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WINTER – FROZEN PIPES – WATER DAMAGE
A Key Driver of Property Incidents

Water intrusion catastrophe is the "new" fire catastrophe.
Commercial property water damage claim trends show an increase in frequency and severity driven by hidden leaks in aging buildings, roof leaks, sprinkler malfunctions, freezing pipes, etc. Inconsistent weather patterns in the past few years, decreasing maintenance budgets shows water intrusion claims are now leading the losses.

Common means of water intrusion include but not limited to – freeze-up, aging infrastructure, corrosion of pipes/fixtures, poor installation/workmanship, mechanical failure, lack of drainage, and inadequate containment.

IMA Property Risk Management Team is available to assist with your water mitigation, along with utilizing vendor resources potentially available from your property carrier. IMA is providing a variety of new resources in this document to assist with enhancing your water mitigation program. ***Click the headings below for additional information.***

+ Mapping Valve Shutoffs

The most effective way to mitigate a loss is to preplan for the event. **Click the heading** for a guide to taking photos and creating maps for emergency disconnects.

+ Prior to Incoming Weather

A broken or cracked window, open door, compromised roofing, can allow enough cold air to freeze nearby pipes which can create a catastrophic event. **Click the heading** for a resource to help identify ways to mitigate potential incidents.

+ Water Intrusion Checklist

Click the heading to access our checklist to assist with vital Preventative Maintenance checks for annual, semi-annual, quarterly, and prior to a weather situation. **If you identify any additional check points, IMA Risk Control will modify the checklist specific for your organization.**

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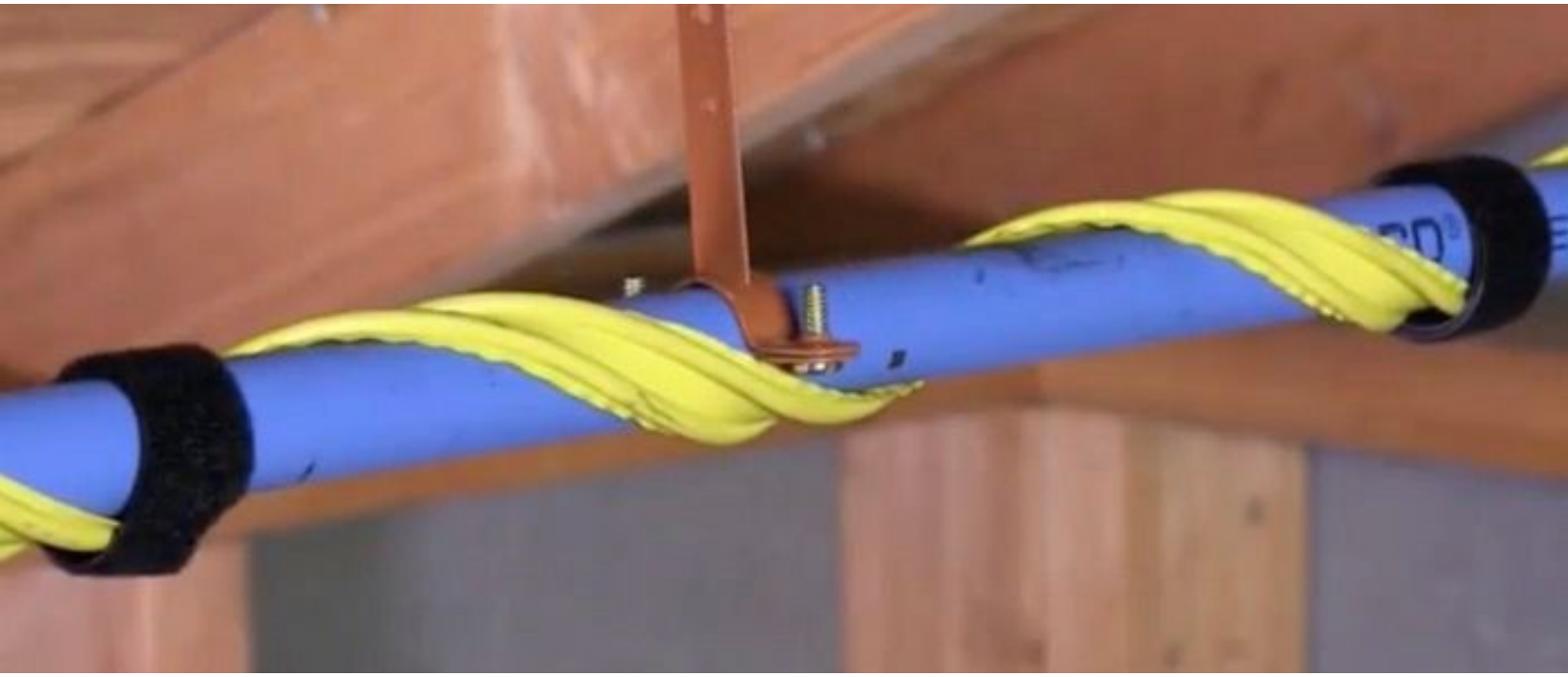

