

## STAFF REPORT

**DATE:** November 30, 2010  
**TO:** City Council  
**FROM:** Mark Wood, Chief Building Official  
**SUBJECT:** Adoption of the 2010 California Building Standards Code

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### **Recommendation**

1. Hold a Public Hearing to take comments regarding adoption of 2010 California Building Standards Code Parts 1 - 12
  
2. Adopt an Ordinance repealing Article 8.20 and repealing and re-enacting Article 8.01 of Chapter 8 of the City of Davis Municipal Code, and adopting by reference the California Code of Regulations Title 24, 2010 edition of the California Building Standards Code including the following parts:
  1. PART 2 California Building Code
  2. PART 2.5 California Residential Code
  3. PART 3 California Electrical Code
  4. PART 4 California Mechanical Code
  5. PART 5 California Plumbing Code
  6. PART 11 California Green Standards Codeand Amending Those California Building Standards as Identified Herein, Through Express Findings of Local Necessity

### **Fiscal Impact**

None

### **Council Goal(s)**

Maintain excellent fire and life safety services.

### **Background and Analysis**

On November 9, 2010, City Council introduced an Ordinance Adopting by Reference the California Code of Regulations Title 24, 2010 edition of the California Building Standards Code including Parts 2,2.5, 3, 4, 5, and 11, as amended by the City of Davis. On November 30, 2010, Council will have the opportunity to re-adopt amendments to these Parts which maintain the current level of public health, life safety, and general welfare standards used in the design and construction of buildings that has been in existence for several years.

### **Attachment**

- Ordinance Adopting by Reference the California Code of Regulations Title 24, 2010 edition of the California Building Standards Code including Parts 2,2.5, 3, 4, 5, and 11

**ORDINANCE NO. XXXX**

**ORDINANCE OF THE CITY COUNCIL OF THE CITY OF DAVIS REPEALING ARTICLE 8.20 AND REPEALING AND RE-ENACTING ARTICLE 8.01 OF CHAPTER 8 OF THE CITY OF DAVIS MUNICIPAL CODE, AND ADOPTING BY REFERENCE THE CALIFORNIA CODE OF REGULATIONS TITLE 24, 2010 EDITION OF THE CALIFORNIA BUILDING STANDARDS CODE INCLUDING THE FOLLOWING PARTS:**

- **PART 2 California Building Code**
- **PART 2.5 California Residential Code**
- **PART 3 California Electrical Code**
- **PART 4 California Mechanical Code**
- **PART 5 California Plumbing Code**
- **PART 11 California Green Standards Code**

**AMENDING THOSE CALIFORNIA BUILDING STANDARDS CODES AS IDENTIFIED HEREIN, THROUGH EXPRESS FINDINGS OF LOCAL NECESSITY AND REPEALING THE CITY’S GREEN BUILDING REGULATIONS.**

THE CITY COUNCIL OF THE CITY OF DAVIS DOES HERBY ORDAIN AS FOLLOWS:

Section 1. Article 8.01 of Chapter 8 of the Davis Municipal Code is hereby amended to read as follows:

Sections:

- |          |  |
|----------|--|
| 8.01.010 | Adoption by reference of the California Building Standards Code  |
| 8.01.015 | Definition of terms.   |
| 8.01.020 | Limitation on liability of the city.   |
| 8.01.030 | Amendments, deletions and additions to the International Building Code.  |
| 8.01.035 | Amendments, deletions and additions to the International Residential Code.   |
| 8.01.040 | Amendments, deletions and additions to the National Electric Code.   |
| 8.01.050 | Amendments, deletions and additions to the Uniform Mechanical Code.  |
| 8.01.060 | Amendments, deletions and additions to the Uniform Plumbing Code.  |
| 8.01.065 | Amendments, deletions and additions to the California Green Buildings Standards Code.  |
| 8.01.070 | Amendments, deletions and additions to Health and Safety Code Section 115921, 115922 and 115925. Also known as the Swimming Pool Safety Act. |
| 8.01.080 | Fees.  |
| 8.01.090 | Effective date.  |
| 8.01.100 | Finding and declaration.   |
| 8.01.110 | Compliance with chapter.   |
| 8.01.120 | Violations and penalties.  |

8.01.130 Severability of chapter.

Section 8.01.010 Adoption by reference of the California Building Standards Code.

