

Frequently Asked Questions



Why does Yellowknife need a new Water Treatment Plant?

Regulations: In September 2009 The GNWT adopted the Federal Drinking Water Guidelines as part of their Water Supply System Regulations. The Guidelines require that surface water used as a drinking water source undergo a filtration process. The City's current treatment method does not include filtration.

Aging Infrastructure: Pumphouse #1 was constructed in 1948, with numerous additions and renovations occurring since operations began. The main building has come to the end of its useful life and requires replacing.

The submarine pipeline between Pumphouse #1 and Pumphouse #2 was constructed in 1969. It is also reaching the end of its useful life.

The pipeline and Pumphouse #1 will not be able to accommodate the projected water supply demand through the next 25 years.



Where will the Plant be located?

The new Plant will be built adjacent to the existing water reservoirs at the Pumphouse #1 site. Parts of Pumphouse #1 and the reservoir will be incorporated into the new Plant.



When will the Plant be built?

The new Plant will be built in phases with the first phase starting in 2011. Phasing will consist of the following stages:

1. Construction of access road
2. Construction of building for Plant (exterior)
3. Construction of treatment processes (interior)



Will the taste of the water change?

The taste of the water will not be affected by the new Plant.



Reference Document Links

GNWT Public Health Act

<http://www.justice.gov.nt.ca/PDF/ACTS/Public%20Health.pdf>

GNWT Water Supply System Regulations

<http://www.justice.gov.nt.ca/PDF/REGS/PUBLIC%20HEALTH/Water%20Supply%20System.pdf>

Guidelines for Canadian Drinking Water

http://www.hc-sc.gc.ca/ewh-semt/pubs/water-eau/2010-sum_guide-res_recom/index-eng.php