+ **Water Sensor Options**

Technology available to provide organizations with real-time alerts if water is detected or temperatures reach a hazardous level. A few options available are – pucks, rope style, etc. **Click the heading for additional information.** *Please reach out to your IMA Risk Control for assistance to identify the best method and identify if your current property carrier offers any resources.*

+ **Dry Systems**

Make sure drum drips are done weekly to limit the amount of water in the bottom of the systems. Maintain dry system, and riser system are kept at a standard temperature.

+ **Heat**

Unoccupied/vacant buildings are at high risk during cold weather. Monitor heat in those buildings and keep it set at a standard temperature to prevent a pipe break. Additional heating may be needed for identified "cold spots" or heat tape, insulation placed around pipes.

Please contact Brenda Rice or Eric Riddleberger for assistance or with questions:

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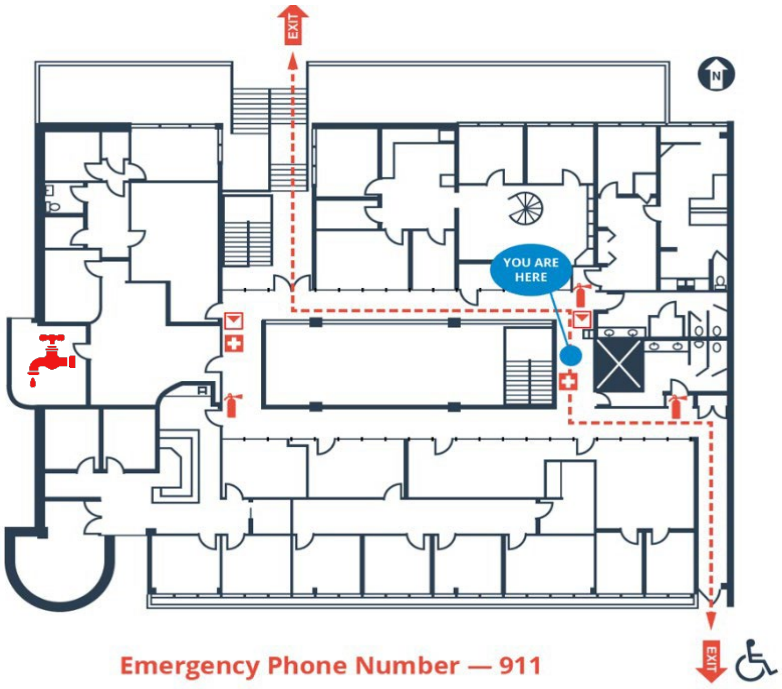
EMERGENCY SHUT OFF
MAPPING FOR MITIGATION

Quick mitigation is the key to minimizing water intrusion and creating a catastrophic situation.

Burst pipe, water continues to leak, damage continues to expand. . . *how quickly can you stop it?*

An emergency shut-off mapping program can quickly mitigate the problem and minimize damage. The emergency shut-off program works best when we equip various individuals – security, police, environmental services, etc. - to assist with quick mitigation. Examples of how you can create a mapping program along with proper signage/labeling to make it easy.



What is involved in accessing the valve:

+ Is a ladder needed?
+ Do the ceiling tiles need moved?
+ Lock/chain cutters?

Equip each room with the needed tools to quickly and safely shut off the system.

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FREEZE UP
EMERGENCY RESPONSE

Freezing temperatures can cause significant issues and costly property claims. Please use the guide to identify areas of concern prior to a significant freeze.

