



Welcome

Help shape the City's Water Supply Master Plan

The City is updating the 2014 Water Supply Master Plan (WSMP), the City's long-term plan for ensuring we sustain our drinking water sources and services as our community grows.

The WSMP update includes reviewing our current water supply sources and identifying priorities for a sustainable municipal water supply from now until 2041.

This is the first of two open houses to provide you with an opportunity to formally participate in the Master Plan process.

The purpose of this open house is to learn about and share your thoughts on:

- 💧 the objectives and overview of the WSMP update
- 💧 the City's current drinking water supply
- 💧 proposed alternatives for meeting our drinking water supply needs
- 💧 proposed criteria and methodology for evaluating new drinking water sources
- 💧 next steps as we update the WSMP

Read through the information on display and complete a comment form in-person or online (haveyoursay.guelph.ca) after reviewing the boards and talking with our experts.

Our team is available to answer any questions you may have.



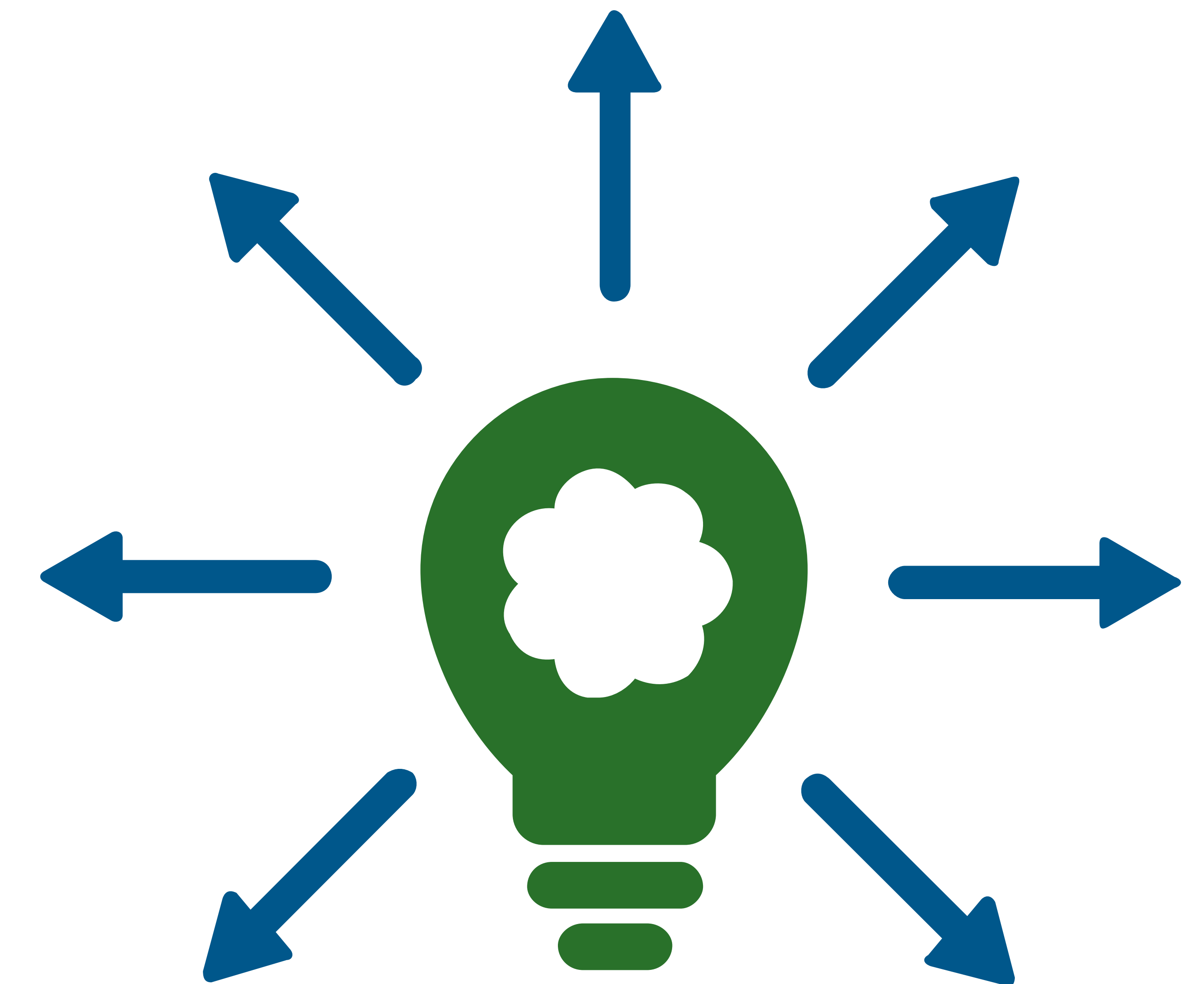
Why are we updating the Water Supply Master Plan?

