

# COMING ATTRACTIONS

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**W**hen one thinks about the history of public safety measure implementation, some stark examples come to mind. The 1911 Triangle Shirtwaist Factory Fire in New York City led to the development of the First National Fire Protection Association (NFPA) Building Exits Code. Now known as the Life Safety Code, it is incorporated by reference into The International Code Council publications that are adopted by most states. Those codes define how buildings are constructed for safe occupancy and egress. Similarly, in 1961, the Hartford, Connecticut hospital fire killed nurses, patients and doctors. The result: everything about how hospitals are built, fire protected, inspected and even how the staff are trained has evolved. Loss of life in hospitals due to fire is infinitesimal, though fires still sometime occur.

What does all that have to do with condominium living? Easy. We have come to recognize that the safety of building occupants depends not just on the structural integrity of a building as designed and constructed, but how its structural integrity is impacted over

time. For example, in many cities with high rise structures, local ordinances are in place to protect the public safety, including façade inspections to identify potential structural concerns. While inspection of façades on buildings has been recognized as being in the necessary measure category, with the exception of some larger cities, there are no real requirements for structural building inspections post-construction. The building and life safety code governs the original construction and its safety when new. The New Jersey Department of Community Affairs inspects condos on a regular basis for fire safety, as does, in some cases, the local Fire Official. Even the elevators are required to be tested. But what about the building's bones?

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**"THERE ARE NO REAL REQUIREMENTS FOR STRUCTURAL BUILDING INSPECTIONS POST-CONSTRUCTION."**

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Engineers and architects have long recognized the importance of adequate structural design. After all, we have perhaps apocryphal stories of Roman builders sentenced to death after a building collapse. The tools we have today for design and materials with which to construct are beyond the comprehension of earlier designers. What has been constant is the assault on structures by the elements and our inability as humans to be perfect every time in what we build.

Professional organizations have also recognized the need for post design and construction inspection of structures. The American Society of Civil Engineers Standard SEI/ASCE 11-99, Guidelines for Structural Condition Assessment of Existing Buildings, is one excellent reference. A document written by experts, it details preliminary and detailed assessment procedures, different structural materials (concrete, steel, masonry, wood) to be the subject of assessment and procedures for testing, report format and content.

A preliminary assessment is the starting point. It is primarily,

visual and non-invasive. It includes review of available documents and plans, as well as records of previous inspections, repairs and maintenance. A site inspection will follow the document review with a team, including an engineer experienced in structural inspection and a building supervisor familiar with the building. "Evidence of structural modifications, deterioration or material discrepancies in documentation, weakness in structural members or connections, settlement or foundation problems, or unusual structural features should be noted."1 Loading and performance criteria can be established based on current codes and possibly be compared to code at the time of construction. Primary vertical and lateral load path and resisting elements can be identified and their physical properties and condition assessed. Analysis of the critical components and connections will determine the overall condition of the building.

Most inspections will be completed at this point. However, if marginal, deteriorated or visually obstructed critical elements are present, a detailed assessment will be recommended. Invasive, non-destructive or material testing may be required depending on the nature of the potential

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defect uncovered. Detailed structural calculations could also be required to complete the assessment. Readers of the Preliminary Detailed Assessment should expect recommendations. They hopefully are limited to necessary steps to preserve the structure, prevent water entry and when to inspect the structure again and not recommend an expensive rehabilitation.

At the time of this writing, experts most familiar with condominiums and their governance are also considering how to recommend required structural inspection and evaluations be conducted. The American Society of Civil Engineers Standard SEI/ASCE 11-99 is a great place to start and criteria

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following these and other standards are being developed by the CAI National Task Force, and CAI-NJ members have leadership positions on that important committee. Issues being defined include when and how frequently inspections should occur, what criteria should be considered and the qualifications of the inspectors. Importantly, there may be developer obligations at transition to give new owners a baseline for future inspections.

Whether your building is relatively new or historic, a structural inspection will be a guide to continued enjoyment of your year-round or vacation home. It can identify what, when and where attention is needed and let you get on with more rewarding pursuits. ■

### End Note

1. SEI/ASCE 11-99, p 3, para 2.3.2



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