

HAYWARD CITY COUNCIL

RESOLUTION NO. 16-__

Introduced by Council Member _____

RESOLUTION FINDING AND DETERMINING THE NEED FOR CHANGES OR MODIFICATIONS TO THE 2016 CALIFORNIA BUILDING CODE

WHEREAS, section 17958 of the California Health and Safety Code requires the adoption by the City of Hayward of regulations imposing the same requirements of certain uniform industry codes as specified in Health and Safety Code section 17922 and the California Housing and Community Development Commission regulations promulgated thereunder; and

WHEREAS, Health and Safety Code section 17958.5 permits a city to make such changes or modifications to the uniform industry codes as are deemed reasonably necessary because of local conditions.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Hayward, pursuant to the requirements of Health and Safety Code section 17958.7, does hereby find and determine the need to adopt changes or modifications to the following sections of the 2016 California Building Code by reason of local climatic, geological, and topographical conditions:

ADMINISTRATIVE CHANGES

In accordance with Health and Safety Code section 18909(c), local ordinances necessary to carryout procedures by a city relating to administrative processes for enforcing building standards, and that do not establish building standards, may be enacted without meeting the requirements of the state laws governing amendments to Title 24.

STRUCTURAL CHANGES

CODE REFERENCE:

2016 CBC 1705.3 Concrete construction. Revise section 1705.3 Exception as follows: Special inspections and tests of concrete construction shall be performed in accordance with this section and Table 1705.3.

Exception: Special inspections and tests shall not be required for: 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 pound per square inch (psi) (17.2 Mpa).

ISSUES:

The proposed amendment modifies the type of exceptions from requiring special inspection for isolated spread concrete footings of buildings three stories or less above grade plane.

RATIONALE:

Results from studies after the 1994 Northridge earthquake indicated that a lot of the damages were attributed to lack of quality control during construction. The proposed amendment improves quality control during construction and therefore needs to be incorporated into the Code. Revise CBC Section 1705.3 exception No. 1 to allow special inspection not to be required for isolated spread footing where the structural design of the footing is based on a specified compressive strength, f'_c , no greater than 2,500 psi. This proposed amendment is a continuation of an amendment adopted during the previous code adoption cycle.

CODE REFERENCE:

2016 CBC 1905.1.7 ACI 318, section 14.1.4. Delete ACI 318, Section 14.1.4, and replace with the following:

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

14.1.4.1 - 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 and 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.

ISSUES:

Revise section 1905.1.7. ACI 318 section 14.1.4 that allows the use of plain concrete in residential structures assigned to Seismic Design Category C, D, E or F.

RATIONALE:

The proposed amendment addresses the problem of poor performance of plain or under-reinforced concrete footings during a seismic event. This amendment reflects the recommendations by the Structural Engineers Association of Southern California (SEAOSC) and the Los Angeles City Joint Task Force that investigated the poor performance of plain and under-reinforced concrete footings observed in 1994 Northridge earthquake.

CODE REFERENCES:

2016 CRC Table R602.10.3(3)

ISSUES:

Add a new footnote "f" to the end of the table to read:

f. In Seismic Design Categories D₀, D₁, and D₂, Method GB is not permitted and the use of Method PCP is limited to one-story single family dwellings and accessory structures.

Add the "f" footnote notation in the title of Table R602.10.3(3) to read:

TABLE R602.10.3(3)^f

R602.10.4.4 Limits on methods GB and PCP. Add a new subsection R602.10.4.4, to read:

In Seismic Design Categories D₀, D₁, and D₂, Method GB is not permitted for use as intermittent braced wall panels, but gypsum board is permitted to be installed when required by this section to be placed on the opposite side of the studs from other types of braced wall panel sheathing. In Seismic Design Categories D₀, D₁, and D₂, the use of Method PCP is limited to one-story single family dwellings and accessory structures."

RATIONALE:

The proposed amendment addresses the problem of poor performance of gypsum wallboard and Portland cement plaster as wall bracing materials in high seismic areas. This amendment reflects the recommendations by the Structural Engineers Association of Southern California (SEAOSC) and the Los Angeles City Joint Task Force that investigated the poor performance of these bracing materials that were observed in 1994 Northridge earthquake.

BE IT FURTHER RESOLVED that the aforementioned amendments to the *2016 California Building Code*, are based on local climatic, geological, or topographical conditions. The "Findings of Facts" contained herein addresses present local conditions which either singularly or in combination cause the aforementioned amendments to be adopted.

1. CLIMATIC
Not applicable to proposed amendments.

2. TOPOGRAPHICAL
Not applicable to proposed amendments.

3. GEOLOGICAL
Seismic Activity: The City of Hayward is located in a zone of high seismic activity. A major seismic event may make roads impassable with damage so widespread that resources would not be available to meet all the anticipated needs. Buildings in this area need to be designed to ensure the maximum life safety of occupants and to minimize economic loss as the region struggles to overcome the devastation that would follow after such a seismic event.
Conclusion: Local geological conditions have a definite impact upon buildings in Hayward. Therefore, it is found to be reasonably necessary that the *2016 California Building Code* be changed or modified to mitigate the effects of the above conditions.

BE IT FURTHER RESOLVED that the City Clerk is hereby directed to cause a copy of this resolution, together with the modifications or changes to the 2016 California Building Code, to be filed with the California Department of Housing and Community Development.

IN COUNCIL, HAYWARD, CALIFORNIA December 6, 2016.

ADOPTED BY THE FOLLOWING VOTE:

AYES: COUNCIL MEMBERS:
MAYOR:

NOES: COUNCIL MEMBERS:

ABSTAIN: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

ATTEST: _____
City Clerk of the City of Hayward

APPROVED AS TO FORM:

City Attorney of the City of Hayward