

**BUILDING STANDARDS COMMISSION**

2525 Natomas Park Drive, Suite 130  
Sacramento, California 95833-2936  
(916) 263-0916 FAX (916) 263-0959



February 21, 2014

Marilyn Cech  
Law Clerk  
City of Benicia  
250 East L Street  
Benicia, CA 94510

RE: Ordinance #13-14

Dear Ms. Cech:

This letter is to advise you of our determination regarding the referenced ordinance with express findings received from your agency on February 19, 2014.

Our review finds the submittal to contain one ordinance modifying provisions of the 2013 California Building Standards Code in Title 24, California Code of Regulations (code), and express findings complying with Health and Safety Code §§17958.7 and 18941.5. The code modification is accepted for filing and is enforceable. This letter attests only to the satisfaction of the cited law for filing of local code amendment supported by an express finding with the Commission. The Commission is not authorized by law to evaluate the merit of the code modification or the express finding.

Local modifications to the code are specific to a particular edition of the code. They must be readopted and filed with the Commission in order to remain in effect when the next triennial edition of the code is published.

On a related matter, should your city receive and ratify Fire Protection District ordinances making modifications to the code, be advised that Health and Safety Code §13869.7(c) requires such ratified ordinances and express findings to be filed with the Department of Housing and Community Development, Division of Codes and Standards, State Housing Law Program, rather than this Commission. Also, ordinances making modifications to the energy efficiency standards of the code may require approval from the California Energy Commission pursuant to Public Resources Code §25402.1(h)(2).

If you have any questions or need any further information, you may contact me at (916) 263-0916.

Sincerely,

A handwritten signature in blue ink that reads "Enrique M. Rodriguez".

Enrique M. Rodriguez  
Associate Construction Analyst

cc: Chron  
Local Filings



CITY ATTORNEY'S OFFICE  
HEATHER C. Mc LAUGHLIN  
*City Attorney*

2014 FEB 11 PM 1:12

RECEIVED BY

February 5, 2014

California Building Standards Commission  
2525 Natomas Park Drive, Suite 130  
Sacramento, CA 95833

To Whom It May Concern:

As required by Health and Safety Code Section 17958, I am submitting the local amendments to the California Fire and Building Codes for the City of Benicia. Attached are the agenda staff reports from the council meetings, which include the statements of local findings. Also attached is a copy of the signed ordinance. The City of Benicia will be using the California Fire and Building Codes as adopted by the Commission where the CFC and CBC have jurisdiction.

Should you have any questions, please contact me at (707) 746-4216.

Sincerely,

Marilyn Cech  
Law Clerk

Attachments

**AGENDA ITEM**  
**CITY COUNCIL MEETING DATE - NOVEMBER 19, 2013**  
**CONSENT CALENDAR**

**DATE** : October 30, 2013

**TO** : City Council

**FROM** : City Manager

**SUBJECT** : **INTRODUCTION AND FIRST READING OF AN ORDINANCE**  
**AMENDING THE BENICIA MUNICIPAL CODE TO INCORPORATE**  
**BUILDING AND FIRE CODE REVISIONS**

**RECOMMENDATION:**

Conduct a public hearing and first reading of a proposed ordinance to amend the Benicia Municipal Code by amending Title 15 Buildings and Construction and Title 8 Health and Safety pursuant to statewide code updates and providing for certain amendments required to address local conditions.

**EXECUTIVE SUMMARY:**

The State of California updates the Building Standards and Fire Code every three years. The City then adopts the codes, with certain amendments, to address specific City of Benicia needs. The updates include the addition of new Chapters 15.19 (California Administrative Code), 15.20 (California Energy Code), 15.21 (California Historical Building Code), 15.22 (California Existing Buildings Code) and 15.23 (California Referenced Standards Code) to Title 15 Buildings and Construction and amendments to the following Title 8 Health and Safety and Title 15 Buildings and Construction include the following Chapters:

Chapter 8.28 Fire Prevention and Life Safety Code  
Chapter 15.02 California Residential Code  
Chapter 15.04 California Building Code  
Chapter 15.08 California Mechanical Code  
Chapter 15.12 California Plumbing Code  
Chapter 15.16 California Electrical Code  
Chapter 15.18 California Green Building Standards Code  
Chapter 15.26 Building Permit Fees and Other Fees

**BUDGET INFORMATION:**

No changes are proposed to current Permit Fee Schedule other than minor edits to facilitate a more consistent application of the permit fees and charges for services provided. No fees have been raised or changed.

**GENERAL PLAN:**

Relevant Goals and Policies include:

- Goal 3.27: Improve energy efficiency.
  - Policy 3.27.1: Promote energy conservation in all new development and during rehabilitation of existing homes.
  - Policy 3.27.A: Distribute information on weatherization and energy conservation.
  - Policy 3.27.B: Implement State energy conservation requirements in new housing.
- Goal 4.1: Make community health and safety a high priority for Benicia
  - Policy 4.1.1: Strive to protect and enhance the safety and health of Benicians when making planning and policy decisions.

**STRATEGIC PLAN:**

Relevant Strategic Plan Issues and Strategies include:

- Strategic Issue 1: Protecting Community Health and Safety
- Strategic Issue 2: Protecting and Enhancing the Environment
  - Reduce greenhouse gas emissions and energy consumption
  - Pursue and adopt sustainable practices
- Strategic Issue 5: Maintain and Enhance a High Quality of Life

**BACKGROUND:**

The State of California promulgates uniform construction related and fire protection codes for statewide use in order to ensure quality building construction and public safety. These codes are reviewed and updated on a three-year cycle and published by the International Code Council, the International Association of Plumbing and Mechanical Officials, and the National Fire Protection Association.

The State has adopted these codes to be effective January 1, 2014; all jurisdictions within California must use these codes as adopted by the State. However, cities may also adopt additional specific local amendments due to local climatic, geological or topographical conditions.

The State of California has recently approved the latest editions of the following codes:

- California Administrative Code (2013)
- California Building Code (2013)
- California Electrical Code (2013)
- California Existing Buildings Code (2013)
- California Energy Code (2013)
- California Fire Code (2013)
- California Green Building Standards Code (2013)

California Historical Building Code (2013)  
California Mechanical Code (2013)  
California Plumbing Code (2013)  
California Referenced Standards Code (2013)  
California Residential Code (2013)

In addition to adoption of the tri-annual California Building Standards Code updates, the proposed ordinance will also adopt the following requirements as amendments to the California Building Code (CBC), the California Plumbing Code (CPC), and the California Residential Code (CRC). Items #1- 7 below are Benicia specific amendments to both the CBC and the CRC. Item #8 is an amendment to CPC.

There are no substantial local modifications from the last code adoption in November 2010. The requirements listed below already exist in the Benicia Municipal Code, even though they are not in the 2013 statewide codes, and should remain based upon the findings described below:

**1. Lighted street address numbers.**

The City is geographically bordered on two sides by the Carquinez Strait. The water may cause fog to form in the city, which limits the ability of emergency personnel to quickly locate buildings during night hours without the aid of lighted street address numbers.

**2. Roof assembly.**

The City is geographically situated in an area subject to frequent periods of strong wind conditions. Additionally, the City contains a significant amount of hilly, undeveloped acreage designated as permanent open space. These large open space areas are characterized as brush and grasslands, which during certain times of the year present extreme fire hazard. Wind conditions, combined with brush and grassland areas, result in heightened concern for fire damage and require additional constraints on the use of wood shake and shingles on roofs and siding.

**3. Wood burning fireplaces restricted.**

This code revision is in response to the Bay Area Air Quality Management District requirement that any new fireplaces must either be pellet fueled or EPA certified. The ordinance is designed to assist the Bay Area in meeting federal standards and improve air quality.

**4. Restricted use of gypsum wallboard for lateral bracing.**

Gypsum wall board (sheetrock) will be prohibited to be used as lateral bracing. Because Benicia is in a high seismic zone, this change is necessary to ensure adequate safety in case of seismic activity.

**5. Restricted use of paper backed gypsum board in showers and bathtub areas.**

Paper backed gypsum board will not be permitted in showers and tub areas subject to water splash. Because of this material's lack of resistance to damage in high moisture areas, premature failure of the product frequently occurs.

**6. Concrete slabs require 4 inches minimum thickness and rebar: gravel is required between the concrete and the earth.**

Benicia has numerous places where expansive soil is present. The rebar requirement lessens the cracking of the slab. A 4-inch slab is required to accommodate the rebar in the slab. Underground water found in the soils of Benicia by capillary action, can cause water to be pulled into the slab. The gravel base acts as a capillary break to this underground water flow.

**7. Pool and spa barriers.**

The City's ordinance strengthens the State mandated barrier requirement by specifying that garage doors opening in the pool area meet the same self-closing requirements as gates. The City code requires all human made bodies of water over 18 inches to be protected. This requirement is in both the CBC and the CRC.

**8. Prohibit metal water pipe under concrete slabs.**

The use or repair of metal water pipes buried under the concrete slab of a building is prohibited. Buildings have developed water leaks under the slab, and the cost of repair is considerable. In order to eliminate this problem, buried metal water pipe will remain prohibited under a building slab, as it has been since 2003.

State law requires that local agency adopt findings for any local modifications to the building standards contained in the CBSC and the Fire Code. These findings are including in the attached Ordinance.

**SUMMARY OF FIRE CODE CHANGES TO CHAPTER 8.28 (FIRE PREVENTION AND LIFE SAFETY CODE) OF TITLE 8 (HEALTH AND SAFETY):**

The proposed ordinance makes minor changes to Chapter 8.28 of the Benicia Municipal Code (BMC) for administrative purposes to reflect changes contained within the 2013 California Fire Code. Many of the local amendments contained within the proposed ordinance have been previously incorporated into the BMC during previous code adoption processes. The significant change contained within the current proposed amendments is standardized specifications with respect to construction of Fire Access Roads, required turnaround areas, and fire hydrant spacing. In years past the specifications for these elements was not clearly defined within the BMC or other supporting documentation.

**SUMMARY OF BUILDING CODE CHANGES TO VARIOUS CHAPTERS OF TITLE 15 (BUILDING AND CONSTRUCTION):**

The proposed ordinance makes minor changes to the various applicable chapters of Title 15 of the BMC. The changes to the BMC are all administrative in nature and reflective of the change referenced 2013 California code sections. For consistency, staff is proposing that the BMC acknowledge each applicable 2013 code including those where no amendments are recommended. Several California codes including the California Administrative Code, California Energy Code, California Existing Building Codes, California Historical Building Code, and the California Referenced Standards Code were never specifically adopted as reference in the BMC. Although, they are considered to be effective January 1, 2014 regardless of adoption, they are proposed for inclusion in the BMC for consistency with state law. No modifications to these codes are proposed.

In 2010, the City adopted the California Green Building Code with amendments. Those amendments include eleven voluntary regulations that developers were *encouraged* to comply with. The 2013 California Green Building Code made two of the eleven voluntary regulations mandatory. Therefore, those two requirements were removed from the list of *encouraged* regulations and will now be adopted as part of the general update to the 2013 California Green Building Code. They are:

1. (#3) Replace existing tank or flushometer-type toilets with fixtures designed to comply with the standards referenced in Table 5.303.
2. (#4) Low-flow devices installed in all shower fixtures, sink and lavatory faucets designed to comply with the standards referenced in Table 5.303.

Attachment:

- Proposed Ordinance

**AGENDA ITEM**  
**CITY COUNCIL MEETING DATE - DECEMBER 3, 2013**  
**CONSENT CALENDAR**

**DATE** : November 20, 2013

**TO** : City Manager

**FROM** : Fire Chief

**SUBJECT** : **SECOND READING AND ADOPTION OF AN ORDINANCE**  
**AMENDING THE BENICIA MUNICIPAL CODE TO INCORPORATE**  
**BUILDING AND FIRE CODE REVISIONS**

**RECOMMENDATION:**

Adopt an ordinance to amend the Benicia Municipal Code by amending Title 15 Buildings and Construction and Title 8 Health and Safety pursuant to statewide code updates and providing for certain amendments required to address local conditions.