1. The International Building Code 2009 edition published by the International Codes Council (ICC), together with Chapter 1 and Appendices H, Signs, and I, Patio Covers, as adopted and amended by the California Building Standards Commission in the California Building Standards Code, Title 24 of the California Code of Regulations, with the amendments set forth in Section 8.01.030,
2. The International Residential Code 2009 edition published by the International codes Council (ICC), together with Chapter 1, as adopted and amended by the California Building Standards Commission in the California Building Standards Code, Title 24 of the California Code of regulations, with the amendments set forth in Section 8.01.035,
3. The National Electric Code 2008 edition, published by the National Fire Protection Association (NFPA), together with Article 80, Administration, as adopted and amended by the California Building Standards Commission in the California Building Standards Code, Title 24 of the California Code of Regulations, with the amendments set forth in Section 8.01.040,
4. The International Fire Code 2009 edition, published by the International Codes Council, as adopted and amended by the California Building Standards Commission in the California Building Standards Code, Title 24 of the California Code of Regulations,
5. The Uniform Mechanical Code, 2009 edition, published by the International Association of Plumbing and Mechanical Officials (IAPMO) together with Appendix A, Uniform Mechanical Codes Standards, as adopted and amended by the California Building Standards Commission in the California Building Standards Code, Title 24 of the California Code of Regulations, with the amendments set forth in Section 8.01.050,
6. The Uniform Plumbing Code, 2009 edition, published by the International Association of Plumbing and Mechanical Officials (IAPMO) together with Appendix D, Sizing Storm Water Drainage, as adopted and amended by the California Building Standards Commission in the California Building Standards Code, Title 24 of the California Code of Regulations, with the amendments set forth in Section 8.01.060 are hereby adopted as the codes of the city pursuant to section 50022.1 et seq. of the Government Code and Health and Safety Code Section 18941.5 of the State of California.
7. The California Green Buildings Standards Code, The California Green Building Standards Code 2010 Edition, together with Appendix A4 Residential Voluntary Measures and A5 Nonresidential Voluntary Measures, published by the California Building Standards Commission in the California Building Standards Code, Title 24 of the California Code of Regulations, is hereby adopted by reference, with the amendments set forth in Section 8.01.065.

There is one copy of said codes on file in the office of the Chief Building Official for use and examination by the public.

Section 8.01.015 Definition of Terms.

Wherever any of the names or terms defined in this article are used in the International Building Code, National Electrical Code, International Fire Code, International Residential Code, Uniform Mechanical Code, the Uniform Plumbing Code or the California Green Building Standards Code, each term or name shall have the meaning ascribed to it in this section.

- a) "City of" or "the city" or "jurisdiction" shall mean the City of Davis, California. All other names or terms shall apply to the appropriate officer of the city of Davis.
- b) "Corporate Counsel" shall mean the city attorney for the city.
- c) "Chief of the Bureau of Fire Prevention" shall mean the Fire Marshal or Fire Chief.
- d) "Should" or "it is recommended" is intended to be read as mandatory, not directory.
- e) "International Plumbing Code" shall be replaced with "Uniform Plumbing Code"
- f) "International Mechanical Code" shall be replaced with "Uniform Mechanical Code"

#### Section 8.01.020 Limitation on liability of the city.

This chapter imposes no liability or responsibility on the city for damages resulting from defective buildings; nor shall the city or any official or employee thereof be held as assuming any liability or responsibility by reason of the inspection authorized by this chapter.

