File No. 091113 Committee Item No. 3
Board Item No. 22

COMMITTEE/BOARD OF SUPERVISORS

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Committee: Land Use and Economic Development **Date** March 1, 2010

Board of Supervisors Meeting **Date** March 9, 2010

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Completed by: Alisa Somera **Date** February 26, 2010
Completed by: Alisa Somera **Date** March 2, 2010

An asterisked item represents the cover sheet to a document that exceeds 25 pages.
The complete document can be found in the file and the online version.

[Seismic Strengthening of Soft-Story, Wood-Frame Buildings]

Ordinance finding a compelling public policy basis for expediting the processing and review of permits for voluntary seismic retrofit upgrades of soft-story, wood-frame buildings and amending the Planning Code, Building Code, Fire Code, and Public Works Code to waive permit processing fees for the proportionate share of work related to such seismic retrofit upgrades; making environmental findings and findings of consistency with the City's General Plan and Planning Code Section 101.1.

Note: Additions are *single-underline italics Times New Roman*; deletions are ~~*strikethrough italics Times New Roman*~~. Board amendment additions are double underlined. Board amendment deletions are ~~strikethrough normal~~.

Be it ordained by the People of the City and County of San Francisco:

Section 1. City Policy Concerning Seismic Retrofit Upgrades for Soft-story, wood-frame Construction.

(a) Findings. (1) Soft-story, wood-frame buildings are structures where the first story is substantially weaker and more flexible than the stories above due to lack of walls or moment-resisting frames at the first floor and a significant number of walls in the floors above. Typically, these are apartments and condominiums that have parking or open commercial space – for businesses such as restaurants or grocery stores – on the first floor, which makes the first story "soft" and likely to lean or collapse in earthquakes. As a consequence, such buildings are highly vulnerable during seismic events, as the City witnessed during the Loma Prieta earthquake in 1989.

(2) The San Francisco Department of Building Inspection (DBI) is responsible for enforcing the San Francisco Building Code and serves the City and County, and the general public, by ensuring that life and property within the City is safeguarded. DBI fulfills its

responsibilities through plan check review of construction documents; the issuance of permits; the inspection of construction as stipulated by permits; and through code enforcement procedures that compel property owner compliance and that may include prosecution of code violations. DBI and its governing body, the Building Inspection Commission, also provide a public forum for community involvement in permit review, approval and enforcement processes.

(3) DBI has initiated the Community Action Plan for Seismic Safety (CAPSS) initiative to better understand the types of buildings in San Francisco that are most vulnerable to seismic events and recommend measures, including legislation to retrofit and improve the public safety related to soft-story, wood-frame buildings. The CAPSS recently completed identification of one type of soft-story wood-frame buildings in San Francisco and their location; evaluated a range of vulnerability factors; and designing retrofit options and costs, all while engaging and alerting the public to make property owners and tenants aware of potential seismic vulnerabilities. The CAPSS initiative completed its seismic soft-story report in February 2009 and recommended to the Mayor elements to include in a seismic strengthening ordinance for vulnerable soft-story wood-frame buildings.

(4) In furtherance of this effort and other City actions to ensure and enhance public protection during seismic events, Mayor Newsom, on July 7, 2008, issued Executive Directive No. 08-07 concerning seismic strengthening of soft-story, wood-frame buildings. Said Directive is on file with the Clerk of the Board of Supervisors in File No. 091113 and is incorporated herein by reference.

(5) The public and media outlets share in the concern of the City's elected and appointed officials that City government do all that it can to significantly expand and accelerate ongoing efforts to ensure the safety of life and property in the City and County of

San Francisco. Such concern is demonstrated in articles such as those of the New York Times dated February 21, 2009 and San Francisco Chronicle, dated February 13, 2009, January 22, 2009, and June 29, 2008, and other media coverage promoting voluntary retrofits as an immediate action. Said articles are on file with the Clerk of the Board of Supervisors in File No. 091113 and are incorporated herein by reference.

(6) On January 21, 2009, at a duly noticed public hearing, the Building Inspection Commission reviewed, approved, and recommended to Mayor Newsom, the CAPSS report entitled, Here Today – Here Tomorrow: Earthquake Safety for Soft-Story Buildings. Said report is on file with the Clerk of the Board of Supervisors in File No. 091113 and is incorporated herein by reference. The Department finalized said report, which included various recommendations for City actions to address soft-story buildings, and delivered it to the Mayor on February 20, 2009.

(7) As a consequence of this public concern on the vulnerability of soft-story buildings to seismic events, during the pendency of the abovementioned CAPSS process and the City's ability to implement one or more of the recommendations of the CAPSS report on soft-story buildings , and in response to Mayor Newsom's Executive Directive No. 08-07, the City should encourage residents and property owners to voluntarily perform seismic retrofit upgrades for soft-story, wood-frame buildings.

(8) The intent of this legislation is to provide such encouragement through specified permit fee waivers and permit expediting in the near term, while the City develops and implements long-range strategies, including legislation, to address this issue.

(9) The City further declares, as a matter of public policy, that if properties owners take advantage of this voluntary program and complete the seismic retrofit upgrade within the permitted time frame, such projects would be exempt for 15 years from compliance with any

subsequent CAPSS-related legislation that imposes mandatory seismic retrofit upgrades for soft-story, wood frame buildings.

(b) (1) In accordance with San Francisco Campaign and Governmental Conduct Code Section 3.400(b), the City hereby finds there is a compelling public policy basis to expedite the review and permitting process for projects where the scope of work includes voluntary seismic retrofit upgrades to a soft-story, wood-frame buildings, as defined by the Director of the DBI (the "Building Official"). The Ethics Commission, Building Official, Director of Planning, Fire Marshal, Director of Public Works, and directors of other affected departments are urged to amend their respective codes of conduct for permit processing to reflect this City policy.

(2) To assist the public and City departments in ascertaining what types of structures can take advantage of this voluntary program and the seismic retrofit necessary to qualify, the Department of Building Inspection ~~will issue an~~ issued Administrative Bulletin 094 on the definition of soft-story and the design criteria for seismic upgrades. ~~A draft of s~~Said Bulletin is on file with the Clerk of the Board of Supervisors in File No. 091113 and is incorporated herein by reference. The Building Inspection Commission , at a duly notice public hearing on May 20, 2009, reviewed and approved said Bulletin.

(3) On January 20, 2010. the Building Inspection Commission held a duly noticed public hearing on this legislation and recommended its approval to the Board of Supervisors.

Section 2. Environmental findings and findings of consistency with the City's General Plan.

(a) Pursuant to Planning Code Section 302, this Board of Supervisors finds that this Ordinance will serve the public necessity, convenience and welfare for the reasons set forth in Planning Commission Resolution No. 17957, and incorporates those reasons

herein by reference. A copy of said Planning Commission Resolution is on file with the Clerk of the Board of Supervisors in File No. 091113.

(b) The Board of Supervisors finds that this ordinance is, on balance, consistent with the General Plan and the Priority Policies of Planning Code Section 101.1(b) for the reasons set forth in Planning Commission Resolution No. 17957, and incorporates those reasons herein by reference.

(c) The Planning Department has completed environmental review of this ordinance pursuant to the California Environmental Quality Act ("CEQA"), the CEQA Guidelines, and Chapter 31 of the San Francisco Administrative Code. Documentation of that review is on file with the Clerk of the Board of Supervisors in File No. 091113 and is incorporated herein by reference.

Section 3. The San Francisco Planning Code is hereby amended by amending Section 355, to read as follows:

SEC. 355. PERMIT APPLICATIONS.

(a) Building permit applications for a change in use or alteration of an existing building, to be collected by Central Permit Bureau; provided, however, that the fees charged for Planning Department approval over-the-counter for the replacement of windows, roofs, siding, and doors shall be reduced to 1/2 the fee set forth below.

TABLE INSET:

Estimated Construction Cost	Initial Fee
$0.00 to $9,999.00	$305.00

$10,000.00 to $49,999.00	$306.00 plus 3.196% of cost over $10,000.00
$50,000.00 to $99,999.00	$1,585.00 plus 2.136% of cost over $50,000.00 plus $81.00 Discretionary Review Surcharge and $267.00 Categorical Exemption Stamp Fee
$100,000.00 to $499,999.00	$2,654.00 plus 2.337% of cost over $100,000.00 plus $81.00 Discretionary Review Surcharge and $267.00 Categorical Exemption Stamp Fee
$500,000.00 to $999,999.00	$12,003.00 plus 0.591% of cost over $500,000.00 plus $81.00 Discretionary Review Surcharge and $267.00 Categorical Exemption Stamp Fee
$1,000,000.00 to $4,999,999.00	$14,959.00 plus 0.232% of cost over $1,000,000.00 plus $81.00 Discretionary Review Surcharge and $267.00 Categorical Exemption Stamp Fee
$5,000,000.00 to $99,999,999,00	$24,240.00 plus 0.004% of cost over $5,000,000.00 plus $81.00 Discretionary Review Surcharge and $267.00 Categorical Exemption Stamp Fee
$100,000,000.00 or more	$28,041.00 plus $81.00 Discretionary Review Surcharge and $267.00 Categorical Exemption Stamp Fee

(1) Applications with Verified Violations of this Code: The Planning Department shall charge time and materials as set forth in Section 350(c).

(2) Back-Check Fee for Permit Revisions: $191.00 for the initial fee, plus time and materials as set forth in Section 350(c), to be collected at time of permit issuance.

(3) Shadow Impact Fee for New Construction or Alteration Exceeding 40 Feet in Height (Section 295): Additional $438.00 plus time and materials as set forth in Section 350(c).

(4) Public Notification Fee for Projects Requiring Public Notice Pursuant to Section 311: $45.00, plus $3.03 per envelope (subject to increase based on envelope and postage costs). The City's reprographics department will print and mail public notices.

(5) Public Notification Fee for Projects Requiring Public Notice Pursuant to Section 312: $45.00, plus $0.89 per envelope (subject to increase based on envelope and postage costs). The City's reprographics department will print and mail public notices.

(6) For projects with a construction cost of $100,000,000.00 or more, the applicant shall be charged the permit fee for a project with a $100,000,000.00 construction cost.

(7) Permits for solar panels and over-the-counter permits for solar equipment installation shall be $129.00 per permit.

(8) Permit review fees shall be waived for seismic upgrade work on soft-story wood-frame *buildings, as defined by the Department of Building Inspection in its Administrative Bulletin. These fees will be waived only if a proposal to retrofit a building triggers Planning Department review. The fee waiver shall not apply to other components of work that may be included in the application.*

(b) Building Permit Applications for a New Building:

TABLE INSET:

Estimated Construction Cost	Initial Fee
$0.00 to $99,999.00	$1,734.00, plus $81.00 Discretionary Review Surcharge and $267.00 Categorical Exemption Stamp Fee

$100,000.00 to $499,999.00	$1,735.00 plus 2.337% of cost over $100,000.00 plus $81.00 Discretionary Review Surcharge and $267.00 Categorical Exemption Stamp Fee
$500,000.00 to $9,999,999.00	$11,084.00 plus 0.746% of cost over $500,000.00 plus $81.00 Discretionary Review Surcharge and $267.00 Categorical Exemption Stamp Fee
$1,000,000.00 to $4,999,999.00	$14,815.00 plus 0.287% of cost over $1,000,000.00 plus $81.00 Discretionary Review Surcharge and $267.00 Categorical Exemption Stamp Fee
$5,000,000.00 to $99,999,999.00	$26,296.00 plus 0.005% of cost of $5,000,000.00 plus $81.00 Discretionary Review Surcharge and $267.00 Categorical Stamp Fee
$100,000,000.00 or more	$31,047.00 plus $81.00 Discretionary Review Surcharge and $267.00 Categorical Exemption Stamp Fee

(c) Demolition Applications, to be collected by Central Permit Bureau: $1,351.00.

(d) Fire, Police, Entertainment Commission, State Alcohol and Beverage Control and Health Department Permit Applications Referral Review: $114.00 initial fee collected by the other Departments in conjunction with current fee collections, plus time and materials as set forth in Section 350(c).

(e) Sign Permit Applications, to be collected by Central Permit Bureau: $119.00.

Section 4. The San Francisco Building Code is hereby amended by amending Section 107A.3, to read as follows:

Sec. 107A.3. Plan Review Fees. (a) When submittal documents are required by Section 106A.3.2, a plan review fee shall be paid at the time of filing an application for a permit for which plans are required pursuant to Section 106A.3.2. Said plan review fee shall be based on the valuation determined by Section 107A.1. See Section 110A, Table 1A-A – Building Permit Fees – for applicable fee.

The plan review fees specified in this section are separate fees from the permit issuance fees specified in Section 107A.2 and are in addition to the permit fees.

When submittal documents are incomplete or changed so as to require additional plan review or when the project involves deferred submittal items as defined in Section 106A.3.4.2, an additional plan review fee shall be charged as shown in Section 110A, Table 1A-B – Other Building Permit and Plan Review Fees.

(b) If a project involves voluntary seismic retrofit upgrades to soft-story, wood-frame buildings, as defined by the Building Official, the applicant for said project shall be exempt from the proportionate share of plan review fees specified under this Chapter that is related to such retrofit work, provided all permit conditions and timelines are met.

Section 5. The San Francisco Fire Code is hereby amended by adding Section 112.21 of Appendix Chapter 1, to read as follows:

Sec. 112.21. Notwithstanding the fees established herein, if a project involves voluntary seismic retrofit upgrades to soft-story, wood-frame buildings, as defined by the Director of the Department of Building Inspection, such project applicant shall be exempt from the proportionate share of plan review fees specified herein that is related to such retrofit work.

Section 6. The San Francisco Public Works Code is hereby amended by amending Section 723.2, to read as follows:

Sec. 723.2. MINOR SIDEWALK ENCROACHMENTS.

(a) The Director of Public Works may grant permission, revocable at his or her will, to an owner of property abutting any court, alley or street to install and maintain minor encroachments such as fences, retaining walls, steps or stairways and other minor structures in the sidewalk fronting such property where such encroachments are desirable or convenient in conjunction with the owner's use and enjoyment of the property, or required for the safety, convenience and comfort of the public using the sidewalk.

(b) Such encroachments shall not occupy more than 10 percent of the area of the sidewalk fronting the property nor more than 25 percent of the width of the sidewalk, unless the Director of Public Works determines that such restrictions are not applicable due to the nature of the encroachment. The Director may require further restrictions or modifications and impose such conditions as he or she deems necessary. No advertisement shall be permitted on the encroachments.

(c) In considering the issuance of permits under the provisions of this Section, the Director of Public Works shall give due regard to the location, neighborhood pattern, anticipated pedestrian traffic, access requirements of the Fire Department, and to the convenience and necessities of the owners, occupants or tenants of offices, stores or shops in the vicinity.

(d) The owner of the real property or the owner's authorized agent applying for a permit under the provisions of this Section shall agree to hold harmless the City and County of San Francisco, its officers, agents, and employees, from any damage or injury caused by reason of the installation or maintenance of the encroachment in the sidewalk, and the owner or owners or subsequent owner or owners of the respective real property shall be solely liable for any damage or loss occasioned by any act or neglect in respect to the installation or maintenance of the encroachments in the sidewalk.

(e) Each permit issued under the provisions of this Section shall not become effective until the permit has been signed by the owner or the owner's authorized agent and a copy thereof has been recorded in the office of the Recorder of the City and County of San Francisco; provided, however, that within 15 days following the approval, denial or revocation of a permit by the Director, any person may file a notice of appeal with the Board of Appeals. In the alternative, when the encroachment is related to building construction, rehabilitation or maintenance, any person may appeal the encroachment permit decision to the Building Inspection Commission. A person waives his or her right to appeal to the Building Inspection Commission encroachment permit decisions relating to building construction, rehabilitation or maintenance by instead filing the appeal with the Board of Appeals. No encroachment permit decision may be appealed to both bodies.

(f) For purposes of this Section, an encroachment permit is related to building construction, rehabilitation or maintenance when the object of the encroachment permit affects the applicant's ability to construct, repair or maintain the building.

(g) Pending decision by the Board of Appeals or the Building Inspection Commission, the permit decision by the Director shall be suspended.

(h) Before issuance of the permit, the applicant shall be required to pay to the Department of Public Works a fee as set forth in Section 2.1.1 et seq. and a public right-of-way occupancy assessment fee as set forth in subsection (k).

(i) Nothing in this Section shall be construed as authorizing the Director of Public Works to grant permit for any encroachment which he or she determines to be inimical to the health, welfare, safety and best interest of the general public, or in violation of the Charter or laws of the City and County of San Francisco or laws of the State of California.

(j) The Board of Appeals or the Building Inspection Commission may affirm, reverse or modify any permit decision made by the Director of Public Works under the provisions of this Section. The decision by the Board of Appeals or the Building Inspection Commission is final.

(k) The Board of Supervisors reserves the right to exact a public right-of-way occupancy assessment fee for the use of the sidewalk or other public right-of-way space permitted under the provisions of this Section.

(1) In accordance with Subsection (k) the public right-of-way occupancy assessment fee for minor sidewalk encroachments, whether permitted or unpermitted and as specified in Subsection (k)(2), shall be an annual fee of $3.00 per square foot of occupancy of the sidewalk or other public right-of-way space. For purposes of calculating the assessment fee, the Department shall charge no less than $100.00 per year even though the calculated square footage charge for the encroachment may result in a smaller assessment fee.

