

# BUILDING RE-ENTRY

## *INTRODUCTION*

The Office of the State Architect, Structural Safety Section (OSA/SSS), is responsible for the post-earthquake evaluation of public school buildings in California. OSA/SSS acts in an advisory capacity of a school district. However, the final authority as to whether a school building is to be reoccupied lies with each school district. Immediately following a damaging earthquake, power, communication and transportation routes may be disrupted and may keep OSA/SSS engineers from making timely post-earthquake safety evaluations. The procedures are intended to assist on-site school personnel in:

- Discovering possible earthquake damage hazards before a qualified engineer arrives and the school site,
- Reporting building conditions to OSA/SSS to assist in establishing a priority for site visits by structural engineers.

Regardless of who performs the safety evaluation, a final report must be submitted to the OSA/SSS. Los Angeles Unified already has a process in place that meets all inspection needs following an earthquake.

This material is designed for school personnel to make a cautious and prudent inspection of buildings. It is not intended, or should be interpreted, that untrained personnel will make decisions that will endanger themselves or others regarding building re-entry. This material will rather give some general guidelines so that some knowledge in estimating the extent of damage will be gained from reviewing this material.

## *PERSONAL JUDGEMENT WILL BE NECESSARY*

In areas of severe earthquake shaking, collapsed buildings or falling debris pose substantial danger to students, faculty and staff. Strong aftershocks can also dislodge building material. The first priority is protection of the building occupants; therefore, if damage is suspected, appropriate evacuation procedures of occupants to a safe refuge area should be completed before preliminary damage inspection is undertaken. When evacuation is necessary, the inspector should perform

If a building is clearly hazardous, no one should enter it, other than for search and rescue purposes. Clearly, **no inspector should enter a building that is near collapse, or where there has been a hazardous material release** (e.g. damaged asbestos fireproofing, toxic chemical spill). Inspectors should not take any other undue risks, whatever they may be.

An inspection of a school campus should be done if the level of ground motion was large enough to cause books to fall off shelves. Many factors in addition to the magnitude of an earthquake may contribute to the shaking intensity a building experiences. Large earthquake at great distances and nearby small earthquakes can cause ground motions strong enough to damage buildings.

Use of judgment is essential in the evaluation of damaged buildings. Not every dangerous situation can be covered by any guidelines given here. In situations for which no guidance has been provided, or when guidance furnished is not appropriate, the inspecting persons must rely on their collective experience and judgment and work as a team, not alone.

When conducting preliminary damage assessments, inspectors should be alert to the potential of falling objects, both inside and outside buildings. Outside a building, parapets, glass, building ornamentation, and other types of attachments may fall. Inside a building, ceilings, piping, ductwork, light fixtures, and heavy furniture, such as file cabinets and bookcases, may move or fall. These elements may fall of their own accord at any time during the earthquake, during an aftershock, or after the shaking stops. Inspectors should be prepared to drop, cover, and hold in the event of aftershocks.

A fundamental assumption in the evaluation process is that in order to declare a structure safe, it must be capable of withstanding at least a repetition of the earthquake that caused the initial damage without collapse and without additional risk from falling (or other) hazards. It should be emphasized, however, that **THIS IS A MINIMUM REQUIREMENT** and a difficult engineering assessment to make. This non-technical assessment guideline provides for a cursory estimation of the safety of damaged buildings. If the inspection team is unsure as to the significance of the damage observed, errors on the side of student/staff safety are strongly advised.

