Rainwater Harvesting at the Abbotsford Entertainment & Sports Centre

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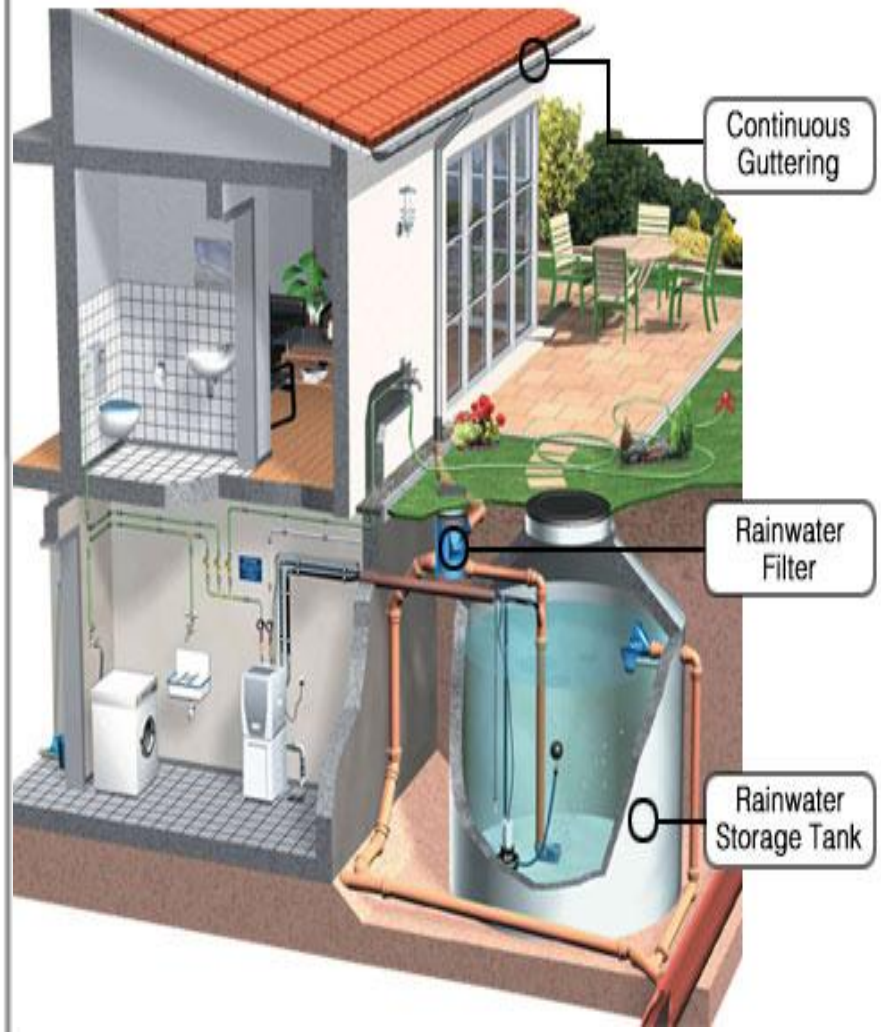
Rainwater Harvesting



- Great for non-potable water uses such as:
  - irrigation
  - flushing toilets
  - washing laundry
  - making arena ice

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Advantages of Using Rainwater

- Conserves municipal water
- Conserves energy
- Prevents flooding and erosion
- Reduces costs

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Rainwater Collection in Abbotsford

- Abbotsford's average rainfall is 1575 mm (62 inches) per year
- 25mm (1 inch) of rainfall on a 93 m² (1000 ft²) area can collect 2355 L (623 gallons) of water
- The average person in Abbotsford uses 281 L of water per day

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Local Partnership

First professional grade indoor ice arena using harvested rainwater to make ice

- AESC, Barr Plastics and Saxon Mechanical partnership on installation
- AMWSC will help with promotion and education to promote water conservation

Water Use

Approximately 1 Million Litres (ML) of water is used per hockey season to make ice for the arena

