

DRAFT 10/8/2019



ORDINANCE NO. \_\_\_\_\_

**AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SUNNYVALE TO AMEND VARIOUS SECTIONS OF TITLE 16 (BUILDINGS AND CONSTRUCTION) OF THE SUNNYVALE MUNICIPAL CODE TO ADOPT BY REFERENCE THE 2019 CALIFORNIA BUILDING, RESIDENTIAL, MECHANICAL, PLUMBING, ELECTRICAL, BUILDING STANDARDS ADMINISTRATIVE, ENERGY, HISTORICAL BUILDING, EXISTING BUILDING, AND GREEN BUILDING STANDARDS CODES, AND THE INTERNATIONAL PROPERTY MAINTENANCE CODE, WITH LOCAL AMENDMENTS AND RELATED FINDINGS**

WHEREAS, the California Building Standards Commission ("CBSC") is responsible for administering the implementation of the California building codes, which includes the proposal, review, and adoption processes; and

WHEREAS, the building codes are contained in the California Code of Regulations, Title 24; and

WHEREAS, since 1989, the CBSC has published triennial editions of these codes; and

WHEREAS, in January 2019, the State of California adopted the 2019 California Building Codes and published the documents on July 1, 2019.

WHEREAS, all local jurisdictions are required to adopt these codes with appropriate amendments by January 1, 2020, or be mandated to accept by default the version adopted by the State; and

WHEREAS, the City of Sunnyvale desires to amend the following codes adopted by the State of California for implementation on January 1, 2020:

- 2019 California Building Code (based on the 2018 International Building Code)
- 2019 California Residential Code (based on the 2018 International Residential Code)
- 2019 California Mechanical Code (based on the 2018 Uniform Mechanical Code)
- 2019 California Plumbing Code (based on the 2018 Uniform Plumbing Code)
- 2019 California Electrical Code (based on the 2017 National Electrical Code)
- 2019 California Building Standards Administrative Code

- 2019 California Energy Code
- 2019 California Historical Building Code
- 2019 California Existing Building Code
- 2019 California Green Building Standards Code
- 2018 International Property Maintenance Code

WHEREAS, in addition to the above listed, the City of Sunnyvale desires to add two new Chapters to Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code related to solar rooftop systems and electric vehicle charging stations.

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

SECTION 1. Section 16.08.020 AMENDED. Section 16.08.020 of Chapter 16.08 (Administrative Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

**Section 16.08.020. Adoption by reference.**

The “~~2016~~2019 California Administrative Code” adopted by the State Building Standards Commission in California Code of Regulations (CCR) Title 24, Part 1 is hereby adopted by reference as the administrative code for all California codes adopted by the city of Sunnyvale.

SECTION 2. Chapter 16.10 ADDED. Chapter 16.10 (Safety Assessment Placards) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby added to read as follows:

**Chapter 16.10.**

**SAFETY ASSESSMENT PLACARDS.**

**16.10.010. Intent**

**16.10.020. Application of Provisions**

**16.10.030. Definitions**

**16.10.040. Placards**

**16.10.010. Intent.**

This chapter establishes standard safety assessment placards to be used to indicate the condition of a structure for continued occupancy. The chapter further authorizes the Building Official and his or her authorized representative to post an appropriate placard at each entry point to a building or structure upon completion of a safety assessment.

**16.10.020. Application of Provisions.**

(a) The provisions of this chapter are applicable to all buildings and structures of all occupancies regulated by the city. The city council may extend the provisions as necessary.

**16.10.030 Definitions**

(a) **SAFETY ASSESSMENT** means a visual, non-destructive examination of a building or structure by the Building Official or his or her designee, for the purpose of determining the conditions for continued occupancy.

**16.10.040 Placards**

(a) The following descriptions shall be used to designate the conditions for continued occupancy of buildings or structures.

(1) **INSPECTED – Lawful Occupancy Permitted** shall be posted on any building or structure wherein no apparent structural hazard has been found. This placard shall not mean that there is no damage to the building or structure.