**EXECUTIVE SUMMARY:**

The State of California updates the Building Standards and Fire Code every three years. The City then adopts the codes, with certain amendments, to address specific City of Benicia needs. The addition of new Chapters 15.19 (California Administrative Code), 15.20 (California Energy Code), 15.21 (California Historical Building Code), 15.22 (California Existing Buildings Code) and 15.23 (California Referenced Standards Code) to Title 15 Buildings and Construction and amendments to the following Title 8 Health and Safety and Title 15 Buildings and Construction include the following Chapters:

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Chapter 15.18 California Green Building Standards Code  
Chapter 15.26 Building Permit Fees and Other Fees

**BUDGET INFORMATION:**

No changes are proposed to current Permit Fee Schedule other than minor edits to facilitate a more consistent application of the permit fees and charges for services provided. No fees have been raised or changed.

**GENERAL PLAN:**

Relevant Goals and Policies include:

- Goal 3.27: Improve energy efficiency.
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Relevant Strategic Plan Issues and Strategies include:

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**BACKGROUND:**

The State of California promulgates uniform construction related and fire protection codes for statewide use in order to ensure quality building construction and public safety. These codes are reviewed and updated on a three-year cycle and published by the International Code Council, the International Association of Plumbing and Mechanical Officials, and the National Fire Protection Association.

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- California Energy Code (2013)
- California Fire Code (2013)
- California Green Building Standards Code (2013)
- California Historical Building Code (2013)

California Mechanical Code (2013)  
California Plumbing Code (2013)  
California Referenced Standards Code (2013)  
California Residential Code (2013)

On November 19, 2013, City Council held a public hearing and considered the first reading of the ordinance. No changes to the draft ordinance were made.

**SUMMARY OF FIRE CODE CHANGES TO CHAPTER 8.28 (FIRE PREVENTION AND LIFE SAFETY CODE) OF TITLE 8 (HEALTH AND SAFETY):**

The proposed ordinance makes minor changes to Chapter 8.28 of the Benicia Municipal Code (BMC) for administrative purposes to reflect changes contained within the 2013 California Fire Code. Many of the local amendments contained within the proposed ordinance have been previously incorporated into the BMC during previous code adoption processes. The significant change contained within the current proposed amendments is standardized specifications with respect to construction of Fire Access Roads, required turnaround areas, and fire hydrant spacing. In years past the specifications for these elements was not clearly defined within the BMC or other supporting documentation.

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For consistency, staff is proposing that the BMC acknowledge each applicable 2013 code including those where no amendments are recommended. Several California codes including the California Administrative Code, California Energy Code, California Existing Building Codes, California Historical Building Code, and the California Referenced Standards Code were never specifically adopted as reference in the BMC. Although, they are considered to be effective January 1, 2014 regardless of adoption, they are proposed for inclusion in the BMC for consistency with state law. No modifications to these codes are proposed. In 2010, the City adopted the California Green Building Code with amendments. Those amendments include eleven voluntary regulations that developers were *encouraged* to comply with. The 2013 California Green Building Code made two of the eleven voluntary regulations mandatory. Therefore, those two requirements were removed from the list of *encouraged* regulations and will now be adopted as part of the general update to the 2013 California Green Building Code. They are:

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Attachment:

- Draft Ordinance – Clean Version

**CITY OF BENICIA**

**ORDINANCE NO. 13-14**

**AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF BENICIA AMENDING TITLE 8 (HEALTH AND SAFETY) AND DIVISION 1 OF TITLE 15 (BUILDINGS AND CONSTRUCTION) BY AMENDING CHAPTER 8.28 (FIRE PREVENTION AND LIFE SAFETY CODE) , ADDING NEW CHAPTERS 15.19 (CALIFORNIA ADMINISTRATIVE CODE), 15.20 (CALIFORNIA ENERGY CODE), 15.21 (CALIFORNIA HISTORICAL BUILDING CODE), 15.22 (CALIFORNIA EXISTING BUILDINGS CODE) AND 15.23 (CALIFORNIA REFERENCED STANDARDS CODE) AND AMENDING CHAPTERS 15.02 (CALIFORNIA RESIDENTIAL CODE, 15.04 (CALIFORNIA BUILDING CODE), 15.08 (CALIFORNIA MECHANICAL CODE), 15.12 (CALIFORNIA PLUMBING CODE), 15.16 (CALIFORNIA ELECTRICAL CODE), 15.18 (CALIFORNIA GREEN BUILDING STANDARDS CODE), AND 15.26 (BUILDING PERMIT AND OTHER FEES )**

**NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF BENICIA DOES ORDAIN** as follows:

**Section 1.**

Pursuant to Sections 17958.5 and 17958.7 of the State of California Health and Safety Code, the City Council of the City of Benicia makes the finding that changes, modifications, and amendments to the 2013 Edition of the California Building Standards Codes and the California Fire Code are needed and are reasonably necessary because of certain local climatic, geologic and topographic features and conditions as described below, and that those features and conditions, under certain circumstances, affect delivery of emergency services. The amendments to the California Building Standards Codes and the California Fire Code are enacted to mitigate the impact of those local features and conditions by (i) preventing the chance of accident or injury by requiring standards more stringent than required by the current codes; and (ii) requiring additional built-in automatic fire protection systems which will provide for early detection and initial fire control. The City of Benicia is subject to the following climatic, geological and topographical conditions:

**A. Climatic Conditions**

**General Conditions**

The seasonal climatic conditions during late summer, fall and early winter create serious difficulties regarding the control of and protection against fires in Benicia. The hot, dry weather typical of this area in the summer and fall, and the extreme dryness of fuel stands in the early winter, coupled with wind, temperature and

precipitation conditions outlined below frequently cause fire events which threaten the City.

1. Precipitation and Relative Humidity

(a) Conditions

Precipitation ranges from 15 to 24 inches per year with an average of 18 inches per year. Ninety-five percent of all rainfall occurs during the seven months of October through April and only five percent occurs from May through September. The dry season is considered to last at least six months in this area, where typically 0.8 percent of the annual rainfall occurs in any given month during this period. In addition, the Northern California area is subject to recurrent periods of drought lasting for several years. Relative humidity remains in the middle range most of the year with 45 to 65 percent occurring during the spring, summer and fall, and a wider range of 60 to 90 percent in the winter. Occasionally, the relative humidity falls as low as 12 percent during temporary changes in climate and wind direction. Such low humidity periods can occur any time of year. Coastal fog, on the other hand, can raise humidity especially during night hours.

(b) Impact

During the dry season generally and during occasional periods of low humidity, burning conditions are worse than normal. Such weather conditions cause extreme dryness in combustible material including untreated wood shakes and shingles on buildings, wood siding, and combustible building materials. Non-irrigated grass, brush, and weeds, which are often near buildings, are also subject to extreme drying. Extremely dry, combustible materials are vulnerable to rapidly spreading exterior fires which can quickly transfer to other buildings by means of radiation or flying brands, sparks, or embers. Under such conditions, a small fire can rapidly grow in magnitude beyond the capabilities of the fire department to control. Such fires produce excessive fire loss that has a negative impact on the quality of life in the community.

2. Temperature

(a) Conditions

Temperatures have been recorded as high as 106° F. Seasonal highs over 90° can be sustained for several days in a row.

(b) Impact

High temperatures cause rapid fatigue and heat exhaustion of firefighters, reducing their effectiveness and ability to control large building and wildland fires. High temperatures will preheat combustible building materials and non-irrigated weeds, grass and brush causing their materials to ignite readily and burn more rapidly

and intensely. In addition, a series of local ridges and valleys produce differences in solar heating of fuels which increase the probability of erratic fire behavior, including area-wide ignition and "blow-up" conditions. Higher air and fuel temperatures increase the rate of fire spread and reduce the effectiveness of water applied to extinguish fires. Additional fire department resources and water will be required for timely and effective suppression of fires. Temperature has a direct relationship to the intensity and size of fires.

### 3. Winds

#### (a) Conditions

Prevailing winds in the area occur from the west or southwest. Off shore winds from the northeast and east, known locally as Diablo winds, frequently occur during the summer and fall and are prevalent during periods of hot, dry weather. Virtually any time during the year a climatic pattern of strong, steady, dry winds can occur for several days in succession, creating extremely dry conditions. Hillside elevation differences are ideal for the creation of localized up slope or down slope winds, which follow ridgelines or canyon valleys. Because of these topographic variables, winds can be experienced from virtually every direction depending on location and surrounding climatic conditions. Wind velocities range generally from 15 to 25 mph, with typical gusting to 35 mph. Severe storm gusts have been recorded as high as 80 mph. Westerly afternoon winds are common. Forty (40) mph winds are experienced occasionally during extreme fire weather conditions. In rare circumstances, both on shore and off shore breezes up to 55 mph have been registered locally during non-storm conditions.

#### (b) Impact

Local winds can cause water intrusion and structural deterioration to building components, this deterioration may facilitate a premature structural building collapse. These local winds cause interior and exterior fires to burn intensely and spread rapidly. Wind driven fires involving non-irrigated weeds, grass and brush can grow to a magnitude and intensity beyond the capabilities of the fire department to control. Even relatively moderate winds can cause extreme and erratic fire behavior. Prevailing winds generally align with local topographical features creating ideal avenues for uphill fire spread. Wind driven fires can move uphill or downhill with great speed. When wind driven fires are not controlled they can spread from property to property and threaten the entire community.

#### Summary

The local climatic conditions created by precipitation patterns, temperature and wind conditions combine to affect the rate of acceleration, intensity, and magnitude of fire in the community. Periods with little or no rainfall, low humidity and high temperatures create extreme fire hazard conditions. Temperature extremes can create

intense and erratic fire behavior. Local winds can have a tremendous impact on fire intensity, growth, and spread. Winds can carry sparks and burning brands to other areas up to one-mile away thus spreading fire and causing conflagrations. In building fires and fires at the bottom of canyons, winds can literally create a "blow torch" effect, which concentrates heat and resists control efforts.

## **B. Geologic Conditions**

### **General Conditions**

The geologic features of the local area create conditions that leave the area vulnerable to local flooding, earthquakes, land sliding, restricted access and conflagration. These events create serious difficulty regarding the control of and protection against fires in Benicia. Local flooding conditions can impede the ability of the fire department to aid or assist in fire control, evacuations, rescues and other emergency tasks. Among the potential effects of earthquake activity are isolation of neighborhoods or the entire community, loss of water sources and conflagration. Seismic events and landslides may isolate Benicia from surrounding communities and restrict or eliminate internal circulation by rendering surface travel difficult or impossible. Topographic features present multiple problems in the delivery of emergency services including fire protection.

#### **1. Seismic**

##### **(a) Conditions**

Benicia is located in a High Risk Seismic Zone, the worst risk rating in the United States. Buildings and other structures in High Risk Zones can experience major damage as the result of a seismic event. Solano County is in close proximity to the San Andreas Fault, it contains all or portions of the Concord-Green Valley and Rogers Creek faults, and is within the region of the Hayward, Calaveras, Antioch, Mt. Diablo, and other lesser faults. The Hayward and Calaveras faults have been identified as likely sites for a major seismic event in the 7 + Richter scale range within the next 25 years. Minor seismic events have been localized in this region of Northern California.

Much of the transportation infrastructure is built upon soils classified as subject to liquefaction or landslide. State Highways 780 and 680, a major east-west route through the city, are subject to liquefaction. Rose Drive, the other main east-west route, is subject to damage from landslide. Hastings Drive, Panorama Drive, and East Second Street, primary north-south routes are all subject to damage from landslide. Damage to these roadbeds would have a significant, negative impact on response times.

Earthquakes of the magnitude experienced locally can cause major damage to electrical transmission facilities which in turn, cause power failures while at the same time starting fires throughout the city. The simultaneous occurrence of

multiple fires will quickly disperse available fire department resources, thereby reducing and delaying an emergency response to any additional fires. An electrical power outage would incapacitate elevators, building smoke management systems, lighting systems, alarm systems and other electrical equipment. Since these are urgently needed to assist evacuation and fire control in large buildings there is increased expectation of life loss and major fire losses in such larger buildings.

