

CONTRA COSTA COUNTY
FINDINGS IN SUPPORT OF CHANGES, ADDITIONS, AND DELETIONS TO
STATEWIDE BUILDING STANDARDS CODE

The California Building Standards Commission has adopted and published the 2013 Building Standards Code, which is comprised of the 2013 California Building, Residential, Green Building Standards, Electrical, Plumbing, and Mechanical codes. These codes are enforced in Contra Costa County by the Building Inspection Division of the Department of Conservation and Development.

Although these codes apply statewide, Health and Safety Code sections 17958.5 and 18941.5 authorize a local jurisdiction to modify or change these codes and establish more restrictive building standards if the jurisdiction finds that the modifications and changes are reasonably necessary because of local climatic, geological or topographical conditions.

Ordinance No. 2015-22 adopts the statewide codes and amends them to address local conditions. Pursuant to Health and Safety Code section 17958.7, the Contra Costa County Board of Supervisors finds that the more restrictive standards contained in Ordinance No. 2015-22 are reasonably necessary because of the local climatic, geological, and topographic conditions that are described below.

I. Local Conditions

A. Geological and Topographic

1. Seismicity

(a) Conditions

Contra Costa County is located in Seismic Design Categories D and E, which is the worst earthquake area in the United States. Buildings and other structures in these zones can experience major seismic damage. Contra Costa County is in close proximity to numerous earthquake faults including the San Andreas Fault and contains all or portions of the Hayward, Calaveras, Concord, Antioch, Mt. Diablo, and other lesser faults. A 4.1 earthquake with its epicenter in Concord occurred in 1958, and a 5.4 earthquake with its epicenter also in Concord occurred in 1955. The Concord and Antioch faults have a potential for a Richter 6 earthquake and the Hayward and Calaveras faults have the potential for a Richter 7 earthquake. Minor tremblers from seismic activity are not uncommon in the area.

A study released in 1990 by the United States Geological Survey says that there is a 67% chance of another earthquake the size of Loma Prieta during the next 30 years, and that the quake could strike at any time, including today. Scientists, therefore, believe that an earthquake of a magnitude 7 or larger is now twice as likely to happen as to not happen.

Interstates 680, 80, 580 and State Route 4 run the length throughout Contra Costa County. These interstates and state routes divide the County into a west, south, north and east. An overpass or undercrossing collapse would significantly alter the response route and time for responding emergency equipment. This is due to limited crossings of the interstate and that in some areas there is only one surface street, which runs parallel to the interstate, which would be congested during a significant emergency.

Earthquakes of the magnitude experienced locally can cause major damage to electrical transmission facilities and to gas and electrical lines in buildings, which in turn start fires throughout the County. The occurrence of multiple fires will quickly deplete existing fire department resources; thereby reducing and/or delaying their response to any given fire.

(b) Impact

More restrictive electric vehicle charging standards would not negatively impact the County's infrastructure or public safety resources in the event of a major earthquake.

2. Soils

(a) Conditions

The area is replete with various soils, which are unstable, clay loam and alluvial fans being predominant. These soil conditions are moderately to severely prone to swelling and shrinking, are plastic, and tend to liquefy.

Throughout Contra Costa County, the topography and development growth has created a network of older, narrow roads. These roads vary from gravel to asphalt surface and vary in percent of slope, many exceeding twenty (20) percent. Several of these roads extend up through the winding passageways in the hills providing access to remote, affluent housing subdivisions. The

majority of these roads are private with no established maintenance program. During inclement weather, these roads are subject to rock and mudslides, as well as down trees, obstructing all vehicle traffic. It is anticipated that during an earthquake, several of these roads would be unpassable so as to prevent fire protection resources from reaching fires caused by gas line ruptures or other sources.

