



## OAKLAND CITY COUNCIL

RESOLUTION No. 86501 C.M.S.

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**RESOLUTION OF FINDINGS SUPPORTING LOCAL AMENDMENTS TO THE 2016 EDITIONS OF THE CALIFORNIA MODEL BUILDING CONSTRUCTION CODES TO COMPLY WITH CHANGES TO STATE LAW AND ADOPTING CEQA EXEMPTION FINDINGS**

**WHEREAS**, the State Of California adopts a new California Building Standard Code every three years that goes into effect throughout the State 180 days after publication. The California Building Standards Code is contained in Title 24 of the California Code of Regulations (“C.C.R.”), and consists of several parts that are based upon model codes with amendments made by various State agencies; and

**WHEREAS**, the following editions of the California Building Standards Code are the most current in publication:

- California Administrative Code, 2016 Edition, C.C.R., Title 24, Part 1;
- California Building Code, 2016 Edition, C.C.R., Title 24, Part 2;
- California Residential Code, 2016 Edition, C.C.R., Title 24, Part 2.5;
- California Electrical Code, 2016 Edition, C.C.R., Title 24, Part 3;
- California Mechanical Code, 2016 Edition, C.C.R., Title 24, Part 4;
- California Plumbing Code, 2016 Edition, C.C.R., Title 24, Part 5;
- California Energy Code, 2016 Edition, C.C.R., Title 24, Part 6;
- California Historical Building Code, 2016 Edition, C.C.R., Title 24, Part 8;
- California Existing Building Standards, 2016 Edition, C.C.R., Title 24, Part 10;
- California Green Building Standards Code, 2016 Edition, C.C.R., Title 24, Part 11; and

- California Referenced Standards, 2016 Edition, C.C.R., Title 24, Part 12; and

**WHEREAS**, the 2016 Edition of the California Model Building Construction Code will go into effect throughout California on January 1, 2017; and

**WHEREAS**, local jurisdictions are required to enforce the California Building Standards Code but may also enact more stringent standards when reasonably necessary because of local conditions caused by climate, geology or topography; and

**WHEREAS**, California Health & Safety Code section 17958.7 provides that before making any changes or modifications to the California Building Standards Code and any other applicable provisions published by the State Building Standards Commission, the governing body must make an express finding that each such change or modification is reasonably necessary because of specified local conditions, and the findings must be filed with the State Building Standards Commission before the local changes or modifications can go into effect; and

**WHEREAS**, the actions contemplated in this Resolution are exempt from the California Environmental Quality Act pursuant to CEQA Guidelines section 15061 (b)(3) (general rule); now, therefore, be it

**RESOLVED:** That the City of Oakland is unique among California communities with respect to local climatic, geological, topographical, and other conditions. A specific list of findings that support the City of Oakland’s modifications to the 2016 California Building Standards Code and a section-by-section correlation of each modification with a specific finding are contained in Exhibit A entitled “Standard Findings for City of Oakland Amendments,” attached hereto and hereby declared to be a part of this Resolution as if set forth fully herein; and be it

**FURTHER RESOLVED:** That pursuant to California Health & Safety Code section 17958.7, the City Council finds and determines that the local conditions described in Exhibit A constitute a general summary of the most significant local conditions giving rise to the need for modification of the 2016 California Building Standards Code provisions published by the State Building Standards Commission; and be it

**FURTHER RESOLVED:** That the City Council further finds and determines that the proposed modifications are reasonably necessary based upon the local conditions set forth in Exhibit A and that such modifications are required in order to provide specific and greater protections to the public health, safety and welfare than are afforded by the 2016 California Building Standards Code; and be it

**FURTHER RESOLVED:** That the City Council of the City of Oakland further finds and determines that the local amendments to the California Building Standards Code, as set forth in a separate companion ordinance adopting said amendments as the 2016 Oakland Building Construction Code, impose substantially the same non-administrative regulatory requirements as,

and are thus equivalent to or more stringent than the most current California Building Standards Code requirements; and be it

**FURTHER RESOLVED:** That this Resolution shall become effective immediately, unless otherwise required by the Charter of the City of Oakland; and be it

**FURTHER RESOLVED:** That the Building Official of the City of Oakland is hereby directed to transmit this Resolution with the Exhibit A attachment, along with a copy of said separate companion ordinance adopting local amendments to the 2016 Editions of the California Building Standards Code, to the California Building Standards Commission before January 1, 2017, pursuant to the applicable provisions of State law.

