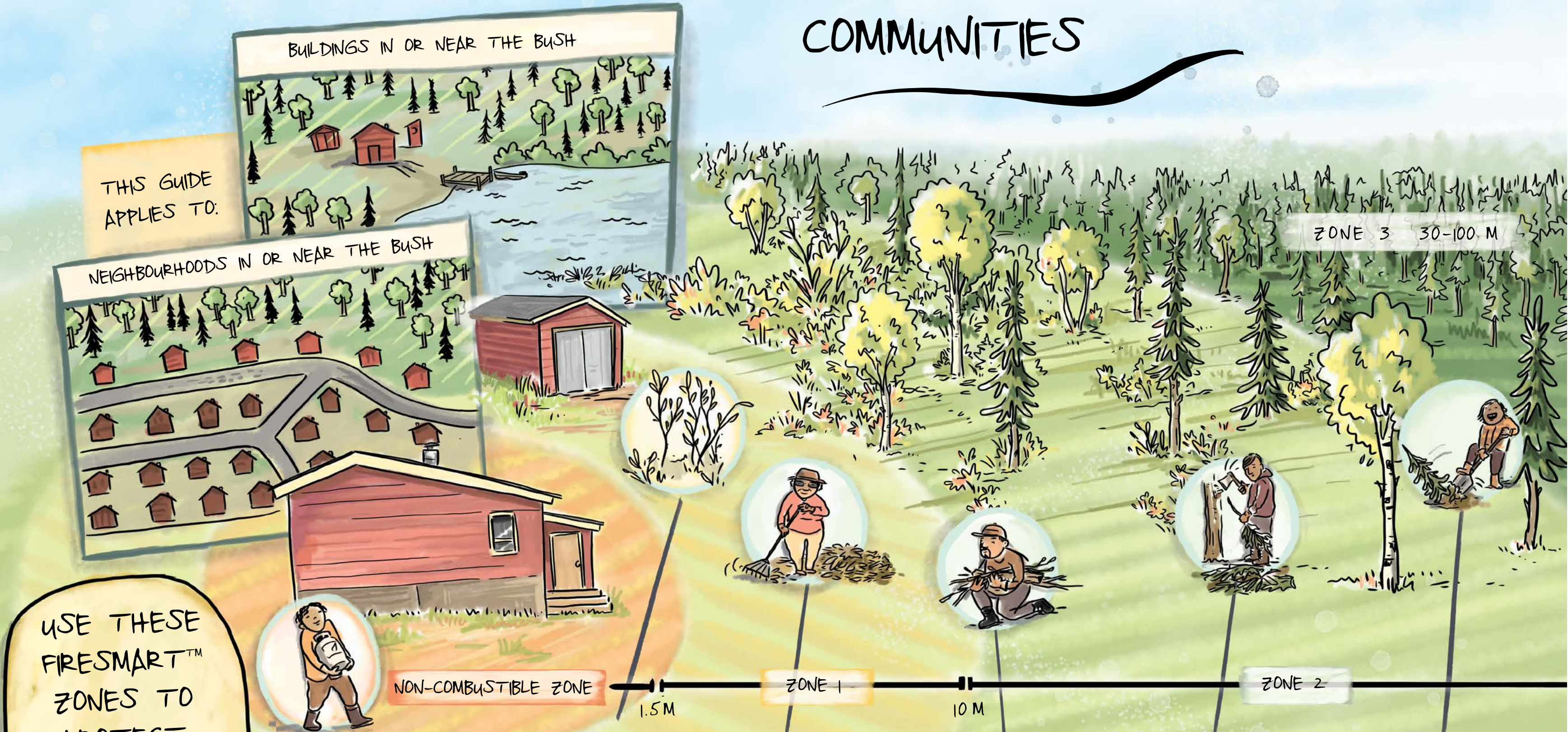


# PLANNING FIRE RESILIENT COMMUNITIES



USE THESE FIRESMART™ ZONES TO PROTECT BUILDINGS AND HOMES NEAR THE BUSH!