#### Section 8.01.030 Amendments, deletions and additions to the International Building Code.

The International Building Code adopted herein by reference is hereby amended by the following additions, deletions and amendments set forth in this section. The section numbers herein reference said International Building Code:

- a) Chapter 1 Section 105.2(2) is hereby amended to read as follows:

Fences not over seven (7) feet high.

- b) Chapter 1 Section 105.2(9) is hereby amended to read as follows:

Prefabricated swimming pools accessory to a Group R-3 occupancy that are less than 18 inches deep, are less than 5,000 gallons, and are installed entirely above ground.

- c) Chapter 1 Section 105.5 is hereby amended to add the following sentence as follows:

For the purpose of this section, work shall be considered suspended or abandoned if a required inspection has not been recorded and approved within 180 days.

- d) Chapter 1 Section 1.11.2.1.1 #1 is hereby amended to read as follows as mandated by State Law

The City of Davis delegates the Chief Building Official the enforcement of the building standards relating to fire and panic safety and other regulations of the State Fire Marshal as they relate to Group R, Division 3 dwellings, as described in Section 310.1 of Part 2 of the California Building Standards Code.

- e) Chapter 9 Section 907.2.11.4 is hereby amended by adding a sentence to read as follows based upon expressed finding of necessity # 3 set forth in Section 2 of the adopting ordinance:

Required smoke alarms shall be connected to other than a dedicated branch circuit.

Section 8.01.035 Amendments, deletions and additions to the International Residential Code.

The International Residential Code adopted herein by reference is hereby amended by the following additions, deletions and amendments set forth in this section. The section numbers herein reference said International Residential Code:

- a) Chapter 1 Section R105.2(2) is hereby amended to read as follows:

Fences not over seven (7) feet high.

- b) Chapter 1 Section R105.2(7) is hereby amended to read as follows:

Prefabricated swimming pools accessory to a Group R-3 occupancy that are less than 18 inches deep, are less than 5,000 gallons, and are installed entirely above ground.

- c) Chapter 1 Section R105.5 is hereby amended to add the following sentence as follows:

For the purpose of this section, work shall be considered suspended or abandoned if a required inspection has not been recorded and approved within 180 days.

- d) Chapter 1 Section R1.11.2.1.1 #1 is hereby amended to read as follows as mandated by State Law

The City of Davis delegates the Chief Building Official the enforcement of the building standards relating to fire and panic safety and other regulations of the State Fire Marshal as they relate to Group R, Division 3

dwellings, as described in Chapter 1 Section R101 of Part 2.5 of the California Building Standards Code.

- e) Chapter 3 Section R314.4 is hereby amended by adding a sentence to read as follows based upon expressed finding of necessity # 3 set forth in Section 2 of the adopting ordinance:

Required smoke alarms shall be connected to other than a dedicated branch circuit.

#### Section 8.01.040 Amendments, deletions and additions to the National Electric Code.

The National Electric Code adopted herein by reference is hereby amended by the following additions, deletions and amendments set forth in this section. The section numbers herein reference said National Electric Code.

- a) Article 90.8(a) is hereby amended to add a second paragraph and to read as follows based on expressed finding of necessity # 1 set forth in Section 2 of the adopting ordinance:

In one- and two-family dwellings where panel boards are installed in walls, a minimum of one (1) three-quarter inch (3/4") raceway shall be installed from the panel board to an accessible location in either attic space, under-floor, or in a properly terminated junction box in an exterior wall.

- b) Article 210.52 (G) is hereby amended to add item #3 as follows based upon expressed finding of necessity # 1 set forth in Section 2 of the adopting ordinance:

For all new single- and two-family residential buildings a three-quarters inch (3/4") raceway shall be installed, with an insulated pull wire or a one quarter (1/4") rope, from the service to a surface mounted junction box located on the wall in front of a parking stall. The service shall be sized to provide space for a two-pole circuit breaker (220 V circuit).