(2) The following categories of minor sidewalk encroachments are subject to the public right-of-way occupancy assessment fee:

(a) Encroachments in, on, above, or below the public right-of-way that are affixed or appurtenant to any building whose owner obtained a site permit for new construction on or after August 29, 2005. This Subsection (k)(2)(a) also shall apply to any commercial, industrial, or mixed-use building whose owner obtained a site permit for new construction prior to August 29, 2005; provided, however, that such building is not located in any Neighborhood Commercial District as designated in Planning Code Article 7 and that the encroachment associated with such building was installed or encroachment permit obtained prior to August 29, 2005. This Subsection shall specifically include, but not be limited to, doors that open over the public right-of-way and subsidewalk basements; provided, however, that

this Subsection shall exclude encroachments for shoring and tiebacks. This Subsection shall not apply to a building that has been converted from a commercial, industrial, or mixed-use building into building containing only residential use.

(b) Encroachments associated with a commercial, industrial, or mixed-use building that change the vertical or horizontal plane of an existing sidewalk and modify the existing sidewalk slope pattern in order to provide access necessary to comply with the Americans with Disabilities Act; provided, however, that the building obtained a site permit for new construction on or after August 29, 2005.

(c) Any enclosure of the public right-of-way that is used exclusively for private benefit and was installed on or after August 29, 2005. This Subsection (k)(2)(c) also shall apply to any enclosure installed prior to August 29, 2005 that is associated with a commercial, industrial, or mixed-use building; provided, however, that the building is not located in any Neighborhood Commercial District as designated in Planning Code Article 7,

(d) Underground storage tanks.

(3) For purposes of Subsection (k)(2), the term "site permit" also shall mean "building permit."

(4) Notwithstanding Subsection (k)(2), no public right-of-way occupancy assessment fee shall be charged against the owner of an historic or architecturally significant building who has installed or seeks a permit to install a minor sidewalk encroachment in order to conform with an applicable Municipal Code; provided, however that this exception shall not apply if the encroachment is a subsidewalk basement. For purposes of this Subsection, an historic or architecturally significant building shall be a building so designated pursuant to Planning Code Article 10 or specifically identified as an architecturally significant building on the Planning Department's database or on a list maintained by the Planning Department.

(5) The public right-of-way occupancy assessment fee shall be subject to the review and adjustment procedures as forth in Sections 2.1.1 et seq.

(6) The public right-of-way occupancy assessment fee shall not be charged to any federal, state, or local governmental agencies, commissions, or departments.

(7) Notwithstanding this Subsection (m), the public right-of-way assessment fee for underground vaults shall be as specified in Section 2.1.1 et seq.

(l) Notwithstanding the fees specified herein, if a project involves voluntary seismic retrofit upgrades to soft-story, wood-frame buildings, as defined by the Director of the Department of Building Inspection, such project applicant shall be exempt from the proportionate share of fees specified under this Section and Sections 2.1.1 et seq. that is related to such retrofit work.

Section 7. This Section is uncodified. (a) In order to facilitate administration of this voluntary seismic retrofit program for soft-story wood-frame buildings, all permit issuing departments may treat the seismic retrofit portion of the project application as a separate permit so long as other related permits for the subject property receive the expedited permit review specified in Section (b)(1) of this Ordinance.

(b) Reporting requirement. After the effective date of this Ordinance, the Department of Building Inspection shall submit annual reports to the Building Inspection Commission, Board of Supervisors, and Mayor concerning the effectiveness of the voluntary seismic retrofit program for soft-story wood-frame buildings. The report specifically shall include information on the number of permittees who have taken advantage of the program, the number of retrofits completed, and the permittees' costs for the retrofits. This reporting requirement shall be in effect for 5 years or until the City adopts an alternate program to address seismic retrofit of soft-story wood-frame buildings, whichever first occurs.

APPROVED AS TO FORM:
DENNIS J. HERRERA, City Attorney

By: _____
John D. Malamut
Deputy City Attorney

FILE NO. 091113

LEGISLATIVE DIGEST

[Seismic strengthening of soft-story, wood-frame buildings.]

Ordinance finding a compelling public policy basis for expediting the processing and review of permits for voluntary seismic retrofit upgrades of soft-story, wood-frame buildings and amending the Planning Code, Building Code, Fire Code, and Public Works Code to waive permit processing fees for the proportionate share of work related to such seismic retrofit upgrades; making environmental findings and findings of consistency with the City's General Plan and Planning Code Section 101.1.

Existing Law

The Planning, Building, Fire, and Public Works Codes contain various provisions concerning fees for City permit review and processing.

Amendments to Current Law

This Ordinance would amend Section 355 of the Planning Code to waive permit review fees proportionate to that portion of a project involving voluntary seismic retrofit to a soft-story, wood frame building. Amendments to Section 107A.3 of the Building Code, Section 112.21 of Appendix Chapter 1 of the Fire Code, and Section 723.2 of the Public Works Code would similarly waive a proportionate amount of permit review fees for such seismic retrofits. The legislation's amendments to the Public Works Code also would waive a portion of the right-of-way occupancy assessment fee for minor sidewalk encroachments in a similar manner. The legislation would find a compelling public policy basis for expediting the processing and review of permits for projects involving voluntary seismic retrofit of soft-story, wood frame buildings. The Ordinance would make environmental findings and findings of consistency with the City's General Plan and Planning Code Section 101.1. The legislation also would establish an annual reporting program on the effectiveness of the legislation.

Background Information

The Department of Building Inspection adopted Administrative Bulletin 094 to define soft-story, wood frame buildings and provide additional guidance concerning seismic retrofits.

File No. 091113

Here Today—Here Tomorrow:

Earthquake Safety for Soft-Story Buildings

Prepared for the

SAN FRANCISCO DEPARTMENT OF BUILDING INSPECTION
under the Community Action Plan for Seismic Safety (CAPSS) Project

by the

APPLIED TECHNOLOGY COUNCIL
Redwood City, California

File No. 091113

Office of the Mayor
City & County of San Francisco

Gavin Newsom

Executive Directive 08-07

Seismic Strengthening of Soft Story Buildings

July 7, 2008

By virtue of the power and authority vested in me by Section 3.100 of the San Francisco Charter to provide administration and oversight of all departments and governmental units in the executive branch of the City and County of San Francisco, I do hereby issue this Executive Directive to become effective immediately:

The San Francisco Department of Building Inspection (DBI) is responsible for enforcing the San Francisco Building Code and serves the City and County, and the general public, by ensuring that life and property within the City is safeguarded. DBI fulfills its responsibilities through plan check review of construction documents; the issuance of permits; the inspection of construction as stipulated by permits; and through code enforcement procedures that compel property owner compliance and that may include prosecution of code violations. DBI and its governing body, the Building Inspection Commission, also provide a public forum for community involvement in permit review, approval and enforcement processes. In our continuing effort to ensure that buildings in San Francisco are as structurally sound as possible, I am urging the Building Inspection Commission, the Planning Department and the Department of Emergency Management (DEM) to work together to implement the following efforts:

1. **Expedite completion of the soft-story component of the Community Action Plan for Seismic Safety (CAPSS) initiative, including the development of retrofit guidelines for soft-story, wood-frame buildings.**

   Soft-story, wood-frame buildings are structures where the first story is substantially weaker and more flexible than the stories above due to lack of walls or moment-resisting frames at the first floor and a significant number of walls in the floors above. Typically, these are apartments and condominiums that have "tuck-under" parking or open commercial space – for businesses such as restaurants or grocery stores – on the first floor, which makes the first story "soft" and likely to lean or collapse in earthquakes. The CAPSS initiative is currently identifying the types of soft-story wood-frame buildings in San Francisco and their location; evaluating a range of vulnerability factors; and designing retrofit options and costs, all while engaging and alerting the public to make property owners and tenants aware of potential seismic vulnerabilities. The CAPSS initiative is expected to draft a seismic strengthening ordinance for vulnerable soft-story buildings. ***By no later than January 30, 2009, DBI shall complete the CAPSS' soft-story evaluations and studies, and provide me with recommendations for a seismic strengthening ordinance for soft-story buildings.***

1 Dr. Carlton B. Goodlett Place, Room 200, San Francisco, California 94102-4641
gavin.newsom@sfgov.org • (415) 554-6141

2. **Expedite immediately and waive fees for projects that include seismic strengthening and related Planning Department reviews of soft-story buildings**

   On July 8, 2008, I will introduce legislation requiring DBI, the Planning Department and all other City departments that issue building and renovation permits to expedite the review and permitting process for projects where the scope of work includes voluntary seismic retrofit upgrades to soft-story buildings, as defined by the building official. In addition, this legislation will propose the waiver of those fees associated with the review and permitting of such scope of work.

3. **Increase outreach and awareness on the importance of seismic strengthening**

   DBI and DEM will work together to develop outreach and education materials that include preparedness information for property owners on seismic strengthening of soft-story buildings. In addition DBI will develop preparedness and "how to" information for its website. Websites for both departments will be linked.

4. **Create a soft-story, wood-frame exercise scenario in the October 2008 Citywide emergency drill**

   DEM will work with DBI to develop an exercise involving seismic mitigation and preparedness for the planned October 21, 2008 "Shake Up San Francisco" citywide drill.

Implementation of theses initiatives will expand significantly and accelerate ongoing efforts to ensure the safety of life and property in the City and County of San Francisco.

Gavin Newsom
Mayor

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The New York Times - Saturday, February 21, 2009

The New York Times

February 21, 2009
San Francisco Identifies Buildings Most at Risk
By MALIA WOLLAN

SAN FRANCISCO — The picturesque Victorians and brightly painted apartment buildings where thousands of city residents live and work are especially vulnerable during earthquakes, according to a report issued Friday by the San Francisco Department of Building Inspection.

The report said that an earthquake with a magnitude of 7.2 or higher could render unlivable as many as 85 percent of the city's "soft-story" apartment buildings — those that are less structurally sound because their ground floors are open space, often used as retail stores or garages. At least 65,000 people live and work in the 2,800 most vulnerable buildings studied in the report.

The cost to retrofit those wood-framed buildings would be about $260 million. The expense would be borne by the landlords and the city, which is facing a $576 million budget shortfall.

"A big earthquake is overdue in the region, and we're not naïve to that reality," said Mayor Gavin Newsom, who ordered the report in July and is working on legislation to make earthquake safety upgrades mandatory on soft-story buildings. "We cannot wait five years. We should have done this 35 years ago, 100 years ago."

Mr. Newsom said that he recognized the economic realities facing the city and its 744,000 residents and that he did not want retrofitting to put building owners "at risk of insolvency."

Still, building owners say they are nervous about the cost of earthquake damages and the cost of mandatory changes. Few apartment owners in the city carry earthquake insurance, the report said.

"We want to keep our tenants safe, but we're fearful in this economy," said Janan New, director of the San Francisco Apartment Association, a rental property owners association. "No one is going to get financing for construction in this market."

There is a 20 percent chance of a magnitude 7.2 earthquake on the San Andreas Fault just west of the city sometime in the next 30 years, according to the United States Geological Survey. That probability jumps to 63 percent for a magnitude 6.7 tremor. And seismologists say many of the fault lines running veinlike across the state could begin shaking anytime.

Predictions about earthquakes and the potential wreckage wrought are not taken lightly in San Francisco, where a quake in 1906 left much of the city in ruins and started a fire that lasted three days, killing more than a thousand people. A 1989 earthquake, which had a magnitude 6.9 on the Richter scale, resulted in dozens of deaths and billions of dollars in damage.

Some neighborhoods, particularly those along the water, were once wetlands and sand dunes that had to be fortified. Particularly precarious are the soft-story building atop the artificial fill because, "the ground becomes liquid and buildings lose their ability to stand and then they begin sinking into the ground," said Thomas Brocher, a chief scientist for the Geological Survey's Western Earthquake Hazards Team.

Building department employees walked block by block through the city, tallying the number of multiunit, soft-story buildings constructed before 1973, when changes to the city's building codes mandated more structurally sound buildings. The count was 4,400. The study released Friday by the building department's Community Action Plan for Seismic Safety considers only the most dangerous of those.

The price tag to fortify the city against the grinding fault lines flanking it on all sides is likely to climb as the building department continues to study other at-risk structures over the next 18 months.

"This report shows the potential for soft-story buildings to collapse," said Vivian Day, director of the building department. "But in earthquake country, almost any kind of building can collapse. It just depends on the size of the earthquake."

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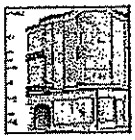
SFGate.com

S.F. mayor backs mandatory earthquake retrofits

Robert Selna, Chronicle Staff Writer
Friday, February 13, 2009



Thousands of San Francisco property owners would have to dig deep into their pockets to pay for mandatory earthquake retrofits of their buildings under a plan Mayor Gavin Newsom said he supported Thursday.

A recent city-sponsored report recommended mandatory retrofits for about 2,800 large, wood-frame buildings that are liable to collapse or sustain serious damage in a major quake centered near San Francisco.

Such a temblor, which could be as big as the 1906 quake that devastated the city, is likely to hit before 2032, according to the report.

The total cost to shore up the largest so-called soft-story buildings, which are believed to be the city's most vulnerable, would be about $260 million, but about $1.5 billion in possible damage could be prevented. For building owners, the cost could range from $9,000 to $28,000 per residential unit.

Newsom had supported voluntary measures to encourage retrofitting. But Thursday, he said that engineers and other experts analyzing the issue had come to the conclusion that "mandatory is necessary."

"That needs to be the framework of discussion now," he said at gubernatorial campaign stop in Stockton. "We might as well admit to that as the end result. We need to let folks know" that mandatory retrofits are the intent.

Property owners in San Francisco said that they would need financial assistance from the city, especially given the current economic climate.

"Our primary goal is to make our tenants safe, and the mayor's intentions are good and our intentions are good, but financing is the third leg on the stool on this issue," said Janan New, executive director of the San Francisco Apartment Association, which represents 3,000 small and large apartment building owners.

New said businesses and residents would be displaced by retrofit construction work and that landlords are required to pay hefty relocation fees.

Newsom would not say when legislation would be introduced at the Board of Supervisors, and he noted that he did not expect the retrofitting to be done all at once.

"There needs to be a process and a timeline that addresses the financial concerns, particularly in this economic crisis. Not everyone can afford to retrofit their building, we know that. We want to phase this in," he said.

Space without walls

The soft-story structures at issue are the classic San Francisco apartment buildings with a store or restaurant on the first floor. They get their name from a ground-floor space - a window or garage door - situated where a wall might otherwise be.

San Francisco has more such buildings than any other Bay Area city, and the buildings are more precarious in neighborhoods perched on unstable soil.

The open space sitting below several floors makes the frames prone to twisting and buckling, and many such buildings were damaged in the Marina district in the 1989 Loma Prieta earthquake and in Southern California during the 1994 Northridge earthquake.

Newsom said in July that he did not believe it was necessary to require owners to shore up their buildings as other Bay Area cities had done. But in recent months, he has said he might change his mind after reviewing more data.

Preventive action

In recent weeks, San Francisco Planning + Urban Research Association, a leading local think tank, also urged the city to require building owners to strengthen soft-story buildings and projected bleak conditions that San Francisco might face - including mass displacement of residents - after an earthquake if the city did not demand retrofits and take other preventive action.

The buildings that would be the subject of a retrofit requirement house nearly 60,000 residents and 7,000 employees but represent only a fraction of the structures that might be destroyed in the city if a big temblor were to hit today.

The large soft-story buildings studied comprise only 10 percent of the city's residential units that are believed to be unsafe. There are thousands of shorter soft-story buildings and others with fewer units that also might not hold up in a quake. Large concrete buildings lacking sufficient steel in their columns and beams also are a concern.

Earthquake consultants are scheduled to study more building types in the coming months and report back to the city about their vulnerability.

Chronicle reports last summer highlighted the fact that the city had no strategy for fixing the soft-story problem even though the danger had been known for decades.

At that time, as part of a study that had recently been restarted by the Department of Building Inspection, Newsom directed city employees and earthquake consultants to first analyze soft-story structures and to develop retrofit guidelines for them by the end of last month.

A 10-year plan

While the final study has yet to be released, a draft report calls for mandatory retrofits within 10 years. The report also recommends that that the repairs ensure that buildings would not only make it through a large quake, but also be habitable immediately afterward.

Laura Samant, a seismic engineering consultant who has led the city's studies, said she was glad to hear that Newsom was on board with a required retrofit program.

"We have recommended a mandatory retrofit ordinance for the city because we have decades of experience showing that these buildings don't get retrofitted if you don't mandate it," Samant said. "These are very dangerous buildings and that's why we have recommended the mandate."

The report does not provide details about the specific codes that should guide the retrofit work or what materials would be used. According to Samant, those details would be hashed out later by committees of engineers working with the city.

Staff writer Erin Allday contributed to this report. E-mail Robert Selna at rselna@sfchronicle.com.

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This article appeared on page **A - 1** of the San Francisco Chronicle

SFGate.com

City advised to require building retrofits

Robert Selna, Chronicle Staff Writer
Thursday, January 22, 2009


San Francisco should force owners of the city's weakest buildings to evaluate their properties' seismic safety and complete any necessary retrofit work, according to a new report.

At a minimum, such a mandate would cover about 2,800 large, wood-frame buildings that are liable to collapse or sustain serious damage in a major earthquake. Such a temblor is likely to hit the city before 2032, the report states.

The draft report was reviewed Wednesday by the city's Building Inspection Commission, and a final version is scheduled to be delivered to Mayor Gavin Newsom by Jan. 30.

The report estimates that mandatory retrofits would dramatically reduce damage and the need for emergency shelters and would preserve rental housing and neighborhood character. Retrofits could cost $9,000 to $28,000 per residential unit.

The city could help building owners pay for the retrofit work by offering low-interest loans backed by bonds, but the bonds would need voter approval.

