

CITY OF OAKLAND
AGENDA REPORT

FILED
OFFICE OF THE CITY CLERK
OAKLAND

2008 APR 10 PM 4:23

TO: Office of the City Manager
ATTN: Deborah Edgerly
FROM: Fire Department
DATE: April 22, 2008

RE: Ordinance Repealing Current Oakland Municipal Code Chapter 15.12, Fire Code And Adopting And Making Local Amendments To The 2007 Edition Of The California Model Fire Code , California Code Of Regulation Title 24, Part 9, Including, But Not Limited To, Appendix Chapter 1, B, C, D And Referenced National Fire Protection Association And Other Standards As Adopted By The California State Fire Marshal, And Re-Codifying Said Code At The Oakland Municipal Code Chapter 15.12 As The Oakland Fire Code

SUMMARY

Effective January 1, 2008, the California Building Standards Commission adopted portions of the 2007 California Fire Code. The remaining portions of the document were not adopted. Health & Safety Code Section 17958.5 permits the City of Oakland to make such changes or modifications to the Codes as are reasonably necessary to account for the protection of life, health and property based on local conditions.

The Fire Department has reviewed these code documents and recommends that council adopt the 2007 edition of the California Fire Code including City of Oakland amendments.

FISCAL IMPACT

There is no fiscal impact. This an administrative action mandated by State law. Resources from existing budgeted staff will continue to enforce the model fire code regulations.

BACKGROUND

In adopting the amendments to the Oakland Fire Code, the City proposes making certain substantive modifications which has the effect of imposing more stringent requirements locally than are mandated by the California Fire Code.

These are specifically listed below, but may be generally characterized as relating to: (1) automatic sprinklers in the high fire hazard area; (2) fire alarm or other life safety systems; (3) fire department access; (4) citation program; and (5) administration.

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KEY ISSUES AND IMPACTS

The City of Oakland has certain climatic, geological, and topographical features that can have a detrimental effect on emergency fire protection and emergency medical services. The Fire Department has determined that the proposed modifications to the California Fire Code are reasonably necessary because of the following climatic, geological, and topographical conditions:

- The topography of the City of Oakland presents problems in delivery of emergency services, including fire protection. Hilly terrain with narrow, winding roads and long dead ends causes extended response times with poor apparatus access.
- Much of the urban/wildland intermix are covered with highly flammable non-fire-resistive natural vegetation. The proposed amendments to "Fire Department Access" establish minimum standards for water supply, road width, and road grade and vehicle access.
- The seasonal climatic conditions during the late summer and fall create serious difficulties regarding the control of and protection against fires in the City of Oakland. The hot, dry weather typical of this area in summer and fall coupled with strong Diablo winds frequently results in wildfires that threaten the City of Oakland.
- The natural vegetation occurring in our region is among the most highly flammable in the world. The proposed amendment to the California Fire Code, Chapter 47 Wildland – Urban Interface – provides the Fire Chief the authority to require property owners to provide additional building construction enhancements and defensible space requirements when their property presents an extraordinary hazardous fire condition.
- While code requirements, such as fire-resistive construction and the installation of life safety devices such as fire alarms and smoke detectors have a direct bearing on survival in a fire situation. The failure to maintain the equipment once it has been installed also has a direct effect on life safety. The proposed amendments to Appendix Chapter 1, provides the Fire Chief or his designee with addition fire code enforcement authority.

SUSTAINABLE OPPORTUNITIES

The life safety provisions for existing buildings in the proposed Code adoption provide for improvements in fire safety which promote socio-economic sustainability by providing:

Economic: Inspections and enforcement are one means of ensuring that properties located in the High Fire Severity Area are maintained in a safe manner. The fire safety rating of a city has a direct relationship to its ability to attract new residents and businesses.

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Environmental: The defensible space provisions in the proposed code provide for the protection of the residents, property and the environment by promoting the use of native fire resistive plants and wildfire prevention strategies.

Social Equity: The life safety provisions for new and existing buildings in the proposed Code adoption provide for fire safety improvements and maintenance which promote socio-economic sustainability by providing fire safe housing for the residents of the City of Oakland.

DISABILITY AND SENIOR CITIZEN ACCESS

The modifications made to the Oakland Fire Code relating to life safety equipment in new or existing residential occupancies reduce the risk to seniors and the disabled from fire.

It has been proven that properly installed smoke detectors, fire alarms, and sprinkler systems provide the disabled and seniors with advance notification, which allows for additional time to escape in a fire situation.

RECOMMENDATION(S) AND RATIONALE

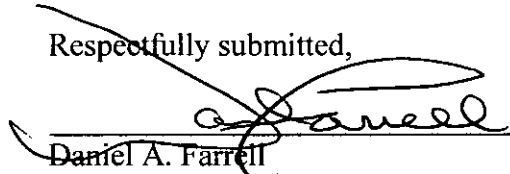
In the City of Oakland there exists a potential threat to the safety of citizens, property and the environment due to the danger posed by fire, earthquake or other natural disaster. The implementation of effective and ongoing Fire Prevention programs can substantially reduce the likelihood of injuries, loss of life and property.

The proposed modifications to the Oakland Fire Code are reasonable and necessary due to existing climatic, geological, and topographical local conditions within the City. The adoption of the 2007 California Fire Code inclusive of the proposed local code amendments will help reduce the risks to life and property.

ACTION REQUESTED OF THE CITY COUNCIL

Staff recommends that the City Council approve the ordinance amending the Oakland Fire Code to allow for the adoption of the 2007 edition of the California Fire Code, including City of Oakland amendments.

Respectfully submitted,



Daniel A. Farrell
Chief, Fire Department

Reviewed by: James D. Edwards
Deputy Chief/Fire Marshal
Fire Prevention Bureau

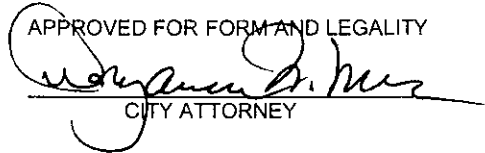
Prepared by: Leroy Griffin
Assistant Fire Marshal
Fire Prevention Bureau

APPROVED AND FORWARDED TO THE
PUBLIC SAFETY COMMITTEE


OFFICE OF THE CITY ADMINISTRATOR

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Public Safety Committee
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OFFICE OF THE CITY CLERK
OF OAKLAND
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APPROVED FOR FORM AND LEGALITY

CITY ATTORNEY

OAKLAND CITY COUNCIL

Ordinance No. _____ C.M.S.

INTRODUCED BY COUNCILMEMBER _____

ORDINANCE REPEALING CURRENT OAKLAND MUNICIPAL CODE CHAPTER 15.12, FIRE CODE, AND ADOPTING AND MAKING LOCAL AMENDMENTS TO THE 2007 EDITION OF THE CALIFORNIA MODEL FIRE CODE, CALIFORNIA CODE OF REGULATION TITLE 24, PART 9, INCLUDING, BUT NOT LIMITED TO, APPENDIX CHAPTER 1 ADMINISTRATION, APPENDIX B FIRE-FLOW REQUIREMENTS, APPENDIX C FIRE HYDRANT LOCATIONS, APPENDIX D FIRE APPARATUS ACCESS ROADS, AND NATIONAL FIRE PROTECTION ASSOCIATION AND OTHER REFERENCED STANDARDS AS ADOPTED BY THE CALIFORNIA STATE FIRE MARSHAL, AND RE-CODIFYING SAID CODE AT OAKLAND MUNICIPAL CODE CHAPTER 15.12 AS THE OAKLAND FIRE CODE

WHEREAS, the Council of the City of Oakland does hereby find that there is a need to enforce the most current editions of the California Fire Code, with local amendments thereof, as recited herein for regulating and controlling the design, erection, construction, enlargement, installation, alteration, repair, relocation, removal, use and occupancy, demolition, conversion, height and area, location and maintenance, and quality of materials of and structures and plumbing, mechanical, electrical, and fire suppression systems and certain equipment within the corporate boundaries of the City of Oakland; and

WHEREAS, the Council of the City of Oakland further hereby finds that there is a need to provide for the issuance of permits and the collection of fees therefore and for penalties for the violation thereof, and for superseding other ordinances, in part or in whole, which are in conflict therewith; and

WHEREAS, the Council of the City of Oakland further hereby finds that the adoption of local amendments of the California Fire Code which provide for certain changes, supplements, and deletions thereof as recited herein will satisfy these needs by providing for minimum standards to safeguard life and limb, property, and public welfare; and

WHEREAS, the Council of the City of Oakland further hereby finds that the adoption of local amendments of the California Fire Code are reasonably necessary because of local topographic, climatic, and geologic conditions; and

WHEREAS, Health & Safety Code Section 17958.5 permits the City of Oakland to make such changes or modifications to the Codes as are reasonably necessary because of local conditions; and, Health & Safety Code Section 17958.7 requires that the City of Oakland

before making any changes or modifications pursuant to Section 17958.5 make express findings that such changes or modifications are needed due to climatic, geographic, or topographic conditions; and

WHEREAS, the City Council does herewith find that the City of Oakland has certain climatic, geologic, and topographical features that can have a deleterious effect on emergency services such as fire protection and emergency medical services, and,

WHEREAS, after due consideration, the City Council of the City of Oakland hereby finds that due to local climatic, geologic and topographic conditions as stated in this section, that modifications and changes to the current 2007 California Fire Code are reasonably necessary to provide sufficient and effective protection of life, health and property for the following reasons:

1. The City of Oakland is situated near several known major faults, each capable of generating earthquakes of significant magnitude. These include the South Hayward Fault, the North Hayward, the San Andreas, and the Rodgers Creek Faults. These faults are subject to becoming active at any time; the City of Oakland is particularly vulnerable to devastation should such an earthquake occur. The potential effects of earthquake activity include isolating the City of Oakland from the surrounding area and restricting or eliminating internal circulation due to the potential for collapsing of highway overpasses and underpasses, along with other bridges in the City, or a landslide, and the potential for vertical movement rendering surface travel unduly burdensome or impossible.
2. The City of Oakland is bisected by Interstate 80, 880 and 580. Interstates 80 and 880 are designated by the California Highway Patrol as approved transportation routes for highly toxic and radioactive materials. The potential for release or threatened release of a hazardous material along one of these routes is highly possible given the volume transported daily. Incidents of this nature will normally require all available emergency response personnel to prevent injury and loss of life and to prevent, as far as practicable, property loss. Emergency personnel responding to such aforementioned incidents may be unduly impeded and delayed in accomplishing an emergency response. Potential risk to the protection of life and public safety and, in particular, residents and occupants in structures without the protection of automatic fire sprinklers.
3. The seasonal climatic conditions during late summer and early fall pose serious challenges to the Oakland Fire Department in controlling and fighting wild land urban interface fires. The hot, dry weather typical of this area in fire season coupled with strong Diablo Winds can result in wildfires that threaten the City of Oakland. Natural vegetation occurring in our region is among the most highly flammable in the world. While some code requirements, such as fire-resistive roof classification, have a direct bearing on fire survival in a wild land fire situation, others, such as residential fire sprinklers, may also have a positive effect. In dry climate on low humidity days, materials are much more easily ignited. More fires are likely to occur and any fire, once started, can expand rapidly. Residential fire sprinklers can arrest a fire starting within a structure before it spreads to adjacent brush and structures.
4. The topography of Oakland presents problems in delivery of emergency services, including fire protection. Hilly terrain has narrow, winding roads with limited access for emergency response and residential egress, preventing rapid access and orderly

evacuation. Much of these hills are covered with highly non-fire-resistive natural vegetation. In addition to access and evacuation problems, the terrain makes delivery of water extremely difficult. Some hill areas are served by water pump systems subject to failure in fire, high winds, earthquake and other power failure situations. Due to the topography in much of the City of Oakland, roadway condition, angle of approach or departure, steeply sloping roadways and grades are common.

5. There is expansive soil in many areas of the Oakland Hills that retain ground water from severe rainstorms. This produces a condition wherein the moisture content of the soil is sufficient that roadways become damaged due to soil expansion and shrinkage. All weather, paved surfaces capable of supporting the imposed loads of fire apparatus are necessary to ensure access of emergency response personnel. These roadways, approach angles, steep slopes and grades can also make it difficult for fire apparatus and other emergency vehicles to access a site. It is therefore essential that these roadway accesses be provided with proper all-weather paved surfaces, angle of approach, grades and gate access; now, therefore

THE COUNCIL OF THE CITY OF OAKLAND DOES ORDAIN AS FOLLOWS:

Section 1. Section 15.12 Repealed. Section 15.12 of the Oakland Municipal Code is repealed in its entirety.

Section 2. Section 15.12, Oakland Fire Code. Section 15.12, Fire Code, is reinstated in the Oakland Municipal Code as follows:

Section 15.12, Oakland Fire Code

15.12.010 2007 California Fire Code is Adopted and Amended

- A. The 2007 California Fire Code, including Appendix Chapter 1, 1 Appendix B, Appendix C, and Appendix D as amended below, and referenced National Fire Protection Association Standards and other standards as adopted by the California State Fire Marshal, is hereby adopted and made a part of this Chapter as though fully set forth herein, subject to the modifications thereto set forth in this Chapter below.
- B. This Chapter shall be known as the "Oakland Fire Code" and shall be referred to in this Chapter as "this Chapter," "this Code" or "the Oakland Fire Code."
- C. To the extent permitted by law, the Fire Chief may, at his/her sole discretion, revise requirements set forth in the Oakland Fire Code in specific instances due to climatic, geographic or topographic conditions.
- D. A copy of this Code is on file in the office of the Fire Chief of the City of Oakland.

15.12.020 Oakland Amendments to the 2007 California Fire Code.

The following sections of the 2007 California Fire Code as adopted herein are hereby revised as noted by italicized terms including, but not limited to, *add*, *amend* or *delete*, as follows:

APPENDIX A, CHAPTER 1 – ADMINISTRATION – *Amend this Appendix A, Chapter 1 as follows:*

Amend: **101.1 Title** This Section 15.12.020 of Oakland Municipal Code Chapter 15.12 shall be known as the “Oakland Amendments to the 2007 California Fire Code, may be cited as such and will be referred to herein as “this chapter,” “this Code,” or the “Oakland Fire Code.”

Amend: **101.2 Scope.** Where any section of the 2007 California Fire Code or any other referenced codes, regulations or standards are amended by this chapter, all provisions of such original codes, regulations or standards not so specifically amended shall remain in full force and effect. Notwithstanding the foregoing, in the event provisions set forth herein conflict with any section of the 2007 California Fire Code or any other referenced codes, regulations or standards, the provisions of this Code shall prevail and control.

Failure to comply with any of the provisions of this Code, including failure to provide, obtain or maintain valid permits, certifications, tests, listings, affixed labeling, inspection approvals, or other conditions of permit; failure to repair, demolish, remove, or rehabilitate unsafe materials, appliances, fixtures, equipment or other property; or failure to prevent, restrain, correct, or abate conditions unsafe or hazardous for egress or fire protection or health due to inadequate maintenance, excess loading, dilapidation, or abandonment shall be and is declared to be prima facie evidence of an existing and continuing hazard to life or limb, property or public welfare.

Section 102 Applicability - *Amend this Section 102 as follows:*

Add: 5. All materials, assemblies, appliances, fixtures, equipment, and installations thereof; all arrangements of occupancies, exits, aisles, stairs, and doors; all parapet walls, cornices, spires, towers, tanks, statuary, signage, structural members, appendages, and appurtenances thereto in buildings and structures regulated by this Code shall be so arranged, assembled, installed, maintained and of sufficient size and so protected as to reduce and minimize all egress, fire, safety, and health hazards.

Add: 6. The quality of all materials, assemblies, appliances, fixtures, and equipment; methods of connection, assembly, and installation; allowable stress, strain, deflection, rate and volume and velocity of flow, pressure, temperature, and opacity; and assumed loads and capacities to be used in the design and construction of all buildings and structures, plumbing and mechanical installations, and electrical systems shall be consistent with requirements of this Code and nationally recognized standards of quality and generally recognized and well-established methods of testing, design, installation, and construction. Testing, listing, and affixed labeling shall be prima facie evidence of conformity with approved standards for safety to life and limb, property, and public welfare.

102.7. Subjects not regulated by this code.

Add: Unless expressly stated herein, this chapter is not intended to amend, repeal, or supersede provisions of any other codes, regulations or ordinances, including, but not limited to, the demolition ordinance, earthquake damage abatement ordinance, dangerous building ordinance, creek protection ordinance, Planning Code and Building Maintenance Code.