Draft problem and opportunity statement

The City of Guelph is committed to managing population growth as it continues to develop strategies for ensuring adequate water supply. The goal is to develop a reliable and sustainable supply of water to meet the current and future needs of all residential, industrial, commercial and institutional customers.

The 2014 WSMP confirmed that the existing water supply capacity will not meet future demands and set out a strategy for meeting future demand. It is, therefore, prudent to undertake an update to the water demand forecast, the existing water system capacity and the status of ongoing projects, in order to review the plan and make adjustments as required.

The proposed implementation strategy must deliver, through to 2041, an adequate amount of water in a safe and cost-effective manner and ensure that environmental sustainability is not compromised.



Do you have any suggested changes or additions
to the draft problem and opportunity statement?





Water Supply Master Plan

“ The water is sick and people need to really fight for that water, to speak for that water, to love that water.”

Josephine Mandamin, Mother Earth Water Walker

https://m.facebook.com/story.php?story_fbid=3400290223331295&id=100000510517006&sfnsn=mo

Josphehine's Water Song

Ne-be Gee Zah- gay- e- goo

Gee Me-gwetch -wayn ne- me – goo

Gee Zah Wayn ne- me- goo

Water, we love you.

We thank you.

We respect you.

The story of the Nibi (Water) song

Written by Doreen Day at the request of her grandson Mashkoonce. Doreen and her grandson gifted this to Josephine Mandamin, who gives permission for everyone to share this song and to sing it to water every day.

