City of Walnut Creek

Development Review Services

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Walnut Creek's Amendments to 2013 CBC and CRC

The City of Walnut Creek has adopted the 2013 California Building Code (CBC) and California Residential Code (CRC) with the following local amendments. The City has not adopted any Appendix. Here is a brief summary of the five structural local amendments:

- Muni Code Sec. 9-1.03: New amendment to CBC – ensure adequate building drift
- Muni Code Sec. 9-1.03: New amendment to CBC – ensure adequate collector force
- Muni Code Sec. 9-1.04: Carryover amendment to CBC – ensure quality control for spread footings
- Muni Code Sec. 9-1.05: Carryover amendment to CBC – ensure adequate reinforcing in footings
- Muni Code Sec. 9-20.03: Carryover amendment to CRC – ensure adequate reinforcing in footings

The following Walnut Creek Municipal Code Sections contain the complete text of the amendments.

2013 CBC

Sec. 9-1.03. Amendments: Section 1617.

Add Section 1617 to read as follows:

SECTION 1617
MODIFICATIONS TO ASCE 7

1617.1 General. The text of ASCE 7 shall be modified as indicated in Sections 1617.1.1 through 1617.1.2.

1617.1.1 Modify ASCE 7 Section 12.8.6 as follows:

12.8.6 Story Drift Determination

The design story drift (Δ) shall be computed as the difference of the deflections at the centers of mass at the top and bottom of the story under consideration. See Fig. 12.8-2. Where centers of mass do not align vertically, it is permitted to compute the deflection at the bottom of the story based on the vertical projection of the center of mass at the top of the story. Where allowable stress design is used, Δ shall be computed using the strength level seismic forces specified in Section 12.8 without reduction for allowable stress design.

For structures assigned to Seismic Design Category C, D, E, or F, the design story drift, Δ, shall be computed as the largest difference of the deflections of vertically aligned points at the top and bottom of the story under consideration along any of the edges of the structure.

The deflection at Level x (δ_x) (in. or mm) used to compute the design story drift, Δ, shall be determined in accordance with the following equation:

$$\delta_x = \frac{C_d \delta_{xe}}{I_e} \qquad (12.8\text{-}15)$$

where
C_d = the deflection amplification factor in Table 12.2-1
δ_{xe} = the deflection at the location required by this section determined by an elastic analysis
I_e = the importance factor determined in accordance with Section 11.5.1

1617.1.2 Modify ASCE 7, Exception 1 of Section 12.10.2.1, as follows:

1. The forces calculated above need not exceed those calculated using the load combinations of Section 12.4.3.2 with seismic forces determined by Equation 12.10-3 and transfer forces, where applicable.

Sec. 9-1.04. Amendments: Section 1705.3 Exception 1.

Amend Section 1705.3 Exception 1 to read as follows:

1. Isolated spread concrete footings of buildings three stories or less above grade plane that are fully supported on earth or rock, where the structural design of the footing is based on a specified compressive strength, f'_c, no greater than 2,500 pounds per square inch (psi) (17.2 MPa).

Sec. 9-1.05. Amendments: Section 1905.1.8.

Amend Section 1905.1.8 to read as follows:

1905.1.8 ACI 318, Section 22.10. Delete ACI 318, Section 22.10, and replace with the following:

22.10 - Plain concrete in structures assigned to Seismic Design Category C, D, E or F.

22.10.1- Structures assigned to Seismic Design Category C, D, E or F shall not have elements of structural plain concrete, except as follows:

(a) Isolated footings of plain concrete supporting pedestals or columns are permitted, provided the projection of the footing beyond the face of the supported member does not exceed the footing thickness.

Exception: In detached one- and two-family dwellings three stories or less in height, the projection of the footing beyond the face of the supported member is permitted to exceed the footing thickness.

(b) Plain concrete footing supporting walls are permitted, provided the footings have at least two continuous longitudinal reinforcing bars. Bars shall not be smaller than No. 4 and shall have a total area of not less than 0.002 times the gross cross-sectional area of the footing. A minimum of one bar shall be provided at the top and bottom of the footing. Continuity of reinforcement shall be provided at corners and intersections.

Exception: In detached one- and two-family dwellings three stories or less in height constructed with stud bearing walls, plain concrete footings with at least two continuous longitudinal reinforcing bars not smaller than No. 4 are permitted to have a total area of less than 0.002 times the gross cross–sectional area of the footing.

2013 CRC

Sec. 9-20.03. Amendments: Section R403.1.3.

Amend Section R403.1.3 to read as follows:

R403.1.3 Seismic reinforcing. Concrete footings located in Seismic Design Categories D_0, D_1 and D_2, as established in Table R301.2(1), shall have minimum reinforcement of at least two continuous longitudinal reinforcing bars, one top and one bottom and not smaller than No. 4 bars. Bottom reinforcement shall be located a minimum of 3 inches (76 mm) clear from the bottom of the footing.

In Seismic Design Categories D_0, D_1 and D_2 where a construction joint is created between a concrete footing and a stem wall, a minimum of one No. 4 bar shall be installed at not more than 4 feet (1219 mm) on center. The vertical bar shall extend to 3 inches (76 mm) clear of the bottom of the footing, have a standard hook and extend a minimum of 14 inches (357 mm) into the stem wall.

In Seismic Design Categories D_0, D_1 and D_2 where a grouted masonry stem wall is supported on a concrete footing and stem wall, a minimum of one No. 4 bar shall be installed at not more than 4 feet (1219 mm) on center. The vertical bar shall extend to 3 inches (76 mm) clear of the bottom of the footing and have a standard hook.

In Seismic Design Categories D_0, D_1 and D_2 masonry stem walls without solid grout and vertical reinforcing are not permitted.

Exception: In detached one- and two-family dwellings which are three stories or less in height and constructed with stud bearing walls, isolated plain concrete footings supporting columns or pedestals are permitted.