

City of Mill Valley “Soft Story” Frequently Asked Questions

July 2022

1. Why is Mill Valley concerned about “soft story” buildings?

Multi-unit residential buildings with woodframe target stories – often called “soft story” buildings – are well-known earthquake collapse risks. Many such buildings collapsed, or were damaged beyond repair, in the 1989 Loma Prieta and 1994 Northridge earthquakes, as shown here:



Near-collapse, San Francisco, 1989 Loma Prieta earthquake



Collapsed 4-story building, San Francisco, 1989 Loma Prieta earthquake



Collapsed and near-collapse 3-story buildings, Los Angeles, 1994 Northridge earthquake (photo: Gary D. Avey)



Collapsed 3-story building, Los Angeles, 1994 Northridge earthquake (photo: Boris Yaro, Los Angeles Times)

When these buildings collapse or are demolished, they threaten the lives of residents, can start fires that spread to neighboring buildings, cause financial loss to owners and tenants, force tenant relocations, and delay the City’s recovery.

2. How big is the problem in Mill Valley?

Mill Valley has between 52 and 125 soft story buildings containing between 283 and 753 residential units. These counts consider pre-1983 buildings with three or more units and are based on exterior visual

review only. (The wide range in the estimate is due to a large number of hillside and heavily wooded sites that limit the visual review. [More details and background are available in the inventory report.](#))

Overall, these risky buildings represent between 4 and 12 percent of the City's overall housing stock, and between 16 and 43 percent of its multi-unit housing stock. These figures are comparable to the percentages found in other Bay Area cities with soft story mitigation programs.

Considering Mill Valley's *rental* housing, however, the portion suspected of posing soft story risk is likely between 39 and 76 percent (between 255 and 500 of 659 rental units in 45 to 91 multi-unit buildings). The difference is largely due to Mill Valley's large number of townhouse developments, which count as multi-unit buildings but are typically owner-occupied.

3. What is the City's plan to address the soft story risk?

Mill Valley prioritized the retrofit of soft story buildings when it updated the Housing Element of its General Plan earlier this year. The soft story retrofit program is a priority work plan item by the Mill Valley Housing Advisory Committee to preserve existing rental housing in Mill Valley. Now, the City is considering a number of program options, informed by structural and geotechnical experts and by a review of [other Bay Area programs](#).

The overall purpose of Mill Valley's program will be to improve the expected earthquake performance of the City's most collapse-prone residential buildings, in order to protect the City's diverse housing stock and support its post-earthquake recovery.

Among other issues, Council will decide whether to make the program voluntary or mandatory, how to coordinate with an expected Statewide program (see FAQ #5), whether to include only the largest multi-unit buildings, whether to include only rental housing, and appropriate deadlines for any required work.

If the Council adopts a mandatory retrofit plan similar to other California cities, the basic steps would likely include:

- The City will develop all the materials needed to implement the program, including guidance for owners and tenants, and technical criteria for engineers and contractors.
- The City will send notices to the owners of potentially subject buildings.
- Each owner will hire an engineer to complete a screening form, which will either confirm basic conditions or exempt the building from the program.
- For non-exempt buildings, the owner will hire an engineer to produce a retrofit design, as well as a contractor to build it.
- The City will provide design approval, construction inspection and record the completion with City permit records and with the County Assessor.
- Owners may apply to the State program for partial reimbursement from the new State fund (see FAQ #5).

4. How much will this cost soft story owners and tenants?

If the Council adopts a mandatory retrofit plan similar to other California cities, the program will only require property owners to mitigate the main collapse-prone deficiency, minimizing cost and disruption. In addition, Mill Valley owners will benefit from a Bay Area community of engineers and contractors already familiar with these projects from work on similar programs in San Francisco, Oakland, and Berkeley.

That said, the best available data on project costs, including the estimates below, pre-date the pandemic and do not yet include adjustments for supply chain issues, labor supply, housing demand, inflation, and economic conditions generally. These factors could stabilize, revert, or worsen before the program's first proposed deadline would arrive in 2024 or later. The new State program to encourage soft story retrofit should have substantial cost effects as well (see FAQ #5).