http://www.motherearthwaterwalk.com/?attachment_id=2244



Get Involved

guelph.ca/wsmp | haveyoursay.guelph.ca

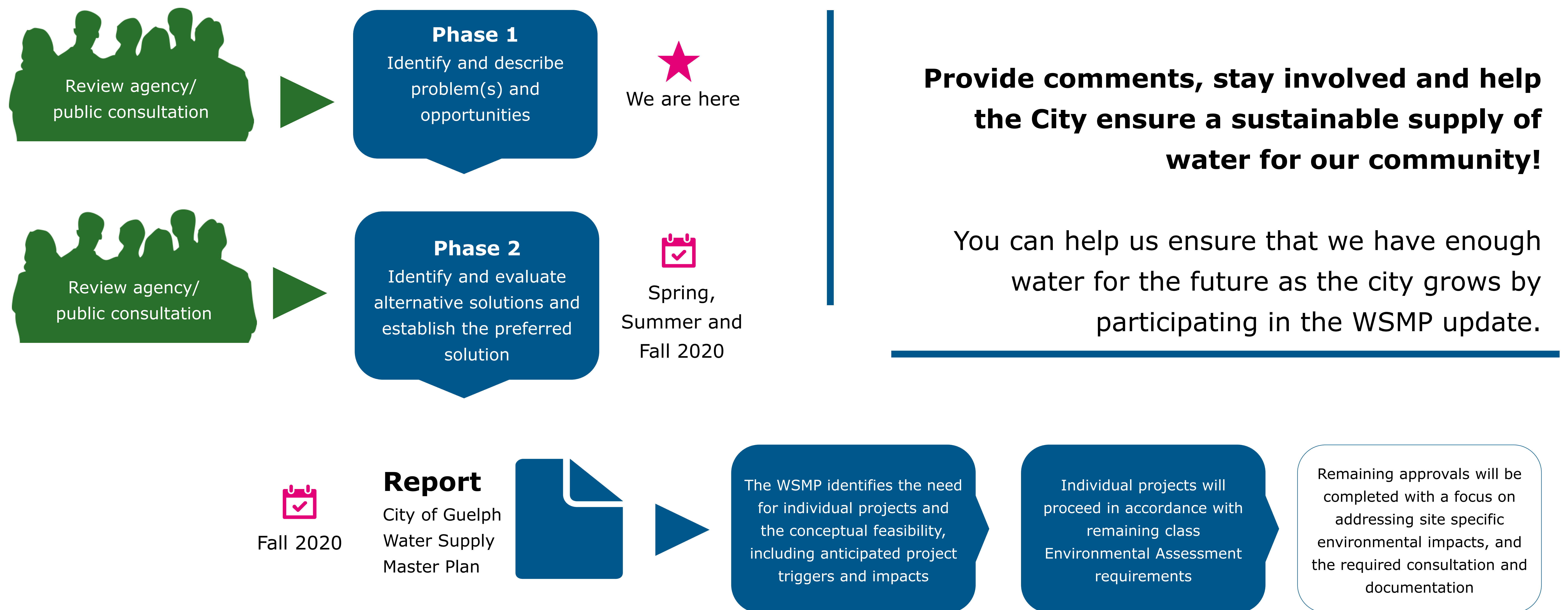
 Master Planning



The process

The Municipal Class Environmental Assessment (EA) process

Our WSMP update is completed every five years and follows the Municipal Class Environmental Assessment (EA) process. There are many opportunities to provide your input and comments throughout the process. Visit municipalclassea.ca to learn more about the Environmental Assessment process.