IN COUNCIL, OAKLAND, CALIFORNIA, NOV 29 2016

PASSED BY THE FOLLOWING VOTE:

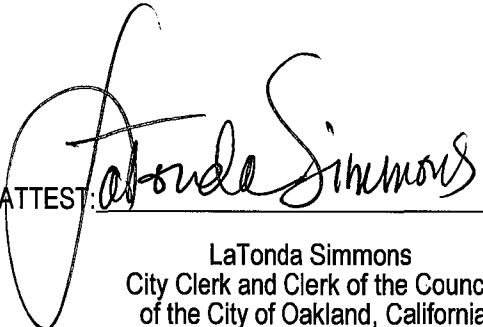
AYES – BROOKS, CAMPBELL WASHINGTON, GALLO, GUILLEN, KALB, KAPLAN, REID, ~~and PRESIDENT GIBSON~~  
~~MCELTANEY~~ - 7

NOES -  $\phi$

ABSENT -  $\phi$

ABSTENTION -  $\phi$

ABSENT- GIBSON MCELTANEY- 1

ATTEST:   
LaTonda Simmons  
City Clerk and Clerk of the Council  
of the City of Oakland, California

DATE OF ATTESTATION: \_\_\_\_\_

## EXHIBIT A

### STANDARD FINDINGS FOR CITY OF OAKLAND AMENDMENTS

The City Council of the City of Oakland finds that the following local amendments of the 2016 California Building Standards Code (explained in further detail in a separate companion ordinance) are reasonable and necessary as a result of the following unique local climatic, topographic, and geologic conditions:

I. California Building Code - Appendix Chapters 3B, 3C, and 3D - Requirements For Joint Living And Work Quarters

These added appendix chapters establish alternative requirements for construction of Joint Living and Work Quarters (pursuant to Health and Safety Code Section 17958.11) and Conversion Residence Quarters. These changes are needed and necessary and reasonable due in part to the following local conditions:

- The level topography and the alluvial soil geology, which have resulted in wide and straight streets, intersections, sidewalks, and alleyways, have contributed to enhanced emergency response time to the existing building stock for fire rescue; and the maintained and upgraded water supply facilities in the urban core area, which have resulted in abundant fire hydrant locations and water pressure, have contributed to enhanced assets for fire suppression.
- The moderated micro-climate and prevailing winds, which is due to proximity to the marine estuary of the urban core area, have contributed significantly to reduced comfort heating and cooling requirements for residential occupancies.
- The alluvial soil geology and low water table levels, which have resulted in extensive prior basement construction and stiffened foundation support for the existing building stock in the urban core area, have contributed to a reduced likelihood of life-threatening seismically induced building collapse due to sympathetic vibratory response of a flexible structural system.
- Abundant annual days of sunshine, which have resulted in prior location of occupied spaces along building perimeters and separated and away from stairwells and emergency exits and other points of congestion in panic egress situations for the existing building stock in the urban core area, have contributed to ready accessibility into the exiting system by occupants and emergency response personnel.

## II. California Building Code - Appendix Chapter 7B - Special Requirements For Construction In The Very High Fire Hazard Severity Zone

This added appendix chapter establishes special requirements for construction in the Very High Fire Hazard Severity Zone. These changes are needed and are necessary and reasonable due to the following local conditions:

- The area is physically isolated from the rest of the City and is characterized by heavily landscaped areas, natural wilderness, and open space, which results in extremely dry vegetation with a high fuel load for potential wildfire conflagrations annually from May through October.
- The topography is hilly and the geology is rocky and subject to land subsidence due to poor soil quality and water saturation, which dictates minimum excavation of hillsides and resulting narrow and winding streets. Emergency response time and access is adversely impacted.
- Electrical transmission facilities are necessarily above ground and subject to damage from land instability, seismic activity, prevailing winds, and natural vegetation fire hazards, which results in power failures supplying water pumping stations.
- Sanitary sewer facilities are necessarily close to the ground surface and subject to similar damage, which results in vermin and other vector population explosions.

## III. California Building Code - Appendix Chapter 16B - Private Driveway Access Bridges

These changes clarify design loads for engineered structures in the Oakland hills. These changes are needed, necessary, and reasonable due to the inherently steep and circuitous topography, the rocky geology, and the risk of land subsidence due to poor soil quality and water saturation which dictates minimum excavation of hillsides.

## IV. California Building Code - Appendix Chapter 18B - Grading, Excavations, And Fills

This added appendix chapter establishes alternative requirements for grading construction in the Oakland hills and is equivalent in purpose, scope, and application to Appendix Chapter J. These changes are needed, necessary, and reasonable due to the inherently steep and circuitous topography, unstable in situ soil geology, preponderance of seismic hazard zones (landslides) as identified by the California Geological Survey, and proximity of the Hayward earthquake fault.