The buildings that were analyzed house nearly 60,000 residents and 7,000 employees but represent just a fraction of the buildings that would be destroyed in the city if a big temblor hit today. The buildings studied make up only 10 percent of the city's residential units that are believed to be unsafe. Other building types will be studied later.

'Significant hazard'

"This data is a confirmation that these buildings represent a significant hazard to the community and possibly all sorts of problems," said Laurence Kornfield, the city's chief building inspector.

In July, Newsom said he did not feel that it was necessary to require owners to shore up their buildings as other Bay Area cities have done. Last month, Newsom said he would be willing to reconsider after reviewing more data. On Wednesday, his spokesman reiterated that sentiment.

"There appears to be a growing consensus for a mandatory program. After the final recommendations are presented to him, Mayor Newsom will weigh the evidence and make a policy decision," spokesman Nathan Ballard wrote in an e-mail.

At issue are wood-frame, "soft-story" structures. They include the classic San Francisco apartment building with a store or restaurant on the first floor. They have a ground-floor space - for example, a large window or garage door - where a solid wall might otherwise be.

San Francisco has more of those buildings than any other Bay Area city, and they are made more precarious by neighborhoods perched on unstable soil. The open spaces in walls make the frames prone to twisting and buckling, and many of the buildings were damaged in the Marina district in the 1989 Loma Prieta earthquake.

The city-funded study focused on 2,800 buildings that have three stories or more, at least five residential units and proportionally large ground-level openings. The study notes that the city has thousands of other types of soft-story buildings, such as homes built over garages like those common in the Sunset District.

Many of the buildings under review were constructed before 1906, and 90 percent are rental apartments. Surveys indicate that the vulnerable soft-story buildings are most concentrated in six neighborhoods: the Mission, the Western Addition, the Richmond, North Beach, Pacific Heights and the Sunset.

Understanding risk

The draft report is part of the city's first endeavor to fully understand the health, safety and economic risk posed by the city's buildings during a major earthquake. It considered the result of a 7.2 earthquake on the San Andreas Fault, which lies just off the city's western shore about 10 miles from downtown. The study also reviewed a span of quakes from magnitude 6.9 (Loma Prieta) to 7.9 (the 1906 quake).

A Chronicle report in June highlighted the fact that the city had no strategy for fixing the problem despite the fact that the danger of soft-story buildings had been known for decades.

As part of a study that had recently been restarted by the city's Department of Building Inspection, Newsom directed departments and earthquake consultants to analyze soft-story structures and to develop retrofit guidelines for them by the end of this month.

The study calls for mandatory retrofits within a 10-year period. The repairs would have to be sufficient to ensure that the buildings can be lived in after a large quake.

It also said the city should offer incentives to encourage property owners to retrofit. One option is to offer loans using several hundred million dollars in city bond funds that were previously set aside for fixing brick buildings.

Estimates put the total cost of retrofitting just the weakest soft-story buildings at $260 million.

That could eliminate $1.5 billion in damage in the event of a big earthquake.

One member of the city's Building Inspection Commission who reviewed the report implied that property owners would need more than health and safety as incentive to retrofit.

"You've really got to make it attractive to individual homeowners to do this work ... it gets back to incentives," Commissioner Mel Murphy said.

Others were gung-ho about a city retrofit requirement.

"I think we need to mandate this," said Commissioner Debra Walker, who is planning a run for the Board of Supervisors. "It's scary for people financially, but it's much more scary to think about these things falling down and much more expensive if we don't do it."

A searchable database includes addresses of buildings that could be forced to undergo expensive retrofits under a new proposal. *sfgate.com/webdb/softstory*

E-mail Robert Selna at rselna@sfchronicle.com.

http://sfgate.com/cgi-bin/article.cgi?f=/c/a/2009/01/22/MN5315EKG5.DTL

This article appeared on page **A - 1** of the San Francisco Chronicle

SFGate.com

S.F. leaders ignore weak buildings' quake risk

Robert Selna, Chronicle Staff Writer
Sunday, June 29, 2008

Tens of thousands of San Francisco homes and businesses are built in a way that will probably cause them to collapse in the next big earthquake, yet city leaders and building officials have largely ignored the danger for decades.

The vulnerable buildings are often the classic San Francisco apartment building with a store or restaurant on the first floor, or the Sunset District home built over a garage.

The "soft-story" buildings feature a space - a glass window or a garage door - on the ground floor where a wall would ordinarily be, making their wood frames prone to twisting and buckling in an earthquake.

San Francisco has more of the buildings than any other Bay Area city, and they are made more precarious by neighborhoods perched on unstable soil - sand and dirt shoveled into former lagoons, creeks, lakes and the bay. The structures also house most of the city's affordable rental units, which are critical to economic diversity.

So far, the quakes to hit the city over the past century have only hinted at the danger posed by these buildings, many of which have been constructed over the past several decades.

The destruction in the Marina district after the 1989 Loma Prieta quake - garages caved down on sidewalks, splintered wood, cracked stucco, and brown columns of smoke rising from burning buildings - could easily be multiplied 100 times by a closer quake on the Hayward or San Andreas faults, according to engineers who have studied the danger. Loma Prieta hit about 60 miles south of the city.

"Almost every apartment building in the Sunset District and the Richmond District with ground-floor grocery stores and shops. ... They're toast!" said Pat Buscovich, a structural engineer who has sat on numerous city seismic safety panels. "In the Marina, (the buildings) rolled over and killed cars. If they roll over in other neighborhoods, which they will, they'll kill a lot of people."

There is widespread agreement that the potential destruction - deaths, loss of housing and damage to businesses - would be enormous in San Francisco because of the prevalence of soft-story buildings. Yet the cost to seismically stabilize them can be as low as $20,000 for a five-unit apartment building.

Nevertheless, city officials have shown a lack urgency when it comes to retrofitting the city's structures. In one example, Mayor Gavin Newsom and city Assessor Phil Ting proposed in December taking some public loan money available for retrofitting brick buildings and using it instead to subsidize the installation of solar panels. Ultimately, another pot of money was used for a similar solar program.

Buildings' toll in northridge

San Francisco building-safety experts wonder why it's taking so long for the city to craft a soft-story building retrofit plan. The buildings were blamed for many of the 72 deaths and 9,000 injuries after the magnitude 6.7 Northridge earthquake, which caused an estimated $25 billion damage in 1994. One soft-story apartment building collapsed and killed 16 people.

In April, scientists calculated that there is a 63 percent chance a magnitude 6.7 or greater quake will hit on a Bay Area fault in the next 30 years.

Soft-story buildings erected on street corners and unstable soil are considered to be the most susceptible to collapse, but there has never been a city order to retrofit even those structures. In May, after China's magnitude 8 earthquake, Newsom talked about requiring property owners to address the issue, but he has not put forward a formal plan or ordinance. His spokesman said last week that the mayor had recently asked to be briefed on the issue.

"It's alarming how unprepared we are," said Debra Walker, a member of the city Building Inspection Commission. "We haven't been doing the work we need to be doing, and it scares me."

Estimated deaths, costs

Walker and concerned engineers and civic groups recently persuaded the city's Building Inspection Department to restart a study of various city building types, attempting to estimate the number of deaths and the costs resulting from a major earthquake.

The study, which began in 2000 before it was abruptly abandoned three years later, showed that soft-story buildings would cause the overwhelming majority of damage and loss of housing in a major earthquake centered near the city.

Because the buildings also house most of San Francisco's 180,000 rent-controlled apartments, the destruction could profoundly affect the city's housing market.

Work on the report was shelved in 2003 because of a murky combination of bureaucratic inertia and politics, according to Walker and others involved.

The hope among some engineers is that the completed study will prompt a comprehensive retrofit

program for at least the most vulnerable structures. But history indicates that, despite the real threat that a major earthquake could hit San Francisco at any moment, progress will be slow.

A notable example is the decadeslong slog to stabilize unreinforced brick buildings. The buildings were known to be dangerous since even before many brick schoolhouses crumbled in the 1933 Long Beach earthquake. But San Francisco didn't begin to require retrofits on those masonry buildings until 1992. Still, about 150 brick buildings haven't been fixed.

Learning from other quakes

The recent earthquake in Sichuan province, China, where 87,000 people are estimated to be dead or missing, is a cautionary tale. News reports after that disaster indicate that government officials did little to stabilize structures they knew could collapse.

While much of downtown San Francisco also sits on landfill, its buildings are considered safer than most of the city's housing stock. Whereas many downtown structures have been retrofitted or engineered for earthquake resistance, most apartment buildings and single-family homes have not.

In 1989, the Marina district was the site of at least 124 destroyed or damaged buildings and three deaths. A temblor centered closer to San Francisco could cause that sort of damage across much more of the city, from the Sunset and Richmond districts to the Mission and South of Market neighborhoods.

Structural engineer David Bonowitz conducted a rough survey that showed 180,000 San Franciscans live in about 5,700 soft-story residential apartment buildings with three or more units. That doesn't include the tens of thousands of soft-story homes in the Richmond and Sunset districts, he said.

Bonowitz said the city needs to come up with a retrofit plan soon because a high percentage of the buildings would be uninhabitable after a major earthquake.

The city has estimated that 50,000 to 60,000 people would need emergency housing after a big quake, and there are plans to provide short-term shelters in churches and community halls. But Bonowitz said the city should prepare for far more than 60,000 displaced residents, given what is known about soft-story buildings.

"This is a city of renters, and they don't have a lot of control over whether their buildings are safe and don't have a lot of alternatives," Bonowitz said.

Uncertain future for renters

Likewise, many owners of apartment buildings have little incentive to retrofit buildings when, in

most cases, they can't pass all the costs on to residents.

A legal quirk makes renters' future even more uncertain in the event of a big earthquake, because owners of rent-controlled dwellings destroyed in a quake wouldn't have to abide by rent-control laws once they rebuild.

Apart from the human toll and economic damage these buildings pose, the city's chief building inspector says the destruction of soft-story buildings also could drastically alter the architectural charm and feel of San Francisco's historic neighborhoods.

"The soft-story corner buildings tend to have neighborhood services and small businesses and housing," Laurence Kornfield said. "Their effect on the city (if they were damaged) could be extreme."

City voters already have approved bond money for retrofitting brick buildings, but unless voters change that law, the remaining $320 million cannot be used to stabilize soft-story buildings.

Bonds, rebates suggested

Engineers and building commissioners have suggested requiring retrofits of the buildings and also allowing property owners to use public bond money or giving them rebates on property taxes.

Other Bay Area cities have taken steps to fix the problem.

In 2007, Fremont approved an ordinance requiring the retrofitting of all soft-story apartment buildings.

Berkeley requires owners to post warning signs about their soft-story buildings' earthquake danger and submit plans to stabilize them. Building officials there expect to draft a retrofit ordinance by the end of the year that will require property owners to comply with seismic safety codes.

"We've been very impressed that people have started to do the retrofitting after they were alerted to the problem," said Dan Lambert, Berkeley's building mitigation manager. "People usually don't like the city to tell them what to do, but in this case they've been very receptive."

Buildings violate law: Despite a 1986 state order, about 150 brick structures in S.F. have not been retrofitted. **A14**

E-mail Robert Selna at rselna@sfchronicle.com.

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This article appeared on page **A - 1** of the San Francisco Chronicle

Joe Arellano/MAYOR/SFGOV

02/12/2009 03:15 PM

To Joe Arellano/MAYOR/SFGOV@SFGOV
cc
bcc William Strawn/DBI/SFGOV
Subject BLOOMBERG: Newsom Wants San Francisco Property Owners to Add Quake Defense

Newsom Wants San Francisco Property Owners to Add Quake Defense

By Ryan Flinn

Feb. 12 (Bloomberg) -- San Francisco Mayor Gavin Newsom said he favors legislation that would force the city's property owners to spend thousands of dollars to shore up buildings susceptible to collapse during a major earthquake.

Newsom has directed the city's Department of Building Inspection to craft a law mandating the work, according to a statement provided to Bloomberg News. A committee tasked by Newsom in July with studying the issue estimated that it would cost about $260 million to fix the most vulnerable buildings, or as much as $28,000 per residential unit.

"Although there is no such thing as an earthquake-proof building, engineers agree that proper seismic retrofitting can give buildings a fighting chance against a sizeable earthquake," Newsom said in the statement. "Now we must act decisively to protect our homes and workplaces."

So-called soft-story, wood-frame buildings, mostly more than 35 years old, have large openings on their ground floor and lack partitioning walls. They typically house shops, restaurants or garages. During a strong quake, the ground floor may not be able to support the stiff, heavier floors above, leading the entire building to shift sideways or collapse, according to a draft version of the Community Action Plan for Seismic Safety report.

The fixes are necessary to prevent $1.5 billion in damage after a temblor of magnitude 7.2 or larger on the San Andreas Fault, according to the report. Such destruction could leave tens of thousands homeless for years, it said.

Property Owners' Burden

The plan leaves property owners footing too much of the bill, said Noni Richen, president of the Small Property Owners of San Francisco Institute.

"We need to retrofit the buildings somehow," Richen said. "But to put all the burden on property owners, especially small property owners, will put us out of business."

The retrofitting plan assumes a weaker quake than struck the city in 1906. That temblor, which killed more than 3,000 and left 225,000 people homeless out of a population of 400,000, was at

least magnitude 7.7 and possibly 8.3, according to the U.S. Geological Survey.

That temblor ruptured the northernmost 296 miles of the San Andreas Fault and caused $400 million in damage in contemporary dollars, the USGS says. Of the 28,188 buildings lost in the quake and the fires it sparked, almost 90 percent were wood structures.

Several soft-story buildings were damaged in the 6.9- magnitude temblor that struck in 1989 in Loma Prieta, about 60 miles south of San Francisco. A larger quake closer to the city would have a greater impact, the report said.

Buildings at Risk

The report identified 4,400 buildings most at risk, mostly with three or more stories and at least five apartments.

Building owners say the current lending market would make it difficult to pay for the necessary construction, and that passing costs on to tenants is an arduous and time-consuming process.

"Commercial financing is non-existent right now," said Vincent Malta, a vice president with San Francisco-based real estate firm Malta & Co., and owner of an 18-unit apartment building in the city. "This couldn't have come at a worse time."

While the reinforcements are necessary, "it will force many people to sell their buildings," he said.

Property owners might have to compensate commercial tenants, such as restaurants and shops, that might be displaced for months during construction, the report said, and owners would also be on the hook for the costs of residents who need to be relocated.

Incentives for Owners

The mayor said he is developing incentives for building owners who retrofit their properties, and supports financing programs such as using an existing construction bond program to make it easier to pay for the work, according to the statement.

Richen, who has owned a four-unit apartment building in San Francisco since 1974, said many of the 2,000 property owners in her association are retired and use rental income to supplement their savings.

"San Francisco is a tenant town -- I know they're pandering to tenants, but it's unrealistic to put the cost of the upgrade on owners," she said.

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Joe Arellano/MAYOR/SFGOV

02/12/2009 06:34 PM

To Joe Arellano/MAYOR/SFGOV@SFGOV

cc

bcc William Strawn/DBI/SFGOV

Subject *** PRESS RELEASE *** MAYOR GAVIN NEWSOM TO MAKE SEISMIC SAFETY MANDATORY

History: This message has been forwarded.

FOR IMMEDIATE RELEASE:
Thursday, February 12, 2009
Contact: Mayor's Office of Communications,
415-554-6131

*** PRESS RELEASE ***

MAYOR GAVIN NEWSOM TO MAKE SEISMIC SAFETY MANDATORY

SAN FRANCISCO, CA –Mayor Gavin Newsom today announced that he has directed the Department of Building Inspection to craft specific legislation requiring mandatory upgrades to San Francisco's soft-story wood frame buildings.

"Although there is no such thing as an earthquake-proof building, engineers agree that proper seismic retrofitting can give buildings a fighting chance against a sizeable earthquake," said Mayor Newsom. "Now we must act decisively to protect our homes and workplaces."

A soft-story building is one that typically has large openings on the ground floor such as multiple garage doors or large storefront windows. The buildings are found throughout San Francisco.

The plan for mandatory soft story upgrades coincides with a report about to be released by the Community Action Plan for Seismic Safety (CAPSS) that focuses on one type of soft-story wood-frame buildings in San Francisco and their location, evaluates a range of vulnerability factors, and will propose retrofit options and costs. CAPSS also is studying other types of potentially vulnerable buildings within the City, and will be generating additional analyses and recommendations over the next 18 months for policymakers' consideration.

The report was ordered by the Mayor last July as a top priority. Its analysis and recommendations are expected to recommend both voluntary and mandatory programs to address seismic safety issues around such soft-story buildings.

In addition, Mayor Newsom is developing retrofit incentives for San Francisco building owners and a feasible financing program – such as the possible repurposing of existing unreinforced masonry building bond monies – to help facilitate these retrofits under what everyone recognizes

are difficult market conditions.

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Joe Arellano
Deputy Communications Director/Sub-Director de Prensa
Mayor's Office of Communications
1 Dr. Carlton B. Goodlett Place, Room 291
San Francisco, CA 94102
415.554.6608 Direct
415.554.6131 Main
415.554-4058 Fax
Joe.Arellano@sfgov.org

File No. 091113

City and County of San Francisco
Department of Building Inspection

Gavin Newsom, Mayor
Vivian L. Day, C.B.O., Director

ADMINISTRATIVE BULLETIN

NO. AB-094

DATE : May 26, 2009

SUBJECT : Permit Review and Operation

TITLE : **Definition and Design Criteria for Voluntary Seismic Upgrade of Soft-Story, Type V (wood-frame) Buildings**

PURPOSE : The purpose of this Bulletin is to establish definitions and acceptable design criteria for voluntary seismic upgrade projects for soft-story Type V (wood-frame) buildings that may qualify for various incentives, such as expedited permit review and fee adjustments.