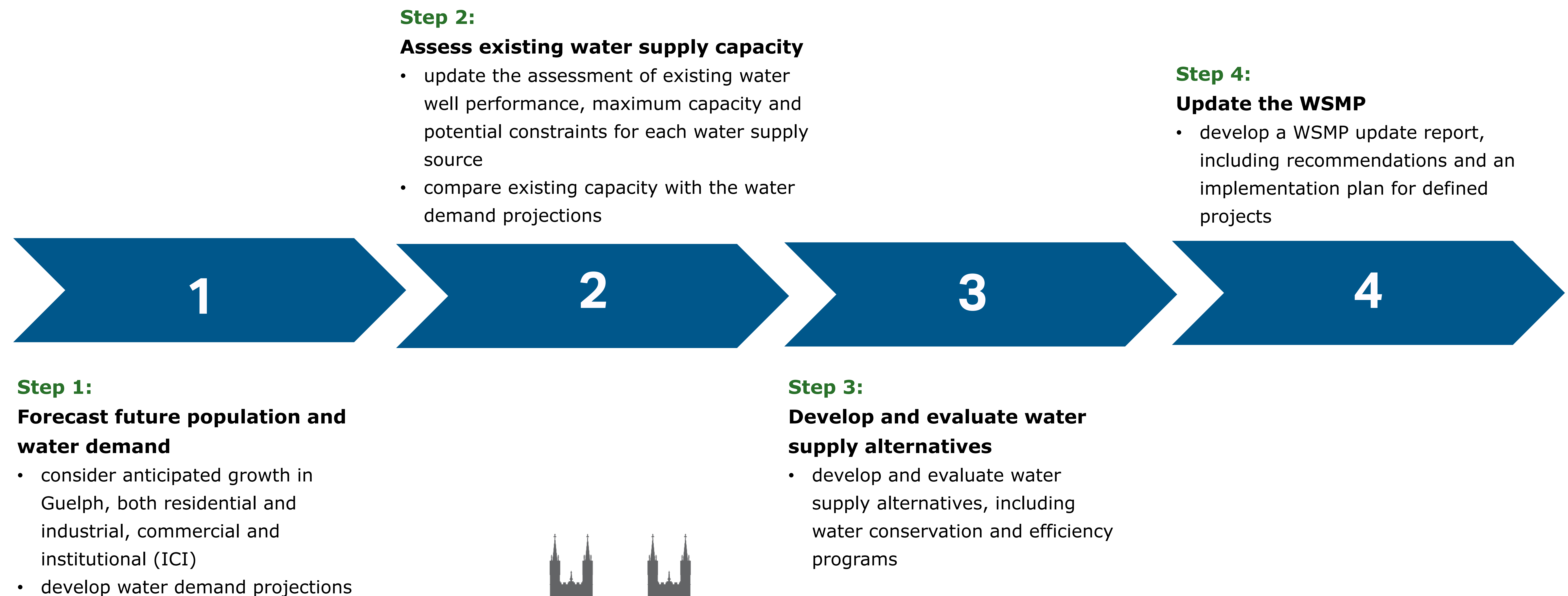


What is involved in the WSMP update?

From now until 2041

The 2014 WSMP confirmed that the existing water supply capacity will not meet future demands. The 2019 WSMP update will re-examine Guelph's water supply and water demand and will make recommendations on how best to meet the community's water needs from now to 2041. The 2019 WSMP update will include the following steps:

