

DOCKETED

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Project Title:	Local Ordinance Applications - 2016 Standards
TN #:	221465-3
Document Title:	City of Davis 2016 Ordinance 2512
Description:	An Ordinance Amending Section 8.01.050(e) Related to Flood Hazards and Adding Section 8.01.092 Related to Energy Efficiency Standards for New Single Family and Low-Rise Multifamily Buildings Under the Green Building Code
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Organization:	City of Davis
Submitter Role:	Public Agency
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ORDINANCE NO. 2512

AN ORDINANCE AMENDING SECTION 8.01.050(e) RELATED TO FLOOD HAZARDS AND ADDING SECTION 8.01.092 RELATED TO ENERGY EFFICIENCY STANDARDS FOR NEW SINGLE FAMILY AND LOW-RISE MULTIFAMILY BUILDINGS UNDER THE GREEN BUILDING CODE

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

SECTION 1. Subsection (e) of Section 8.01.050 of the Davis Municipal Code is hereby amended to read in full as follows:

(e) Chapter 3 Table R301.2(1) Climatic and Geographic Design Criteria is amended to read as follows:

**TABLE R301.2(1)
CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA**

GROUND SNOW LOAD	ULTIMATE DESIGN WIND SPEED		SEISMIC DESIGN CATEGORY ^f	SUBJECT TO DAMAGE FROM			WINTER DESIGN TEMP ^e	ICE BARRIER UNDERLAYMENT REQUIRED ^h	FLOOD HAZARDS ^g	AIR FREEZING INDEX ⁱ	MEAN ANNUAL TEMP ^j
	Speed ^d (mph)	Topographic effects ^k		Weathering ^a	Frost line depth ^b	Termite ^c					
Zero	110	No	D0	Negligible	12"	Very Heavy	32°	No	NFIP 05/23/1979 Flood Insurance Study 12/2002 FIRMS 06/18/2010 06113C0584G 06113C0603G 06113C0604G 06113C0591G 06113C0592G 06113C0611G 06113C0612G 06113C0620G	3	60.1°

SECTION 2. Section 8.01.090 of the Davis Municipal Code is hereby added to read in full as follows:

8.01.092 Energy Efficiency “Reach” PV-Plus Green Building Code Requirements

In addition to all requirements of the Green Building Code applicable to new single family dwellings and new low-rise multifamily dwellings, the following shall apply:

1. New Single Family Dwellings. New single family dwellings shall comply with the Tier 2 (30% compliance margin) requirement for energy efficiency by employing energy efficiency measures and installing a PV system sized to offset a portion of the total household energy use based on TDV energy. The PV sizing shall be consistent with the methodology included in the California Energy Commission’s proposed Solar PV Ordinance. The PV sizing calculations were developed such that PV size would offset approximately 80% of total estimated building electricity use for a gas/electric home built to the 2016 California Energy Code. This approach is referred to as PV-Plus.
2. New Low-rise Multifamily Dwellings. New low-rise multifamily dwellings shall comply with the Tier 2 (25% compliance margin) requirement for energy efficiency by employing energy efficiency measures and installing a PV system sized to offset a

portion of the total unit energy use based on TDV energy. The PV sizing shall be consistent with the methodology included in the California Energy Commission's proposed Solar PV Ordinance. The PV sizing calculations were developed such that PV size would offset approximately 80% of total estimated unit electricity use for a gas/electric unit built to the 2016 California Energy Code. This approach is referred to as PV-Plus.

SECTION 3. 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 the above amendment to the California Residential Code is necessary for the protection of the public health, safety and welfare, due to the local climatic, geological or topographical conditions. The amendment is justified by all of the following conditions.

Express Finding #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 #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 #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 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.

SECTION 5. This ordinance shall take effect and be in full force thirty (30) days from and after the date of its final passage and adoption.

INTRODUCED on the 29th day of August, 2017, and PASSED AND ADOPTED by the City Council of the City of Davis on this 12th day of September, 2017, by the following vote:


AYES: Arnold, Frerichs, Lee, Swanson, Davis

NOES: None



Robb Davis
Mayor

ATTEST:



Zoe S. Mirabile, CMC
City Clerk