Shadow Ridge Deep Wells
Municipal Class Environmental Assessment

June 18, 2025

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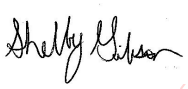
Prepared by  Digitally signed by Gibson, Shelby
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Executive Summary

The shallow groundwater supply wells in the Shadow Ridge community are part of the Shadow Ridge Communal Water Well System (the System). The System was built in 1998, it is privately owned by the developer (Donwel) and operated by the City of Ottawa (the City). The System is in the Village of Greely and is located at 6505B Waterdown Street. Between 2008 and 2017, the wells experienced increasing nitrate concentrations. With the concern of increasing nitrates in the groundwater, an investigation into an improved water supply was initiated.

Stantec Consulting Limited was retained by the City to undertake the Municipal Class Environmental Assessment (Class EA) process to assess alternative strategies to improve the existing System.

As part of Phase 2 of the Class EA process, three alternative solutions were evaluated to improve the water quality of the System. These included Alternative 1 - 'Do Nothing', Alternative 2 - 'Municipal Water Supply', which required a new 4.5 km watermain, or Alternative 3 - 'Improved Groundwater Supply from Wells'. To fully establish the feasibility of the third alternative, two new, deeper wells were drilled in 2022, concurrent with the Class EA study. Testing confirmed the feasibility of this option. Since 2018, the observed nitrate concentrations in the existing shallow wells have declined and appear to have stabilized.

Measuring against the Natural Environment, Socio-Economic and Cultural Environment and Technical Considerations, Alternative 1 was the preferred solution. As water quality has improved in the shallow wells and quality standards are maintained, no modifications to the existing System are required, at the present time.

Alternative 1 offers the advantage of having no impacts to the surrounding natural and socio-economic environment, while providing the opportunity to continue monitoring nitrate levels. It also has the advantage of avoiding the additional operational and maintenance costs expected with Alternatives 2 and 3. In the event conditions change, Alternatives may be revisited.

A series of environmental technical studies were undertaken as part of this Class EA process to identify existing conditions within the project footprint and adjacent lands within 120 meters of the site (the Study Area). Since the preferred alternative is to do nothing, there are no anticipated environmental impacts, and therefore no corresponding mitigation measures.

Consultation with the public, stakeholders, Indigenous communities and government agencies was done as per the requirements of the Class EA process. The following are highlights of the consultation activities undertaken through each Class EA phase:

- A project contact list was compiled and maintained that included agencies, Indigenous Nations, special interest groups, and interested members of the public.
- Prior to the issuance of the Notice of Commencement, a Public Information Session was held to discuss deep well testing to support the development of alternatives for the future Class EA (April 27, 2022).
- Study notices were published in the local paper (Ottawa Citizen and Le Droit) and on the City's website and mailed to those on the contact list.
- An online Public Information Centre (PIC) was held between November 18 and 29, 2024 as downloadable PDF file available at the City's website.
- A Notice of Completion was issued on April 4, 2025.

Comments received prior to the Class EA process related to the impact to quality of water in neighbouring wells and allowable activities on private properties directly adjacent to the wells.

The work undertaken in preparing this report represents the completion of the Class EA process for the Shadow Ridge Wells after the public review and comment period. The Project File will be made available for the mandatory 30-day public review period. Provided all stakeholder, agency, and Indigenous concerns are addressed, the City may proceed to design and implementation.

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1 Introduction

The City of Ottawa (the City) retained Stantec Consulting Ltd. (Stantec) to complete a Municipal Class Environmental Assessment (Class EA) study. The intent of this study was to identify feasible alternatives to improve the water quality of the existing wells that supply the settlement of Shadow Ridge, located in the Village of Greely, Ottawa, Ontario (Figure 1). Since then, the water quality of the existing wells has stabilized and improved.

This study completed Phases 1 and 2 of the EA process as documented in the Municipal Engineers Association (MEA) Municipal Class EA document (October 2000, as amended in 2007, 2011 and 2015). This includes the problem/opportunity statement, development and assessment of alternative solutions, and documentation of the existing natural, socio-economic, and cultural heritage conditions within the study area.

This document is the Project File Report which will be available for a 30-day public review period.

1.1 Background

The Shadow Ridge water supply draws from two shallow wells located near a treatment facility. The wells are supplied by an overburden sand aquifer. They are 16.2-17.1 meter (m) deep and were built in 1998 as part of the Shadow Ridge Communal Water Well System (the System). Both wells are privately owned by the developer (Donwel) and operated by the City. The System is located in the Village of Greely at 6505B Waterdown Street.

Between 2008 and 2017, the shallow wells experienced issues related to elevated nitrate concentrations, though these concentrations remained below the 10 mg/L Drinking Water standard (Ottawa 2022). The nitrate source was not known, but likely came from surface water sources. In 2016 the City initiated a study to investigate the potential to deepen the municipal well system to the Nepean Aquifer (the aquifer) and to gain information about the hydrogeologic properties of the aquifer as a potential new water source. The study was completed in May 2020 (Geofirma 2021). Test results from the study indicated that the aquifer was a viable groundwater source, and showed high water quality with no exceedances of the Ontario Drinking Water Standards for select inorganics, anions, and metal analytes. Nitrate concentrations, which were a concern in

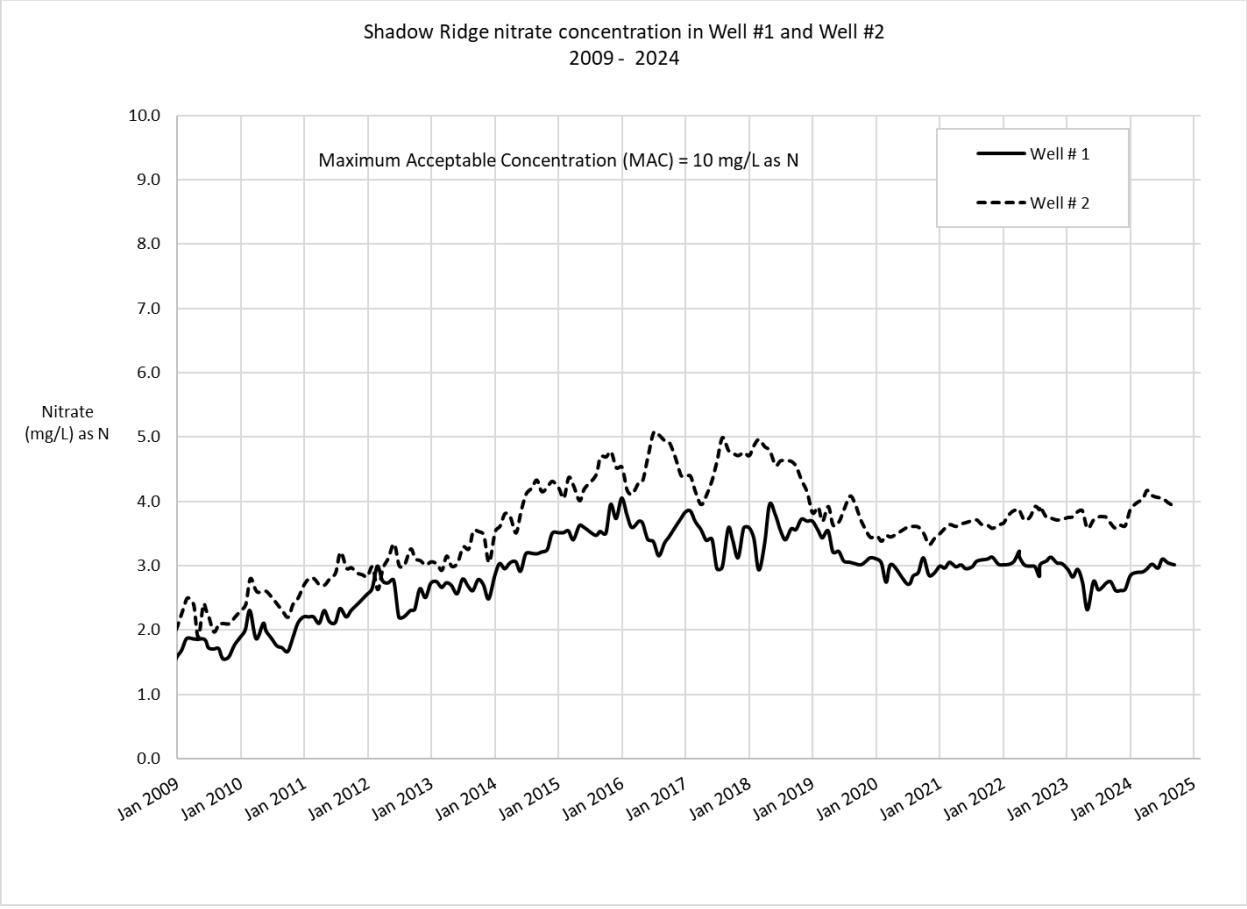
the nearby shallow-screened municipal supply well in recent years, were not detected in any new groundwater samples collected in 2020.

Following the Nepean Aquifer study, and concurrent with the preparation of Class EA study, the City acquired land to drill two deep test wells adjacent to the existing pumping station. These test wells were drilled in 2022 to confirm the feasibility of a deeper well system to supply water for current and potential future use. Test results confirmed the Nepean Aquifer was a viable source to meet the current and potential future water requirements of the community.

1.1.1 Nitrate Changes

Nitrate concentrations in the existing shallow wells have stabilized. As seen in the figure below, this declining and now relatively stable trend began in 2019, Figure 1.

Figure 1 Shadow Ridge Nitrate Concentration, 2009-2024



1.2 Site Description

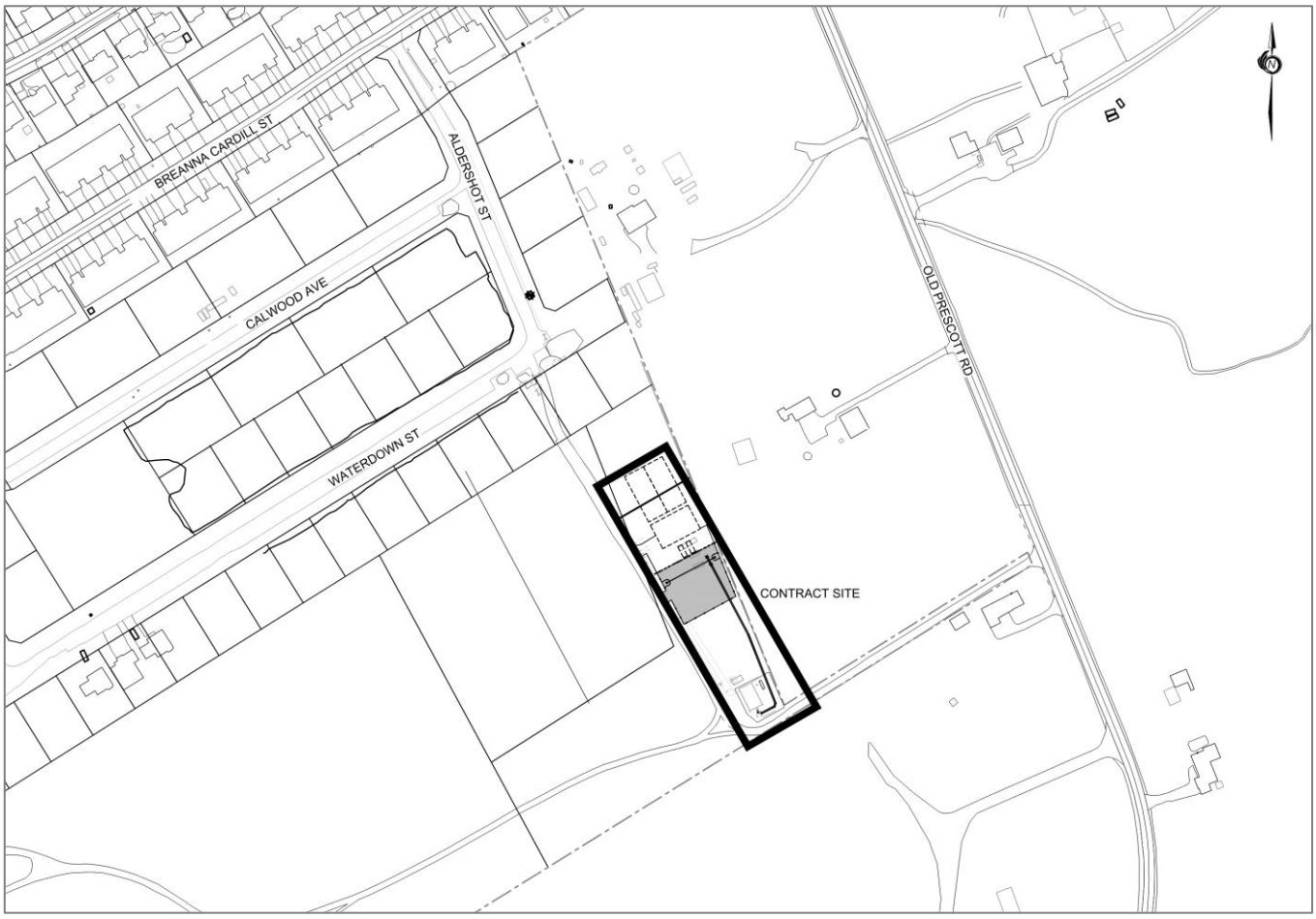
The existing site consists of a pumping facility building with two shallow wells completed near the top of bedrock. The site is accessed by a gravel roadway and is contained in a fenced and gated enclosure, with communications to the City via a Supervisory Control and Data Acquisition tower, and servicing from an electrical feed and backup generator. Disinfection (Chlorination) is achieved using a chemical feed pump and contact chamber (pipe), Figure 2.