<p>REMOVE ALL FLAMMABLE MATERIALS</p> <p>NON-COMBUSTIBLE ZONE</p>	<p>REPLACE EVERGREEN TREES WITH LESS FLAMMABLE PLANTS LIKE BIRCH AND WILLOW</p> <p>ZONE 1</p>	<p>REDUCE THE LAYER OF LEAVES AND NEEDLES TO 10 CM OR LESS</p> <p>ZONES 1, 2, 3</p>	<p>REMOVE FUELS SUCH AS DEAD BRANCHES, SHRUBS, AND LOGS</p> <p>ZONES 1, 2, 3</p>	<p>PRUNE 2 M OF LADDER FUELS OFF OF TALL TREES</p> <p>ZONES 1, 2, 3</p>	<p>REMOVE TREES TO GIVE AT LEAST 3 M OF SPACE BETWEEN EVERGREEN TREES</p> <p>ZONES 2, 3</p>
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## PLAN AHEAD - PLAN TOGETHER

**FIRE FIGHTING**

- Train community members in wild and urban fire fighting
- Keep their training up to date

**WATER ACCESS**

- Know the nearest water source
- Ensure there is water access even when lakes and rivers are frozen

**FIRE RESILIENT PLAN**

- Follow FireSmart™ practices
- Encourage building with fire resilient materials
- Remove flammable materials around buildings

**BUILDING PRACTICES: RISK FACTORS**

**REMEMBER!**  
A FIRE RESILIENT ROOF MAKES THE BIGGEST DIFFERENCE

**COMMUNITY EVACUATION**

- Create a community evacuation plan
- Ensure everyone has a safe way out
- Communicate the plan

**URBAN PLANNING**

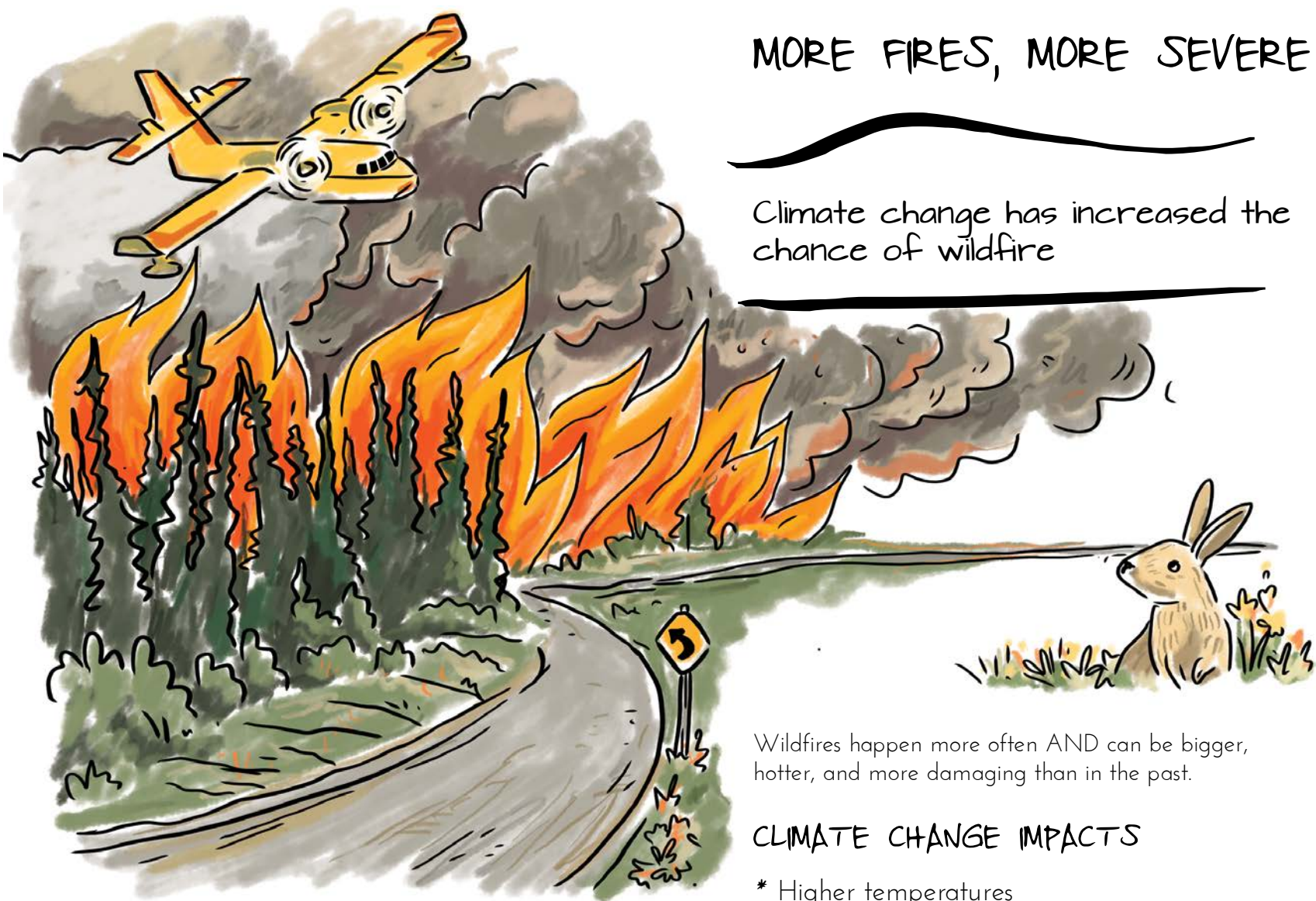
- Build buildings apart from each other so that fire spreads less easily
- Build fire breaks

