

AMENDED IN ASSEMBLY MARCH 28, 2014

CALIFORNIA LEGISLATURE—2013–14 REGULAR SESSION

**ASSEMBLY BILL**

**No. 2181**

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**Introduced by Assembly Member Bloom**

February 20, 2014

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An act to amend Sections 19160, 19161, 19162, and 19163 of the Health and Safety Code, relating to building standards.

LEGISLATIVE COUNSEL'S DIGEST

AB 2181, as amended, Bloom. Building standards: seismic retrofit.

Existing law authorizes a city, city and county, or county to establish, by ordinance, building seismic retrofit standards applicable to the seismic retrofit of any buildings identified, as specified, by the city, city and county, or county as being hazardous to life if an earthquake occurs. Existing law identifies specified types of buildings as potentially hazardous under these provisions, including certain unreinforced masonry buildings and specified woodframe, multiunit residential buildings constructed before January 1, 1978.

This bill would additionally authorize each city, city and county, or county to require that owners ~~assess~~ *evaluate* the earthquake hazard of soft story *residential buildings* and older concrete *residential buildings*, and would include concrete residential buildings that were constructed prior to the adoption of local building codes that ensure ductility, as specified, as potentially hazardous if an earthquake occurs. The bill would authorize a city, city and county, or *county* to employ seismic evaluation of older concrete residential buildings to address individual seismically hazardous buildings without regard to how the buildings came to the attention of its officials. The bill would require the seismic retrofit of a concrete residential building identified as potentially

hazardous to comply with the recommendations of a qualified expert, with nationally recognized research recommendations, or with a nationally recognized model ~~code~~ *code relating to the retrofit of existing buildings*, as specified.

Vote: majority. Appropriation: no. Fiscal committee: no.  
State-mandated local program: no.

*The people of the State of California do enact as follows:*

1 SECTION 1. Section 19160 of the Health and Safety Code is  
2 amended to read:

3 19160. The Legislature finds and declares that:

4 (a) The harmful effects of future earthquakes can be reduced  
5 through sound retrofitting programs, also known as reconstruction  
6 programs.

7 (b) Because the United States Geological Survey predicts a  
8 greater than 99 percent likelihood that California will experience  
9 moderate to severe earthquakes before 2038, increased efforts to  
10 reduce earthquake hazards should be encouraged and supported.

11 (c) Tens of thousands of buildings subject to severe earthquake  
12 hazards continue to be a serious danger to the life and safety of  
13 hundreds of thousands of Californians who live and work in them  
14 in the event of an earthquake. The buildings themselves are also  
15 at risk.

16 (d) Improvement of safety to life is the primary goal of building  
17 ~~reconstruction~~ *retrofitting* to reduce earthquake hazards.

18 (e) Because every dollar spent on mitigation saves several  
19 dollars in future postdisaster expenditures, a second major goal is  
20 to reduce public costs for disaster relief.

21 (f) In order to make the evaluation and ~~reconstruction~~ *retrofitting*  
22 of buildings that are at high risk of seismic failure economically  
23 feasible, and to improve the safety of life in these buildings,  
24 building standards enacted by local government for building  
25 ~~reconstruction~~ *retrofitting* may differ from building standards  
26 which govern new building construction.

27 (g) Because higher costs *and other financial impediments* will  
28 discourage necessary ~~reconstruction~~ *retrofitting*, the standards that  
29 govern new buildings should not apply to ~~reconstruction~~ *retrofitting*  
30 unless they are needed to achieve the desired increase in seismic  
31 capacity. *Furthermore, subdivision (a) of Section 2 of Article XIII A*

1 of the California Constitution provides that no increase in assessed  
2 value may be imposed because of a retrofit except as the  
3 Constitution authorizes. Additionally, because of these higher costs  
4 and other financial impediments, loan programs and protections  
5 for the poor should be provided as is feasible, including, for  
6 example, programs similar to those San Francisco utilized under  
7 the mandatory retrofitting program the city and county established  
8 in 2013.

9 (h) “Older concrete residential buildings,” also known as  
10 “nonductile concrete residential buildings” and ~~“pre-1980~~ *pre-1976*  
11 *concrete residential buildings or concrete residential buildings,*”  
12 are a subset of concrete buildings that may be unable to resist  
13 earthquake motion. They include lift-slab *residential* buildings  
14 with concrete lateral force resisting systems.