1.3 Report Format

This Project File Report provides the context in which the Class EA process was carried out and documents the rationale leading to the preferred servicing solutions. The report contains the following:

- An overview of the Class EA process (Section 1.3.1)
- The public consultation plan followed throughout the Project (Section 6)
- A description of the need and justification for the study (Section 2)
- An overview of the existing site conditions (Section 3)
- Identification and evaluation of alternative solutions (Section 4)
- A description of the preferred solution (Section 4.6)
- Climate Change considerations and future commitments based on the general scope of proposed works (Sections 7 and 8)

Figure 2 Project Location



1.3.1 Municipal Class Environmental Assessment Process

1.3.2 Types of Projects

The Project Types described below are based on the 2015 Class EA. There has been a recently updated edition of the Class EA (MEA 2024), however, as the Notice of Commencement was issued in 2022 prior to the recent addendum, the 2015 edition is used for this study.

The MEA Class EA document provides a framework by which Projects are classified as Schedule A, A+, B or C. Classification of a Project is based on a variety of factors including the general complexity of the Project and level of investigation required, and the potential effects on the environment that may occur. It is the responsibility of the proponent to identify the appropriate schedule for a given Project, and to review the

applicability of the chosen schedule at various stages throughout the Project. Each of the schedules requires a different level of documentation and review to satisfy the requirements of the Class EA, and thus comply with the EA Act as noted below.

Schedule A projects are limited in scale, have minimal adverse effects on the environment, and include the majority of municipal sewage operations, stormwater management, water operations, and maintenance activities. These projects are pre-approved and may be implemented without following the procedures outlined in the Class EA planning process or undertaking public consultation. Examples of Schedule A projects include watermain and sewer extensions where all such facilities are located within the Municipal road allowance or an existing utility corridor.

Schedule A+ projects are similarly pre-approved under the Class EA but require that potentially affected parties be notified prior to implementation. The public has a right to comment to municipal officials or their council on the project; however, considering that the projects are pre-approved, there is no appeal process to the Minister of the Environment, Conservation and Parks (MECP) on these projects (Part II Order Requests as discussed below).

Schedule B projects have the potential for some adverse environmental and social effects. The proponent is required to undertake a screening process involving mandatory contact with potentially affected members of the public, Indigenous Communities, and relevant review agencies so that they are aware of the project and that their concerns are addressed.

Schedule B projects require that Phases 1 and 2 of the Class EA planning process be followed, and a Project file be prepared and submitted for a mandatory 30-day review by the public, agencies, and Indigenous Communities. If all comments or concerns received within this 30-day review period can be addressed, the proponent may proceed to project implementation (Phase 5). If concerns are raised that cannot be resolved, then the Part II Order procedure may be invoked.

Schedule C projects have the potential for significant environmental effects and must follow the full planning and documentation procedures specified in the Class EA document (Phase 1 to 4). An Environmental Study Report must be prepared and filed for review by the public, review agencies and Indigenous Communities. If concerns are raised that cannot be resolved, then the Part II Order procedure may be invoked. Projects generally include the construction of new facilities and major expansions to existing facilities.

As per the framework provided in the Class EA document, the Shadow Ridge Deep Wells Class EA is being undertaken in accordance with the requirements for Schedule B Projects as the Project meets the following Schedule B Project description:

“Establish a well at a new municipal well site or install new wells or deepen existing wells or increase pump capacity of existing wells at an existing municipal well site where the existing rate yield will be exceeded.” (MEA 2015).

1.3.3 Class Environmental Assessment Planning Process

Figure 3 illustrates the Class EA planning process and identifies the steps considered mandatory for compliance with the requirements of the EA Act. An overview of the five-phase planning process is below.

Phase 1 Identify the problem (deficiency) or opportunity, as well as the documentation which highlights the evidence that an improvement or change is necessary. This may include public consultation to confirm/review the problem or opportunity.

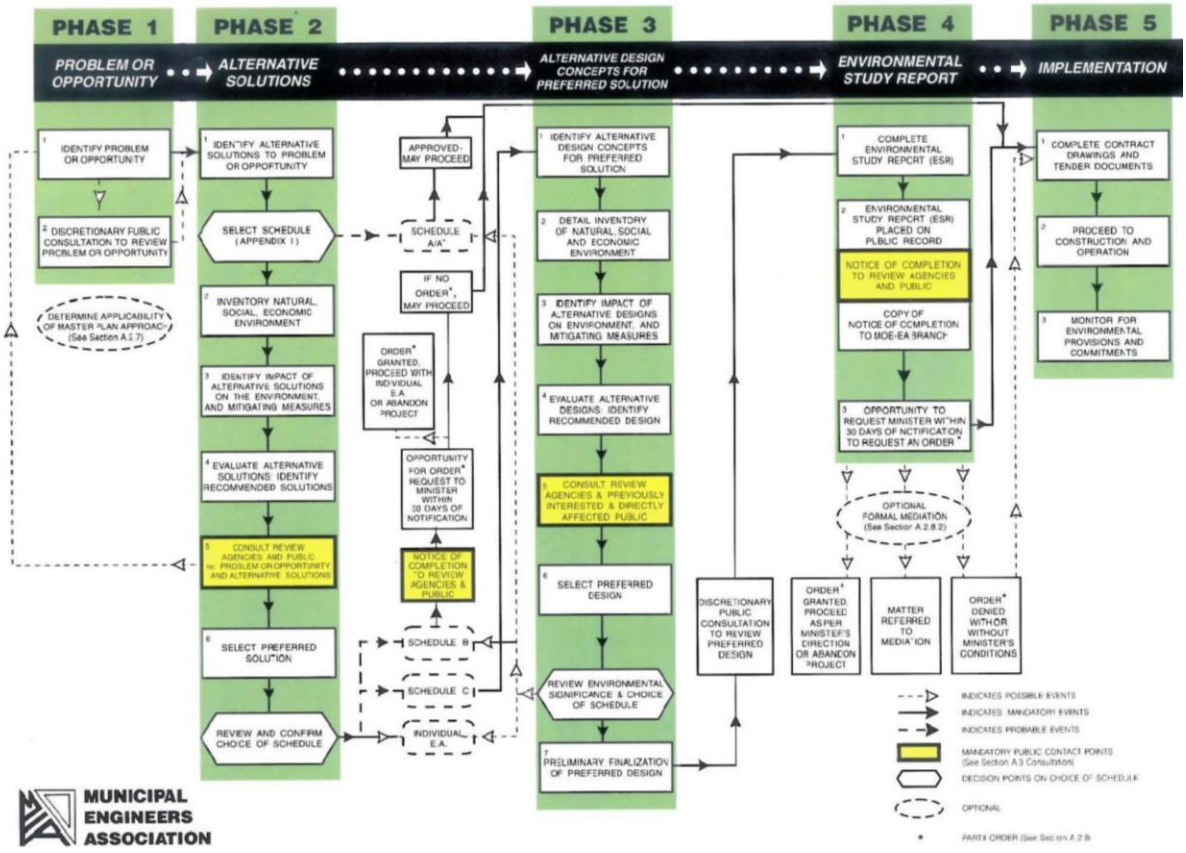
Phase 2 Identify a reasonable range of alternative solutions to address the problem or opportunity. This Phase also includes an inventory of the existing environment to identify potential mitigation measures, and to assist to the evaluation of alternatives in terms of the identified evaluation criteria. A preferred solution is chosen based on the results of the evaluation and input from the public, review agencies, and Indigenous Communities. It is at this point that the appropriate Schedule is chosen for the undertaking. If the Project is classified as Schedule B, the process and decisions are documented in a Project File and made available to the public, review agencies and Indigenous Communities for a 30-day review period. Schedule C Projects proceed through the following phases.

Phase 3 (For Schedule “C” Projects only) Examine the alternative methods for implementing the preferred solution (i.e., design alternatives). A detailed inventory of the natural, socio-economic, and technical environment is undertaken to assess the effects of the alternative designs, in an attempt to avoid or reduce negative effects.

Phase 4 (For Schedule “C” Projects only) Document the Class EA process in an Environmental Study Report, which includes a summary of the rationale and the planning, design, and consultation process completed for the Project and make the documentation available for a 30 calendar day review period by the public, agencies, and Indigenous Communities.

Phase 5 Complete contract drawings and documents and proceed to construction and operation with monitoring to confirm adherence to environmental provisions and commitments.

Figure 3 Municipal Class EA Planning and Design Process



1.3.4 Part II Order Process

The Class EA planning process encourages the identification and resolution of concerns early and throughout the Project, and it is the obligation of the proponent to adequately address concerns raised by the public, Indigenous Peoples, and agencies.

If an interested party feels as though their concerns may cause adverse impacts on existing Aboriginal and treaty rights of the Aboriginal peoples of Canada, they may request that the MECP order the Project to comply with Part II of the EA Act (referred to as a Part II Order), which addresses Individual EAs. A Part II Order Request form is to be completed and sent to the Minister, the MECP and the City.

Under the provision of Section 16 of the EA Act, the Minister or delegate may require a proponent comply with Part II of the EA Act by completing an Individual Environmental Assessment before proceeding to implementation. The Minister may deny the request, impose conditions on the proposed undertaking, or for Schedule B projects, the Minister may elevate the status of the project to a Schedule C project, requiring the completion of the full Class EA planning process prior to implementation.

2 Problem and Opportunity Statement

The Problem and Opportunity Statement is developed in Phase 1 of the Class EA process to provide a framework to outline the objectives of the study.

Due to the previous elevated nitrate levels, the problem and opportunity statement was originally developed as follows:

> *The existing shallow groundwater supply wells have been experiencing rising nitrate levels, which raise potential quality concern for residential end users. The purpose of the Shadow Ridge Deep Wells Class EA is to identify feasible water servicing alternatives to improve the water quality of the Shadow Ridge Communal Well System.*

As a result of the decline in nitrate levels since 2019, previously identified potential risks to residents has been avoided. Therefore, while the Alternative Solutions identified speak to resolving water quality concerns as it relates to the original Problem and Opportunity Statement, the evaluation has been undertaken with the acknowledgment that rising nitrate levels are no longer a potential concern.

3 Existing Conditions

Phase 2 of the Class EA process involves reviewing the existing conditions within the Study Area. The identification of alternative solutions shall have regard for these existing conditions and seek to reduce effects. The Study Area varies between environmental component and is described below.

3.1 Terrestrial Environment

3.1.1 Existing Natural Features

Using the provincial Land Information Ontario (2021) database, the Site is in a Woodland natural heritage feature.

3.1.2 Species at Risk and Species of Conservation Concern

A Species at Risk (SAR) screening and habitat suitability assessment followed industry standard practices and involved walking meandering transects throughout the Site using binoculars, a global positioning system (GPS) and a GPS camera. A site visit was completed on September 16, 2021, to assess the Study Area (the area within 120m of the Site) for SAR as listed under the *Species of Risk Act* (SARA) and/or their potential habitat(s).

A search of the Natural Heritage Information Centre's (NHIC) database identified the following three 1 x 1 km squares as overlapping or adjacent to the Site: 18VR5408-18VR5410, 18VR5508-18VR5510 & 18VR5608-18VR5610. The following four (4) SAR species, protected under the *Endangered Species Act* (ESA), were identified as potentially occurring:

- Barn Swallow (*Hirundo rustica*)
- Bobolink (*Dolichonyx oryzivorus*)
- Eastern meadowlark (*Sturnella magna*)
- Butternut (*Juglans cinerea*)

Further desktop background review resulted in a total of 12 SAR, summarized in Table 1, that have been previously documented as historically occurring or having the potential to occur in the Study Area. Seven of these species have been considered to have suitable habitat in the Site and five additional species has been considered to have suitable habitat within the Study Area.