(2) **RESTRICTED USE** shall be posted on each building or structure that has been damaged wherein the damage has resulted in some form of restriction to the continued occupancy. The Building Official or his or her designee shall note in general terms the damage observed and shall note the restrictions on continued occupancy.

(3) **UNSAFE – Do Not Enter or Occupy** shall be posted on each building or structure that has been damaged to such a degree that continued occupancy poses a threat to life safety. Buildings or structures posted with this placard shall not be entered under any circumstance except as authorized in writing by the Building Official, or his or her designee. Safety assessment teams shall be authorized to enter these buildings at any time. This placard is not to be used or considered as a demolition order. The Building Official or his or her designee shall note in general terms the damage observed.

(b) This ordinance number shall be affixed to the placard, and shall also include the contact name, address and phone number of the Building Official or his or her designee.

(c) It shall be unlawful for any person, firm or corporation to alter, remove, cover or deface a placard unless authorized by the Building Official or his or her designee.

**SECTION 3.** Section 16.16.020 AMENDED. Section 16.16.020 of Chapter 16.16 (Building Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

**Section 16.16.020. Adoption by reference.**

The ~~2015-2018~~ International Building Code in its entirety, along with Appendices C, I, and J as published by the International Code Council, Inc. and amendments to sections of the ~~2015-2018~~ International Building Code adopted by the State Building Standards Commission in California Code of Regulations (CCR) Title 24, Part 2, known as the ~~2019~~~~2016~~ California Building Code, is hereby adopted by reference, with changes and modifications as hereinafter set forth, as the building code of the city of

Sunnyvale.

SECTION 4. Section 16.16.030 AMENDED. Section 16.16.030 of Chapter 16.16 (Building Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

**Section 16.16.030. Administration.**

~~20192016~~ California Building Code, Chapter 1, Division II, is hereby amended as follows:

**101.2. Scope.**

~~(a)~~[A] -The provisions of this chapter shall apply to grading and to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolitions of every building or structure within the city, including all plumbing and drainage systems, mechanical systems, and electrical wiring and fire safety systems, or parts thereof, within and serving such building or structure, excluding therefrom the following:

(1) - (5) [Text unchanged.]

(6) Detached one- and two-family dwellings and multiple single-family dwellings (townhouses) not more than three stories above grade plane in height with a separate means of egress and their accessory structures shall comply with this code or the California Residential Code.

**105.3.2. Time Limitation of Application.** [Text unchanged.]

**105.5. Permit Expiration.**

(1) Every permit issued under the provisions of this title shall expire by limitation and become null and void, if the work authorized by the permit is not commenced within ~~180-365~~ days from the date of the permit, or if the work authorized by the permit is suspended or abandoned at any time after the work is commenced for a period of one hundred eighty days.

(2) For purposes of this title, the failure of the permittee to call for an inspection within ~~one hundred and eighty~~three hundred and sixty-five days of the date the permit was originally issued, or within one hundred eighty days of the last inspection, shall create a rebuttable presumption that the work authorized by the permit has been suspended or abandoned, and the chief building official may make a determination that the permit has expired.

(3) - (5) [Text unchanged.]

**Note:** Reference Building Standards Law, Health and Safety Code Sections 18938.5 and 18938.6, for provisions related to expiration of permits.

**105.7. Placement of Permit.** [Text unchanged.]

**107.5. Retention of Construction Documents.** [Text unchanged.]

**109.2. Schedule of Permit Fees.** [Text unchanged.]

**109.4. Work Commencing Before Permit Issuance.** [Text unchanged.]

**109.4.1. Investigation Fees: Work Without a Permit.** [Text unchanged.]

**109.4.2. Fee.** [Text unchanged.]

**109.6. Refunds.** [Text unchanged.]

**109.7. Plan Review Fees.** [Text unchanged.]

**110.3.8. Other Inspections.** [Text unchanged.]

**110.7. Inspection Record Card.** [Text unchanged.]

**110.8. Reinspections.** [Text unchanged.]

**111.2. Certificate Issued.** [Text unchanged.]

**114.1. Unlawful Acts.** It is unlawful for any person, firm, or corporation to perform any grading, or to relocate, replace, erect, construct, enlarge, alter, repair, move, improve, remove, convert or demolish, equip, use, occupy, or maintain any building or structure in the city, or to install or maintain any plumbing or drainage systems, or any mechanical systems, or any electrical wiring or fire safety systems in or about any building or structure in the city, or cause the same to be done, contrary to or in violation of any of the provisions of the administrative or technical code. Each such person is guilty of a separate offense for each and every day during any portion of which a violation of any provision of any codes continued, or permitted by such person and shall be punishable accordingly.

