.1.4 and large-scale fire testing complying with Section 1207.1.5.
2. Lead-acid and nickel-cadmium battery systems installed in facilities under the exclusive control of communications utilities and operating at less than 50 VAC and 60 VDC in accordance with NFPA 76
3. Dedicated-use buildings in compliance with Section 1207.7.1.

TABLE 1207.5.1 DESIGN AND NUMBER OF ESS FIRE AREAS				
STORY		PERCENTAGE OF MAXIMUM ALLOWABLE QUANTITY PER FIRE AREA	NUMBER OF FIRE AREAS PER STORY	FIRE- RESISTANCE RATING FOR FIRE BARRIERS IN HOURS
Above grade plan	Higher than 9	25	1	3
	7-9	50	2	2
	6	50	2	2
	5	50	2	2
	4	75	4	2
	3	100	6	2
	2	100	6	2
	1	100	6	2
Below grade plan	1	100	4	3
	2	50	2	3
	Lower than 2	Not Allowed	Not Allowed	Not Allowed

(d) Fire suppression systems.

California Fire Code Section 1207.5.5 is hereby added to read:

1207.5.5 Fire suppression systems. Rooms and areas within buildings and walk-in units containing electrochemical ESS shall be protected by an automatic fire suppression system designed and installed in accordance with one of the following:

1. An automatic sprinkler system designed and installed in accordance with Section 903.3.1.1 with a minimum density of 0.3 gpm/ft² (1.14 L/min) based on the fire area or 2,500 square-foot (232 m²) design area, whichever is larger.
2. Where approved, an automatic sprinkler system designed and installed in accordance with Section 903.3.1.1 with a sprinkler hazard classification based on large-scale fire testing complying with Section 1207.1.5.
3. The following alternative automatic fire-extinguishing systems designed and installed in accordance with Section 904, provided that the installation is approved by the fire code official based on large-scale fire testing complying with Section 1207.1.5:
 - 3.1. NFPA 12, *Standard on Carbon Dioxide Extinguishing Systems*.
 - 3.2. NFPA 15, *Standard for Water Spray Fixed Systems for Fire Protection*.
 - 3.3. NFPA 750, *Standard on Water Mist Fire Protection Systems*.
 - 3.4. NFPA 2001, *Standard on Clean Agent Fire-Extinguishing Systems*.
 - 3.5. NFPA 2010, *Standard for Fixed Aerosol Fire-Extinguishing Systems*.

Exception: Fire suppression systems for lead-acid and nickel-cadmium battery systems at facilities under the exclusive control of communications utilities that operate at less than 50 VAC and 60 VDC shall be provided where required by NFPA 76.

(e) Location

California Fire Code Section 1207.11.3 is hereby 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 or on the exterior side of the exterior walls not less than 3 feet (914 mm) from doors and windows directly entering the dwelling unit and not 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.

(f) Fire detection.

California Fire Code Section 1207.11.6 is hereby added to read:

1207.11.6 Fire detection. ESS installed in Group R-3 and R-4 occupancies shall comply with the following:

1. Rooms and areas within dwellings units, sleeping units, basements and attached garages in which ESS are installed shall be protected by smoke alarms in accordance with Section 907.2.11.
2. A listed heat alarm interconnected to the smoke alarms shall be installed in locations within dwelling units, sleeping units and attached garages where smoke alarms cannot be installed based on their listing.

Exceptions:

1. A listed heat detector may be used in place of a heat alarm, so long as it is interconnected with devices that provide an audible alarm at all sleeping areas.
2. A fire sprinkler associated with an approved automatic sprinkler system that triggers an audible alarm upon activation of the waterflow switch, may be used in place of a heat alarm.

16.52.2311. Repair garages.

(a) Supervision and monitoring.

California Fire Code Section 2311. is hereby amended by adding section 2311.8.12 to read:

2311.8.12. Supervision and monitoring. Required gas detection and mechanical ventilation systems shall be electrically supervised and monitored in accordance with Section 5004.10.

