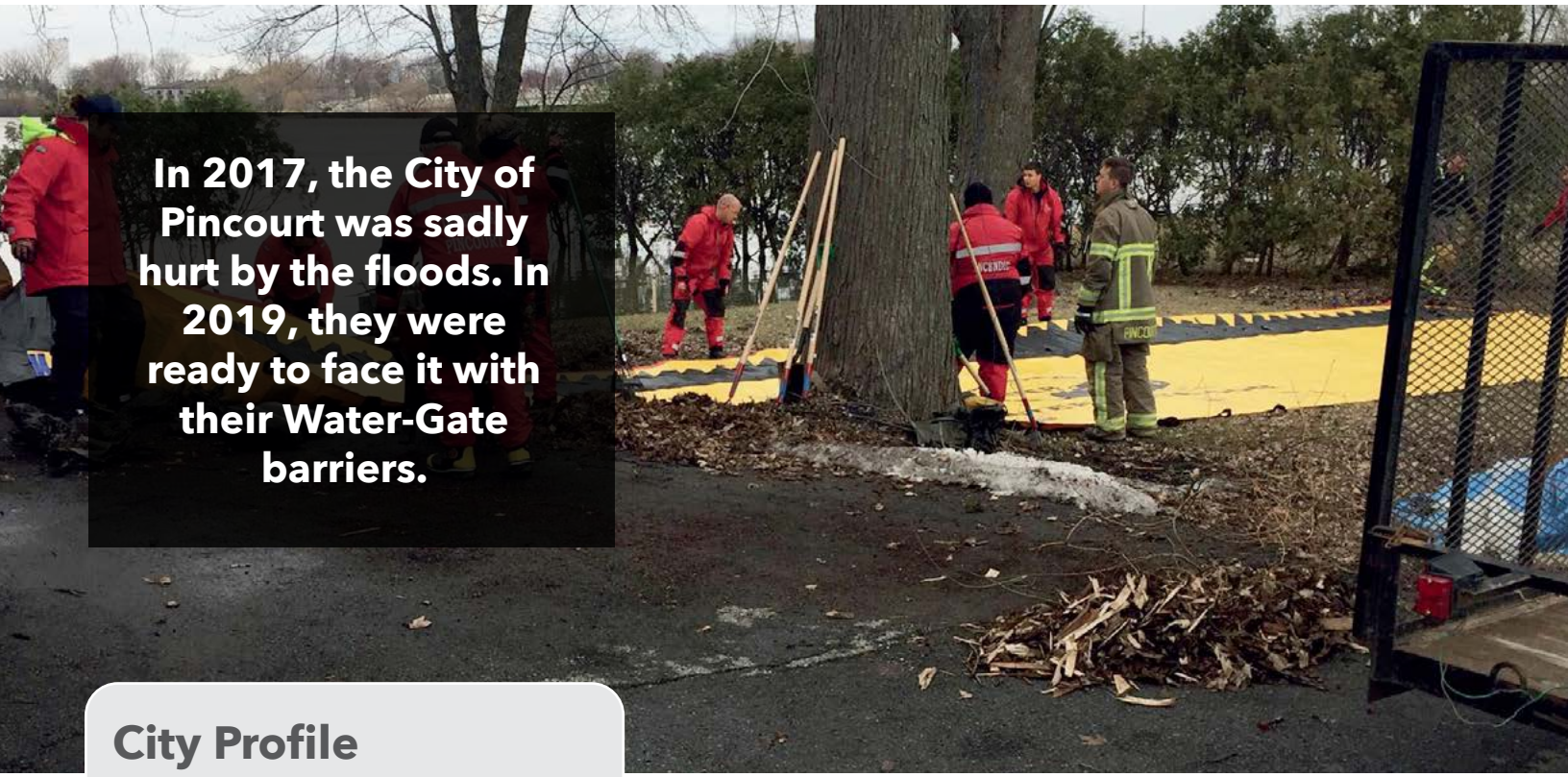
WATERFORCE™

CASE STUDIES

QUICK DAM™
THE NEXT GENERATION IN FLOOD PROTECTION

CASE STUDY

CITY OF PINCOURT, QC



In 2017, the City of Pincourt was sadly hurt by the floods. In 2019, they were ready to face it with their Water-Gate barriers.