Table 1 Provincially/Federally Listed Threatened or Endangered Species with Potential to Occur in the Site or within the Study Area

Species Type	Species	Status - Ontario ESA	Status - Federal SARA, Schedule 1	Potential Habitat and/or Species Observed in Site (Y/N)	Potential Habitat and/or Species Observed within 120 m of Site (Y/N)
Plant	Butternut (*Juglans cinerea*) [1,2]	Endangered	Endangered	Y	Y
Reptile	Blanding's turtle (*Emydoidea blandingii*) [2,3]	Threatened	Threatened	N	Y
Bird	Eastern Whip-poor-will (*Antrostomus vociferus*) [4]	Threatened	Threatened	N	Y
Bird	Bank swallow (*Riparia riparia*) [4]	Threatened	Threatened	N	N
Bird	Barn swallow (*Hirundo rustica*) [1,4]	Threatened	Threatened	Y	Y
Bird	Wood thrush (*Hylocichla mustelina*) [1,4]	Special Concern	Threatened	N	Y
Bird	Bobolink (*Dolichonyx oryzivorus*) [1,4]	Threatened	Threatened	N	Y
Bird	Eastern Meadowlark (*Sturnella magna)* [1,4]	Threatened	Threatened	N	Y
Mammal	Eastern small-footed myotis (*Myotis leibii*) [5]	Endangered	No Status	Y	Y

Species Type	Species	Status - Ontario ESA	Status - Federal SARA, Schedule 1	Potential Habitat and/or Species Observed in Site (Y/N)	Potential Habitat and/or Species Observed within 120 m of Site (Y/N)
Mammal	Little brown myotis (*Myotis lucifungus*) [5]	Endangered	Endangered	Y	Y
Mammal	Northern myotis (*Myotis septentrionalis*) [5]	Endangered	Endangered	Y	Y
Mammal	Tri-colored bat (*Perimyotis subflavus*) [5]	Endangered	Endangered	Y	Y

Notes:

[1] NHIC

[2] iNaturalist

[3] Ontario Reptile and Amphibian Atlas

[4]Ontario Breeding Bird Atlas

[5]Atlas of the Mammals of Ontario

SAR habitat descriptions for the SAR identified in Table 1 as occurring or having the potential to occur in the Site are described below:

Butternut – Can be found in mixed hardwood forests in a variety of locations; including dry, rocky soils of limestone areas. They grow best on well-drained, fertile soils of steady slopes and bottomlands in small groups or individually and are not typically abundant. They are a shade intolerant species that are generally associated with mid-successional forests, forest edges and hedgerows (COSEWIC 2003).

No Butternuts were identified during the Site visit.

Barn Swallow – Barn Swallows nest on walls or ledges of barns, as well as on other human-made structures such as bridges, culverts or other buildings (Cadman et al., 2007). Where suitable nesting structures occur, Barn Swallow often form small colonies. Barn Swallows are generally considered grassland species, foraging over meadows, hay, pasture or even mown lawn. They will also frequently forage in woodland clearings, over wetland habitats or open water where insect prey are abundant.

No Barn Swallow were identified during the Site visit. A shipping container was present with a door wide-open which could provide suitable habitat for nesting barn swallow. No nesting activity for Barn Swallow, was observed in the shipping container.

Eastern Small-footed Myotis, Little Brown Myotis, Northern Myotis and Tri-colored Bat (SAR bats) – These bat species share similar habitat preferences during their active season and are described together. These species will use trees with cavities, loose bark and leaves to nest and day roost as well as for maternity roosting purposes, usually >10 m high on the trees exhibiting early stages of decay. Additionally, these species are known to use anthropogenic structures for the above purposes as well (primarily little brown Myotis).

The pump station appeared to be in good condition, and it is unlikely that SAR bats would use the building as maternal roosting habitat. The open shipping container on site may provide suitable habitat for maternal bats, however no scat was observed upon inspection. Additionally, there was an older shed immediately adjacent to the laneway going to Old Prescott Rd. This shed provides suitable habitat for SAR bats (most likely Little brown myotis). Any tree > 10cm diameter at breast heigh can also be considered suitable roosting habitat for SAR bats. There are no overwintering (e.g., hibernacula) features for the above species observed within the Site or adjacent properties.

3.2 Fish and Fish Habitat

3.2.1 Existing Natural Features

No waterbodies, standing water, pits, lagoons, or ditches were identified at the Site during the site visit completed on September 20, 2021, by Stantec. The Site is comprised of uneven vegetated areas, some grassed landscape areas near the existing System, and a gravel access road along the west boundary of the Site. Stormwater is anticipated to drain by infiltration or by overland flow towards depressed areas and storm sewer infrastructure. Stormwater catch basins are present near the Site along the residential streets and areas proposed for residential development.

3.3 Geology and Hydrogeology

3.3.1 Physiography and Drainage

Based on topographic mapping from the MNRF, and the observed topography in the vicinity of the Site, the regional surface drainage (inferred regional groundwater flow direction) appears to be west-southwest towards Rideau River located approximately 7.6km west of the Site.

3.3.2 Geology

The ground surface encountered at the Site consisted of sand with gravel or topsoil. The overburden observed at the Site generally consisted of sand with gravel, and bedrock was not encountered to the maximum sample depth of 1.0 m below ground surface. Small piles of fill material identified above ground and central to the Site consisted of sand and gravel material.

Based on information obtained from Ontario Geological Survey Map 2544, titled *Bedrock Geology of Ontario, Southern Sheet* (2021), bedrock in the area of the Site is reported to consist of Lower Ordovician dolostone and sandstone of the Beekmantown group.

According to the Ontario Geological Survey Bedrock Topography and Overburden Thickness (Government of Ontario 2021) mapping and MECP Well Records (MECP 2021b) for the area, bedrock was encountered beginning at around 25 m below ground surface.

3.3.3 Hydrogeology

The elevation of the Site is generally flat, with a slight slope towards the southern portion of the Site.

It should be noted the elevation of the local groundwater table generally mimics the local topography and may not reflect the regional trend in drainage. The local shallow groundwater flow pattern can also be influenced by nearby subsurface structures, such as building foundations, weeping tiles, and utility trenches.

A search of the Water Well Inventory System was completed in an Environmental Risk Information Services report (2021). No wells were listed for the Site in the database. There were five listings for wells for properties within a 250 m radius of the Site and 40 wells listed at unplottable locations, including:

- Three domestic water supply wells located at 6505 Waterdown Street, approximately 20 m southeast of the Site and completed in October 2019, 1710 Old Prescott Road, approximately 196 m north of the Site and completed in June 2007, and 6542 Empire Grove, approximately 203 m west of the Site and completed in May 2004, respectively.
- Two observation monitoring wells located at 1664 Old Prescott Road, approximately 54 m southeast of the Site and completed in October 2017, and at Lot 10, Concession 4 approximately 91 m southeast of the Site and completed in April 1995, respectively.
- 29 domestic water supply wells at unplottable locations, described as either Lot 9 or Lot 10 and completed between 1984 and 2003.
- 10 wells installed at unplottable locations, described as Lot 9 Concession 5, for unidentified uses and completed in 2020.
- One abandoned well at an unplottable location, described as Lot 9 in 1992.

During the Site visit three wells were identified to the south of the Well Station. Two of these wells are anticipated to be the Shadow Ridge shallow wells, as they are located in the fenced area. The other well appears to be an observation well. One observation well was also identified central to the Site.

3.3.4 Source Water Protection

The area is covered by the South Nation Conservation Authority (SNCA) and the Raisin-South Nation Source Protection Plan (2016). This plan identifies the following (SEWG-4):

It is strongly recommended that the City of Ottawa explore the opportunity to deepen the Shadow Ridge Municipal Well to the Nepean aquifer to reduce the significant threats related to septic systems and septic system holding tanks in the Village of Greely within one year of the Plan taking effect.

This improvement is being proposed as part of this Project.

A review of the MECP Source Protection Information Atlas (2021) confirmed that the Site is located in the Wellhead Protection Area associated with the existing Shadow Ridge Water System. The Site is located in a Highly Vulnerable Area with a vulnerability score of 6.

It is understood that the City has submitted a Notice to the Source Protection Authority, under Section 48 of the General Regulation under the CWA. Further notification will be provided to the SNCA in next Project phases, with review by SNCA expected for wellhead protection details.

The SNCA (2016) confirmed that the existing wells are considered groundwater wells and are under direct influence of surface water (Groundwater Under Direct Influence of Surface Water [GUDI]).

3.4 Cultural Environment

3.4.1 Archaeological Resources

The Ministry of Citizenship and Multiculturalism's (MCM) *Criteria for Evaluating Archaeological Potential – A Checklist for the Non-Specialist* was completed. As the Site has been previously disturbed by the existing Shadow Ridge well, it is not anticipated that additional archaeological resources are present. In the event alternatives consider lands outside of the property, additional Archaeological Studies may be required.

3.4.2 Built Heritage Resources

The MCM's *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes – A Checklist for the Non-Specialist* was completed. The Site is not identified as a Cultural Heritage Property and is not anticipated to impact additional properties. In the event alternatives consider lands outside of the property, additional Heritage Studies may be required.

3.5 Socio-Economic Environment

3.5.1 Existing Land Use

The Site is in a residential area consisting of newly built two-storey homes, predominantly to the north of the Site and older residential houses to the east of the Site. The area to the south of the Site, adjacent and extending beyond a 250 m Study Area, consists of lands formerly and currently used for aggregate operations.

Underground services present at the Site included propane lines from the propane tank to the existing System, and any associated services from the water wells to the Station. An existing watermain is reported to be present in the access road to the west of the Site. An overhead hydro line was observed connecting the building to the nearby hydro line south of the Site.

The facility is in property that has a zoning designation "V1 – Village Residential First Density Zone" (Ottawa 2014). This Zone includes the regulation of development in a manner that adopts existing land use patterns, so the neighbourhood is maintained and enhanced.

3.5.2 Noise and Vibration

The existing Shadow Ridge Pump Station is approximately 140 m west from the nearest receptor. Noise mitigation measures have been installed to reduce disturbance from the existing facility.

3.5.3 Air Quality

The air quality for the Site is monitored at the Ottawa Downtown Station. In 2022, air quality ranged from good to excellent, with the Air Quality Health Index reaching a moderate risk 7 times (MECP 2022).

3.5.4 Community Access

Access to the Site is approximately 230m south from Waterdown Street and 180 m west of Old Prescott Road. Traffic in the community use existing side roads and Old Prescott Road as a major access.

4 Alternative Solutions

As part of Phase 2 of the Class EA process, alternative solutions were developed to address the problem/opportunity statement. Criteria for evaluating alternatives including technical feasibility, effects to socio-economic, cultural heritage and natural environment features, and operational flexibility were identified. Consultation with landowners, public, agencies and Indigenous Nations was completed to inform selection of a preferred solution. The following were considered:

4.1 Do Nothing

The do nothing alternative assumes that the System will remain unchanged and continue to operate without implementing any new infrastructure. While nitrate levels rose between 2007 and 2018, these levels have remained within the *Ontario Drinking Water Standards (O.Reg 169/03)*, and recent declines further reduce any potential risks to residential end users.

There is an opportunity for the continuation of monitoring of nitrate levels in the future by the City and to consider alternatives appropriate to the status facing the Shadow Ridge community at that time.

4.2 Municipal Water Supply (Central)

The pumping facility could be decommissioned, and the serviced residential area could be converted to be serviced by municipal (City of Ottawa) water.

This change would require construction of a new watermain or feeder main along the City roadway, with the closest potential connection location appearing to be approximately 4.5 km away (Bank St. and Mitch Owens Rd., see Figure 3). This option would require additional MECP and EA approvals due to the increased environmental impacts of a new watermain including potential creek or culvert water course crossings, and detailed review of water quality considerations such as chlorination residual residency time compared to flow due to the increased length of watermain and consumption rate. This option is also expected to carry a high construction cost due to its length, and generate significant public impacts and inconvenience created by construction on active arterial and collector roadways. This alternative factors in longevity of solution and considerations of future needs.

The ultimate capacity of the central municipal water supply at the proposed connection point would require further investigation and analysis and is beyond the scope of this undertaking.

Figure 4 Potential Watermain Routing

4.3 Improved Groundwater Supply from Wells

The scenarios listed below are generally considered to be interim, as the future, ultimate expansion of the community's water supply system will require additional treated water capacity, a larger water storage reservoir and additional expanded water treatment and supply infrastructure.

Electrical improvements necessary to utilize the new wells would include a new three phase electrical service, a new three phase standby power generator and a new building at the site of the wells to house new electrical equipment. These improvements could address both present and future electrical system needs, if so designed.