HEAT FROM FIRES CAN DAMAGE BUILDINGS IN MANY WAYS

FireSmart™ is a Trademark of Partners in Protection

<p><b>CONDUCTION</b></p> <p>TRANSFER OF HEAT THROUGH SOLID MATTER.</p> <p>EMBERS CAN TRAVEL HUNDREDS OF METRES AND CAUSE DAMAGE.</p>	<p><b>CONVECTION</b></p> <p>TRANSFER OF HEAT BY THE MOVEMENT OF HOT AIR.</p> <p>BUILDINGS DOWNWIND OF A FIRE CAN BE DAMAGED FROM CONVECTIVE HEAT 20 METRES AWAY.</p>	<p><b>RADIATION</b></p> <p>HEAT THAT TRAVELS OUTWARDS IN STRAIGHT LINES.</p> <p>RADIATED HEAT CAN DAMAGE BUILDINGS 10 METRES AWAY.</p>
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## MORE FIRES, MORE SEVERE

Climate change has increased the chance of wildfire

Wildfires happen more often AND can be bigger, hotter, and more damaging than in the past.

### CLIMATE CHANGE IMPACTS

- \* Higher temperatures
- \* Drier conditions - less rain and snow
- \* Stronger winds
- \* More lightning
- \* Treeline moving north
- \* More dead trees due to invasive species

These factors increase the risk of fire by adding fuel sources and making it easier for fire to spread.

This is a user friendly guide to CAN/CSA S504-19 - Fire resilient planning for northern communities. This guide is for communities located in or near the forest. It looks at how to be more fire resilient.

Communities, businesses, and individuals can take action and make a difference. They can reduce the risk of wildfire damage and help firefighters protect their property.

## HOW FIRES SPREAD

Understand the nature of fires

Fires spread faster in hot and windy conditions, when moving uphill, and in dense, evergreen forests.

Surface fuels are anything that burns on or near to the ground. For example, plants, leaves, twigs, dry grasses, stumps, needles, etc.

Ladder fuels allow fire to move from the ground into the trees. For example, tall shrubs, small trees, tree lichens, bark flakes, etc.

Embers are pieces of smouldering or flaming material that can travel a long way from a fire and start a new one. They can travel up to 500m with a strong wind.



## BUILD RESILIENCY

Adapt buildings and the land around them to reduce the risk of wildfire

It is critical for northerners to plan and design fire resilient buildings and communities, as most of the north has limited firefighting resources and capacity.

The focus is on fuel: have less fuel available and use construction materials that don't burn well.

CONSIDER FIRE RESILIENCY FOR:

- \* Building materials
- \* Building location
- \* Landscaping
- \* Community planning



## BUILDING MATERIALS

Roofing, siding, ventilation

### ROOFS

The roof is the most important part of a building to make fire safe. Embers from a fire or sparks from a chimney can land on the roof and start a fire if the roof is not fire safe.

Recommended roofing materials are concrete, metal, or fiberglass asphalt shingles with felt underlay.