Section 105. Permits - Amend this Section 105 as follows:

105.3.7. Information on the permit.

Add: Every permit shall also contain an agreement as follows which shall be executed by the permit holder as a condition of issuance:

“I hereby agree to save, defend, indemnify and keep harmless the City of Oakland and its officials, officers, employees, representatives, agents and volunteers from all actions, claims, demands, litigation, or proceedings, including those for attorneys’ fees, against the City in consequence of the granting of this permit or from the use or occupancy of the public right-of-way, public easement, or any sidewalk, street or sub-sidewalk or otherwise by virtue thereof, and will in all things strictly comply with the conditions under which this permit is granted. I further certify that I am the owner of the property involved in this permit or that I am fully authorized by the owner to access the property and perform the work authorized by this permit.”

Section 108. Board of Appeals – Amend this Section 108 as follows:

Amend: **108.1. Appeals.** In order to hear and decide appeals of orders, decisions, or determinations made by the Fire Chief relative to the application and interpretation of the non-administrative (technical) requirements of this Code, the property owner may request an administrative hearing with a Hearing Examiner. The request shall be filed in writing with the Fire Chief and shall be accompanied with a fee as established in the Master Fee Schedule. The request for an administrative hearing shall contain the following information:

1. A brief statement setting forth the legal interest of the party or parties in the real property identified in the order, decision or determination made by the Fire Chief; and
2. A brief statement in ordinary and concise language of that (those) specific order(s), decision(s) or determination(s) protested; and
3. A brief statement in ordinary and concise language contending that issuance of the order, decision or determination was a result of error or abuse of discretion together with any material facts claimed to support such contention; and
4. A brief statement in ordinary and concise language of the relief sought and the reasons why it is claimed the protested order, decision or determination should be reversed, modified, or otherwise set aside; and
5. The signature of the property owner, and his or her mailing address; and
6. The verification (by declaration under penalty of perjury) of at least one person requesting a hearing as to the truth of the matters stated in the request for hearing; and

The written request for an administrative hearing with the accompanying fee shall be received by the Fire Chief within fourteen (14) calendar days from the date of the service of such order, decision or determination of the Fire Chief.

Amend: 108.2. Scheduling and Noticing. As soon as practicable after receiving the request for administrative hearing, the Fire Chief shall fix a date, time and place for the administrative hearing. Written notice of the time and place of the hearing shall be given to the appellant at least seven (7) calendar days prior to the date of the hearing.

The failure of the Fire Chief to serve any person required herein to be served shall not invalidate any proceedings hereunder as to any other person duly served or relieve any such person from any duty or obligation imposed by the provisions of this section.

Amend: 108.3. Scope of Hearing. Only those technical matters or issues specifically raised by the appellant in the Request for Administrative Hearing shall be considered in the administrative hearing.

Amend: 108.4. Hearing Examiner. The Hearing Examiner shall not be an employee of the City of Oakland and shall be qualified by experience and training regarding fire and, building construction and other matters pertaining to this Code.

Amend: 108.5. Limitations of Authority. The Hearing Examiner shall have no authority relative to interpretations of the administrative provisions of this Code and shall not be empowered to waive or otherwise set aside the non-administrative (technical) requirements of this Code.

Amend: 108.6. Effect of Hearing. Decisions of the Hearing Examiner in all instances shall be final and conclusive.

Amend: 108.7. Review of Administrative Determination. The limitation period provided pursuant to California Code of Civil Procedure Section 1094.6 shall apply to all petitions filed seeking judicial review of administrative determinations made by the Fire Chief or the Hearing Examiner.

Section 109 Hazardous Conditions Violations - *Amend this Section 109 as follows:*

Add: 109.1 Hazardous Conditions. Any commercially or residentially zoned parcel, lot or premise on which flammable materials as defined by this Code are openly stored or abandoned, causing blight or hazardous conditions, so as to constitute a potential fire or health hazard shall constitute a public nuisance and shall be ordered cleaned by the issuance of a notice to abate in accordance with Section 106.1 of this Code.

Amend: 109.1.2. Remuneration. In addition to the penalties provided by law, a violator shall be liable for such costs, expenses, disbursements, and attorneys' fees paid or incurred by the City or any of its officials, officers, representatives, employees, agents, volunteers, vendors, or third-party contractors in correction, abatement and prosecution of the violation.

Add: 109.2.1. Violations. Any violation of this Code is deemed a public nuisance and a misdemeanor, but may be cited or charged, at the election of the enforcing officer or City Attorney, as infractions, with the exceptions cited below in subsection (b). Nothing in this section shall prevent any other remedy at law. Each person shall be guilty of a separate offense for each and every day during a portion of which a violation of any provision of this Code is committed, continued, or permitted by such person.

Add: **109.2.2. Misdemeanors.** Notwithstanding Section 103.4.4.1, violation of any of the following provisions of this Code shall be charged only as a misdemeanor:

Add: **109.3.2. Authority to Abate Violations.** Whenever the Fire Chief has issued an order or notice pursuant to this Code, and the condition remains uncorrected after the time specified in the order or notice, the Fire Chief may proceed to abate the condition by removal, restriction, rehabilitation, demolition, instituting security protocols, or whatever means the Fire Chief determines are reasonably necessary to cause the abatement of such violations.

Add: **109.3.3. Cost Recovery.** The costs of any abatement action taken pursuant to this Code shall be recovered by the City pursuant to the provisions of this section. After performing the abatement work on the property in question, the Fire Chief shall cause to be recorded with the County Recorder, a "prospective Notice of Special Assessment Lien." Such notice shall summarize the work performed, the cost and date of completion. The costs shall be imposed as a lien in conformance with Section 107 of this Code. They City may proceed to recover such costs in a civil lawsuit.

Add: **109.3.4. Notice of Abatement Orders, Notices and Actions.** If notice has not already been given pursuant to Section 103.4.2, the Office of the Fire Marshal ("Fire Department") shall personally serve, or shall send one copy of the official notice to abate by regular mail, postage prepaid, to the person owning the parcel, including undeveloped land, on which the fire or dangerous condition is located, or to any person in control of said parcel, as such person's name and address appear on the current County of Alameda's assessment roll. If such address is unknown to the Fire Department then notice shall be affected by physically posting such notice on the property itself. Service by mail shall be deemed completed at the time of deposit in the United States mail.

Add: **Section 112. Judgment and Liens**

Add: **112.1 Authority to Lien.** The cost incurred pursuant to Sections 103 and 106 of this Code in obtaining Real Property Ownership Reports and in razing or demolishing any fire or securing or cleaning any parcel and abating its associated fire hazard, or instituting a fire watch by action of the Fire Chief shall be a proper charge against the City Treasury and shall be paid from there. Re-inspections and administrative fees to ascertain Code compliance for overdue abatement of previously noticed or cited violations shall be charged against the owner. Fees shall be in the amount as currently described in the Master Fee Schedule. The Fire Chief shall give the owner or other interested party of such premises a written notice and statement showing the itemized cost of such abatement, and requesting payment thereof. Alternatively, said charges may be directly collected in a civil lawsuit or by the filing and foreclosure of a lien.

Add: **112.2 Notice of Hearing on Lien.** If the amount of such expenses as shown in such statement is not paid to the Fire Chief within ten (10) days after such notice, the Fire Chief shall file with the City Administrator written notice of those persons against whose property the City intends to file a lien. Upon receipt of such notice, the City Administrator shall present same to the City Council, and the City Council shall forthwith, by resolution, fix a time and place for a public hearing on such notice. The Fire Chief shall cause a copy of such notice to be served on the owner of the property not less than ten (10) days prior to the time fixed for such hearing. Mailing a copy of such notice to the owner of the property at the

address listed in the most recent property ownership records provided to the City by the County Assessor as of the date the Fire Chief causes notice to be mailed shall comprise proper service. Service shall be deemed complete at the time of deposit in the United States mail.

At the public hearing as scheduled above the City Council will hear all noticed or affected property owners who would be obligated to pay the abatement and related costs incurred by the City. The City Council shall confirm the appropriateness of persons to be held responsible for the noticed abatement charges and report to the Fire Chief its final determinations of liability concerning the affected parties. Charges confirmed by the City Council and not paid within five (5) days of the public hearing date will be subject to lien and collection procedures as provided below.

The Fire Chief shall record in the Office of the County Recorder of the County of Alameda, State of California, and a certificate substantially in the following form:

"NOTICE OF SPECIAL ASSESSMENT LIEN

"Pursuant to authority vested in me by the Fire Code of the City of Oakland, California, I did on the ____ day of _____, 20____, cause a condition to be abated or chargeable action to occur on the hereinafter-described real property at the expenses of the owner thereof, in the amount of \$_____, and that said amount has not been paid nor any part thereof, and the City of Oakland does hereby claim a lien upon the hereinafter-described real property in said amount; the same shall be a lien upon the said real property until said sum, with interest thereon from the date of recordation of this lien in the Office of the County Recorder of the County of Alameda, State of California, and such other charges as may be applied from the City of Oakland Master Fee Schedule, has been paid in full. The real property hereinabove mentioned and upon which a lien is claimed is that certain parcel of land lying and being in the City of Oakland, County of Alameda, State of California, and particularly described as follows:

"Assessor's Parcel Number: .

"Dated this _____ day of _____, 20____.

Fire Chief
City of Oakland"

The same shall be a lien against the property described therein until the amount thereof, plus accrued interest, has been paid in full. The amount of such lien shall draw interest thereon at a rate as established in the City of Oakland Master Fee Schedule from and after the date of the recording of said notice of the contents thereof.

Add: 112.3 Method of collection: Additional Amount of Costs to Tax Bill Procedure. With the confirmation of the report by the City Council, the nuisance abatement charges contained therein that remain unpaid by the owner of the subject property shall constitute a special assessment against said property as it has received the special benefit of City abatement services. Such charges shall be collected, along with City administrative and a re-

inspection fees at such time as is established by the County Assessor for inclusion on the next property tax roll.

The Fire Chief shall turn over to the County Assessor for inclusion in the next property tax assessment the total sum of unpaid nuisance abatement charges consisting of the abatement costs, administrative and re-inspection fees, and interest from the date of recordation of the lien, at the rate established in the Master Fee Schedule.

Thereafter, said assessment may be collected at the same time and in the same manner as ordinary municipal taxes are collected and shall be subject to the same penalties and the same procedure of sale as provided for ordinary delinquent municipal taxes. The special assessment shall be on parity and the same priority as general property taxes.

Add: 112.4 Judgment Liens A copy of every judgment imposing a fine or cost or both upon any owner of any real property for a violation of this Code thereon shall, upon the entry of judgment, be filed forthwith by the Fire Chief in the Office of the Recorder of Alameda County. The County Recorder shall index it immediately upon receiving it in the index of mechanics' liens. The fine, charges or administrative costs shall be a lien upon the real property from the time the certified copy of the judgment is filed in the Office of the Recorder, subject only to taxes, assessments, and water charges, and to mortgage and mechanics' liens existing on the real property prior to the filing.

Add: Section 113. Oakland Municipal Code, Article 15, Chapter 15.64, Bedroom Window Security Bars And Grills

Add: Section 113.1. Administration And Enforcement of Oakland Municipal Code, Article 15, Chapter 15.64, Bedroom Window Security Bars And Grills. The City Administrator delegates to the Fire Chief of the Fire Department the authority to enforce and administer the provisions of Oakland Municipal Code, Article 15, Chapter 15.64, entitled "Bedroom Window Security Bars and Grills." All City employees designated by the Fire Chief are authorized to make necessary inspections and take any actions on behalf of the Fire Chief as may be required to enforce and administer the provisions of Article 15 of the Oakland Municipal Code.

Article 15 of the Oakland Municipal Code will be administered and enforced in accordance with the powers vested in the Fire Chief by applicable law, including but not limited to the 2007 California Fire Code and the provisions of Oakland Municipal Code, Chapter 1, Articles 3, 4, 6, 7, and 8, as amended by Ordinance No. 11989 C.M.S. (Ord. 12006 § 1, 1997)

Add: 113.2. Fire Hazard. Any residential or non-residential building or structure or portion thereof, device, apparatus, equipment, combustible waste or vegetation which, in the opinion of the Fire Chief, is in such a condition as to cause a fire or explosion or provide a ready fuel to augment the spread and intensity of fire or explosion arising from any cause shall be considered Substandard and a Public Nuisance.

Add: 113.3 Faulty Materials of Construction. The use of materials of construction, except those which are specifically allowed or approved by this Code and the Oakland Building Code, and which have been adequately maintained in good and safe condition, shall cause a residential or non-residential building or structure to be Substandard and a Public Nuisance.

Add: **113.4 Inadequate Exits.** Except for those buildings or structures or portions thereof which have been provided with adequate exit facilities conforming to the provisions of this Code, residential and non-residential buildings or structures or portions thereof whose existing facilities were installed in violation of code requirements in effect at the time of their construction or whose exit facilities have not been increased in number or width in relation to any increase in occupant load due to alterations, additions or change in use or occupancy subsequent to the time of construction shall be considered Substandard and a Public Nuisance.

Notwithstanding compliance with code requirements in effect at the time of their construction, residential and non-residential buildings or structures or portions thereof shall be considered Substandard and a Public Nuisance when the Fire Chief or the Building Official finds that an unsafe condition exists through an improper location of or length of travel to required exits, or a lack of an adequate number or width of required exits, or when other conditions exist which are dangerous to human life including, but not limited to, lack of or unapproved or improperly installed or improperly maintained illumination of required exits, directional signage to required exits, door and window release and security devices, and other obstructions to or within the exiting path of travel or emergency escape.

Add: **113.5 Inadequate Fire Protection or Firefighting Equipment.** Residential and non-residential buildings or structures or portions thereof shall be considered Substandard and a Public Nuisance when they are not provided with the fire-resistive construction or fire-extinguishing systems or equipment required by this Code, except those buildings or structures or portions thereof which conformed with all applicable laws at the time of their construction and whose fire-resistive integrity and fire-extinguishing systems or equipment have been adequately maintained and improved in relation to any increase in occupant load, alteration or addition, or any change in occupancy.

Add: **Section 114. Declaration of Public Nuisance—Substandard**

Any violations of the Oakland Fire Code deemed to be substandard and a public nuisance by the Fire Chief or Building Official shall be subject to the enforcement and other proceedings set forth in the Oakland Building Code, Oakland Municipal Code Chapter 15.08.

CHAPTER 2, DEFINITIONS – Amend this Chapter as follows:

Section 202. General Definitions - Add the following definitions:

Add: **CALIFORNIA FIRE CODE:** The International Building Code as amended and adopted by the State of California and is another name for the body of regulations known as the California Code of Regulations (C.C.R.), Title 24, Part 9; a portion of the “California Building Standards Code,” as defined in the “California Building Standards Law” commencing with Section 18901 of the Health and Safety Code.

Add: **CALIFORNIA ELECTRIC CODE:** The National Electric Code as amended and adopted by the State of California and is another name for the body of regulations known as the California Code of Regulations (C.C.R.), Title 24, Part 3; a portion of the “California Building Standards Code,” as defined in the “California Building Standards Law”

commencing with Section 18901 of the Health and Safety Code.

Add: **CALIFORNIA MECHANICAL CODE:** The International Mechanical Code as amended and adopted by the State of California and is another name for the body of regulations known as the California Code of Regulations (C.C.R.), Title 24, Part 4; a portion of the "California Building Standards Code," as defined in the "California Building Standards Law" commencing with Section 18901 of the Health and Safety Code.

Add: **CALIFORNIA PLUMBING CODE:** The International Plumbing Code as amended and adopted by the State of California and is another name for the body of regulations known as the California Code of Regulations (C.C.R.), Title 24, Part 5; a portion of the "California Building Standards Code," as defined in the "California Building Standards Law" commencing with Section 18901 of the Health and Safety Code.

Add: **COMBINATION PERMIT:** A Combination Permit allows the performance of building, electrical, plumbing, and mechanical work under a single permit and may be issued for certain types of work which the Building Official has identified as being appropriate for such consideration. Fees shall be assessed as established in the Master Fee Schedule.

Add: **DEPARTMENT HAVING JURISDICTION:** Wherever reference is made in this Code to "Department Having Jurisdiction," it shall mean the Oakland Fire Department, and its successor in Title.