4.3.1 Interim 1 - Existing Wells and Small Reservoir

For this option, the existing wells would remain in service and provide water at a rate of 19.0 liters per second (L/s) to fill a new, small reservoir (550 m^3). Adding the reservoir would allow for serving a larger population in the subdivision. Two reservoir cells could be provided to facilitate regular inspection and periodic cleaning, as required. New high lift pumps would need to be installed to transfer water from the reservoir to the subdivision. This is one of the most economical options, but it is recognized that the existing wells are classified as GUDI and nitrate levels would need to be closely monitored. Iron and manganese concentrations, from the existing wells, are considered low and are reportedly not an observed concern. Additional water storage infrastructure will increase maintenance efforts and operating costs somewhat. Build costs would also be less than alternatives 4.3.2 or 4.3.3.

4.3.2 Interim 2 - New Wells and Small Reservoir without filter

This alternative involves activating the new deeper wells and decommissioning the old shallow wells. The deeper wells are not under direct influence of surface water (non-GUDI), therefore, there is a reduced likelihood of contamination by surface water. New raw water lines would connect the deeper wells to the existing pump station. The new wells would supply water at a rate of up to 28.0 L/s, and a small reservoir (760 m^3) would be used. Appreciable iron and manganese concentrations have been measured in the new deeper wells. The reservoir would have at least two cells to enable regular inspection and the regular removal of iron sludge while keeping the facility in continuous operation. Some iron and most manganese will continue to oxidize and settle out in the system’s water distribution piping and / or be conveyed into people’s homes. With limited capacity or facility, in the existing water distribution system, to flush out accumulated iron or manganese, mitigative actions to address potential discolored water complaints may prove challenging.

Established City staff operating, and maintenance practices can also be adapted to such an expanded facility, which maintains consistency with current staff training and capabilities. Additional water storage infrastructure will also increase maintenance efforts and operating costs somewhat.

The reservoir would be smaller than in the alternative with a filter, as it would not be built to accommodate backwashing associated with any future filtering requirements. Build costs would also be less than alternative 4.3.3.

4.3.3 Interim 3 - New Wells, Greensand Filters with Backwash and Small Reservoir

This option is similar to the previous one but includes a Greensand Filter treatment. The reservoir (930 m^3) would be larger to accommodate the greensand treatment, which requires additional water storage for backwash operations and a backwash water disposal facility (septic bed).

Modifications necessary for such a facility are expected to generate minimal temporary public impacts, with construction largely confined to the site itself. Property acquisition for the expansion will be required adjacent to the existing facility (anticipated to be approximately 5500 m^2). The land to be purchased is currently vacant with low brush and few trees, therefore impacts to the environment and natural heritage are expected to be minimal.

Established City staff operating, and maintenance practices can also be adapted to an expanded facility, which maintains consistency with current staff training and capabilities. Additional treatment technologies, maintenance requirements, process wastes and system infrastructure will increase maintenance effort and operating costs to a greater degree. Build costs would be greater than 4.3.1 or 4.3.2.

4.4 Alternatives Evaluation Criteria & Rating System

The criteria for the evaluation of the alternatives fall into three (3) main categories:

- Natural Environment
- Socio-Economic and Cultural Environment
- Technical Considerations

Table 2 presents the criteria and the related key considerations and impacts to assess. Each alternative is then qualitatively assessed against each criteria using a reasoned argument approach, according to the following 4-point scale:

- Preferred
- Moderately preferred
- Least preferred

Table 2 Alternatives Evaluation Criteria

Categories	Criteria
Natural Environment	Terrestrial Environment • Potential to impact wildlife/habitat (i.e., Species-at-Risk, significant ecological areas, etc.) • Potential to affect vegetation (i.e., wooded areas, wetlands, conservation areas, etc.) • Potential to impact individual trees or landscape features
Natural Environment	Aquatic Environment • Potential to impact fish and fish habitat • Potential to impact water quality • Potential to impact groundwater quality and quantity
Socio-Economic & Cultural Environment	Archaeological Resources • Potential to impact undisturbed lands
Socio-Economic & Cultural Environment	Built Heritage Resources / Cultural Landscape • Potential to impact known built heritage resources or cultural landscapes / features
Socio-Economic & Cultural Environment	Land Use • Potential to impact existing and future designated land use • Satisfies the goals and objectives of municipal planning policies
Socio-Economic & Cultural Environment	Noise/Vibration • Potential to impact noise/vibration sensitive areas (i.e., residential dwellings, commercial operations, adjacent infrastructure, etc.)
Socio-Economic & Cultural Environment	Air Quality • Potential to affect local air quality

Categories	Criteria
Socio-Economic & Cultural Environment	Community Access Disruption to existing traffic, private property and business access during construction or operation
Socio-Economic & Cultural Environment	Socio Economic • Potential for property value cost impacts
Technical Consideration	Functionality • Potential to be flexible to meet future needs
Technical Consideration	Constructability & Feasibility • Potential to disrupt existing traffic (extent and duration), property access or functionality of existing channel during construction and operation • Potential to satisfy agency requirements/conditions (permitting) • Potential to impact existing infrastructure/utilities • Potential constraints to constructability (e.g., location, depth of` excavation, soil conditions, rock removal, groundwater control, in-water works, workable construction area, construction duration, etc.)
Technical Consideration	Cost • Relative capital, operational and maintenance costs

4.5 Evaluation of Alternatives

The evaluation of alternative solutions with respect to the three evaluation criteria is in Table 3 below. The shading within the evaluation matrix represents the net impact; lighter shades demonstrating preferred alternative due to the greatest net benefit, to dark shades denoting the least preferred alternative due to having the least net benefit.

Table 3 Evaluation of Alternatives Table

Measures	Alternative 1: Do Nothing	Alternative 2: Municipal Water Supply	Alternative 3: Improved Groundwater Supply from Wells
Terrestrial Environment Potential to impact wildlife/habitat (i.e., Species-at-Risk, significant ecological areas, etc.)	• No impact to wildlife or habitat	• High negative impact during construction. Construction introduces new hazards to area for wildlife that currently reside there. Minor loss of habitat in the short term.	• Low negative impact during construction. Construction introduces new hazards to area for wildlife that currently reside there. Minor loss of habitat in the short term.
Terrestrial Environment Potential to affect vegetation (i.e., wooded areas, wetlands, conservation areas, etc., consideration for species)	• No impact to vegetation	• Moderate negative long-term impact. Vegetation removals may be required along the potential watermain route. Good opportunity to remove / control invasive species along Old Prescott Road.	• Low negative short-term impact. Must remove vegetation currently in area. Good opportunity to remove / control invasive species.
Terrestrial Environment Potential to impact individual trees or landscaped features	• No impact to trees	• Low negative short-term impact. Limited existing trees will need be removed during construction.	• Low negative long-term impact. Some existing trees will need be removed during construction.
Aquatic Environment Potential to impact fish and fish habitat	• No impact to fish and fish habitat.	• High negative long-term impacts. Several creek or culvert water crossings would be required. • A detailed review of water quality considerations such as chlorination residual residency time compared to flow would also be required.	• Low negative short-term impact during construction due to erosion, sedimentation, accidental spills.
Aquatic Environment Potential to impact water quality	• No impacts to surface water quality.	• High negative long-term impacts. Several creek or culvert water crossings would be required. Construction may result in erosion, sedimentation or accidental spills. • A detailed review of water quality considerations such as chlorination residual residency time compared to flow would also be required.	• Low negative short-term impact during construction due to erosion, sedimentation, accidental spills.

Measures	Alternative 1: Do Nothing	Alternative 2: Municipal Water Supply	Alternative 3: Improved Groundwater Supply from Wells
Aquatic Environment Potential to impact groundwater (quality and quantity)	• No impact to groundwater	• Low negative impact to groundwater during construction. • Minor volumes of groundwater pumping may be required to construct the watermain.	• Low negative impact to groundwater during construction. • Minor volumes of groundwater pumping may be required to construct pedestrian crossing structure.
Natural Heritage Summary	**PREFERRED**	**NOT PREFERRED**	**NOT PREFERRED**
Archaeological Resources Potential to impact undisturbed lands (historical and Indigenous artifacts)	• No impact to archaeological resources.	• Site area is fully disturbed from historical conditions, low likelihood of encountering archaeological resources.	• Site area is fully disturbed from historical conditions, low likelihood of encountering archaeological resources.
Heritage Potential to impact known built heritage resources or cultural landscapes / features	• No impact to cultural heritage resources.	• No known heritage resources present, a Heritage Impact Assessment would need to be completed.	• No cultural heritage resources present at the site.
Land Use Potential to impact existing and future designated land use	• No change	• No change	• No change
Noise/Vibration Potential to impact noise/vibration sensitive areas (i.e., residential dwellings, commercial operations, adjacent infrastructure, etc.,)	• No impact to noise or vibration	• High negative impact during construction. • Construction may cause temporary noise/vibration impacts. • Longest duration • Neutral long-term impact. No noise or vibration during operation	• Moderate negative impact during construction • Construction may cause temporary noise/vibration impacts. • Shorter duration than 2 • Neutral long-term impact. A generator to be installed in an enclosed space will have a noise level of 55db. The generator will only be used during emergency or maintenance activities.
Air Quality Potential to affect local air quality	• No impact to air quality	• Moderate negative impact to air quality during construction.	• Moderate negative impact to air quality during construction. • Moderate negative impact to air quality during generator operation. The generator will only be used during emergency or maintenance activities

Measures	Alternative 1: Do Nothing	Alternative 2: Municipal Water Supply	Alternative 3: Improved Groundwater Supply from Wells
Community Access Disruption to existing traffic, private property and business access during construction or operation	• No impact to community access.	• High negative impact during construction. Possible temporary lane closures due to construction and increased traffic along Old Prescott Road.	• Low negative impact during construction.
Socio-Economic Potential for property value cost impacts	• No change.	• No change	• No change
SOCIO-ECONOMIC & CULTURAL SUMMARY	**PREFERRED**	**NOT PREFERRED**	**NOT PREFERRED**
Functionality Potential to maintain safe and acceptable water quality	• Maintains existing aesthetic and health-based water quality that complies with all regulations and is safe to drink • Close monitoring of nitrate concentrations and potential nitrate impacting activities needs to be sustained	• Provides the highest aesthetic and heath-based water quality	• Provides an improved health-based water quality because the deep well water is from a secure aquifer that has no nitrate. • Iron and manganese would create aesthetic water quality issues unless removed by adding additional treatment
Functionality Potential to be flexible to meet future needs	• Provides some flexibility to meet future need	• High flexibility to have increased water servicing.	• High flexibility to have increased water servicing.
Constructability & Feasibility Potential to disrupt existing traffic (extent and duration), property access during construction and operation	• No disruption	• Construction noise, vibration, and traffic disruption (high negative): • Property access will be maintained during construction. • During operation: No impacts	• Construction noise, vibration, and traffic disruption (moderately negative) • Property access will be maintained during construction. • During operation: No impacts
Constructability & Feasibility Potential to satisfy agency requirements/conditions (permitting)	• No permits required	• Municipal Drinking Water – Approvals • Roadway / Traffic Permits/ Approvals • DFO Request for Review • RVCA Approvals	• Municipal Drinking Water – Approvals
Constructability & Feasibility Potential to impact existing infrastructure/utilities	• No impacts	• Highest impacts to existing infrastructure and utilities as work would be completed in the existing roadway.	• Low impacts to existing infrastructure and utilities as the work would be completed at or near the existing pump station.

Measures	Alternative 1: Do Nothing	Alternative 2: Municipal Water Supply	Alternative 3: Improved Groundwater Supply from Wells
Constructability & Feasibility Potential constraints to constructability (e.g., location, depth of excavation, soil conditions, rock removal, groundwater control, in-water works, workable construction area, construction duration, etc.)	• No impacts	• Requires culvert and creek crossings and a detailed review of water quality considerations. • Would cause inconvenience on active arterial and collector roadways during construction. • Longest construction duration • Larger construction area. • Tie-ins to existing infrastructure are less complex than option 3.	• Work will be completed at or adjacent to the existing pump station. • Tie-ins to existing treatment and supply systems would require careful coordination and planning. • The staging area would not disrupt local traffic or properties. • Longer construction duration than 2 • Smaller construction area than 2
Cost Relative capital, operational, monitoring and maintenance costs ($)	• No capital cost • Operational: will remain the same. • Maintenance: will remain the same.	• $27,000,000 - $47,000,000 • Operational costs: minor operating costs • Maintenance costs: minor repair costs	• $32,000,000* • Operational costs: major increase in operational cost • Maintenance costs: major increase in maintenance cost • * Note that the cost is for water treatment infrastructure only and does not include additional costs for wastewater infrastructure
TECHNICAL SUMMARY	**PREFERRED**	**NOT PREFERRED**	**NOT PREFERRED**
OVERALL CONCLUSION	**Recommended**	**Not Recommended**	**Not Recommended**

4.6 Preferred Alternative

The alternative that is carried forward as the preferred solution is to do nothing. This alternative will maintain the current water quality with no impacts to the surrounding natural and socio-economic environment. As water quality is now stable, has improved somewhat and acceptable quality standards are maintained, no modifications to the existing system are required at this time. The Do Nothing option best supports the identified need for the project, which was driven by a previously increasing and concerning trend in nitrate concentrations.