City Profile

- Part of the Island of Montreal located in the West side.
- Third-most populated town in the RCM of Vaudreuil-Soulanges
- 65% of the Town's territory is zoned as residential, there is significant commercial activity in Pincourt
- Population: 14,774
- Square footage: 7,1 km2
- Streets: 70 km
- Parks: 14
- Year of foundation: 1960

Protection - 6 inches to 50 inches in height, total of 780 feet long

QDWGWL-5050 - 10 Units
QDWGWL - 3950 - 2 Units
QDWGWL - 1430 - 2 Units
QDWGWL - 0630 -4 Units

Observations

- Product lifetime is estimated at **± 20 years**
- Water-Gate Cost: **$100,000**
- The City will **save up to $200,000** per flood over a period of 20 years

- The Fire Department of the City is composed of 39 firefighters
- Fire trucks are equipped with Water-Gate barriers to be able to respond quicker to emergency situations.
- Permanent container staged with Water-Gate barriers for major flood emergencies.

Comparative Costs* **Floods 2019 vs 2017**

Year	Overall Cost	Sand Bags Needed	Set Up Time
2019	**$250,000**	**15,000**	**2 Days** (24 hrs)
2017	**$450,000**	**45,000**	**18 Days** (216 hrs)
	45% SAVINGS	**67%** LESS SAND	**89%** LESS TIME

*Actual costs provided by the city of Pincourt - June 2019.

CASE STUDY

THAMES WATER

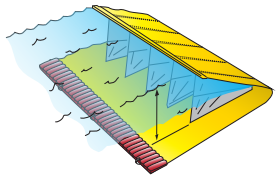
"We've found the Water-Gate flood barriers work well, are quick and easy to use and are cost-effective, as we can reuse them."

Thames Water

Thames Water Utilities Ltd, known as Thames Water, is the private utility company responsible for the public water supply and waste water treatment in large parts of **Greater London, the Thames Valley, Surrey, Wiltshire, Kent, Gloucestershire, and some other areas of the United Kingdom.** Thames Water's 15 million customers comprise 27% of the UK population.

Inside a fast deployment crate

In 2014 Thames Water first purchased 2,395 feet of the WL model Water-Gate Barriers. Units are 6 inches to 5 feet of height. The various heights and lengths meant that the company could be ready for anything ensuring they could offer their customers the very highest level of protection should any flooding occur.



Being a self-deploying and reusable system, the Water-Gate has not only saved Thames Water money through being able to use the system more than once, but also in its effectiveness. Previously, it had been thought that sandbags were the go-to resource to prevent flooding. However, it has now been proven that this course of action is ineffective and costly not only to deploy but also to clean up.

Observations

The Water-Gate's effectiveness also aided in Thames Water **saving money on insurance claims,** clean-up teams and flood related fines.

Thames Water's Justin Lambourne comments: "Flooding is a miserable experience, which is why we are arming ourselves with the latest technology to help protect our customers. **We've found the Water-Gate flood barriers work well, are quick and easy to use and are cost-effective, as we can reuse them."**

CASE STUDY

CITY OF RIGAUD, QC

The client protects his residence with Water-Gate Barriers and he was not affected by the 2019 major spring Quebec flooding

City Profile

- The City of Rigaud is located at the junction of Ottawa River and Rigaud River.
- It is situated about 70km west of downtown Montreal.
- Population: 7 918
- Area: 99,2 km2

Source: City of Rigaud Website

Protection - 39 inches high by 280 feet long
QDWGWL-3950 - 5 Units
QDWGWL-3930 - 1 Unit

During 2019 Flood, the Water-Gate barrier **protected this house for 39 days**.