**Section 117. Address Identification.** [Text unchanged.]

SECTION 5. Section 16.16.050 AMENDED. Section 16.16.050 of Chapter 16.16 (Building Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

**Section 16.16.050. Standards for high-rise buildings.**

~~2016-2019~~ California Building Code Section 403 is hereby replaced by the applicable provisions of Chapter 16.52.

SECTION 6. Section 16.16.060 AMENDED. Section 16.16.060 of Chapter 16.16 (Building Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

**Section 16.16.060. Numbering of buildings.**

~~2016-2019~~ California Building Code Section 501.2 is hereby replaced with the applicable provisions of Section 16.16.030.

SECTION 7. Section 16.16.070 AMENDED. Section 16.16.070 of Chapter 16.16 (Building Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

**Section 16.16.070. Fire extinguishing systems.**

Except for the application of Sections 504.2 and 506.3 of the ~~2016-2019~~ California Building Code, the installation requirements for fire extinguishing systems, including ~~2016-2019~~ California Building Code Section 903, shall be governed by the applicable provisions of the ~~2016-2019~~ California Fire Code as adopted by Chapter 16.52.

SECTION 8. Section 16.16.080 AMENDED. Section 16.16.080 of Chapter 16.16 (Building Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

**Section 16.16.080. Fire protection systems.**

~~2016-2019~~ California Building Code Chapter 9 is hereby replaced by the applicable provisions of Chapter 16.52.

SECTION 9. Section 16.16.090 AMENDED. Section 16.08.090 of Chapter 16 (Building Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

**Section 16.16.090. Roof material rating.**

~~2016-2019~~ California Building Code Section 1505.1.3 is amended to read as follows:

**1505.1.3 Roof Coverings in All Other Areas.** [Text unchanged.]

SECTION 10. Section 16.16.100 AMENDED. Section 16.16.100 of Chapter 16.16 (Building Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

**Section 16.16.100. Concrete construction.**

~~2016-2019~~ California Building Code Section 1705.3 is hereby amended to read:



**1705.3 Concrete Construction.** [Text unchanged.]

SECTION 11. Section 16.16.110 AMENDED. Section 16.16.110 of Chapter 16.16 (Building Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

**Section 16.16.110. Modifications to ACI 318.**

~~2016-2019~~ California Building Code Section 1905.1.8 is amended to read as follows:

**1905.1.87 ACI 318, Section 14.1.4.** Delete ACI 318, Section 14.1.4, and replace with the following:

**22.10 – 22.10.1** [Text unchanged.]

SECTION 12. Section 16.17.020 AMENDED. Section 16.17.020 of Chapter 16.17 (Residential Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

**Section 16.17.020. Adoption by reference.**

The ~~2015-2018~~ International Residential Code in its entirety, along with Appendices H, K, and V as published by the International Code Council, Inc. and amendments to sections of the ~~2015-2018~~ International Residential Code adopted by the State Building Standards Commission in California Code of Regulations (CCR) Title 24, Part 2.5, known as the ~~2016-2019~~ California Residential Code, is hereby adopted by reference, with changes and modifications as hereinafter set forth, as the residential code of the city of Sunnyvale.

SECTION 13. Section 16.17.030 AMENDED. Section 16.17.030 of Chapter 16.17 (Residential Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

**16.17.30. Administration.**

~~2016-2019~~ California Residential Code Chapter 1 Division II is hereby amended as follows:

~~2016-2019~~ California Residential Code Chapter 1 Division II is hereby replaced by the provisions of Chapter 16.16.