- c) Article 210.70(A)(1) is hereby amended to add the following sentence as follows based on expressed finding of necessity # 1 set forth in Section 2 of the adopting ordinance:

Where surface mounted overhead lights are installed in new habitable rooms of single-family dwellings and duplexes, the ceiling outlet box shall comply with Article 314-27(D).

- d) Article 230.2 is hereby amended to add a second paragraph as follows based upon expressed finding of necessity # 3 set forth in Section 2 of the adopting ordinance:

All electrical and communication service laterals to any new building or structure, or for any building or structure being remodeled, when such remodeling requires the relocation or replacement of the main service

equipment, shall be placed underground on and adjacent to the premises upon which the building or structure is located, in a manner in accordance with applicable rules and regulations of the public utilities involved, on file with the California Public Utilities Commission. This requirement shall be applicable only to those buildings or structures located or to be constructed within the area of the City of Davis bounded by First Street, Fifth Street, "B" Street and "J" Street. Where compliance with the foregoing requirement is not economically and/or practically feasible, the City of Davis Director of Public Works may permit different service arrangements.

#### Section 8.01.050 Amendments, deletions and additions to the Uniform Mechanical Code.

The Uniform Mechanical Code adopted herein by reference is hereby amended by the following additions, deletions and amendments set forth in this chapter. The section numbers herein reference said Uniform Mechanical Code:

- a) Chapter 3 Section 307.1 is hereby amended to add the following paragraph after the third paragraph as follows based on expressed finding of necessity # 2 set forth in Section 2 of the adopting ordinance:

Protective barriers consist of a three (3) inch diameter (schedule 40) steel pipe bollard(s) filled with concrete, thirty (30) inches above finished floor and embedded a minimum of 18 inches below grade. These bollards shall be a maximum of four feet on center or the heater must be elevated above six (6) feet or located out of the normal path of a vehicle using such garage.

#### Section 8.01.060 Amendments, deletions and additions to the Uniform Plumbing Code.

The Uniform Plumbing Code adopted herein by reference is hereby amended by the following additions, deletions and amendments set forth in this chapter. The section numbers herein reference said Uniform Plumbing Code:

- a) Chapter 3 Section 313.2 is hereby amended to add a sentence to the end of the paragraph to read as follows based on the expressed finding of necessity # 2 set forth in Section 2 of the adopting ordinance:

A minimum of a 2 inch by 6 inch wall shall be used whenever the piping within shear and braced wall panels is greater than 2" outside diameter.

- b) Chapter 5 Section 508.14(2) is hereby amended to read as follows based on the expressed finding of necessity # 2 set forth in Section 2 of the adopting ordinance:

Water heaters installed in areas where they may be subject to physical damage shall be suitably guarded against such damage by being installed

behind a three (3) inch diameter (schedule 40) steel pipe bollard(s) filled with concrete, thirty (30) inches above finished floor and embedded a minimum of 18 inches below grade. These bollards shall be a maximum of four feet on center or the heater must be elevated above six (6) feet or located out of the normal path of a vehicle using such garage.

- c) Chapter 6 Section 609.1 is hereby amended to add the following paragraph as follows based on the expressed finding of necessity # 1 set forth in Section 2 of the adopting ordinance:

In the construction of all new single-family dwellings and single family attached dwellings, including duplexes, a “T” fitting shall be installed after the house water shut-off valve for future irrigation systems. This “T” fitting shall be a minimum of ¾” and have a threaded termination with a plug or cap.

- d) Chapter 6 Section 609.1 is hereby amended to add the following paragraph as follows based on the expressed finding of necessity # 2 set forth in Section 2 of the adopting ordinance:

In the construction of all new single-family dwellings and single family attached dwellings, including duplexes, provisions shall be made for future water softeners, at an interior location. This must include the plumbing for a water loop, the facility for a backwash discharge and an electrical receptacle.

Section 8.01.065 Amendments, deletions and additions to the California Green Buildings Standards Code.