Add: **VERY HIGH FIRE HAZARD SEVERITY ZONE:** All of that area within the City as defined by the Fire Marshal of the City of Oakland, including, but not limited to, the area north and east of the following boundaries:

BEGINNING at the MacArthur Freeway at the San Leandro border to Foothill Boulevard; west on Foothill Boulevard to Stanley; west on Stanley to 98th Avenue; south on 98th Avenue to Stearns Avenue; west on Stearns to Burr Street; west on Burr Street to Thermal; west on Thermal to 8500 Thermal; south at 8500 Thermal to MacArthur Boulevard; west on MacArthur Boulevard to 82nd Avenue; north on 82nd Avenue to Utah Street; west on Utah Street to Partridge Avenue; south on Partridge Avenue to Outlook Avenue; west on Outlook Avenue to Seminary Avenue; south on Seminary Avenue to MacArthur Boulevard; west on MacArthur Boulevard to Buell Street; north on Buell Street to Tompkins Avenue; west on Tompkins Avenue to End; straight line from Tompkins Avenue to Wisconsin Street; west on Wisconsin Street to Carlsen Street; west on Carlsen Street to Maple Avenue; south on Maple Avenue to Morgan Avenue; west on Morgan Avenue to Barner; south on Barner to Morgan Avenue; west on Morgan Avenue to Coolidge Avenue; North on Coolidge Avenue to Alida Street; west on Alida Street to Lincoln Avenue; south on Lincoln Avenue to Tiffin Road; west on Tiffin Road to Whittle Avenue; west on Whittle Avenue to Fruitvale Avenue (Dimond Park); follow the southern and western boundary of Dimond Park to El Centro Road; west on El Centro Road to Dolores; west on Dolores to Park Boulevard; north on Park Boulevard to Piedmont boundary; Piedmont boundary to Mt. View Cemetery; northern boundary of Mt. View Cemetery to Clarewood Drive; west on Clarewood Drive to Broadway Terrace; south on Broadway Terrace to Margarido Drive; west on Margarido Drive to Lawton; west on Lawton to Broadway; north on Broadway to Keith Avenue; west on Keith Avenue to College Avenue; and north on College Avenue to the corporate limits of the City of Berkeley.

Add: **INDEX SHEET:** A sheet located within the 1st or 2nd sheet of the plan set that lists all drawings and sheet numbers and a description of each drawing that is part of the plan set or other submittal document.

Add: **NON-PROFESSIONAL:** A person that is not licensed or certified by the State of California, but is not prohibited by state law from providing a certain service to others or performing certain work for oneself.

Add: **OAKLAND BUILDING CONSTRUCTION CODE:** The Oakland Building Construction Code is the compiled editions of the California Building Standards Codes, California Code of Regulations (CCR), Title 24, Part 2 (Building), Part 3 (Electrical), Part 4 (Mechanical), and Part 5 (Plumbing), and the Uniform Swimming Pool Spa and Hot Tub Code, with local amendments thereto as adopted by the Council of the City of Oakland.

Add: **READILY ACCESSIBLE:** As defined in the California Plumbing and Mechanical Codes.

Add: **SEALED (STAMPED):** Indicates the plan(s) is/are sealed, as required by California Business & Professions Code Sections 5536.1 and 5536.2, with originally applied ink applied to the print or copy of the plans or other submittal documents submitted with an application for permit. Information provided on the seal (stamp) shall be in accordance with California Business & Professions Code Section 5536.1 and Title 16, Section 136 of the California Code of Regulations.

Add: **SIGNED:** Indicates the originals of the indicated plan(s) have been “wet” signed (and sealed) and the image of such signing is apparent on the copies of the originals submitted for permit. Also refer to the definition of wet” signed.

Add: **“WET” SIGNED:** Indicates the plan(s) is/are signed with originally applied ink applied to the print or copy of the plans or other submittal documents submitted with an application for permit. Also refer to the definition of “signed.”

Add: **WORKSTATION:** A defined space or independent principal piece of equipment using 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, electrical devices, and other processing and scientific equipment.

CHAPTER 3 - GENERAL PRECAUTIONS AGAINST FIRE

Chapter 3 of the 2007 California Fire Code is adopted in its entirety.

CHAPTER 4 - EMERGENCY PLANNING AND PREPAREDNESS

Chapter 4 of the 2007 California Fire Code is adopted with the following amendments:

Section 404. Fire Safety And Evacuation Plans - Amend this Section 404 as follows:

Amend: **404.2 Where Required.** An approved fire safety and evacuation plan shall be prepared and maintained for the following occupancies and Fires.

1. Group A having an occupant load of 100 or more persons.
2. Group B having an occupant load of 500 or more persons.
3. Group E: See §3.13 Title 19, CCR for regulations.
4. Group H.
5. Group I. See §3.09 Title 19, CCR for regulations.
6. Group R-1. See §3.09 Title 19, CCR for regulations.
7. Group R-2 college and university.
8. Group M having an occupant load of 500 or more persons
9. Covered malls exceeding 50,000 square feet [4,645 square meters (m²)] in aggregate floor area.
10. Underground.

Amend: **404.3.1 Fire Evacuation Plans.** Fire evacuation plans shall include the following:

1. Emergency egress or escape routes and whether evacuation of the occupancy is to be complete or, where approved, by selected floors or areas only.
2. Description of what the fire alarm, if required, sounds and looks like (audible and visual warning devices).
3. Procedures for employees who must remain to operate critical equipment before evacuating.
4. Procedures for accounting for employees and occupants after evacuation have been completed.
5. Identification and assignment of personnel responsible for rescue or emergency medical aid.
6. The preferred and any alternative means of notifying occupants of a fire or emergency.
7. The preferred and any alternative means of reporting fires and other emergencies to the fire department or designated emergency response organization.
8. Identification and assignment of personnel who can be contacted for further information or explanation of duties under the plan.
9. A description of the emergency voice/alarm communication system alert tone and preprogrammed voice messages, where provided.

**TABLE 405.2 - Amend Table 405.2 as follows:
FIRE AND EVACUATION DRILL, FREQUENCY AND PARTICIPATION**

GROUP OR OCCUPANCY	FREQUENCY	PARTICIPATION
Group A	Quarterly	Employees
Group B ^a	Annually	Employees
Group E	See §3.13 Title 19, CCR	
Group I	See §3.09 Title 19, CCR	
Group R-1	See §3.09 Title 19, CCR	
Group R-2 ^b	Four annually	All occupants
High-rise Fires	See §3.09 Title 19, CCR	

- a. Group B Fires having an occupant load of 500 or more persons.
- b. Applicable to Group R-2 college and university Fires only.
- c. Applicable to high-rise office Fires only.

Section 408. Use And Occupancy-Related Requirements. Amend this Section 408 as follows:

Amend: **408.9 Group R-2 Occupancies.** Group R-2 occupancies shall comply with the requirements of Sections 408.9.1 through 408.9.3 and Sections 401 through 406. Group R-2 College and university shall comply with the requirements of Sections 408.9.1 through 408.9.6 and Sections 401 through 406.

Add: **408.9.4 First Emergency Evacuation Drill.** The first emergency evacuation drill of each school year shall be conducted within 10 days of the beginning of classes.

Add: **408.9.5 Time of Day.** Emergency evacuation drills shall be conducted at different hours of the day or evening, during the changing of classes, when the school is at assembly, during the recess or gymnastic periods, or during other times to avoid distinction between drills and actual fires. In Group R2 College and university Fires, one required drill shall be held during hours after sunset or before sunrise.

Amend: **408.11.1.2 Revisions.** The lease plans shall be revised annually or as often as necessary to keep them current.

CHAPTER 5- FIRE SERVICE FEATURES

Section 503. Fire Apparatus Access Roads. - Amend this Section 503 as follows:

Amend: **503.2.1 Dimensions.** Fire apparatus access roads shall meet the requirements outline in Tables 1 and 2 and for approved security gates in accordance with Section 503.6, and an unobstructed vertical clearance of 13 feet 6 inches (4,115 mm).

Section 504. Access to Fires and Roofs. – Amend this Section 504 as follows:

Add: **504.4 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 Fire Department, are installed, such devices shall be approved by the Fire Code Official. All access control devices shall be provided with an approved means for deactivation or unlocking by the fire department.

Access control devices shall also comply with Chapter 10 Egress.

Section 507. Hazards To Firefighters – Amend this Section 507 as follows:

Add: **Fire Standard, 507.4 Roof Guardrails at Interior Courts.** Roof openings into interior courts that are bounded on all sides by fire resistive construction shall be protected with guardrails. The top of the guardrail shall not be less than 42 inches in height above the adjacent roof surface that can be walked on. Intermediate rails shall be designed and spaced such that a 12-inch diameter sphere cannot pass through.

Exception: Where the roof opening is greater than 600 square feet in area.

Section 511. Emergency Communications Systems. – Amend this Section 511 as follows:

Add: **511.1 Emergency Communication Systems.** In new buildings or in buildings expanded by more than 20%, or occupancies in which a change in occupancy classification occurs where adequate interior emergency radio communication is not possible, a system or equipment that will provide emergency radio coverage acceptable to the Fire Code Official shall be installed.

CHAPTER 6 - FIRE SERVICE AND FEATURES

Section 603. Fuel Fired Appliances. – Amend this Section 603 as follows:

Add: **603.4.2 Portable Unvented Heaters Used in Other Occupancies and Outside Locations.** Use of portable unvented heaters in other occupancies and outside locations shall be approved by the Fire Code Official.

Section 605. Electrical Equipment, Wiring And Hazards – Amend this Section 605 as follows:

Add: **605.11 Immersion Heaters.** All electrical immersion heaters used in dip tanks, sinks, vats and similar operations shall be provided with approved over-temperature controls and low liquid level electrical disconnects. Manual reset of required protection devices shall be provided.

Section 608. Stationary Storage Battery Systems – Amend this Section 608 as follows:

Add: **608.6.3 Failure of Ventilation System.** Failure of the ventilation system shall automatically disengage the charging system.

CHAPTER 9 - FIRE PROTECTION SYSTEMS

Section 903. Automatic Sprinkler Systems - Amend this Section 903 as follows:

Amend: **Fire Standard - 903.2 Where Required.** Approved automatic sprinkler systems in new occupancies and structures and in existing modified occupancies and structures, shall be provided in the locations described in this section. Automatic fire sprinklers shall be installed per the requirements set forth in Sections 903.2.1 through 903.2.13 and as follows, whichever is the more restrictive:

1. An automatic sprinkler system shall be provided throughout all new occupancies that have a gross floor area in excess of 3,600 square feet or that are three (3) or more stories in height including basements.
2. An automatic sprinkler system shall be provided throughout all existing occupancies when modifications are made that increases the gross floor area to more than 3,600 square feet or increases the number of stories to three (3) or more.

Exception: One-time additions to existing occupancies made after January 1, 2008 that do not exceed 500 square feet in gross floor area.

3. An automatic sprinkler system shall be provided throughout all new occupancies, to include change of use located in the designated Very High Fire Hazard Severity Zone Very High Fire Hazard Severity Zone.

Exception: Any non-residential accessory structures to single family residences that have a gross floor area of 500 square feet or less.

4. An automatic sprinkler system shall be provided throughout all existing occupancies located in the designated Very High Fire Hazard Severity Zone Very High Fire Hazard Severity Zone when modifications are made that increase the gross floor area.

Exception: One-time additions to existing occupancies made after January 1, 2008 that do not exceed 500 square feet in gross floor area.

CHAPTER 14 - FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION

Section 1404. Precautions Against Fire – Amend this Section 1404 as follows:

1404.8 Fire Walls. When walls are required to be of fire resistive construction, the wall construction shall be completed (with all openings protected) immediately after the occupancy is sufficiently weather-protected at the location of the wall(s).

Section 1411. Means Of Egress – Amend this Section 1411 as follows:

Amend: Fire Standard –

[B] 1411.1 Stairways Required. Each level above the first story in new multi-story buildings shall be provided with at least two usable exit stairways after the floor decking is installed. The stairways shall be continuous and discharge to grade level. Stairways serving more than two floor levels shall be enclosed (with openings adequately protected) after exterior walls/windows are in place. Exit stairs in new and in existing, occupied buildings shall be lighted and maintained clear of debris and construction materials at all times.

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

Add: Section 1411.1.1 Required Means of Egress. All new buildings under construction shall have a least one unobstructed means of egress. All means of egress shall be identified in the Fire Protection Plan.

CHAPTER 18 - SEMICONDUCTOR FABRICATION FACILITIES

Section 1802. Definitions - Amend the definitions as follows:

CONTINUOUS GAS DETECTION SYSTEM: An approved gas detection system where the analytical instrument is maintained in continuous operation and sampling is performed without interruption. Analysis is allowed to be performed on a cyclical basis at intervals not to exceed 30 minutes. In occupied areas where air is re-circulated and not exhausted to a treatment system (e.g., breathing zone), the Chief may require a cyclical basis at intervals not to exceed 5 minutes. The gas detection system shall be able to detect the presence of a gas at or below the permissible exposure limit in occupiable areas and at or below ½ IDLH (or 0.05 LC 50 if no established IDLH) in unoccupiable areas.

Delete Definition: Workstation.

CHAPTER 19 - LUMBER YARDS AND WOOD WORKING FACILITIES

Section 1907. Storage Of Wood Chips And Logged Material Associated With Timber And Lumber Production Facilities - Amend this Section 1907 as follows:

Add: 1907.6 Fire Protection Water Supply Systems. An approved fire protection water supply and hydrant system suitable for the fire hazard involved shall be provided for open storage yards and processing areas. Hydrant systems shall be installed in accordance with NFPA 24.

Section 1908. Storage And Processing of Wood Chips, Logged Materials, Fines, Compost and Raw Product Associated with Yard Waste and Recycling Facilities – Amend this Section 1908 as follows:

Add: 1908.11 Fire Protection Water Supply Systems. An approved fire protection water supply and hydrant system suitable for the fire hazard involved shall be provided for open storage yards and processing areas. Hydrant systems shall be installed in accordance with

CHAPTER 27 - HAZARDOUS MATERIALS - GENERAL PROVISIONS

Section 2701. General - Amend this Section 2701 as follows:

Amend: **2701.2.2.2 Health Hazards.** The material categories listed in this section are classified as health hazards. A material with a primary classification as a health hazard can also pose a physical hazard.

1. Highly toxic, toxic and moderately toxic.
2. Corrosive materials

Section 2702. Definitions - Add the following definition:

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

Section 2703. General Requirements – Amend this Section 2703 as follows:

Add: **2703.1.3.1 Toxic, Highly Toxic, Moderately Toxic Gases and Similarly Used or Handled Materials.** The storage, use and handling of toxic, highly toxic and moderately toxic gases in amounts exceeding Table 3704.2 or 3704.3 shall be in accordance with this chapter and Chapter 37. Any toxic, highly toxic or moderately toxic material that is used or handled as a gas or vapor shall be in accordance with the requirements for toxic, highly toxic or moderately toxic gases.

Add: **2703.1.5 Secondary Containment Requirements.** A containment system shall be required for all hazardous materials, which are liquids or solids at normal temperature, and pressure where a spill is determined to be a plausible event and where such an event would endanger, people, property or the environment. Construction shall be substantial, capable of safely and securely containing a sudden release without discharge. Design criteria shall be performance oriented and constructed of physically and chemically compatible materials to resist degradation and provide structural and functional integrity for a period of time reasonably necessary to ensure detection, mitigation, and repair of the primary system. Monitoring of secondary containment shall be in accordance with Section 2704.2.2.5.

Amend: **2703.2.2.1 Design and Construction.** Piping, tubing, valves, fittings and related components used for hazardous materials shall be in accordance with the following:

1. Piping, tubing, valves, fittings and related components shall be designed and fabricated from materials compatible with the material to be contained and shall be of adequate strength and durability to withstand the pressure, structural and seismic stress, and exposure to which they are subject.
2. Piping and tubing shall be identified in accordance with ASME A13.1 to indicate the material conveyed.
3. Readily accessible manual valves or automatic remotely activated fail-safe emergency shutoff valves shall be installed on supply piping and tubing at the following locations:

- a. The point of use.
 - b. The tank, cylinder or bulk use.
4. Manual emergency shutoff valves and controls for remotely activated emergency shutoff valves shall be identified and the location shall be clearly visible accessible and indicated by means of a sign.
 5. Backflow prevention or check valves shall be provided when the backflow of hazardous materials could create a hazardous condition or cause the unauthorized discharge of hazardous materials.
 6. Where gases or liquids having a hazard ranking of:
 - Health hazard Class 3 or 4,
 - Flammability Class 4, or
 - Reactivity Class 4,

as defined in the National Fire Protection Association Standard 704 is contained within pressurized piping above 15 pounds per square inch gauge (psig)(103 Kpa), an approved means of leak detection, emergency shutoff and excess flow control shall be provided; and:

- a) Where the piping originates from within a hazardous material storage room or area, the excess flow control shall be located within the storage room or area,
- b) Where the piping originates from a bulk source, the excess flow control shall be located as close to the bulk source as practical, and

Exception: Piping for inlet connections designed to prevent backflow.

- c) Piping for use in pressure relief devices.
7. Secondary containment or equivalent protection from spills shall be provided for piping for liquid hazardous materials and for highly toxic and toxic corrosive gases above threshold quantities listed in Tables 3704.2 and 3704.3. 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. Expansion chambers shall be provided between valves whenever the regulated gas may be subjected to thermal expansion. Chambers shall be sized to provide protection for piping and instrumentation and to accommodate the expansion of regulated materials.