(b) **Standby power.**

California Fire Code Section 2311.8.13 is hereby amended to read:

2311.8.13 Standby power. The gas detection system shall have a battery backup or an approved alternate source of power in accordance with NFPA 72.

16.52.3305. Precautions against fire.

(a) **Fire watch.**

California Fire Code Section 3305.5 is hereby amended to read:

3305.5 Fire watch. Where required by the fire code official or the site safety plan established in accordance with Section 3303.1, a fire watch shall be provided for building demolition and for building construction. Fire watch is not intended to facilitate occupancy during ongoing construction in a new building.

(b) **Fire walls.** [Renumbered, text unchanged]

California Fire Code Section 3305.9 is hereby amended to read:

3305.9 Fire walls. When firewalls are required in combustible construction, 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).

16.52.3311. Means of Egress.

(a) **Stairways required.** [Text unchanged; Renumbered.]

California Fire Code Section 3312.1 is hereby amended to read:

[BE] **3311.1 Stairways required.** [Text unchanged.]

(b) **Required means of egress.**

California Fire Code Section 3312.1.1 is hereby amended to read:

3312.1.1 Required means of egress. All new buildings under construction shall have at least one unobstructed means of egress. All means of egress shall be identified in the prefire plan as outlined in Section 3303.1.

16.52.5001. Hazardous materials: general.

(a) **Scope.**

California Fire Code Section 5001.1 is hereby amended to read:

5001.1 Scope. Prevention, control and mitigation of dangerous conditions related to the storage, dispensing, use and handling of hazardous materials shall be in accordance with this chapter.

This chapter shall apply to all hazardous materials, including those materials regulated elsewhere in this code, except that where specific requirements are provided in other chapters, those specific requirements shall apply in accordance with the applicable chapter. Where a material has multiple hazards, all hazards shall be addressed.

Exceptions:

1. – 11. [Text unchanged.]
12. Specific provisions for flammable liquids in motor-fuel dispensing facilities, repair garages, airports and marinas in Chapter 23.
13. Storage and use of fuel oil in tank and containers connected to oil-burning equipment. Such storage and use shall be in accordance with Section 605. For abandonment of fuel oil tanks, Chapter 57 applies.
14. Storage and display of aerosol products complying with Chapter 51.
15. Storage and use of flammable or combustible liquids that do not have a fire point when tested in accordance with ASTM D92, not otherwise regulated by this code.
16. Flammable or combustible liquids with a flash point greater than 95°F (35°C) in a water-miscible solution or dispersion with a water and inert (noncombustible) solids content of more than 80 percent by weight, which do not sustain combustion, not otherwise regulated by this code.
17. Commercial cooking oil storage tank systems located within a building and designed and installed in accordance with Section 607 and NFPA 30.
18. Storage and handling of lithium ion batteries regulated by Section 322.

5001.1.1 Waiver. [Text unchanged.]

(b) Hazardous materials business plan.

California Fire Code Section 5001.5.3 is hereby amended to read:

5001.5.3 Hazardous materials business plan. Facilities that are required to submit a Hazardous Materials Business Plan (HMBP) as required by Health and Safety Code (HSC), Chapter 6.95, Sections 25500 through 25547.8, and Title 19, Division 2, Chapter 4, and facilities required to maintain a hazardous materials-related permit in accordance with Section 105.5 of this code, shall electronically submit a HMBP every year on or by the last day of the assigned month and no less frequently than that required by the HSC.

Exception: The following facilities shall electronically submit a HMBP at least once every three years on or by the last day of the assigned month and no less frequently than that required by the HSC:

1. Cell tower sites.

2. Facilities with no hazardous materials-related permits other than carbon dioxide used in insulated liquid carbon dioxide beverage dispensing systems.
3. Dental offices with no other hazardous materials-related permits other than a permit for a fixed medical gas system and/or small quantity waste generator permit.

(c) [Text unchanged.]

(d) [Text unchanged.]

16.52.5003. Hazardous materials: general requirements.

(a) Highly toxic and toxic gases and similarly used or handled materials.