A seismic event powerful enough to damage roadways would also damage other utility systems such as water mains, natural gas pipelines and telephone lines. The regional utility districts anticipate seismic disruption of utility systems. Damage to these systems would have a negative impact on the service delivery capabilities of local emergency services.

(b) Impact

The above listed local geologic conditions increase accessibility problems and fire hazards in the City of Benicia. Fire following an earthquake has the potential of causing greater loss of life and damage than the earthquake itself. Hazardous materials, particularly toxic gases, could pose the greatest threat to a larger number of citizens should a leak occur during a significant seismic event. Public safety resources would have to be prioritized to meet the greatest threat and may be unavailable for smaller structure fires in dwellings or other structures. Smaller fires may grow to conflagration proportions. Other factors can intensify the situation:

- 1) The extent of damage to the water system;
- 2) The extent of isolation due to bridge or freeway overpass collapse;
- 3) The extent of roadway damage or amount of debris blocking the roadway;
- 4) Climatic conditions (hot, dry weather with high winds);
- 5) Time of day will influence the amount of traffic on roadways and could intensify the risk to life during normal business hours;
- 6) The availability of timely mutual aid or military assistance;
- 7) Dwellings with wood shingle roof coverings could burn and result in conflagrations.

## Summary

The local geologic conditions leave the city vulnerable to emergency conditions created by local flooding, earthquakes, landslide, and conflagration. Local flooding from the drainages and slopes of the North Bay Hills could result in conditions rendering the roads impassable. Earthquakes can occur at any time. Earthquakes can isolate the community or significant portions of the community, cause loss of water sources used to provide fire protection and cause injury or rescue situations, which could then overtax the available resources to respond to new fires. Land movement can impair, restrict or deny emergency access to significant portions of the city. Geologic features and conditions can make firefighting strategy and tactics difficult at best. When coupled with prevailing climatic and topographic conditions, the City is at risk to conflagration at any time and is extremely vulnerable during or after a triggering event such as earthquake, floods, landslide or fire.

### **C. Topographic**

#### General Conditions

The topographic features of the city increase the difficulty of fighting fires. Steep hillsides, ridges and deep, well-defined canyons are subject to fires that, in those areas, are easily influenced by wind and weather. Steep canyons are subject to rapid-fire spread, spot fires and area ignition. Fire growth controlled by topographic features (topography-driven fires) is subject to erratic fire behavior including blowups, fire whirls, and sudden changes in fire front direction. On the other hand, certain topographic features such as moist or sparse vegetation conditions, surface features, and man-made improvements such as roads have a dampening influence on erratic fire behavior.

#### 1. Soils

##### (a) Conditions

The area is replete with various soils, which are unstable: clay loam, unconsolidated fills, and alluvial fans are predominant. These soil conditions are moderately to severely prone to swelling and shrinking, and are plastic and tend to liquefy. Large hillside portions of the city are subject to landslide, slumping and collapse.

##### (b) Impact

Throughout Benicia the topography and the pattern of growth and development have created a network of aging, narrow roads and alleys which limit access to some neighborhoods even in the best conditions. These roads are subject to damage and closure from mud and rock slides caused by earthquakes, storms or erosion. Unstable soils can slip causing trees, power poles and lines, or other obstructions to close roadways. Any significant seismic or weather event can close roadways isolating residential subdivisions.

## 2. Vegetation

### (a) Conditions

Highly combustible dry grass, weeds and brush are common six to eight months of each year in the hilly and open space areas adjacent to built-up locations. Many of these types of areas have experienced wildland fires, which have threatened nearby buildings; particularly those with wood roofs or siding. Many residential areas border parklands or open space, which contain vegetation fire hazards. The City Council has adopted vegetation management standards for these areas.

### (b) Impact

Combustible dry grass, weeds and brush contribute to a recognized conflagration hazard. City programs like the vegetation management program and strict fire code enforcement have reduced but not eliminated the threat of conflagration due to rapid fire spread in vegetation stands. Should an active fire become established in vegetation stands, this growing fire could rapidly overcome fire department control efforts.

## 3. Surface Features

### (a) Conditions

The arrangement and location of natural and man-made surface features, including hills, valleys, creeks, roadways, housing density, commercial areas, and fire stations combine to limit feasible emergency response routes to certain areas.

### (b) Impact

The arrangement and location of natural surface features produce an area very similar to those conditions found in the Oakland-Berkeley hills prior to their conflagration of October 1991. Surface features can easily produce fires of great magnitude or with erratic fire behavior that could threaten the entire community.

## 4. Buildings and Landscaping

### (a) Conditions

Many commercial buildings and apartment complexes have building and landscape features, which preclude or greatly limit the operational access of fire department vehicles. There are many concentrations of houses and other buildings with untreated wood shake or shingle roofs or siding in the City which are within 10 feet of each other. There are many such buildings to which access to all but

one side is virtually impossible due to landscaping, fences, electrical transmission lines, slopes or other buildings.

(b) Impact

When Fire Department vehicles cannot gain access to buildings on fire, there is a high potential for complete loss. Difficult access to a fire site often requires that personnel must carry equipment for long distances. Such operations quickly exhaust fire personnel and reduce the effective number of personnel available for suppression. Access problems often result in severe delays, the misdirection of fire and smoke control efforts, or the failure to make a timely fire attack.

Summary

The above listed local topographical conditions increase accessibility problems and fire hazards in the City of Benicia. Should a significant emergency occur, such as an area wide conflagration, public safety resources would be prioritized to mitigate the greatest threat and may likely remain unavailable for smaller single dwelling or structure fires. Other variables may intensify the situation:

- 1) The extent of damage to the water system;
- 2) The extent of isolation due to bridge and/or freeway overpass collapse;
- 3) The extent of roadway damage and/or amount of debris blocking the roadways;
- 4) Climatic conditions (hot, dry weather with high winds);
- 5) Time of day will influence the amount of traffic on roadways and could intensify the risk to life during normal business and commute hours;
- 6) The availability of timely mutual aid or military assistance;
- 7) The large proportion of dwellings with wood single roof coverings could result in conflagrations.

**D. Conclusion**

Based on the local climatic, geologic, and topographic conditions outlined above, there is a real risk of damage to the community from a disaster. A seismic event can cause structural damage to buildings and utility infrastructure; storm flooding and high winds may increase the damages. Any of these conditions may negatively affect fire prevention efforts by increasing the frequency, spread, acceleration, intensity, and size of fires involving buildings in this community. Further, these conditions will increase the potential damage to all structures occurring from any earthquake and subsequent fire. It is found, therefore, to be reasonably necessary that the State Building Standards Code and the California Fire Code are changed or modified to mitigate the effects of the above conditions.

**Section 2.**

Chapter 8.28 of the Benicia Municipal Code is hereby repealed and replaced with the following:

**Chapter 8.28**

**FIRE PREVENTION AND LIFE SAFETY CODE<sup>1</sup>**

**Sections:**

- 8.28.010 Findings.
- 8.28.020 Adoption by reference.
- 8.28.030 Establishment and duties of the division of fire and life safety.
- 8.28.040 Definitions.
- 8.28.050 Establishment of limits within the city of Benicia where materials regulated by this code are prohibited or limited.
- 8.28.060 Amendments made in the California Fire Code.
- 8.28.070 Penalties.

**8.28.010 Findings.** That portion of the California Fire Code that imposes substantially the same requirements as are contained in the International Fire Code, 2012 Edition, published by the International Code Council and the California Building Standards Commission with errata, together with those portions of the International Fire Code, 2012 Edition, including Appendix Chapters 4, B, C, D, , F, K and I, as modified and amended by this chapter, are adopted by this reference into this chapter, and are hereby collectively declared to be the fire code of the city of Benicia, in the state of California, regulating and governing the safeguarding of life and property from fire and explosion hazards arising from the storage, handling and use of hazardous substances, materials and devices, and from conditions hazardous to life or property in the occupancy of buildings and premises as herein provided; providing for the issuance of permits and collection of fees therefor; and each and all of the regulations, provisions, penalties, conditions and terms of said fire code on file in the office of the fire chief are hereby referred to, adopted, and made a part hereof, as is fully set out in this chapter,

with the additions, insertions, deletions and changes, if any, prescribed in BMC 8.28.060.

This code adopts changes, modifications and requirements not mandated by the California Fire Code (CFC) and International Fire Code (IFC) because of local climatic, geological or topographical conditions. The modifications are needed due to the following local conditions that exist in Benicia and on the following findings:

A. The city is geographically situated in an area subject to frequent periods of strong, gusty winds from the southwest and north. In addition, temperatures during the summer months range from 80 to 100-plus degrees. During this period, the relative humidity can fall below 20 percent. The city contains a significant amount of hilly, undeveloped acreage designated as permanent open space. This wildland/urban interface, in conjunction with the hot, dry and windy climatic conditions, creates a hazardous situation that has led to extensive grass and brush fires in recent years. With more development extending into and adjacent to the open space areas, heat- and wind-driven fires could lead to serious consequences.

B. The city is divided by several topographic features, including Interstates 680 and 780. As a result, the city is primarily divided into three parts. Traffic within and between the parts of the city is channeled onto several major thoroughfares that must cross freeways by way of underpasses and overpasses. In addition, it is bordered on two sides by the Carquinez Straits. Periodic heavy traffic congestion on the city's major streets and interstates acts as a barrier to timely response for fire and emergency service vehicles. Because of traffic or accidents, there could be times that fire equipment could be sufficiently slowed to increase the risk of substantial structural damage. With the possibility of fire services unable to guarantee rapid response to various sections of the city during these times, it is necessary to mitigate this problem by requiring adequate access, road construction allowing apparatus approach, and other features to aid mitigation efforts.

C. The city is subject to ground tremors from seismic events on the San Andreas, Concord/Green Valley, Hayward, and/or other major active faults in the greater San Francisco Bay area. The Concord/Green Valley fault is immediately adjacent to the city to the north. Seismological evidence indicates the probability of an earthquake in the region capable of doing significant damage to buildings is high. A major seismic event would create a citywide demand on fire protection services, which would be beyond the response capability of the fire department. This problem can be lessened or mitigated by requiring initial fire control through the installation of automatic fire protection systems.

8.28.020     Adoption by reference.

A. International Fire Code Adopted. That portion of the California Building Standards Code that imposes substantially the same requirements as are contained in the International Fire Code, 2012 Edition, published by the International Code Council and the California Building Standards Commission with errata, together with those portions

of the International Fire Code, 2012 Edition, including Appendix Chapters 4, B, C, D, F, K and I, as modified and amended by this chapter, are adopted by this reference into this chapter, and are hereby collectively declared to be the fire code of the city of Benicia for the purpose of regulating and governing the safeguarding of life, property and public welfare to a reasonable degree from the hazards of fire, hazardous materials release and explosion(s) arising from the storage, use and handling of dangerous and hazardous materials, substances and devices, and conditions hazardous to life or property in the occupancy and use of buildings and premises, the operation, installation and maintenance of adequate means of egress not provided for by the building code, and providing for the issuance of permits and collection of fees thereof.

B. The city of Benicia adopts the 2013 Edition of the California Fire Code (2012 International Fire Code as amended by the state of California), regulating and governing the safeguarding of life and property from fire and explosion hazards arising from the storage, handling and use of hazardous substances, materials and devices, and from conditions hazardous to life or property in the occupancy of buildings and premises in the city of Benicia; providing for the issuance of permits and collection of fees therefor; and repealing Chapter 8.28 BMC and all other ordinances and parts of the ordinances in conflict therewith.

8.28.030     Establishment and duties of the division of fire and life safety. The California Fire Code as adopted and amended herein shall be enforced by the fire and life safety division in the fire department of the city of Benicia which is hereby established and which shall be operated under the supervision of the fire chief of the fire department. All members of the fire department may enforce the California Fire Code as adopted and amended herein.

8.28.040     Definitions. As used in this chapter, the following terms shall have the meanings set forth herein below:

Bureau. Whenever the words "bureau of fire prevention," or "bureau," are used, they shall be held to mean the fire and life safety division.

Fire Code Official. Whenever the words "fire code official" are used, they shall be held to mean fire chief or designee.