- a) All buildings subject to the requirements of the California Green Building Standards Code shall comply with the Tier 1 requirements contained therein. This addition is based on the expressed finding of necessity # 2 set forth in Section 2 of the adopting ordinance.
- b) Section 107 is hereby added to read in full as follows based on the expressed finding of necessity # 2 set forth in Section 2 of the adopting ordinance:

Alterations, Additions and Remodels. Notwithstanding anything in this code to the contrary, additions, alterations and remodels requiring a permit pursuant to Article 8.01 of Chapter 8 of the Davis Municipal Code shall comply with the provisions of this code as amended. The requirements of this code shall apply to such work to the extent applicable.

Section 8.01.070 Amendments, deletions and additions to Health and Safety Code Section 115921, 115922 and 115925. Also known as the Swimming Pool Safety Act.

a) Section 115921(a) is hereby amended to read:

“Swimming pool” or “pool” means any prefabricated, manufactured or site built structure, either above or below ground, intended for swimming, recreational bathing, or to hold water over 18 inches deep.

b) Section 115921(c) is hereby amended to read:

“Enclosure” means a fence, a wall or combination thereof, which completely surrounds the pool and obstructs access to the pool from the house or adjacent properties.

c) Section 115922(a) is hereby amended to read:

(a) Commencing on January 1, 1998, except as provided in Section 115925, whenever a building permit is issued for construction of a new pool or spa, or any building permit is issued for remodeling a pool or spa, at a private, single family home, the pool shall be isolated from access from other properties by an enclosure that meets the requirements of Section 115923. The pool or spa shall also be equipped with at least one of the following four drowning prevention safety features:

- (1) The pool shall incorporate removable mesh pool fencing that meets American Society for Testing and Materials (ASTM) Specifications F 2286 standard in conjunction with a gate that is self-closing and self-latching and can accommodate a key lockable device.
- (2) The pool shall be equipped with an approved safety pool cover that meets all the requirements of the ASTM Specifications F 1346.
- (3) The residence shall be equipped with exit alarms on those doors providing direct access to the pool.
- (4) All doors providing direct access from the home to the swimming pool shall be equipped with a self-closing, self-latching device with a release mechanism (door knob or handle) placed no lower than 54 inches above the floor.
- (5) Prior to filling any pool with water of permitted construction or remodeling work, the local building code official shall inspect the drowning safety prevention devices required by this act and if no violations are found shall give approval.

d) Section 115925 is hereby amended to delete subsections (b).

Section 8.01.080 Fees.

Fees shall be set by resolution of the City Council.

Section 8.01.090 Effective date.

This ordinance is enacted pursuant to and in compliance with Health and Safety Code Section 18941.5 and as expressly permitted in Government Code Section 50022.2. For all codes the effective date of this Ordinance shall be January 1, 2011.

#### Section 8.01.100 Finding and declaration.

As required by the Health and Safety Code of the state of California, the city council finds and declares that the foregoing additions, modifications and changes to the regulations adopted pursuant to said Health and Safety Code are reasonably necessary because of local conditions in that they prescribe local fee schedules and make other changes in said code consistent with a comprehensive building program for the city.

#### Section 8.01.110 Compliance with chapter.

It is unlawful for any person, firm or corporation to erect, construct, enlarge, alter, repair, move, remove or demolish, convert, equip, use or occupy, maintain any building or structure, or any portion thereof, in the city contrary to, or in violation of this chapter, or to cause, permit or suffer violations.

#### Section 8.01.120 Violations and penalties.

Any person, firm or corporation violating, or causing or permitting to be violated, any portion of the provisions of this chapter is guilty of a misdemeanor offense for each day and every day, or portion thereof, during which any violation is committed, continued or permitted, and upon conviction shall be punishable by a fine of not more than five hundred dollars or by imprisonment for not more than six months, or by both.