Ongoing public engagement





Water Supply Master Plan

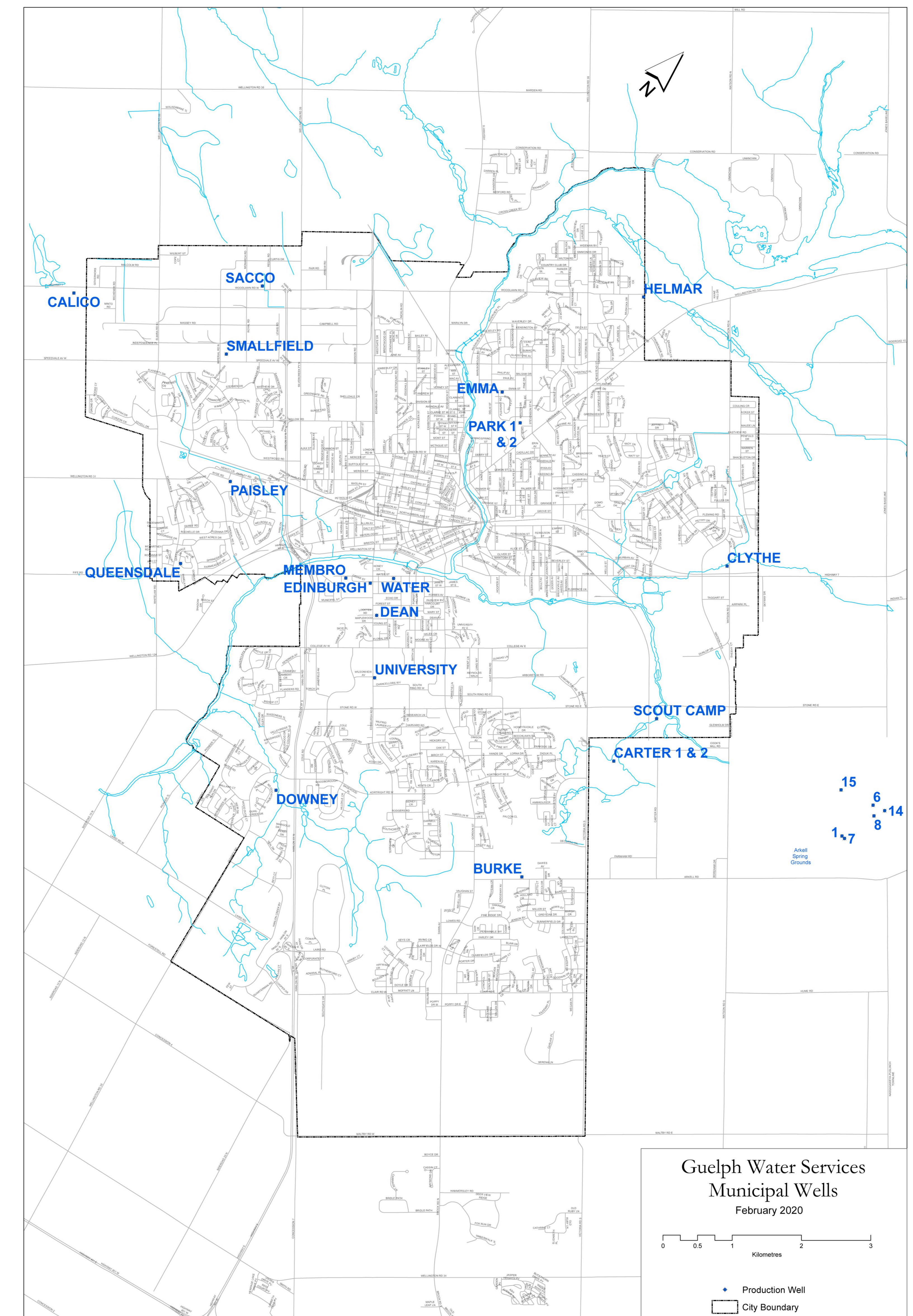
Guelph's water supply

A closer look at our current groundwater supply

Guelph has had a groundwater-based water supply since 1879. Our water is clean, safe and reliable, and meets the Ontario Drinking Water Quality Standards, which are among the strictest in the world.

Guelph's water supply system includes production wells primarily installed in the Guelph-Gasport bedrock aquifer and the Arkell Spring Grounds collector system:

- 25 production wells, 21 wells in continuous operation, four wells offline (due primarily to water quality concerns)
- a shallow groundwater system that collects spring water in the Arkell Spring Grounds
- a seasonally operated Eramosa River Intake and Recharge system. River water is pumped to an infiltration pond and trench where it is captured by the Arkell subsurface collector system. Availability is subject to river flow conditions (i.e., reduced capacity during summer when river flows are low)
- the 2014 WSMP identified a system capacity of approximately 84,000 cubic metres per day





How much water do we need?

Estimating water supply capacity projections

The City's water supply capacity (pumping) requirements – i.e., what we need – are based on meeting peak day demand and providing system redundancy. In 2018, Guelph's:

- Average Day Demand was approximately 47,500 cubic metres per day
- Peak Day Demand was approximately 57,000 cubic metres per day

Therefore, with redundancy, Guelph currently requires approximately **71,250 cubic metres per day**. This is the same as roughly 29 Olympic-sized swimming pools.

Average Day Demand

is the total volume of water consumed in a year divided by 365 days.

Peak Day Demand

is the volume of water consumed on the highest water use day of the year; estimated as approximately 1.35 times Average Day Demand.

System Redundancy

is the amount of system capacity 'set aside' as contingency to allow for regular facility maintenance, and to safeguard against unplanned events. This is estimated as 1.5 times the Average Day Demand or an additional 10 per cent.



The WSMP update includes:

- developing population projections for residential and employment growth to 2041
 - will reflect Ontario 2019 Growth Plan (191,000 residents and 101,000 jobs by 2041)
- developing water demand projections for average daily use, peak daily use and system redundancy
 - will be based on City water consumption and production data from 2010 to 2018



Guelph's population is expected to grow by more than 35 per cent by 2041 – from 140,000 to 191,000 residents. As we update our WSMP to plan for the water supply requirements of 191,000 residents, we will consider sustainable solutions for both water supply and growth.



Challenges we face

Challenges related to our water supply



A Tier 3 Water Budget and Local Area Risk Assessment identified the City's water supply as having a 'significant risk level' of not meeting the 2031 water demand under drought conditions



Whether a 10 per cent 'system redundancy' allowance is sufficient for ensuring security of our water supply



Understanding impacts from climate change and extreme weather events to our water supply



Are there other unique challenges that Guelph faces and should be considered with regards to our water supply?



The existing Smallfield and Sacco wells are affected by contaminated sites and may need to be removed from consideration as City water supply options



Dolime Quarry – a proposal to close the quarry ahead of schedule and transfer water management to the City is under consideration



How surface water quantity and quality could be impacted if we pump more groundwater

Tier 3 Water Budget

As part of Ontario's Clean Water Act, the Tier 3 Water Budget provides an assessment of current and future sustainability of municipal drinking water systems. Growth, development and climate change impacts are considered.