3. Topographic

(a) Conditions

i. Vegetation

Highly combustible dry grass, weeds, and brush are common in the hilly and open space areas adjacent to built-up locations six (6) to eight (8) months of each year. Many of these areas frequently experience wildland fires, which threaten nearby buildings, particularly those with wood roofs, or sidings. This condition can be found throughout Contra Costa County, especially in those developed and developing areas of the County. Earthquake gas fires due to gas line ruptures can ignite grasslands and stress fire district resources.

ii. Surface Features

The arrangement and location of natural and manmade surface features, including hills, creeks, canals, freeways, housing tracts, commercial development, fire stations, streets and roads, combine to limit feasible response routes for Fire District resources in and to District areas.

iii. Buildings, Landscaping and Terrain

Many of the newer large buildings and building complexes have building access and landscaping features and designs, which preclude or greatly limit any approach or operational access to them by Fire District vehicles. In addition, the presence of security gates and roads of inadequate width and grades that are too steep for Fire District vehicles adversely affect fire suppression efforts.

When Fire District vehicles cannot gain access to buildings involved with fire, the potential for complete loss is realized. Difficulty reaching a fire

site often requires that fire personnel both in numbers and in stamina. Access problems often result in severely delaying, misdirecting or making impossible fire and smoke control efforts. In existing structures where pitch roofs have been built over an existing roof, smoke detectors should be required to warn residents of smoke and fire before the arrival of fire personnel.

(b) Impact

More restrictive electric vehicle charging standards would not impact the availability of the County's fire or public safety resources.

B. Climatic

1. Greenhouse Gas Emissions

(a) Conditions

The California Air Resources Board has collected information on emissions from air pollution sources since 1969. This information is periodically compiled by State and local air pollution control agencies to create an emission inventory. The California emission inventory maintains information on various air pollution sources and identifies "mobile sources" (all on-road vehicles such as automobiles and trucks; off-road vehicles such as trains, ships, aircraft; and farm equipment) as a primary pollution source. California adopted land use and transportation policies that intend to help reduce greenhouse gas emissions by promoting the use of renewable energy sources.

(b) Impact

More restrictive electric vehicle charging standards would follow the intent of State legislation to aggressively implement energy policies designed to ensure success in meeting their greenhouse gas emission reduction and reusable energy goals.

2. Temperature

(a) Conditions

Temperatures have been recorded as high as 114° F. Average summer Contra Costa County Findings 5 highs are in the 75° to 90° range, with average maximums of 105° F in some areas of unincorporated Contra Costa County.

(b) Impact

More restrictive electric vehicle charging standards would not have a negative impact on the temperature conditions within the County.

3. Winds

(a) Conditions

Prevailing winds in many parts of Contra Costa County are from the north or northwest in the afternoons. However, winds are experienced from virtually every direction at one time or another. Velocities can reach fourteen (14) mph to twenty-three (23) mph ranges, gusting to twenty-five (25) to thirty-five (35) mph. Forty (40) mph winds are experienced occasionally and winds up to fifty-five (55) mph have been registered locally. During the winter half of the year, strong, dry, gusty winds from the north move through the area for several days creating extremely dry conditions.

(b) Impact

More restrictive electric vehicle charging standards would not have a negative impact on the wind conditions within the County.

II. Necessity of More Restrictive Standards

Because of the implementation of more restrictive electric vehicle charging standards would not have a negative impact on the conditions described above, and is consistent with State land use and transportation policies intended to help reduce greenhouse gas emissions, the Contra Costa County Board of Supervisors finds that the increased electric vehicle charging standards set forth in Ordinance No. 2015-22 are reasonable and justified. The ordinance amends the statewide codes by requiring the following:

New multi-family buildings:

- Increase the required number of Electric Vehicle Charging Stations (“EVCS”) to five percent of the total number of parking spaces provided, where three percent is the minimum required in the State Code;
- Require a minimum of one EVCS for every new multi-family building (three or more units) as opposed to State Code which requires no EVCS for multi-family buildings with fewer than 17 units;
- Require that Electric Vehicle Supply Equipment (“EVSE”) be installed for each EVCS in addition to the electrical infrastructure required by the State Code.

Changes for new non-residential buildings:

- Increase the required number of EVCS to six percent of total number of parking spaces provided, where three percent is the minimum required in the State Code;
- Required number of EVCS in new construction shall provide fully operational EVSE as opposed to State Code which requires electrical infrastructure only;
- Require a minimum of one EVCS for every parking area associated with a new commercial building as opposed to State Code which requires no EVCS for parking areas of 50 or fewer parking spaces. (Proposed projects with 10 or fewer off-street parking spaces are exempt from the requirement to provide EVCS)