15 (i) These buildings were a prevalent construction type in highly  
16 seismic zones prior to the mid-1970s, are an important component  
17 of the state’s housing stock, and are in jeopardy of being lost in  
18 the event of a major earthquake.

19 (j) The California Office of Emergency Services reports that  
20 concrete buildings, particularly older ones with high numbers of  
21 occupants, can collapse and kill hundreds, and are the fastest  
22 growing cause of earthquake losses around the world.

23 (k) During an earthquake, older concrete residential buildings  
24 may create dangerous conditions, as illustrated by the catastrophic  
25 damage or collapse of older concrete buildings in the earthquakes  
26 of San Fernando, Loma Prieta, and Northridge, California (1971,  
27 1989, and ~~1994~~; 1994); Kobe, Japan (~~1995~~); (1995); Chi Chi,  
28 Taiwan (~~1999~~); (1999); Kocaeli, Duzce, and Bingol, Turkey (~~1999~~;  
29 1999, and 2003); (1999 and 2003); Sumatra (~~2005~~); (2005);  
30 Pakistan (~~2005~~); (2005); Sichuan, China (~~2008~~); (2008); Haiti  
31 (~~2010~~) (2010); and Christchurch, New Zealand (2011).

32 (l) California instituted building code changes in the mid-1970s  
33 to prevent these problems in future construction, but, four decades  
34 later, the great majority of California’s concrete buildings that  
35 were constructed before these changes have still not been evaluated  
36 or retrofitted.

37 (m) The assistance of the public is necessary in identifying older  
38 concrete *residential* buildings, because no accurate inventory of  
39 older concrete *residential* buildings exists, and none can be

1 compiled ~~by~~ *from* external appearances or *by* an examination of  
2 public records.

3 (n) Once identified, older concrete *residential* buildings must  
4 be evaluated individually ~~by a qualified architect or engineer~~ to  
5 assess their seismic capacity and whether ~~reconstruction~~ *retrofitting*  
6 is necessary.

7 (o) The failure of older concrete *residential* apartment buildings  
8 is likely to be the source of a disproportionate share of the public  
9 shelter population in areas of the state where they are occupied by  
10 the very poor, the very old, and the very young.

11 (p) “Soft story” residential buildings are a subset of multistory  
12 woodframe structures that may have inadequately braced lower  
13 stories that may not be able to resist earthquake motion.

14 (q) Soft story residential buildings are an important component  
15 of the state’s housing stock and are in jeopardy of being lost in the  
16 event of a major earthquake.

17 (r) Soft story residential buildings were responsible for 7,700  
18 of the 16,000 housing units rendered uninhabitable by the Loma  
19 Prieta earthquake and over 34,000 of the housing units rendered  
20 uninhabitable by the Northridge earthquake.

21 (s) During an earthquake, soft story residential buildings may  
22 create dangerous conditions as illustrated in the Northridge  
23 Meadows apartment failure that claimed the lives of 16 residents.

24 (t) The collapse of soft story residential buildings can ignite  
25 fires that threaten trapped occupants and neighboring buildings  
26 and complicates emergency response.

27 (u) The Association of Bay Area Governments (ABAG)  
28 estimates that soft story residential buildings will be responsible  
29 for 66 percent of the uninhabitable housing following an event on  
30 the Hayward fault.

31 (v) The failure of soft story residential buildings is estimated  
32 by ABAG to be the source of a disproportionate share of the public  
33 shelter population because they tend to be occupied by the very  
34 poor, the very old, and the very young.

35 (w) ~~The~~ *In 1995, the* Seismic Safety Commission ~~has~~  
36 recommended that legislation be enacted to require state and local  
37 building code enforcement agencies to identify potentially  
38 hazardous buildings and to adopt mandatory mitigation programs  
39 that will significantly reduce unacceptable hazards in buildings ~~by~~  
40 2020.

1 (x) The current nationally recognized model codes *code* relating  
2 to the retrofit of existing buildings are, the International Existing  
3 Building Code and the Seismic Evaluation and Retrofit of Existing  
4 Buildings by the American Society of Civil Engineers, as adapted  
5 for California, and other sources are authorized for use in  
6 retrofitting by the California Building Code. However, it is not  
7 the intent of the Legislature, if other—research-based  
8 recommendations or model codes relating to the retrofit of existing  
9 buildings are developed, to limit the California Building Standards  
10 Commission or a local government, pursuant to Section 19162, to  
11 adopting a particular research-based recommendation or model  
12 code. Equally, the Legislature does not intend for local  
13 governments to delay needed evaluation and retrofitting programs  
14 in the hope that improved methods to evaluate and retrofit buildings  
15 may be developed. Rather, the Legislature finds that existing  
16 scientific knowledge permits immediate evaluations and retrofitting  
17 of older concrete *residential* buildings to significantly increase the  
18 safety of life in and reduce earthquake damage to seismically  
19 hazardous older concrete *residential* buildings.

