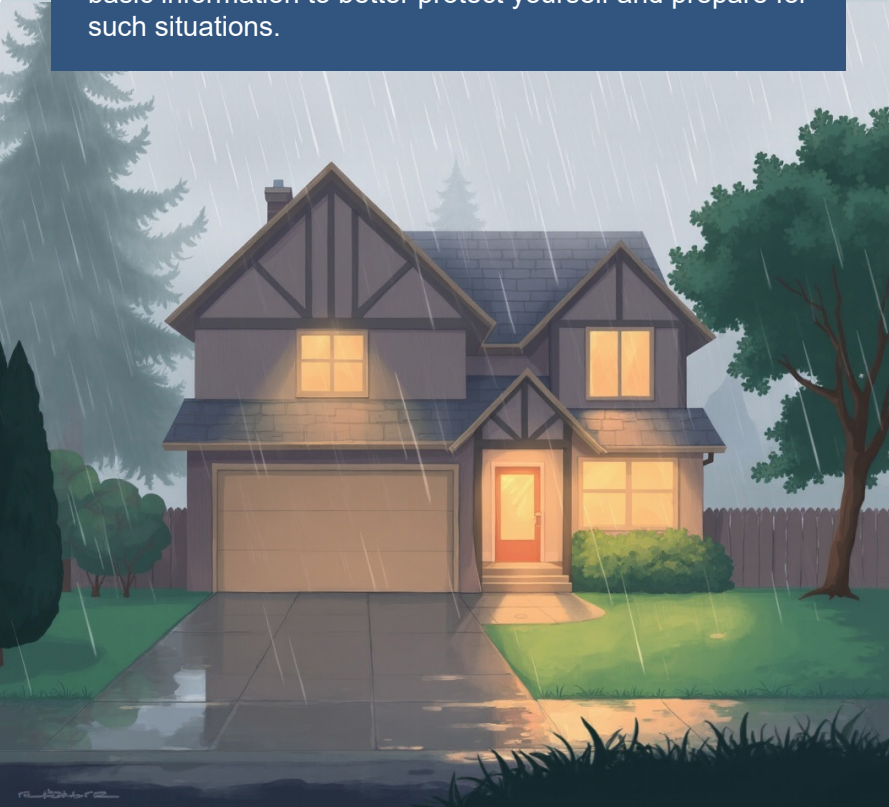


PREVENT WATER INFILTRATION

ESSENTIAL TIPS TO PROTECT YOUR HOME

As heavy rainfall becomes more frequent, it is crucial to understand and maintain your home's drainage systems. Although this document is not intended to replace the advice of a competent professional, it will provide you with basic information to better protect yourself and prepare for such situations.



MUNICIPAL SEWER SYSTEMS



DDO has a separate sewage system. This means that rainwater, water from French drains and water in the outdoor **reservoir** in front of your garage, are evacuated towards a specific sewer, known as the **rainwater sewer**. The water is then discharged into a stream.

The main objective of the rainwater sewage system is to treat and drain the run-off water effectively. However, due to climate change, which can lead to more frequent and heavier rainfall, these systems are not always designed to receive large quantities of water at such a rapid rate. The wastewater from the house, is directed to the sanitary sewer and conveyed to the sewage treatment plant of the agglomeration of Montreal for processing.

CLEAN OUT ACCESS POINT



This access point is a **circular plug with a square in the middle**, it is usually located near the house's water intake valve, in the floor. From there, a plumber will clean the pipe or carry out a camera inspection to check the condition of the sanitary or storm pipe from the house to the municipal sewer. This should always be accessible. Note that if homes do not have cleanout access points for the storm sewer, it does not necessarily mean they do not have a French drain.

GUTTER



The gutter plays an essential role in managing and draining rainwater from a sloping roof. The gutter downspout must not be connected to the French drain and must discharge water onto the surface of the lot **at a distance of at least 1.5 m from the house within the property limits**, avoiding run-off to neighbouring properties. Gutters must be cleaned annually to prevent asphalt shingles, leaves, and other debris from obstructing water flow.

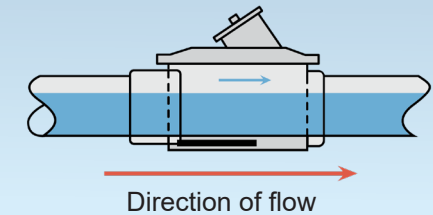
CHECK VALVE



In Quebec, check valves (a.k.a. backflow prevention devices) **are required by the Construction Code of Quebec (code) in order to prevent backflow**. The owner of the property must install and maintain one or more check-valves in good working order in the home. Depending on the type of check valve, the location allowed by code will vary, but in any case, **each check valve must always remain accessible**. For more information, please consult a licensed plumber.