Local Area Risk Assessment

As part of the Tier 3 Water Budget, a risk assessment determines an area where the municipal drinking water systems could be affected by other existing, new or expanded water takings.



Proposed alternative solutions

A snapshot of the water supply alternatives being considered/ updated

Demand management/ efficiency programs

- Maintain commitment to our water conservation initiatives and 2016 Water Efficiency Strategy
- Determine range of realistic goals and cost for implementation
 - Develop means to measure for effectiveness

Groundwater sources in and outside of city

- Improve and optimize the existing well supply system
 - Restore offline wells with treatment
 - Identify new potential water supply areas
- Consider Dolime Quarry as a source of municipal water supply

Local surface water sources

- Establish feasibility/ risks of surface water alternatives including aquifer storage and recovery system
- Assessment areas include: Guelph Lake/ Speed River and Eramosa River

Do nothing

- Undertake no improvements or changes
- Significant impact on the growth potential for the City would be expected with this alternative

Did we miss any alternatives?



Conservation is key!

Thanks to conservation efforts we now use about 20 per cent less water in Guelph than the average person in Ontario. One of our conservation goals is reducing the City's water use by 6.2 million litres per day by 2026.



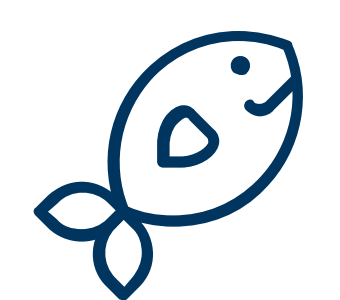
How will the proposed alternatives be evaluated?

A detailed evaluation of each proposed water supply alternative will be completed to assess the impact, if any, to the following:



Public health and safety

- Ability to meet provincial water quality requirements



Natural environment

- Potential effects to natural environment
- Potential impacts to water resources
- Potential impacts to natural heritage features
- Environmental management planning considerations



Social and cultural resources

- Land use impacts
- Short-term construction impacts
- Potential impacts from operations
- Implications of new/ expanded Source Protection areas



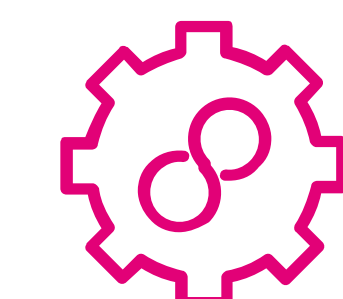
Economic and financial considerations

- Estimated capital costs
- Estimated operations and maintenance costs, including energy consumption



Legal/ jurisdictional considerations

- Location of facility relative to city boundaries
- Land requirements
- Implementation of Source Protection Policies



Technological considerations

- Ability to implement and meet peak demand
- Constructability, schedule and timing, and maintaining operations during construction
- Water quality
- Allowance for future treatment needs
- Expandability
- Ability to respond to changes in regulations
- Ability to utilize existing infrastructure

Additional considerations

- Alignment with City 2050 Net Zero Carbon emissions target
- Impacts on Indigenous peoples and values
 - Climate adaptability and resiliency



Are there additional evaluation criteria we should include?