## V. California Building Code - Chapter 4 -Special Detailed Requirements Based Upon Use And Occupancy

These changes establish added fire design parameters for residential buildings by retaining passive life-safety construction elements from the 2016 edition of the California Building Code.

The purpose, scope, and application of these changes were derived from forensic inspections following structure fires in California and Oakland. These changes are needed, necessary, and reasonable due to the high number of non-fire sprinklered residences in Oakland, the preponderance of seismic hazard zones (liquefaction) as identified by the California Geological Survey, and the proximity of the Hayward earthquake fault.

#### VI. California Building Code - Chapter 6- Types Of Construction

These changes establish added fire and panic design parameters for high-rise buildings by retaining passive life-safety construction elements from the 2016 edition of the California Building Code. The purpose, scope, and application of these changes were derived from forensic inspections following major building fires in jurisdictions in California and Nevada. These changes are needed, necessary, and reasonable due to the high number of non-fire sprinklered buildings in the downtown core area, the preponderance of seismic hazard zones (liquefaction) as identified by the California Geological Survey along transportation corridors, and the proximity of the Hayward earthquake fault that reduces the ability of adjoining jurisdictions to provide timely mutual response for building conflagrations.

#### VII. California Building Code - Chapter 7 - Fire Resistance And Fire Rated Construction

These changes establish added fire and panic design parameters for high-rise buildings by retaining passive life-safety construction elements from the 2016 edition of the California Building Code. The purpose, scope, and application of these changes were derived from forensic inspections following major building fires in jurisdictions in California and Nevada. These changes are needed, necessary, and reasonable due to the high number of non-sprinklered buildings in the downtown core area, the preponderance of seismic hazard zones (liquefaction) as identified by the California Geological Survey along transportation corridors, and the proximity of the Hayward earthquake fault that reduces the ability of adjoining jurisdictions to provide timely mutual response for building conflagrations.

#### VIII. California Building Code - Chapter 10 - Means Of Egress

These changes establish added fire and panic design parameters for high-rise buildings by retaining passive life-safety construction elements from the 2016 edition of the California Building Code. The purpose, scope, and application of these changes were derived from forensic inspections following major building fires in jurisdictions in California and Nevada. These changes are needed, necessary, and reasonable due to the high number of non-fire sprinklered buildings in the downtown core area, the preponderance of seismic hazard zones (liquefaction) as identified by the California Geological Survey along transportation corridors, and the proximity of the Hayward earthquake fault that reduces the ability of adjoining jurisdictions to provide timely mutual response for building conflagrations.

#### IX. California Building Code - Chapter 12 - Interior Environment

These changes establish added habitability design parameters for high-rise buildings by retaining passive ventilation construction elements from the 2016 edition of the California Building Code. These changes are needed, necessary, and reasonable due to the moderated micro-climate and prevailing winds due to proximity to the marine estuary of the urban core area which contribute significantly to reduced comfort heating and cooling requirements for residential occupancies.

#### X. California Building Code - Chapter 15 - Roof Assemblies And Roof Top Structures

These changes clarify fire design parameters for residential structures in the Very High Fire Hazard Severity Zone. The purpose, scope, and application of these changes were derived from forensic inspections following the 1991 Oakland Fire Storm. These changes are needed, necessary, and reasonable due to the local conditions as set forth in Section II above.

#### XI. California Building Code - Chapter 16 - Structural design

These changes clarify design loads for engineered structures. The purpose, scope, and application of these changes were derived from forensic inspections following the 1989 Loma Prieta earthquake. These changes are needed, necessary, and reasonable due to the inherently unstable in situ soil geology throughout Oakland, the high non-seasonal ground water (phreatic) surface, the preponderance of seismic hazard zones (landslide and liquefaction) as identified by the California Geological Survey, and proximity of the Hayward earthquake fault.

#### XII. California Building Code - Chapter 18- Soils And Foundations

These changes establish minimum prescriptive construction requirements for non-engineered foundations supporting residential occupancies. The purpose, scope, and application of these changes were derived from forensic inspections following the 1989 Loma Prieta earthquake. These changes are needed, necessary, and reasonable due to the inherently unstable in situ soil geology throughout Oakland, the high non-seasonal ground water (phreatic) surface, the preponderance of seismic hazard zones (landslide and liquefaction) as identified by the California Geological Survey, and proximity of the Hayward earthquake fault.