Comparative Costs*
Floods 2019 vs 2017

2019	**$43,000**
2017	**$147,000**

*Actual costs provided by the customer - June 2019.

71% SAVINGS

Observations

- Compare to 2017, this customer **saved $104,000** during the last flood event.
- Product lifetime is estimated at **20 +/- years**
- Customer will **save year over year** with initial investment.

CASE STUDY

JEAN-LESAGE INTERNATIONAL AIRPORT

Jean-Lesage International Airport Quebec City, Quebec, Canada

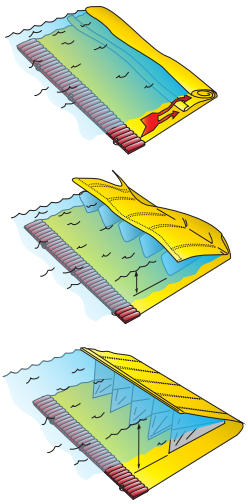
Jean Lesage International Airport is the second busiest passenger airport in Quebec after Montreal-Trudeau Airport. It relies on a highly qualified team of sixteen firefighters, four captains, and one department manager. The department comprises four 5-person teams and **operates 24 hours a day, 365 days a year.** In addition to responding to aircraft emergencies, the department's firefighters act as first responders for airport building fires, first-aid calls, fuel spills, vehicle accidents, and any other emergency occurring on the airport property.

The airport fire department is equipped with several specialized vehicles such as aircraft rescue and firefighting (ARFF) vehicle, Waltek trucks, multipurpose vehicle, spill van with recovery equipment, transportation van to carry stretchers and other firstaid equipment to accident sites.

Since 2009, the department is equipped with 3 Water-Gate dams:

The spill trailer contains absorbents and other specialized equipment as well as:

- One WT-2825 containment and underflow dam for potential oil, fuels and coolant spill operations in ditches or streams. This dam is efficient in water mixed material in wet or dry conditions;
- One WA-2130 for diking and containment in ditches; These two units can be joined together for a larger zone or in a sequence for backup installation. One of the other vehicle carries
- **One WL-0630 for diverting or blocking flowing liquids on any type of ground.**