REFERENCE : 2007 San Francisco Building Code
Section 1613, Earthquake Loads
Section 3403.5, Lateral Force Design for Existing Buildings
Section 1604.11, Minimum Lateral Forces for Existing Buildings
AB-004, Priority Permit Processing Guidelines
2006 International Existing Building Code, Chapter A4
2007 California Historical Building Code, Chapter 8-7 and 8-8
ASCE/SEI Standard 41-06, 2007 Seismic Rehabilitation of Existing Buildings

DISCUSSION: A clear definition of "soft-story Type V (wood-frame) building" and the basic design criteria for seismic upgrades to such buildings are essential to the permit submittal and approval of projects that wish to take advantage of City-sponsored voluntary incentives to implement seismic upgrades of potentially seismically hazardous buildings.

Permits for voluntary structural work that do not reference meeting a specific code standard or that do not qualify for incentives for voluntary seismic upgrade work permit processing may meet any level of upgrade if such work does not increase the hazard of the building.

IMPLEMENTATION

Building owners who wish to take advantage of voluntary seismic upgrade incentives must meet the definition of a soft-story Type V (wood-frame) building and must comply with the retrofit standards as detailed below.

DEFINITIONS

For the purpose of this Administrative Bulletin the following definitions shall apply:

Soft-story Type V (wood-frame) building means a building that meets the following criteria:

A. a Type V (wood-frame) building as defined in the San Francisco Building Code, and
B. was constructed prior to May 21, 1973, and
C. has a ground floor (1st story) level in which
    a. the total length of walls in a given direction is less than 70% of the total length of walls in that direction of the story above, or
    b. an open exterior wall line at the ground floor level (1st story) in which the percentage of openings along that length of wall exceeds 70% of the wall line, or
    c. at least 50% of the floor area of the ground floor is used for Occupancy Classifications A (assembly), B (business), M (mercantile), S (storage, open or enclosed parking garages), or U (private garages), or
    d. the building has been determined by engineering analysis to be in a structural condition due to design or material deterioration such that it might collapse in the design earthquake event.

The application of this definition of a soft-story wood-frame building is not to be considered as equivalent to a complete structural analysis; rather, this definition provides a simplified analysis method to include the most likely soft-story buildings.

Length of Wall is the total length of any wall minus openings, including windows and doors of any size. Ducts, vents, pipes, and similar penetrations are not considered openings for purposes of this definition of soft-story building and need not be subtracted from total length of wall.

RETROFIT STANDARDS

The standards to be applied to the seismic upgrade of soft-story wood-framed buildings in order to qualify for voluntary upgrade incentives shall be one of the following:

A. Meets the requirements of Appendix Chapter A4 of the 2006 International Existing Building Code, IEBC, or

B. Any other alternate design and/or construction methodology, such as ASCE 41, that demonstrates compliance with the intent of San Francisco Building Code Section 1604.11. Provisions and analysis techniques referenced in the California Historical Building Code, Chapter 8-7, Structural Regulations, and Chapter 8-8, Archaic Materials and Methods of Construction may also be used to assist in meeting the retrofit standards.

For the purposes of this bulletin, mitigation of the soft-story condition at the ground floor (1st story) shall be considered the part of the voluntary soft-story wood-frame upgrade work eligible for incentives. Additional seismic upgrade work may be undertaken on the floors above the ground floor; however such additional seismic retrofit work is not considered part of the voluntary soft-story upgrade work and may be subject to standard permitting requirements.

PERMIT PROCESSING

Submittal Documents and Building Permit Application

Building permit applications for voluntary, soft-story Type V (wood-frame) building upgrade work must clearly state the intention to qualify for voluntary incentives in the Project Description portion of the building permit application form. Submittal documents should include the following:

A. Dimensioned plans of the ground floor (1st story) and second floor showing all exterior walls, interior partitions and any lateral braces or other lateral load-resisting elements if these are used in calculating the length of walls and openings, or plans showing Occupancy Classifications and uses of the ground floor if that is the method of qualifying as a soft-story building under this Administrative Bulletin, and
B. A photograph of the exterior of the building, and
C. Structural upgrade plans and necessary supporting calculations and documents prepared by a licensed design professional showing how seismic upgrade will meet the standards adopted in this Administrative Bulletin. Included in these submittal documents should be a listing of archaic materials and values for those materials, if these are to be used as part of the lateral force resisting system.

Expedited Permit Processing

Building permit applications for voluntary soft-story wood-frame seismic retrofit will be expedited as authorized under AB-004 and will be tracked by the Department of Building Inspection for reporting purposes.

Vivian L Day 5/27/09

Vivian L. Day, C.B.O. Date
Director
Department of Building Inspection

Approved Building Inspection Commission 5/20/2009

Attachment A International Code for Existing Buildings, Chapter A4
Attachment B California Historical Building Code, Chapter 8-7 and 8-8

CHAPTER A4

EARTHQUAKE HAZARD REDUCTION IN EXISTING WOOD-FRAME RESIDENTIAL BUILDINGS WITH SOFT, WEAK OR OPEN-FRONT WALLS

SECTION A401 GENERAL

A401.1 Purpose. The purpose of this chapter is to promote public welfare and safety by reducing the risk of death or injury that may result from the effects of earthquakes on existing wood-frame, multiunit residential buildings. The ground motions of past earthquakes have caused the loss of human life, personal injury and property damage in these types of buildings. This chapter creates minimum standards to strengthen the more vulnerable portions of these structures. When fully followed, these minimum standards will improve the performance of these buildings but will not necessarily prevent all earthquake-related damage.

A401.2 Scope. The provisions of this chapter shall apply to all existing Occupancy Group R-1 and R-2 buildings of wood construction or portions thereof where:

1. The ground floor portion of the wood-frame structure contains parking or other similar open floor space, which causes soft, weak or open-front wall lines as defined in this chapter, and there exists one or more stories above, or
2. The walls of any story or basement of wood construction are laterally braced with nonconforming structural materials as defined in this chapter, a soft or weak wall line exists as defined in this chapter and there exist two or more stories above.
3. The structure is assigned to Seismic Design Category C, D or E.

SECTION A402 DEFINITIONS

Notwithstanding the applicable definitions, symbols and notations in the building code, the following definitions shall apply for the purposes of this chapter:

APARTMENT HOUSE. Any building or portion thereof that contains three or more dwelling units. For the purposes of this chapter, "apartment house" includes residential condominiums.

ASPECT RATIO. The span-width ratio for horizontal diaphragms and the height-length ratio for vertical diaphragms.

CONGREGATE RESIDENCE. A congregate residence is any building or portion thereof for occupancy by other than a family that contains facilities for living, sleeping and sanitation as required by the building code and that may include facilities for eating and cooking. A congregate residence may be a shelter, convent, monastery, dormitory, fraternity or sorority house, but does not include jails, hospitals, nursing homes, hotels or lodging houses.

CRIPPLE WALL. A wood-frame stud wall extending from the top of the foundation wall to the underside of the lowest floor framing.

DWELLING UNIT. Any building or portion thereof for not more than one family that contains living facilities, including provisions for sleeping, eating, cooking and sanitation as required by the building code or congregate residence for 10 or fewer persons.

EXPANSION ANCHOR. An approved mechanical fastener placed in hardened concrete that is designed to expand in a self-drilled or pre-drilled hole of a specified size and engage the sides of the hole in one or more locations to develop shear and/or tension resistance to applied loads without grout, adhesive or drypack.

GROUND FLOOR. Any floor whose elevation is immediately accessible from an adjacent grade by vehicles or pedestrians. The ground floor portion of the structure does not include any floor that is completely below adjacent grades.

GUESTROOM. Any room or rooms used or intended to be used by a guest for sleeping purposes. Every 100 square feet ($9.3\ m^2$) of superficial floor area in a congregate residence shall be considered a guestroom.

HOTEL. Any building containing six or more guestrooms intended or designed to be used, rented, hired out to be occupied, or that are occupied, for sleeping purposes by guests.

LIFE SAFETY PERFORMANCE LEVEL. The building performance level that includes significant damage to both structural and nonstructural components during a design earthquake, though at least some margin against either partial or total structural collapse remains. Injuries may occur, but the level of risk for life-threatening injury and entrapment is low.

LODGING HOUSE. Any building or portion thereof containing at least one but not more than five guest rooms where rent is paid in money, goods, labor or otherwise.

MOTEL. Motel shall mean a hotel as defined in this chapter.

MULTIUNIT RESIDENTIAL BUILDINGS. Hotels, lodging houses, congregate residences and apartment houses.

NONCONFORMING STRUCTURAL MATERIALS. Wall bracing materials other than wood structural panels or diagonal sheathing.

OPEN-FRONT WALL LINE. An exterior wall line, without vertical elements of the lateral-force-resisting system, that requires tributary seismic forces to be resisted by diaphragm rotation or excessive cantilever beyond parallel lines of shear walls. Diaphragms that cantilever more than 25 percent of the distance between lines of lateral-force-resisting elements from which the diaphragm cantilevers shall be considered excessive.

Exterior exit balconies of 6 feet (1829 mm) or less in width shall not be considered excessive cantilevers.

RETROFIT. An improvement of the lateral-force-resisting system by alteration of existing structural elements or addition of new structural elements.

SOFT WALL LINE. A wall line whose lateral stiffness is less than that required by story drift limitations or deformation compatibility requirements of this chapter. In lieu of analysis, a soft wall line may be defined as a wall line in a story where the story stiffness is less than 70 percent of the story above for the direction under consideration.

STORY. A story as defined by the building code, including any basement or underfloor space of a building with cripple walls exceeding 4 feet (1219 mm) in height.

STORY STRENGTH. The total strength of all seismic-resisting elements sharing the same story shear in the direction under consideration.

WALL LINE. Any length of wall along a principal axis of the building used to provide resistance to lateral loads. Parallel wall lines separated by less than 4 feet (1219 mm) shall be considered one wall line for the distribution of loads.

WEAK WALL LINE. A wall line in a story where the story strength is less than 80 percent of the story above in the direction under consideration.

SECTION A403
ANALYSIS AND DESIGN

A403.1 General. Buildings within the scope of this chapter shall be analyzed, designed and constructed in conformance with the building code, except as modified in this chapter.

> Exception: Buildings for which the prescriptive measures provided in Section A405 apply and are used.

No alteration of the existing lateral-force-resisting or vertical-load-carrying system shall reduce the strength or stiffness of the existing structure. When any portion of a building within the scope of this chapter is constructed on or into a slope steeper than one unit vertical in three units horizontal, the lateral-force-resisting system at and below the base level diaphragm shall be analyzed for the effects of concentrated lateral forces at the base caused by this hillside condition.

A403.2 Scope of analysis. This chapter requires the alteration, repair, replacement or addition of structural elements and their connections to meet the strength and stiffness requirements herein. The lateral-load-path analysis shall include the resisting elements and connections from the wood diaphragm immediately above any soft, weak or open-front wall lines to the foundation soil interface or to the uppermost floor or roof of a Type I structure below. Stories above the uppermost story with a soft, weak or open-front wall line need not be modified. The lateral-load-path analysis for added structural elements shall also include evaluation of the allowable soil-bearing and lateral pressures in accordance with the building code.

> Exception: When an open-front, weak or soft wall line exists because of parking at the ground floor of a two-story building and the parking area is less than 20 percent of the ground floor area, then only the wall lines in the open, weak or soft directions of the enclosed parking area need comply with the provisions of this chapter.

A403.3 Design base shear. The design base shear in a given direction shall be 75 percent of the value required for similar new construction in accordance with the building code.

A403.4 Vertical distribution of forces. The total seismic force shall be distributed over the height of the structure as for new construction in accordance with the building code. Distribution of force by story weight shall be permitted for two-story buildings. The value of R used in the design of any story shall be less than or equal to the value of R used in the given direction for the story above.

A403.5 Weak story limitation. Every weak story shall be strengthened to the lesser of:

1. Ω_o times the story shear prescribed by Sections A403.3 and A403.4.
2. In two-story buildings up to 30 feet (9144 mm) in height, 65 percent of the strength of the story above. In all other buildings, 80 percent of the strength of the story above.

A403.6 Story drift limitation. The calculated story drift for each retrofitted story shall not exceed the allowable deformation compatible with all vertical-load-resisting elements and 0.025 times the story height. The calculated story drift shall not be reduced by the effects of horizontal diaphragm stiffness but shall be increased when these effects produce rotation. Drift calculations shall be in accordance with the building code.

The effects of rotation and soil stiffness shall be included in the calculated story drift when lateral loads are resisted by vertical elements whose required depth of embedment is determined by pole formulas. The coefficient of subgrade reaction used in the deflection calculations shall be provided from an approved geotechnical engineering report or other approved methods.

A403.7 P Δ effects. The requirements of the building code shall apply, except as modified herein. All structural framing elements and their connections not required by design to be part of the lateral-force-resisting system shall be designed and/or detailed to be adequate to maintain support of design dead plus live loads when subjected to the expected deformations caused by seismic forces. The stress analysis of cantilever columns shall use a buckling factor of 2.1 for the direction normal to the axis of the beam.

A403.8 Ties and continuity. All parts of the structure included in the scope of Section A403.2 shall be interconnected as required by the building code.

> A403.8.1 Cripple walls. Cripple walls braced with nonconforming structural materials shall be braced in accordance with this chapter. When a single top plate exists in the cripple wall, all end joints in the top plate shall be tied.

Ties shall be connected to each end of the discontinuous top plate and shall be equal to one of the following:

1. Three-inch by 6-inch (76 mm by 152 mm), 18-gage galvanized steel, nailed with six 8d common nails at each end.
2. One and one-fourth-inch by 12-inch (32 mm by 305 mm), 18-gage galvanized steel, nailed with six 16d common nails at each end.
3. Two-inch by 4-inch by 12-inch (51 mm by 102 mm by 305 mm) wood blocking, nailed with six 16d common nails at each end.

A403.9 Collector elements. Collector elements shall be provided that can transfer the seismic forces originating in other portions of the building to the elements within the scope of Section A403.2 that provide resistance to those forces.

A403.10 Horizontal diaphragms. The strength of an existing horizontal diaphragm sheathed with wood structural panels or diagonal sheathing need not be investigated unless the diaphragm is required to transfer lateral forces from vertical elements of the seismic-force-resisting system above the diaphragm to elements below the diaphragm because of an offset in placement of the elements.

Wood diaphragms with stories above shall not be allowed to transmit lateral forces by rotation or cantilever except as allowed by the building code; however, rotational effects shall be accounted for when unsymmetric wall stiffness increases shear demands.

Exception: Diaphragms that cantilever 25 percent or less of the distance between lines of lateral-load-resisting elements from which the diaphragm cantilevers may transmit their shears by cantilever, provided that rotational effects on shear walls parallel and perpendicular to the load are taken into account.

A403.11 Wood-framed shear walls. Wood-framed shear walls shall have strength and stiffness sufficient to resist the seismic loads and shall conform to the requirements of this section.

A403.11.1 Gypsum or cement plaster products. Gypsum or cement plaster products shall not be used to provide lateral resistance in a soft or weak story or in a story with an open-front wall line, whether or not new elements are added to mitigate the soft, weak or open-front condition.

A403.11.2 Wood structural panels.

A403.11.2.1 Drift limit. Wood structural panel shear walls shall meet the story drift limitation of Section A403.6. Conformance to the story drift limitation shall be determined by approved testing or calculation, not by the use of an aspect ratio. Calculated deflection shall be determined according to *International Building Code* Equation 23-1 and shall be increased by 25 percent. Contribution to the shear wall deflection from the anchor or tie-down slippage shall also be included. The slippage contribution shall include the vertical elongation of the connector metal components, the vertical slippage of the connectors to framing members, localized crushing of wood due to bearing loads and shrinkage of the wood elements because of changes in moisture content as a result of aging. The total vertical slippage shall be multiplied by the shear panel aspect ratio and added to the total horizontal deflection. Individual shear panels shall be permitted to exceed the maximum aspect ratio, provided the allowable story drift and allowable shear capacities are not exceeded.

A403.11.2.2 Openings. Shear walls are permitted to be designed for continuity around openings in accordance with the building code. Blocking and steel strapping shall be provided at corners of the openings to transfer forces from discontinuous boundary elements into adjoining panel elements. Alternatively, perforated shear wall provisions of the building code are permitted to be used.

A403.11.2.3 Wood species of framing members. Allowable shear values for wood structural panels shall consider the species of the framing members. When the allowable shear values are based on Douglas fir-larch framing members, and framing members are constructed of other species of lumber, the allowable shear values shall be multiplied by the following factors: 0.82 for species with specific gravities greater than or equal to 0.42 but less than 0.49, and 0.65 for species with specific gravities less than 0.42. Redwood shall use 0.65 and hem fir shall use 0.82, unless otherwise approved.

A403.11.3 Substitution for 3-inch (76 mm) nominal width framing members. Two 2-inch (51 mm) nominal width framing members shall be permitted in lieu of any required 3-inch (76 mm) nominal width framing member when the existing and new framing members are of equal dimensions, when they are connected as required to transfer the in-plane shear between them, and when the sheathing fasteners are equally divided between them.

A403.11.4 Hold-down connectors.

A403.11.4.1 Expansion anchors in tension. Expansion anchors that provide tension strength by friction resistance shall not be used to connect hold-down devices to existing concrete or masonry elements. Expansion anchors that provide tension strength by bearing (commonly referenced as "undercut" anchors) shall be permitted.

