



CITY OF OAKLAND

Homeowner Voluntary Seismic Safety Incentive Ordinance

History

The United States Geological Service (USGS) has forecasted that a magnitude 6.7 (Richter scale) or larger earthquake will occur in the San Francisco Bay Area with 62 percent probability, and that an earthquake of this magnitude would cause tens of billions of dollars of economic loss in the Bay Area, half of which would be loss in damaged residencies. Furthermore, Oakland is expected to lose more than one-third of its housing in a major earthquake along the Hayward Fault. We know from observing disasters in other parts of the country and world-wide that not only is there the loss associated with the initial disaster, but that it can take communities decades to recover—Kobe, Japan still has 20 percent of its residents living in temporary housing since its 6.9 earthquake in 1995.

Problem

Seismic strengthening of residences—known as seismic retrofitting—can not only save lives, but also housing stock, enabling communities to withstand the short and long-term effects of a major disaster. A 2006 study by the University of Buffalo in which a 2-story wood frame house was built to California earthquake standards and then shook in a simulated magnitude 6.7 earthquake, survived with little structural damage. We know that retrofitting works.

<http://www.npr.org/templates/story/story.php?storyId=6487930>

However, an estimated 85 percent of Oakland's existing residential buildings constructed before modern earthquake codes were adopted have not been even minimally strengthened for seismic induced lateral loads. Because heretofore, retrofitting permits cost 10 percent of the cost of the retrofit construction, which runs anywhere from \$7,000 to \$30,000, homeowners were avoiding the permit process altogether. Without City inspections, homeowners cannot be assured that the work is meeting current seismic retrofit standards.

Solution

By approving Oakland Municipal Code Chapter 15.30.050, the City of Oakland has incorporated basic retrofit standards into the City's Municipal Code, established a flat retrofit permit fee of \$250.

FAQs

1. Who benefits?

Currently, any homeowner of a one-to-two story, single family or duplex residence who desires to retrofit for seismic safety is eligible for the \$250 flat retrofit permit fee provided the retrofit plan meets the current seismic strengthening standards.

2. What are the standards?

The standards are spelled out in section 15.30 of the City of Oakland's Municipal Code. Homeowners can rely on a prescriptive approach (Plan Set A) easily downloaded from ABAG or may need to have a custom designed plan by an accredited professional because of the unique conditions of their structure. We recommend that interested homeowners contact the City's Building Department early on to determine if the prescriptive approach will apply. The City's Building Department has some discretion in alternatives to the standards, provided that the outcome is comparable to the standards set in our code.

3. What if the house is not a typical wood frame house, but a house on a hill or an apartment built over a garage (Soft story)?

The City Building Officials rely on state building codes and approved standards to determine what retrofit plans will be accepted. Currently, Plan Set A for wood frame houses on relatively flat ground is the only prescriptive plan available. However, the City is working with other jurisdictions and professional groups such as the International Code Council, the California Building Officials, Earthquake Engineering Research Institute and the Association of Bay Area Governments to develop additional plan sets for houses built on hills, houses on narrow lots, and multi-family apartments built over garages (soft-story). As these become available, they will be incorporated into the program. Until then, homeowners of these types of buildings will need to submit custom designed retrofit plans by a certified engineer or architect.

4. What types buildings are not covered by the prescriptive design: The Oakland Municipal Code, Chapter 15. 30.040 lists types of houses that are not yet covered by the prescriptive approach and would require engineered designs:

- Lateral force resisting system using or containing poles or columns embedded in the ground (as in hillside homes)
- Cripple wall height exceeding 4 feet, as measured vertically at any point
- Building exceeding 2-stories in height or exceeding 3,000 square feet of combined floor area for a 2-story building or exceeding 2,000 square feet of floor area for a 1-story building as defined in the Oakland Building Construction Code. Building erected on a concrete slab-on-grade
- Building erected on or into sloping ground with a surface gradient steeper than 3-units horizontally to 1-unit vertically, as measured at any point.
- Clay or concrete roof tiles with mortared edges
- Building framing other than wood
- Brick or stone veneer height exceeding 4-feet, as measured vertically at any point.

5. How Bureaucratic is the Process?

We've tried to make it very easy for the customer.

For the Flat Permit Fee:

Submit a retrofit plan when you apply for the permit-if it complies with the standards, the \$250 flat permit fee applies.

6. Is This Program Mandatory?

No, this is a voluntary program designed to encourage home owners to safeguard their investment in their home.

7. Where can I get more information on the Homeowner Voluntary Seismic Safety Incentive Ordinance?

View the [Homeowner Voluntary Seismic Safety Incentive Ordinance](#). Download the complete Seismic Safety Incentive ordinance.

View Plan Set A at the Association of Bay Area Government's web site at <http://quake.abag.ca.gov/fixit>.

Visit the City of Oakland's online [Permit Question Portal](#)

Call the Building Department at (510) 238-3891

Email your questions to bbpermit@oaklandca.gov