#### XIII. California Building Code - Chapter 19 – Concrete

These changes eliminate the use of plain (unreinforced) concrete in all occupancies. The purpose, scope, and application of these changes were derived from forensic inspections following the 1989 Loma Prieta earthquake. These changes are needed, necessary, and reasonable due to the inherently unstable in situ soil geology throughout Oakland, the high non-seasonal ground water (phreatic) surface, the preponderance of seismic hazard zones (landslide and liquefaction) as identified by the California Geological Survey, and proximity of the Hayward earthquake fault.

#### XIV. California Building Code - Chapter 23 - Wood

These changes establish additional minimum prescriptive construction requirements for non-engineered light wood frame construction for residential occupancies. The purpose, scope, and application of these changes were derived from forensic inspections following the 1989 Loma Prieta earthquake. These changes are needed, necessary, and reasonable due to the inherently unstable in situ soil geology throughout Oakland, the high non-seasonal ground water (phreatic) surface, the preponderance of seismic hazard zones (landslide and liquefaction) as identified by the California Geological Survey, and proximity of the Hayward earthquake fault.

#### XV. California Building Code - Chapter 24 - Glass And Glazing

These changes establish additional hazardous locations where safety glazing is to be required. The purpose, scope, and application of these changes were derived from forensic inspections following the 1989 Loma Prieta earthquake. These changes are needed, necessary, and reasonable due to the inherently unstable in situ soil geology throughout Oakland, the high non-seasonal ground water (phreatic) surface, the preponderance of seismic hazard zones (landslide and liquefaction) as identified by the California Geological Survey, and proximity of the Hayward earthquake fault.

#### XVI. California Electrical Code - Chapters 2 - Wiring And Protection, 3 - Wiring Methods - And Materials, 4 - Equipment For General Use, 6 - Special Equipment, 7 - Special Conditions

This added section establishes supplemental regulations setting forth special requirements for ministerial electrical permits for construction in the Very High Fire Hazard Severity Zone. These changes are needed and are necessary and reasonable due to the following local conditions:

- The area is physically isolated from the rest of the City and is characterized by heavily landscaped areas, natural wilderness, and open space which have extremely dry vegetation with a high fuel load for potential wildfire conflagrations annually from May through October.
- The topography is hilly and the geology is rocky and subject to land subsidence due to poor soil quality and water saturation, which dictates minimum excavation of hillsides and resulting narrow and winding streets. Emergency response time and access is adversely impacted.
- Electrical transmission facilities are necessarily above ground and subject to damage from land instability, seismic activity, and prevailing winds and resulting power failures supplying water pumping stations or natural vegetation fire hazards.



XVII. California Mechanical Code - Chapter 5 - Exhaust Systems

These changes establish added fire design parameters for residential buildings and commercial restaurant occupancies by retaining passive life-safety construction elements from the 2016 edition of the California Building Code. The purpose, scope, and application of these changes were derived from forensic inspections following structure fires in California and Oakland.

These changes are needed, necessary, and reasonable due to the high number of non-fire sprinklered residences in Oakland, the preponderance of seismic hazard zones (liquefaction) as identified by the California Geological Survey, and the proximity of the Hayward earthquake fault.

XVIII. California Mechanical Code - Chapter 8 - Chimneys And Vaults

These changes establish added fire design parameters for residential buildings by retaining passive life-safety construction elements from the 2016 edition of the California Building Code. The purpose, scope, and application of these changes were derived from forensic inspections following structure fires in California and Oakland. These changes are needed, necessary, and reasonable due to the high number of non-fire sprinklered residences in Oakland, the preponderance of seismic hazard zones (liquefaction) as identified by the California Geological Survey, and the proximity of the Hayward earthquake fault.

XIX. California Plumbing Code - Chapter 5 - Water Heaters

These changes establish added fire design parameters for residential buildings by retaining passive life-safety construction elements from the 2016 edition of the California Building Code. The purpose, scope, and application of these changes were derived from forensic inspections following structure fires in California and Oakland. These changes are needed, necessary, and reasonable due to the high number of non-fire sprinklered residences in Oakland, the preponderance of seismic hazard zones (liquefaction) as identified by the California Geological Survey, and the proximity of the Hayward earthquake fault.

XX. California Plumbing Code - Chapter 7 - Sanitary Drainage

These changes establish added fire design parameters for residential buildings by retaining passive life-safety construction elements from the 2016 edition of the California Building Code. The purpose, scope, and application of these changes were derived from forensic inspections following structure fires in California and Oakland. These changes are needed, necessary, and reasonable due to the high number of non-fire sprinklered residences in Oakland, the preponderance of seismic hazard zones (liquefaction) as identified by the California Geological Survey, and the proximity of the Hayward earthquake fault, and the inadequacy of hillside geology to adequately dissipate and absorb effluent from septic system leach fields.