#### Section 8.01.130 Severability of chapter.

If any section, subsection, sentence, clause or phrase of this chapter is for any reason held by a court of competent jurisdiction to be invalid, such a decision shall not affect the validity of the remaining portions of this chapter. The city council hereby declares that it would have passed this chapter and each section or subsection, sentence, clause or phrase thereof, irrespective of the fact any one or more sections, subsections, clauses or phrases be declared invalid.

#### Section 2. Express Findings

As required by Health and Safety Code sections 17958.7, 18941.5(c) and 18942, the City Council of the City of Davis hereby expressly finds that amendments to the codes adopted by this ordinance and as described in section 8.01.030, 8.01.040, 8.01.050, 8.01.060, and 8.01.070 are necessary for the protection of the public health, safety and welfare, due to the local climatic, geological or topographical conditions.

Express Finding Number 1: Climatic

Climate is one of the greatest impacts to fire behavior and other major emergency events because it cannot be controlled. The drying out of wood shakes and wild land fuels in the summer months allows for easy ignition. The combustible weeds on vacant urban lots coupled with windy conditions are a recipe for disaster. The Sacramento region has extreme variations in weather patterns too. Summers are arid and warm, winters are cool to freezing, but void of significant snowfall. Fall and spring can bring any combination of weather pattern together. The doubling of average rainfall called an “El Nino” event has occurred from time to time and does cause the grass to mature and grow in excess of six feet high before it dries out. Ten (10) square feet of this type of fuel is equivalent to the explosive force of one gallon of gasoline. Average yearly rainfall for the City is approximately 17.87 inches. This rainfall normally occurs from October to April. Low-level fog (tulle-fog) is present throughout the winter months, which brings visibility to almost zero feet. The fog delays emergency responders. The fog can also cause freezing and slick roadways. During the summer months there is generally no measurable precipitation. Temperatures for this dry period range from 70 to 112 degrees F and are frequently accompanied by light to gusty Delta winds. The relative humidity during the summer month’s range from 2 to 30 mm HG, which is classified as arid. The severe hot climate for several summer months makes it essential to provide for future solar power, paddle fans, electric vehicles and drip irrigation.

#### Express Finding Number 2: Geological

The City of Davis is subject to ground tremors from seismic events as the City is located in Design Category C, which relates to a high risk of earthquakes. Gas appliance located in attics or garages must be adequately braced and protected from damage from moving objects. Large portions of the City of Davis have very poor soil conditions. The soil is often expansive in nature and very acidic which leads to pre-mature deterioration of plumbing piping installed in the ground. Potable water is predominately pumped from City wells and has a higher than usual content of minerals contributing to extremely hard water. Additionally, the very low elevations are subject to a very high water table. Prior experience with lightly-loaded footing and foundations and concrete slabs on grade revealed structural cracks resulting in differential settlement in addition to moisture migrating from the soil to occupied, habitable areas of buildings.

#### Express Finding Number 3: Topographical

The City features include open space, drainage canals, freeways and railroad tracks. Traffic has to be channeled around several of these topographical features and limitations which creates traffic congestion and delays in emergency response. These features are located between the Fire Stations located within the City of Davis. Heavy traffic congestion on the City streets already acts as a barrier to timely response for fire and emergency vehicles. In the event of an accident or other emergency at one of the key points of intersection between a road and freeway, sections of the City could be isolated or response times could be sufficiently slowed so as to increase the risk of injury or damage. The topography of the downtown area together with traffic congestion makes it necessary reduce or eliminate overhead power lines to allow large fire trucks easy access to this area.

Section 3. The City hereby repeals Article 8.20 of Chapter 8 of the Davis Municipal Code.

Section 4. The city clerk is hereby directed to file a copy of this ordinance with the California Building Standards Commission of the State of California.

INTRODUCED on the 9<sup>th</sup> day of November, 2010, and PASSED AND ADOPTED by the City Council of the City of Davis on the 30<sup>th</sup> day of November, 2010 by the following vote

AYES:

NOES:

Don Saylor  
Mayor

ATTEST:

Zoe S. Mirabile, CMC  
City Clerk