Amend: **2703.2.2.2 Additional Regulation for Supply Piping for Health Hazard Materials.** Supply piping and tubing for gases and liquids having a health hazard ranking of 3 or 4 in accordance with ASME B31.3 and the following:

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

Exception: Piping and tubing within the space defined by the walls of corridors and the floor or roof above or in concealed space above other occupancies when installed in accordance with Section 415.8.6.3 of the California Fire Code as required for Group H, Division 5 Occupancies.

3. All primary piping for toxic, highly toxic and moderately toxic gases shall pass a helium leak test of 1×10^{-9} cubic centimeters/second where practical, or shall pass testing in accordance with an approved, nationally recognized standard. Tests shall be conducted by a qualified "third party" not involved with the construction of the piping and control systems.

Amend: **2703.3.1 Unauthorized Discharges.** When hazardous materials are released in quantities reportable under state, federal or local regulations or when there is release or a threatened release that presents a threat to health, property or the environment, the Fire Code Official shall be notified immediately in an approved manner and the following procedures required in accordance with Sections 2703.3.1.1 through 2703.3.1.4.

Add: **2703.5.2 Ventilation Ducting.** Product conveying ducts for venting hazardous materials operations shall be labeled with the hazard class of the material being vented and the direction of flow.

Add: **2703.5.3 "H" Occupancies.** In "H" occupancies, all piping and tubing may be required to be identified when there is any possibility of confusion with hazardous materials transport tubing or piping. Flow direction indicators are required.

Amend: **2703.9.8 Separation of Incompatible Materials.** Incompatible materials in storage and storage of materials that are incompatible with materials in use shall be separated. When the stored materials are in containers having a capacity of more than 5 pounds (2 kg) or 0.5 gallon (2 L), separation shall be accomplished by:

1. Segregating incompatible materials in storage by a distance of not less than 20 feet (6,096 mm) and in an independent containment system.
2. Isolating incompatible materials in storage by a noncombustible partition extending not less than 18 inches (457 mm) above and to the sides of the stored material.
3. Storing liquid and solid materials in hazardous material storage cabinets.
4. Storing compressed gases in gas cabinets or exhausted enclosures in accordance with Sections 2703.8.5 and 2703.8.6. Materials that are incompatible shall not be stored within the same cabinet or exhausted enclosure.

Add: **2703.9.10 Fire Extinguishing Systems for Workstations Dispensing, Handling or Using Hazardous Materials.** Combustible and non-combustible workstations, which dispense, handle or use hazardous materials, shall be protected by an approved automatic fire extinguishing system in accordance with Section 1803.10.

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

Section 2704. Storage - *Amend this Section 2704 as follows:*

Amend: **2704.2.1 Spill Control for Hazardous Material Liquids.** Rooms or areas used for storage of hazardous material liquids shall be provided with spill control to prevent the flow of liquids to adjoining areas. Floors in indoor locations and similar surfaces in outdoor locations shall be constructed to contain a spill from the largest single vessel by one of the following methods:

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

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

Amend: **2704.2.2 Secondary Containment for Hazardous Material Liquids and Solids.** Fires, rooms or areas used for the storage of hazardous materials liquids or solids shall be provided with secondary containment in accordance with this section.

Delete Table for **2704.2.2 Required Secondary Containment for Hazardous Material Solids and Liquids Storage.**

Section 2705. Use, Dispensing And Handling - *Amend Sec. 2705.4.4 as follows:*

2705.4.4 Emergency Alarm. When hazardous materials having a hazard ranking of 3 or 4 in accordance with NFPA 704, or toxic gases exceeding 10 cu. ft. and any amount of highly toxic compressed gases are transported through corridors or exit enclosures, there shall be an emergency telephone system, a local manual alarm station or an approved alarm-initiating device at not more than 150-foot (45,720 mm) intervals and at each exit and exit-access doorway throughout the transport route. The signal shall be relayed to an approved central, proprietary or remote station service or constantly attended on-site location and shall also initiate a local audible alarm.

CHAPTER 31 - CORROSIVE MATERIALS

Section 3102. Definitions - Add the following definition:

Add: **CORROSIVE LIQUID:** Corrosive liquid is a liquid which, when in contact with living tissue, will cause destruction or irreversible alteration of such tissue by chemical action. Examples include acidic, alkaline or caustic materials. Such material will be considered corrosive when the PH is 2 or less or 12.5 or more, except for foodstuffs or medicine. Included are the Department of Transportation and Title 22, California Code of Regulations, 66261.22 classed corrosives.

CHAPTER 33 - EXPLOSIVES AND FIREWORKS - Amend this Section 3301 as follows:

Amend: **3301.1 Scope.** For explosives requirements see Title 19 California Code of Regulations Chapter 10 and Section 3301.1.1 of this Chapter. For fireworks requirements see Title 19 California Code of Regulations Chapter 6 and Section 3301.1.2 of this Chapter.

Exceptions:

1. The Armed Forces of the United States, Coast Guard or National Guard.
2. Explosives in forms prescribed by the official United States Pharmacopoeia.
3. The possession, storage and use of small arms ammunition when packaged in accordance with DOT packaging requirements.
4. The use of explosive materials by federal, state and local regulatory, law enforcement and fire agencies acting in their official capacities.
5. Items preempted by federal regulations.

Add: **3301.1.1. Explosives.** The possession, manufacture, storage, sale, handling, and use of explosives are prohibited.

Exceptions:

1. Possession, storage, handling and use of explosives for test and research purposes are allowed with permit and approval of the Fire Code Official.
2. Possession, storage, handling and use of squibs, explosive nuts or bolts and similar small quantity explosive devices are allowed with permit and approval of the Fire Code Official.

Add: **3301.1.2 Fireworks.** The possession, manufacture, storage, sale, handling, and use of fireworks, including those fireworks classified as Safe and Sane by the California State Fire Marshal, are prohibited.

Exceptions:

1. Storage, handling and use of fireworks and pyrotechnic special effects when used for public or proximate audience displays, motion picture, television, theatrical and group entertainment productions when handled and used by a licensed pyrotechnic operator in accordance with Title 19 of the California Code of Regulations and permitted in accordance with this Chapter.

2. Storage, handling and use of pyrotechnic special effects fireworks inside of occupancies equipped throughout with an approved fire sprinkler system, when used for proximate audience displays or special effects in theatrical, television, motion picture and group entertainment productions and when handled and used by a licensed pyrotechnic operator in accordance with Title 19 of the California Code of Regulations and permitted in accordance with this Chapter.

Add: 3301.1.3 Model Rocketry. The storage, handling, and use of model rockets shall be in accordance with Title 19 of the California Code of Regulations and as approved by the Fire Code Official.

CHAPTER 34 - FLAMMABLE AND COMBUSTIBLE LIQUIDS

Section 3404. Storage - *Amend this Section 3404 as follows:*

Amend: 3404.2.7.5.8 Overfill Prevention. An approved means or method in accordance with Section 3404.2.9.6.6 shall be provided to prevent the overfill of all Class I, II and IIIA liquid storage tanks. Storage tanks in refineries, bulk plants or terminals regulated by Sections 3406.4 or 3406.7 shall have overfill protection in accordance with American Petroleum Institute (API) Standard 2350.

Add: 3404.2.7.5.9 Automatic Filling of Tanks. Systems that automatically fill flammable or combustible liquid tanks shall be equipped with overfill protection, approved by the Fire Code Official that sends an alarm signal to a constantly attended location and immediately stops the filling of the tank. The alarm signal and automatic shutoff shall be tested on an annual basis and records of such testing shall be maintained on-site for a period of five (5) years.

CHAPTER 37, HIGHLY TOXIC AND TOXIC MATERIALS

Section 3701. General - *Amend this Section 3701 as follows:*

Amend: 3701.3 Moderately Toxic Gases With a LC₅₀ Equal To Or Less Than 3000 Parts Per Million. Notwithstanding the hazard class definition in Section 3702, moderately toxic gases with an LC₅₀ less than 3000 parts per million shall additionally comply with the requirements for toxic gases in Section 3704 of this code.

Section 3702. Definitions - *Add the following definitions to this Section 3702:*

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

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

$$\text{Max TQ (pounds)} = \text{LC}_{50} (\text{ppm}) \times 2 \text{ lb.}$$

Gas Mixtures, the LC₅₀ value for a gas mixture containing toxic, highly toxic or moderately toxic components shall be calculated using the formula in Appendix E, Section 103.1.3.1.

Section 3704. Highly Toxic, Toxic and Moderately Toxic Gases Including Those Used as Refrigerants - Amend this Section 3704 as follows:

Add: **3704.1.4 Automatic Shut-Off Valve.** An automatic shut-off valve, which is of a fail-safe-to-close design, shall be provided to shut off the supply of highly toxic gases for any of the following:

1. Activation of a manual fire alarm system.
2. Activation of the gas detection system.
3. Failure of emergency power.
4. Failure of primary containment.
5. Seismic activity.
6. Failure of required ventilation.
7. Manual activation at an approved remote location.

Add: **3704.1.5 Emergency Control Station.** Signals from emergency equipment used for highly toxic gases shall be transmitted to an emergency control station or other approved monitoring station, which is continually staffed by trained personnel.

Add: **3704.1.6 Maximum Threshold Quantity.** Toxic gases stored or used in quantities exceeding the maximum threshold quantity in a single vessel per control area or outdoor control area shall comply with the additional requirements for highly toxic gases of Section 3704 of this code.

Moderately toxic gases stored or used in quantities exceeding the maximum threshold quantity. In a single vessel per control area or outdoor control area shall comply with the additional requirements for toxic gases of Section 3704 of this code

Add: **3704.1.7 Reduced Flow Valve.** All containers of materials other than lecture bottles containing Highly Toxic material and having a vapor pressure exceeding 29 psia shall be equipped with a reduced flow valve when available. If a reduced flow valve is not available, the container shall be used with a flow-limiting device. All flow limiting devices shall be part of the valve assembly and visible to the eye when possible; otherwise, they shall be installed as close as possible to the cylinder source.

Add: **3704.1.8 Annual Maintenance.** All safety control systems at a facility shall be maintained in good working condition and tested not less frequently than annually. Maintenance and testing shall be performed by persons qualified to perform the maintenance and tests. Maintenance records and certifications shall be available to any representative of the Fire Department for inspection upon request.

Add: **3704.1.9 Fire Extinguishing Systems.** Fires and covered exterior areas for storage and use areas of materials regulated by this Chapter shall be protected by an automatic fire sprinkler system in accordance with NFPA 13. The design of the sprinkler system for any room or area where highly toxic, toxic and moderately toxic gases are stored, handled or used shall be in accordance with Section 2704.5.

Add: **3704.1.10 Local Gas Shut Off.** Manual activation controls shall be provided at locations near the point of use and near the source, as approved by the Fire Code Official. The Fire Code Official may require additional controls at other places, including, but not limited to, the entry to the building, storage or use areas, and emergency control stations. Manual activated shut-off valves shall be of a "fail safe-to-close design."

Add: **3704.1.11 Exhaust Ventilation Monitoring.** For highly toxic gases and toxic gases exceeding threshold quantities, a continuous monitoring system shall be provided to assure that the required exhaust ventilation rate is maintained. The monitoring system shall initiate a local alarm. The alarm shall be both visual and audible and shall be designed to provide warning both inside and outside of the interior storage, use, or handling area.

Add: **3704.1.12 Emergency Response Plan.** If the preparation of an emergency response plan for the facility is not required by any other law, responsible persons shall prepare, or cause to be prepared, and filed with the Fire Code Official, a written emergency response plan. If the preparation of an emergency response plan is required by other law, a responsible person shall file a copy of the plan with the Fire Chief.

Add: **3704.1.13 Emergency Response Team.** Responsible persons shall be designated the on-site emergency response team and trained to be liaison personnel for the Fire Department. These persons shall aid the Fire Department in preplanning emergency responses, identifying locations where regulated materials are stored, handled and used, and be familiar with the chemical nature of such material. An adequate number of personnel for each work shift shall be designated.

Add: **3704.1.14 Emergency Drills.** Emergency drills of the on-site emergency response team shall be conducted on a regular basis but not less than once every three months. Records of drills conducted shall be maintained.

Add: **3704.1.15 Cylinder Leak Testing.** Cylinders shall be tested for leaks immediately upon delivery and again immediately prior to departure. Testing shall be approved by the Fire Code Official in accordance with appropriate nationally recognized industry standards and practices, if any. Appropriate remedial action shall be immediately undertaken when leaks are detected

Add: **3704.1.16 Inert Gas Purge System.** Gas systems shall be provided with dedicated inert gas purge systems. A dedicated inert gas purge system may be used to purge more than one gas, provided the gases are compatible. Purge gas systems inside buildings shall be located in an approved gas cabinet unless the system operates by vacuum demand.

Add: **3704.1.17 Seismic Shutoff Valve.** An automatic seismic shut-off valve, which is of a fail-safe-to-close design, shall be provided to shutoff the supply of highly toxic, toxic and moderately toxic gases with an LC₅₀ less than 3000 parts per million upon a seismic event within 5 seconds of a horizontal sinusoidal oscillation having a peak acceleration of 0.3G (1.47m/sec²) and a period of 0.4 seconds.

Amend: **3704.2 Indoor Storage and Use.** The indoor storage or use of highly toxic and moderately toxic compressed gases shall be in accordance with Sections 3704.2.1 through

3704.2.2.10.3.3. The threshold quantity for highly toxic, toxic and moderately toxic gases for indoor storage and use are set forth in Table 3704.2.

Add Table 3704.2 to read:

Threshold Quantities for Highly Toxic, Toxic and Moderately Toxic Gases for Indoor Storage and Use	
Highly Toxic	0
Toxic	10 cubic feet
Moderately Toxic	20 cubic feet

Amend: **3704.2.1 Applicability.** The applicability of regulations governing the indoor storage and use of highly toxic, toxic, and moderately toxic compressed gases shall be as set forth in Sections 3704.2.1.1 through 3704.2.1.3.

Amend: **3704.2.1.1 Quantities Not Exceeding the Maximum Allowable Quantity per Control Area.** The indoor storage or use of highly toxic, and moderately toxic gases in amounts exceeding the threshold quantity per control area set forth in Table 3704.2 shall be in accordance with Sections 2701, 2703, 3701, 3704.1 and 3704.2,

Amend: **3704.2.2 General Indoor Requirements.** The general requirements applicable to the indoor storage and use of highly toxic and toxic compressed gases shall be in accordance with Sections 3704.2.2.1 through 3704.2.2.10.3.

Moderately toxic gases with an LC₅₀ less than 3000 parts per million shall comply with the requirements for toxic gases in Sections 3704.2.2.1 through 3704.2.2.10.3

All other moderately toxic gases exceeding the threshold quantity shall comply with the requirements for toxic gases in Sections 3704.2.2.1 through 3704.2.2.7.

Amend: **3704.2.2.7 Treatment Systems.** The exhaust ventilation from gas cabinets, exhausted enclosures, gas rooms and local exhaust systems required in Section 3704.2.2.4 and 3704.2.2.5 shall be directed to a treatment system. The treatment system shall be utilized to handle the accidental release of gas and to process exhaust ventilation. The treatment system shall be designed in accordance with Sections 3704.2.2.7.1 through 3704.2.2.7.5 and Section 505 of the California Mechanical Code.

Exceptions:

1. Highly toxic, toxic and moderately toxic gases storage. A treatment system is not required for cylinders, containers and tanks in storage when all of the following are provided:
 - 1.1. Valve outlets are equipped with gas-tight outlet plug or caps.
 - 1.2. Hand wheel-operated valves have handles secured to prevent movement.
 - 1.3. Approved containment vessels or containment systems are provided in accordance with Section 3704.2.2.3.

Amend: **3704.2.2.10.1. Alarms.** The gas detection system shall initiate a local alarm and transmit a signal to a constantly attended control station when a short-term hazard condition is detected. The alarm shall be both visual and audible and shall provide warning both inside

and outside the area where the gas is detected. The audible alarm shall be distinct from all other alarms.

Amend: 3704.3 Outdoor Storage and Use. The outdoor storage or use of highly toxic and moderately toxic compressed gases shall be in accordance with Sections 3704.3.1 through 3704.3.4. The threshold quantity for highly toxic, toxic and moderately toxic gases for outdoor storage and use are set forth in Table 3704.3.

Add Table 3704.3 to read:

Threshold Quantities for Highly Toxic, Toxic and Moderately Toxic Gases for Outdoor Storage and Use	
Highly Toxic	0
Toxic	10 cubic feet
Moderately Toxic	20 cubic feet

Amend: 3704.3.1 Applicability. The applicability of regulations governing the outdoor storage and use of highly toxic, toxic, and moderately toxic compressed gases shall be as set forth in Sections 3704.3.1.1 through 3704.3.1.3.