SECTION 14. Section 16.17.040 AMENDED. Section 16.17.040 of Chapter 16.17 (Residential Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

**Section 16.17.040. Definitions.**

~~2016-2019~~ California Residential Code Chapter 2 is hereby amended as

follows:

For the purpose of the California Code, certain terms are defined as follows:

(1) – (5) [Text unchanged.]

**SECTION 15.** Section 16.17.050 AMENDED. Section 16.17.050 of Chapter 16.17 (Residential Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

**Section 16.17.050. Fire-resistant construction.**

~~2016-2019~~ California Residential Code Table R302.1(2) footnote “a” is amended to read follows:

<sup>a</sup>. For residential subdivisions where all dwellings and accessory buildings are equipped throughout with an automatic sprinkler system installed in accordance with Section R313, the fire separation distance for ~~nonrated~~ exterior walls ~~not fire-resistance rated~~ and ~~rated for fire-resistance rated~~ projections shall be permitted to be reduced to 0 feet, and unlimited unprotected openings and penetrations shall be permitted, where the adjoining lot provides an open setback yard that is 6 feet or more in width on the opposite side of the property line.

**SECTION 16.** Section 16.17.060 AMENDED. Section 16.17.060 of Chapter 16.17 (Residential Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

**Section 16.17.060. Townhouses.**

~~2016-2019~~ California Residential Code Section R302.2 is amended as follows:

**R302.2 Townhouses.** [Text unchanged.]

**SECTION 17.** Section 16.17.080 AMENDED. Section 16.17.080 of Chapter 16.17 (Residential Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

**Section 16.17.080. Fire extinguishing systems.**

~~2016-2019~~ California Residential Code sections R313.1, R313.2, and R313.3 are hereby amended to read as follows:

**R313.1 Townhouse automatic fire sprinkler systems.**

[Text unchanged.]

**Existing Townhouses.** [Text unchanged.]

Firewalls used to separate building areas shall be constructed in accordance with the ~~2016-2019~~ California Building Code and shall be



without openings or penetrations.

Exception: [Text unchanged.]

**R313.1.1 Design and Installation.**

[Text unchanged.]

**R313.2 One- and two-family dwellings automatic fire systems.**

[Text unchanged.]

Existing one- and two-family dwellings. An automatic residential fire sprinkler system shall be installed in existing one and two-family dwellings when additions are made that are in excess of 50 percent of the original building area.

Firewalls used to separate building areas shall be constructed in accordance with the ~~2016~~ 2019 California Building Code and shall be without openings or penetrations.

Exception: [Text unchanged.]

Group U private garages and carports shall comply with Section 903.2.18 of the ~~2016~~ 2019 California Fire Code.

**R313.2.1 Design and Installation.**

Automatic residential fire sprinkler systems for one- and two-family dwellings shall be designed and installed in accordance with NFPA 13D and local standards.

~~2016~~ 2019 California Residential Code Section R313.3 is hereby amended by deleting the following provisions:

**R313.3 Dwelling unit fire sprinkler systems.**

SECTION 18. Section 16.17.100 AMENDED. Section 16.17.100 of Chapter 16.17 (Residential Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

**Section 16.17.100. Gypsum board and plaster as wall bracing materials.**

Title for the ~~2016~~ 2019 California Residential Code Table R602.10.3(3) is amended to read as follows:

**TABLE R602.10.3(3)<sup>a,b,c,d,e,f,g</sup> BRACING REQUIREMENTS BASED ON SEISMIC DESIGN CATEGORY (AS A FUNCTION OF BRACED WALL LINE LENGTH)**

~~2016-2019~~ California Residential Code Table R602.10.3(3) footnote “~~fg~~” is added to the end of the table to read as follows:

~~fg~~. In Seismic Design Categories D<sub>0</sub>, D<sub>1</sub>, and D<sub>2</sub>, Methods GB is not permitted and the use of Method PCP is limited to one-story single family dwellings and accessory structures.

