

#### **RISK IN FOCUS**

## Background



The primary sectors of commercial real estate, including commercial, office, habitational, mixed use, and industrial/logistics markets are on widely divergent paths. The industrial/logistics market remains strong despite a general economic turndown. There's no such weakening in the red-hot multi-family market rate habitational market. New units come online and get rented almost immediately, while established buildings continue to drive rents. The shortage of affordable housing keeps vacancy rates almost nonexistent, and the need for more affordable housing is sharply rising.

The affordable housing sector will continue to be challenged and burdened by the rising costs of insurance and higher deductibles as affordable housing is regulated as to what can be charged. The guidelines have yet to catch up to the increased costs of P&C insurance rates. Insurance has become the most significant expense for affordable housing in CAT and non-CAT regions. While market-rate property owners are free to adjust to the economic pressures, affordable housing has the potential to be driven into an unprofitable situation. Commercial occupancy continues to rebound in most areas of the country except for select major cities struggling with crime and looting.

In contrast, the office market struggles to adjust to a new occupancy equilibrium that reflects post-pandemic in-office/hybrid/and work-fromhome employee deployment. Office attendance is settling in at 30% below pre-pandemic levels for major cities worldwide, according to a July 2023 McKinsey report. The office sector continues to soften with new record highs for vacancy and sublease space. The vacancy rate is in the midteens, and new office construction is down in the high 40% range compared to Q3 2020.

One risk commercial real estate owners and managers in all three sectors share is the potential for reduced return on investment due to catastrophic damage from water – whether from internal sources (e.g., broken pipes) or external forces (e.g., major storms and floods).

In this paper, we'll explore some of the more common causes of catastrophic flooding damage and suggest some best practices commercial real estate property managers should consider to minimize the likelihood of damage from these events. Insurance-based risk transfer strategies are just one set of tools at their disposal.

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# Frozen Pipes and Escaped Liquids



Freezing temperatures can lead to significant damage within commercial facilities and disruption to operations. The primary long- and short-term risks from these weather events are related to escaped liquids – most often water released from broken pipes that can damage structures, equipment, and building systems.

Facility managers can't control the weather, but can plan and take steps to minimize the likelihood of freezing pipes.

- + Know the possible cold spots in the structure and identify each piping. Make sure to account for concealed spaces and crawl spaces.
- + Prepare detailed heating protocols for when freezing temperatures are forecast. These can include strategic placement of safe, portable heaters or creating temporary openings to vulnerable spots to allow warm air to infiltrate the space. Install low-temperature alarms set at 40° F in every unheated location a water pipe passes through.

- Assign specific responsibilities for monitoring weather forecasts, communicating information about freeze warnings, and ensuring the protocols described above are implemented and monitored.
- + Provide adequate access to all water shut-off valves, including the main shut-off, and place clear signage in those areas. Provide instructions on how to turn off domestic water pumps if a pump is present.
- + Train team members regarding these locations, how the shut-offs work, what areas they control, and protocols for when to close them (to avoid someone shutting one down during an actual fire emergency, for example).

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## Dry Pipe Sprinkler System Failure

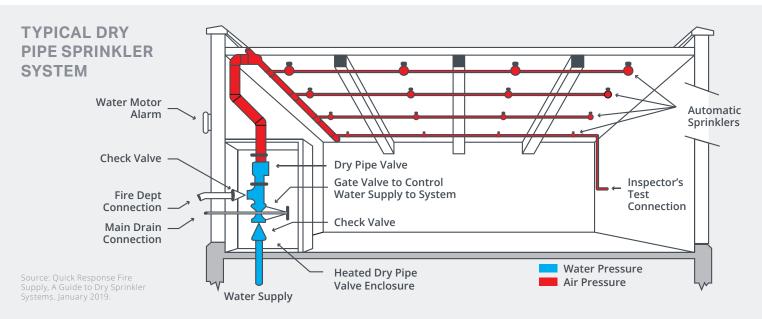
Many commercial structures, especially those in colder climates, utilize dry sprinkler systems to protect unheated spaces. Air or nitrogen replaces water in the pipes of these sprinkler systems, and a dry pipe valve holds back the water in a climate-controlled area of the structure. If a fire breaks out, the compressed air in the pipes is released through the sprinkler heads, releasing, or opening the dry pipe valve, allowing water to flow to the pipes and sprinkler heads.