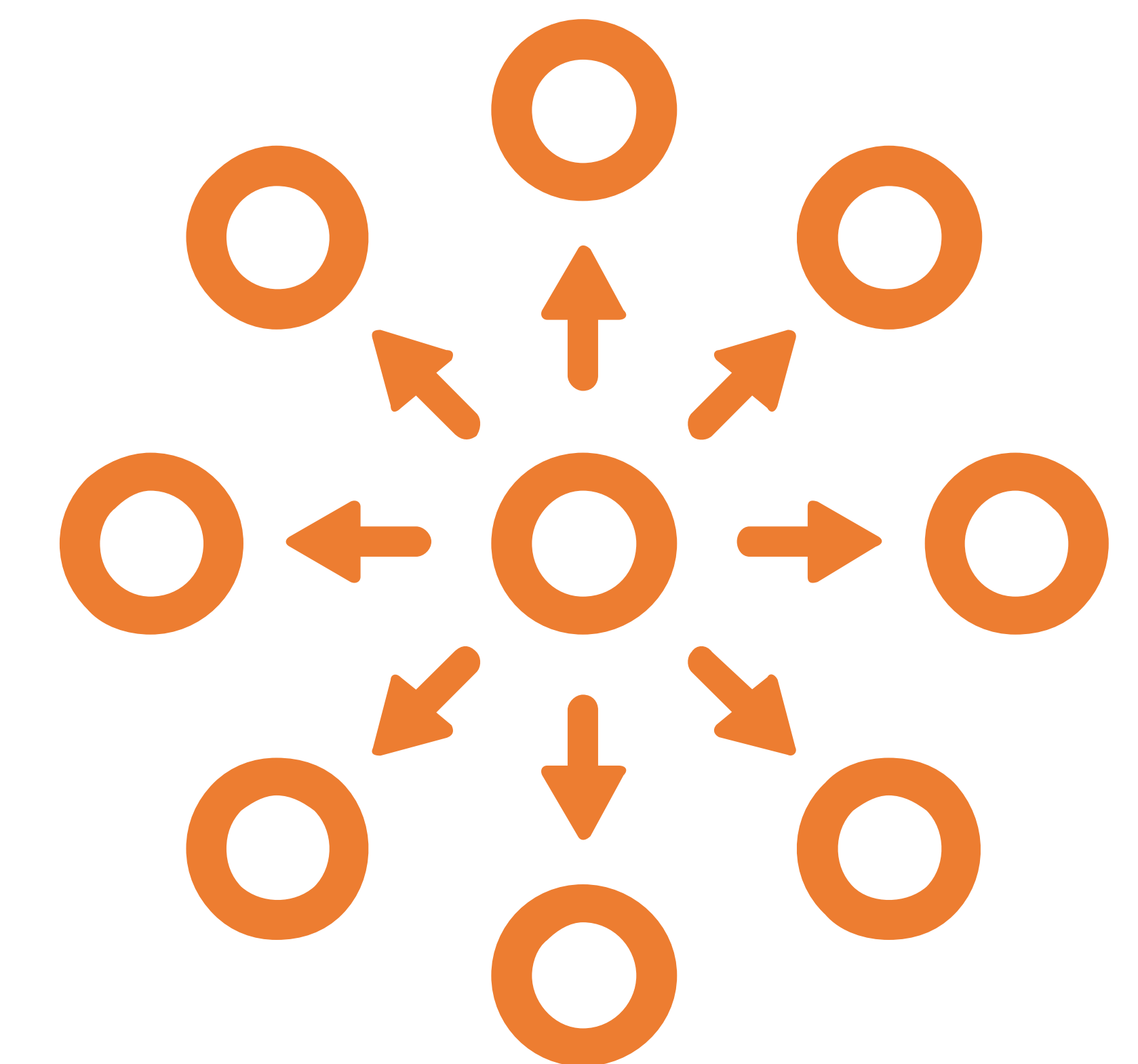
Aligning with other City projects

If you are interested in the Water Supply Master Plan, you may also be interested in other water master planning projects that are underway at the City.

These include:

- Wastewater and Biosolids Master Plan;
- Water and Wastewater Servicing Master Plan; and
- Stormwater Master Plan.

These projects are being conducted to support the City's Official Plan Update to be completed in 2021.



Watch the City news for information on community engagement for these projects.



Next Steps

Thank you for your interest in learning about the City of Guelph's WSMP update.

Get involved

Your feedback is an important part of the WSMP update.

- Register, join the conversation and share thoughts at haveyoursay.guelph.ca.
- Read about our progress. Project information will be posted on our project page at guelph.ca/wsmc.
- Join our mailing list. [Send us](#) your name to the contacts below and provide your address (email or post mail), and we'll keep you informed.
- Follow the conversation on [Twitter](#) (twitter.com/cityofguelph) and [Facebook](#) (facebook.com/cityofguelph).



Contact us with any additional comments or questions at any time:

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Please remember to
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comment box.