~~2016-2019~~ California Residential Code Section R602.10.4.4 is added to Chapter 6 of the ~~2016-2019~~ California Residential Code to read as follows:

**R602.10.4.4 Limits on Methods GB and PCP.** [Text unchanged.]

SECTION 19. Section 16.17.110 AMENDED. Section 16.17.110 of Chapter 16.17 (Residential Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

**Section 16.17.110. Roof material rating.**

~~2016-2019~~ California Residential Code Section R902.1.3 is amended to read as follows:

**R902.1.3 Roof Coverings in All Other Areas.** [Text unchanged.]

SECTION 20. Section 16.17.120 AMENDED. Section 16.17.120 of Chapter 16.17 (Residential Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

**Section 16.17.120 Swimming pools, spas and hot tubs.**

~~2016-2019~~ California Residential Code Section R326.1 is amended to read as follows:

**R326.1 General.** The design and construction of pools and spas shall comply with the ~~2016-2019~~ California Building Code.

SECTION 21. Section 16.18.020 AMENDED. Section 16.18.020 of Chapter 16.18 (Existing Building Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

**Section 16.18.020. Adoption by reference.**

The “~~2016-2019~~ California Existing Building Code,” along with appendices A1, A3 and A4 adopted by the State Building Standards Commission in California Code of Regulations (CCR) Title 24, Part 10 is hereby adopted by reference, with changes and modifications as hereinafter set forth, as the existing building code of the city of Sunnyvale.

SECTION 22. Section 16.18.030 AMENDED. Section 16.18.030 of Chapter 16.18

(Existing Building Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

**Section 16.18.030. Administration.**

~~2016-2019~~ California Existing Building Code Chapter 1 Division II is hereby amended as follows:

~~2016-2019~~ California Existing Building Code 1 Division II is hereby replaced by the applicable provisions of Chapter 16.16.

SECTION 23. Section 16.18.040 AMENDED. Section 16.18.040 of Chapter 16.18 (Existing Building Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

**Section 16.18.040. Moved structures.**

~~2016-2019~~ California Existing Building Code Section 409 is hereby amended to read:

**409.1 Conformance.** [Text unchanged.]

**Exception:** [Text unchanged.]

SECTION 24. Section 16.24.020 AMENDED. Section 16.24.020 of Chapter 16.24 (Plumbing Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

**Section 16.24.020. Adoption by reference.**

The ~~2015-2018~~ Uniform Plumbing Code in its entirety as published by the International Association of Plumbing and Mechanical Officials and amendments to sections of the ~~2015-2018~~ Uniform Plumbing Code adopted by the State Building Standards Commission in California Code of Regulations (CCR) Title 24, Part 5 known as the ~~2016-2019~~ California Plumbing Code, is hereby adopted by reference, with changes and modifications as hereinafter set forth, as the plumbing code of the city of Sunnyvale.

SECTION 25. Section 16.24.025 AMENDED. Section 16.24.025 of Chapter 16.24 (Plumbing Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

**Section 16.24.025. Administration.**

~~2016-2019~~ California Plumbing Code Chapter 1 Division II is hereby amended as follows:

~~2016-2019~~ California Plumbing Code Chapter 1 Division II is hereby replaced by the applicable provisions of Chapter 16.16.

SECTION 26. Section 16.24.030 AMENDED. Section 16.24.030 of Chapter 16.24 (Plumbing Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

**Section 16.24.030. Alternative water sources for nonpotable applications.**

~~2016-2019~~ California Plumbing Code Chapter 15 is amended to read as follows:

~~1502.10.31~~504.4 **Groundwater ~~Depth~~Level.** Adequate groundwater separation shall be demonstrated to the satisfaction of the Enforcing Agency per the requirements below. Adequate demonstration of the requirements can be shown through documented seasonal high groundwater levels within the area or if there is no evidence of groundwater in a test hole of the required depth.

Clothes washer system or simple system: The deepest irrigation or disposal point of the proposed graywater system shall not extend within five (5) vertical feet (1,524 mm) of groundwater.

Complex system: The deepest irrigation or disposal point of the proposed graywater system shall not extend within ten (10) vertical feet (3,048 mm) of groundwater.