A403.11.4.2 Required depth of embedment. The required depth of embedment or edge distance for the anchor used in the hold-down connector shall be provided in the concrete or masonry below any plain concrete slab unless satisfactory evidence is submitted to the building official that shows that the concrete slab and footings are of monolithic construction.

A403.11.4.3 Required preload of bolted hold-down connectors. Bolted hold-down connectors shall be preloaded to reduce slippage of the connector. Preloading shall consist of tightening the nut on the tension anchor after the placement but before the tightening of the shear bolts in the panel boundary flange member. The tension anchor shall be tightened until the shear bolts are in firm contact with the edge of the hole nearest

the direction of the tension anchor. Hold-down connectors with self-jigging bolt standoffs shall be installed in a manner to permit preloading.

SECTION A404
PHASED CONSTRUCTION

The work specified in this chapter shall be permitted to be done in the following phases. Work shall start with Phase 1 unless otherwise approved by the building official. When the building does not contain the conditions associated with the given phase, the work shall proceed to the next phase.

Phase 1 Work. The first phase shall include all work in the lowest story with a soft, weak or open-front wall line and all foundation work.

Phase 2 Work. The second phase shall include wood-framed walls in any story with two or more stories above that are laterally braced with nonconforming structural materials.

Phase 3 Work. The third and final phase shall include all required work not performed in Phase 1 or Phase 2.

SECTION A405
PRESCRIPTIVE MEASURES FOR WEAK STORY

A405.1 Limitation. These prescriptive measures shall apply only to two-story buildings and only when deemed appropriate by the code official. These prescriptive measures rely on rotation of the second floor diaphragm to distribute the seismic load between the side and rear walls of the ground floor open area. In the absence of an existing floor diaphragm of wood structural panel or diagonal sheathing, a new wood structural panel diaphragm of minimum thickness of $^3/_4$ inch (19 mm) and with 10d common nails at 6 inches (152 mm) on center shall be applied.

A405.1.1 Additional conditions. To qualify for these prescriptive measures, the following additional conditions need to be satisfied by the retrofitted structure:

1. Diaphragm aspect ratio L/W is less than 0.67, where W is the diaphragm dimension parallel to the soft, weak or open-front wall line and L is the distance in the orthogoal direction between that wall line and the rear wall of the ground floor open area.
2. Minimum length of side shear walls = 20 feet (6096 mm).
3. Minimum length of rear shear wall = three-fourth of rear wall.
4. No plan or vertical irregularities other than a soft, weak or open-front wall line.
5. Roofing weight less than or equal to 5 pounds per square foot (240 N/m^2).
6. Aspect ratio of the full second floor diaphragm meets the requirements of the building code for new construction.

A405.2 Minimum required retrofit.

A405.2.1 Anchor bolt size and spacing. The anchor bolt size and spacing shall be a minimum of $^3/_4$ inch (19 mm) in diameter at 32 inches (813 mm) on center. Where existing bolts are inadequate, new steel plates bolted to the side of the foundation and nailed to the sill may be used, such as an approved connector.

A405.2.2 Connection to floor above. Shear wall top plates shall be connected to blocking or rim joist at upper floor with a minimum of 18-gage galvanized steel angle clips $4^1/_2$ inches (114 mm) long with 12-8d nails spaced no farther than 16 inches (406 mm) on center, or by equivalent shear transfer methods.

A405.2.3 Shear wall sheathing. The shear wall sheathing shall be a minimum of $^{15}/_{32}$ inch (11.9 mm) 5-Ply Structural I with 10d nails at 4 inches (102 mm) on center at edges and 12 inches (305 mm) on center at field; blocked all edges with 3 by 4 or larger. Where existing sill plates are less than 3-by thick, place flat 2-by on top of sill between studs, with flat 18-gage galvanized steel clips $4^1/_2$ inches (114 mm) long with 12-8d nails or $^3/_8$-inch-diameter (9.5 mm) lags through blocking for shear transfer to sill plate. Stagger nailing from wall sheathing between existing sill and new blocking. Anchor new blocking to foundation as specified above.

A405.2.4 Shear wall hold-downs. Shear walls shall be provided with hold-down anchors at each end. Two hold-down anchors are required at intersecting corners. Hold-downs shall be approved connectors with a minimum $^5/_8$-inch-diameter (15.9 mm) threaded rod or other approved anchor with a minimum allowable load of 4,000 pounds (17.8 kN). Anchor embedment in concrete shall not be less than 5 inches (127 mm). Tie-rod systems shall not be less than $^5/_8$ inch (15.9 mm) in diameter unless using high strength cable. Threaded rod or high strength cable elongation shall not exceed $^5/_8$ inch (15.9 mm) using design forces.

SECTION A406
MATERIALS OF CONSTRUCTION

A406.1 New materials. All materials approved by the building code, including their appropriate allowable stresses and limiting aspect ratios, shall be permitted to meet the requirements of this chapter.

A406.2 Allowable foundation and lateral pressures. The use of default values from the building code for continuous and isolated concrete spread footings shall be permitted. For soil that supports embedded vertical elements, Section A403.6 shall apply.

A406.3 Existing materials. All existing materials shall be in sound condition and constructed in general conformance to the building code before they are permitted to be used to resist the lateral loads prescribed in this chapter. The verification of existing materials conditions and their conformance to these requirements shall be made by physical observation reports, material testing or record drawings as determined by the structural designer and as approved by the building official.

A406.3.1 Horizontal wood diaphragms. Allowable shear values for existing horizontal wood diaphragms that require analysis under Section A403.10 are permitted to be taken from Table A4-A. The values in Table A4-A shall be used for allowable stress design. Design forces based on strength design shall be reduced to allowable stress levels before comparison with the limiting values in the table.

A406.3.2 Wood-structural-panel shear walls.

A406.3.2.1 Allowable nail slip values. The use of box nails and unseasoned lumber are permitted to be assumed. When the required drift calculations of Section A403.11.2.1 rely on the slip values for common nails or surfaced dry lumber, their use in construction shall be verified by exposure. The design value of the box nails shall be assumed to be similar to that of common nails having the same diameter. Verification of surfaced dry lumber shall be by identification conforming to the building code.

A406.3.2.2 Plywood panel construction. When verification of the existing plywood materials is by use of record drawings alone, the panel construction for plywood shall be assumed to be of three plies. The plywood modulus "G" shall be assumed equal to 50,000 pounds per square inch (345 MPa).

A406.3.3 Existing wood framing. Wood framing is permitted to use the design stresses specified in the building code under which the building was constructed or other stress criteria approved by the building official.

A406.3.4 Structural steel. All existing structural steel shall be permitted to use the allowable stresses for Grade A36. Existing pipe or tube columns shall be assumed to be of minimum wall thickness unless verified by testing or exposure.

A406.3.5 Strength of concrete. All existing concrete footings shall be permitted to be assumed to be plain concrete with a compressive strength of 2,000 pounds per square inch (13.8 MPa). Existing concrete compressive strength taken greater than 2,000 pounds per square inch (13.8 MPa) shall be verified by testing, record drawings or department records.

A406.3.6 Existing sill plate anchorage. Existing cast-in-place anchor bolts shall be permitted to use the allowable service loads for bolts with proper embedment when used for shear resistance to lateral loads.

SECTION A407
INFORMATION REQUIRED TO BE ON THE PLANS

A407.1 General. The plans shall show all information necessary for plan review and for construction and shall accurately reflect the results of the engineering investigation and design. The plans shall contain a note that states that this retrofit was designed in compliance with the criteria of this chapter.

A407.2 Existing construction. The plans shall show existing diaphragm and shear wall sheathing and framing materials; fastener type and spacing; diaphragm and shear wall connections; continuity ties; and collector elements. The plans shall also show the portion of the existing materials that needs verification during construction.

A407.3 New construction.

A407.3.1 Foundation plan elements. The foundation plan shall include the size, type, location and spacing of all anchor bolts with the required depth of embedment, edge and end distance; the location and size of all shear walls and all columns for braced frames or moment frames; referenced details for the connection of shear walls, braced frames or moment-resisting frames to their footing; and referenced sections for any grade beams and footings.

A407.3.2 Framing plan elements. The framing plan shall include the length, location and material of shear walls; the location and material of frames; references on details for the column-to-beam connectors, beam-to-wall connections and shear transfers at floor and roof diaphragms; and the required nailing and length for wall top plate splices.

A407.3.3 Shear wall schedule, notes and details. Shear walls shall have a referenced schedule on the plans that includes the correct shear wall capacity in pounds per foot (N/m); the required fastener type, length, gauge and head size; and a complete specification for the sheathing material and its thickness. The schedule shall also show the required location of 3-inch (76 mm) nominal or two 2-inch (51 mm) nominal edge members; the spacing of shear transfer elements such as framing anchors or added sill plate nails; the required hold-down with its bolt, screw or nail sizes; and the dimensions, lumber grade and species of the attached framing member.

Notes shall show required edge distance for fasteners on structural wood panels and framing members; required flush nailing at the plywood surface; limits of mechanical penetrations; and the sill plate material assumed in the design. The limits of mechanical penetrations shall also be detailed showing the maximum notching and drilled hole sizes.

A407.3.4 General notes. General notes shall show the requirements for material testing, special inspection and structural observation.

SECTION A408
QUALITY CONTROL

A408.1 Structural observation, testing and inspection. Structural observation, in accordance with Section 1709 of the *International Building Code*, shall be required for all structures in which seismic retrofit is being performed in accordance with this chapter. Structural observation shall include visual observation of work for conformance with the approved construction documents and confirmation of existing conditions assumed during design.

Structural testing and inspection for new construction materials shall be in accordance with the building code, except as modified by this chapter.

TABLE A4-A—ALLOWABLE VALUES FOR EXISTING MATERIALS

EXISTING MATERIALS OR CONFIGURATIONS OF MATERIALS[a]	ALLOWABLE VALUES × 14.594 for N/m
1. Horizontal diaphragms[b]	
1.1. Roofs with straight sheathing and roofing applied directly to the sheathing	100 lbs. per ft. for seismic shear
1.2. Roofs with diagonal sheathing and roofing applied directly to the sheathing	250 lbs. per ft. for seismic shear
1.3. Floors with straight tongue-and-groove sheathing	100 lbs. per ft. for seismic shear
1.4. Floors with straight sheathing and finished wood flooring with board edges offset or perpendicular	500 lbs. per ft. for seismic shear
1.5. Floors with diagonal sheathing and finished wood flooring	600 lbs. per ft. for seismic shear
2. Crosswalls[b,c]	Per side:
2.1. Plaster on wood or metal lath	200 lbs. per ft. for seismic shear
2.2. Plaster on gypsum lath	175 lbs. per ft. for seismic shear
2.3. Gypsum wallboard, unblocked edges	75 lbs. per ft. for seismic shear
2.4. Gypsum wallboard, blocked edges	125 lbs. per ft. for seismic shear
3. Existing footings, wood framing, structural steel and reinforced steel	
3.1. Plain concrete footings	f'_c = 1,500 psi (10.3 MPa) unless otherwise shown by tests[d]
3.2. Douglas fir wood	Allowable stress same as D.F. No. 1[d]
3.3. Reinforcing steel	f_s = 18,000 psi (124 MPa) maximum[d]
3.4. Structural steel	f_s = 20,000 psi (138 MPa) maximum[d]

For SI: 1 foot = 304.8 mm.

a. Material must be sound and in good condition.

b. A one-third increase in allowable stress is not allowed.

c. Shear values of these materials may be combined, except the total combined value shall not exceed 300 pounds per foot.

d. Stresses given may be increased for combination of loads as specified in the building code.

CHAPTER 8-7
STRUCTURAL REGULATIONS

SECTION 8-701
PURPOSE, INTENT AND SCOPE

8-701.1 Purpose. The purpose of the CHBC is to provide alternative regulations for the structural safety of buildings designated as qualified historical buildings or properties. The CHBC requires enforcing agencies to accept any reasonably equivalent alternatives to the regular code when dealing with qualified historical buildings or properties.

8-701.2 Intent. The intent of the CHBC is to encourage the preservation of qualified historical buildings or properties while providing a reasonable level of structural safety for occupants and the public at large through the application of the CHBC.

8-701.3 Application. The alternative structural regulations provided by Section 8-705 are to be applied in conjunction with the regular code whenever a structural upgrade or reconstruction is undertaken for qualified historical buildings or properties.

SECTION 8-702
GENERAL

8-702.1 The CHBC shall not be construed to allow the enforcing agency to approve or permit a lower level of safety of structural design and construction than that which is reasonably equivalent to the regular code provisions in occupancies which are critical to the safety and welfare of the public at large, including, but not limited to, public and private schools, hospitals, municipal police and fire stations and essential services facilities.

8-702.2 Nothing in these regulations shall prevent voluntary and partial seismic upgrades when it is demonstrated that such upgrades will improve life safety and when a full upgrade would not otherwise be required.

SECTION 8-703
STRUCTURAL SURVEY

8-703.1 Scope. When a structure or portion of a structure is to be evaluated for structural capacity under the CHBC, it shall be surveyed for structural conditions by an architect or engineer knowledgeable in historical structures. The survey shall evaluate deterioration or signs of distress. The survey shall determine the details of the structural framing and the system for resistance of gravity and lateral loads. Details, reinforcement and anchorage of structural systems and veneers shall be determined and documented where these members are relied on for seismic resistance.

8-703.2 The results of the survey shall be utilized for evaluating the structural capacity and for designing modifications to the structural system to reach compliance with this code.

8-703.3 Historical records. Past historical records of the structure or similar structures may be used in the evaluation, including the effects of subsequent alterations.

SECTION 8-704
NONHISTORICAL ADDITIONS AND NONHISTORICAL ALTERATIONS

8-704.1 New nonhistorical additions and nonhistorical alterations which are structurally separated from an existing historical structure shall comply with regular code requirements.

8-704.2 New nonhistorical additions which impose vertical or lateral loads on an existing structure shall not be permitted unless the affected part of the supporting structure is evaluated and strengthened, if necessary, to meet regular code requirements.

Note: For use of archaic materials, see Chapter 8-8.

SECTION 8-705
STRUCTURAL REGULATIONS

8-705.1 Gravity loads. The capacity of the structure to resist gravity loads shall be evaluated and the structure strengthened as necessary. The evaluation shall include all parts of the load path. Where no distress is evident, and a complete load path is present, the structure may be assumed adequate by having withstood the test of time if anticipated dead and live loads will not exceed those historically present.

8-705.2 Wind and seismic loads. The ability of the structure to resist wind and seismic loads shall be evaluated. The evaluation shall be based on the requirements of Section 8-706.

8.705.2.1 Any unsafe conditions in the lateral-load-resisting system shall be corrected, or alternative resistance shall be provided. Additional resistance shall be provided to meet the minimum requirements of this code.

8.705.2.2 The architect or engineer shall consider additional measures with minimal loss of, and impact to, historical materials which will reduce damage and needed repairs in future earthquakes to better preserve the historical structure in perpetuity. These additional measures shall be presented to the owner for consideration as part of the rehabilitation or restoration.

SECTION 8-706
LATERAL LOAD REGULATIONS

8-706.1 Lateral loads. The forces used to evaluate the structure for resistance to wind and seismic loads need not exceed 0.75 times the seismic forces prescribed by the 1995 edition of the *California Building Code* (CBC). The seismic forces may be computed based on the *Rw* values tabulated in the regular code for similar lateral-force-resisting systems. All deviations

of the detailing provisions of the lateral-force-resisting systems shall be evaluated for stability and the ability to maintain load-carrying capacity at increased lateral loads.

Unreinforced masonry bearing wall buildings shall comply with Appendix Chapter 1 of the *Uniform Code for Building Conservation*™ (UCBC™), 1994 edition, and as modified by this code. Reasonably equivalent standards may be used on a case-by-case basis when approved by the authority having jurisdiction.

8-706.2 Existing building performance. The seismic resistance may be based upon the ultimate capacity of the structure to perform, giving due consideration to ductility and reserve strength of the lateral-force-resisting system and materials while maintaining a reasonable factor of safety. Broad judgment may be exercised regarding the strength and performance of materials not recognized by regular code requirements. (See Chapter 8-8, Archaic Materials and Methods of Construction.)

8-706.2.1 All structural materials or members that do not comply with detailing and proportioning requirements of the regular code shall be evaluated for potential seismic performance and the consequence of noncompliance. All members which might fail and lead to possible collapse, or threaten life safety, when subjected to seismic demands in excess of those prescribed in Section 8-706.1, shall be judged unacceptable, and appropriate structural strengthening shall be developed. Anchorages for veneers and decorative ornamentation shall be included in this evaluation.

8-706.3 Load path. A complete and continuous load path, including connections, from every part or portion of the structure to the ground shall be provided for the required forces. It shall be verified that the structure is adequately tied together to perform as a unit when subjected to earthquake forces.

8-706.4 Parapets. Parapets and exterior decoration shall be investigated for conformance with regular code requirements for anchorage and ability to resist prescribed seismic forces.

An exception to regular code requirements shall be permitted for those parapets and decorations which are judged not to be a hazard to life safety.

8-706.5 Nonstructural features. Nonstructural features of historical structure, such as exterior veneer, cornices and decorations, which might fall and create a life-safety hazard in an earthquake, shall be investigated. Their ability to resist seismic forces shall be verified, or the feature shall be strengthened.

8-706.5.1 Partitions and ceilings of corridors and stairways serving an occupant load of 30 or more shall be investigated to determine their ability to remain in place when the building is subjected to earthquake forces.