Alternatives 2 and 3 will impact the natural and socio-economic environment. Alternatives 2 and 3 are considered more impactful than Alternative 1 due to greater environmental impacts, higher capital costs, longer construction periods and numerous permit requirements. Deep well options associated with Alternative 3 are anticipated to incur the highest operational and maintenance costs, due to the need to mitigate and manage iron and manganese and have the greatest potential for aesthetic water quality complaints. Alternatives 2 and 3 are anticipated to have the highest initial capital costs and higher long term asset renewal costs, due to stated needs for additional property and additional water treatment and supply infrastructure.

The results of this preferred approach offer the opportunity for the shallow wells to continue being monitored and, with new deeper wells already constructed, to expedite the mitigation of future water quality concerns should the need arise.

5 Potential Effects and Proposed Mitigation Measures

As part of the Class EA process, measures should be identified to offset potential environmental impacts of the proposed undertaking. Since the preferred alternative is to do nothing, and there will be no impacts to the natural and socio-economic environment, there is no need for mitigation.

6 Consultation

6.1 Project Notifications

A contact list was created and updated as required to include relevant federal, provincial, and local government agencies, Indigenous Communities, and all others who have expressed interest in the study. The contact list is included in Appendix A.

Project notifications were mailed to the contact list and property owners, published in Citizen Proof and Le Droit newspapers**,** and posted to the City's website https://ottawa.ca/en/city-hall/public-engagement/projects/shadow-ridge-deep-wells#. Project notifications are included in Appendix B.

Table 4 provides a summary of the Project notification completed during the study.

Table 4 Summary of Project Notification

Title of Notice	Dates and Method of Notification
Online Engagement Opportunities	Uploaded to City of Ottawa website on May 14, 2022 Mailed to contact list/property owners in April 11, 2022 Community Meeting (Project Introduction) April 27, 2022
Notice of Study Commencement	Uploaded to City of Ottawa website on May 14, 2022 Mailed to contact list/property owners on June 29, 2022 Published in the Ottawa Citizen on May 12, 2022 and Le Droit on May 14, 2022
Notice of Public Information Centre	Notice hand delivered and emailed to contact list/property owners on March 12, 2025 PIC display material posted to the City's website on March 17-31, 2025
Notice of Completion	Notice hand delivered and emailed to contact list/property owners on April 4, 2025 Notice posted to the City's website on April 1, 2025 Published in the Ottawa Citizen on April 5, 2025 and Le Droit on April 5, 2025

6.2 Agency

Comments from interested agencies were received throughout the study, these comments are included in Appendix C and summarized in Table 5.

Table 5 Comments Received from Agencies

Agency	Comment Received	Influence on the Class EA
MECP	MECP provided a list of Indigenous Nations and Organizations that must be consulted for the Project. They also provided details on information that should be considered and/or included in the reporting.	The identified Indigenous Communities and Nations were included on the contact list. The Class EA was completed to include required details.
MCM	MCM provided details on identifying cultural heritage resources and archaeological resources.	Cultural heritage and archaeological resources were assessed in the Class EA.
MECP	Virtual meeting held November 10, 2021, confirmed project approach	Sequence of work identified and confirmed Class EA approach
MECP	Virtual meeting held April 11, 2022, confirmed well testing approach	Sequence of work confirmed and Class EA approach

6.3 Indigenous Nations and Organizations

The following Indigenous Communities were contacted:

- Algonquins of Ontario Consultation Office
- Algonquins of Pikwàkanagàn First Nation
- Anishinabe Algonquin Nation Tribal Council
- Kitigan Zibi Anishinabeg First Nation
- Métis Nation of Ontario

Project notices were emailed to communities to discuss the Project. The communication log is provided in Appendix B. No comments or inquiries were received.

6.4 Public

6.4.1 Public Information Session

On April 27, 2022, a Project Update Meeting was held virtually to present an update to the Project. The presentation included details on the Project scope, the existing site, water quality and environmental conditions, the proposed works, design and water quality, environmental impacts and mitigation measures, schedule, budget, and next steps. This presentation is available in Appendix C. Two (2) members of the public attended the meeting. Attendees were asked to provide their comments by phone or email by May 11, 2022.

The following comments were received from the members of the public:

Table 6 Comments Received from the Public (2022)

Question/Comment	Response
Will there be any monitoring on any adjacent or neighbouring wells?	During the well tests, the adjacent wells will be monitored for any impacts to those wells.
Property owner asked if that the movement of the wellhead will cause their entire property to be within the Zone 10. Will it impact what they can store in their home and garage?	The City is willing to have a meeting to discuss in depth regarding the private well. The City confirmed that the wellhead protection study will be re-completed as a result of this Project. They cannot confirm what the mapping will look like at this time, the modeling will only be completed after the pumping test has been completed. They do assume that Zone 10 will include 100m from the well site, so it will include some but not all of the landowner's property. The City confirmed that for residential purposes, there are no restrictions to what can be stored. Restrictions would only be applicable if they are running a business from their home or storing chemicals.

Question/Comment	Response
Asked if the monitoring well 4 m from the property line is allowable and what kind of fencing will be installed around the well?	The City confirmed that the well can be installed 4 m from the property line. It was confirmed that the wells will be locked and have concrete rings round them to prevent any access for Project 1. Project 2 will have fencing around the existing infrastructure, site fence will be confirmed during design.
Asked about relationship between this project and on-site activity in 2019 / 2020.	The City was conducting preliminary testing of the deep Nepean Aquifer and its potential as a new source of reliable groundwater.

6.4.2 Public Information Centre

A Virtual Public Information Centre (PIC) was held from *March 17-31, 2025,* on *https://ottawa.ca/en/city-hall/public-engagement/public-engagement-project-search/shadow-ridge-deep-wells*. A copy of this presentation is available in Appendix C. A Notice of PIC was sent via email to Indigenous Nations / Organizations and agencies on *March 12, 2025.* The Notice was hand-delivered to potentially affected property owners within 1 km of the Project on *March 12, 2025*.

The purpose of the PIC was to discuss the work completed to date and collect public inputs on the evaluation criteria, the alternatives and recommended solution. Comments and input from the PIC were requested by *March 31, 2025.* The following comments were received from the public:

Table 7 Comments Received from the Public (2025)

Question/Comment	Response
Confirming that the preferred alternative is to do nothing.	Yes, the City is recommending keeping the existing shallow wells connected to the existing pump station for the foreseeable future. The deep wells would remain capped and ready for future use.

Question/Comment	Response
Will the current pump station have the capacity to support future expansion?	In 2019/2020 the City acquired property north of the pump station so that new deep wells could be drilled. This property will also be the location of the future water treatment plant, when the developer decides to proceed with that. The deep wells have sufficient capacity to service Shadow Ridge and future developments in the area.
Will nitrates increase again in the future?	In 2017/2018 the City put restrictions on the compost work at the Yelle quarry and restrictions on the use of fertilizers at the farm fields to the east of the pump station. The nitrate concentrations decreased and have been steady at approximately 3-4 mg/L ever since.
What is the water quality in the deeper wells?	The deep well water has natural iron and manganese that are slightly higher than expected from previous test results nearby. Iron and manganese would require treatment, which the current pump station is not capable of treating.

6.4.3 Notice of Publication

A Notice of Completion was available on the Project website and distributed via mail and email to key stakeholders, Indigenous Nations, and the public on the study mailing list on April 4th, 2025. The Notice of Completion for the Project File Report was placed in the newspaper on April 5th, 2025. The notice briefly outlined the Preferred Design Concept and noted that the Project File Report will be posted on the Project website for a 30-day review period. A copy of the notice is appended (Appendix B) to this report.

One correspondence was received during the review period, which the City is responding to outside of the EA process.

7 Climate Change

Climate change predictions for Ontario include increased temperature and precipitation, changes in seasonal precipitation patterns, along with the possible increase in magnitude and frequency of extreme weather events. According to the Government of Ontario (GO 2014), many Ontarians have already been affected by increased temperatures and extreme weather events, and the province will continue to be affected in the future if today's trends continue. The overall mean annual maximum temperature increases projected for Ontario between years 2041 and 2070 range from 2.8°C to 4.0°C. The overall mean change in annual average precipitation (%) projected for Ontario between years 2041 and 2070 range from 3.8% to 18% increase.

Projected changes in average temperature and precipitation imply more frequent and possibly more intense extreme weather events. In fact, increased moisture in a warmer atmosphere is expected to cause an increasing frequency and severity of extreme weather events, such as severe rain, snow, drought, heat waves, wind, and ice storms (Expert Panel on Climate Change Adaptation 2009). Increased frequency of extreme weather events can, for instance, lead to flash flooding events (GO 2014).

While advances in modelling science over the last decade have improved confidence in long-term projections, like modelling projections in general, the results and guidance they provide are not meant as absolutes, but rather are intended to allow for preparations, for design considerations, and to facilitate adaptation.

7.1 Project Effects on Climate Change

As the preferred solution is to do nothing, there will be no impacts on climate change.

7.2 Effects on the Project

Forecasted changes in climate may affect operation and maintenance of the existing wells through:

- Increased frequency and magnitude of severe precipitation events
- Increased frequency of extreme storms accompanied by heavy and/or freezing precipitation, thunderstorms, and strong winds
- Increased incidence of flooding and erosion

8 Future Commitments

The Project File Report commitments are developed to satisfy the requirements of a Schedule B Class EA. The purpose of the commitments is to facilitate the implementation of the proposed Project in accordance with the mitigation measures and monitoring activities described in the Project File Report and in a manner that does not result in negative effects on matters of provincial interest related to the natural environment, cultural heritage, or constitutionally protected Indigenous or treaty rights.

The City is committed to continuing to implement monitoring activities and maintain communication with the residents of Shadow Ridge. The City also commits to the following:

- Continued monitoring of nitrate levels in the shallow wells.
- Where there are anticipated changes in future water demand, the City is committed to on-going monitoring of the wells to confirm any potential social and environmental impacts.
- Surrounding property owners and tenants will be informed of any future development works.

9 Closure

This Stage 2 Report has been prepared following the Class EA process for Schedule B Projects. It outlines the process which the City of Ottawa has undertaken to address the problem/opportunity statement. This process has involved mandatory contact with the directly affected public, Indigenous Nations and Organizations, and review agencies to confirm that they were aware of the Project and that their concerns have been addressed, and an evaluation of reasonable and feasible alternatives leading to the Project recommendations. This represents the conclusion of Phase 1 and Phase 2 of the Class EA planning process as outlined in the Class EA document. Provided that no Part II Order requests are received, and provided all appropriate permitting is obtained, the City of Ottawa may proceed with design and implementation.