SECTION 27. Section 16.28.020 AMENDED. Section 16.28.020 of Chapter 16.28 (Mechanical Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

**Section 16.28.020. Adoption by reference.**

The ~~2015-2018~~ Uniform Mechanical Code in its entirety as published by the International Association of Plumbing and Mechanical Officials and amendments to sections of the ~~2015-2018~~ Uniform Mechanical Code adopted by the State Building Standards Commission in California Code of Regulations (CCR) Title 24, Part 4 known as the ~~2016-2019~~ California Plumbing Code, is hereby adopted by reference, with changes and modifications as hereinafter set forth, as the mechanical code of the city of Sunnyvale.

SECTION 28. Section 16.28.025 AMENDED. Section 16.28.025 of Chapter 16.28 (Mechanical Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

**Section 16.28.025. Administration.**

~~2016-2019~~ California Mechanical Code Chapter 1 Division II is hereby amended as follows:

~~2016-2019~~ California Mechanical Code Chapter 1 Division II is hereby replaced by the applicable provisions of Chapter 16.16.

SECTION 29. Section 16.32.020 AMENDED. Section 16.32.020 of Chapter 16.32 (Electrical Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

**Section 16.32.020. Adoption by reference.**

The ~~2014~~ 2017 National Electrical Code in its entirety as published by the National Fire Protection Association and amendments to sections of the ~~2014~~ 2017 National Electrical Code adopted by the State Building Standards Commission in California Code of Regulations (CCR) Title 24, Part 3 known as the ~~2016-2019~~ California Electrical Code, is hereby adopted by reference, with changes and modifications as hereinafter set forth, as the electrical code of the city of Sunnyvale.

SECTION 30. Section 16.32.030 AMENDED. Section 16.32.030 of Chapter 16.32 (Electrical Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

**Section 16.32.030. Administration.**

~~2016-2019~~ California Electrical Code section 89.101 is hereby amended as follows:

~~2016-2019~~ California Electrical section 89.101 is hereby replaced by the applicable provisions of Chapter 16.16.

SECTION 31. Section 16.34.020 AMENDED. Section 16.34.020 of Chapter 16.34 (Historical Building Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

**Section 16.34.020. Adoption by reference.**

The "~~2016-2019~~ California Historical Building Code" adopted by the State Building Standards Commission in California Code of Regulations (CCR) Title 24, Part 8 is hereby adopted by reference as the historical building code of the city of Sunnyvale.

SECTION 32. Section 16.42.020 AMENDED. Section 16.42.020 of Chapter 16.42 (Energy Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

**Section 16.42.020. Adoption by reference.**

The "~~2016-2019~~ California Energy Code" adopted by the State Building Standards Commission in California Code of Regulations (CCR) Title 24, Part 6 is hereby adopted by reference as the energy code of the city of Sunnyvale.

SECTION 33. Section 16.43.020 AMENDED. Section 16.43.020 of Chapter 16.43 (Green Building Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

**Section 16.43.020. Adoption by reference.**

The “~~2016~~ 2019 California Green Building Standards Code” adopted by the State Building Standards Commission in California Code of Regulations (CCR) Title 24, Part 11 is hereby adopted by reference, with changes and modifications as hereinafter set forth, as the green building code of the city of Sunnyvale.

SECTION 34. Section 16.43.030 AMENDED. Section 16.43.030 of Chapter 16.43 (Green Building Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

**Section 16.43.030. Fireplaces and wood-burning appliances.**

~~2016~~ 2019 California Green Building Code Section 4.503 is amended to read:

**Section 4.503.1 Fireplaces and Wood-Burning Appliances.** [Text unchanged.]

2019 California Green Building Code Section 5.503.1 is amended to read:

**Section 5.503 Fireplaces and Wood-Burning Appliances.** [Text unchanged.]

SECTION 35. Section 16.43.040 AMENDED. Section 16.43.040 of Chapter 16.43 (Green Building Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

**Section 16.43.040. Pre-wiring for electric car chargers.**

~~2016~~ 2019 California Green Building Code Section 4.106.4.2 is amended to read:

**4.106.4.2 New multifamily dwellings.** [Text unchanged.]

SECTION 36. Section 16.50.020 AMENDED. Section 16.50.020 of Chapter 16.50 (Property Maintenance Code) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby amended to read as follows:

**Section 16.50.020. Adoption by reference.**

The “~~2015~~ 2018 International Property Maintenance Code” is hereby adopted by reference as the property maintenance code of the city of Sunnyvale. All references to jurisdictional requirements are found in the Sunnyvale Municipal Code or other appropriate schedules.