CHAPTER 8-8

ARCHAIC MATERIALS AND METHODS OF CONSTRUCTION

SECTION 8-801
PURPOSE, INTENT AND SCOPE

8-801.1 Purpose. The purpose of the CHBC is to provide regulations for the use of historical methods and materials of construction that are at variance with regular code requirements or are not otherwise codified, in buildings or structures designated as qualified historical buildings or properties. The CHBC require enforcing agencies to accept any reasonably equivalent alternatives to the regular code when dealing with qualified historical buildings or properties.

8-801.2 Intent. It is the intent of the CHBC to provide for the use of historical methods and materials of construction that are at variance with specific code requirements or are not otherwise codified.

8-801.3 Scope. Any construction type or material that is, or was, part of the historical fabric of a structure is covered by this chapter. Archaic materials and methods of construction present in a historical structure may remain or be reinstalled or be installed with new materials of the same class to match existing conditions.

SECTION 8-802
GENERAL ENGINEERING APPROACHES

Allowable stresses or ultimate strengths for archaic materials shall be assigned based upon similar conventional codified materials, or on tests as hereinafter indicated. The archaic materials and methods of construction shall be thoroughly investigated for their details of construction in accordance with Section 8-703. Testing shall be performed when applicable to evaluate existing conditions. The architect or structural engineer in responsible charge of the project shall assign allowable stresses or ultimate strength values to archaic materials. Such assigned allowable stresses, or ultimate strength values, shall not be greater than those provided for in the following sections without adequate testing, and shall be subject to the concurrence of the enforcing agency.

SECTION 8-803
NONSTRUCTURAL ARCHAIC MATERIALS

Where nonstructural historical materials exist in uses which do not meet the requirements of the regular code, their continued use is allowed by this code, provided that any public health and life-safety hazards are mitigated subject to the concurrence of the enforcing agency.

SECTION 8-804
ALLOWABLE CONDITIONS FOR SPECIFIC MATERIALS

Archaic materials which exist and are to remain in historical structures shall be evaluated for their condition and for loads required by this code. The structural survey required in Section 8-703 of this code shall document existing conditions, reinforcement, anchorage, deterioration and other factors pertinent to establishing allowable stresses and adequacy of the archaic materials. The remaining portion of this chapter provides additional specific requirements for commonly encountered archaic materials.

SECTION 8-805
MASONRY

For adobe, see Section 8-806.

8-805.1 Existing solid masonry. Existing solid masonry walls of any type, except adobe, may be allowed, without testing, a maximum value of nine pounds per square inch (62.1 kPa) in shear where there is a qualifying statement by the architect or engineer that an inspection has been made, that mortar joints are filled and that both brick and mortar are reasonably good. The allowable shear stress above applies to unreinforced masonry, except adobe, where the maximum ratio of unsupported height or length to thickness does not exceed 12, and where minimum quality mortar is used or exists. Wall height or length is measured to supporting or resisting elements that are at least twice as stiff as the tributary wall. Stiffness is based on the gross section. Allowable shear stress may be increased by the addition of 10 percent of the axial direct stress due to the weight of the wall directly above. Higher-quality mortar may provide a greater shear value and shall be tested in accordance with UBC Standard 21-6.

8-805.2 Stone masonry.

8-805.2.1 Solid-backed stone masonry. Stone masonry solidly backed with brick masonry shall be treated as solid brick masonry as described in Section 8-805.1 and in the UCBC, provided representative testing and inspection verifies solid collar joints between stone and brick and that a reasonable number of stones lap with the brick wythes as headers or that steel anchors are present. Solid stone masonry where the wythes of stone effectively overlap to provide the equivalent header courses may also be treated as solid brick masonry.

8-805.2.2 Independent wythe stone masonry. Stone masonry with independent face wythes may be treated as solid brick masonry as described in Section 8-805.1 and the UCBC, provided representative testing and inspection verify that the core is essentially solid in the masonry wall and that steel ties are epoxied in drilled holes between outer stone wythes at floors, roof and not to exceed 4 feet (1219 mm) on center in each direction, between floors and roof.

8-805.2.3 Testing of stone masonry. Testing of stone masonry shall be similar to UBC Standard 21-6, except that representative stones which are not interlocked shall be pulled outward from the wall and shear area appropriately calculated after the test.

8-805.3 Reconstructed walls. Totally reconstructed walls utilizing original brick or masonry, constructed similar to original, shall be constructed in accordance with the regular code. Repairs or infills may be constructed in a similar manner to the original walls without conforming to the regular code.

SECTION 8-806
ADOBE

8-806.1 General. Unburned clay masonry may be constructed, reconstructed, stabilized or rehabilitated subject to this chapter. Alternative approaches which provide an equivalent or greater level of safety may be used, subject to the concurrence of the enforcing agency.

8-806.2 Protection. Provisions shall be made to protect adobe structures from moisture and deterioration. The unreinforced adobe shall be maintained in reasonably good condition. Particular attention shall be given to moisture content of adobe walls. Unmaintained or unstabilized walls or ruins shall be evaluated for safety based on their condition and stability. Additional safety measures may be required subject to the concurrence of the enforcing agency.

8-806.3 Requirements. Unreinforced new or existing adobe walls shall meet the following requirements. Existing sod or rammed earth walls shall be considered similar to the extent these provisions apply. Where existing dimensions do not meet these conditions, additional strengthening measures may be required.

1. One-story adobe load-bearing walls shall not exceed a height-to-thickness ratio of 6.
2. Two-story adobe buildings or structures' height-to-thickness wall ratio shall not exceed 5 at the ground floor and 6 at the second floor, and shall be measured at floor-to-floor height when the second floor and attic ceiling/roof are connected to the wall as described below.
3. Nonload-bearing adobe partitions and gable end walls shall be evaluated for stability and anchored against out-of-plane failure.
4. A bond beam or equivalent structural element shall be provided at the top of all adobe walls, and for two-story buildings at the second floor. The size and configuration of the bond beam shall be designed in each case to meet the requirements of the existing conditions and provide an effective brace for the wall, to tie the building together and connect the wall to the floor or roof.

8-806.4 Repair or reconstruction. Repair or reconstruction of wall area may utilize unstabilized brick or adobe masonry designed to be compatible with the constituents of the existing adobe materials.

8-806.5 Shear values. Existing adobe may be allowed a maximum value of four pounds per square inch (27.6 kPa) for shear, with no increase for lateral forces.

8-806.6 Mortar. Mortar may be of the same soil composition as that used in the existing wall, or in new walls as necessary to be compatible with the adobe brick.

SECTION 8-807
WOOD

8-807.1 Existing wood diaphragms or walls. Existing wood diaphragms or walls of straight or diagonal sheathing shall be assigned shear resistance values appropriate with the fasteners and materials functioning in conjunction with the sheathing. The structural survey shall determine fastener details and spacings and verify a load path through floor construction. Shear values of Tables 8-8-A and 8-8-B.

8-807.2 Wood lath and plaster. Wood lath and plaster walls and ceilings may be utilized using the shear values referenced in Section 8-807.1.

8-807.3 Existing wood framing. Existing wood framing members may be assigned allowable stresses consistent with codes in effect at the time of construction. Existing or new replacement wood framing may be of archaic types originally used if properly researched, such as balloon and single wall. Wood joints such as dovetail and mortise and tenon types may be used structurally, provided they are well made. Lumber selected for use and type need not bear grade marks, and greater or lesser species such as low-level pine and fir, boxwood and indigenous hardwoods and other variations may be used for specific conditions where they were or would have been used.

Wood fasteners such as square or cut nails may be used with a maximum increase of 50 percent over wire nails for shear.

SECTION 8-808
CONCRETE

8-808.1 Materials. Natural cement concrete, unreinforced rubble concrete and similar materials may be utilized wherever that material is used historically. Concrete of low strength and with less reinforcement than required by the regular code may remain in place. The architect or engineer shall assign appropriate values of strength based on testing of samples of the materials. Bond and development lengths shall be determined based on historical information or tests.

8-808.2 Detailing. The architect or engineer shall carefully evaluate all detailing provisions of the regular code which are not met and shall consider the implications of these variations on the ultimate performance of the structure, giving due consideration to ductility and reserve strength.

SECTION 8-809
STEEL AND IRON

The hand-built, untested use of wrought or black iron, the use of cast iron or grey iron, and the myriad of joining methods that are not specifically allowed by code may be used wherever applicable and wherever they have proven their worth under the considerable span of years involved with most qualified historical structures. Uplift capacity should be evaluated and strengthened where necessary. Fixed conditions or midheight lateral loads on cast iron columns that could cause failure should be taken into account. Existing structural wrought, forged steel or grey iron may be assigned the maximum working stress prevalent at the time of original construction.

SECTION 8-810
HOLLOW CLAY TILE

The historical performance of hollow clay tile in past earthquakes shall be carefully considered in evaluating walls of hollow clay tile construction. Hollow clay tile bearing walls shall be evaluated and strengthened as appropriate for lateral loads and their ability to maintain support of gravity loads. Suitable protective measures shall be provided to prevent blockage of exit stairways, stairway enclosures, exit ways and public ways as a result of an earthquake.

SECTION 8-811
VENEERS

8-811.1 Terra cotta and stone. Terra cotta, cast stone and natural stone veneers shall be investigated for the presence of suitable anchorage. Steel anchors shall be investigated for deterioration or corrosion. New or supplemental anchorage shall be provided as appropriate.

8-811.2 Anchorage. Brick veneer with mechanical anchorage at spacings greater than required by the regular code may remain, provided the anchorages have not corroded. Nail strength in withdrawal in wood sheathing may be utilized to its capacity in accordance with code values.

SECTION 8-812
GLASS AND GLAZING

8-812.1 Glazing subject to human impact. Historical glazing material located in areas subject to human impact may be approved subject to the concurrence of the enforcing agency when alternative protective measures are provided. These measures may include, but not be limited to, additional glazing panels, protective film, protective guards or systems, and devices or signs which would provide adequate public safety.

8-812.2 Glazing in fire-rated systems. See Section 8-402.3.

BUILDING INSPECTION COMMISSION (BIC)

Department of Building Inspection Voice (415) 558-6164 - Fax (415) 558-6509
1660 Mission Street, San Francisco, California 94103-2414

January 26, 2010

Ms. Angela Calvillo, Clerk of the Board
Board of Supervisors
City Hall,1 Dr. Carlton B. Goodlett Place, Room 244
San Francisco, CA 94102-4694

RE: Ordinance (#091113 – Mayor Gavin Newsom() finding a compelling public policy basis for expediting the processing and review of permits for voluntary seismic retrofit upgrades of soft-story, wood-frame buildings and amending the Planning Code, Building Code, Fire Code, and Public Works Code to waive permit processing fees for the proportionate share of work related to such seismic retrofit upgrades; making environmental findings and findings of consistency with the City's General Plan and Planning Code Section 101.1.

Dear Ms. Calvillo:

On January 20, 2010 the Building Inspection Commission held a meeting and heard public testimony on the proposed ordinance referenced above.

The Commissioners voted unanimously (7-0) to recommend that the Board of Supervisors approve this Ordinance. A copy of the Ordinance is attached

Should you have any questions, please do not hesitate to call me at 558-6164.

Sincerely,

Ann Marie Aherne

Ann Marie Aherne
Commission Secretary

Attachment

cc: Mayor Gavin Newsom
Supervisor David Chiu
Alisa Somera, Clerk, Land Use & Economic Development Comm.
Rick Caldeira, BOS
Deputy City Attorney John Malamut
Director Vivian L. Day
Deputy Director Laurence Kornfield
Gail Johnson, BOS

City and County of San Francisco
Department of Building Inspection

Gavin Newsom, Mayor
Vivian L. Day, C.B.O., Director

January 14, 2010

Building Inspection Commission
1660 Mission Street
San Francisco, CA 94103

RE: Proposed Ordinance File # 091113
Seismic strengthening of soft-story, wood frame buildings

Honorable Members of the Commission:

At the regular meeting of January 13, the full Code Advisory Committee (CAC) deliberated on a proposed ordinance (Mayor Newsom File 091113) finding a compelling public policy basis for expediting the processing and review of permits for voluntary seismic retrofit upgrades of soft-story, wood-frame buildings and amending the Planning Code, Building Code, Fire Code, and Public Works Code to waive permit processing fees for the proportionate share of work related to such seismic retrofit upgrades; making environmental findings and findings of consistency with the City's General Plan and Planning Code Section 101.1. The CAC voted unanimously to recommend non-support of this ordinance as written.
Key concerns include the following:

- The ordinance seems premature in that standards for this type of retrofit were currently being developed through the CAPPS program.
- The incentives seem inadequate to generate desired participation
- The City should help make retrofit project financing options available

The CAC duly forwards this recommendation to the Building Inspection Commission for their further action.

Respectfully submitted,

Kirk Means
DBI Technical Services Division
Secretary to the Code Advisory Committee

cc: Vivian L. Day, C.B.O., Director
Laurence Kornfield, Deputy Director
Willy Yau, Manager, Technical Services Division
Ned Fennie, Jr., Chair, Code Advisory Committee
Bill Strawn, Communications Manager

BOARD of SUPERVISORS

City Hall
Dr. Carlton B. Goodlett Place, Room 244
San Francisco 94102-4689
Tel. No. 554-5184
Fax No. 554-5163
TDD/TTY No. 554-5227

October 1, 2009

File No. 091113

Bill Wycko
Environmental Review Officer
Planning Department
1650 Mission Street, 4th Floor
San Francisco, CA 94103

Dear Mr. Wycko:

On September 15, 2009, Mayor Newsom introduced the following proposed legislation:

File No. 091113 Ordinance finding a compelling public policy basis for expediting the processing and review of permits for voluntary seismic retrofit upgrades of soft-story, wood-frame buildings and amending the Planning Code, Building Code, Fire Code, and Public Works Code to waive permit processing fees for the proportionate share of work related to such seismic retrofit upgrades; making environmental findings and findings of consistency with the City's General Plan and Planning Code Section 101.1.

The legislation is being transmitted to you for environmental review, pursuant to Planning Code Section.306.7(c).

Angela Calvillo, Clerk of the Board

Gail Johnson

By: Gail Johnson, Committee Clerk
Budget and Finance Committee

Attachment

cc: Nannie Turrell, Major Environmental Analysis
Brett Bollinger, Major Environmental Analysis

Non physical exemption
n/a a project, per CEQA
Guidelines Section 15378(b)(2)
and 15060 (c)(3).
7/23/09
Nannie K Turrell
October 8, 2009

Environmental Review Referral

SAN FRANCISCO
PLANNING DEPARTMENT

1650 Mission St.
Suite 400
San Francisco,
CA 94103-2479

Reception:
415.558.6378

Fax:
415.558.6409

Planning
Information:
415.558.6377

October 2, 2009

Ms. Angela Calvillo, Clerk
Board of Supervisors
City and County of San Francisco
City Hall, Room 244
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102

Re: **Transmittal of Planning Department Case Number 2008.0911T:**
Amendments to the Planning Code Section 355: Soft-Story Seismic Upgrades
Board File Number 09-1113
Planning Commission Recommendation: ***Approval***

Dear Ms. Calvillo,

On October 1, 2009, the San Francisco Planning Commission (hereinafter "Commission") conducted a duly noticed public hearing at a regularly scheduled meeting to consider the proposed Ordinance;

The proposed Ordinance would amend Planning Code Section 355 (Permit Application [Fees]), to exempt the proportionate share of fees if the project involves the voluntary seismic retrofit upgrades to soft-story, wood-frame buildings.

The proposed zoning changes have been determined to be categorically exempt from environmental review under the California Environmental Quality Act Section 15060(c)(2).

At the October 1st hearing, the Commission voted to recommend <u>approval</u> of the proposed Ordinance.

Please find attached documents relating to the Commission's action. If you have any questions or require further information please do not hesitate to contact me.

Sincerely,

John Rahaim
Director of Planning

cc: Mayor Newsom

<u>Attachments (one copy of the following):</u>
Planning Commission Resolution No. 17957
Planning Commission Executive Summary for Case No. 2008.0911T

SAN FRANCISCO
PLANNING DEPARTMENT

Planning Commission Resolution No. 17957

HEARING DATE: OCTOBER 8, 2009

1650 Mission St.
Suite 400
San Francisco,
CA 94103-2479

Reception:
415.558.6378

Fax:
415.558.6409

Planning
Information:
415.558.6377

Project Name:	**Amendments to the Planning Code:**
Case Number:	2009.0787T [Board File No. 09-0906]
Initiated by:	Supervisor Chiu / Introduced July 14, 2009
Staff Contact:	Tara Sullivan-Lenane, Legislative Affairs tara.sullivan-lenane@sfgov.org, 415-558-6257
Reviewed By:	AnMarie Rodgers, Legislative Affairs anmarie.rodgers@sfgov.org, 415-558-6395
90-day Deadline:	October 12, 2009

RECOMMENDING THAT THE BOARD OF SUPERVISORS ADOPT AN ORDINANCE THAT WOULD AMEND PLANNING CODE SECTION 355 (PERMIT APPLICATIONS) TO EXEMPT THE PROPORTIONATE SHARE OF FEES THAT INVOLVE THE VOLUNTARY SEISMIC UPGRADE OF SOFT-STORY, WOOD-FRAME BUILDINGS.