10 References

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Appendices

Appendix A Consultation Contact List

Appendix A – Contact List

First Name	Last Name	Title	Representing	Address	City	Province	Postal Code	Phone	Email
Agency List									
			Ministry of the Environment Conservation and Parks	119 King St West, 12th Floor	Hamilton	ON	L8P 4Y7	905 521-7640	eanotification.eregion@ontario.ca
Lise	Chabot	Manager, Ministry Partnerships Unit	Ministry of Indigenous Affairs	160 Bloor Street East, 4th Floor	Toronto	ON	M7A 2E6	416-325-7032	lise.chabot@ontario.ca
Michael	Elms	Manager Community Planning and Development	Ministry of Municipal Affairs and Housing - Eastern Ontario	8 Estate Lane	Kingston	ON	K7M 9A8	613-545-2132	michael.elms@ontario.ca
John	Almond	District Planner	Ministry of Northern Development, Mines, Natural Resources and Forestry Kemptville District	10 Campus Dr	Kemptville	ON	K0G 1J0	289-380-1039	john.almond@ontario.ca
Karla	Barboza	Team Lead - Heritage (Acting)	Ministry of Heritage, Sport, Tourism and Culture Industries						karla.barboza@ontario.ca
Joy	Fishpool	Manager OPP Facilities Section	Ontario Provincial Police	777 Memorial Avenue, 2nd Floor	Orillia	ON	L3V 6H3	705-329-6815	joy.fishpool@opp.ca
			Ottawa Police						info@ottawapolice.ca
			Ottawa Fire Services	110 Laurier Avenue West	Ottawa	ON	K1P 1J1		firerequests@ottawa.ca
Pino	Buffone	Director of Education and Secretary of the Board	Ottawa-Carleton District School Board	133 Greenbank Road	Ottawa	ON	K2H 6L3	613-596-8211 x 8219	director@ocdsb.ca
Miro	Vala	Superintendent of Planning and Facilities	Ottawa Catholic School Board	570 West Hunt Club Road	Ottawa	ON	K2G 3R4	613-224-4455 x 2322	miro.vala@ocsb.ca
Terry	Davidson	Director, Engineering and Regulations	Rideau Valley Conservation Authority	PO Box 599, 3889 Rideau Valley Drive	Manotick	ON	K4M 1A5	613-692-3571 x 1107	terry.davidson@rvca.ca
Marc	Bertrand	Director of Education and Secretary-Treasurer	Conseil des écoles catholiques du Centre-Est	4000 Labelle Street	Ottawa	ON	K1J 1A1		bertrma@ecolecatholique.ca
Christian-Charle	Bouchard	Director of Education and Secretary-Treasurer	Conseil des écoles publiques de l'Est de l'Ontario	2445 St-Laurent Blvd	Ottawa	ON	K1G 6C3	613-742-8960	christian-charle.bouchard@cepeo.on.ca

First Name	Last Name	Title	Representing	Address	City	Province	Postal Code	Phone	Email
Elected Officials									
George	Darouze	Ward 20 Councillor	City of Ottawa	110 Laurier Avenue West	Ottawa	ON	K1P 1J1	613-580-2490	George.Darouze@ottawa.ca
Indigenous									
Margaret	Froh	President	Métis Nation of Ontario	66 Slater St.	Ottawa	ON	K1P 5H1		mno@metisnation.org
			Algonquins of Ontario Consultation Office	31 Riverside Drive, Suite 101	Pembroke	ON	K8A 8R6		algonquins@tanakiwin.com
Wendy	Jocko	Chief	Algonquins of Pikwàkanagàn First Nation	1657A Mishomis Inamo	Pikwakanagan	ON	K0J 1X0		chief@pikwakanagan.ca
Dylan	Whiteduck	Chief	Kitigan Zibi Anishinabeg First Nation	1 Paganakomin Mikan	Maniwaki	QC	J9E 3C9		dylan.whiteduck@kza.qc.ca
			Anishinabe Algonquin Nation Tribal Council						info@algonquinnation.ca
Residents									
Andy	McLaurin		Resident	1738 Old Prescott Road	Ottawa	ON		613-293-1284	drew@maclaurin.ca
			Resident	1768 Old Prescott Road	Ottawa	ON	K4P 1L3		
Businesses and Organization									
Sylvain	Yelle	President	Maurice Yelle Ltd	1571 Star Top Road	Ottawa	ON	K1B 3W5	613-746-0514	sylvain@mauriceyelle.com
Don	Cardill		Donwel Land Inc	1693 Lakeshore Drive PO Box 359	Ottawa	ON	K4P 1N6	613-821-2448	donwel@bellnet.ca
			Phoenix Homes	18A Bentley Ave	Ottawa	ON	K2E 6T8	613-723-9227	

Appendix B Consultation Notifications

SHADOW RIDGE DEEP WELLS

MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT STUDY: NOTICE OF COMMENCEMENT

Overview

The City of Ottawa has initiated the *Shadow Ridge Deep Wells Municipal Class Environmental Assessment (EA) study*. The existing Shadow Ridge Communal Water Well System in the Village of Greely, located at 6505B Waterdown St. (**Figure 1**), is operated by the City of Ottawa. The existing shallow ground water supply wells serving the Shadow Ridge community were built in 1998. Previous studies have determined that Shadow Ridge requires a new water source, therefore, the purpose of this study is to recommend solutions to improve water quality and supply at Shadow Ridge.

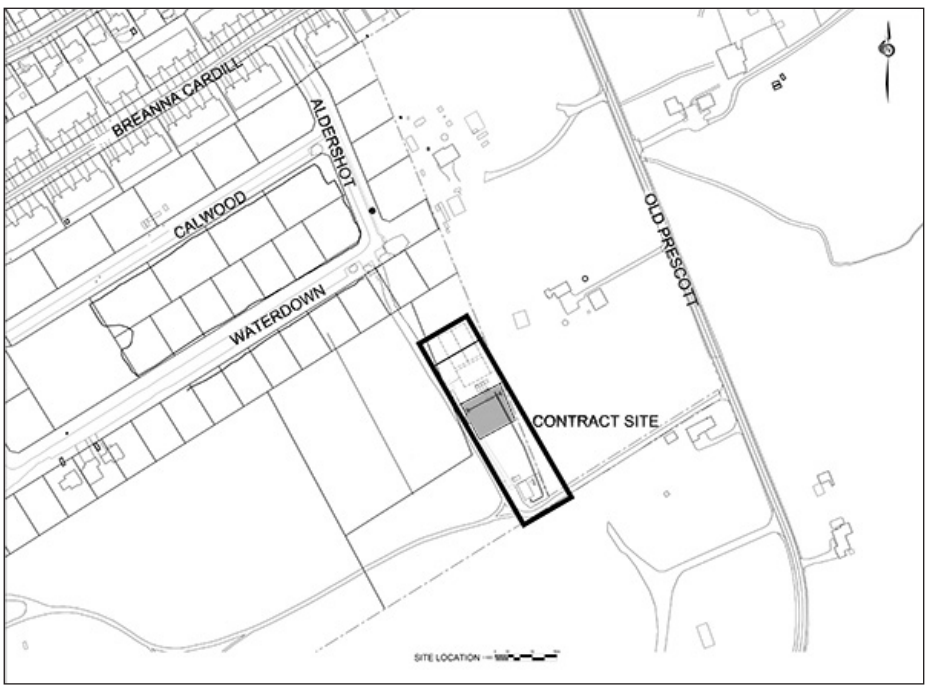

Figure 1: Location of Shadow Ridge Communal Well Water System

Public Consultation and Study Timeline

The consultation process involves many stakeholders, including Indigenous Nations, regulatory agencies, landowners, and the general public. An on-line public consultation event is scheduled at a future date to seek additional input on the study.

Study Process and Timeline

The study will be undertaken in accordance with the requirements of a Schedule B project as outlined in the Municipal Class EA document, as amended in 2007, 2011 and 2015. The study will evaluate the need for additional water supply, review existing conditions, develop and evaluate a range of alternative solutions, and identify a Preferred Solution that is cost effective, technically feasible and minimizes impact on the environment. This information will be presented to the public through a Public Information Session proposed for Winter 2022/2023.

As part of the study process, a Project File will be prepared to document the planning process, present the Preferred Solution and identify future commitments and approvals required to implement the project. The Project File will be available for review for a period of 30 calendar days. The study is expected to be completed in the Spring of 2023.

For more information

If you have any questions please do not hesitate to contact the City of Ottawa Project Manager at the coordinates below.

Jeff DeLoyde, M.A.Sc., P.Eng., PMP
Senior Engineer, Infrastructure Projects
Infrastructure Services, Design & Construction Branch
Infrastructure and Water Services Department
City of Ottawa
100 Constellation Drive
Ottawa, ON, K2G 6J8
Phone: (613) 806-1828
E-mail: Jeff.DeLoyde@ottawa.ca

Shadow Ridge Deep Wells
Municipal Class Environmental Assessment Study:
Notice of Online Public Information Centre

Overview

The City of Ottawa has initiated the *Shadow Ridge Deep Wells Municipal Class Environmental Assessment (EA) study*. The existing Shadow Ridge Communal Water Well System in the Village of Greely, located at 6505B Waterdown St. (**Figure 1**), is operated by the City of Ottawa. The existing shallow ground water supply wells serving the Shadow Ridge community were built in 1998. Shadow Ridge requires a new water source that would draw water from deeper wells into the Nepean Aquifer. The purpose of this study is to recommend solutions to improve water quality and supply at Shadow Ridge.

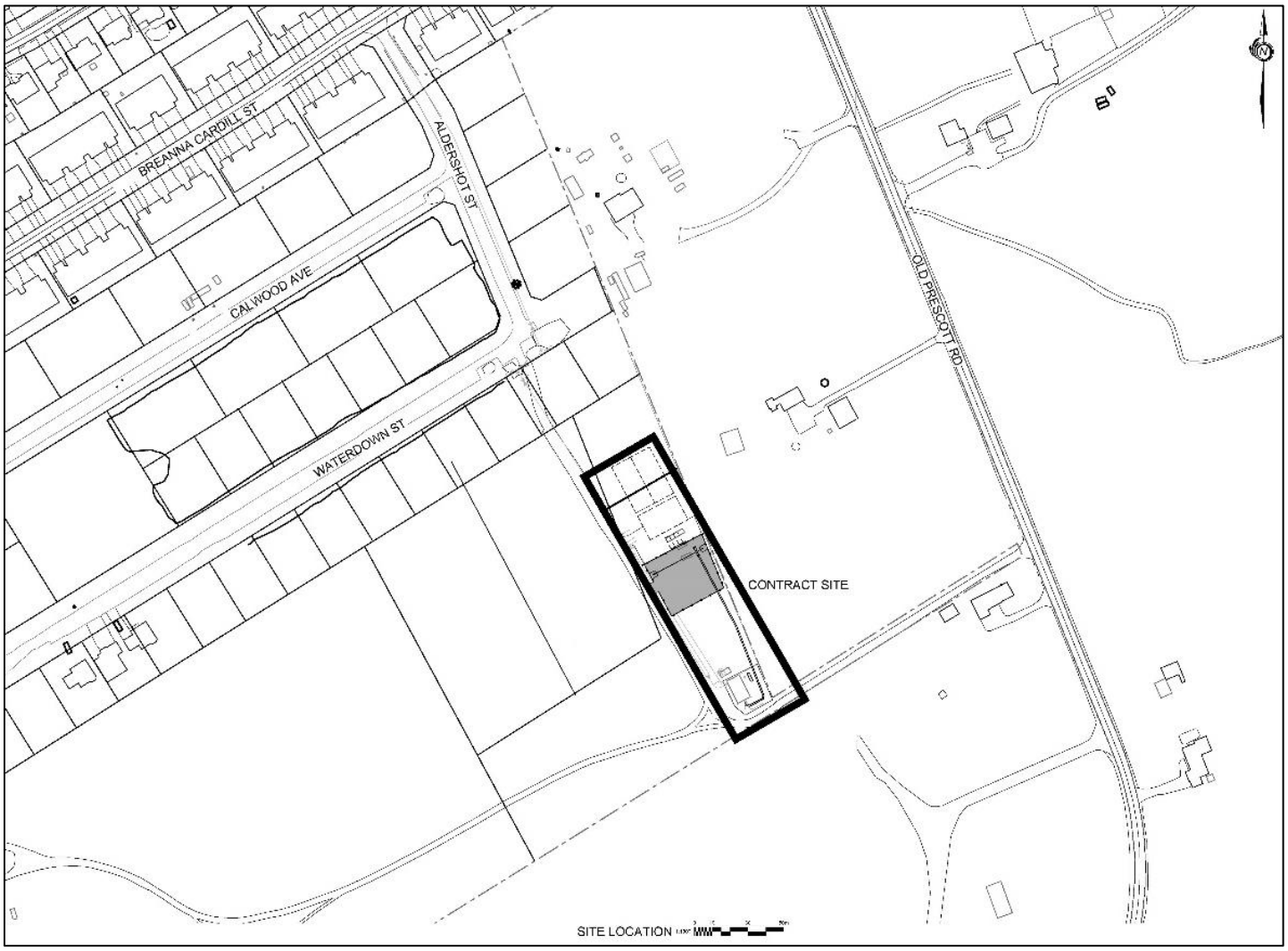

Figure 1: Location of Shadow Ridge Communal Well Water System

Study Process and Timeline

The study will be undertaken in accordance with the requirements of a Schedule B project as outlined in the Municipal Class EA document, as amended in 2007, 2011, 2015 and 2023. As part of this study, a consultation process is being undertaken and your participation is encouraged. An online Public Information Centre (PIC) is being held to share information related to the need for additional water supply,

review existing conditions, develop and evaluate a range of alternative solutions, and identify a Preferred Solution that is cost effective, technically feasible and minimizes impact on the environment. A PowerPoint Presentation is available for viewing beginning **Monday, November 13, 2023** on the Study website at ottawa.ca/shadowridgedeepwells. Your participation and feedback is important to us. All comments and questions received by **Monday, November 27, 2023** will be reflected in the Class EA.

The Notice of Completion and 30-day review of the Project File will be available in Fall 2023.

For more information

Please visit the City's website or contact the following Project Team members if you would like to learn more about this Study, to be added to the Study mailing list, provide comments, or have any accessibility requests.