Prior to incoming cold weather:

+ Weather Monitor Person – designate someone to monitor weather and initiate a preparedness team as needed.
+ Portable heaters are in good working condition and placed in identified areas.
+ Ensure all temperature monitoring devices are properly working.
+ Inspect buildings for any exposed piping or openings to the outside and fix properly.
+ Close all windows, doors shut properly, etc. Use external thermometer to ensure suspected areas are maintaining a temp of 40 degrees.
+ Locate all concealed spaces above ceiling tiles, below floors, crawl spaces that may have susceptible piping to temp changes. Determine if temporary openings are needed to allow heat to flow.
+ Evaluate current insulation and update as needed. Hoses/water spigot on outside of buildings evaluate and remove hoses and insulate the spigots.

Continued on next page

Cold Weather Event:

+ Update teams with emergency water shut-off valve mapping for quick response.
+ Continue to monitor temperature in hard-to-heat locations. Add this process to routine facility rounds several times a day.
+ Operations utilizing steam or water supply – create a response plan to shut down properly if heat is lost.
+ Open faucets in buildings that lose heat – either a small drip or make rounds to run water several times during the day.
+ Utilize methods to heat pipes without using an open flame or torch to help prevent another hazard.

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IMA RISK CONTROL

Water Intrusion Checklist – Education

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ANNUALLY

YES	NO	
○	○	Flashing is properly attached (if accessible).
○	○	Mechanical equipment is securely fastened? Check for empty screw holes that screws are supposed to be in.
○	○	Is the weather stripping on doors in good condition?
○	○	Have you updated the valve list and map to reflect all current valves on site? Have you updated the training for all personnel on-site?
○	○	Do you have response tools to quickly respond and shut off the water in case of a leak?

SEMI-ANNUALLY

YES	NO	
○	○	Have you determined if loose debris and materials that could cause roof damage or obstruct roof drains are removed.
○	○	Skylights, roof hatches, and vents are in good condition. Are there skylights on the roof inspected for damaged seals, caulking, and weather stripping?
○	○	Confirm that there is heat in the areas where “wet” sprinkler systems, chillers, and domestic water systems are provided.
○	○	Are HVAC systems in good condition? Are drains open and free-flowing?
○	○	Did you inspect the caulking/gaskets of the windows?
○	○	Do any of the windows appear to be leaking or have condensation between the panes?
○	○	Are Hot Water Heaters inspected for over pressurization and equipped with overflow plans?

QUARTERLY

YES	NO	
○	○	Are roof drains free and clear of debris?
○	○	Any ponding occurring on the roof?
○	○	Do downspouts direct water away from the foundation?
○	○	Are the locations of the water shut-off valves known, easily reached, markedm or labeled? Are valves maintained in good operating condition (exercised periodically)?
○	○	Are sump pumps checked quarterly for power and to ensure the float is in good working condition?
○	○	Any signs of leaks on ceiling tiles or floor stains?
○	○	Are electronic sensing systems (leak detection, flow sensing, etc.) working correctly in service?

WEATHER (before and after Weather Event)

YES	NO	
○	○	Inspect the roofing system semi-annually (internally) after hailstorms or severe weather events.
○	○	During the winter/spring months, is snow accumulation monitored? Is melted snow free to go through drains?
○	○	Does the snow removal method from the roof not penetrate the roof?
○	○	Did you drain the drum drips if a dry system is present?
○	○	Did you check the air/nitrogen pressure gauge in your dry system to ensure it is working property?

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Commercial Leak Detection Sensors

Commercial leak detection offers a proactive approach to protecting your properties from detrimental water damage. Leak detection technology can quickly alert property maintenance to water damage threats before they escalate to costly damage and downtime. These systems offer peace of mind knowing that your property is monitored and well-maintained, reducing the potential for water damage, mold growth, and costly water bills. Utilization of a commercial leak detection system can make you a more competitive and attractive client within the property insurance market when seeking to place insurance coverage.

We have highlighted some key things to keep in mind when considering commercial leak detection within your property or portfolio.

GOALS

The first thing to consider is your goals. Do you want to catch every single leak, big and small? Do you want to catch the big leaks? Do you want to appease the insurance company? Are you just trying it out? Identifying your goals will help you find the best vendor for your needs and the products you want, all within your budget.

BUDGET

+ Installation of a system can be a large expense, but it's important to understand the cost of the system versus the potential cost of a large water loss event. Consider the cost over 5 or 10 years – If sensors prevent one to two big losses, the system can essentially outweigh the opportunity cost within those 5-10 years.
+ Insurance is another cost factor. Although less precise in predicting exact amounts, having this technology can make your location a more attractive risk to an insurance company, leading to increased market competition, potentially reduced water damage deductibles, and/or higher water damage limits.
+ If budget constraints are a concern, consider starting small with sensors placed in key areas first, then expanding into additional areas when budget allows (see "Where to Place Sensors" for more details).