Jurisdiction. Whenever the word "jurisdiction" is used in the California Fire Code, it is the city of Benicia.

8.28.050     Establishment of limits within the city of Benicia where materials regulated by this code are prohibited or limited.

A. Establishment of Limits in Which Storage of Liquefied Petroleum Gases Is to Be Restricted. The limits referred to in Section 6104.2 of the California Fire Code, in which storage of liquefied petroleum gas is restricted, are hereby established as follows: The bulk storage of liquefied petroleum gas is prohibited in all residentially zoned areas of the city, excluding public and public safety facilities.

**B. Establishment of Limits in Which the Storage of Stationary Tanks of Flammable Cryogenic Fluids Is to Be Prohibited.** The limits referred to in Section 5504.3.1.1 of the California Fire Code in which the storage of flammable cryogenic fluids in stationary containers is prohibited are hereby established as follows: Any area which is zoned for other than industrial use.

**C. Establishment of Limits in Which Storage of Flammable or Combustible Liquids in Outside Aboveground Tanks; Bulk Plants or Terminals; and Bulk Transfer Operations Is to Be Prohibited.** The limits referred to in Section 5704.2.9.6 of the California Fire Code in which storage of Class I and II liquids in outside aboveground tanks is prohibited are hereby established as follows:

1. Storage of flammable or combustible liquids in excess of 2,000 gallons shall be limited to refineries or bulk storage plant locations.
2. Storage shall be limited to public, limited industrial (IL), general industrial (IG), and water-related industrial (IW) zoned districts or public safety facilities.

**8.28.060 Amendments made in the California Fire Code.**

The California Fire Code is amended and changes in the following respects:

**A. Section 101.1 – Title.** Section 101.1 of Chapter 1 is amended to read as follows:

101.1 Title. These regulations shall be known as the Fire Code of the City of Benicia, hereinafter referred to as “this code.”

**B. Section 103.2.** is deleted in its entirety.

**C. Section 104.3.2 – Fire Clearance.** Section 104.3.2 of Chapter 1 is added to read:

104.3.2 Fire Clearance. It shall be unlawful for any person, firm or corporation to operate a business unless a fire clearance inspection has been made and such businesses are in compliance with all fire department requirements.

**D. Section 104.10.1 – Assistance from other agencies.** Section 104.10.1.1 of Chapter 1 is added to read:

104.10.1.1 Fire Prevention Bureau Personnel and Police. All sworn safety personnel assigned to the Fire and Life Safety Division, or such other full-time Fire Department officers or fire prevention personnel including the Community Preservation Officer(s), as may be authorized by the Chief, shall be peace officers as described in Section 830.37 of the California Penal Code and shall enforce the Penal Code, California Fire Code, and where necessary and appropriate, any sections of the Benicia Municipal Code, California Health and Safety Code, and any

other county or state fire-related laws or codes not specifically covered in any part of this Code. These police powers include the issuance of misdemeanor citations (Notice to Appear), and as approved by the Chief, carrying and use of firearms.

When requested to do so by the Fire Chief, the Chief of Police is authorized to assign such available police officers as necessary to assist the Fire Department in enforcing the provisions of this Code.

E. Section 105.4.2.2 – Plan Review and Fees. Section 105.4.2.2 of Chapter 1 is added to read as follows:

1. Plan Review: The Fire Code Official may review all plans for the construction or remodeling of buildings for the purpose of ascertaining and requiring to be corrected any condition liable to cause fire, or endanger life from fire or panic, or any violation of this Code, state laws and regulations, and any other local ordinances or requirements which the Fire Code Official may deem necessary. The Chief of the Fire Department may establish a schedule of fees, as approved by resolution of the City Council; to be charged and collected for plan checking and other required inspection services.

2. Inspection and permit Fees. The Fire Chief may establish a schedule of fees, as approved by the City Council, to be charged and collected for completing required inspection services and for the issuance of permits pursuant to Section 105.7 of this Code. Fire service fees may be charged to any person, firm, corporation or business that through negligence, violation of the law or as a result of carelessness is responsible for the cause of any fire department response to the scene of such an incident. A copy of fee schedules shall be kept in the office of the City Clerk and the office of the Fire Chief, and shall be available for public inspection.

F. Section 108.1-- Board of appeals established is amended to read as follows:

Appeals of orders, decisions, interpretation or determinations made by the Fire Code Official relative to the application and interpretation of this code shall be heard by of the City of Benicia Building Board of Appeals. The Fire Code Official shall serve as an ex officio member of the board when the board is hearing matters related to the this code but shall have no vote on any matter before the board. The board shall render all decisions and findings in writing to the appellant with a copy to the Fire Code Official.

G. Section 108.3-- Qualifications is amended to read as follows:

The qualifications for the Building Board of Appeals are defined in the BMC 2.96.020

H. Section 109.4 – Violation Penalties. Section 109.4 of Chapter 1 is amended to read as follows:

**109.4 Violation Penalties.** Persons who shall violate a provision of this code or shall fail to comply with any of the requirements thereof or who shall erect, install, alter, repair or do work in violation of the approved construction documents or directive of the Fire Code Official, or of a permit or certificate used under provisions of this code, shall be guilty of an Infraction or Misdemeanor as specified in the California Penal Code. Each day that a violation continues after due notice has been served shall be deemed a separate offense.

I. Section 110.4.1 – Abatement of Hazards. Section 110.4.1 of Chapter 1 is added to read as follows:

**110.4.1 Abatement of Hazards.** In situations where immediate abatement of a fire hazard or another potentially hazardous condition is required, the Fire Code Official shall have the authority to abate such hazard immediately. This may include, but is not limited to, confiscation of flammable liquids, fireworks, removing hazardous wiring and adapters, temporary closure of commercial occupancies, extinguishing unsafe or illegal fires and any other similar hazards, determining no smoking and ceasing operation of any type of apparatus that may be a danger to property or life. Costs of abatement may become a lien upon the property affected. Affected persons shall be notified of action taken as soon as possible.

J. Section 111.4 – Failure to Comply. Section 111.4 of Chapter 1 is amended to read as follows:

**111.4 Failure to Comply.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be liable to a fine of not less than (\$500.00) dollars or more than (\$1,500.00) dollars.

K. Section 202 – General Definitions Fire Watch. Section 202 is amended by adding the following:

**202 General Definitions Fire Watch.** Qualified individual(s) shall mean an employee of an acceptable security guard/patrol service or employee approved by the fire code official.

L. Section 307.6 – Open Burning. Section 307.6 of Chapter 1 is added to read as follows:

1. 307.6 Open Burning. No person may ignite, permit or maintain an open fire within the city.

2. Open Outdoor Fires – Exceptions. The following are exceptions from the prohibitions in Section 307.6:

(a) Fire for cooking of food for human consumption, where such use is accomplished in an approved barbecue pit.

(b) Fire for recreational heating, where such use is accomplished in an approved fireplace.

(c) A fire set or permitted by a public fire official in the performance of official duties.

M. Section 502.1 of Chapter 5 is amended to add the following definition:

502.1 All Weather Driving Surface. A roadway designed to carry the imposed weight loads of fire apparatus complete with all underground utilities, curbs, gutters, and a minimum surface finish of one layer of asphalt or concrete or road pavers.

N. Section 503.1.2– Additional access. Section 503.1.2 is amended to add subsection 503.1.2.1 as follows:

503.1.2.1 Access to Open Spaces. When access to open land/space or fire trail systems maintained for public or private use is obstructed by vehicles of any kind, or other obstructions both within the access or the road or street access to the open space, the vehicle or obstruction may be removed and the cost of such removal will be assessed to the responsible party or vehicle owner.

O. Section 503.2.1 – Dimensions. Section 503.2.1 is amended to add subsection 503.2.1.1 as follows:

503.2.1.1 Parking of vehicles on fire apparatus access roads. For the parking of vehicles on a fire apparatus access road, roadway widths shall be increased to accommodate the parking of vehicles as follows:

1. Roadways 20 feet (6096 mm) in width, no parking permitted,
2. Roadways 28 feet (8534 mm) in width, parking permitted on one side only. Parking is permitted on the side of the street absent fire hydrants, and
3. Roadways 36 feet (10 973 mm) in width when parking is not restricted.

**P. Section 503.2.7 – Grade.** Section 503.2.7 is amended in its entirety and replaced as follows:

**503.2.7 Grade.** A fire department access road having a grade of between 12% and 15% shall be designed to have a finished surface of grooved concrete to hold a 74,000-pound traction load. Design for grooved concrete shall be 1/4 inch (6 mm) wide by 1/4 inch (6 mm) deep and 3/4 inch (19 mm) on center. Grades exceeding 15% are not permitted.

**Exception:** Other approved all weather surfaces may be used if the skid resistance is equivalent to or greater than grooved concrete as certified by a registered engineer and approved by the Fire Code Official.

**Q. Section 503.2 – Specifications.** Section 503.2 is further amended to add Section 503.2.9 as follows:

**503.2.9 Roadway minimum design weight load capacity.** A fire department access road shall be designed and maintained to support a minimum load of 74,000 pounds (HS-20-44 Cal-Trans Design Standard) and shall be provided with an all-weather driving surface as specified in this standard.

**R. Section 503.3.1 – Access-Parking Prohibited.** Section 503.3.1 is added to read:

**503.3.1 Access-parking Prohibited.** If, in the judgment of the Fire Code Official, it is necessary to prohibit vehicular parking along public or private driveways and other access ways devoted to public use in order to maintain clear and unobstructed access, the Fire Code Official may require the owner, lessee, or other person in charge of the premises to paint the curbs red, install signs, or give other appropriate notice that parking is prohibited. It shall thereafter be unlawful for any such owner, lessee, or other person in charge to fail to install and maintain in good condition the painted curbs, signs, or other appropriate notice so prescribed. When such areas are marked or signed as provided herein, it shall be unlawful for any person to park or leave standing a vehicle adjacent to any such curb marking or contrary to such sign(s).

It shall be unlawful to park any vehicle or in any other way obstruct or block any "Fire Lane", general access road to any building or complex, fire department connection, access roads or areas to any open space, no parking zones at fire stations or within 10 feet of any fire hydrant.

**S. Section 505 – Premises Identification.** Section 505.1 is added to read:

**505.1 Address Identification.** Any business or building that affords vehicular access to the rear through a driveway, alleyway, or parking lot,

shall also display the building identification or address numbers on the rear of the building.

At the main entrance driveway to each newly constructed multiple dwelling complex, there shall be positioned an illuminated diagram (map) of the complex, which lists all individual addresses of each unit in the complex. The design and location of the map shall be approved by the Fire Chief.

T. Section 507.5.1 – Where Required. Section 507.5.1 of Chapter 5 is amended to read:

507.5.1 Where Required. Where a portion of the facility or building hereafter constructed or moved into or within the jurisdiction is more than 300 feet from a hydrant on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains shall be provided where required by the Fire Code Official.

Fire hydrants shall be placed as approved by the Fire Code Official within fifty (50') feet of fire department connections on new construction.

U. Section 903.2 – Where Required. Section 903.2 through Section 903.2.10 of Chapter 9 is amended to read:

Section 903.2 Where Required. An approved automatic fire sprinkler system shall be installed and maintained in each new building, with the City requiring a building permit according to the following criteria:

1. A Building occupied or used for any purpose including occupancy group A, B, F, H, I, L, M, S, and U (as defined in the California Fire Code), where the fire flow requirements for the building are fifteen hundred gallons per minute or more based on Appendix B requirements.

2. A building more than two stories or thirty-five feet in height;

V. Section 5602 – Firework Findings. Section 5602 is added to Chapter 56 to read as follows:

1. 5602 Firework Findings. The City Council finds that the sale, use and/or discharge of fireworks in the City, whether classified as “dangerous fireworks” and/or “safe and sane fireworks” pursuant to Health and Safety Code Sections 12500 et seq. will endanger life and property, and may encourage the use and/or discharge of fireworks in neighboring jurisdictions where their sale, use and/or discharge are prohibited.

2. 5602.1 Definitions. Any and all terms used in this article shall have the same meaning as defined in Health and Safety Code Sections 12500 et seq. and shall govern the construction of this article.