20 (y) Therefore, it is the intent of the Legislature to encourage  
21 cities and counties to address the seismic safety of older concrete  
22 residential buildings and soft story residential buildings—by  
23 encouraging and imitating, *initiate* programs to inform owners,  
24 residents, and the public about the dangers of these potentially  
25 hazardous buildings, mandate their evaluation at owner expense,  
26 and require retrofitting *at owner's expense* to reduce the seismic  
27 risk in those that are unacceptably hazardous.

28 SEC. 2. Section 19161 of the Health and Safety Code is  
29 amended to read:

30 19161. (a) Each city, city and county, or county, may assess  
31 the earthquake hazard in its jurisdiction or require that owners  
32 assess *evaluate* the earthquake hazard of soft story and *residential*  
33 *buildings*, older concrete *residential* buildings, or both, and thereby  
34 identify buildings subject to its jurisdiction as being potentially  
35 hazardous to life in the event of an earthquake. Potentially  
36 hazardous buildings include, but are not limited to, all of the  
37 following:

38 (1) Unreinforced masonry buildings constructed prior to the  
39 adoption of local building codes requiring earthquake resistant

1 design of buildings that are constructed of unreinforced masonry  
2 wall construction and exhibit any of the following characteristics:

- 3 (A) Exterior parapets or ornamentation that may fall.
- 4 (B) Exterior walls that are not anchored to the floors or roof.
- 5 (C) Lack of an effective system to resist seismic forces.

6 (2) Woodframe, multiunit residential buildings constructed  
7 before January 1, 1978, where the ground floor portion of the  
8 structure contains parking or other similar open floor space that  
9 causes soft, weak, or open-front wall lines, as provided in a  
10 nationally recognized model code relating to the retrofit of existing  
11 buildings or substantially equivalent standards.

12 (3) Concrete residential buildings, including lift-slab *residential*  
13 buildings with concrete lateral force resisting systems, that were  
14 constructed prior to the adoption of local building codes that ensure  
15 ductility, *as provided in a nationally recognized model code*  
16 *relating to the retrofit of existing buildings, or substantially*  
17 *equivalent standards.*

18 (b) Structural evaluations made pursuant to this section shall  
19 be made by an architect as defined in Section 5500 of the Business  
20 and Professions Code, or a civil or structural engineer registered  
21 pursuant to Chapter 7 (commencing with Section 6700) of Division  
22 3 of the Business and Professions Code, or staff of the enforcing  
23 agency, as described in Section 17960, supervised by an architect  
24 or civil or structural engineer authorized by this subdivision to  
25 make the structural evaluations.

26 SEC. 3. Section 19162 of the Health and Safety Code is  
27 amended to read:

28 19162. (a) Notwithstanding the provisions of Section 19100  
29 or 19150 or any other provision of law, the governing body of any  
30 city, city and county, or county may, by ordinance, establish  
31 building seismic retrofit standards applicable to the seismic retrofit  
32 of any buildings identified pursuant to paragraph (1) of subdivision  
33 (a) of Section 19161 by the city, city and county, or county as  
34 being potentially hazardous to life in the event of an earthquake.

35 (b) (1) Notwithstanding the provisions of Section 19100, 19150,  
36 or any other provision of law, the governing body of any city, city  
37 and county, or county may, by ordinance, establish building seismic  
38 retrofit standards applicable to the seismic retrofit of any buildings  
39 identified pursuant to paragraph (2) of subdivision (a) of Section  
40 19161 by the city, city and county, or county as being potentially

1 hazardous to life in the event of an earthquake. Any standards  
2 established pursuant to this section shall apply until the effective  
3 date of building standards adopted by the California Building  
4 Standards Commission relating to the retrofit of existing buildings,  
5 if any, at which time the standards adopted by the commission as  
6 amended by the city, county, or city and county pursuant to Section  
7 17958.5 shall apply.