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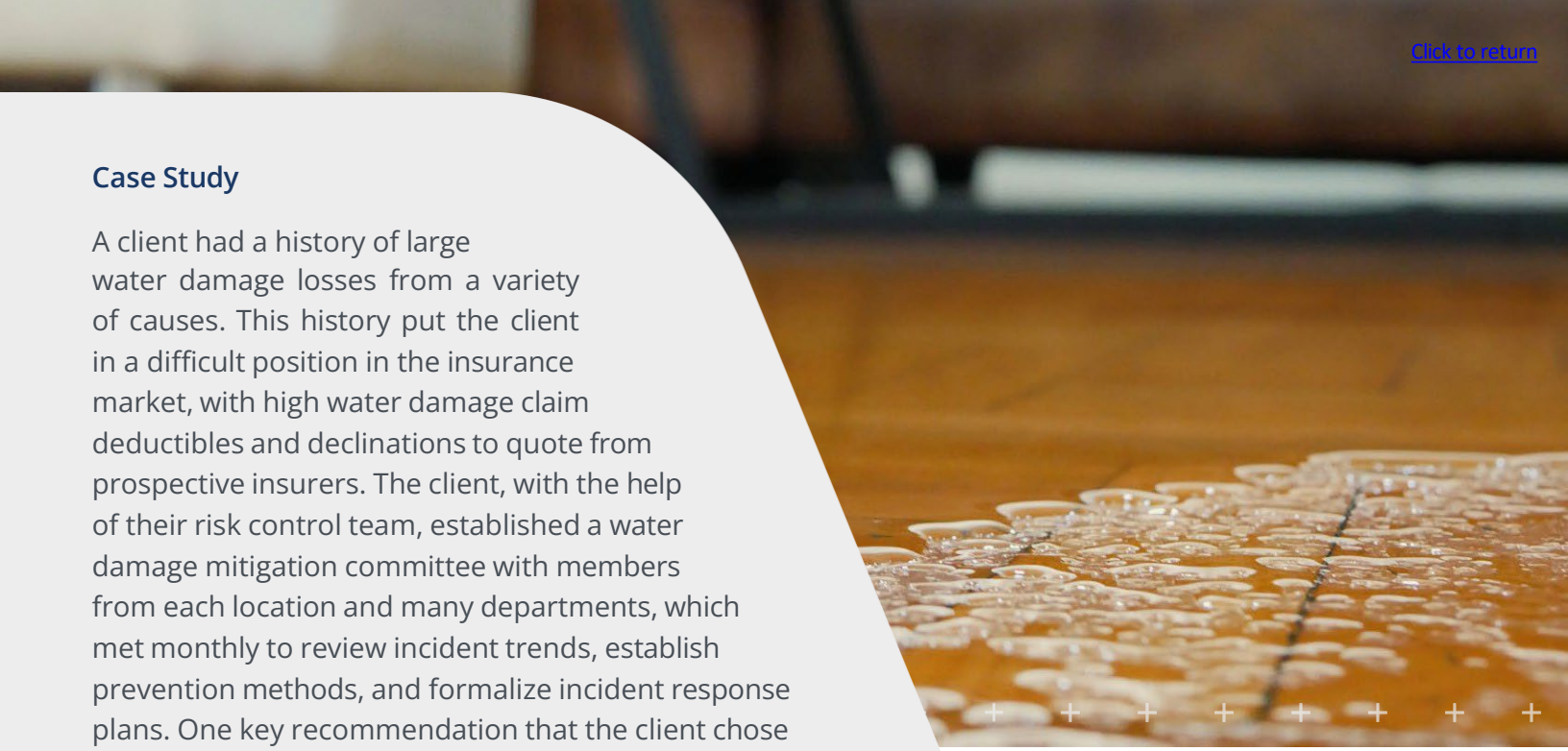

Case Study

A client had a history of large water damage losses from a variety of causes. This history put the client in a difficult position in the insurance market, with high water damage claim deductibles and declinations to quote from prospective insurers. The client, with the help of their risk control team, established a water damage mitigation committee with members from each location and many departments, which met monthly to review incident trends, establish prevention methods, and formalize incident response plans. One key recommendation that the client chose to implement was the use of leak detection devices. Positioning these devices in key locations has had a significant impact on how quickly a leak can be detected and responded to, thus decreasing the severity of incidents.