Unfortunately, condensation or small amounts of water left over from testing can settle in the pipes in low spots over time. This liquid can freeze and compromise the pipe, causing the release of the air/nitrogen, activating the system with minimal notification.

The National Fire Protection Association (NFPA) maintains a code of best practices for designing, installing, and maintaining dry sprinkler systems.<sup>2</sup> NFPA also provides

a detailed description and timetable for inspection, testing, and maintenance by qualified professionals.

Property managers and maintenance teams should be a part of this process, too, with frequent visual inspections of the dry pipes to see if any areas are sagging and identify condensation on the outside of a pipe that could indicate moisture is present on the inside. In addition to visual inspection, all dry pipe systems have a low spot to which water will matriculate. These are called the drum drips. Drum drips are utilized to drain water collected in the dry system. Proper operational procedures of opening valves (closing the top valve first, then opening the second valve) in the drum drips allow water to be released without releasing the air/ nitrogen out of the system.



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### **External Flood Events**

Water infiltration from extreme weather can be equally damaging to a commercial building. This infiltration isn't just a coastal phenomenon; it can happen along riverways during spring melts and in mountain valleys following heavy rainstorms when water and mud flow down a barren mountainside in the years following a major wildfire.

Insurers and lenders refer to Federal Emergency Management Agency historical flood maps when serving their commercial clients. Property managers should utilize these tools too when organizing workflows and placing important or valuable machinery such as servers and utility equipment.<sup>3</sup>

Much of the opportunity to minimize floodwater risks occurs during building design and construction. Raised foundations and first floors can keep the structure dry except in the worst flooding situations. Builders can apply waterproof membranes to external surfaces and utilize waterresistant materials, such as brick, stone, and non-corrosive metal instead of wood.







Once a building is in place, property owners and managers can take many other steps to improve water resistance:

- Install sewer backflow valves to prevent sewer lines from backing up into the building.
- + Secure fuel tanks, HVAC units, and other systems outside the building.
- + Landscape the property to channel water away from the building. Minimize ground pavement, especially in the immediate building perimeter.
- Obtain temporary flood barriers
   that someone can quickly place at
   vulnerable spots outside the building.
- + Work with a professional to pre-cut and stage door and window coverings that can be installed quickly in vulnerable areas to protect these entry points from flying debris and flood waters.
- Apply Flex Seal or similar flood protection products on doorways and windows to make them watertight.

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For additional questions regarding this content or the resources that our carrier partners offer, please reach out to our National Real Estate Practice Leader.

JIM LITTERER
EVP, National Real Estate Practice Director
303.615.7700 | jim.litterer@imacorp.com

#### RISK IN FOCUS | CONTRIBUTORS

JIM LITTERER, EVP, National Real Estate Practice Director

ERIC RIDDLEBERGER, Director of Property, Risk Control

ANGELA THOMPSON, Marketing Specialist

**BRIAN LEUGS**, Writer

#### **SOURCES**

<sup>1</sup> McKinsey Global Institute. (2023 July 13). Empty spaces and hybrid places: The pandemic's lasting impact on real estate. McKinsey Global Institute. https://www.mckinsey.com/mgi/our-research/empty-spaces-and-hybrid-places

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<sup>&</sup>lt;sup>2</sup> NFPA. (n.d.) Standard of the Installation of Sprinkler Systems. NFPA. https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=13

<sup>&</sup>lt;sup>3</sup> FEMA. (n.d.) Flood Maps. FEMA. https://www.fema.gov/flood-maps