Amend: 3704.3.1.1 Quantities Not Exceeding the Maximum Allowable Quantity per Control Area. The outdoor storage or use of highly toxic and toxic gases in amounts exceeding the threshold quantity per control area set forth in Table 3704.3 shall be in accordance with Sections 2701, 2703, 3701, 3704.1, and 3704.3.

Moderately toxic gases with an LC_{50} less than 3000 parts per million in amounts exceeding the threshold quantity in Table 3704.3 shall comply with the requirements for toxic gases in Sections 2701, 2703, 3701, 3704.1 and 3704.3.

Moderately toxic gases in amounts exceeding the threshold quantity in Table 3704.3 shall comply with the requirements for toxic gases in Sections 2701, 2703, 3701, 3704.1 and 3704.3.2.1 through 3704.3.2.5.

Amend: 3704.3.3 Outdoor Storage Weather Protection for Portable Tanks and Cylinders. Weather protection in accordance with Section 2704.13 and this section shall be provided for portable tanks and cylinders located outdoors and not within gas cabinets or exhausted enclosures. The storage area shall be equipped with an approved automatic sprinkler system in accordance with Section

CHAPTER 47, REQUIREMENTS FOR VERY HIGH FIRE HAZARD SEVERITY ZONE

Section 4703. Fire Protection Plan -- *Amend this Section 4703 as follows:*

Add: 4703.1 General. When required by the code official, a fire protection plan shall be prepared.

Add: 4703.2 Content. The plan shall be based upon a site-specific wildfire risk assessment that includes considerations of location, topography, aspect, flammable vegetation, climatic conditions and fire history. The plan shall address water supply, access, fire ignition and fire-

resistance factors, fire protection systems and equipment, defensible space and vegetation management.

Add: 4703.3 Cost. The cost of fire protection plan preparation and review shall be the responsibility of the applicant.

Add: 4703.4 Plan Retention. The fire protection plan shall be retained by the Fire Code Official.

Section 4705. Wildland-Urban Interface Fire Area (Fire Hazard Severity Zones) -
Amend this Section 4705 as follows:

*Add: **Section 4705.1 Very High Fire Hazard Severity Zone***

All of that area within the City as defined by the Fire Marshal of the City of Oakland, including, but not limited to, the area north and east of the following boundaries:

BEGINNING at the MacArthur Freeway at the San Leandro boarder to Foothill Boulevard; west on Foothill Boulevard to Stanley; west on Stanley to 98th Avenue; south on 98th Avenue to Stearns Avenue; west on Stearns to Burr Street; west on Burr Street to Thermal; west on Thermal to 8500 Thermal; south at 8500 Thermal to MacArthur Boulevard; west on MacArthur Boulevard to 82nd Avenue; north on 82nd Avenue to Utah Street; west on Utah Street to Partridge Avenue; south on Partridge Avenue to Outlook Avenue; west on Outlook Avenue to Seminary Avenue; south on Seminary Avenue to MacArthur Boulevard; west on MacArthur Boulevard to Buell Street; north on Buell Street to Tompkins Avenue; west on Tompkins Avenue to End; straight line from Tompkins Avenue to Wisconsin Street; west on Wisconsin Street to Carlsen Street; west on Carlsen Street to Maple Avenue; south on Maple Avenue to Morgan Avenue; west on Morgan Avenue to Barner; south on Barner to Morgan Avenue; west on Morgan Avenue to Coolidge Avenue; North on Coolidge Avenue to Alida Street; west on Alida Street to Lincoln Avenue; south on Lincoln Avenue to Tiffin Road; west on Tiffin Road to Whittle Avenue; west on Whittle Avenue to Fruitvale Avenue (Dimond Park); follow the southern and western boundary of Dimond Park to El Centro Road; west on El Centro Road to Dolores; west on Dolores to Park Boulevard; north on Park Boulevard to Piedmont boundary; Piedmont boundary to Mt. View Cemetery; northern boundary of Mountain. View Cemetery to Clarewood Drive; west on Clarewood Drive to Broadway Terrace; south on Broadway Terrace to Margarido Drive; west on Margarido Drive to Lawton; west on Lawton to Broadway; north on Broadway to Keith Avenue; west on Keith Avenue to College Avenue; and north on College Avenue to the corporate limits of the City of Berkeley.

Section 4706. Vegetation Management – Amend this Section 4706 as follows:

Add: 4706.1 Scope, purpose and enforcement. Vegetation constituting a fire hazard shall be controlled according to Chapter 47 of this Code. At least one time annually the Fire Chief shall cause a notice to be mailed to property owners advising them of potential conditions to be abated. Thereafter the Fire Chief shall execute on-site inspections of properties within Oakland for a determination of specific fire hazard conditions.

Section 4707. Defensible Space - Amend this Section 4707 as follows:

Add: **4707.1 General.** Persons owning, leasing, controlling, operating or maintaining Buildings or structures in, upon or adjoining the Very High Fire Hazard Severity Zone and persons owning, leasing or controlling land adjacent to such buildings or structures, shall at all times:

1. Maintain an effective defensible space by removing and clearing away flammable vegetation and combustible growth from areas within 30 feet of structures.

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

2. Maintain additional effective defensible space by removing brush, flammable vegetation and combustible growth located 30 feet to 100 feet from such buildings or structures, when required by the Fire Code Official due to steepness of terrain or other conditions that would cause a defensible space of only 30 feet to be insufficient.

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

3. Remove portions of trees which extend within 10 feet of the outlet of a chimney.
4. Maintain trees, adjacent to or overhanging a structure, free of deadwood; and
5. Maintain the roof of a structure free of leaves, needles or other dead vegetative growth.

Add: **4707.2 Corrective Actions.** The executive body is authorized to instruct the Fire Code Official to give notice to the owner of the property upon which conditions regulated by Section 4707.1 exist to correct such conditions. If the owner fails to correct such conditions, the executive body is authorized to cause the same to be done and make the expense of such correction a lien upon the property where such condition exists.

Section 4714. Access - Add this new Section 4714 as follows:

Add: **4714.1 General.** Buildings and structures, or portions thereof, hereafter constructed or relocated into or within Very High Fire Hazard Severity Zone shall be provided with fire apparatus access in accordance with this chapter.

Add: **4714.2 Driveways.** Driveways with an all-weather surface shall be provided when any portion of an exterior wall of the first story of a building is located more than 150 feet from a fire apparatus access road. Driveways shall provide a minimum unobstructed width of 12 feet and a minimum unobstructed height of 13 feet 6 inches. Driveways in excess of 150 feet in length shall be provided with turnarounds. Driveways in excess of 200 feet in length and less than 20 feet in width shall be provided with turnouts in addition to turnarounds. An all-weather surface shall be any surface material acceptable to the code official.

A driveway shall not serve in excess of two dwelling units.

Exception: When such driveways meet the requirements for an access road in accordance with this chapter.

Driveway turnarounds shall be in accordance with Fire Department standards. Driveways that connect with a road or roads at more than one point may be considered as having a turnaround if all changes of direction meet the radii requirements for driveway turnarounds.

Driveway turnouts shall be an all-weather road surface at least 10 feet wide and 30 feet long. Driveway turnouts shall be located as required by the code official.

Vehicle load limits shall be posted at both entrances to bridges on driveways and private roads. Design loads for bridges shall be established by the code official.

Add: 4714.3 Fire Apparatus Access Roads. Fire apparatus access roads shall be all weather roads with a minimum width of 20 feet and a clear height of 13 feet 6 inches; and shall be designed in accordance with Fire Department standards. Dead-end roads in excess of 150 feet in length shall be provided with turnarounds designed in accordance with Fire Department Standards. An all-weather road surface shall be any surface material acceptable to the code official.

Section 4715. Water Supply - *Add this new Section 4715 as follows:*

Add: 4715.1 General. Buildings and structures, or portions thereof, hereafter constructed or relocated into or within Very High Fire Hazard Severity Zone shall be provided with fire protection water supplies in accordance with this chapter.

Exception: Buildings containing only private garages, carports, sheds and agricultural buildings with a building area of not more than 500 square feet .

Add: 4715.2 Water Sources. The point at which a water source is available for use shall be located not more than 600 feet from all portions of the exterior walls of the building and be approved by the code official. The distance shall be measured along an unobstructed line of travel.

Water sources shall have a minimum usable water volume as determined by the adequate water supply needs in accordance with Section 4715.4. This water source shall be equipped with an approved hydrant. The water source shall be provided and maintained by a recognized water purveyor, mutual water company or water pumped from a well. The design, construction, location, water level maintenance, access, and access maintenance of man-made water sources shall be approved by the code official.

Add: 4715.3 Hydrants. All hydrants shall be designed and constructed in accordance with nationally recognized standards. The location and access shall be approved by the code official.

Add: 4715.4 Adequate Water Supply. Adequate fire protection water supplies shall be as follows:

1. **One- And Two-Family Dwellings.** The required fire protection water supply for one- and two-family dwellings shall be in accordance with Appendix B. The water supply duration need not exceed 30 minutes.
2. **Buildings Other Than One-And Two-Family Dwellings.** The water supply required for other than one-and two-family dwellings shall be in accordance with Appendix B.

Exception: The water supply duration need not exceed 2 hours.

Add: **4715.5 Obstructions.** Access to all water sources required by this code shall be unobstructed at all times. The code official shall not be deterred or hindered from gaining immediate access to water source equipment, fire protection equipment or hydrants.

Add: **4715.6 Identification.** Water sources, hydrants and fire protection equipment shall be clearly identified in a manner approved by the code official to identify location and to prevent obstruction by parking and other obstructions.

Add: **4715.7 Testing And Maintenance.** Water sources, hydrants and other fire protection equipment required by this code shall be subject to periodic tests as required by the code official. All such equipment installed under the provisions of this code shall be maintained in an operative condition at all times and shall be repaired or replaced where defective. Additions, repairs, alterations and servicing of such fire protection equipment and resources shall be in accordance with approved standards.

Add: **4715.8 Clearance of Fuel.** Defensible space shall be provided around water tank structures, water supply pumps and pump houses in accordance with Section 4707.

Add: **4715.9 Standby Power.** Stationary water supply facilities within the Very High Fire Hazard Severity Zone dependent on electrical power to meet adequate water supply demands shall provide standby power systems in accordance with the Electrical Code to ensure that an uninterrupted water supply is maintained. The standby power source shall be capable of providing power for a minimum of two hours.

Exceptions:

1. When approved by the Fire Chief, a standby power supply is not required where the primary power service to the stationary water supply facility is underground.
- 2: A standby power supply is not required where the stationary water supply facility serves no more than one single-family dwelling.

Section 4716. Automatic Fire Sprinkler Systems - Add this new Section 4716 as follows:

Add: **4716.1 General.** Buildings and structures located in Very High Fire Hazard Severity Zone shall be provided with automatic fire sprinkler protection in accordance with this chapter.

Add: **4716.2 New Facilities.** An approved automatic fire sprinkler system shall be provided throughout all new facilities located in the Very High Fire Hazard Severity Zone.

Exception: Accessory structures to single-family residences that are non-residential and that have a gross floor area of 500 square feet or less.

Add: **4716.3 Existing Facilities.** An approved automatic fire sprinkler system shall be provided throughout all existing facilities/residential buildings located in the Very High Fire Hazard Severity Zone when modifications are made that increase the gross floor area.

Exception: One-time additions to existing occupancies made after January 1, 2008 that do not exceed 500 square feet in gross floor area.

Section 4717. General Requirements For Suppression And Control -

Add Section 4717 as follows:

Add: **4717.1 General**

Add: **4717.1.1 Scope.** The provisions of this chapter establish general requirements applicable to new and existing properties located within the High Fire Hazard Severity Zone.

Add: **4717.1.2 Objective.** The objective of this Chapter is to provide necessary fire-protection measures to reduce the threat of wildfire in the Very High Fire Hazard Severity Zone and improve the capability of controlling such fires.

Add: **4717.2 Vegetation Control**

Add: **4717.2.1 General.** Vegetation control shall comply with Sections 4717.2.2 through 4717.2.5.

Add: **4717.2.2 Maintenance of Defensible Space**

Add: **4717.2.2.1 General.** Defensible spaces required by Section 4707 shall be maintained in accordance with Section 4717.2.2.

Add: **4717.2.2.2 Modified Area.** Non-fire-resistive vegetation or growth shall be kept clear of structures, in accordance with Section 4707, in such a manner as to provide a clear area for fire suppression operations.

Add: **4717.2.2.3 Responsibility.** Persons owning, leasing, controlling, operating or maintaining structures are responsible for maintenance of defensible spaces. Maintenance of the defensible space shall include modifying or removing non-fire-resistive vegetation and keeping leaves, needles and other dead vegetative material regularly removed from roofs of structures.

Add: **4717.2.2.4 Trees.** Tree crowns extending to within 10 feet of any structure shall be pruned to maintain a minimum horizontal clearance of 10 feet. Tree crowns within the defensible space shall be pruned to remove limbs located less than 6 feet above the ground surface adjacent to the trees.

Portions of tree crowns that extend within 10 feet of the outlet of a chimney shall be pruned to maintain a minimum horizontal clearance of 10 feet.

Deadwood and litter shall be regularly removed from trees.

Add: **4717.3 Clearance of Brush or Vegetative Growth from Roadways.** The Fire Chief is authorized to require areas within 10 feet on each side of portions of fire apparatus access roads and driveways to be cleared of non-fire-resistive vegetation growth.

Exception: Single specimens of trees, ornamental vegetative fuels or cultivated ground cover, such as green grass, ivy, succulents or similar plants used as ground cover, provided they do not form a means of readily transmitting fire.

Add: **4717.3.1 Clearance of Brush and Vegetative Growth from Electrical Transmission and Distribution Lines.**

Add: **4717.3.1.2 General.** Clearance of brush and vegetative growth from electrical transmission and distribution lines shall be in accordance with Section 4717.2.4.

Exception: Section 4717.2.4 does not authorize persons not having legal right of entry to enter on or damage the property of others without consent of the owner.

Add: **4717.3.1.3 Support Clearance.** Persons owning, controlling, operating or maintaining electrical transmission or distribution lines shall have an approved program in place that identifies poles or towers with equipment and hardware types that have a history of becoming an ignition source, and provides a combustible free space consisting of a clearing of not less than 10 feet in each direction from the outer circumference of such pole or tower during such periods of time as designated by the Fire Chief.

Exception: Lines used exclusively as telephone, telegraph, messenger call, alarm transmission or other lines classed as communication circuits by a public utility.

Add: **4717.2.4.3 Electrical Distribution and Transmission Line Clearances.**

Add: **4717.2.4.3.1 General.** Clearances between vegetation and electrical lines shall be in accordance with 4717.2.4.3.

Add: **4717.2.4.3.2 Trimming Clearance.** At the time of trimming, clearances not less than those established by Table 4717.2.4.3.2 shall be provided. The radial clearances shown below are minimum clearances that shall be established, at time of trimming, between the vegetation and the energized conductors and associated live parts.

Add Table 4717.2.4.3.2 to read:

**TABLE 4717.2.4.3.2
MINIMUM CLEARANCES BETWEEN VEGETATION AND ELECTRICAL LINES
AT TIME OF TRIMMING**

LINE VOLTAGE	MINIMUM RADIAL CLEARANCE FROM CONDUCTOR (feet)
2,400-72,000	4
72,001-110,000	6
110,001-300,000	10
300,001 or more	15

Exception: The Fire Chief is authorized to establish minimum clearances different than those specified by Table 4717.2.4.3.2 when evidence substantiating such other clearances is submitted to and approved by the code official.

Add: 4717.2.4.3.3 Minimum Clearance to Be Maintained. Clearances not less than those established by Table 4717.2.4.3.2 shall be maintained during such periods of time as designated by the code official. The site-specific clearance achieved, at time of pruning, shall vary based on species growth rates, the utility company-specific trim cycle, the potential line sway due to wind, line sag due to electrical loading and ambient temperature and the tree's location in proximity to the high voltage lines.

Exception: The code official is authorized to establish minimum clearances different than those specified by 4717.2.4.3.2 when evidence substantiating such other clearances is submitted to and approved by the code official.

Add Table 4717.2.4.3.2 to read:

TABLE 4717.2.4.3.2, MINIMUM CLEARANCES BETWEEN VEGETATION AND ELECTRICAL LINES TO BE MAINTAINED

LINE VOLTAGE	MINIMUM CLEARANCE (inches)
750-35,000	6
35,001-60,000	12
60,001-115,000	19
115,001-230,000	30.5
230,001-500,000	115

Add: 4717.2.4.3.4 Electrical Power Line Emergencies. During emergencies, the power utility shall perform the required work to the extent necessary to clear the hazard. An emergency can include situations such as trees falling into power lines, or trees in violation of Table 4717.2.4.3.2.