3. 5602.2 Applicability of State Law. This article does not supersede State law, but is intended to supplement the provisions of Division 11, Part 2, of the Health and Safety Code (Sections 12500 et seq.) and the administrative regulations adopted pursuant to law, and to prohibit and/or regulate by local authority, as authorized by Health and Safety Code Section 12541, the sale used and/or discharge of fireworks in the City.

4. 5602.3 Sale, Use, Possession and/or Discharge Prohibited. No person or organization shall sell, use, possess and/or discharge in the city any fireworks, including, but not limited to, dangerous fireworks and safe and sane fireworks, subject to the exceptions set forth in this article.

5. 5602.4 Seizure of Fireworks. The Fire Code Official is authorized to seize, take, remove or cause to be removed at the expense of the owner any and all fireworks, including, but not limited to, dangerous fireworks and safe and sane fireworks, which are possessed in violation of Chapter 56. Confiscation by any law enforcement officer and/or fire department official is subject to the exceptions set forth in this chapter.

Exceptions. This article does not prohibit, and does not authorize confiscation of fireworks possessed for, the following:

a. A public display of fireworks, including, but not limited to, dangerous fireworks and safe and sane fireworks, in the city; provided, that the person or organization is properly licensed, strictly complies with all applicable provisions of this article, all regulations adopted by the Fire Code Official, all city resolutions and ordinances, all provisions of the Health and Safety Code, and receives authorization of the Fire Code Official for the public displays of fireworks.

b. Any special item containing pyrotechnic compositions which the State Fire Marshal, with the advice of the State Advisory Board, has investigated and determined to be limited to industrial, commercial, agricultural use, or religious ceremonies when authorized by a permit granted by the authority having jurisdiction and is classified as "exempt fireworks" in the Health and Safety Code.

c. The use of torpedoes, flares, or fuses by railroads or transportation agencies for signal purposes or illumination.

d. The sale, use or discharge of blank cartridges for ceremonial purposes, athletic or sports events, or military ceremonies or demonstrations.

6.5602.5 Bond – Insurance. An applicant for a permit to make a public display of fireworks shall furnish proof of adequate compensation insurance for employees as required by State law. The permittee shall furnish a bond or certificate of insurance in an amount deemed adequate by the Fire Code Official for payment of damages that may result to person(s) or property caused by the public display of fireworks or negligence on the part of the applicant or his agents or employees.

W. Section 1103.5 – Sprinkler Systems Where Required. Section 1103.5.3 is added to read as follows:

An approved automatic fire sprinkler system shall be installed and maintained in each new building and addition to an existing building and in the case of the major remodeling of an existing building, with the City requiring a building permit according to the following criteria:

1. A building occupied or used for any purpose including occupancy group A, B, F, H, I, L, M, S and U (as defined in the California Fire Code), Where the fire flow requirements for the building are fifteen hundred gallons per minute or more based on Appendix B requirements;
2. Each building existing on January 1, 2014 is exempt from this section until such time as:
  - a. Structural changes or tenant improvements of forty percent or greater are made to the building, or
  - b. The building adds or changes occupancy classification as defined in the California Building Code

X. Appendix B – Fire Flow Requirements for Buildings is amended as follows:

B105.2 Exception 1. A reduction in required fire-flow of up to 50 percent, as approved, is allowed when the building is provided with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2. The resultant fire-flow shall not be less than 1,500 gallons per minute (5678 L/min) for the prescribed duration as specified in Table B105.1.

Y. Appendix C – Fire hydrant locations and distribution is adopted in its entirety except as amended below:

Section C103 is deleted in its entirety.

Section C105.1 Hydrant spacing is amended to read:

The average spacing between fire hydrants shall not exceed 500 feet on center between hydrants in one and two family dwellings and 300 feet on center between hydrants in all other occupancies.

Table C105.1 is deleted in its entirety.

Z. Appendix D – Fire apparatus access roads is adopted in its entirety except as amended below:

Section D102.1 is amended to read:

D102.1 Access and loading. Facilities, buildings or portions of buildings hereafter constructed shall be accessible to fire department apparatus by way of an approved fire access road with an asphalt, concrete or other approved all-weather driving surface capable of supporting the imposed load of fire apparatus weighing at least 74,000 pounds (33 566kg) in accordance with Cal Trans Design Standard HS-20-44.

Section D103.1 is deleted in its entirety

Section D103.2 is deleted in its entirety

Section D103.2.1 is added to read:

D103.2.1 Angles of approach and departure. The angles of approach and departure for any means of access shall not exceed 10 percent at 10 feet of the grade break.

Section D103.3 is deleted in its entirety and replaced by the following to read:

D103.3 Turning radius. Based on a minimal unobstructed width of 20 feet, a fire apparatus access roadway shall be capable of providing a minimum standard turning radius of 25 feet (7620 mm) inside and 45 feet (13 716mm) outside.

Table D103.4 is amended to read:

#### **Table D103.4**

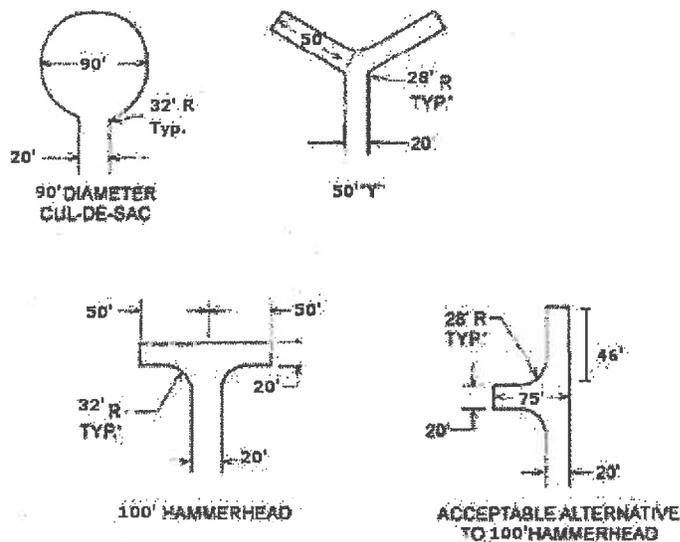
#### **REQUIREMENTS FOR DEAD-END FIRE**

## APPARATUS ACCESS ROADS

LENGTH (feet)	MINIMUM WIDTH (feet)	TURNAROUNDS REQUIRED
0 – 150	20 <sup>a</sup>	None required
151 – 750	20 <sup>a</sup>	100-foot Hammerhead, 50-foot “Y”, 75-foot Shunt or 90-foot-diameter cul-de-sac in accordance with figure D103.1
Over 750	Special approval required <sup>b</sup>	

- a. A *driveway* with a minimum width of 16 feet is acceptable for access to no more than two single-family *dwelling*s.
- b. Any fire apparatus access roadway or *driveway* that is approved to be less than 20 feet wide and to exceed 750 feet in length shall have outsets or turnouts every 300 feet along the length of the road or driveway, or at locations approved by the fire code official. Each outset or turnout shall be of the following dimensions: an 8 foot wide turnout that extends at least 40 feet in length.

Figure D103.1 is amended to read:



D103.5 is amended by amending criterial 1 and adding criterial 10 to read:

1. The minimum clear width shall be 20 feet (6096 mm)

Exception: For access to one and two single-family dwellings, 16 feet clear width is acceptable.

10. All gates shall be installed and located a minimum of 30 feet off the street.

Section D103.6.1 is amended to read:

D103.6.1 Roads less than 28 feet in width. Fire apparatus access roads less than 28 feet wide shall be posted on both sides as a fire lane.

Section D103.6.2 is amended to read:

D103.6.2 Roads 28 feet in width or greater, but less than 36 feet in width. Fire apparatus access roads 28 feet wide or greater, but less than 36 feet wide, shall be posted on one side of the road as a fire lane.

Section D105.3 is amended to read:

D105.3 Proximity to building. At least one of the required access routes meeting this condition shall be located within a minimum of 15 feet (45 772mm) and a maximum of 30 feet (9 144 mm) from the building, and shall be positioned parallel to one entire side of the building with the largest vertical dimension while allowing access to each floor of the building.

Section D106.1 is amended to read:

Section D106.1 Projects having more than 100 dwelling units. Multiple-family residential projects having more than 100 dwelling units shall be provided with two separate and approved fire apparatus access roads and shall meet the requirements of Section D104.3. Exception: Deleted

Section D106.2 is deleted in its entirety.

#### 8.28.070 Penalties.

A. Any person who violates any of the provisions of this code or standards hereby adopted or fails to comply therewith, or who violates or fails to comply with any order made thereunder, or who builds in violation of any detailed statement of specifications or plans submitted and approved thereunder, or any certificate or permit issued thereunder, and from which no appeal has been taken, or who fails to comply with such

an order as affirmed or modified by the fire code official or by a court of competent jurisdiction, within the time fixed herein, shall severally for each and every such violation and noncompliance, respectively, be guilty of a misdemeanor, punishable by a fine of not less than \$50.00 nor more than \$1,000 or by imprisonment for not more than six months or by both such fine and imprisonment. The imposition of one penalty for any violation shall not excuse the violation or permit it to continue; and all such persons shall be required to correct or remedy such violations or defects within a reasonable time.

B. The application of the above penalty shall not be held to prevent the enforced removal of prohibited conditions or the invocation of other remedies provided in the Benicia Municipal Code or by other law.

C. Each person is guilty of a separate offense for each and every day during any portion of which the violation of this code is committed, continued, or permitted by that person.

### **Section 3.**

Division I (Construction Standards and Structure Relocation) of Title 15 (Buildings and Construction) of the Benicia Municipal Code is hereby amended by amending Chapter 15.02 (California Residential Code) to read as follows:

#### **Chapter 15.02**

#### **CALIFORNIA RESIDENTIAL CODE**

- 15.02.010 Adoption by reference.
- 15.02.020 Copies on file.
- 15.02.030 Amendments made in the California Residential Code.

**15.02.010 Adoption by reference.** The California Residential Building Code, 2013 Edition, Appendix G, H, K published by the International Code Council is adopted by reference the same as though fully set forth in this chapter.

**15.02.020 Copies on file.** One copy of the California Residential Code and Appendices as adopted by BMC 15.02.010, and all amendments thereto, shall be kept on file in the building official's office for inspection by the public.

**15.02.030 Amendments made in the California Residential Code.** The California Residential Code is amended and changed in the following respects:

- A. Section R202 of Chapter 2 (Definitions) is amended to add the following definition to read as follows:

Pool: Any outside body of water created by artificial means, any portion of which exceeds eighteen inches (18") in depth.

**B. Section R319 added to read as follows:**

Minimum numeral size shall be 4" high with a stroke of 1/2" and shall contrast with the background.

1. Lighting of building addresses – The building address for all new buildings constructed after the date of this ordinance shall be automatically lighted at night. Buildings under renovation which the lighted numbers can readily be added are required to add the numbers.

**C. Subsection R902.1.5 is added to Chapter 9 (Roof Assemblies) of the California Residential Code to read as follows:**

All new roof coverings shall be a class B or better roof covering assembly as defined by CBC 1505.

**D. Subsection R506.1 (Minimum slab thickness) is amended to read as follows:**

Minimum slab thickness. A minimum of four inches (4") of gravel and 4" of concrete shall be required under all non-engineered concrete floor slabs supported directly on the ground in all occupancies except "U" occupancies that are not attached to another structure. Non-engineered concrete floor slabs on grade shall be reinforced with deform reinforcing bars not less than three-eighths inch (3/8") at twenty-four inches (24") each way.

**E. Subsection R1007 (Wood burning stoves) is added to Chapter 10 (Chimneys and Fireplaces) of the California Residential Code to read as follows:**

Wood burning stove appliances. Any new wood-burning appliance must be one of the following:

1. A pellet-fueled wood device;
2. A U. S. EPA Phase II certified device; or
3. A low mass fireplace, masonry heater or other wood burning device of a make and model that meets EPA emission targets and has been approved in writing by the air pollution control officer of the bay area air quality management district or the designee thereof.