PREAMBLE

Whereas, on September 15, 2009, Mayor Newsom introduced a proposed Ordinance under Board File Number 09-1113 that would amend Planning Code Section 355 (Permit Application [Fees]), to exempt the proportionate share of fees if the project involves the voluntary seismic retrofit upgrades to soft-story, wood-frame buildings; and

Whereas, on July 8, 2008, Mayor Newsom introduced a proposed Ordinance under Board File Number 08-0956 that would amend Planning Code Section 350 (Fees, General), to exempt the proportionate share of fees if the project involves the voluntary seismic retrofit upgrades to soft-story, wood-frame buildings; and

Whereas, on September 11, 2008, the San Francisco Planning Commission (hereinafter "Commission") conducted a duly noticed public hearing at a regularly scheduled meeting to consider the proposed Ordinance; and

Whereas, the proposed Ordinance in BOS File No. 09-1113 is substitute legislation that addresses the Planning Commission's concerns, as outlined in Resolution No. 17693, dated September 11, 2008; and

Whereas, the proposed zoning changes have been determined to be categorically exempt from environmental review under the California Environmental Quality Act Section 15060(c)(2); and

Whereas, the Commission has heard and considered the testimony presented to it at the public hearing and has further considered written materials and oral testimony presented by Department staff, and other interested parties; and

Whereas, the all pertinent documents may be found in the files of the Department, as the custodian of records, at 1650 Mission Street, Suite 400, San Francisco; and

Whereas, the Commission has reviewed the proposed Ordinance; and

MOVED, that the Commission hereby recommends that the Board of Supervisors recommends ***approval of the proposed ordinance*** and adopts the attached Draft Resolution to that effect.

FINDINGS

Having reviewed the materials identified in the preamble above, and having heard all testimony and arguments, this Commission finds, concludes, and determines as follows:

1. The Planning Commission overwhelming supports the need to ensure the safety and welfare of the people in San Francisco. Seismic upgrades to buildings are essential to meeting these goals.

2. Since the fall of 2008, the Planning Department has been working closely with the Mayor's Office and with Department of Building Inspection ("DBI") to strengthen the original Ordinance. The resulting proposed Ordinance reflects all of the proposed modifications recommended by the Planning Commission in Resolution No. 17693 (see Attachment B).

3. The Planning Code Section that is proposed for amendment has been changed from Section 350 (Fees, General) to Section 355 (Permit Application [Fees]), due to staff recommendation that this is the more appropriate Section for the waiver to be located.

4. Therefore, the Commission recommends ***approval of the proposed Ordinance*** and that the Board of Supervisors adopt the proposed Ordinance.

5. **General Plan Compliance.** The proposed Ordinance is, on balance, consistent with the following Objectives and Policies of the General Plan:

   I. COMMUNITY SAFETY

   OBJECTIVE 1: COORDINATION
   IMPROVE THE COORDINATION OF CITY PROGRAMS THAT MITIGAGE PHYSICAL HAZARDS, HELP INDIVIDUAL AND ORGANIZATIONS PREPARE FOR AND RESPOND TO DISASTERS, AND RECOVER FROM THE IMPACTS OF DISASTERS.

   POLICY 1.1
   Improve the coordination of disaster-related programs within City departments..

The proposed Ordinance will improve the coordination between City agencies that are responsible for the seismic upgrades and safety of buildings in San Francisco.

OBJECTIVE 2: HAZARD MITIGATION
REDUCE STRUCTURAL AND NON-STRUCTURAL HAZARDS TO LIFE SAFETY, MINIMIZE PROPERTY DAMAGE AND RESULTING SOCIAL, CULTURAL AND ECONIMIC DISLOCATIONS RESULTING ROM FUTURE DISASTERS.

POLICY 2.6
Reduce the earthquake and fire risks posed by older small wood-frame residential buildings through easily accomplished hazard mitigation measures.

The proposed Ordinance, by incentivizing voluntary seismic upgrades to soft-story, wood-frame buildings, will reduce the risk of damage to many wood-frame residential buildings in a future earthquake.

1. The proposed replacement project is generally consistent with the eight General Plan priority policies set forth in Section 101.1 in that:

   A) The existing neighborhood-serving retail uses will be preserved and enhanced and future opportunities for resident employment in and ownership of such businesses will be enhanced:

   The proposed Ordinance will help protect existing neighborhood-serving retail uses and opportunities for employment in or ownership of such businesses by ensuring the seismic stability of soft-story wood-frame buildings, many of which contain commercial uses on the ground floor.

   B) The existing housing and neighborhood character will be conserved and protected in order to preserve the cultural and economic diversity of our neighborhoods:

   The proposed Ordinance will protect the unique neighborhood character and housing by ensuring the seismic stability of soft-story wood-frame buildings.

   C) The City's supply of affordable housing will be preserved and enhanced:

   The proposed Ordinance will have no adverse effects on the City's supply of affordable housing.

   D) The commuter traffic will not impede MUNI transit service or overburden our streets or neighborhood parking:

   The proposed Ordinance will not result in commuter traffic impeding MUNI transit service or overburdening the streets or neighborhood parking.

E) A diverse economic base will be maintained by protecting our industrial and service sectors from displacement due to commercial office development. And future opportunities for resident employment and ownership in these sectors will be enhanced:

The proposed Ordinance would not adversely affect the industrial or service sectors or future opportunities for resident employment or ownership in these sectors.

F) The City will achieve the greatest possible preparedness to protect against injury and loss of life in an earthquake.

The proposed Ordinance's goal is to ensure preparedness against injury and lost of life in an earthquake through intentivizing the seismic stability of soft-story wood-frame buildings.

G) That landmark and historic buildings will be preserved:

The intent and goal of the proposed Ordinance is to further protect and enhance historic buildings, many of which are soft-story, wood-frame buildings..

H) Parks and open space and their access to sunlight and vistas will be protected from development:

The proposed Ordinance will not impact the City's parks and open space..

I hereby certify that the Planning Commission ADOPTED the foregoing Resolution on October 1, 2009.

Linda Avery
Commission Secretary

AYES: Miguel, Olague, Moore, Sugaya, Antonini, Borden

NAYS:

ABSENT: Lee

ADOPTED: October 1, 2009

SAN FRANCISCO
PLANNING DEPARTMENT

Executive Summary
Planning Code Text Change
HEARING DATE: OCTOBER 1, 2009

1650 Mission St.
Suite 400
San Francisco,
CA 94103-2479

Reception:
415.558.6378

Fax:
415.558.6409

Planning
Information:
415.558.6377

Project Name:	**Amendments to the Planning Code: Soft-Story Seismic Upgrades**
Case Number:	2008.0911T [Board File No. 09-1113]
Initiated by:	Mayor Newsom / Introduced September 15, 2009
Staff Contact:	Tara Sullivan-Lenane, Legislative Affairs tara.sullivan-lenane@sfgov.org, 415-558-6257
Reviewed By:	AnMarie Rodgers, Legislative Affairs anmarie.rodgers@sfgov.org, 415-558-6395
Recommendation:	**Recommend Approval**

PLANNING CODE AMENDMENT

The proposed Ordinance introduced by Mayor Newsom would amend Planning Code Section 355 (Permit Application [Fees]), to exempt the proportionate share of fees if the project involves the voluntary seismic retrofit upgrades to soft-story, wood-frame buildings.

Please note that this legislation is a follow-up to BOS File No. 08-0956, introduced July 8, 2008: Exemption of Fees for Seismic Work on Soft-Story Wood-Frame Buildings. The Planning Commission reviewed this Ordinance on September 11, 2008 and recommended approval with modifications.

The Way It Is Now:

The Planning Department charges fees for the review and processing of all permits. This includes permits for seismic upgrades to buildings. Currently there are no special requirements for soft-story, wood-frame buildings.

The Department of Building Inspection ("DBI") has recently completed the Community Action Plan for Seismic Safety ("CAPSS"), which identified the types of buildings in San Francisco that are most vulnerable to seismic events and recommended measures to improve the safety of soft-story, wood-frame buildings.

Currently there are no formal definitions in the Planning or Building Codes defining what qualifies as a soft-story wood-frame building.

The Way It Would Be:

The proposed Ordinance would amend Planning Code Section 355(a) (Permit Application [Fees]) to add Section (8), which would waive all fees for seismic upgrade work on soft-story, wood-frame buildings. This is a voluntary, not mandatory program.

DBI's fees for similar work are also proposed to be waived.

REQUIRED COMMISSION ACTION

The proposed Resolution is before the Commission so that it may recommend adoption, rejection, or adoption with modifications to the Board of Supervisors.

RECOMMENDATION

The Department recommends that the Commission recommend ***approval*** of the proposed Resolution and adopt the attached Draft Resolution to that effect.

BASIS FOR RECOMMENDATION

The Planning Department overwhelming supports the need to ensure the safety and welfare of the people in San Francisco. Seismic upgrades to buildings are essential to meeting these goals.

Since the fall of 2008, the Planning Department has been working closely with the Mayor's Office and with Department of Building Inspection ("DBI") to strengthen the original Ordinance. The resulting proposed Ordinance under review reflects all of the proposed modifications recommended by the Planning Commission in Resolution No. 17693 (see Attachment B).

The Planning Code Section that is proposed for amendment has been changed from Section 350 (Fees, General) to Section 355 (Permit Application [Fees]), due to staff recommendation that this is the more appropriate Section for the waiver to be located.

Below are issues that the Planning Commission requested modifications on and how they have been addressed in the proposed Ordinance:

1. Definition of Soft-Story, Wood-Frame Building: The original legislation did not contain a definition of what qualifies as a soft-story, wood-frame building. The Planning Commission requested that this be included.

   Working from the CAPSS findings, DBI has drafted Administrative Bulletin AB-094: Definition & Design Criteria for Voluntary Seismic Upgrade of Soft-Story, Type V (wood-frame) Buildings, dated May 12, 2009 (See Attachment C). As the title suggests, this document defines what qualifies as a soft-story wood-frame building, retrofit standards that must be met, and the permit processing process.

   The definition itself addresses the issues outlined in PC Resolution 17693. It only applies to buildings constructed prior to 1973; the ground floor (1st story) must have a particular length and contains openings; the occupancy meets certain classes; and/or the building has been determined to be structurally unsound in an earthquake event.

   The Department believes that this document adequately addresses the concerns of the Planning Commission. The definition is detailed and clear, as are the processes. This Administrative Bulletin is clearly cited in Planning Code Section 355 as the only type of seismic work that permit fees will be waived.

2. Separate Permitting for Seismic Work on Soft-Story, Wood Frame Buildings: The Commission had concerns about the procedural aspects of this legislation. A concern about bundling seismic work

was raised which would make it difficult for the Department to determine which aspects of the project needed fee waivers.

The Department has worked with DBI to ensure that all seismic work under this Ordinance will be applied for separately from all other work. Typically most seismic upgrades will not be routed to Planning, as they tend to consist of interior alterations only. However, should there be exterior modifications or impacts to the building, Planning will have to review the permit and waive all fees associated with this review. DBI's assurance to the Mayor's Office and the Planning Department that soft-story, wood-frame seismic work will be applied for separately alleviates these concerns.

In sum, the Planning Department supports the proposed Ordinance and encourages the Commission to recommend approval of the proposal.

ENVIRONMENTAL REVIEW

The proposal to amend Planning Code Section 355 (Permit Application [Fees]) would result in no physical impact on the environment. The proposed amendment is exempt from environmental review under Section 15060(c)(2) of the CEQA Guidelines.

PUBLIC COMMENT

As of the date of this report, the Planning Department has received no letters in support or opposition to the proposal from the public.

RECOMMENDATION:	**Recommend of Approval**

Attachments:

Exhibit A:	Draft Planning Commission Resolution
Exhibit B:	Planning Commission Resolution No. 17893
Exhibit C:	Draft Bulletin *AB-094, Definition & Design Criteria for Voluntary Seismic Upgrade of Soft-Story, Type V (wood-frame) Buildings*, dated May 12, 2009
Exhibit D:	Draft Board of Supervisors Ordinance

SAN FRANCISCO
PLANNING DEPARTMENT

Planning Commission Resolution No. 17693

HEARING DATE: SEPTEMBER 11, 2008

1650 Mission St.
Suite 400
San Francisco,
CA 94103-2479

Reception:
415.558.6378

Fax:
415.558.6409

Planning
Information:
415.558.6377

Project Name:	**Amendments to the Planning Code: Soft-Story Seismic Upgrades**
Case Number:	2008.0911T [Board File No. 08-0956]
Initiated by:	Mayor Newsom / Introduced July 8, 2008
Staff Contact:	Tara Sullivan-Lenane, Legislative Affairs tara.sullivan-lenane@sfgov.org, 415-558-6257
Recommendation:	**Recommend Approval with Modifications**

RECOMMENDING THAT THE BOARD OF SUPERVISORS ADOPT AN ORDINANCE WITH MODIFICATIONS THAT WOULD AMEND PLANNING CODE SECTION 350 (FEES, GENERAL) TO EXEMPT THE PROPORTIONATE SHARE OF FEES AND TO URGE THE PLANNING DEPARTMENT TO EXPEDITE THE REVIEW OF PROJECTS THAT INVOLVE THE VOLUNTARY SEISMIC UPGRADE OF SOFT-STORY, WOOD-FRAME BUILDINGS.

PREAMBLE

Whereas, on July 8, 2008, Mayor Newsom introduced a proposed Ordinance under Board File Number 08-0956 that would amend Planning Code Section 350 (Fees, General), to exempt the proportionate share of fees if the project involves the voluntary seismic retrofit upgrades to soft-story, wood-frame buildings; and

Whereas, on September 11, 2008, the San Francisco Planning Commission (hereinafter "Commission") conducted a duly noticed public hearing at a regularly scheduled meeting to consider the proposed Ordinance;

Whereas, the proposed zoning changes have been determined to be categorically exempt from environmental review under the California Environmental Quality Act Section 15060(c)(2); and

Whereas, the Commission has heard and considered the testimony presented to it at the public hearing and has further considered written materials and oral testimony presented by Department staff, and other interested parties; and

Whereas, the all pertinent documents may be found in the files of the Department, as the custodian of records, at 1650 Mission Street, Suite 400, San Francisco; and

Whereas, the Commission has reviewed the proposed Ordinance; and

MOVED, that the Commission hereby recommends that the Board of Supervisors recommends *approval of the proposed Resolution with Modifications* and adopts the attached Draft Resolution to that effect.

FINDINGS

Having reviewed the materials identified in the preamble above, and having heard all testimony and arguments, this Commission finds, concludes, and determines as follows:

1. The Planning Commission overwhelming supports the need to ensure the safety and welfare of the people in San Francisco. Seismic upgrades to buildings are essential to meeting these goals.

2. However, the proposed Ordinance could be strengthened to better meet the goals of Executive Directive 08-07 (Seismic Strengthening of Soft Story Buildings) and to provide clarity and certainty to the public and for the Departments that will review these permits.

3. Below are issues and modifications that the Commission recommends be addressed in the proposed Ordinance:

    a. Definition of Soft-Story, Wood-Frame Building: Currently there is no definition of what qualifies as a soft-story, wood-frame building in the proposed Ordinance, nor any reference to DBI's definition. A definition is needed in this Ordinance and in the Planning Code amendment. However, DBI's definition is not completely flushed out. The Commission has two concerns with DBI's definition:
        i. Typically soft-story, wood-frame buildings' weak points are the ground floor, where the commercial space(s) and/or garage openings are located, and all foundational supports beneath it. The definition should include specifics about the structural issues of this building type. The Commission would prefer that only the areas of a building that are most susceptible to seismic issues – the ground floor (and basement if applicable) and associated foundation – be included in the definition only.
        ii. The CAPSS survey (which will be completed in January 2009) is focusing solely on larger wood-frame buildings that are 3 stories or higher and have 5 residential units or more. Not all of the buildings they are surveying contain commercial uses on the ground floor. These criteria may need to be folded into the definition of soft-story, wood-frame building.

    b. Separate Permitting for Seismic Work on Soft-Story, Wood Frame Buildings: Although the proposed Ordinance directs City agencies to expedite and waive fees "for projects that *include* seismic strengthening," the Ordinance should require that the permit application has only the seismic upgrade as its scope of work. This clarification is necessary for several reasons:
        i. If seismic upgrades are a part of a larger project, it may be difficult for the Planning Department to accurately access the amount of fees that would be exempt.
        ii. If seismic upgrades are a part of a larger project (but the upgrades themselves are only a small component of the project) that requires multiple Planning entitlements, or a 30-day notice under Section 311/312 of the Code, or simply requires a more

thorough planning review, the proposed Ordinance would require the Planning Department to 'expedite' the entire project. The Commission sees this as an inadvertent 'loophole' where a project sponsor could take advantage of the permit review process.

iii. The Commission suggests that seismic upgrades be applied for separately from any other work on a building. This will allow a project sponsor/contractor to treat it all as a single project in terms of economics, construction timing, inspections, etc., but that way the City can cull out non-seismic costs for separate assessment. The project sponsor should not be able to take advantage of reduced fees for work that is beyond the scope of seismic upgrades.

c. For the Directive to work most efficiently, (regarding expediting & fee reduction), it should include only the applications on buildings that meet the soft-story, wood building definition.

4. Consideration should be given to possible amendments to Section 151 (Off-Street Parking Requirements) to include Rh-1(S) and RH-2 to allow for tandem parking in these buildings, allowing a narrower garage opening and better seismic strengthening. Any modifications to this section should apply only in cases where voluntary seismic upgrades are occurring (i.e., tandem parking could only be approved if it was coupled with seismic upgrades).

5. Therefore, the Commission recommends ***approval of the proposed Ordinance with modifications*** and that the Board of Supervisors pass the proposed Ordinance.

6. **General Plan Compliance.** The proposed Ordinance is, on balance, consistent with the following Objectives and Policies of the General Plan:

I. COMMUNITY SAFETY

OBJECTIVE 1: COORDINATION
IMPROVE THE COORDINATION OF CITY PROGRAMS THAT MITIGAGE PHYSICAL HAZARDS, HELP INDIVIDUAL AND ORGANIZATIONS PREPARE FOR AND RESPOND TO DISASTERS, AND RECOVER FROM THE IMPACTS OF DISASTERS.