Add: 4717.2.5 Correction of Condition. The Fire Chief is authorized to give notice to the owner of the property on which conditions regulated by Section 4717.2 exist to correct such

conditions. If the owner fails to correct such conditions, the legislative body of the jurisdiction is authorized to cause the same to be done and make the expense of such correction a lien on the property where such condition exists.

Add: **4717.3 Access Restrictions**

Add: **4717.3.1 Restricted Entry To Public Lands.** The Fire Chief is authorized to determine and publicly announce when Very High Fire Hazard Severity Zone shall be closed to entry and when such areas shall again be opened to entry. Entry on and occupation of Very High Fire Hazard Severity Zone, except public roadways, inhabited areas or established trails and campsites that have not been closed during such time when the Very High Fire Hazard Severity Zone is closed to entry, is prohibited.

Exceptions:

1. Residents and owners of private property within Very High Fire Hazard Severity Zone and their invitees and guests going to or being on their lands.
2. Entry, in the course of duty, by peace or police officers, and other duly authorized public officers, members of a fire department and members of the Wildland Firefighting Service.

Add: **4717.3.2 Trespassing On Posted Private Property.**

Add: **4717.3.2.1 General.** When the Fire Chief determines that a specific area within a Very High Fire Hazard Severity Zone presents an exceptional and continuing fire danger because of the density of natural growth, difficulty of terrain, proximity to structures or accessibility to the public, such areas shall be restricted or closed until changed conditions warrant termination of such restriction or closure. Such areas shall be posted in accordance with Section 4717.3.2.2.

Add: **4717.3.2.2 Signs.** Approved signs prohibiting entry by unauthorized persons and referring to this code shall be placed on every closed area.

Add: **4717.3.2.3 Trespassing.** Entering and remaining within areas closed and posted is prohibited. Exception: Owners and occupiers of private or public property within closed and posted areas; their guests or invitees; authorized persons engaged in the operation and maintenance of necessary utilities such as electrical power, gas, telephone, water and sewer; and local, state and federal public officers and their authorized agents acting in the course of duty.

Add: **4717.3.3 Use of Fire Roads and Defensible Space.** Motorcycles, motor scooters and motor vehicles shall not be driven or parked on, and trespassing is prohibited on, fire roads or defensible space beyond the point where travel is restricted by a cable, gate or sign, without the permission of the property owners. Vehicles shall not be parked in a manner that obstructs the entrance to a fire road or defensible space.

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

Add: **4717.3.4 Use of Motorcycles, Motor Scooters, Ultra light Aircraft and Motor Vehicles.** Motorcycles, motor scooters, ultra light aircraft and motor vehicles shall not be operated within Very High Fire Hazard Severity Zone, without a permit by the code official, except on clearly established public or private roads. Permission from the property owner shall be presented when requesting a permit.

Add: **4717.3.5 Tampering With Locks, Barricades, Signs and Address Markers.** Locks, barricades, seals, cables, signs and address markers installed within Very High Fire Hazard Severity Zone, by or under the control of the code official, shall not be tampered with, mutilated, destroyed or removed.

Gates, doors, barriers and locks installed by or under the control of the code official shall not be unlocked.

Add: **4717.4 Ignition Source Control**

Add: **4717.4.1 General.** Ignition sources shall be in accordance with Section 4717.4.

Add: **4717.4.2 Objective.** Regulations in this section are intended to provide the minimum requirements to prevent the occurrence of wildfires.

Add: **4717.4.3 Clearance from Ignition Sources.** Clearance between ignition sources and grass, brush or other combustible materials shall be maintained a minimum of 30 feet

Add: **4717.4.4 Smoking.** When required by the code official, signs shall be posted stating NO SMOKING. No person shall smoke within 15 feet of combustible materials or non-fire-resistant vegetation.

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

Add: **4717.4.5 Equipment and Devices Generating Heat, Sparks or Open Flames.** Equipment and devices generating heat, sparks or open flames capable of igniting nearby combustibles shall not be used in Very High Fire Hazard Severity Zone without a permit from the code official.

Exception: Use of approved equipment in habituated premises or designated campsites that are a minimum of 30 feet (9144 mm) from grass-, grain-, brush- or forest-covered areas.

Add: **4717.4.6 Fireworks.** Fireworks shall not be used or possessed in Very High Fire Hazard Severity Zone.

Add: **4717.4.7 Outdoor Fires.**

Add: **4717.4.7.1 General.** No person shall build, ignite or maintain any outdoor fire of any kind for any purpose in or on any Very High Fire Hazard Severity Zone, except by the authority of a written permit from the code official.

Exception: Outdoor fires within inhabited premises or designated campsites where such fires are in a permanent barbecue, portable barbecue, outdoor fireplace or grill and are a minimum of 30 feet from any combustible material or non-fire-resistive vegetation.

Add: **4717.4.7.2 Permits.** Permits shall incorporate such terms and conditions that will reasonably safeguard public safety and property. Outdoor fires shall not be built, ignited or maintained in or on hazardous fire areas under the following conditions:

1. When high winds are blowing,
2. When a person 17 years old or over is not present at all times to watch and tend such fire, or
3. When a public announcement is made that open burning is prohibited.

Add: **4717.4.7.3 Restrictions.** No person shall use a permanent barbecue, portable barbecue, outdoor fireplace or grill for the disposal of rubbish, trash or combustible waste material.

Add: **4717.4.8 Outdoor Fireplaces, Permanent Barbecues and Grills.** Outdoor fireplaces, permanent barbecues and grills shall not be built, installed or maintained in Very High Fire Hazard Severity Zone without approval of the code official.

Outdoor fireplaces, permanent barbecues and grills shall be maintained in good repair and in a safe condition at all times. Openings in such appliances shall be provided with an approved spark arrestor, screen or door.

Exception: When approved by the code official, unprotected openings in barbecues and grills necessary for proper functioning.

Add: **4717.4.9 Reckless Behavior.** The code official is authorized to stop any actions of a person or persons if the official determines that the action is reckless and could result in an ignition of fire or spread of fire.

Add: **4717.4.10 Planting Vegetation Under Or Adjacent To Energized Electrical Lines.** No vegetation shall be planted under or adjacent to energized power lines that, at maturity, shall grow within 10 feet (3048 mm) of the energized conductors.

Add: **4717.5 Control of Storage**

Add: **4717.5.1 General.** In addition to the requirements of the California Fire Code, storage and use of the materials shall be in accordance with Section 4717.5.

Add: **4717.5.2 Hazardous Materials.** Hazardous materials in excess of 10 gallons (37.8 L) of liquid, 200 cubic feet (5.66 m³) of gas, or 10 pounds (4.54 kg) of solids require a permit and shall comply with nationally recognized standards for storage and use.

Add: **4717.5.2.1 Liquefied Petroleum Gas Installations**

Add: **4717.5.2.1.1 General.** The storage of liquefied petroleum gas (LP gas) and the installation and maintenance of pertinent equipment shall be in accordance with the California Fire Code and recognized standards.

Add: 4717.5.2.1.2 Location of Containers. LP-gas containers shall be located within the defensible space in accordance with the California Fire Code.

Add: 4717.5.3 Explosives. Explosives shall not be possessed, kept, stored, sold, offered for sale, given away, used, discharged, transported or disposed of within Very High Fire Hazard Severity Zone.

Add: 4717.5.4 Combustible Materials.

Add: 4717.5.4.1 General. Outside storage of combustible materials such as, but not limited to, wood, rubber tires, Fire materials or paper products shall comply with the other applicable sections of this code and this section.

Add: 4717.5.4.2 Individual Piles. Individual piles shall not exceed 5,000 square feet of contiguous area. Piles shall not exceed 50,000 cubic feet in volume or 10 feet in height.

Add: 4717.5.4.3 Separation. A clear space of at least 40 feet shall be provided between piles. The clear space shall not contain combustible material or non-fire-resistive vegetation.

Add: 4717.5.4.4 Storage of Firewood and Combustible Materials

Add: 4717.5.4.4.1 General. Firewood and combustible material shall not be stored in unenclosed spaces beneath buildings or structures, or on decks or under eaves, canopies or other projections or overhangs. When required by the code official, storage of firewood and combustible material stored in the defensible space shall be located a minimum of 20 feet from structures and separated from the crown of trees by a minimum horizontal distance of 15 feet.

Add: 4717.5.4.4.2 Storage for Off-Site Use. Firewood and combustible materials not for consumption on the premises shall be stored so as to not pose a hazard.

Add: 4717.6 Dumping

Add: 4717.6.1 Waste Material. Waste material shall not be placed, deposited or dumped in Very High Fire Hazard Severity Zone, or in, on or along trails, roadways or highways or against structures in Very High Fire Hazard Severity Zone.

Exception: Approved public and approved private dumping areas.

Add: 4717.6.2 Ashes and Coals. Ashes and coals shall not be placed, deposited or dumped in or on Very High Fire Hazard Severity Zone.

Exceptions:

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

Add: **4717.7 Protection of Pumps and Water Storage Facilities**

Add: **4717.7.1 General.** The reliability of the water supply shall be in accordance with Section 4717.7.

Add: **4717.7.2 Objective.** The intent of this section is to increase the reliability of water storage and pumping facilities and to protect such systems against loss from intrusion by fire.

Add: **4717.7.3 Fuel Modification Area.** Water storage and pumping facilities shall be provided with a defensible space of not less than 30 feet clear of non-fire-resistive vegetation or growth around and adjacent to such facilities.

Persons owning, controlling, operating or maintaining water storage and pumping systems requiring this defensible space are responsible for clearing and removing non-fire-resistive vegetation and maintaining the defensible space on the property owned, leased or controlled by said person.

Add: **4717.7.4 Trees.** Portions of trees that extend to within 30 feet of combustible portions of water storage and pumping facilities shall be removed.

Add: **4717.7.5 Protection of Electrical Power Supplies.** When electrical pumps are used to provide the required water supply, such pumps shall be connected to a standby power source to automatically maintain electrical power in the event of power loss. The standby power source shall be capable of providing power for a minimum of two hours in accordance with the Electrical Code.

Exception: A standby power source is not required where the primary power services to pumps are underground as approved by the code official.

Add: **4717.8 Land Use Limitations**

Add: **4717.8.1 General.** Temporary fairs, carnivals, public exhibitions and similar uses must comply with all other provisions of this code in addition to enhanced ingress and egress requirements.

Add: **4717.8.2 Objective.** The increased public use of land or structures in Very High Fire Hazard Severity Zone also increases the potential threat to life safety. The provisions of this section are intended to reduce that threat.

Add: **4717.8.3 Permits.** Temporary fairs, carnivals, public exhibitions or similar uses shall not be allowed in a designated Very High Fire Hazard Severity Zone, except by permit from the code official.

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

APPENDIX D, FIRE APPARATUS ACCESS ROADS – Amended as follows:

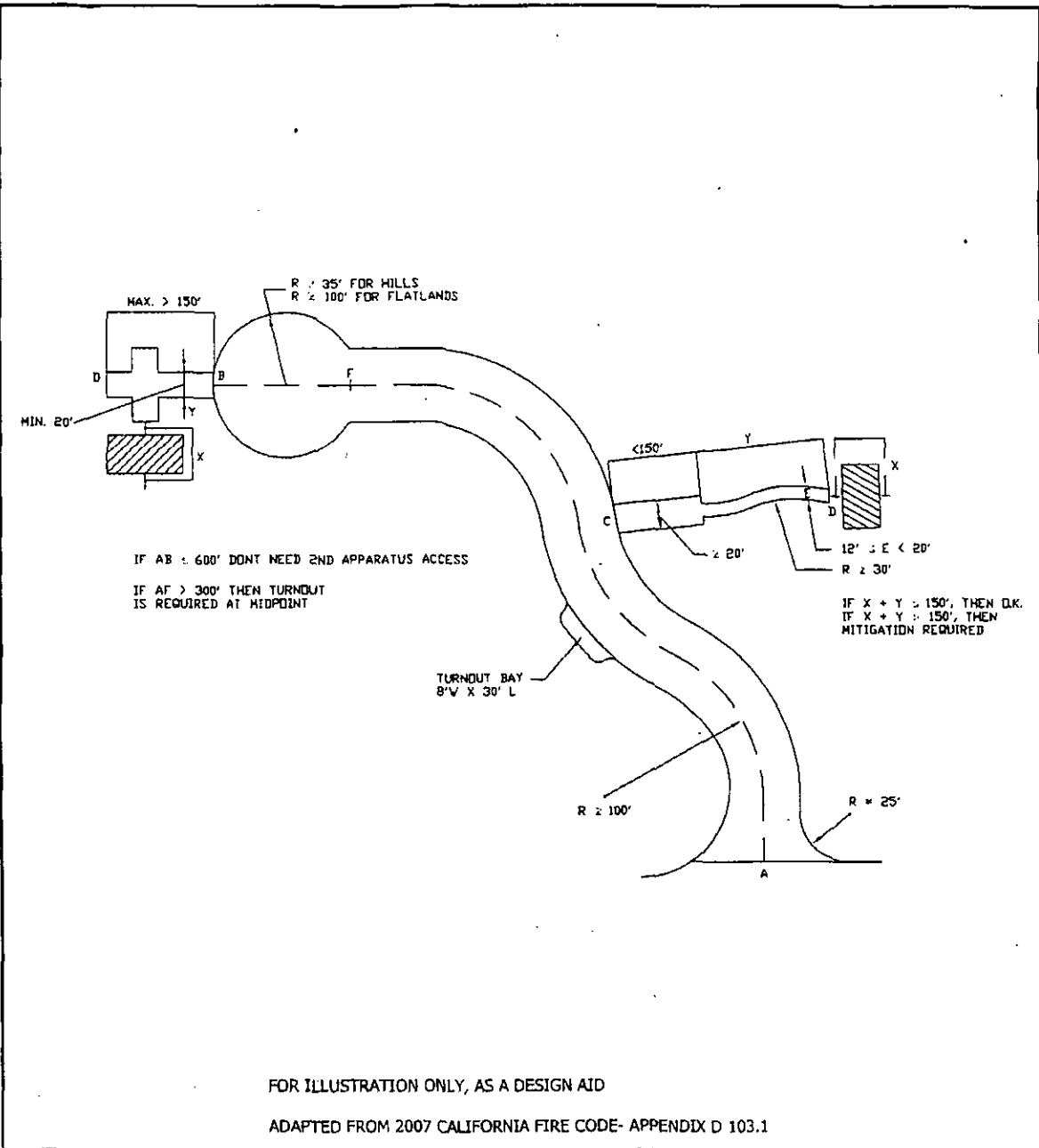
Section D102 - Minimum Specifications - *Figure D103.1 Dead-end Fire Apparatus Access Road Turnaround is amended as follows:*


Add Appendix D 103.1 Fire Apparatus Access Standards

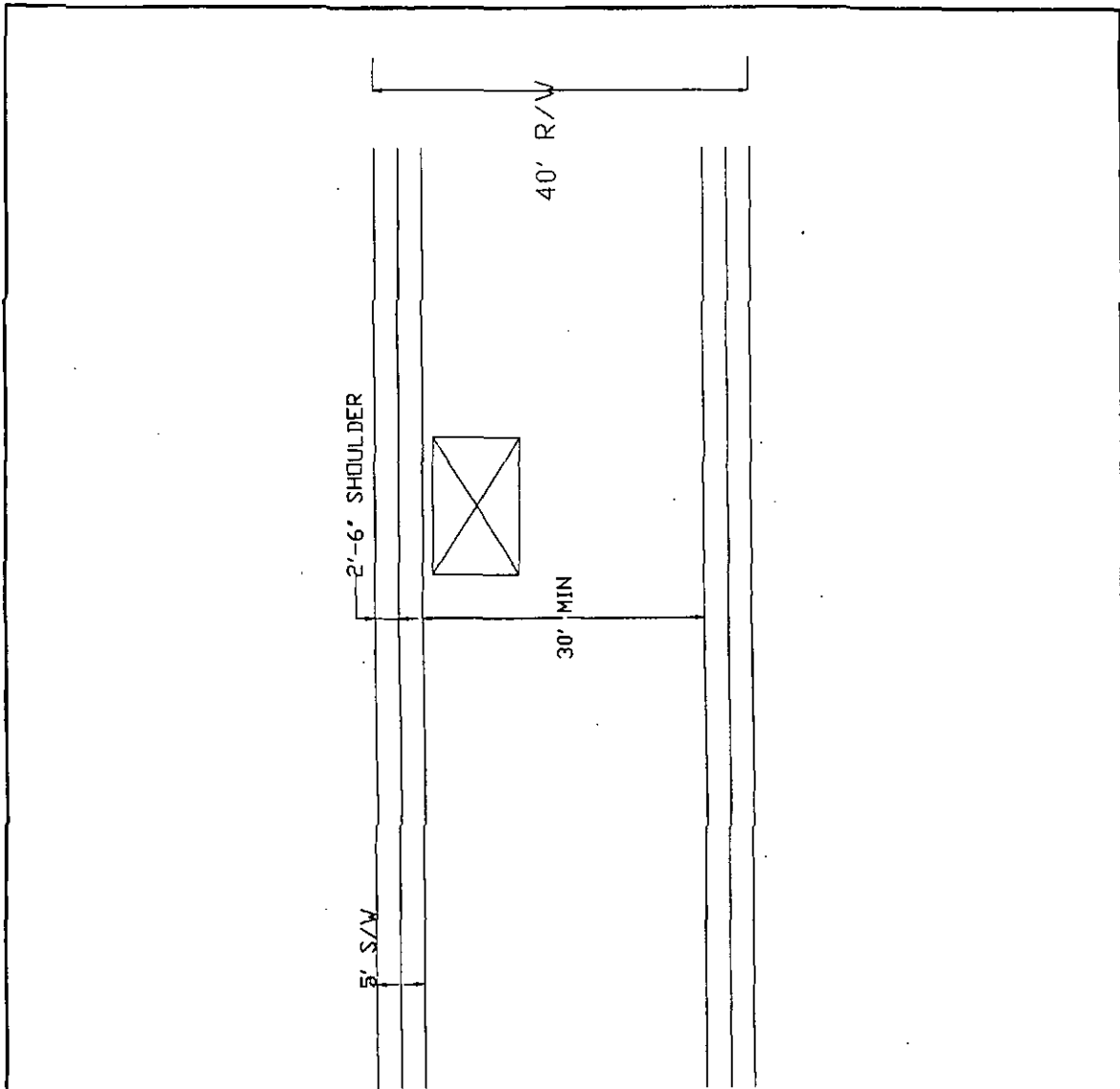
- Figure 1. Local Standards and Shared Access Facilities Design Standards
- Figure 3A. Parking on One Side (No Turn-Out)
- Figure 3B. Parking on One Side (With Turn-Out)
- Figure 4. No Parking on Both Sides (Private Streets Only)
- Figure 5. Fire Hydrant Spacing Dead-End Road
- Figure 6. Fire Hydrant Spacing Through Road
- Figure 7. Hammerhead Turnaround
- Figure 8. “Y” Turnaround
- Figure 9. “L” Turnaround
- Figure 10. Maximum Run on Varying Slopes
- Figure 11. Maximum Slopes on Varying Runs

Amend: Table D103.4 Requirements for Dead-End Fire Apparatus Access Roads (Over 600 feet, Special approval required.)