**F. Section AG100.2 (Pools) is added to Appendix G (Special construction) of the California Residential Code to read as follows:**

Pools.

1. Any body of water to which a permit issued after March 19, 1998, shall comply with the following: An outdoor swimming pool, spa, hot tub or manmade body of water such as decorative fountains or ponds over 18" deep, shall be provided with a barrier that shall be installed, inspected and approved prior to plastering or filling with water. The barrier shall comply with the following:

- a. The top of the barrier shall be at least 60 inches above grade measured on the side of the barrier which faces away from the pool. The vertical clearance between grade and the bottom of the barrier shall not be more than 2 inches measured on the side of the barrier which faces away from the swimming pool. Any decorative design work on the side away from the swimming pool, such as protrusions, indentations or cutouts, which render the barrier easily climbable, is prohibited.
- b. Openings in the barrier shall not allow passage of a 4" diameter sphere.
- c. Chain link fences used as the barrier shall be substantial and shall not be less than 11 gauge.
- d. Access gates shall comply with the requirements of Items a. through c. Pedestrian access gates shall be self-closing and have a self-latching device with the latching service at least 60" above grade. Pedestrian gates shall swing away from the pool area. Any gates other than pedestrian access gates shall be equipped with attached lockable hardware or padlocks and shall remain locked at all times when not in use. This gate must have only occasional use.
- e. All doors of a dwelling or garage providing direct access to the water area shall provide a separation fence and gate meeting the requirements of Items a, b, c, and d.

**EXCEPTION:** When approved by the building official, one of the following may be used:

- i. Self-closing and self-latching devices installed on all doors with direct access to the pool with the release mechanism located a minimum of 60 inches (1,372 mm) above the floor.
- ii. An alarm installed on all doors with direct access to the pool. The alarm shall sound continuously for a minimum of 30 seconds immediately after the door and its screen, if present,

are opened, and be capable of providing a sound pressure level of not less than 85 dba when measured indoors at 10 feet (3,048 mm). The alarm shall automatically reset under all conditions. The alarm system shall be equipped with a manual device, such as a touchpad or switch to temporarily deactivate the alarm for a single opening. Such deactivations shall last no longer than 15 seconds. The deactivation switch shall be located at least 60 inches (1,524 mm) above the threshold of the door.

iii. Hot tubs or spas with locking safety covers complying with ASTM-ES 13-89 shall be considered in compliance with Pool Enclosure Requirements.

**Indoor Swimming Pools.** For an indoor swimming pool, protection shall comply with the requirements of Item e.

2. Any pool, spa or hot tub for which a building permit was issued prior to March 19, 1998, shall comply with the following. Every swimming pool shall be completely enclosed by a wall, fence or other substantial structure not less than four feet (4') in height measured on the outside of the enclosure. No openings other than doors and gates with any dimension greater than four inches (4") shall be permitted therein except that a picket fence may be erected or maintained having horizontal spacing between pickets not more than four inches (4"). All gates or door openings through such enclosures shall be equipped with self-closing and self-latching devices designed to keep and are capable of keeping such door or gate securely closed at all times when not in actual use; provided, however, that the door of any dwelling occupied by human beings and forming any part of the enclosure hereinabove required need not be so equipped. Any self-latching device accessible from the outside of the pool enclosure shall be located at least four feet (4') above the ground or otherwise equally inaccessible to small children. This requirement applies to any manmade body of water over 18" deep, including decorative fountains or ponds.

G. Section R601.3.4 (Wall construction) Wood framed and steel framed shear walls and all braced wall panels sheathed with gypsum board, lath and plaster shall not be permitted to resist wind and seismic loads.

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## **Section 4.**

Division I (Construction Standards and Structure Relocation) of Title 15 (Buildings and Construction) of the Benicia Municipal Code is hereby amended by amending Chapter 15.04 (California Building Code) to read as follows:

### **Chapter 15.04**

#### **CALIFORNIA BUILDING CODE**

**Sections:**

- 15.04.010 Adoption by reference.
- 15.04.020 Copies on file.
- 15.04.030 Amendments made in the California Building Code.

**15.04.010 Adoption by reference.** The California Building Code, 2013 Edition, Volumes 1 and 2, including Chapter 1, Division II, and Appendix G and I published by the International Code Council is adopted by reference the same as though fully set forth in this chapter.

**15.04.020 Copies on file.** One copy of the California Building Code and Appendices as adopted by BMC 15.04.010, and all amendments thereto, shall be kept on file in the building official's office for inspection by the public.

**15.04.030 Amendments made in the California Building Code.** The California Building Code is amended and changed in the following respects:

A. Section 105.3.2 of Chapter 1, Division II is amended to read as follows;

An application for a permit for any proposed work shall be deemed to have been abandoned six (6) months after the date of filing unless such application has been pursued in good faith, or a permit has been issued; except that the building official is authorized to grant one extension of six (6) months. The extension shall be requested in writing and justified cause demonstrated. Whatever the case, a permit application is valid for a maximum one (1) year after which time the application expires and a new plan review fee must be paid. The code in effect at the time the newest application is made shall be the code that is enforced.

B. Section 105.5 (Building permit) of Chapter 1 Division II is amended to read as follows:

**Building Permit.** Every permit issued shall become invalid unless the work on the site authorized by such permit is commenced within six (6) months after its issuance, or if the work authorized on the site by such permit is suspended or abandoned for a period of six (6) months after the time the work is commenced. The permit will remain valid for a total of

two (2) years from the date of the permit issuance. If the work becomes invalid, a new permit must be issued and the permit fees paid as per the city fee schedule for the amount of work required to finish the job.

- C. Chapter 1 Division II Subsection 107.6 (Standard plans) is added to read as follows:

107.6.1 – Standard plans. The building official may approve a set of plans for a building or structure as a “standard plan,” provided the applicant has made proper application, submitted complete sets of plans, and paid the plan checking fee as required by Benicia Municipal Code Chapter 15.26. When it is desired to use an approved “standard plan” for an identical structure, three plot plans shall be submitted, and a plan-checking fee equal to one-half of the full plan-checking fee required by Benicia Municipal Code Chapter 15.26 shall be paid at the time application is made for such identical structure. Such duplicate plans shall be compared, stamped, and kept on the job as required by California Building Code section [A] 107.3.1. In case of any deviation whatsoever from this standard plan, complete plans, together with a full plan-checking fee, shall be submitted for the proposed work, as required by California Building Code-section [A] 107. Standard plans shall be valid for a period of one year from the date of approval. This period may be extended by the building official when there is evidence that the plan may be used again. The code in effect when the plan review application is submitted and the plan review fee paid shall be the governing code.

- D. Chapter 1, Section [A] 114 (Unlawful act). Chapter 1, Division II Section 114.5 – Violation a Public Nuisance is added to read as follows:

It is declared that any violation of this code, the CPC, CMC, CRC, CEC or other state building codes constitutes a public nuisance. In addition to any other remedies this code provides for enforcement, the city may bring civil suit to enjoin violation of its provisions.

- E. Section 202 of Chapter 2 (Definitions) is amended to add the following definition to read as follows:

Pool: Any outside body of water created by artificial means, any portion of which exceeds eighteen inches (18") in depth.

- F. Section 501.2 of Chapter 5 (General building heights and areas) is amended to read as follows:

1. Address numbers. Apartment, Condominium and Townhouse Complexes – An illuminated, diagrammatic representation of the complex shall be installed at the primary vehicular and walkway entrance

to each complex. This diagram shall be of sufficient size to be easily visible from said vehicular and walkway entrance.

- a. An apartment, condominium, or townhouse complex shall be defined as a group of three or more separate, non-connecting buildings, all located on common ground where each building contains two or more living units.
- b. Each building shall be marked at a location clearly visible from the nearest vehicular access with the street address, building number/letter and numbers of units located in that building.

Example: 2237 Address  
Bldg. "B" Building designation  
Units 1 – 8 Units in building

Minimum numeral size shall be 6" high with a stroke of 1" and shall contrast with the background.

2. Commercial – Individual units shall be addressed front and back. Minimum numeral size shall be 6" high with a stroke of 1" and shall contrast with the background. Units with entrances on both the front and rear of the building shall have identical addresses at both locations.

3. Industrial – Individual units within a building shall be addressed front and back. Individual buildings shall be marked at a point clearly visible from the street. Minimum numeral size shall be 12" high with a 3" wide stroke and shall contrast with the background. Units with entrances on both the front and rear of the building shall have identical addresses at both locations.

4. Lighting of building addresses – The building address for all new buildings constructed after the date of this ordinance shall be automatically lighted at night.

G. Subsection 1505.1.5 (Shingles and shakes) is added to Chapter 15 (Roofing) of the California Building Code to read as follows:

Shingles and shakes. All new roof coverings shall be a class B or better roof covering assembly as defined by CBC 1505.

H. Subsection 1907.1.2 (Minimum slab thickness) is added to Chapter 19 (Concrete) of the California Building Code to read as follows:

Minimum slab thickness. A minimum of four inches (4") of gravel and 4" of concrete shall be required under all non-engineered concrete floor slabs supported directly on the ground in all occupancies except "M" occupancies that are not attached to another structure. Non-engineered concrete floor slabs on grade shall be reinforced with deform reinforcing bars not less than three-eighths inch (3/8") at twenty-four inches (24") each way.

- I. Subsection 2111.14 (Wood burning stove appliances) is added to Chapter 21 (Masonry) of the California Building Code to read as follows:

Wood burning stove appliances. Any new wood-burning appliance must be one of the following:

1. A pellet-fueled wood device;
2. A U. S. EPA Phase II certified device; or
3. A low mass fireplace, masonry heater or other wood burning device of a make and model that meets EPA emission targets and has been approved in writing by the air pollution control officer of the bay area air quality management district or the designee thereof.

- J. Section 3119.B.5 (Pools) is added to Chapter 31 (Special construction) of the California Building Code to read as follows:

Pools.

1. Any body of water to which a permit issued after March 19, 1998, shall comply with the following: An outdoor swimming pool, spa, hot tub or manmade body of water such as decorative fountains or ponds over 18" deep, shall be provided with a barrier that shall be installed, inspected and approved prior to plastering or filling with water. The barrier shall comply with the following:

a. The top of the barrier shall be at least 60 inches above grade measured on the side of the barrier which faces away from the pool. The vertical clearance between grade and the bottom of the barrier shall not be more than 2 inches measured on the side of the barrier which faces away from the swimming pool. Any decorative design work on the side away from the swimming pool, such as protrusions, indentations or cutouts, which render the barrier easily climbable, is prohibited.

b. Openings in the barrier shall not allow passage of a 4" diameter sphere.

c. Chain link fences used as the barrier shall be substantial and shall not be less than 11 gauge.

d. Access gates shall comply with the requirements of Items a. through c. Pedestrian access gates shall be self-closing and have a self-latching device with the latching service at least 60" above grade. Pedestrian gates shall swing away from the pool area. Any gates other than pedestrian access gates shall be equipped with attached lockable hardware or padlocks and shall remain locked at all times when not in use. This gate must have only occasional use.

e. All doors of a dwelling or garage providing direct access to the water area shall provide a separation fence and gate meeting the requirements of Items a, b, c and d.

**EXCEPTION:** When approved by the building official, one of the following may be used:

i. Self-closing and self-latching devices installed on all doors with direct access to the pool with the release mechanism located a minimum of 60 inches (1,372 mm) above the floor.

ii. An alarm shall be installed on all doors with direct access from the living area of the dwelling to the pool. The alarm shall sound continuously for a minimum of 30 seconds immediately after the door and its screen, if present, are opened, and be capable of providing a sound pressure level of not less than 85 dba when measured indoors at 10 feet (3,048 mm). The alarm shall automatically reset under all conditions. The alarm system shall be equipped with a manual device, such as a touchpad or switch to temporarily deactivate the alarm for a single opening. Such deactivations shall last no longer than 15 seconds. The deactivation switch shall be located at least 60 inches (1,524 mm) above the threshold of the door.

iii. Hot tubs or spas with locking safety covers complying with or ASTM ES 13-89 shall be considered in compliance with Pool Enclosure Requirements.