SECTION 37. 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 38. 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 39. FINDINGS.** To the extent the changes and modifications set forth in this ordinance to the 2019 California Building Standards Codes are deemed more restrictive than the standards contained in the 2019 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 Building Code, 2019 Edition, attached as Exhibit "A" and incorporated herein by reference.

**SECTION 40. 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 of the CEQA Guidelines, that this ordinance is exempt from the requirements of the California Environmental Quality Act (CEQA) 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 41. 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 42. EFFECTIVE DATE.** This ordinance shall be in full force and effect January 1, 2020.

**SECTION 43. 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 \_\_\_\_\_, and adopted as an ordinance of the City of Sunnyvale at a regular meeting of the City Council held on \_\_\_\_\_, by the following vote:

AYES:

NOES:

ABSTAIN:

ABSENT:

RECUSAL:

ATTEST:

APPROVED:

\_\_\_\_\_  
City Clerk  
Date of Attestation: \_\_\_\_\_

\_\_\_\_\_  
Mayor

(SEAL)

APPROVED AS TO FORM:

\_\_\_\_\_  
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 Code. 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 Code 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 possible that more droughts will occur in the future. 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 155,567.

**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 security 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. Special precautions thus 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. R2-2009-0074 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. Similarly, 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.

**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 2019 California Building Codes are justified by all of the aforementioned general findings as discussed below:

<b>CODE SECTION</b>	<b>LOCAL AMENDMENT</b>	<b>FINDINGS</b>
16.08.020	Adoption by reference	Admin.
16.10.010-.040	Safety assessment placards; Adoption by reference; Administration	1(e), 2(b), (c), (e), (i), (k), (p)
16.16.020-.030	Adoption by reference; Administration	Admin;
16.16.050	Standards for high-rise buildings	1(e), 2(c)-(p)
16.16.060	Numbering of buildings	2(f)-(j), (n)
16.16.070-080	Fire extinguishing systems; Fire protection systems	1(e), 2(c)-(p)
16.16.090	Roof material rating	1(e), 2(c), (m), (o)-(p)
16.16.100	Concrete construction	2(b), (c), (e), (i), (k), (n), (p)
16.16.110	Modifications to ACI 318	2(b), (c), (e), (i), (k), (n), (p)
16.17.020-040	Adoption by reference; Administration; Definitions	Admin.
16.17.050-080	Fire-resistant construction; Townhouses; Fire extinguishing systems	1(e), 2(c)-(j), (m)-(p)
16.17.100	Gypsum board and plaster as wall bracing materials	1(e), 2(c), (m), (o)-(p)
16.17.110	Roof material rating	1(e), 2(c), (m), (o)-(p)
16.17.120	Swimming pools, spas, hot tubs	1(a)-(c), (d)
16.18.020-.030	Adoption by reference; Administration	Admin.
16.18.040	Moved structures	1(e), 2(c)-(j), (m)-(p)
16.24.020-025	Adoption by reference Administration	Admin.
16.24.030	Alternative water sources for nonpotable applications	2(d), (e), (h), (l), (n), (o)
16.28.020-025	Adoption by reference; Administration	Admin.
16.32.020-030	Adoption by reference; Administration	Admin.
16.34.020 16.42.020 16.43.020	Adoption by reference	Admin
16.43.030	Fireplaces and wood-burning appliances	1(a)-(d); 2(d), (o)
16.43.040	Pre-wiring for electric car chargers	1(a)-(d); 2(d), (o)
16.50.020	Adoption by reference	Admin.