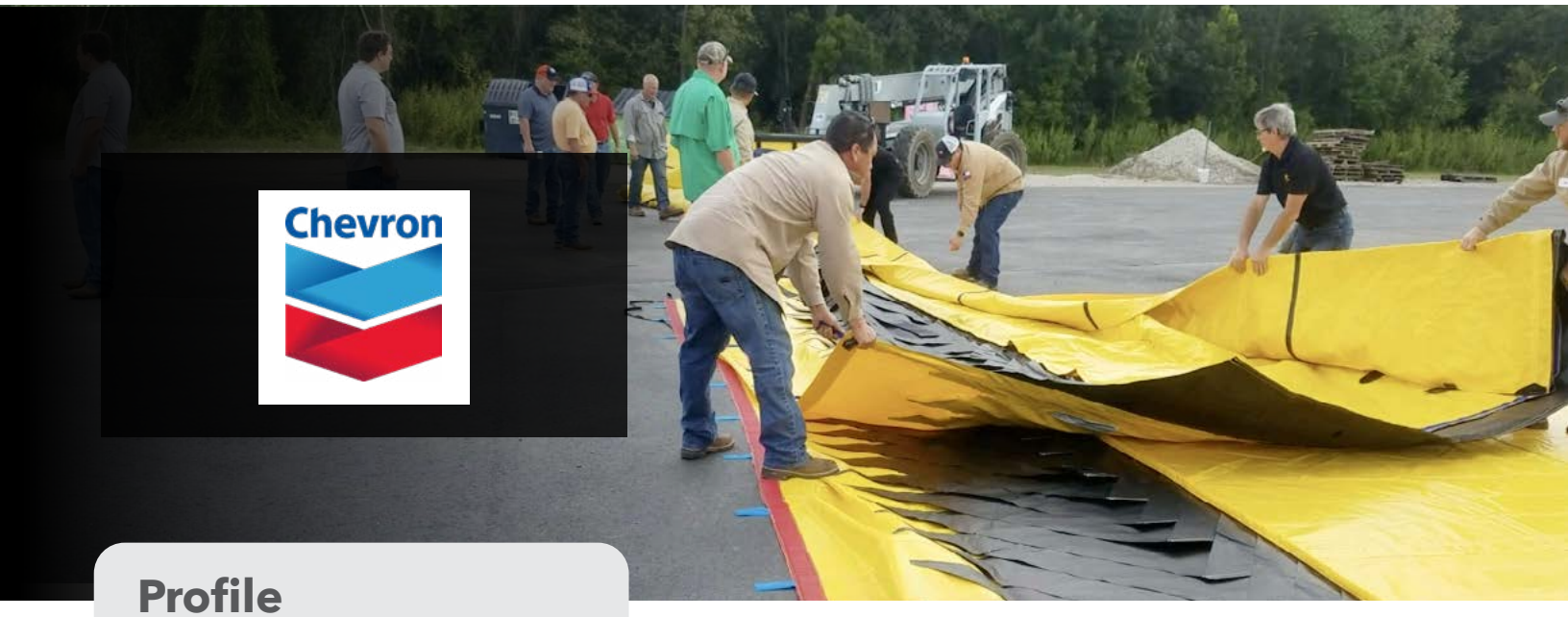


Water-Gates unfold & rise with the flow of oncoming water

With these acquisitions, the YQB Fire Department is now well equipped to manage potential spills in the water bodies, on the airport strip as well as its surrounding areas.

CASE STUDY

CHEVRON



Profile

- In 2017, Hurricane Harvey brought a whopping $125 million in damages to the Houston, Texas area.
- 300,000 structures completely flooded as well as 500,000 cars in the region alone
- Total rainfall from Hurricane Harvey was 60.58 inches
- Chevron decided they needed a solid flood protection solution after Hurricane Harvey.
- Water-Gate provides flood protection up to 50in high

Protection - 50 inches in height by 1200 feet long
QDWGWL-5050 - 24 Units

On-Site Evaluation

Our team conducted an on-site evaluation to determine their needs. The team carefully surveyed the land, topography, down spouts, drainage and potential leakage points.

The Quick Dam team toured the facilities, grounds, storage facility and met with the Chevron Team.

Training

- Quick Dam sent two Flood Specialists to Chevron to conduct a full Water-Gate Demonstration and training for the entire Chevron staff
- The demonstration highlighted the key features of the product, proper deployment method, connecting units, creating corners and how to put away.