Add: Over 500 feet, Special approval required.



CITY OF OAKLAND		FIRE PREVENTION BUREAU	
	FIRE APPARATUS ACCESS STANDARDS		
	EMERGENCY VEHICLE ACCESS EASEMENT		DEPUTY CHIEF FIRE MARSHALL
	LOCAL STANDARDS AND SHARED ACCESS FACILITIES DESIGN STANDARDS		DATE: _____ REV _____
			FIGURE 1



FOR ILLUSTRATION ONLY, AS A DESIGN AID

ADAPTED FROM 2007 CALIFORNIA FIRE CODE- APPENDIX D 103.1

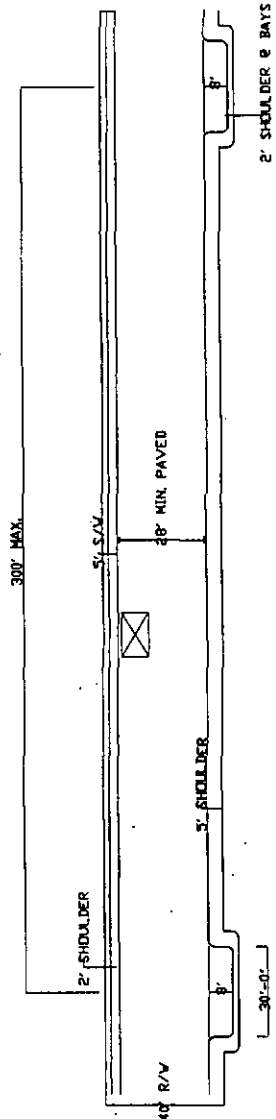
CITY OF OAKLAND

FIRE PREVENTION BUREAU



FIRE APPARATUS ACCESS STANDARDS
 EMERGENCY VEHICLE ACCESS EASEMENT
 PARKING ON ONE SIDE (NO TURN-OUT)

DEPUTY CHIEF	FIRE MARSHALL
DATE: _____	FIGURE 3A
REV _____	



FOR ILLUSTRATION ONLY, AS A DESIGN AID

ADAPTED FROM 2007 CALIFORNIA FIRE CODE- APPENDIX D 103.1

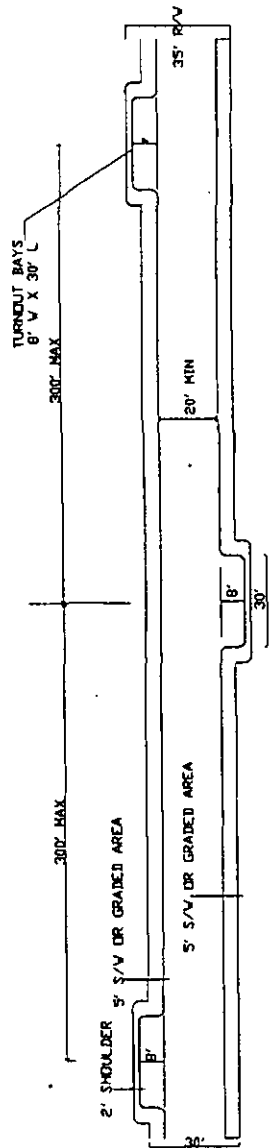
CITY OF OAKLAND

FIRE PREVENTION BUREAU



FIRE APPARATUS ACCESS STANDARDS
 EMERGENCY VEHICLE ACCESS EASEMENT
 PARKING ON ONE SIDE (WITH TURNOUT)

DEPUTY CHIEF	FIRE MARSHALL
DATE: _____	FIGURE 3B
REV _____	



NOTE: A 5' S/V SHALL BE PLACED ON ONE SIDE OF THE STREET,
 OPPOSITE SIDE SHALL HAVE A 5' S/V OR 5' GRADED AREA
 -ONLY APPROVED BY ENGINEER ON HILLSIDE AREAS, OTHERWISE,
 20' MIN FOR PAVED ROADWAY

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 ADAPTED FROM 2007 CALIFORNIA FIRE CODE- APPENDIX D 103.1

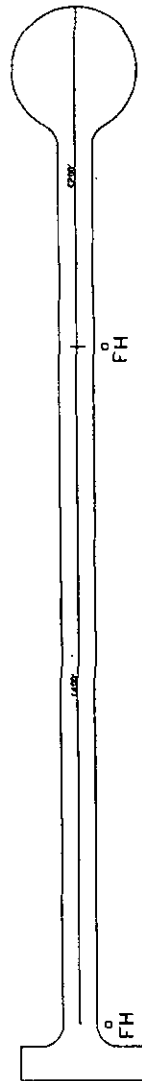
CITY OF OAKLAND

FIRE PREVENTION BUREAU



FIRE APPARATUS ACCESS STANDARDS
 EMERGENCY VEHICLE ACCESS EASEMENT
 NO PARKING ON BOTH SIDES (PRIVATE
 STREETS ONLY)

DEPUTY CHIEF	FIRE MARSHALL
DATE: _____	FIGURE 4
REV _____	



FOR ILLUSTRATION ONLY, AS A DESIGN AID

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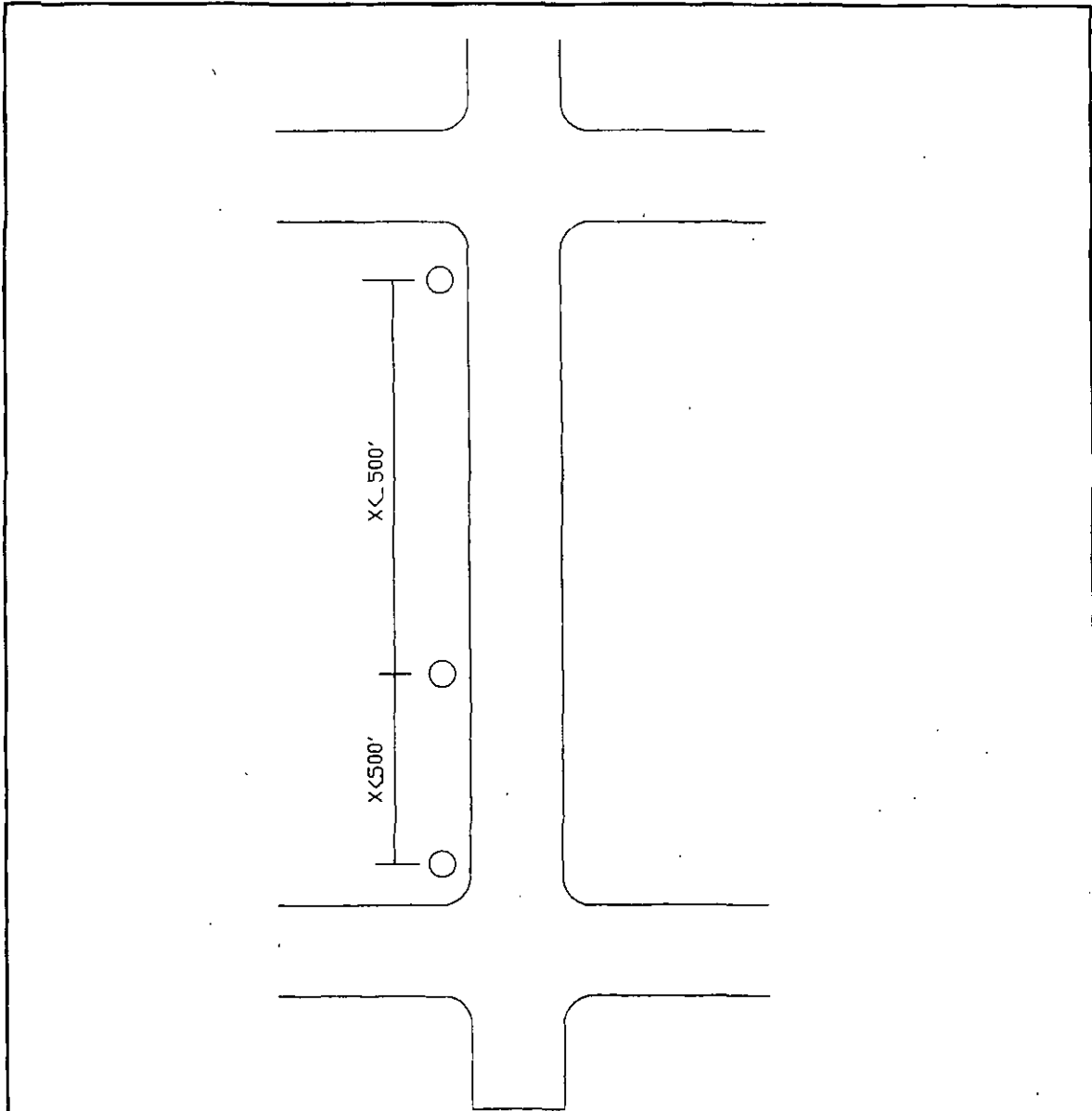
CITY OF OAKLAND