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City of Yellowknife

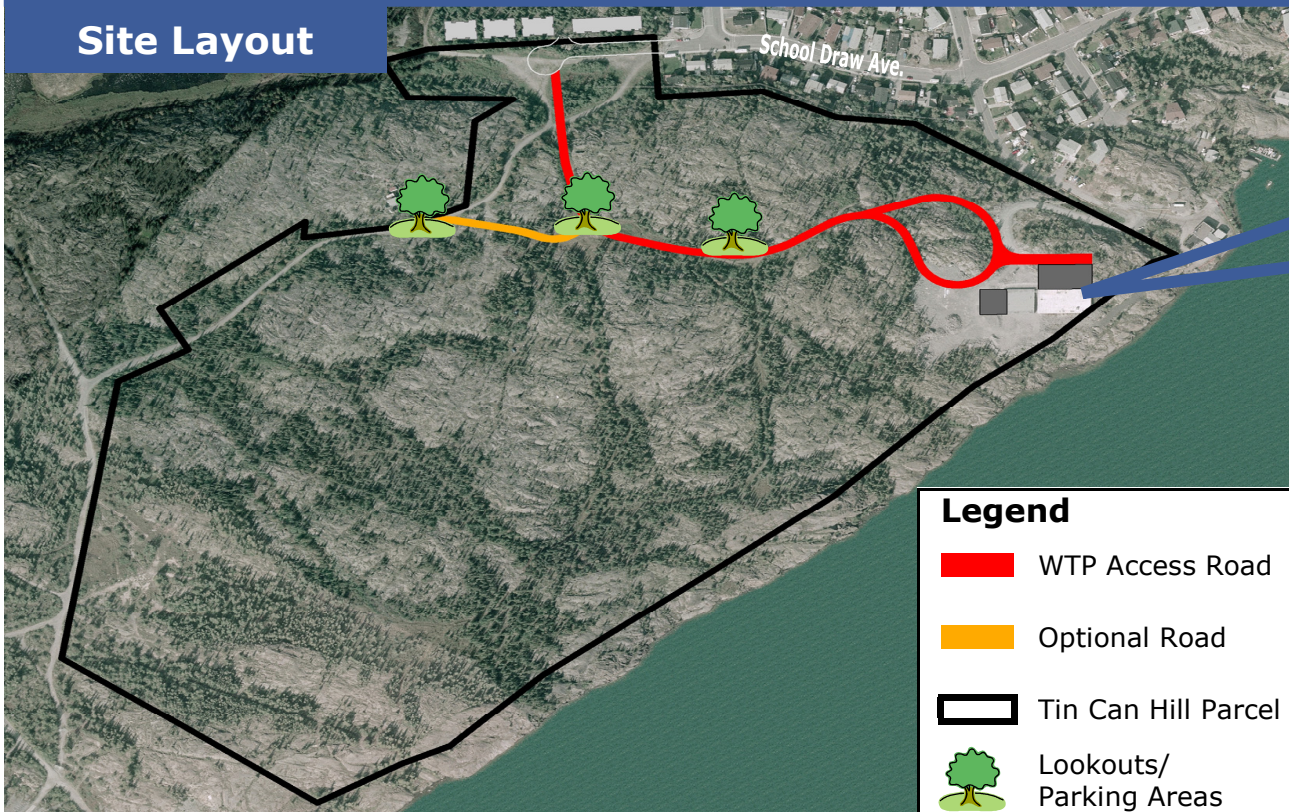
Water Treatment Plant

Project Fact Sheet





Public Works & Engineering

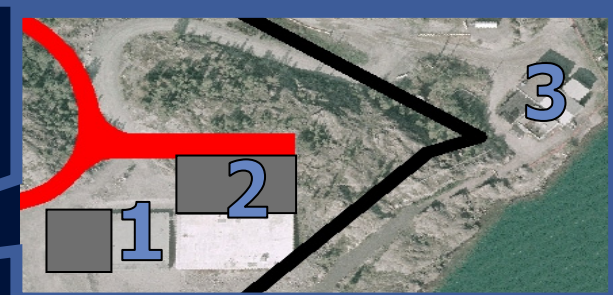


Site Layout



Legend


-  WTP Access Road
-  Optional Road
-  Tin Can Hill Parcel
-  Lookouts/
Parking Areas



- 1 - Water Reservoirs (future & existing)
- 2 - New Treatment Plant
- 3 - Pumphouse #1

Site Access

Design Considerations

- Minimal impact on surrounding area
- Access for truck traffic
- Access to trails
-  Lookouts
Parking areas

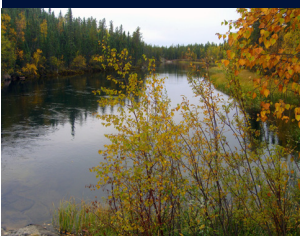
Treatment Plant Features

Treatment Process

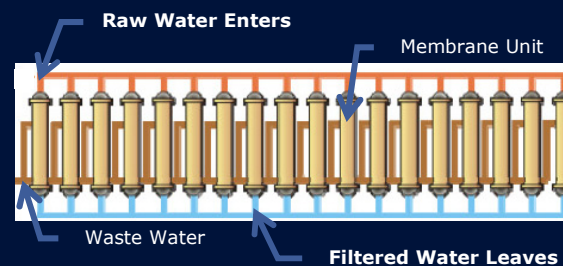
1. Raw Water Supply
2. Membrane Filtration
3. Arsenic Removal (if necessary)
4. Chlorination
5. Fluoridation
6. Storage in Reservoir
7. Distribution

Raw Water Source

Yellowknife River or Yellowknife Bay



Membrane Filtration



Arsenic Removal (if necessary)

- Achieved through the use of pressure filters filled with ferric hydroxide media
- Arsenic is removed from the water through adsorption onto the media



Chlorination

Options for Sources of Chlorine

- Chlorine Gas
- 12% Sodium Hypochlorite
- 0.8% Sodium Hypochlorite, generated on site

Storage

- Reservoir at Pumphouse #1 expanded in 2007
- Current storage capacity of 9 million litres will be sufficient for at least the next 25 years.

For More Information Contact:

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