**Indoor Swimming Pool.** For an indoor swimming pool, protection shall comply with the requirements of Item e.

2. Any pool, spa or hot tub for which a building permit was issued prior to March 19, 1998, shall comply with the following. Every swimming pool shall be completely enclosed by a wall, fence or other substantial structure not less than four feet (4') in height measured on the outside of

the enclosure. No openings other than doors and gates with any dimension greater than four inches (4") shall be permitted therein except that a picket fence may be erected or maintained having horizontal spacing between pickets not more than four inches (4"). All gates or door openings through such enclosures shall be equipped with self-closing and self-latching devices designed to keep and are capable of keeping such door or gate securely closed at all times when not in actual use; provided, however, that the door of any dwelling occupied by human beings and forming any part of the enclosure hereinabove required need not be so equipped. Any self-latching device accessible from the outside of the pool enclosure shall be located at least four feet (4') above the ground or otherwise equally inaccessible to small children. This requirement applies to any manmade body of water over 18" deep, including decorative fountains or ponds.

- K. Section 2505 (Shear wall construction) of Chapter 25 (Gypsum board and plaster) is amended to read as follows:

Shear wall construction.

1. 2505.1 – Resistance to shear (wood framing) is amended to read as follows:

Delete the section and replace with the following: Wood framed Shear walls sheathed with gypsum board, lath and plaster are not be permitted to resist wind and seismic loads.

2. 2505.2 – Resistance to shear (steel framing) is amended to read as follows:

Delete the section and replace with the following: Steel framed shear walls sheathed with gypsum board, lath and plaster shall not be permitted to resist wind and seismic loads.

- L. Subsection 2509.3 (Gypsum board in showers and water closets) of Chapter 25 (Gypsum board and plaster) is amended by adding the following:

4. Gypsum board in showers and water closets. Paper-backed gypsum board products shall not be used as a backer for tile in showers and bathtub areas.

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**Section 5.**

Division I (Construction Standards and Structure Relocation) of Title 15 (Buildings and Construction) of the Benicia Municipal Code is hereby amended by amending Chapter 15.08 (California Mechanical Code) to read as follows:

**Chapter 15.08**

**CALIFORNIA MECHANICAL CODE**

**Sections:**

- 15.08.010 Adoption by reference.
- 15.08.020 Copies on file.
- 15.08.030 Repealed.

**15.08.010** Adoption by reference. The California Mechanical Code, 2013 Edition, including all Appendices, is adopted by reference the same as though fully set forth in this chapter.

**15.08.020** Copies on file. One copy of the California Mechanical Code and Appendices as adopted by BMC 15.08.010, and all amendments thereto, shall be kept on file in the building official's office for inspection by the public.

**15.08.030** Repealed.

**Section 6.**

Division I (Construction Standards and Structure Relocation) of Title 15 (Buildings and Construction) of the Benicia Municipal Code is hereby amended by amending Chapter 15.12 (California Plumbing Code) to read as follows:

**Chapter 15.12**

**CALIFORNIA PLUMBING CODE**

**Sections:**

- 15.12.010 Adoption by reference.
- 15.12.020 Copies on file.
- 15.12.030 Amendments made in the California Plumbing Code.

**15.12.010** Adoption by reference. The California Plumbing Code, 2013 Edition, including all Appendices is adopted by reference the same as though fully set forth in this chapter.

**15.12.020** Copies on file. One copy of the California Plumbing Code and Appendices as adopted by BMC 15.12.010, and all amendments thereto, shall be kept on file in the building official's office for inspection by the public.

**15.12.030** Amendments made in the California Plumbing Code. The California Plumbing Code is amended and changed in the following respects:

- A. Chapter 604 (Water supply and distribution) is amended by adding Section 604.15 (Metal water piping). Section 604.15 (Metal water piping) is added to read as follows:

Section 604.15 – Metal water piping. Metal water piping, including any repair of any metal water piping, is not to be permitted buried under any structure except as permitted in individual circumstances and approved by the building official.

- B. Chapter 710 (Sanitary drainage) is amended by adding Section 710.1 – (Sewage backwater). Section 710.1 (Sewage backwater) is added to read as follows:

Section 710.1 – Sewage backwater. Where a fixture is installed on a floor level that is lower than the next upstream manhole cover of the public or private sewer, serving such drainage piping, such fixtures shall be protected from backflow of sewage by installing an approved type of backwater valve or mushroom type device or other fixtures approved by the Building Official. Fixtures on floor levels above such level elevation shall not be discharged through the backwater valve. Cleanouts for drains that pass through a backwater valve shall be clearly identified with a permanent label stating "Backwater Valve Downstream."

## **Section 7.**

Division I (Construction Standards and Structure Relocation) of Title 15 (Buildings and Construction) of the Benicia Municipal Code is hereby amended by amending Chapter 15.16 (California Electrical Code) to read as follows:

### **Chapter 15.16**

#### **CALIFORNIA ELECTRICAL CODE**

##### **Sections:**

- 15.16.010 Adoption by reference.
- 15.16.020 Copy on file.
- 15.16.030 Repealed.

15.16.010 Adoption by reference. The California Electrical Code, 2013 Edition, including all Appendices is adopted by reference the same as though fully set forth in this chapter.

15.16.020 Copy on file. One copy of the California Electrical Code and Appendices as adopted by BMC 15.16.010, and all amendments thereto, shall be kept on file in the building official's office for inspection by the public.

15.16.030 Repealed.

**Section 8.**

Division I (Construction Standards and Structure Relocation) of Title 15 (Buildings and Construction) of the Benicia Municipal Code is hereby amended by amending Chapter 15.16 (California Green Building Standards Code) to read as follows:

Chapter 15.18

CALIFORNIA GREEN BUILDING STANDARDS CODE

Sections:

- 15.18.010 Adoption by reference.
- 15.18.020 Copies on file.
- 15.18.030 Amendments made in the California Green Building Standards Code.

15.18.010 Adoption by reference. The California Green Building Standards Code, 2013 Edition, including all Appendices, is adopted by reference the same as though fully set forth in this chapter.

15.18.020 Copies on file. One copy of the California Green Building Standards Code and appendices, as adopted by BMC 15.18.010, and all amendments thereto, shall be kept on file in the building official's office for inspection by the public.

15.18.030 Amendments made in the California Green Building Standards Code. The California Green Building Standards Code is amended and changed in the following respects:

- A. Section 101.3.2 is added to California Green Building Standards Code to read as follows:

Section 101.3.2 The provisions of this code, except 4.504.2 through and including 4.504.5.1, shall be encouraged for residential room additions of 600 square feet or more.

- B. Section 101.3.3 is added to the California Green Building Standards Code to read as follows:

Section 101.3.3 When the total cost of a residential construction project exceeds a valuation threshold of 20,000 dollars or more based on the January 2011 "ENR US20 Cities " average construction cost index, the project is encouraged to comply with one or more of the following for the existing dwelling. The item(s) must be specified on the plans prior to permit issuance, and the work shall constitute at least 2% of the construction cost. The selected item(s) must be complete prior to the final inspection of the permit.

1. Install ceiling insulation to bring thermal resistance value of ceiling insulation to R-30.

*Exempt:* Those buildings with no attic, or inadequate attic space between roof and ceiling below. Inadequate space is defined as that where the roof slope is less than two and one-half feet in twelve feet, and that there is less than thirty (30) inches of vertical clear height at the roof ridge, measured from the top of the bottom chord of the truss or ceiling joist to the underside of the roof structural members or rafters.

*Not Exempt:* Houses or units having an attic but no attic access hole. A permanent access hole must be constructed, and R30 or greater insulation installed, including on the access cover.

2. Furnace ducts are sealed at plenum and all joints in air duct system, and ducts insulated to resistance value R3 or greater.

*Exempt:* Ducts between floors, inside interior walls or otherwise inaccessible without alteration.

3. All exposed hot water pipes insulated to at least a thermal resistance value of R3 in pumped, recirculating domestic forced hot water heating systems.

4. Insulate to at least a thermal resistance of R3 exposed hot and cold water pipes within 5 feet of water heater.

*Exempt:* Hot water pipes between floors, inside interior walls, or otherwise inaccessible without alteration.

5. Incandescent light bulbs replaced with lamps of at least 25 lumens per watt.

6. Approved weather stripping installed on all exterior doors, including doors to unheated garages, basements, crawl spaces, attics and porches. Weather strip must be permanently affixed; adhesive strip insulation tape does not meet the requirements unless it is screwed or tacked in place every six inches.

7. Approved dampers, doors or other devices to block airflow and reduce heat loss through chimneys.
8. Replace existing windows not affected by the renovation with windows rated with a minimum U-factor of 0.40.
9. Considerations may be made for other energy improvements if approved by the Building Official. Items from the list performed within 6 months of the permit application may also be considered with verification.

### **Section 9.**

Division I (Construction Standards and Structure Relocation) of Title 15 (Buildings and Construction) of the Benicia Municipal Code is hereby amended by amending Chapter 15.19 (California Administrative Code) to read as follows:

#### **Chapter 15.19**

#### **CALIFORNIA ADMINISTRATIVE CODE**

**Sections:**

- 15.19.010 Adoption by reference.
- 15.19.020 Copies on file.

**15.19.010** **Adoption by reference.** The California Administrative Code, 2013 Edition is adopted by reference the same as though fully set forth in this chapter.

**15.19.020** **Copies on file.** One copy of the California Administrative Code as adopted by BMC 15.19.010, and all amendments thereto, shall be kept on file in the building official's office for inspection by the public.

### **Section 10.**

Division I (Construction Standards and Structure Relocation) of Title 15 (Buildings and Construction) of the Benicia Municipal Code is hereby amended by amending Chapter 15.20 (California Energy Code) to read as follows:

#### **Chapter 15.20**

#### **CALIFORNIA ENERGY CODE**

**Sections:**

- 15.20.010 Adoption by reference.
- 15.20.020 Copies on file.

**15.20.010** Adoption by reference. The California Energy Code, 2013 Edition is adopted by reference the same as though fully set forth in this chapter.

**15.20.020** Copies on file. One copy of the California Energy Code as adopted by BMC 15.20.010, and all amendments thereto, shall be kept on file in the building official's office for inspection by the public.

**Section 11.**

Division I (Construction Standards and Structure Relocation) of Title 15 (Buildings and Construction) of the Benicia Municipal Code is hereby amended by amending Chapter 15.21 (California Historical Building Code) to read as follows:

Chapter 15.21

CALIFORNIA HISTORICAL BUILDING CODE

Sections:

15.21.010 Adoption by reference.

15.21.020 Copies on file.

**15.21.010** Adoption by reference. The California Historical Building Code, 2013 Edition is adopted by reference the same as though fully set forth in this chapter.

**15.21.020** Copies on file. One copy of the California Historical Building Code as adopted by BMC 15.21.010, and all amendments thereto, shall be kept on file in the building official's office for inspection by the public.

**Section 12.**

Division I (Construction Standards and Structure Relocation) of Title 15 (Buildings and Construction) of the Benicia Municipal Code is hereby amended by amending Chapter 15.22 (California Existing Buildings Code) to read as follows:

Chapter 15.22

CALIFORNIA EXISTING BUILDINGS CODE

Sections:

15.22.010 Adoption by reference.

15.22.020 Copies on file.

**15.22.010** Adoption by reference. The California Existing Buildings Code, 2013 Edition is adopted by reference the same as though fully set forth in this chapter.

**15.22.020** Copies on file. One copy of the California Existing Buildings Code as adopted by BMC 15.22.010, and all amendments thereto, shall be kept on file in the building official's office for inspection by the public.

**Section 13.**

Division I (Construction Standards and Structure Relocation) of Title 15 (Buildings and Construction) of the Benicia Municipal Code is hereby amended by amending Chapter 15.23 (California Referenced Standards Code) to read as follows:

Chapter 15.23

CALIFORNIA REFERENCED STANDARDS CODE

Sections:

- 15.23.010 Adoption by reference.
- 15.23.020 Copies on file.

**15.23.010** Adoption by reference. The California Referenced Standards Code, 2013 Edition is adopted by reference the same as though fully set forth in this chapter.