Jeff DeLoyde, M.A.Sc., P.Eng., PMP
Project Manager & Senior Engineer
Infrastructure and Water Services Department
City of Ottawa
100 Constellation Drive, Ottawa, ON K2G6J8
Jeff.DeLoyde@ottawa.ca
(613) 806-1828

Michael Thivierge, P.Eng.
Project Manager (Consultant)
Stantec Consulting Ltd.
Michael.Thivierge@stantec.com

All information will be collected in accordance with the *Freedom of Information and Protection of Privacy Act* (2009). Except for personal information, all comments will become part of the public record.

Newspaper posting date: November 2023

AVIS AUX RÉSIDENTS

Puits profonds de Shadow Ridge
Contrat nº CP000632

Étude d'évaluation environnementale municipale de portée générale
Invitation à une consultation en ligne

Mars 2025

Contexte

En mai 2022, la Ville d'Ottawa a lancé l'Étude d'évaluation environnementale (ÉE) municipale de portée générale concernant les puits profonds de Shadow Ridge. L'actuel système de puits collectifs de Shadow Ridge, situé au 6505B, rue Waterdown (**figure 1**), dans le village de Greely, est exploité par la Ville d'Ottawa. Les puits à faible profondeur qui desservent la collectivité de Shadow Ridge ont été aménagés en 1998. Selon des études antérieures, Shadow Ridge pourrait avoir besoin d'une nouvelle source d'approvisionnement en eau qui permettrait de puiser l'eau dans des puits plus profonds de l'aquifère de Nepean. L'objectif de la présente étude était d'examiner l'approvisionnement en eau de Shadow Ridge et la qualité de cette eau.

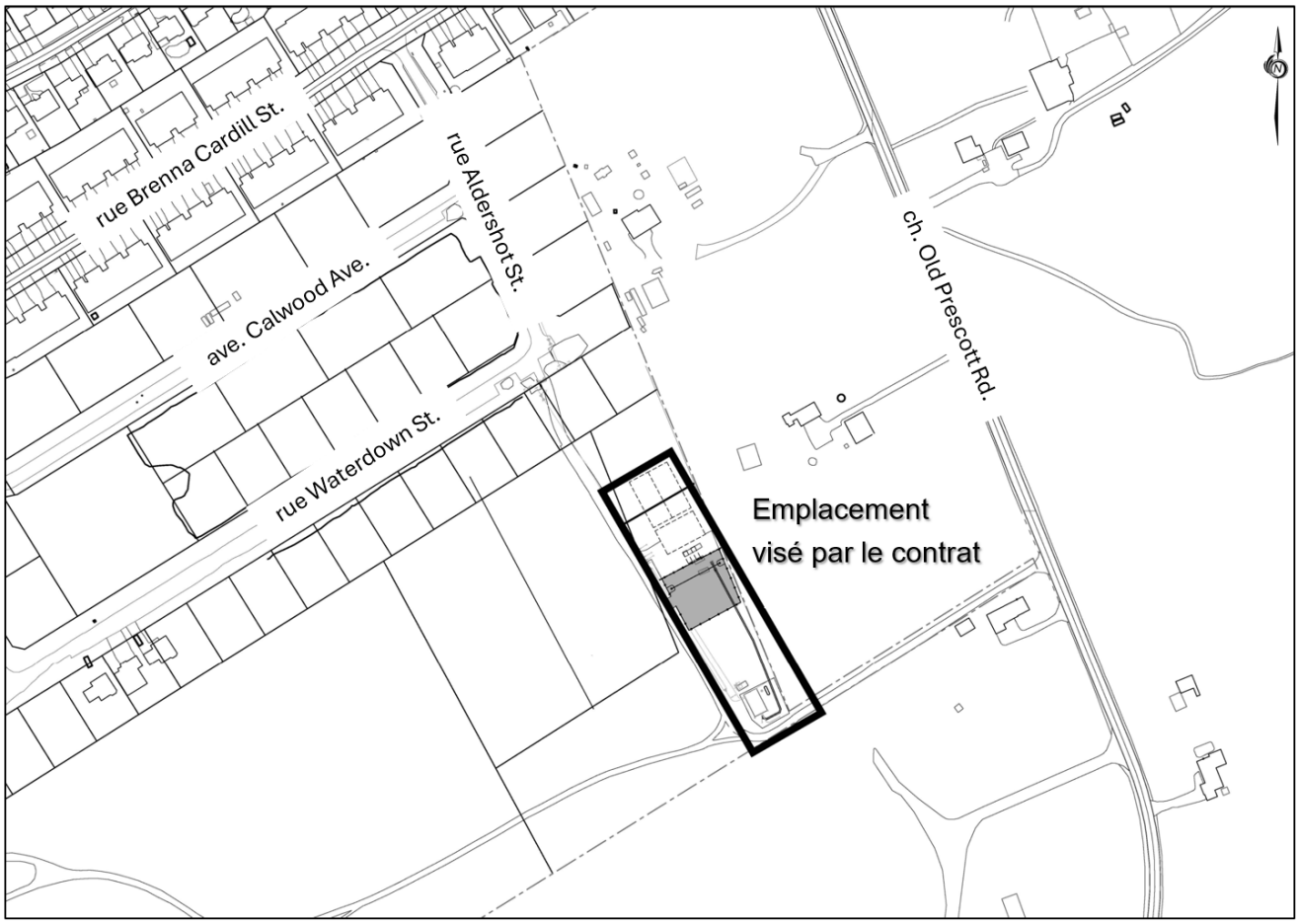

Figure 1 : Emplacement du système de puits collectifs de Shadow Ridge

AVIS AUX RÉSIDENTS

Pour en savoir plus sur le projet, consultez la page **ottawa.ca/puitsprofondsshadowridge**.

Processus et calendrier de l'étude

L'étude a été réalisée conformément aux exigences applicables aux projets de l'annexe B énoncées dans le document relatif aux évaluations environnementales municipales de portée générale, tel que modifié en 2007, en 2011, en 2015 et en 2023.

Consultation en ligne

La présente étude prévoit une consultation à laquelle vous êtes invités à participer.

Nous organisons une consultation en ligne pour partager de l'information sur les besoins en matière d'approvisionnement en eau supplémentaire, faire le point sur la situation actuelle, partager les conclusions de l'examen et définir la solution à privilégier du point de vue de la rentabilité, de la faisabilité technique et de la réduction des effets sur l'environnement.

Vous êtes invités à consulter la page Web du projet à l'adresse **ottawa.ca/puitsprofondsshadowridge** pour voir la présentation et soumettre vos commentaires. La présentation pourra être visionnée à partir du 17 mars 2025. Votre participation et vos commentaires sont importants pour nous.

Tous les commentaires et toutes les questions reçus d'ici le 31 mars 2025 seront pris en considération au moment de la rédaction du rapport final de l'évaluation environnementale municipale de portée générale. L'avis d'achèvement et les résultats de l'examen de 30 jours du dossier relatif au projet seront disponibles au printemps 2025.

Pour en savoir plus

Veuillez consulter le site Web de la Ville ou communiquer avec les membres suivants de l'équipe de projet pour obtenir plus d'information sur la présente étude, être ajouté à la liste de diffusion de l'étude, commenter le dossier ou présenter des demandes en matière d'accessibilité.

Jeff DeLoyde, M.A.Sc., P.Eng., PGP
Gestionnaire de projet et ingénieur principal
Direction générale des services d'infrastructure et d'eau
Ville d'Ottawa
100, promenade Constellation
Ottawa (Ontario) K2G 6J8
Courriel : jeff.deloyde@ottawa.ca
Tél. : 613-806-1828

Michael Thivierge, P.Eng., PE
Gestionnaire de projet de la firme d'experts-conseils
Stantec Consulting Ltd.
Courriel :
michael.thivierge@stantec.com

c. c. : George Darouze, conseiller du quartier 20 — Osgoode

Tous les renseignements recueillis seront traités conformément aux dispositions de la *Loi sur l'accès à l'information et la protection de la vie privée (2009)*. À l'exception des renseignements personnels, tous les commentaires reçus feront partie du domaine public.

Livraison : mars 2025

Shadow Ridge Deep Wells
Contract No. CP000632

Municipal Class Environmental Assessment Study 'Schedule B': Notice of Completion

The City of Ottawa has completed the *Shadow Ridge Deep Wells Municipal Class Environmental Assessment* (Class EA) *Study*. The existing Shadow Ridge Communal Water Well System in the Village of Greely, located at 6505B Waterdown Street (**Figure 1**), is operated by the City of Ottawa. The existing shallow ground water supply wells serving the Shadow Ridge community were built in 1998. Previous studies determined that Shadow Ridge may require a new water source that would draw water from deeper wells into the Nepean Aquifer. The purpose of this study was to review water quality and supply at Shadow Ridge.

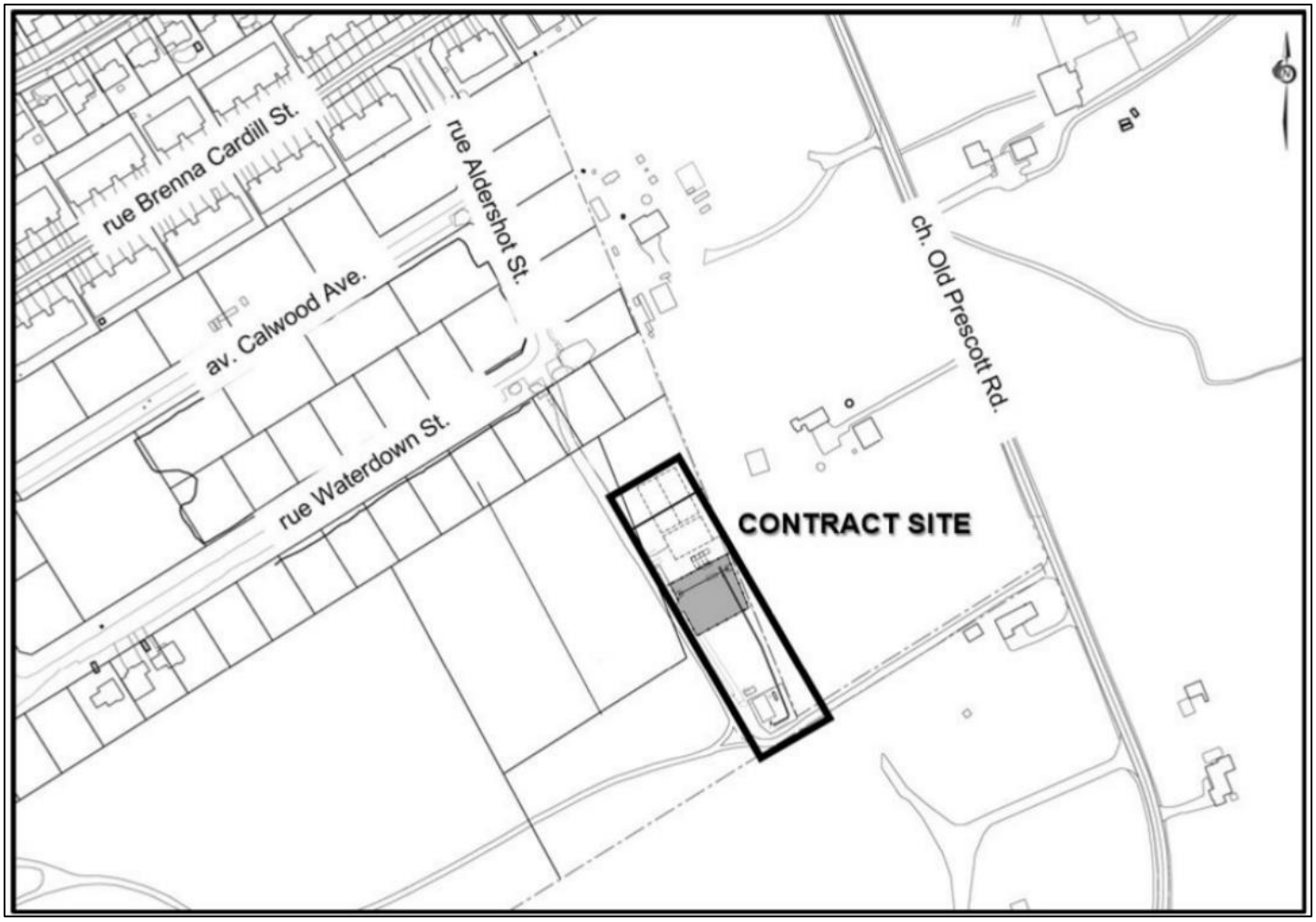

Figure 1: Location of Shadow Ridge Communal Well Water System

The purpose of Phase 1 of this study was to define the problem and identify opportunities to improve water quality and supply at Shadow Ridge. A preliminary Project Update Meeting was held to discuss deep well testing and the Class EA process (April 27, 2022). Phase 2 involved various environmental investigations and evaluation of three alternative solutions against natural environment, socio-economic and cultural, and technical considerations. An online public engagement opportunity was held between March 17 and March 31, 2025, to present the evaluation of alternatives and justification of the Preferred Alternative. As water quality

This notice is issued on: April 4, 2025

has improved and nitrate concentrations have stabilized, the 'Do Nothing' alternative with appropriate continued monitoring was the preferred solution as it best supports the identified need for the project.