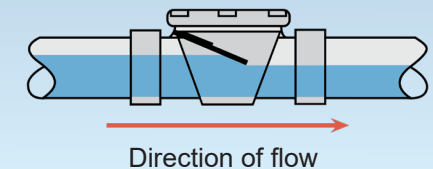
Type 1: Normally open valve

The valve of this device is open in its normal position. Air from the network can therefore pass through unobstructed, as can the wastewater from the house. In the case of sewage floods, the valve flap lifts to close off the passage to the backwater, preventing it from reaching the house.



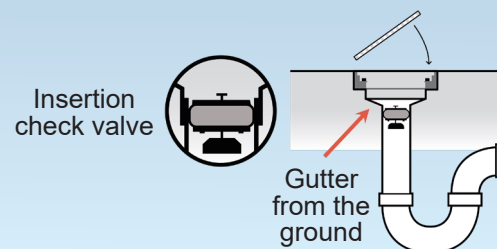
Type 2: Normally closed valve

The valve of this device is closed in its normal position. When wastewater from the house is discharged, the drain opens to let it through. In the event of a sewer backup, the door blocks the water as it tries to back up into the house, preventing it from entering.



Type 3: Insertion valve (or squeeze-in)

This valve is designed to fit into the floor drain. It is installed by removing the drain gate and inserting it into the pipe at the drain outlet. It is held in place by the compression of an elastomer ring using two brass plates connected by bolts. The floor drain grate is then replaced.



FRENCH DRAIN

The French drain is a 4 in. diameter perforated pipe installed around your home, at the level of the exterior footing of your foundation. **Its purpose is to prevent high water levels around a house's foundation**, whether from the water table or from rainwater. It collects water seeping into the ground and from the water table and diverts it away from the foundation. The water intercepted by this drain is brought back inside the house and discharged into the rainwater pipe, then into the municipal drain.

SUMP PUMP

For French drains connected to an interior pit (**sump pit**), the water from this pit must flow into the city storm water pipe. In the event there is an overload to the system or to the municipal storm sewers, the check valve in the stormwater pipe will close, and the water level in the pit may rise, activating the pump to expel the water from the house.

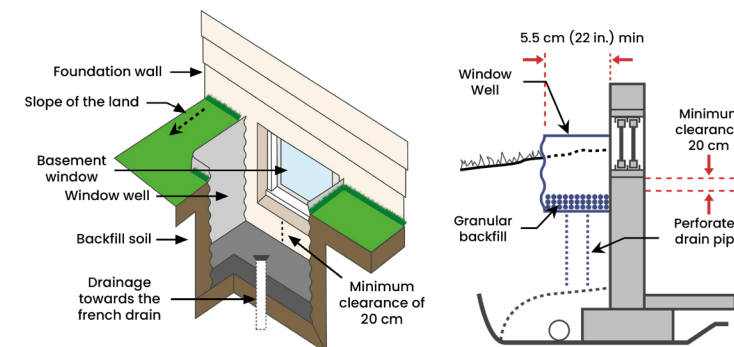
The pump removes the water from the pit and discharges it either directly into the storm sewer system or outside the property into a lost well. **This helps reduce pressure around the foundation, preventing basement flooding caused by cracks or seepage under the slab.** As the pump runs on electricity, a secondary power source is recommended, such as a generator or battery backup.

LANDSCAPE

Natural landscaping with greenery, shrubs or trees is **preferable for better absorption of rainwater** than impermeable surfaces such as asphalt or concrete. **The slope of the land should allow water to flow away from the house.**

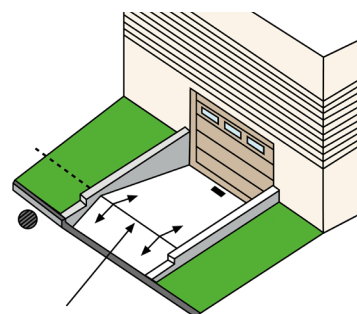
DRAINAGE BORDER

If the difference in level between the ground outside and your windowsill isn't great enough, the drainage border that directs water to the French drain could be a solution to prevent water from entering through your window. **Note that this drain must not be connected to the French drain of the house's foundation.**



COUNTER-SLOPING DRIVEWAY

The sump pit at the bottom of your driveway receives rainwater and **should not be connected to the pit in your garage**, which is connected to the sanitary sewer system. If your driveway sump is connected to your garage pit, in addition to increasing the risk of backflow into your home, it will overload the city's sanitary sewer system and is prohibited.



When a garage is built below street level, **the access ramp should be built according to precise rules. In fact, to reduce the risk of water runoff from the street spilling into the driveway below**, the latter must be at

Raised by at least 6.5 cm (2.5 in.) above the edge.

Remember that in the case of heavy rain, it is best to:

- ✓ Limit toilet flushing to only if necessary.
- ✓ Avoid taking a shower or emptying the bathtub.
- ✓ Do not use the washing machine or dishwasher.
- ✓ Limit the use of water that may need water to be discharged into the home's drainage system.

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