California Fire Code Section 5003.1.3.1 is hereby amended to read:

5003.1.3.1 Highly toxic and toxic gases and similarly used or handled materials. The storage, use and handling of highly toxic and toxic gases in amounts exceeding Table 6004.2.1 shall be in accordance with this chapter and Chapter 60. Any highly toxic or toxic material that is used or handled as a gas or vapor shall be in accordance with the requirements for highly toxic or toxic gases.

(b) [Text unchanged.]

(c) Design and construction.

California Fire Code Section 5003.2.2.1 is hereby amended to read:

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. – 6. [Text unchanged]

7. Secondary containment or equivalent protection from spills or leaks shall be provided for piping for highly toxic and toxic corrosive gases above threshold quantities listed in Tables 6004.2.1 and for all liquid hazardous materials regulated by this code. Secondary containment includes, but is not limited to double walled piping.

Exceptions:

1. Secondary containment is not required for toxic corrosive gases if the piping is constructed of inert materials.
2. 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. [Text unchanged.]

(d) [Text unchanged.]

(e) **Equipment, devices and systems requiring testing.**

California Fire Code Section 5003.2.9.1 is hereby amended to read:

5003.2.9.1 Equipment, devices and systems requiring testing. The following equipment, systems and devices shall be tested in accordance with Sections 5003.2.9 and 5003.2.9.2.

1.-5 [Text unchanged.]

6. Gas detection systems, alarms and automatic emergency shutoff valves installed in repair garages for vehicles fueled by lighter-than-air fuels in accordance with Section 2311.8.

(f)-(j) [Text unchanged.]

16.52.5004. Hazardous materials: storage [Text unchanged.]

16.52.5601. Explosives and fireworks.

Chapter 56 of the 2021 International Fire Code is not adopted with the exception of the following Section:

5601.1.3 Fireworks. [Text unchanged.]

16.52.5704. Flammable and combustible liquids. [Text unchanged]

16.52.5706. Special operations. [Text unchanged.]

16.52.5706 Location of bulk plants or terminals. [Text unchanged]

16.52.5707. On-demand mobile fueling

(a)-(d) [Text unchanged.]

(e) **Operations.**

California Fire Code Section 5707.6.7 is hereby amended to read:

5707.6.7 Bonding. A means for bonding the mobile fueling vehicle to the motor vehicle shall be provided. Such bonding means shall be employed during fueling operations.

16.52.5809. Mobile gaseous fueling of hydrogen-fueled vehicles. [Text unchanged]

16.52.6004. Highly toxic and toxic compressed gases. [Text unchanged.]

16.52.6405. Pyrophoric materials. [Text unchanged.]

16.52.7000. Modifications.

(a) **Deferment.**

2021 International Fire Code Section B103.4 is hereby amended to read:

B103.4 Deferment. [Text unchanged.]

16.52.7100 Fire flow requirements for buildings.

2022 California Fire Code Section B105.2 is hereby amended to read:

B105.2 Buildings other than one- and two-family dwellings, Group R-3 and R-4 buildings and townhouses. [Text unchanged.]

16.52.7500. Fire hydrant spacing.

(a) **Average spacing.**

Appendix C Section C103 of the 2022 California Fire Code is hereby amended to read:

C103.1 Hydrant spacing. [Text unchanged.]

16.52.8101. Fire apparatus and access roads.

(a) **Scope.**

Appendix D Section D101.1 of the 2021 International Fire Code is hereby amended to read:

D101.1 Scope. [Text unchanged.]

16.52.8102. Required access.

(a) **Access and loading.**

Appendix D Section D102.1 of the 2021 International Fire Code is hereby amended to read:

D102.1 Access and loading. [Text unchanged.]

16.52.8103. Minimum specifications.

(a) **Turning radius.**

Appendix D Section D103.3 of the 2021 International Fire Code is hereby amended to read:

D103.3 Turning radius. [Text unchanged.]

(b) Dead ends.

Appendix D Section D103.4 of the 2021 International Fire Code is hereby amended to read:

D103.4 Dead ends. [Text unchanged.]