**XXI. California Plumbing Code - Chapter 9 - Vents**

These changes establish added fire design parameters for residential buildings by retaining passive life-safety construction elements from the 2016 edition of the California Building Code. The purpose, scope, and application of these changes were derived from forensic inspections following structure fires in California and Oakland. These changes are needed, necessary, and reasonable due to the high number of non-fire sprinklered residences in Oakland, the preponderance of seismic hazard zones (liquefaction) as identified by the California Geological Survey, and the proximity of the Hayward earthquake fault, and the inadequacy of hillside geology to adequately dissipate and absorb effluent from septic system leach fields.

**XXII. California Plumbing Code - Chapter 10 - Traps And Interceptors**

These changes establish added fire design parameters for commercial restaurant occupancies in buildings by retaining passive life-safety construction elements from the 2016 edition of the California Building Code. The purpose, scope, and application of these changes were derived from forensic inspections following structure fires in California and Oakland. These changes are needed, necessary, and reasonable due to the high number of non-fire sprinklered residences in Oakland, the preponderance of seismic hazard zones (liquefaction) as identified by the California Geological Survey, and the proximity of the Hayward earthquake fault.

**XXIII. California Plumbing Code - Chapter 12 - Fuel Piping**

These changes establish added fire design parameters for residential and non-residential buildings by retaining passive life-safety construction elements from the 2016 edition of the California Building Code. The purpose, scope and application of these changes were derived from forensic inspections following structure fires in California and Oakland. These changes are needed, necessary, and reasonable due to the high number of non-fire sprinklered residences in Oakland, the preponderance of seismic hazard zones (liquefaction) as identified by the California Geological Survey, and the proximity of the Hayward earthquake fault.

**XXIV. California Residential Code - Chapter 3 - Building Planning**

These changes establish additional minimum prescriptive construction requirements for non-engineered light wood frame construction for residential occupancies. The purpose, scope, and application of these changes were derived from forensic inspections following the 1989 Loma Prieta earthquake. These changes are needed, necessary, and reasonable due to the inherently unstable in situ soil geology throughout Oakland, the high non-seasonal ground water (phreatic) surface, the preponderance of seismic hazard zones (landslide and liquefaction) as identified by the California Geological Survey, and proximity of the Hayward earthquake fault.

XXV. California Residential Code - Chapter 4 - Foundations

These changes establish minimum prescriptive construction requirements for non-engineered foundations supporting residential occupancies. The purpose, scope, and application of these changes were derived from forensic inspections following the 1989 Loma Prieta earthquake. These changes are needed, necessary, and reasonable due to the inherently unstable in situ soil geology throughout Oakland, the high non-seasonal ground water (phreatic) surface, the preponderance of seismic hazard zones (landslide and liquefaction) as identified by the California Geological Survey, and proximity of the Hayward earthquake fault.

XXVI. California Residential Code - Chapter 6 - Wall Construction

These changes establish additional minimum prescriptive construction requirements for non-engineered light wood frame construction for residential occupancies. The purpose, scope, and application of these changes were derived from forensic inspections following the 1989 Loma-Prieta earthquake. These changes are needed, necessary, and reasonable due to the inherently unstable in situ soil geology throughout Oakland, the high non-seasonal ground water (phreatic) surface, the preponderance of seismic hazard zones (landslide and liquefaction) as identified by the California Geological Survey, and proximity of the Hayward earthquake fault.

XXVII. California Residential Code - Chapter 7 - Wall Covering

These changes establish additional minimum prescriptive construction requirements for non-engineered light wood frame construction for residential occupancies. The purpose, scope, and application of these changes were derived from forensic inspections following the 1989 Loma Prieta earthquake. These changes are needed, necessary, and reasonable due to the inherently unstable in situ soil geology throughout Oakland, the high non-seasonal ground water (phreatic) surface, the preponderance of seismic hazard zones (landslide and liquefaction) as identified by the California Geological Survey, and proximity of the Hayward earthquake fault.

XXVIII. California Residential Code - Chapter 8 – Roof/Ceiling Construction

These changes establish additional minimum prescriptive construction requirements for non-engineered light wood frame construction for residential occupancies. The purpose, scope, and application of these changes were derived from forensic inspections following the 1989 Loma Prieta earthquake. These changes are needed, necessary, and reasonable due to the inherently unstable in situ soil geology throughout Oakland, the high non-seasonal ground water (phreatic) surface, the preponderance of seismic hazard zones (landslide and liquefaction) as identified by the California Geological Survey, and proximity of the Hayward earthquake fault.