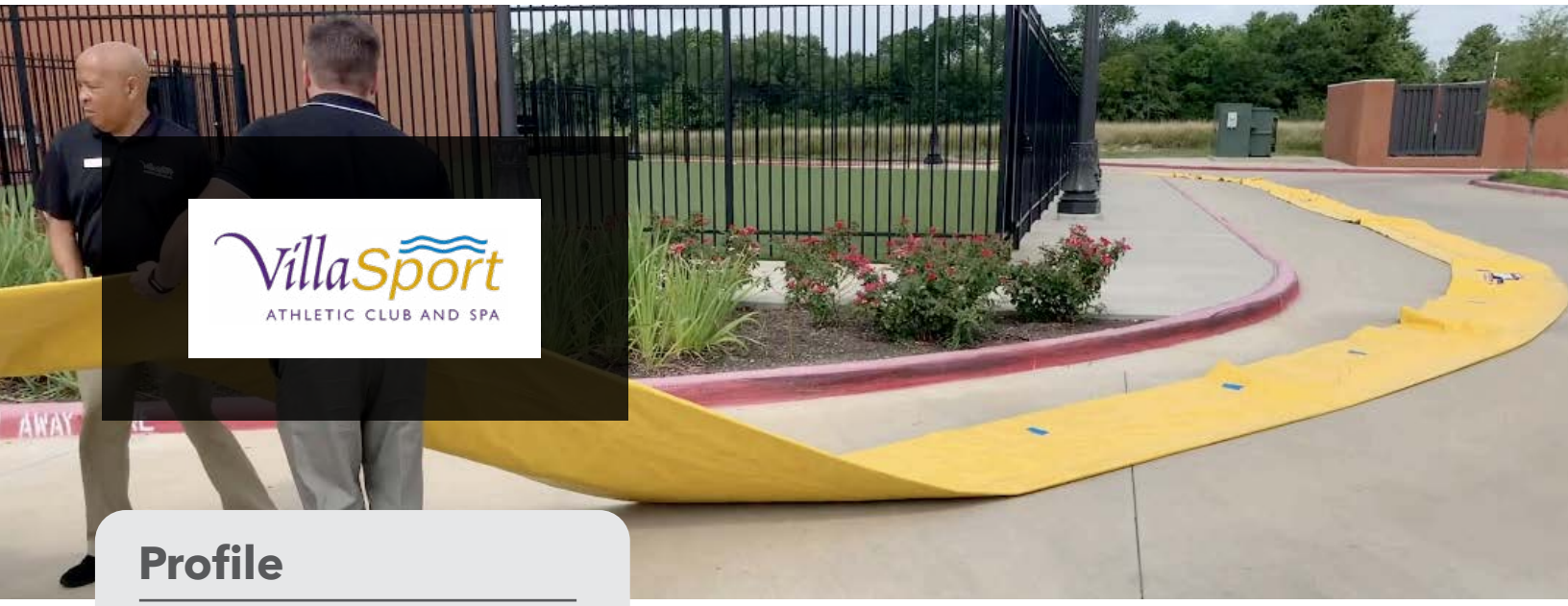
Post-Training & Resources

- While on site, Quick Dam filmed the entire demonstration and training while at Chevron
- The Quick Dam team developed a comprehensive training video that Chevron will be able to use for many years and train new employees on the proper technique of using the Water-Gate.

Watch Training Video

CASE STUDY

VILLASPORT



Profile

- In 2017, Hurricane Harvey brought a whopping $125 million in damages to the Houston, Texas area.
- 300,000 structures completely flooded as well as 500,000 cars in the region alone
- VillaSport had to close for 4 months for repairs following 4ft flood waters from Hurricane Harvey
- VillaSport decided on Water-Gate to secure both their facilities from future flooding
- Water-Gate being both lightweight and compact allows VillaSport to easily transport it from location to the other depending on the locale of the flood threat

Protection - 26 inches in height by 940 feet long
QDWGWS-2630- 2 Units
QDWGWS-2650 - 2 Units
QDWGWL-2630 - 26 Units
& Custom Crates

On-Site Evaluation

Our team conducted an on-site evaluation to determine their needs. The team carefully surveyed the land, topography, down spouts, drainage and potential leakage points.

The Quick Dam team toured the facilities, grounds, storage facility and met with the VillaSport Team.

Training

- Quick Dam sent two Flood Specialists to VillaSport to conduct a full Water-Gate Demonstration and training for the entire VillaSport staff
- The demonstration highlighted the key features of the product, proper deployment method, connecting units, creating corners and how to put away.

Post-Training & Resources

- Quick Dam filmed the entire demonstration and training while at VillaSport and provided them a comprehensive video for future reference and training
- VillaSport has the necessary materials and product lifespan to continue to train future employees and protect against future flood threats.

Watch Training Video

QUICK DAM

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www.quickdams.com
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