**TABLE D103.4
REQUIREMENTS FOR DEAD-END FIRE APPARATUS ACCESS
ROADS**

[Table D103.4 not reproduced here. No amendments are proposed for the table.]

(c) Dead end fire apparatus access road turnaround.

Appendix D Section D103.4 of the 2021 International Fire Code is hereby amended by adding Figure D103.4 to read:

**FIGURE D103.4
DEAD-END FIRE APPARATUS ACCESS
ROAD TURNAROUND**

[Figure D103.4 not reproduced here. No amendments are proposed for the Figure.]

(d) Fire apparatus access road gates.

Appendix D Section D103.5 of the 2021 International Fire Code is hereby amended to read:

D103.5 Fire apparatus access road gates. [Text unchanged]

(e) Roads 12 to 26 feet in width.

Appendix D Section D103.6.1 of the 2021 International Fire Code is hereby amended to read:

D103.6.1 Roads 12 to 26 feet in width. [Text unchanged]

(f) Roads more than 26 feet in width.

Appendix D Section D103.6.2 of the 2021 International Fire Code is hereby amended to read:

D.103.6.2 Roads more than 26 feet in width. [Text unchanged]

16.52.8104. Aerial fire apparatus access roads.

(a) Where required.

Appendix D Section D105.1 of the 2021 International Fire Code is hereby amended to read:

D105.1 Where required. [Text unchanged.]

Exception: [Text unchanged.]

16.52.8105. Multi-family residential developments.

(a) Projects having more than 50 dwelling units.

Appendix D Section D106.1 of the 2021 International Fire Code is hereby amended to read:

106.1. Projects having more than 50 dwelling units. [Text unchanged.]

(b) Projects having more than 200 dwelling units.

Appendix D Section D106.2 of the 2021 International Fire Code is hereby deleted.

16.52.9000. Design and installation.

(a) Breathing air supply.

Appendix L Section L104.5 of the 2021 International Fire Code is hereby amended to read:

L104.5 Breathing air supply. [Text unchanged.]

(b) Fill station location.

Appendix L Section L104.13.1 of the 2021 International Fire Code is hereby amended to read:

L104.13.1 Location. [Text unchanged.]

(c) External mobile air connection location.

Appendix L Section L104.14.1 of the 2021 International Fire Code is hereby amended to read:

L104.14.1 Location. [Text unchanged.]

(d) Emergency fill station.

Appendix L Section L104 of the 2021 International Fire Code is hereby amended by adding Section L104.16 to read:

L104.16 Emergency fill panel (EFP). [Text unchanged.]

16.52.9080 Reference Standards.

(a) Chapter 80 Reference Standards.

The following standards in Chapter 80 of the 2022 California Fire Code are hereby amended to read. The remaining standards in Chapter 80 shall remain unchanged:

NFPA

855-20 Standard for the Installation of Stationary Energy Storage Systems.

SECTION 2. STATUTORY REFERENCES, INCLUSIONS OF AMENDMENTS AND ADDITIONS. Whenever reference is made to any portion of this ordinance, or of any other chapter or section of the Sunnyvale Municipal Code, or of any other ordinance of the City of Sunnyvale, or of any law of the State of California, the reference applies to all amendments and additions now or thereafter made.

SECTION 3. INTERPRETATIONS. In interpreting and applying the provisions of this ordinance, the requirements contained herein are declared to be minimum requirements for the purposes set forth. The provisions of this ordinance, insofar as they are substantially the same as existing statutory provisions relating to the same subject matter, shall be construed as restatements and continuations and not as new enactments. This ordinance shall not nullify the more restrictive provisions of covenants, agreements or other ordinances or laws, but shall prevail as to such provisions which are less restrictive.

SECTION 4. FINDINGS. To the extent the changes and modifications set forth in this ordinance to the 2022 California Building Standards Codes, including the California Fire Code are deemed more restrictive than the standards contained in the 2022 California Building Standards Codes, thus requiring findings describing local conditions that justify such modifications, the Council finds and determines that the changes are reasonably necessary because of local climatic, geologic, or topographic conditions and adopts the findings for local amendments to the California Fire Code, 2022 Edition, attached as Exhibit "A" and incorporated herein by reference.