FIRE PREVENTION BUREAU




FIRE APPARATUS ACCESS STANDARDS
 EMERGENCY VEHICLE ACCESS EASEMENT
 FIRE HYDRANT SPACING DEAD-END ROAD

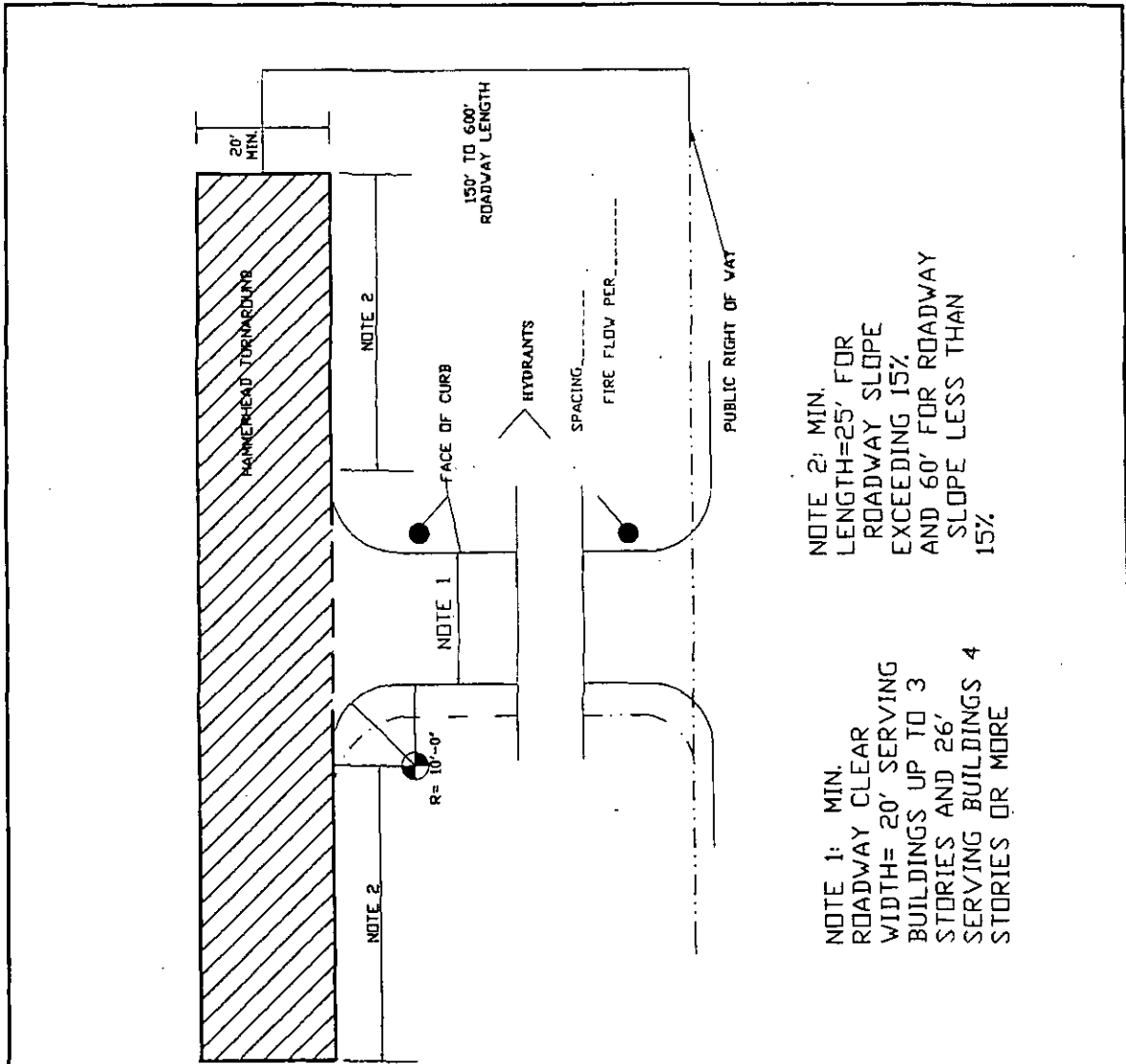
DEPUTY CHIEF	FIRE MARSHALL
DATE: _____	FIGURE 5
REV _____	



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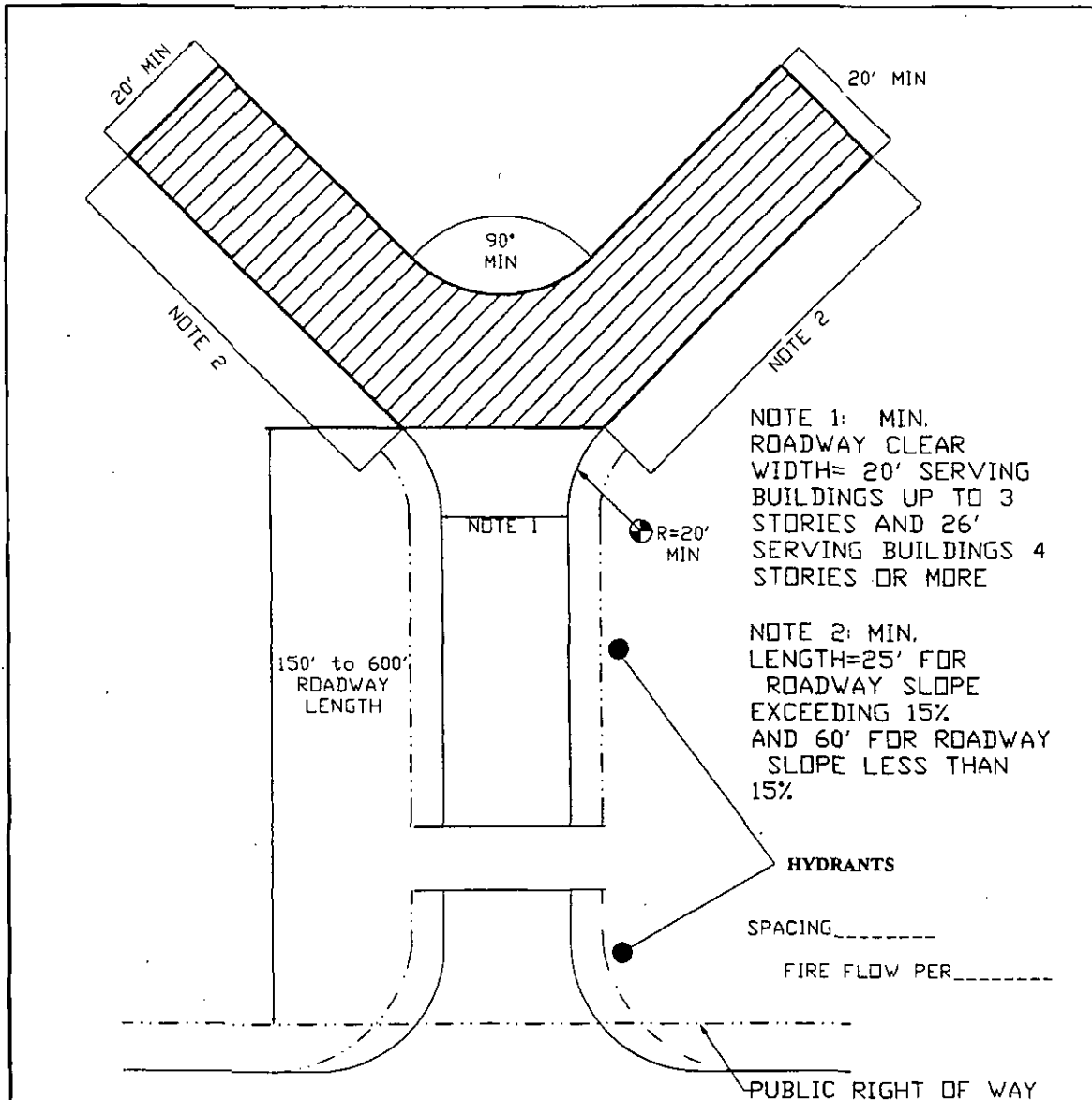
CITY OF OAKLAND	FIRE PREVENTION BUREAU	
	FIRE APPARATUS ACCESS STANDARDS	
	EMERGENCY VEHICLE ACCESS EASEMENT	DEPUTY CHIEF _____ FIRE MARSHALL _____
FIRE HYDRANT SPACING THROUGH ROAD	DATE: _____ REV _____	FIGURE 6



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CITY OF OAKLAND		FIRE PREVENTION BUREAU	
 <p>FIRE APPARATUS ACCESS STANDARDS EMERGENCY VEHICLE ACCESS EASEMENT HAMMERHEAD TURNAROUND</p>	DEPUTY CHIEF _____ FIRE MARSHALL _____		FIGURE 7
	DATE: _____		
	REV _____		



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CITY OF OAKLAND

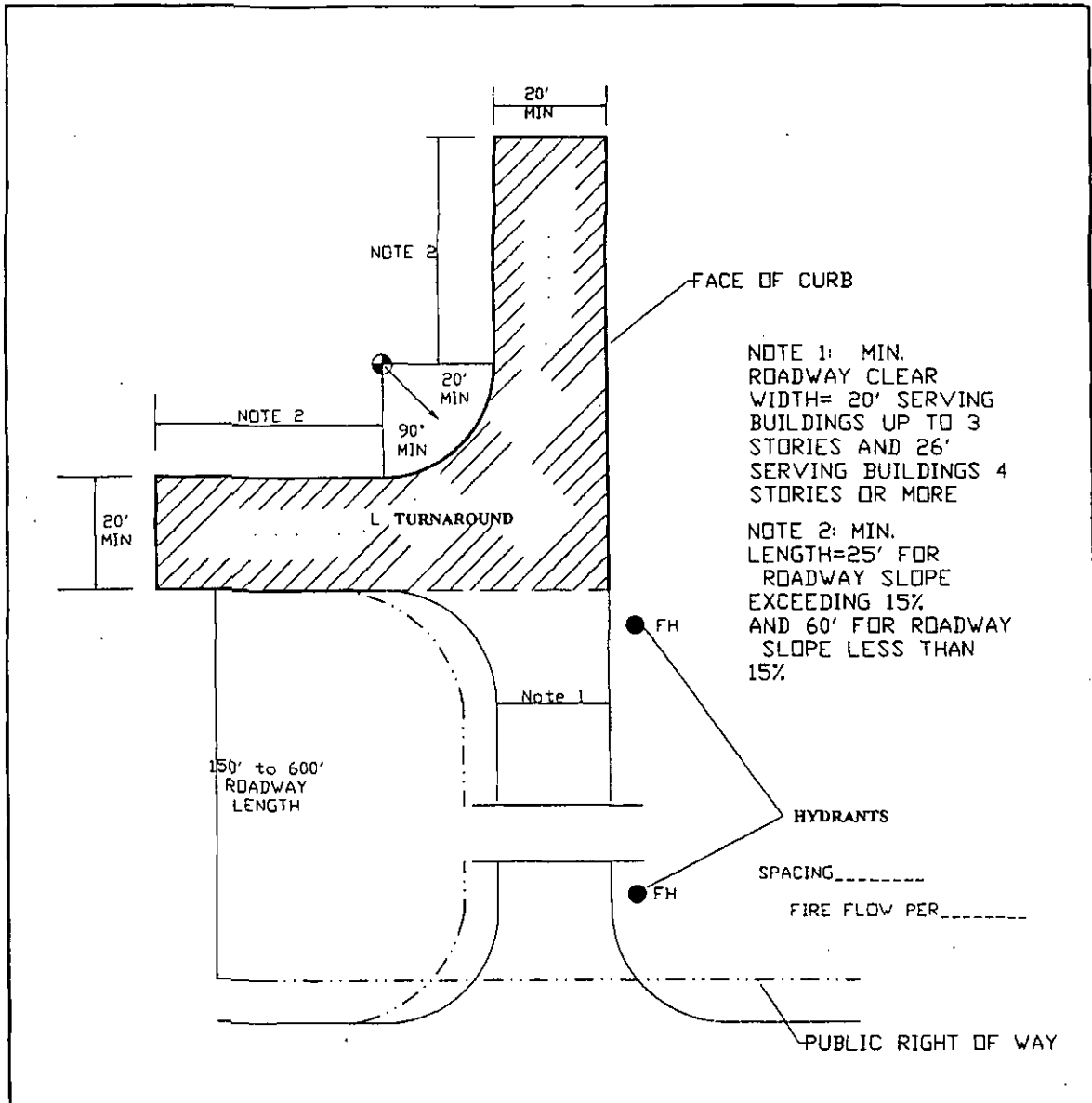
FIRE PREVENTION BUREAU



FIRE APPARATUS ACCESS STANDARDS
EMERGENCY VEHICLE ACCESS EASEMENT


"Y" TURNAROUND

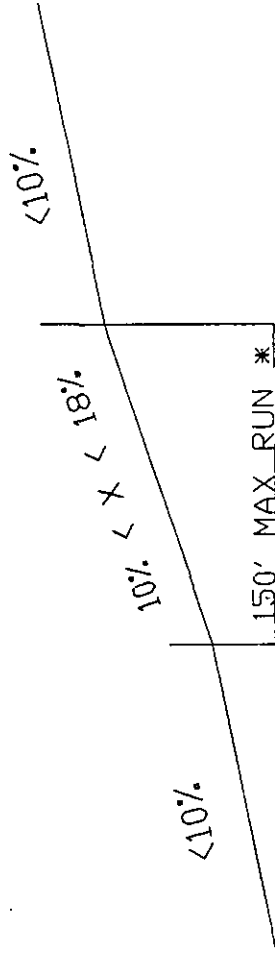
DEPUTY CHIEF	FIRE MARSHALL
DATE: _____	FIGURE 8
REV _____	



FOR ILLUSTRATION ONLY, AS A DESIGN AID

ADAPTED FROM 2007 CALIFORNIA FIRE CODE- APPENDIX D 103.1

CITY OF OAKLAND	FIRE PREVENTION BUREAU							
	FIRE APPARATUS ACCESS STANDARDS							
	EMERGENCY VEHICLE ACCESS EASEMENT							
	"L" TURNAROUND	<table border="1"> <tr> <td>DEPUTY CHIEF</td> <td>FIRE MARSHALL</td> </tr> <tr> <td>DATE: _____</td> <td>FIGURE 9</td> </tr> <tr> <td>REV _____</td> <td></td> </tr> </table>	DEPUTY CHIEF	FIRE MARSHALL	DATE: _____	FIGURE 9	REV _____	
DEPUTY CHIEF	FIRE MARSHALL							
DATE: _____	FIGURE 9							
REV _____								



* LONGER RUN MAY BE ALLOWED IF RESPONSE TIME IS WITHIN 4 MINUTES AND THE FOLLOWING MITIGATION MEASURES ARE EMPLOYED AS REQUIRED: FIRE SPRINKLERS, VEGETATION MANAGEMENT, CLASS A ROOF AND/OR 1 HOUR SIDING

FOR ILLUSTRATION ONLY, AS A DESIGN AID

ADAPTED FROM 2007 CALIFORNIA FIRE CODE- APPENDIX D 103.1

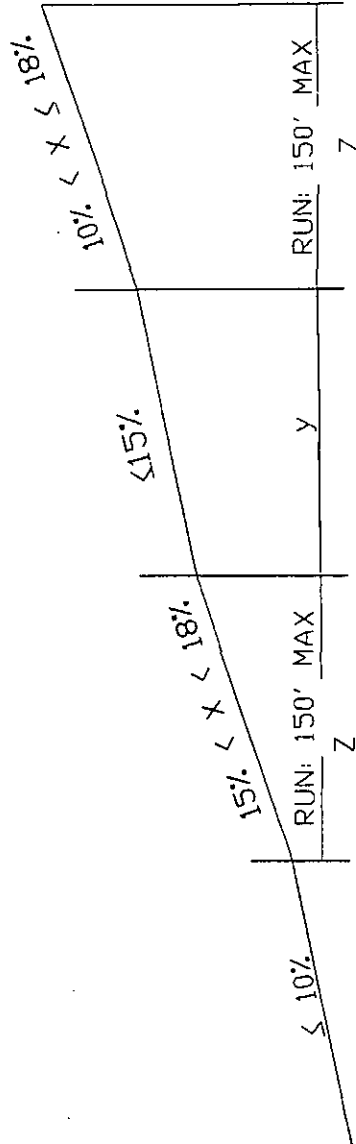
CITY OF OAKLAND

FIRE PREVENTION BUREAU



FIRE APPARATUS ACCESS STANDARDS
 EMERGENCY VEHICLE ACCESS EASEMENT
 MAXIMUM RUN ON VARYING SLOPES

DEPUTY CHIEF	FIRE MARSHALL
DATE: _____	FIGURE 10
REV _____	



IF $y > 300'$, EACH $z < 150'$
 IF $y < 300'$, SUM $z < 150'$

FOR ILLUSTRATION ONLY, AS A DESIGN AID
 ADAPTED FROM 2007 CALIFORNIA FIRE CODE- APPENDIX D 103.1

CITY OF OAKLAND

FIRE PREVENTION BUREAU



FIRE APPARATUS ACCESS STANDARDS
 EMERGENCY VEHICLE ACCESS EASEMENT
 MAXIMUM SLOPES ON VARYING RUNS

DEPUTY CHIEF	FIRE MARSHALL
DATE: _____	FIGURE 11
REV _____	

Table D 103.5. Design Requirements for Local Streets and Shared Access Facilities (SAF)

	Local Public and Private Streets (A)	Shared Access Facilities (SAF) (B)	Street + SAF (C)	Secondary Access Required (D)
1. Length (for dead- end streets)	< 600 ft (AB in Fig. 1) If > 600 ft. mitigation. reqd. (see item 10a)	≤ 150 ft (CD in Fig. 1) If > 150 ft, mitigation. reqd. (see item 10a)	< 600 ft (AD in Fig. 1) If > 600 ft, mitigation. reqd. (see item 10a)	Street > 600 ft SAF > 600 ft Street + SAF > 600 ft Loop roads and streets with dead-end fingers shall be evaluated on a case by case basis.
2. Width	See Table 2	≥ 20 Ft clear for SAF length > 150ft	-	Minimum 20 ft clear
3. Road Radius	> 100 ft to centerline of street	≥ 30 ft to inner curve	-	Minimum 30 ft to inner curve
4.	25 ft	20 ft	-	20 ft
5. Turnaround (35 ft radius, hammer-head, "Y" or "L") Design Criteria: hill area-fire engine flatlands-fire truck or fire engine	> 150 ft street length circular (if there are no R/W restrictions) hammerhead optional (if R/W restrictions exist)	> 150 ft SAF length a. circular b. hammerhead c. "Y" d. "L" Items a, b, c, & d at applicants option	> 150 ft total length (turnaround either on street or PAE) Same as SAF for turnaround in SAF. Same as street for turnaround in street	N/A
6. Access length to buildings (x+y in Fig. 1)	≤ 150 ft. If > 150 ft, mitigation. reqd. (see item 10b)	≤ 150 ft If > 150 ft, mitigation. reqd. (see item 10b)	N/A	N/A

Table D 103.5. Design Requirements for Local Streets and Shared Access Facilities (SAF)

	Local Public and Private Streets (A)	Shared Access Facilities (SAF) (B)	Street + SAF (C)	Secondary Access Required (D)
7. Turnouts (8 ft W x 30 ft L)	When required, see Table 2	Same as public and private streets	Same as public and private streets	Required 300 ft on center max., staggered both sides
8. Retaining Walls	8 ft max. wall ht. Within private R/W can be combustible to 3 ft. Within public R/W must be noncombustible	8 ft max. wall ht. If ht. > 5 ft, use noncombustible materials. Walls < 5 ft. can be heavy timber construction per UBC	See Columns (A) & (B)	Same as SAF
9. Road Grades	Slope ≤ 10% (unlimited length) 10% - 18% slope up to 150 ft. If 10% - 18% slope > 150 ft then mitigation. Required (see item 10c) or response time ≤ 4 minutes must be demonstrated.	10% - 18% slope up to 300 ft max. If 300-600 ft., then mitigation. required (see item 10c) < 10% slope, 300-600 ft length.	N/A	10% -18% for 300 ft. max. If < 10%, then no length limit (see item 10C for required road surface)

Table D 103.5. Design Requirements for Local Streets and Shared Access Facilities (SAF)

	Local Public and Private Streets (A)	Shared Access Facilities (SAF) (B)	Street + SAF (C)	Secondary Access Required (D)
10. Mitigation measures a. Length to end of road	If > 600 ft., then secondary access/egress required.	If 300-600 ft. length, then 20 ft width; turnaround; hydrant required. If 150-300 ft. length, then fire sprinkler; fire resistive constr. *; vegetation mgnt. *; hydrant required (* these are available as mitigations only when area is outside of Wildfire Prevention Assessment District – WPAD)	If > 600 ft., then secondary access required.	If a secondary access is required, 600 ft. max. distance from any parcel to through street shall be provided (see Fig. 10)
b. Length to the farthest part of the building. c. Road grade	If > 150 ft. from street then fire sprinkler or 20 ft. width + turnaround + hydrant required. Fire sprinkler and hydrant (spacing per Fire Marshal's Office)	20 ft. width + turnaround + hydrant required. Fire sprinkler and hydrant (spacing per Fire Marshal's Office)	N/A Fire sprinkler and hydrant (spacing per Fire Marshal's Office)	N/A If < 10%, then all weather surface is required. If > 10%, then asphalt or concrete pavement is required.

Section D107. One – Or Two-Family Residential Developments. - Deleted in its entirety.

Section 2. Severability.

If any article, section, subsection sentence, clause or phrase of this ordinance or exhibit is held to be invalid or unconstitutional, the offending portion shall be severed and shall not affect the validity of remaining portions which shall remain in full force and effect.

Section 3. Effective Date.

This ordinance shall become effective immediately on final adoption if it receives six or more affirmative votes; otherwise it shall become effective upon the seventh day after final adoption.

IN COUNCIL, OAKLAND, CALIFORNIA, _____, 20_____

PASSED BY THE FOLLOWING VOTE:

AYES- BROOKS, BRUNNER, CHANG, KERNIGHAN, NADEL, QUAN, REID, and PRESIDENT DE LA FUENTE

NOES-

ABSENT-

ABSTENTION-

ATTEST: _____

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

DATE OF ATTESTATION: _____