



Usually, leak prevention is coordinated by the property manager with input from the facilities manager. There is also an opportunity to engage with occupiers who manage their own water consumption and infrastructure by supporting them with their leak prevention measures.

Leak prevention should consider the following elements:



1. LEAK MITIGATION

It is important to implement measures that will reduce the likelihood of a leak event. These can include, for example:

- Undertake a property review to understand the condition of building systems which use, supply or remove water and identify where water leaks are likely to occur.
- Set out a programme for regular inspections which can be undertaken by a facilities manager, specialist maintenance team or other property staff, such as security as part of patrols, and should check:
 - The condition of overflows and pipework. Valves should be tested to ensure they can be switched off, and should be lubricated at least once a year.
 - Roofs for damaged surfaces, the condition of flashing around the perimeter and insulation under the roof.
 - Blockages in gutters and drains.
 - Signs of water damage: bad smells from the floor or near a drain possibly indicating stagnant water, damp or dark patches on walls and ceilings, paintwork peeling or bubbling.
 - Void units, empty floors and spaces that are not frequently occupied.
- In the lead up to winter, undertake cold weather prevention measures:
 - Insulate pipes and seal cracks and openings around exposed pipes to prevent them bursting in freezing weather.
 - Servicing HVAC equipment, ensuring the excess water from the condensation reservoirs is removed.
 - Ensure dry pipes and low point valves are drained to prevent water accumulating in low points without drainage.
- Install shut off valves if they not already present.
- Upgrade old building systems, pipes, faucets and fittings.
- Consider investing in a leak detection system. Choosing the right system for a property is important as there is a range of systems from single zone water leak detection systems for domestic properties through to multizone ones for commercial. Additionally, there are different types of detectors:
 - Flow-based monitors the volume and length of time that water is passing through a pipe and uses pre-set thresholds to alert the system and automatically shut valves. Recommended for existing residential and smaller commercial properties.
 - Sensor-based systems, which are connected to a central control panel and the building management system using cables and spot probes to detect leaks. When alerted, the system can send alerts via email or text. These are recommended for specific location within large commercial properties such as server rooms, plant room, kitchens and bathrooms.

2. WATER SYSTEM MONITORING

Remote and automated tracking of water usage is an easy way to identify unusual consumption patterns and spot a leak quickly. There are a number of ways of approaching this, for example:

- Consider installing automated meter readers (AMRs) for the incoming water supply pipe. These can be purchased up front, but can be expensive. Consider requesting that AMRs are installed and included when a property's water contract is up for renewal.
- A cost-effective alternative to AMRs is sensor technology to enable remote monitoring. There are various types from probes, spot sensors and cables. It is important to ensure the selection of sensor technology is compatible with existing building management platforms and that sensors are accessible and can be maintained or replaced if necessary.
- Consider installing AMRs or sub-meters and sensors on specific building systems which have been identified as posing a leak risk such as cooling towers, HVAC systems or areas such as toilets and showers.
- As a minimum, monthly readings of the water meter should be taken, recorded and tracked against the previous months' consumption and same time last year to account for any seasonal changes.

3. WATER DAMAGE AND COST ALLEVIATION

In the event that there is a leak, if the following activities have been considered in advance, as part of preparedness arrangements, it may be possible to mitigate the risk of damage, wasted water and financial cost.

- Establish procedures for reporting leaks and faults to ensure action is taken quickly to mitigate the impacts.
- Make sure that all site staff and occupiers know how to report a leak, blocked drain or other water incident, and what action they should take.
- Create an emergency contact sheet for all property users with details for plumbers, water damage mitigation services and other relevant parties.
- Ensure all site staff and occupiers know where the supply pipes run and where the shut-off valves are and know how to switch them off.
- Valves should be clearly labelled with a visible tag for easy identification and if they are behind doors, the door should also be labelled and keys should be kept onsite. Labelling should differentiate between the types of valves:
 - Main – shut off to the facility or an entire building.
 - Primary – water shut off to floors, wings or large areas.
 - Critical – water shut off over critical equipment such as computer rooms.
- Consider having an onsite leak response kit with mops, squeegees, wet vacuums and wet floor signs.
- If a leak is suspected but cannot be identified, check the water meters at the start and end of the period when the building is unoccupied, which is usually overnight. If the meter readings are not similar, then this indicates a possible leak, overflow or uncontrolled water use for further investigation.
- Understand what is covered within the property insurance policy as some events will not be included such as backed up sewers or drains or as a result of poor maintenance.

4. OCCUPIER ENGAGEMENT

Consider establishing a Green Building Management Group as part of wider arrangements to engage occupiers.

A Green Building Management Group can be an ideal forum to communicate leak detection procedures and reporting, whilst also supporting occupiers with best practice and helping them to manage any risks within their own responsibilities.