SECTION 5. CEQA - EXEMPTION. The City Council finds, pursuant to Title 14 of the California Code of Regulations, Section 15308 (Class 8) Actions by Regulatory Agencies for Protection of the Environment and Section 15305 (Class 5) Minor alterations in Land Use Limitations and Section 15061(b)(3) of the CEQA Guidelines, because it can be seen with certainty that there is no possibility that the changes adopted will have a significant effect on the environment.

SECTION 6. CONSTITUTIONALITY; SEVERABILITY. If any section, subsection, sentence, clause or phrase of this ordinance is for any reason held to be invalid, such decision or decisions shall not affect the validity of the remaining portions of this ordinance. The City Council hereby declares that it would have passed this ordinance, and each section, subsection, sentence, clause and phrase thereof irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases be declared invalid.

SECTION 7. EFFECTIVE DATE. This ordinance shall be in full force and effect January 1, 2020.

SECTION 8. POSTING AND PUBLICATION. The City Clerk is directed to cause copies of this ordinance to be posted in three (3) prominent places in the City of Sunnyvale and to cause

publication once in The Sun, the official publication of legal notices of the City of Sunnyvale, of a notice setting forth the date of adoption, the title of this ordinance, and a list of places where copies of this ordinance are posted, within fifteen (15) days after adoption of this ordinance.

Introduced at a regular meeting of the City Council held on October 25, 2022, and adopted as an ordinance of the City of Sunnyvale at a regular meeting of the City Council held on November 1, 2022, by the following vote:

AYES:
NOES:
ABSTAIN:
ABSENT:
RECUSAL:

ATTEST:

APPROVED:

DAVID CARNAHAN

City Clerk

Date of Attestation: _____

LARRY KLEIN

Mayor

(SEAL)

APPROVED AS TO FORM:

JOHN A. NAGEL

Assistant City Attorney

EXHIBIT A

FINDINGS

Section 17958 of the California Health and Safety Code provides that the City may make changes to the provisions of the California Building Standards Codes. Sections 17958.5 and 17958.7 of the Health and Safety Code require that for each proposed local change to those provisions of the California Building Standards Codes which regulate buildings used for human habitation, the City Council must make findings supporting its determination that each such local change is reasonably necessary because of local climatic, geological, or topographical conditions. The City need not show that local conditions deviate from prevailing statewide conditions, only that the changes are “reasonably necessary because of local climatic, geological, or topographical conditions.” (Cal. Health & Safety Code § 17958.5; *ABS Inst. v. City of Lancaster* (1994) 24 Cal. App. 4th 285, 294.).

Local building regulations having the effect of amending the uniform codes, which were adopted by the City prior to November 23, 1970, were unaffected by the regulations of Sections 17958, 17958.5 and 17958.7 of the Health and Safety Code. Therefore, amendments to the uniform codes which were adopted by the City Council prior to November 23, 1970, and have been carried through from year to year without significant change, need no required findings. Also, amendments to provisions not regulating buildings used for human habitation do not require findings.

General Findings

1. Climatic

a. Precipitation. Precipitation in Sunnyvale ranges from 4.83 to 30.30 inches per year with an average of approximately 13.86 inches per year. Approximately 90% falls during the months of November through April and 10% from May through October. This area experienced a major drought in 1977-78 and a moderate drought the next five years. It recently ended a seven-year drought and it is currently experiencing the driest three year period on record. The local climate is characterized by markedly delineated rainy and dry seasons, which tend to maximize the expansive characteristics of soil. Drought conditions tend to create more frequent and larger fire incidents

b. Relative Humidity. Humidity generally ranges from 60% during daytime to 80% at night. It drops to 20% during the summer months and occasionally drops lower.

c. Temperatures. Temperatures have been recorded as high as 108° F. Average summer highs are in the 78°-82° F. range.

d. Winds. Prevailing winds are from the Northwest or Southeast. However, winds are experienced from virtually every direction at one time or another. Velocities are generally in the 5-mph to 15-mph range, gusting to 7.4 mph to 30 mph, particularly during the summer months. Extreme winds, up to 60 mph, have been known to occur.

e. Summary and Analysis. These local climatic conditions affect the acceleration, intensity and size of fire in the community. Times of little or no rainfall, of low humidity and high temperatures create extremely hazardous conditions, particularly as they relate to wood shake and shingle roof fires and conflagrations. The winds experienced in this area can have a tremendous impact upon structure fires of buildings in close proximity to one another commonly found in Sunnyvale.