Regularly clear roof and eaves of dead leaves, needles, sticks, and other debris.

### SIDING

The best siding materials are metal and fire resilient treated wood.

### VENTILATION

Smoke can travel through a building and cause a lot of damage, even if a building does not catch fire. Open vents can also carry embers between floors and rooms. Use fire resistant materials and design, and avoid open ventilation.

## DECKS, SHEDS, FIREPITS

Fire safety guidelines

Store all fuel (firewood, pellets, propane, etc) at least 10m away from a building.

Surround a firepit with at least 3m of non-burning material: e.g. bare soil, rock, concrete. Limit flying embers with a metal mesh screen over the firepit.

Clear burnable things away from under decks and balconies and for 1.5m around them.

Put a fire-safe mesh screen around the underside of decks and balconies

In a garage or shed, store burnable things away from any heat source.

Store no more than 50L of burnable liquids (gas, paint, alcohol, etc) in a garage or shed attached to a home.



## ECOLOGY NORTH

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Ecology North is a charitable organization, founded in 1971 to support sound environmental decision-making on an individual, community, and regional level.

Contact us or visit our website for information and other guides in this series.

## LOCATION & LANDSCAPING

Clear away brush and flammable materials from around buildings

The most at-risk buildings are those built next to or in the bush. The forested area up to 100m out from a building should be looked at for fire safety.

For a fire resilient landscape, use these guidelines. Changes within 10m of a building have the most impact to reduce risk of wildfire.

### 0 - 1.5M OUT FROM A BUILDING

- \* Remove all fuels from the area

### 1.5 - 100M OUT FROM A BUILDING

- \* Remove surface and ladder fuels
- \* Plant fire-resistant plants, like willow and birch
- \* Leave lots of space around evergreen trees
- \* Reduce the amount of dried needles and leaves on the ground



## PREVENTION IS KEY

Prepare for and respond to fire

### CREATE A FIRE RESILIENCY PLAN

- \* Build a planning team
- \* Gather information to assess the risk
- \* Set goals to reduce the risk
- \* Share the plan and educate others
- \* Outline options to respond to wildfires
- \* Offer training for fighting wild and urban fires
- \* Update and review the plan every year

### FIRE SUPPRESSION

Sprinkler systems prevent the spread of fire by wetting and cooling material, making it less flammable. Sprinklers are not usually effective at putting out fires.

Foam fire suppressants are effective at preventing fire spread and can be set up to spray automatically.

Use a firebreak - a wide strip of land with little vegetation (like a river or a road), meaning less fuel for a fire. It can stop a fire or limit the spread.

## PUTTING OUT FIRES

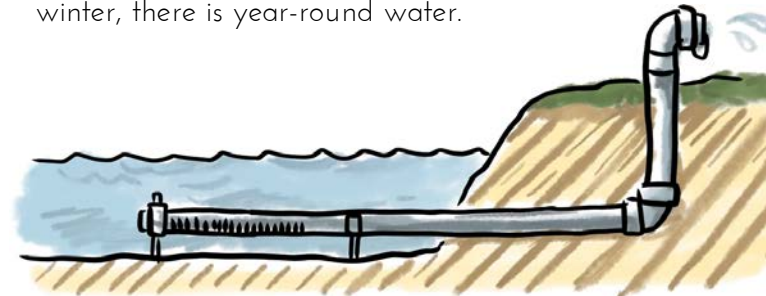
Know where the nearest source of water is, and how to access it

### COMMON WATER SOURCES

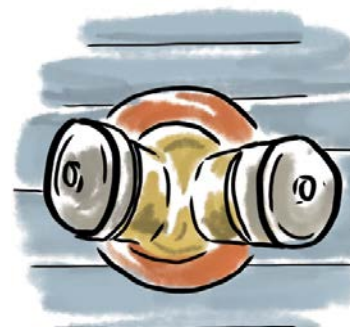
- \* Fire hydrant or utilidor
- \* Nearby water body
- \* Water truck

### OTHER WATER SOURCES

A dry hydrant is a pipe that goes into the bottom of a nearby lake or river. If the bottom stays unfrozen in winter, there is year-round water.



A wall hydrant is a valve that brings water from inside a building to outside. A building with a wall hydrant and a large water tank could be used in an emergency.



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