

Glossary of Structural Engineering Terminology

Building Defect

A problem in a building component, material, or system. It may affect safety, performance, or the building's lifespan.

Building Deterioration

The gradual worsening of a building over time. It can be caused by age, moisture, salt air, corrosion, movement, or lack of maintenance.

Building Envelope

The exterior parts of the building that protect it from the weather. This includes walls, roofs, windows, doors, and waterproofing systems.

Building Maintenance

Routine work is done to keep a building in good condition. Regular maintenance helps prevent larger problems and prolongs the building's lifespan.

Code Compliance

In Florida, this means a building, repair, or alteration meets the Florida Building Code and applicable local requirements. It is usually checked through permits, plan review, and inspections.

Corrosion

The rusting or wearing away of metal. It can weaken structural components if left unchecked.

Liability

Legal responsibility for a problem, damage, or injury. A person or organization may be liable if they failed to act properly.

Milestone Inspection

In Florida, a milestone inspection is required for certain condominium and cooperative buildings that are three or more habitable stories. It is a structural safety inspection that begins when the building reaches a certain age and then repeats every 10 years.

Settlement

The downward movement of part of a building or its foundation. Too much settlement can lead to cracks, uneven floors, or other structural problems.

Spalling

When concrete cracks, flakes, or breaks apart. This often happens when steel inside the concrete begins to rust.

Structural Inspection

A review of a building's structural condition. It helps identify damage, wear, or safety concerns.

Structural Load

The weight or force a building must support. This can include people, furniture, equipment, wind, and other forces acting on the structure.

Threshold Inspection

In Florida, a threshold inspection is a required structural inspection for a threshold building during certain construction, repair, or restoration work. It is also required for **window, door, and sliding glass door replacements** in threshold buildings when that work is treated as a modification affecting the building's structural system under the current Florida code interpretation.

Unsafe Condition

A condition that may put people or property at risk. It usually requires prompt attention.

Water Intrusion

Water is entering areas where it shouldn't. Over time, this can cause damage, mold, and structural problems.

CONDITION SURVEYS

building codes, n—rules and regulations adopted by the governmental authority having jurisdiction that govern the design, construction, alteration, and repair of commercial real estate.

building component(s), n—a portion of a building system, piece of equipment, or building element.

building envelope, n—the outer elements of a building, both above and below ground, that divide the external from the internal environments; commonly included are exterior walls, windows, doors, roofs, and subfloors.

building system(s), n—interacting or independent building components or assemblies that form integrated units that comprise a building and its site work, such as structural frame, roofing, exterior walls, plumbing, HVAC, electrical, etc.

commercial real estate, n—improved real property, except a dwelling or property with four or less dwelling units exclusively for residential use; including, but is not limited to, improved real property used for industrial, retail, office, hospitality, agriculture, other commercial, medical, or educational purposes; property used for residential purposes that has more than four residential dwelling units; and property with four or less dwelling units for residential use when it has a commercial function, as in the operation of such dwellings for profit.

dangerous conditions, n—conditions that may pose a threat or possible injury to the field observer, and that may require the use of special protective clothing, safety equipment, access equipment, or any other precautionary measures.

deferred maintenance, n—physical deficiencies that could have been remedied with routine maintenance or similar action.

Due diligence, n—the process of inquiring into the characteristics of commercial real estate, usually in connection with a commercial real estate transaction.

easily visible, adj—describes items, components, and systems that are conspicuous, patent, and that may be observed during the walk-through survey without: intrusion, relocation or removal of materials, exploratory probing, or use of special equipment or protective clothing.

engineer, n—designation reserved by law for a person professionally qualified, examined, and licensed by the appropriate authority having jurisdiction to perform engineering services.

expected useful life (EUL), n—the average amount of time in years that a building system or building component is estimated to function without material repair when installed new and appropriate maintenance is performed.

opinions of cost(s), n—preliminary, order of magnitude, budgetary projection to assist the user in developing a general understanding of the physical condition of the subject property.

immediate costs, n—opinions of costs to correct physical deficiencies that require immediate action as a result of any of the following: (1) conditions that the consultant concludes represent an imminent life-safety issue, (2) conditions that if left uncorrected would be expected to result in or contribute to building system or building component failure or result in a significant

escalation of its remedial cost, or (3) recorded or reported violations of building codes or fire codes.

long-term cost(s), n—opinions of cost for anticipated replacement of building systems and building components over an evaluation period defined by the user.

physical condition, n—the physical state of a subject property, building system or building component. Within the context of the assessment, the consultant may offer opinions of the physical condition of the subject property, or of observed building systems or building components. Such opinions commonly employ terms such as good, fair, and poor; though additional terms such as excellent, satisfactory, and unsatisfactory may also be used, provided that the utilized terms are defined within the PCR.

good condition—in working condition and does not require immediate or short-term repairs above an agreed threshold.

fair condition—in working condition, but may require immediate or short-term repairs above an agreed threshold.

poor condition—not in working condition or requires immediate or short-term repairs substantially above an agreed threshold.

Property Condition Assessment (PCA) the process by which a person or entity observes a subject property, conducts interviews, and reviews available documentation for the purpose of developing an opinion and preparing a Property Condition Report (PCR).

readily accessible, adj—describes areas of the subject property that are made available for observation by the field observer at the time of the walk-through survey and do not require the removal or relocation of materials, such as furniture, floor, wall, or ceiling coverings, equipment, or personal property.

readily available, describes information that is easily and promptly provided to the consultant upon making a request through appropriate inquiry and without the need for researching archive files.

remaining useful life (RUL), n—a subjective opinion of the number of remaining years that an item, component, or system is estimated to be able to function in accordance with its intended purpose before warranting replacement.

Discussion—An opinion of remaining useful life is affected by the initial quality of an item, component, or system, the quality of the initial installation, the quality and amount of preventive maintenance exercised, climatic conditions, extent of use, and other factors, and is not a guarantee of the remaining service life.

routine maintenance, n—an activity that can be conducted within the budget and skill set of typical maintenance staff and does not require specialized equipment, professional services, or contractors.

structural frame, n—the building system that supports the structural loads of a building.

WATER INTRUSION

incidental water, n—unplanned water infiltration that penetrates beyond the primary barrier and the flashing or secondary barrier system, of such limited volume that it can escape or evaporate without causing adverse consequences.

water absorption, n—a process in which a material takes in water through its pores and interstices and retains it wholly without transmission.

water infiltration, n—a process in which water passes through a material or between materials in a system and reaches a space that is not directly or intentionally exposed to the water source.

water leakage, n—water that is uncontrolled; exceeds the resistance, retention, or discharge capacity of the system; or causes subsequent damage or premature deterioration.

water penetration, n—a process in which water gains access into a material or system by passing through the surface exposed to the water source.

water permeation, n—a process in which water enters, flows, and spreads within and discharges from a material.