During wood shake and shingle roof fires, or exposure fires, winds can carry sparks and burning brands to other structures, thus spreading the fire and causing conflagrations. In building fires, winds can literally force fires back into the building and can create a blowtorch effect, in addition to preventing "natural" ventilation and cross-ventilation efforts. In developed areas of the City, fires can occur in buildings, rubbish, vehicles, and vegetation on vacant lots.

2. Geological, Geographic and Topographic

a. Geographic Location. Sunnyvale is located in the Santa Clara Valley. It has taken its place as the second largest city in the "heart of the Silicon Valley," the center for an expanding and changing technology industry.

b. Seismic Location. Sunnyvale is situated on alluvial soils 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.

c. Seismic and Fire Hazards. In the event of a seismic occurrence, many areas of the city can expect damage or collapse of buildings due to Sunnyvale's proximity to active earthquake faults. Secondary impacts could include ruptured gas lines, collapsed power lines, and breaks in the water distribution system. Gypsum wallboard and exterior portland cement plaster have performed poorly during recent California seismic events. The shear values for gypsum wallboard and portland cement stucco contained in the code are based on mono-directional testing. It is appropriate to limit the use of these products until cyclic loading testing are performed and evaluated. Fire following an earthquake has the potential of causing greater loss of life and damage than the earthquake itself.

Hazardous materials, particularly toxic gases, could pose the greatest threat to the largest number, should a significant seismic event occur. Public safety resources would have to be prioritized to mitigate the greatest threat, and may likely be unavailable for smaller single dwelling or structure fires.

Other variables may tend to intensify the situation:

1. The extent of damage to the water system;
2. The extent of isolation due to bridge and/or freeway overpass collapse;
3. The extent of roadway damage and/or amount of debris blocking the roadways;
4. Climatic conditions (hot, dry weather with high winds);
5. Time of day will influence the amount of traffic on roadways and could intensify the risk to life during normal business hours;

6. The availability of timely mutual aid or military assistance;
7. The large portion of dwellings with wood shingle roof coverings could result in conflagrations.

d. Size and Population. The City has an area over 24 square miles in size and a population estimated to be 156,234.

e. Development. Sunnyvale is a community which is projected to add 15,500 new residential units within the next twenty years, primarily in multi-family configurations, for which building and fire-life safety is a matter of acute importance.

f. Public Safety Department. Sunnyvale utilizes a public safety (joint police/fire) department with personnel who function as both fire suppression and police officers, resulting in fewer personnel than otherwise would be required for a city of its size. A premium is therefore placed on built-in physical techniques and devices as crime preventative measures. It is therefore also imperative that fire detection and suppression occur as quickly as possible to minimize loss of property and life. Added protection of fire sprinkler systems and other fire protection measures will supplement normal public safety response by providing immediate protection for the building occupants and by containing and controlling the fire spread to the area of origin. For these reasons the most stringent provisions are required concerning fire detection, alarm and suppression systems.

g. Roads and Streets. Sunnyvale is characterized by large buildings and building complexes and is bounded by several major freeways and expressways, which intersect railroad tracks and additional expressways and major arterial streets. These surface features have a major adverse effect upon the road and street layout in the community, including major traffic routes. In addition, the number of vehicle miles driven in the City is steadily increasing and considerable efforts in traffic and roadway improvements are being made to ease the crush of commuters to and through the City to their homes and places of work. Because of the City's high concentration of jobs, much of the peak traffic is made by nonresidents traveling to or from Sunnyvale. Existing surface feature conditions limit the number and cause indirect routing of major arterial streets for normal traffic as well as emergency vehicle response. The impact of planned developments and traffic flow will continue to have an effect on the Department of Public Safety and delivery of fire services.