TYPES OF LEAK DETECTION

Water Sensors

- Sensors are the most basic form of leak detection, yet very effective and largely universal. They can be placed throughout a location and will send out an electronic notification and an audible alarm if they encounter any moisture. They enable you to quickly catch leaks from both internal external sources, like water coming in from the roof or a leaking hot water tank. While water sensors don't necessarily pinpoint the source point of a leak, they can provide a crucial early warning.
- Another type of water sensor is a "rope sensor" that can be wrapped around the base of equipment, along a wall, or even inside a wall. This sensor will trigger a notification to the monitoring system if moisture contacts any point of the rope.

Flow Monitoring

- Flow monitoring devices are valves that can be installed on water pipes to measure and analyze the flow over time. If devices detect an unusual deviation from the normal pattern, such as flowing water during off-hours, it will send out a notification. Flow monitoring becomes more useful with the more valves that are installed, allowing more accurate identification of the source of the leak. They can also identify leaks that a sensor might not pick up, such as water leaking from a pipe behind a wall.
- Another benefit of flow monitoring is data collection. Knowing how much water is being used, when, and where the biggest draws are can have a positive impact on understanding and protecting a building.

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Automatic Shutoff

+ Automatic shutoff valves can be used in tandem with water sensors or flow monitors within a leak detection system to shut off the source of water if a leak is detected. As with the flow monitoring valves, these become more effective the more that are installed.

WHERE TO PLACE SENSORS

It's important to consider several factors when determining where to prioritize sensor locations.

+ **Value of Rooms –** Damage to high-dollar value rooms, such as server and electrical rooms, can quickly cost large amounts of money during a water intrusion event. Protecting these rooms and detecting water intrusion immediately is key. Keep in mind that you may need to monitor a level above these rooms as well.
+ **Business Continuity –** Areas that are key to business operations may take priority for the installation of water sensors.
+ **Likelihood of a Leak –** Prioritize leak detection in/around areas or equipment that use water or have a higher probability of failure: water heaters, boilers, chillers, refrigerators, ice machines, etc.
+ Prioritizing these areas is especially important if the equipment is on a roof where water can seep down into the building.
+ **Traffic to Areas –** A leak starting in an area that is consistently occupied and highly trafficked is more likely to be noticed by someone before a leak located in a back room that is rarely visited. If you're unable to install sensors in all areas, consider focusing on less-trafficked areas like mechanical rooms, water heater rooms, etc. then move to places like bathrooms, kitchens, etc., for an after-hours monitoring focus.

STAFF TRAINING

+ All staff should be trained on the location of sensors, proper response during an alarm, where water shutoffs are, and who to contact if a sensor alarms.
+ Staff such as housekeeping will need to be trained on locations and sensitivity to not accidentally set sensors off (i.e., accidentally triggering during mopping or cleaning duties).
+ Ensure after-hour, on site security staff are trained on proper response and notification.

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SELECTING A VENDOR

Expansion of the System

+ Depending on your goals and the extent to which you plan to utilize water monitoring technology, different vendors may be more appealing. Some vendors specialize in sensors, while others also offer flow monitoring and automatic shut-offs. If you intend to leverage these additional technologies, select a vendor that can provide everything you're looking for.

Communication Style of Devices

+ Different sensors are set up to "communicate" via different communication signals. Wireless technologies like Wi-Fi, cellular, Bluetooth, and radio frequencies are all used by different products. Consider the construction and layout of your building when selecting a product – cellular signal will not work as well as a radio signal in a basement with concrete walls.

Compatibility with a Building Management System

+ It may be pertinent to find a system that can integrate with your existing building management systems to minimize the need for separate notification systems and monitoring.

Geography and Occupancies

+ Ask the prospective vendor where their staff is located and what types of occupancies they are familiar with. The needs of a hospital will be different than the needs of an apartment building. It is also beneficial if the vendor has staff or representatives nearby in case the system needs updating or correction.

Implementing a commercial leak detection system is a proactive and cost-effective way to protect your property from water damage, reduce downtime, and enhance your appeal in the insurance market. By carefully considering your goals, budget, and the types of leak detection technology available, you can tailor a system that meets your specific needs. Strategic placement of sensors, thorough staff training, and selecting the right vendor are critical steps to ensure the system's effectiveness. With the right approach, a leak detection system can provide peace of mind, safeguard your property, and support long-term operational continuity.