POLICY 1.1
Improve the coordination of disaster-related programs within City departments..

The proposed Ordinance will improve the coordination between City agencies that are responsible for the seismic upgrades and safety of buildings in San Francisco.

OBJECTIVE 2: HAZARD MITIGATION
REDUCE STRUCTURAL AND NON-STRUCTURAL HAZARDS TO LIFE SAFETY, MINIMIZE PROPERTY DAMAGE AND RESULTING SOCIAL, CULTURAL AND ECONIMIC DISLOCATIONS RESULTING ROM FUTURE DISASTERS.

POLICY 2.6
Reduce the earthquake and fire risks posed by older small wood-frame residential buildings through easily accomplished hazard mitigation measures.

The proposed Ordinance, by incentivizing voluntary seismic upgrades to soft-story wood-frame buildings, will reduce the risk of damage to many wood-frame residential buildings in a future earthquake.

1. The proposed replacement project is generally consistent with the eight General Plan priority policies set forth in Section 101.1 in that:

   A) The existing neighborhood-serving retail uses will be preserved and enhanced and future opportunities for resident employment in and ownership of such businesses will be enhanced:

   The proposed Ordinance will help protect existing neighborhood-serving retail uses and opportunities for employment in or ownership of such businesses by ensuring the seismic stability of soft-story wood-frame buildings, many of which contain commercial uses on the ground floor.

   B) The existing housing and neighborhood character will be conserved and protected in order to preserve the cultural and economic diversity of our neighborhoods:

   The proposed Ordinance will protect the unique neighborhood character and housing by ensuring the seismic stability of soft-story wood-frame buildings.

   C) The City's supply of affordable housing will be preserved and enhanced:

   The proposed Ordinance will have no adverse effects on the City's supply of affordable housing.

   D) The commuter traffic will not impede MUNI transit service or overburden our streets or neighborhood parking:

   The proposed Ordinance will not result in commuter traffic impeding MUNI transit service or overburdening the streets or neighborhood parking.

   E) A diverse economic base will be maintained by protecting our industrial and service sectors from displacement due to commercial office development. And future opportunities for resident employment and ownership in these sectors will be enhanced:

   The proposed Ordinance would not adversely affect the industrial or service sectors or future opportunities for resident employment or ownership in these sectors.

   F) The City will achieve the greatest possible preparedness to protect against injury and loss of life in an earthquake.

The proposed Ordinance's goal is to ensure preparedness against injury and lost of life in an earthquake through intentivizing the seismic stability of soft-story wood-frame buildings.

G) That landmark and historic buildings will be preserved:

The intent and goal of the proposed Ordinance is to further protect and enhance historic buildings, many of which are soft-story, wood-frame buildings..

H) Parks and open space and their access to sunlight and vistas will be protected from development:

The proposed Ordinance will not impact the City's parks and open space..

I hereby certify that the Planning Commission ADOPTED the foregoing Resolution on September 11, 2008.

Linda Avery FOR
Commission Secretary

AYES: Olague, Antonini, B. Lee, Suguya, Moore, Borden

NAYS:

ABSENT: Miquel

ADOPTED: September 11, 2008

File 091113
AL (Dep Leg.)

CITY AND COUNTY OF SAN FRANCISCO
OFFICE OF THE CONTROLLER

Ben Rosenfield
Controller
Monique Zmuda
Deputy Controller

January 11, 2010

The Honorable Board of Supervisors
City and County of San Francisco
Room 244, City Hall

Angela Calvillo
Clerk of the Board of Supervisors
Room 244, City Hall

Re: Office of Economic Analysis Impact Report for File Number 091113

Dear Madam Clerk and Members of the Board:

The Office of Economic Analysis is pleased to present you with its economic impact report on file number 091113, "Seismic strengthening of soft-story, wood-frame buildings." If you have any questions about this report, please contact me at (415) 554-5268.

Best Regards,

Ted Egan
Chief Economist

cc Alisa Somera, Committee Clerk, Land Use and Economic Development Committee

City and County of San Francisco

Office of the Controller – Office of Economic Analysis

Voluntary Seismic Strengthening of Soft-story, Wood-frame Buildings: Economic Impact Report

Controller's Office of Economic Analysis

January 8, 2010

Item #091113

Introduction

- The proposed legislation is intended to encourage voluntary seismic retrofit upgrades for soft-story, wood-frame buildings through specified permit fee waivers, permit expediting, and exemption from future mandatory seismic upgrades for 15 years.
- Department of Building Inspection (DBI), Planning and Fire Department plan review fees, and Department of Public Works (DPW) sidewalk encroachment fees would be waived for work relating to seismic strengthening.

City and County of San Francisco

Office of the Controller – Office of Economic Analysis

Past Volume of Voluntary Seismic Retrofits

Year	# of Retrofits
1989	3
1990	42
1991	63
1992	43
1993	16
1994	26
1995	20
1996	19
1997	7
1998	15
1999	46
2000	30
2001	32
2002	51
2003	43
2004	53
2005	48
2006	70
2007	143
2008	19
2009	24
Average	40

Note: Includes only voluntary seismic retrofits for all building types; retrofits done in conjunction with other work are excluded.
Source: DBI MIS Department.

- The number of voluntary seismic retrofits performed each year has been low, ranging from 3 to 143 building permit applications per year, with a 20-year average of about 40 per year, per DBI.
- The relatively few voluntary seismic retrofits suggests a low cost-benefit perception among private property owners.
- The legislation seeks to increase this voluntary retrofit volume through limited incentives.

Economic Impact Factors

- Potential increase in the number of seismic retrofits, which could result in:
  - More construction activity in the near-term (though less in the long-term)
  - Reduced damage to structures, leading to reduced casualties and property savings in the long-term.
- City cost of lost fee revenue to affected departments.

Estimating Number of Retrofits: Average Seismic Retrofit Cost

Building Type	Soft-Story Building Inventory (1)	Average Total Retrofit Cost per Unit (2)	Average Units per Building (3)	Average Retrofit Cost per Building (5)
Single Family	51,000	$26,000	1.0	$26,000
Multifamily	27,000	$21,600	5.1	$111,105
Weighted Average (4)	78,000			**$55,500**

Footnotes located at the end of the document.

Estimating Number of Retrofits: Pass-through to Tenants

- The Residential Rent Ordinance (Administrative Code Section 37.7 (c)(4) and (5)) stipulates how *voluntary* capital improvement costs are passed-through to residential tenants:
  - For buildings with 5 or fewer units, a landlord is allowed to pass-through 100% of capital costs, including interest, based on a 20-year amortization schedule. The maximum annual rental increase to tenants in these buildings is 5% of base rent or $30, whichever is greater.
  - For buildings with 6 or more units, 50% of capital costs (plus interest) may be passed-through, based on amortizing the costs over 10 years, with a maximum annual rent increase of 10% of base rent or $30, whichever is greater.
- Under current law, 100% of mandatory capital improvement costs may be passed on to tenants.
- For purposes of this analysis, it is assumed that on average 50% of multifamily retrofit costs are passed-through.

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Estimating Number of Retrofits: Average Owner Benefits Equal 48% of Costs

	Average for all Building
Retrofit Benefit - Average Dollar Loss Avoided per Building	
Retrofit Benefit per Building - Damage Avoided (14)	$126,600
x Adjustment for Annual Earthquake Probability (15)	0.74%
= Annual Benefit per Building	$938
Discounted Benefit per Building - Loss Avoided (16)	$13,387
Retrofit Benefit - Rental Income Foregone/Relocation Cost for Red-Tagged Buildings	
+ Average discounted income loss/displacement cost per building (17)	$3,707
= Combined structural damage avoided and rental income/relocation cost (total benefit)	$17,094
Average Retrofit Cost Per Building (net of fee waiver and 50% passthrough on multifamily) (18)	$35,504
Discounted Benefit as % of Retrofit Costs	**48%**

Estimating Number of Retrofits: Fee Waiver as Percent of Cost

Building Type/Fee Component	Direct Retrofit Cost per Building (6)	Estimated Fees per Building (7)	Estimated % of Retrofits Requiring Fee (8)	Estimated Average Fee per Building
Single Family	$ 19,000			
DBI - Plan Review Fees		$ 528	100%	$ 528
Planning - Permit Review Fees		$ 600	0%	$ -
Fire - Plan Review Fees		$ 279	0%	$ -
DPW - Sidewalk Encroachment Fee		$ 180	35%	$ 63
Estimated Average Fees Waived per Building				$ 591
Fee as % of Total Cost				***2.3%***
Multifamily	$ 82,000			
DBI - Plan Review Fees		$ 1,486	100%	$ 1,486
Planning - Permit Review Fees		$ 2,613	10%	$ 261
Fire - Plan Review Fees		$ 685	5%	$ 34
DPW - Sidewalk Encroachment Fee		$ 359	50%	$ 180
Estimated Average Fees Waived per Building				$ 1,961
Fee as % of Total Landlord Cost				***3.5%***
Average Fee Discount as % of Costs (9)				***2.7%***

Estimating Number of Retrofits: Impact of Fee Waiver on Retrofit Demand

Retrofit Cost Discount Due to Fee Waiver (10)	2.7%
x Elasticity of Demand (11)	0.45
= Estimated Increase in retrofits	1.2%
x Average Annual Voluntary Seismic Retrofits (12)	40
= Estimated Increase in # of Buildings Retrofitted	0.5
x Average Cost per Retrofit (13)	$55,500
= Total Retrofit Spending per Year	$27,000

- Elasticity measures change in demand resulting from a change in cost.
  - The OEA utilized the REMI model to estimate the price elasticity of demand by calculating the percent change in construction industry demand resulting from a percent change in construction cost.
  - The resulting elasticity of demand is approximately .45, meaning that for each 2.7% decline in construction costs, demand will increase by about 1.2%, as shown.
  - This elasticity factor is used in the analysis to estimate the increase in retrofits resulting from the 2.7% price discount associated with the legislation.

Economic Impact: Loss of Fee Revenue to Affected Departments

Fee Component	Estimated Retrofit Spending per Year (19)	Estimated Fees (7)	Estimated % of Retrofits Requiring Fee (8)	Estimated Average Fee per Year
	$ 27,000			
DBI - Plan Review Fees		$ 857	100%	$ 857
Planning - Permit Review Fees		$ 855	5%	$ 43
Fire - Plan Review Fees		$ 415	3%	$ 10
DPW - Sidewalk Encroachment Fee		$ 359	50%	$ 180
Estimated Average Fees Waived per Year				**$ 1,090**

Conclusions

- A broad set of interests – property owners, tenants, and the City itself – are affected by the soft-story retrofit issue.
- This legislation attempts to stimulate retrofitting by influencing the property owner's private interest.
- During the last 20 years, there have been relatively few voluntary seismic retrofits—about 40 per year.
- The proposed fee waiver is a small incentive, amounting to 2.7% of total cost.
- This is not expected to significantly increase the number of voluntary retrofits.
- Because property owner costs outweigh the their private benefits from retrofitting - even when a significant pass-through of costs to tenants is factored in – a more comprehensive approach may be necessary to accelerate retrofitting.

Staff Contacts / Acknowledgements

Kurt Fuchs, Senior Economist (kurt.fuchs@sfgov.org) (415) 554-5369

Ted Egan, Chief Economist (ted.egan@sfgov.org) (415) 554-5268

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City and County of San Francisco

Office of the Controller – Office of Economic Analysis

Appendix A - Estimated Relocation Cost/Foregone Income Calculation- Buildings Red Tagged in Earthquake

Multifamily	
Average Contract Rent/Unit/Month (20)	$1,262
x Average Units per Multifamily Building	5.14
= Potential Gross Income per Building (per month)	$6,491
- Operating Expenses (35%)	($2,272)
= Annual Net Income Loss per Red-Tagged Building	$50,633
x Annual probability of quake (15)	0.74%
= Annual potential loss based on probability of quake	$375
Discounted Loss per Building per Year (21)	$5,354
x Average Downtime (years) (22)	1.4
= Average discounted income loss per building impacted	$7,585
x % Buildings Impacted (23)	55%
= Average discounted income loss per building	***$4,172***
Single-Family	
Average displacement cost per year (24)	$42,000
x Annual probability of quake (15)	0.74%
= Annual potential loss based on probability of quake	$311
Discounted Loss per Year (21)	$4,441
x Average Downtime (years) (22)	1.4
= Average discounted displacement loss per building impacted	$6,292
x % Buildings Impacted (23)	55%
= Average discounted relocation cost per building	***$3,460***
Weighted Average Relocation/Income Loss - All Buildings	**$3,707**

528

Appendix B - Footnotes

(1) Source: Applied Technology Council (ATC), the lead consultant on the Community Action Plan for Seismic Safety (CAPSS) team. Inventory is based on ATC field survey and review of Assessor's parcel data. Soft story generally means significant ground floor openings (i.e., doors, windows) on one or more sides of the building. See Department of Building Inspection (DBI) Administrative Bulletin AB-094, May 2009 for complete definition.

(2) Based on Retrofit Scheme 3 in CAPSS "Here Today-Here Tomorrow" report dated February 19, 2009. This retrofit scenario consists of installing plywood sheer panels and cantilevered steel columns. Includes direct costs plus indirect costs (such as for architecture and engineering, financing, etc.), estimated at 35% of direct costs.

(3) Cost per multifamily building adjusted from figures in CAPSS report because the study focused on buildings with 5+ units (with an average density of 10.4 units per building), whereas the legislation includes all multifamily buildings. Multifamily per-building retrofit cost is based on average of 5.1 units per building, per Assessor's Office data and review of building survey data from ATC.

(4) Weighted average based on soft story building inventory.

(5) Costs for multifamily retrofits will be split between landlords and tenants. This analysis assumes 50% of costs are passed through to tenants, on average.

(6) Average direct retrofit costs (excluding 35% indirect costs), the basis the City uses to calculate fees, are estimated at $16,000 per unit for multifamily, and $19,000 for single-family.

(7) Based on each department's fee schedule and calculations from DBI's help desk. DPW sidewalk fee based on minimum fee for a 1 month permit with 25' of frontage for single-family, and 2 months for multifamily.

(8) Estimated percent of retrofits requiring specified fee, based on discussion with DBI, Planning, and DPW staff. Fire Department plan check only applies to buildings with 3 or more units, therefore no fee is assumed for single family uses. Further, DBI staff indicated that Fire plan review is rarely triggered for seismic work by itself, thus only 5% of multifamily buildings are assumed to require Fire Department plan review. Planning staff indicated that Planning review would only be triggered if changes are made to the exterior of a building or if the building is a historic landmark. The Planning Department estimated that no single family units would require plan review, and that 5-10% of multifamily units could require Planning review.

Appendix B – Footnotes (continued)

(9) Fee discount weighted by the number of soft story buildings by property type. Multifamily fee discount assumes 50% of costs are passed through to tenants; percentage discount calculated only on building owners cost (50%).

(10) See Slide 7.

(11) Estimated based on REMI (Regional Economic Models Inc.) model run of the impact on construction demand resulting from changes in construction costs.

(12) Average annual voluntary retrofits during past 20 years, per DBI. See Slide 3.

(13) See Slide 5.

(14) Based on dollar loss avoided under retrofit scenario 3 compared with no retrofit. Estimates based on 1/12/2009 SPA Risk LLC technical report Table 5, the results of which are summarized in the 2/19/09 CAPSS report, Table 5. Loss estimates of damage were made by SPA Risk utilizing an adaptation of FEMA's HAZUS model. Estimates based on 7.2 magnitude earthquake on the San Andreas Fault. The damage loss estimate for a 6.5 magnitude earthquake on the San Andreas produced similar cost savings on a per unit basis between the as-is and retrofit scheme 3. Figure shown represents weighted average benefit per building, based on soft story inventory by building type.

(15) The USGS estimates there is a 9.4% probability of a 7.2 or greater magnitude earthquake on the San Andreas Fault in the next 30 years. Further, there is an approximately 20% chance of a 6.7 magnitude quake impacting San Francisco in the next 30 years. Per USGS information and discussions with CAPSS team members, a 6.7 or larger quake is the threshold of shaking resulting in more significant building damage. Figure shown is annual probability based on the 30-year projection of a 6.7 magnitude quake. Source: USGS, based upon Working Group on California Earthquake Probabilities, 2008, The Uniform California Earthquake Rupture Forecast, v2 (UCERF 2).

(16) Present value of annual benefit after adjusting for annual probability of earthquake, discounted at 7.0%.

(17) Average discounted income loss/relocation cost per building, considering red-tag building losses avoided by retrofitting compared to as-is, adjusted for earthquake probability. See Appendix A.

(18) See Slide 5 for cost estimates. Estimates are net of permit review fee waiver under proposed legislation. In addition, it is assumed that 50% of multifamily costs are passed-through to tenants. The retrofit cost shown reflect only those costs borne by the landlord.

Appendix B – Footnotes (continued)

(19) Estimated increase in retrofit spending resulting from legislation. See Slide 9.
(20) Average 2008 contract rent per US Census, American Community Survey.
(21) Net present value (at 7% discount rate) of potential monthly loss during 100 year projection period.
(22) Average down time before building is repaired or replaced. The average was calculated based on the difference in the damage state (red vs. yellow tag) of buildings after a seismic event in the as-is compared with retrofit Scenario 3, per CAPSS 2/09 report, Table 2.
(23) Per CAPSS 2/09 report, Table 2, the % of red-tagged buildings projected in the as-is scenario. Loss calculated only on these buildings.
(24) Based on combination of average market rents per RealFacts for larger (2+ bedroom) units, and average Northern California hotel daily rates. No adjustment to price of lodging due to potential diminished supply post-quake is considered in the analysis.