During the peak AM and PM traffic periods, the City experiences extremely heavy traffic congestion at key intersections and near freeway on-ramps and off-ramps. As noted above, the limited number and the indirect routing of some roads and streets in the community can create heavy, slow traffic conditions and excessively long travel routes from point to point within the community. Thus, in the event of an emergency at a key intersection, overpass, underpass, bridge or other circulation corridor, sections of the City may become temporarily isolated and response times for emergency crews increased beyond ideal times.

Intersections are rated on a level of service (LOS) scale ("A" for excellent operational conditions to "F" for poor conditions). Many of the City's major intersections are currently rated, or with new development, anticipated to be rated LOS D or less for both AM and PM peak hours. These

conditions create barriers to effective emergency response times, which in turn increase the risk of injury or spread of fire.

h. Industry. Sunnyvale is the site of many manufacturing and research industries which use toxic, flammable and explosive chemicals and materials in potentially hazardous combinations. The availability of high-tech and similar businesses creates unique access to innovative products and technology to reduce energy and water use to mitigate business demands. Businesses located in developed and developing industry centers in Sunnyvale frequently use various types of hazardous materials. In addition, daytime work populations in these areas are also increasing as new buildings are developed and remodeled, making protections against hazardous materials increasingly important. Special precautions are required to minimize the risk of damage to adjoining persons and properties.

i. Mixed Industrial/Residential Uses. High-density residential uses are located near high-risk industries, necessitating special precautions.

j. Transportation. Sunnyvale is divided by an interstate highway, which potentially could affect response times of fire suppression equipment.

k. Soil Conditions and Topography. Sunnyvale 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 the many streams emptying into the San Francisco Bay depression, and from intermittent seawater 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 generally 300' or more. The topography is essentially flat, dropping from an elevation of 300 feet to sea level. The slope across the City is in a northeasterly direction from the high point in the southwest corner to the Bay. The average slope is approximately 0.9%.

The Silicon Valley is within a very active seismic area and local soil conditions can be highly expansive (clay soils). The Northridge earthquake provided hundreds of examples of damage to plain concrete footings. This type of damage is extremely expensive to repair, in contrast to the small expense of providing nominal footing reinforcement. Footing reinforcement is also necessary to prevent damage due to pumping action caused by local expansive soils, which shrink and swell during seasonal drying and wetting conditions.

Most of the surface soils in the Silicon Valley are relatively young and unconsolidated sedimentary materials formed from a wide variety of parent materials. The varying chemical composition, degree of weathering, and the relatively acid environment have created soils of varying types, which are particularly corrosive in nature. Much of the surface soil in the Silicon Valley is highly expansive (i.e., shrink-swell behavior) and has low bearing strength.

l. Water/Sewer. Some parts of the Silicon Valley have hard water, which is corrosive to ferrous pipe. The groundwater table is unusually high in many places. Expansive soils create unstable conditions, which increase the potential of breaks in sewer laterals. To maintain health and sanitary services, it is necessary to gain access, to periodically maintain public sanitary laterals.

Wastewater draining from indoor sources in Sunnyvale flows through sewer pipes that direct the wastewater to the Water Pollution Control Plant for treatment before being discharged to the San Francisco Bay. If left untreated before discharge, residential, commercial and industrial wastewater would upset the delicate ecosystem of southern San Francisco Bay. The City of Sunnyvale is one of 74 co-permittees listed under a regional municipal stormwater permit for the San Francisco Bay. On November 19, 2015, order No. R2-2015-0049 was adopted by the Regional Water Quality Control Board (RWQCB) for Region 2. This permit regulates discharges from municipal separate storm drain systems into waterways under each co-permittee's jurisdiction. The City of Sunnyvale has developed an Urban Runoff Management Plan (URMP) to reduce, control, or otherwise address pollutant sources in discharges to the storm drain system. Departments within the City of Sunnyvale have adopted Best Management Practices (BMPs) and Standard Operating Procedures (SOPs) to reduce the presence of pollutants in stormwater discharges to the maximum extent practicable.

