

Executive Summary

Property Committee Proposal to Retrofit Our Meeting House for Earthquake Safety

(Updated February 25, 2021)

Recommendation: The Property Committee recommends that Meeting for Worship on the Occasion of Business approve the expenditure of \$70,000* to retrofit the foundation of the Meeting House for earthquake safety. The Meeting's existing Earthquake Reserve currently totals \$234,000.

Earthquake Risks: The Meeting House is listed by the State of California as a historic building and as eligible for inclusion in the National Registry of Historic Places. Unfortunately, it sits within three miles of faults that could generate earthquakes greater in destructive power than the Northridge Earthquake of 1994. The Northridge quake severely damaged or destroyed over 60,000 housing units and caused 57 deaths.

The Meeting House foundation, built in 1908, is of a type that is particularly vulnerable to earthquakes: unreinforced brick. Since 1933, it has been illegal in California to build foundations of this type. Should a destructive earthquake occur on a nearby fault, our Meeting House could slide on/off its foundation, or the foundation could crumble. A leading consulting engineer on earthquake safety inspected the Meeting House and advised us that if the building slides on its foundation, the doors could jam. In a worst-case scenario, the building could be a total loss and occupants could be injured or killed.

The Retrofitting Solution: The California Seismic Safety Commission recommends that unreinforced brick foundations be retrofitted for earthquake safety. Retrofitting requires building a new foundation of reinforced concrete. The building is then bolted securely to the foundation. A new foundation of the type Property Committee recommends is designed to protect the Meeting House against an earthquake of magnitude 7.5, which is stronger than the 7.0 quake that is projected by the Calif Geological Survey for our location. It would also bring the Meeting House up to current earthquake safety standards, the standards that new construction must meet today. For reasons of aesthetics and historic preservation, the existing brick foundation would be retained and would hide the new concrete reinforced foundation, so that concrete would not be visible from outside the building. More details on the retrofit are available in the "Meeting News" tab [at OGMM.org](http://OGMM.org).

It is hard to predict the protective effect of a new foundation on the safety of occupants. Most injuries and deaths are due to falling objects, which the retrofit would not address. However, the proposed retrofit would greatly reduce the likelihood of doors jamming and of major damage to the structure. It would also reduce the possibility of major legal recoveries, based on negligence related to the Meeting failing to undertake State-recommended retrofitting.

Earthquake Insurance: Should the Meeting House be a total loss in an earthquake, the replacement cost is estimated to be on the order of \$650,000. The Property Committee researched the idea of securing earthquake insurance coverage. The Committee's current research reveals that premiums would be high, but the precise premium quote cannot be secured until after the retrofit is completed. In addition, the deductible for the Meeting House would be on the order of \$97,500. Instead of seeking commercial earthquake insurance, the Meeting has been setting aside funds in an Earthquake Reserve for many years. This reserve now totals \$234,000. The Property Committee will make a recommendation to Meeting for Business regarding whether to secure commercial earthquake insurance or continue to self-insure if and when an earthquake retrofit is completed.

Inconvenience and Cost: Construction of the new foundation will take approximately four weeks. While construction will be noisy, the campus can be used during this period. No construction will occur on First Days.

The Property Committee had proposed building a new foundation for the Meeting House in 2015. It secured one bid of \$206,000. The Meeting considered and rejected the bid as too high. In 2020, we obtained three bids, all within a narrow price range, from reputable engineering companies. We will be able to bring the foundation up to current earthquake safety standards at \$70,000, about one-third of the proposed 2015 cost.

In Summary: The Property Committee recommends bringing the Meeting House foundation up to current earthquake standards at a cost of approximately \$70,000.

*Property Committee's original price included new rain gutters, which brought the price to \$77,700. However, after further investigation of the need for rain gutters, we eliminated the gutters from the proposal, lowering the price to \$70,000.