**15.23.020** Copies on file. One copy of the California Referenced Standards Code as adopted by BMC 15.23.010, and all amendments thereto, shall be kept on file in the building official's office for inspection by the public.

**Section 14.**

Division I (Construction Standards and Structure Relocation) of Title 15 (Buildings and Construction) of the Benicia Municipal Code is hereby amended by amending Chapter 15.26 (Building Permit Fees and Other Fees) to read as follows:

Chapter 15.26

BUILDING PERMIT FEES AND OTHER FEES

Sections:

- 15.26.010 General requirements and other fees.
- 15.26.020 Building permit fees.

**15.26.010 General requirements and other fees.**

**A. Building permit fees charged on all building permit applications including electrical, mechanical and plumbing permits are in accordance with the fee schedules contained within this chapter.**

**B. Other Fees (Includes Permit Issuance Fee).**

1. a. Inspection for compliance to city codes which requires a letter certifying same: \$160.00.

b. Inspection for compliance to city codes without a letter: \$86.00.

2. Spa permit (prefabricated): \$96.75 to include installation, plumbing, mechanical and electrical.

3. a. Residential Solar Photovoltaic Systems: \$125.00

b. Non-residential Solar Photovoltaic Systems:

<8 kw \$500.00

<49 kw \$1,000.00

>49 kw \$1,500.00

4. Kitchen remodel: lighting only – \$106.25.

5. Kitchen remodel: plugs and lights – \$118.25.

6. Kitchen remodel: complete electric and DWV with water lines – \$150.50.

7. Bath/shower remodel: \$129.00.

8. Pools.

a. Gunite pools plan review: \$129.00.

b. Gunite pool permit issuance and inspection: \$258.00.

c. Pool heater: \$64.50.

9. Fireplace insert with gas and electric: \$150.00.

10. Work which was begun prior to required permit issuance: \$129.00.  
Investigation fee over one hour at \$129.00 per hour \*.

11. Inspections outside of normal business hours, per hour (minimum charge – two hours): \$129.00\*.

12. Re-inspection fees, per inspection: \$129.00\*.

13. Inspections for which no fee is specifically indicated, per hour (minimum charge of one-half hour): \$129.00\* (plus issuance fee).

14. Plan review for which no fee is specifically indicated, or as required by changes, additions or revisions to plans, or to plans for which an initial review has been completed, per hour (minimum charge of one-half hour): \$129.00\*.

15. Inspections outside of normal business hours, per hour (minimum charge – two hours): \$129.00\*.

16. Plan and Document Retention.

a. A plan and document retention fee shall be charged at a rate of \$2.25 per page for all plans, and \$0.25 per eight-inch by 11-inch paper, with a \$1.00 minimum charge.

b. The plan and document retention fee shall be used solely for the purpose of preserving building division plans.

c. The building official may adjust the rate charged, on July 30th of each year, to reflect an increase or decrease in cost of preserving plans.

17. Plan review is 65 percent of the building inspection fee.

18. Building inspection fees may be refunded upon written request if no work for the permit has begun. An administrative fee of up to \$110.00 will be assessed for any fee request refund at the discretion of the building official. (Ord. 08-16 § 1; Ord. 95-15 N.S.; Ord. 87-6 N.S. § 2, 1987).

19. Copies of documents and plans provided shall be charged at a rate as per BMC section 4.12.090.

**15.26.020 Building permit fees.**

A. The following building permit fees are adopted:

<b>Total Valuation</b>	<b>Fee</b>
\$1.00 to \$500.00	\$64.50
\$501.00 to \$2,000	\$64.50 for the first \$500.00 plus \$2.75 for each additional \$100.00 or fraction thereof, to and including \$2,000
\$2,001 to \$25,000	\$105.50 for the first \$2,000 plus \$12.50 for each additional \$1,000 or fraction thereof, to and including \$25,000
\$25,001 to \$50,000	\$394.50 for the first \$25,000 plus \$9.00 for each additional \$1,000 or fraction thereof, to and including \$50,000
\$50,001 to \$100,000	\$622.50 for the first \$50,000 plus \$6.25 for each additional \$1,000 or fraction thereof, to and including \$100,000
\$100,001 to \$500,000	\$937.50 for the first \$100,000 plus \$5.00 for each additional \$1,000 or fraction thereof, to and including \$500,000
\$500,001 to \$1,000,000	\$2,897.50 for the first \$500,000 plus \$4.25 for each additional \$1,000 or fraction thereof, to and including \$1,000,000
\$1,000,001 and up	\$4,997.50 for the first \$1,000,000 plus \$2.75 for each additional \$1,000 or fraction thereof

B. Residential and Miscellaneous Electrical Permit Fees.

1. Permit Issuance.

a. For the issuance of each electrical permit: \$64.50.

b. For the issuance of each supplemental permit for which the original permit has not expired, been canceled, nor finalized: \$21.50.

2. System Fee Schedule. (Note: The following do not include permit-issuing fee.)

a. New Residential Buildings. The following fees shall include all wiring and electrical equipment in or on each building, or other electrical equipment on the same premises constructed at the same time: \$0.06 per foot. For other types of residential occupancies and for alterations, additions and modifications to existing residential buildings, use the unit fee schedule below.

b. Temporary Power Service.

i. For a temporary service pole or pedestal including all pole or pedestal-mounted receptacle outlets and appurtenances, each: \$30.00.

ii. For a temporary distribution system and temporary lighting and receptacle outlets for construction sites, decorative lights, Christmas tree sales lots, fireworks stands, etc., each: \$53.75.

3. Unit Fee Schedule. (Note: The following do not include permit-issuing fee.)

a. Receptacle, Switch and Light Outlets. For receptacle, switch, light or other outlets at which current is used or controlled, except services, feeders and meters:

i. Up to the first 20 fixtures: \$24.00.

ii. Additional fixtures, each: \$0.65.

(Note: For multi-outlet assemblies, each five feet (1,524 mm) or fraction thereof may be considered as one outlet.)

b. Services.

i. For new or replacement electric service panels: \$39.00.

ii. For new or replacement nonresidential single-phase electric service panels: \$64.50.

iii. Three-phase 480/277 1,000 amp or more: \$161.25.

c. Miscellaneous apparatus, conduits and conductors, subpanels for electrical apparatus, conduits and conductors for which a permit is required but for which no fee is herein set forth: \$43.00.

Note: This fee is not applicable when a fee is paid for one or more services, outlets, fixtures, appliances, power apparatus, busways, signs or other equipment.

C. Residential and Miscellaneous Mechanical Permit Fees.

1. Permit Issuance and Heaters.

a. For the issuance of each mechanical permit: \$64.50.

b. For the issuance of each supplemental permit for which the original permit has not expired, been canceled or finalized: \$21.50.

2. Unit Fee Schedule. (Note: the following do not include permit-issuing fee.)

a. Furnaces.

i. For the installation or relocation of each forced-air or gravity-type furnace or burner, including ducts and vents attached to such appliance: \$43.00.

ii. For the installation or relocation of each forced-air or gravity-type furnace or burner, including ducts and vents attached to such appliance over 100,000 Btu/h (29.3 kW): \$16.25.

iii. For the installation or relocation of each floor furnace, including vent: \$53.75.

iv. For the installation or relocation of each suspended heater, recessed wall heater or floor-mounted unit heater: \$43.00.

b. Appliance Vents. For the installation, relocation or replacement of each appliance vent installed and not included in an appliance permit: \$21.50.

c. Repairs or Additions. For the repair of, alteration of, or addition to each heating appliance, refrigeration unit, cooling unit, absorption unit, or each heating, cooling, absorption or evaporative cooling system, including installation of controls regulated by the mechanical code: \$42.50.

d. Air Handlers.

i. For each air-handling unit to and including 10,000 cubic feet per minute (cfm) (4,719 L/s), including ducts attached thereto: \$32.25.

Note: This fee does not apply to an air-handling unit which is a portion of a factory-assembled appliance, cooling unit, evaporative cooler, or absorption unit for which a permit is required elsewhere in the mechanical code.

ii. For each air-handling unit over 10,000 cfm (4,719 L/s): \$43.00.

e. Evaporative Coolers. For each evaporative cooler other than portable type: \$21.50.

f. Ventilation and Exhaust.

i. For each ventilation fan (bathroom, domestic kitchen, etc.) connected to a single duct: \$22.00.

ii. For each ventilation system which is not a portion of any heating or air-conditioning system authorized by a permit: \$43.00.

iii. For the installation of each hood which is served by mechanical

exhaust, including the ducts for such hood: \$43.00.

g. Miscellaneous. For each appliance or piece of equipment regulated by the mechanical code but not classed in other appliance categories, or for which no other fee is listed in the table: \$43.00.

#### D. Residential and Miscellaneous Plumbing Permit Fees.

##### 1. Permit Issuance.

a. For the issuance of each plumbing permit: \$64.50.

b. For the issuance of each supplemental permit for which the original permit has not expired, been canceled or finalized: \$21.50.

##### 2. Unit Fee Schedule. (Note: The following do not include permit-issuing fee.)

a. Fixtures and Vents. For each plumbing fixture or trap or set of fixtures on one trap (including water, drainage piping and backflow protection thereof): \$10.75.

b. Sewers. For each building sewer permit: \$22.00.

##### c. Water Piping and Water Heaters.

i. For installation, alteration, or repair of water piping or water-treating equipment, or both, each: \$32.25.

ii. For each water heater including vent: \$32.25.

##### d. Gas Piping Systems.

i. For each gas piping system of one to five outlets: \$53.75.

ii. For each additional outlet over five, each: \$5.00.

e. Lawn Sprinklers, Vacuum Breakers and Backflow Protection Devices. For each lawn sprinkler system on any one meter, including backflow protection devices therefor: \$32.25.

f. Miscellaneous. For each appliance or piece of equipment regulated by the plumbing code but not classed in other appliance categories, or for which no other fee is listed in this code: \$43.00.

#### E. Commercial and Industrial Electrical, Mechanical and Plumbing Permit Fees. For items not specifically listed above, nonresidential electrical, mechanical and plumbing

permit fees shall be calculated at one percent of the contract price plus a permit issuance fee.

F. Code Enforcement. The following fees for code enforcement are adopted:

First notice/inspection	Courtesy (no fee)
Subsequent notice/inspection	\$129.00/hr
Mileage	I.R.S. allowed
Extension fee	\$96.75
Posting fee	\$65.00
Administrative hearing	\$390.00
Title fee search	Actual cost + 15% administrative fee
Declaration of substandard and/or public nuisance notice	\$400.00
Removal of declaration	\$350.00
Abatement (cleanup) cost	Actual cost + 15% administrative fee
Preparation of job specification	\$400.00
City council approval of contract	\$200.00
Contract performance inspection	\$258.00
Billing (each instance)	\$60.00
Recording special assessment	\$129.00
Filing special assessment	\$258.00
Code compliance inspections	\$129.00/hr
Court cost and attorneys' fees	Actual cost + 15% administrative fee

\* Or the total hourly cost to the jurisdiction, whichever is the greatest. This cost shall include supervision, overhead, equipment, hourly wages and fringe benefits of the employees involved.

**Section 15.**

**Effective Date.** This ordinance shall be effective January 1, 2014.

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**Section 16.**

**Severability.** If any section, subsection, phrase, or clause of this ordinance is for any reason held to be unconstitutional, such decision shall not affect the validity of the remaining portions of this ordinance.

The City Council hereby declares that it would have passed this and each section, subsection, phrase, or clause thereof irrespective of the fact that any one or more sections, subsections, phrase or clauses be declared unconstitutional on their face or as applied.

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On motion of Council member **Schwartzman**, seconded by Council member **Strawbridge**, the foregoing ordinance was introduced at a regular meeting of the City Council on the 19<sup>th</sup> day of November 2013, and adopted at a regular meeting of the Council held on the 3rd day of December, 2013 by the following vote:

**Ayes: Council Members Campbell, Hughes, Schwartzman, Strawbridge, and Mayor Patterson**

**Noes: None**

**Absent: None**

  
Elizabeth Patterson, Mayor

Attest:

  
Lisa Wolfe, City Clerk

12-9-13

Date