If the Council adopts a mandatory retrofit plan similar to other California cities, there are four basic costs:

- **Screening.** As described above, the purpose of screening is to check whether a building is exempt, and if it is not, to confirm basic information and establish compliance deadlines. In most cases, the screening will require a licensed design professional, who might charge a few hundred dollars. Some might provide the screening for free, or reimburse the cost, if an owner also hires them to do the retrofit design.
- **Design.** Design costs will vary with the complexity of the building and the site, and with the degree of deficiency. Assuming documentation is available (or is easily produced) and slope/foundation condition require no special investigation, design costs have ranged from about \$10,000 for smaller buildings to about \$20,000 for larger buildings.
- **Construction.** Like design, construction cost will vary with the complexity of the building and the site, with hillside and less accessible sites costing more. The cost is substantially lower where the retrofit can be achieved by strengthening existing walls, as opposed to adding steel frames and foundations around extensive garage or storefront openings. Assuming the existing concrete foundation is in good condition, construction costs have ranged from about \$15,000 to \$40,000 for smaller buildings, and from about \$20,000 to \$80,000 for larger buildings.
- **Tenant coordination.** Where the critical story is an unoccupied crawl space, a contractor can usually conduct the work with no disruption to tenants. Otherwise, the project might involve costs for temporary loss of housing services (such as parking) during construction or, in rare cases, temporary relocation of tenants. These costs can vary substantially from case to case.

In communities similar to Mill Valley that do not regulate rents or capital improvement pass-throughs, it is common for affected owners to recoup their costs over time through rent increases, as the local rental market will allow.

5. The State has a new “soft story” program. How will it affect Mill Valley’s program?

On June 30, the Governor signed a bill creating the “Seismic Retrofitting Program for Soft Story Multifamily Housing,” to be developed and administered by the [California Residential Mitigation Program](#) (CRMP). The program is funded with \$250 million for use over the next ten years (extendable through mid-2042).

The new law leaves many unanswered questions, and at this time does not describe CRMP procedures, provide regulations for coordinating with local jurisdictions, or give deadlines for implementing the program. City Planners expect CRMP officials to answer these questions and provide more information by mid-2023.

Mill Valley prioritized soft story risk reduction before the new State program was conceived, and the City continued its own program development, described above, independent of the State bill. The City will now consider how best to coordinate its own program with the new State program, to maximize benefits for Mill Valley owners and tenants. Even without the State program, however, the City expects to move forward with its own programs to address its known earthquake risks.

Among the open issues that might affect Mill Valley’s own program are the following:

5.1. Are Mill Valley buildings eligible for the State program?

Probably yes, but questions remain. The bill includes a number of defined terms as well as several undefined terms and ideas the CRMP must consider. By the defined terms, all of the buildings currently under consideration for the Mill Valley program will meet the requirements for the new State program, assuming the CRMP accepts the City’s screening method as a “determination” of earthquake risk. Beyond that, however, it is possible that the CRMP will exclude or de-prioritize buildings that do not meet the still undefined criteria for “affordable”

housing and community-wide measures of “social vulnerability,” “high concentrations” of risk, and other “socioeconomic characteristics.”

5.2. How much of the project cost will the State program cover?

This is unknown. The CRMP is not required to cover the full cost of any project; on the contrary, it is supposed to both “ensure the viability and efficient operation of the program” and “maximize the program’s impact.” Based on similar grant programs, property owners can expect a 25% to 75% subsidy of the total project cost, but a lower subsidy is more likely because it will allow the program to assist more projects.

5.3. When will the State program funds become available?

This is unknown. The bill appears to allow the CRMP to fund otherwise eligible projects that start before the program regulations are in place, but it provides no schedule for producing regulations, receiving applications, or completing the retrofit design or construction. The CRMP will also need to determine whether the State will make grant payments throughout the process or only after construction as reimbursements.

5.4. Will the State program impose requirements in addition to those of the City’s program?

This is unknown, but in terms of engineering criteria, City Planners expect both Mill Valley’s program and the State program to use the basic codes and standards already adopted and implemented by other Bay Area soft story programs. However, the State program will likely involve additional administrative procedures to ensure eligibility and accountability for the expenditure of State funds.