The Sunnyvale URMP focuses on prevention of illicit connection/illegal dumping, quality of industrial and commercial discharges, and minimizing impacts from new development and construction activities. The City implements BMPs for maintaining street and roads, storm drains, and water utilities, and preventing stormwater pollution.

m. Buildings, Landscaping and Clearances. Many of the newer large buildings and building complexes are of designs which greatly limit visibility and approach to and accessibility by Public Safety resources. Many houses and other buildings with wood roofs and/or sidings are so close together that fire may readily spread from one to another by both radiation and convection.

n. Business & Industry Centers. The current clusters of high-tech, bio-tech, manufacturing and similar companies create additional demands on water, sewer, and electrical facilities. These businesses offer opportunities and access to innovative products, services and technology, and may also be more likely to utilize such products, services, and technology. For example, the more businesses, the greater the demands on water, sewer and power facilities during peak mid-day periods, which could lead to shortages or service disruptions, or use of services and technology impacting health and safety.

Because of the State's policy initiatives, California remains a focal point for development of hydrogen fueling technology and implementation. Successful market launch and continued growth of California's hydrogen fueling network will contribute to the state meeting zero-emission vehicle goals as well as greenhouse gas reduction, air quality improvement, and petroleum reduction goals set forth in state and federal laws and programs.

Because the State of California is on the forefront of implementing hydrogen fueling technologies, regulation of hydrogen mobile fueling by adopting a local amendment to require site plans is appropriate and necessary in light of the nature of the activity amongst the unique characteristics found in Sunnyvale as described in the findings, including dense building development, a growing workforce and population, as well as traffic limitations when responding to an emergency.

o. Population. Sunnyvale has a current and rapidly growing population (both resident and daytime work) that impacts fire and police service. With more people, there is more traffic congestion during a greater part of the day, which not only slows emergency vehicle response but may also restrict access to fire and crime scenes. Similarly, more emergency incidents requiring a

public safety response occur with a larger population, created a greater likelihood of simultaneous emergency incidents requiring a public safety response. This results in longer response times and fewer fire companies or police units to respond to emergencies within the community.

p. Summary and Analysis. The stated local geological, geographic and topographical conditions increase the magnitude, exposure, accessibility problems and fire hazards presented to the Department of Public Safety and have a negative impact upon the response capability of public safety resources. Lying beneath Sunnyvale are thick layers of sand, gravel and clay, known as alluvium, which amplify the effects of earthquakes. Based on the combination of these conditions, local experience from the damage caused in Santa Clara Valley by the 1906 earthquake and the poor performance of alluvial deposits during earthquakes, this area could be subject to severe structural damage or failure, multiple major fires and additional fire dangers, and place a great strain on police, fire and rescue resources. A seismic event could also trigger widespread damage to hazardous material storage vessels and cause substantial hazardous material releases into the environment.

The possibility of fire ignition increases as earthquake shaking increases. Fire due to broken gas lines or short circuits of electrical systems is a major established hazard associated with earthquakes. Most buildings in Sunnyvale are partially or entirely combustible which increases the City's vulnerability to fire. As discussed above, traffic conditions may slow or impede emergency response in any given fire or hazardous materials event, particularly in the event of a seismic event or other natural disaster. Thus, with the potential inability of emergency services to guarantee rapid response, it is necessary to mitigate this problem by requiring additional protections such as built-in fire protection systems, which will provide for early detection and additional fire control.

Conclusion and Findings.

Local climatic, geologic, and topographic conditions impact crime prevention efforts and the frequency, spread, acceleration, intensity and size of fires involving buildings, strength of building structural systems to resist local hazards and ability to deliver uninterrupted services in the community. The potential for significant damage arising from these conditions makes it reasonably necessary to modify the uniform codes to mitigate the effects of the above conditions.

Therefore, the City Council finds that (with the exception of changes justified on administrative grounds), the local amendments of the 2022 California Fire Code is justified by all of the aforementioned general findings.