Photo: Jeff Bough Photography

- 38,160L (to build the initial ice surface)
- 370,000L (10,000L per game day x 37 home games)
- 420,000L (during community rentals & practice days throughout the season)

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Rainwater Harvesting System

- 15,120L (4000 gallons) of storage collected from a 1208 m² (13,000 ft²) area
- Both primary filtration and a secondary 1 micron filters have been installed
- Plumbed into existing hot water boilers to supply the zamboni with hot water
- Using waste energy from the heating boilers to preheat the stored rainwater in the tanks

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Potential Water Savings

- Estimated municipal water saved via the rainwater harvesting system is approximately **830,000L** per hockey season!
- The AESC rainwater harvesting system will be able to generate approximately 30,000 L (8,000 gallons) per inch of rain
- Rainwater makes better quality ice

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Potential Monetary Savings

Water and sewer cost savings: $1226.74/year

Energy cost savings: $1960.17/year

Total savings: $3186.91/year

Cost of the system: $27,000 installed

Pay back period: 8 years

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Media Interest

First professional grade indoor ice arena to make ice from rainwater

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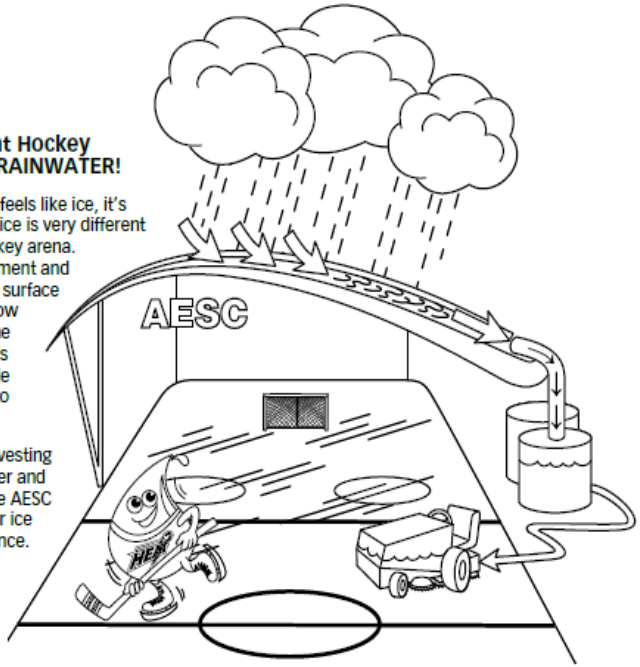
Educational Program

For the Student

Grades 6–8:
Activity 3 – Reducing Our Water Footprint
Turning Rain Drops Into Puck Drops

Abbotsford Mission Water & Sewer Services



The Abbotsford Heat Hockey Team is playing on RAINWATER!

It looks like regular ice, it feels like ice, it's slippery like ice - but this ice is very different from ice in any other hockey arena. The Abbotsford Entertainment and Sports Centre (AESC) rink surface is made from rain and snow run off from the roof of the building. What's more, it's the first professional grade indoor ice-hockey arena to use rainwater!

The AESC Rain Water Harvesting project captures rain water and snow melt runoff from the AESC roof, reusing the water for ice production and maintenance.

Tap into these AESC facts...

- One million litres of water is required each hockey season to make and maintain the ice
- Creating the initial playing surface requires 38,160 litres
- 370,000 litres (10,000 litres per game, 37 home games a season) is needed to maintain it during play
- An additional 420,000 litres is used for practices and community rentals

Now tap into these water saving facts!

Do you know...?

- *How big is the AESC roof?*
  The roof is 1333 m². (12,000 sq. ft) and is capable of collecting up to 1,736,000 litres (448,560 US Gals) per year!
- *How much rain is the AESC rainwater system capable of harvesting?*
  The AESC rainwater harvesting system is capable of generating 30,000 litres of water for every 25mm (one inch) of rain!

This rainwater harvesting project saves approximately 830,000 litres of water each hockey season saving up to 1 million litres per year of water!

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