8 (2) A local ordinance establishing building seismic retrofit  
9 standards applicable to soft story residential structures adopted  
10 before January 1, 2006, shall remain in full force and effect until  
11 the effective date of building standards adopted by the California  
12 Building Standards Commission relating to the retrofit of existing  
13 buildings unless the city, county, or city and county after January  
14 1, 2006, adopts an ordinance pursuant to paragraph (1).

15 (c) Notwithstanding the provisions of Section 19100 or 19150  
16 or any other provision of law, the governing body of any city, city  
17 and county, or county may do ~~both~~ *either or both* of the following:

18 (1) Employ seismic evaluations of older concrete residential  
19 buildings, including lift-slab *residential* buildings with concrete  
20 lateral force resisting systems, to address individual seismically  
21 hazardous buildings, without regard to how these buildings came  
22 to the attention of its officials.

23 (2) Establish, by ordinance, building seismic retrofit standards  
24 applicable to the seismic retrofit of any of these buildings that are  
25 potentially hazardous to life in the event of an earthquake. Any  
26 standards established pursuant to this paragraph shall apply until  
27 the effective date of applicable building standards adopted by the  
28 California Building Standards Commission relating to the retrofit  
29 of existing buildings, if any, at which time the standards adopted  
30 by the commission as amended by the city, city and county, or  
31 county pursuant to Section 17958.5 shall apply.

32 (d) Building seismic retrofit standards adopted pursuant to this  
33 section may be applied uniformly throughout the city, city and  
34 county, or county, or may be applied in specific areas designated  
35 by the city, city and county, or county, or to specific buildings  
36 within the city, city and county, or county ~~if those buildings are~~  
37 ~~those~~ *that are* described in paragraph (3) of subdivision (a) of  
38 Section 19161.

39 (e) For purposes of this chapter, “seismic retrofit” means either  
40 structural strengthening or providing the means necessary to modify

1 the seismic response that would otherwise be expected by an  
 2 existing building during an earthquake, to significantly reduce  
 3 hazards to life and safety while also providing for the substantial  
 4 safe ingress and egress of the building occupants immediately after  
 5 an earthquake.

6 SEC. 4. Section 19163 of the Health and Safety Code is  
 7 amended to read:

8 19163. Any local ordinance adopted pursuant to Section 19162  
 9 shall require the following:

10 (a) Any seismic retrofit of any building identified pursuant to  
 11 paragraph (1) of subdivision (a) of Section 19161 as being  
 12 hazardous to life in the event of an earthquake shall provide for  
 13 the reasonable adequacy of all of the following:

14 (1) Unreinforced masonry walls to resist normal and inplane  
 15 seismic forces.

16 (2) The anchorage and stability of exterior parapets and  
 17 ornamentation.

18 (3) The anchorage of unreinforced masonry walls to the floors  
 19 and roof.

20 (4) Floor and roof diaphragms.

21 (5) The development of a complete bracing system to resist  
 22 earthquake forces.

23 (b) ~~Any~~ A seismic retrofit of any building identified pursuant  
 24 to paragraph (2) of subdivision (a) of Section 19161 as potentially  
 25 hazardous shall comply with a nationally recognized model code  
 26 relating to the retrofit of existing buildings or substantially  
 27 equivalent standards. If the city, county, or city and county adopts  
 28 local amendments to those provisions, it shall determine that the  
 29 amendments are consistent with Section 17958.5.

30 (c) ~~Any~~ A seismic retrofit of any building identified pursuant  
 31 to paragraph (3) of subdivision (a) of Section 19161 as potentially  
 32 hazardous shall comply with ~~the recommendations of a qualified~~  
 33 ~~expert under paragraph (b) of Section 19161 or with nationally~~  
 34 ~~recognized research recommendations;~~ a nationally recognized  
 35 model code relating to the retrofit of existing buildings, or  
 36 substantially equivalent standards. If the city, city and county, or  
 37 county adopts local amendments to those provisions, it shall  
 38 determine that the amendments are consistent with Section 17958.5.

39 (d) Seismic retrofit of any building or portions of any building  
 40 shall be designed to resist and withstand the seismic forces from



1 any direction as set forth in the building seismic retrofit standards  
2 using the allowable working stresses adopted pursuant to this  
3 article.

4 (e) The governing board of any city, city and county, or county  
5 may establish, by ordinance, standards and procedures to fulfill  
6 the intent of paragraph (2) of subdivision (a) without regard to  
7 the remainder of the requirements specified above.

O