The Class EA Project File Report has been completed, and a 30-day public review period is available from April 23 to May 26, 2025, at ottawa.ca/shadowridgedeepwells.

Interested persons may provide written comments to our project team by **May 26, 2025**. All comments and concerns should be sent directly to the project team identified below.

Jeff DeLoyde, M.A.Sc., P.Eng., PMP
Senior Engineer, Infrastructure Projects
Infrastructure Services, Design & Construction Branch
Infrastructure and Water Services Department
City of Ottawa
100 Constellation Drive, Ottawa, ON, K2G 6J8
Tel: 613-806-1828
Email: jeff.deloyde@ottawa.ca

Michael Thivierge, P.Eng., PE.
Project Manager (Consultant)
Stantec Consulting Ltd.
Email: michael.thivierge@stantec.com

In addition, a request to the Minister of the Environment, Conservation and Parks for an order imposing additional conditions or requiring an individual environmental assessment may be made on the grounds that the requested order may prevent, mitigate or remedy adverse impacts on constitutionally protected Aboriginal and treaty rights. Requests should include your full name and contact information.

Requests should specify what kind of order is being requested (additional conditions or an individual environmental assessment), explain how an order may prevent, mitigate or remedy potential adverse impacts, and can include any supporting information.

The request should be sent to:

Minister of the Environment, Conservation and Parks
Ministry of Environment, Conservation and Parks
777 Bay Street, 5th Floor, Toronto ON M7A 2J3
minister.mecp@ontario.ca

and

Director, Environmental Assessment Branch
Ministry of Environment, Conservation and Parks
135 St. Clair Ave. W, 1st Floor, Toronto ON M4V 1P5
EABDirector@ontario.ca

Requests should also be sent to the City of Ottawa by mail or email. Please visit the ministry's website for more information on requests for orders under section 16 of the *Environmental Assessment Act*: https://www.ontario.ca/page/class-environmental-assessments-section-16-order.

All personal information included in your request – such as name, address, telephone number and property location – is collected, under the authority of Section 30 of the *Environmental Assessment Act* and is collected and maintained for the purpose of creating a record that is available to the general public. As this information is collected for the purpose of a public record, the protection of personal information provided in the Freedom of Information and Protection of Privacy Act (FIPPA) does not apply (s.37). Personal information you submit will become part of a public record that is available to the general public unless you request that your personal information remain confidential.

This notice is issued on: April 4, 2025

Puits profonds de Shadow Ridge
Contrat nº CP000632

« Annexe B » de l'étude d'évaluation environnementale municipale de portée générale : avis d'achèvement

La Ville d'Ottawa a terminé l'*étude d'évaluation environnementale (ÉE) municipale de portée générale concernant les puits profonds de Shadow Ridge*. L'actuel système de puits collectifs de Shadow Ridge, situé au 6505B, rue Waterdown (**figure 1**), dans le village de Greely, est exploité par la Ville d'Ottawa. Les puits à faible profondeur qui desservent la collectivité de Shadow Ridge ont été aménagés en 1998. Selon des études antérieures, Shadow Ridge pourrait avoir besoin d'une nouvelle source d'approvisionnement en eau qui permettrait de puiser l'eau dans des puits plus profonds de l'aquifère de Nepean. L'objectif de la présente étude était d'examiner l'approvisionnement des puits de Shadow Ridge et la qualité de leur eau.

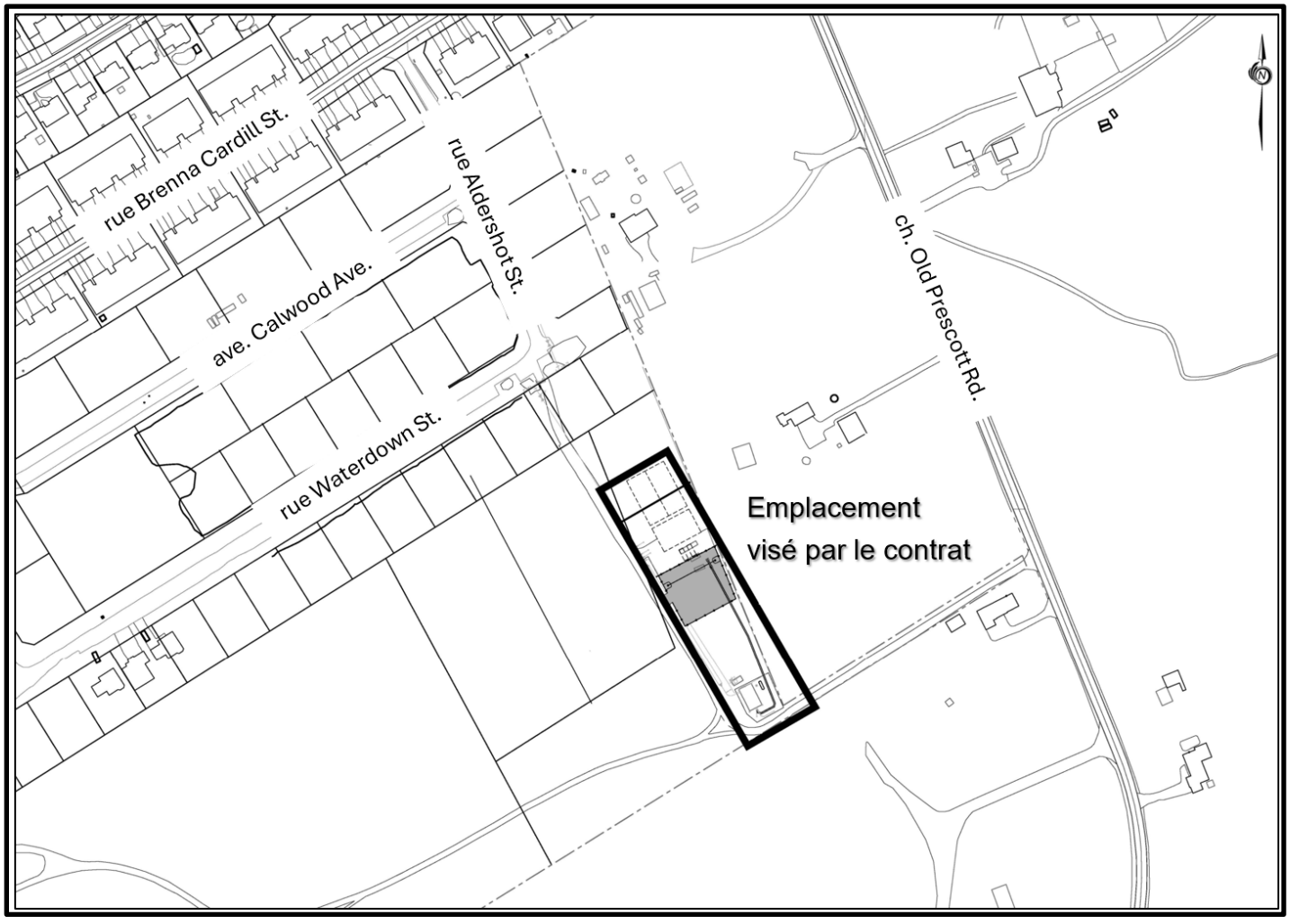

Figure 1 : Emplacement du système de puits collectifs de Shadow Ridge

L'objectif de la phase 1 de cette étude était de définir le problème observé et de déterminer des moyens d'améliorer l'approvisionnement des puits de Shadow Ridge et la qualité de leur eau. Une réunion préliminaire de mise à jour du projet a été organisée afin de discuter des essais de puits profonds et du processus d'évaluation environnementale de portée générale (le 27 avril 2022). La phase 2 de l'étude englobait diverses

études environnementales et l'évaluation de trois solutions de rechange à appliquer en fonction de l'environnement naturel et de considérations socio-économiques, culturelles et techniques. Une consultation publique en ligne a été organisée du 17 au 31 mars 2025, afin de présenter l'évaluation des solutions de rechange et la justification de la solution privilégiée. Puisque la qualité de l'eau s'est améliorée et que les concentrations de nitrate se sont stabilisées, la solution d'un statu quo assorti d'une surveillance continue appropriée a été privilégiée car elle répond au mieux au besoin exprimé pour le projet.

Le rapport sur le projet d'EE de portée générale a été rédigé et une période d'examen public de 30 jours est prévue du 23 avril au 26 mai 2025, sur la page ottawa.ca/puitsprofondsshadowridge.

Les personnes qui le souhaitent ont jusqu'au **26 mai 2025** pour fournir des commentaires écrits à notre équipe de projet. Les commentaires et préoccupations doivent être envoyés directement à :

Jeff DeLoyde, M.A.Sc., P.Eng., PGP
Ingénieur principal, Projets d'infrastructure
Services d'infrastructure, Construction et Design municipaux
Direction générale des services d'infrastructure et d'eau
Ville d'Ottawa
100, prom. Constellation, Ottawa (Ontario) K2G 6J8
Tél. : 613-806-1828
Courriel : jeff.deloyde@ottawa.ca

Michael Thivierge, P.Eng.,
Gestionnaire de projet (expert-conseil)
Stantec Consulting Ltd.
Courriel : michael.thivierge@stantec.com

De plus, il est possible de demander à la ministre de l'Environnement, de la Protection de la nature et des Parcs de promulguer un arrêté exigeant l'imposition de conditions supplémentaires ou la tenue d'une évaluation environnementale distincte si l'arrêté demandé peut prévenir, atténuer ou corriger les effets négatifs sur les droits ancestraux ou issus de traités protégés par la Constitution. Les demandes doivent inclure les coordonnées et le nom complet du demandeur.

Les demandes doivent préciser le type d'arrêté demandé (conditions supplémentaires ou demande d'évaluation environnementale distincte), expliquer la manière dont l'arrêté peut prévenir, atténuer ou corriger les effets négatifs potentiels, et comprendre tout renseignement pertinent.

La demande doit être envoyée à :

Ministre de l'Environnement, de la Protection de la nature et des Parcs
Ministère de l'Environnement, de la Protection de la nature et des Parcs
777, rue Bay, 5e étage, Toronto (Ontario) M7A 2J3
minister.mecp@ontario.ca

et

Directeur, Direction des évaluations environnementales
Ministère de l'Environnement, de la Protection de la nature et des Parcs
135, avenue St-Clair O., rez-de-chaussée, Toronto (Ontario) M4V 1P5
EABDirector@ontario.ca

Les demandes doivent également être transmises à la Ville d'Ottawa par courrier ou par courriel. Veuillez consulter le site Web du Ministère pour obtenir plus d'information sur les demandes d'arrêté en vertu de l'article 16 de la *Loi sur les évaluations environnementales*, à l'adresse suivante : https://www.ontario.ca/fr/page/evaluations-environnementales-de-portee-generale-arrete-pris-en-vertu-de-larticle-16.

Le présent avis a été publié le 4 avril 2025

Tous les renseignements personnels inclus dans votre demande – tels que le nom, l'adresse, le numéro de téléphone et l'emplacement de la propriété – sont recueillis en vertu de l'article 30 de la *Loi sur les évaluations environnementales* et sont conservés dans le but de créer un dossier qui sera accessible au grand public. Puisque ces renseignements sont recueillis pour permettre de monter un dossier public, les mesures de protection des renseignements personnels prévues dans la Loi sur l'accès à l'information et la protection de la vie privée (LAIPVP) sont sans effet (article 37). Les renseignements personnels que vous donnerez seront versés au dossier public, sauf si vous demandez que ces renseignements restent confidentiels.

Le présent avis a été publié le 4 avril 2025

Shadow Ridge Deep Wells
Contract No. CP000632

Municipal Class Environmental Assessment Study 'Schedule B': Notice of Completion

The City of Ottawa has completed the *Shadow Ridge Deep Wells Municipal Class Environmental Assessment* (Class EA) *Study*. The existing Shadow Ridge Communal Water Well System in the Village of Greely, located at 6505B Waterdown Street (**Figure 1**), is operated by the City of Ottawa. The existing shallow ground water supply wells serving the Shadow Ridge community were built in 1998. Previous studies determined that Shadow Ridge may require a new water source that would draw water from deeper wells into the Nepean Aquifer. The purpose of this study was to review water quality and supply at Shadow Ridge.

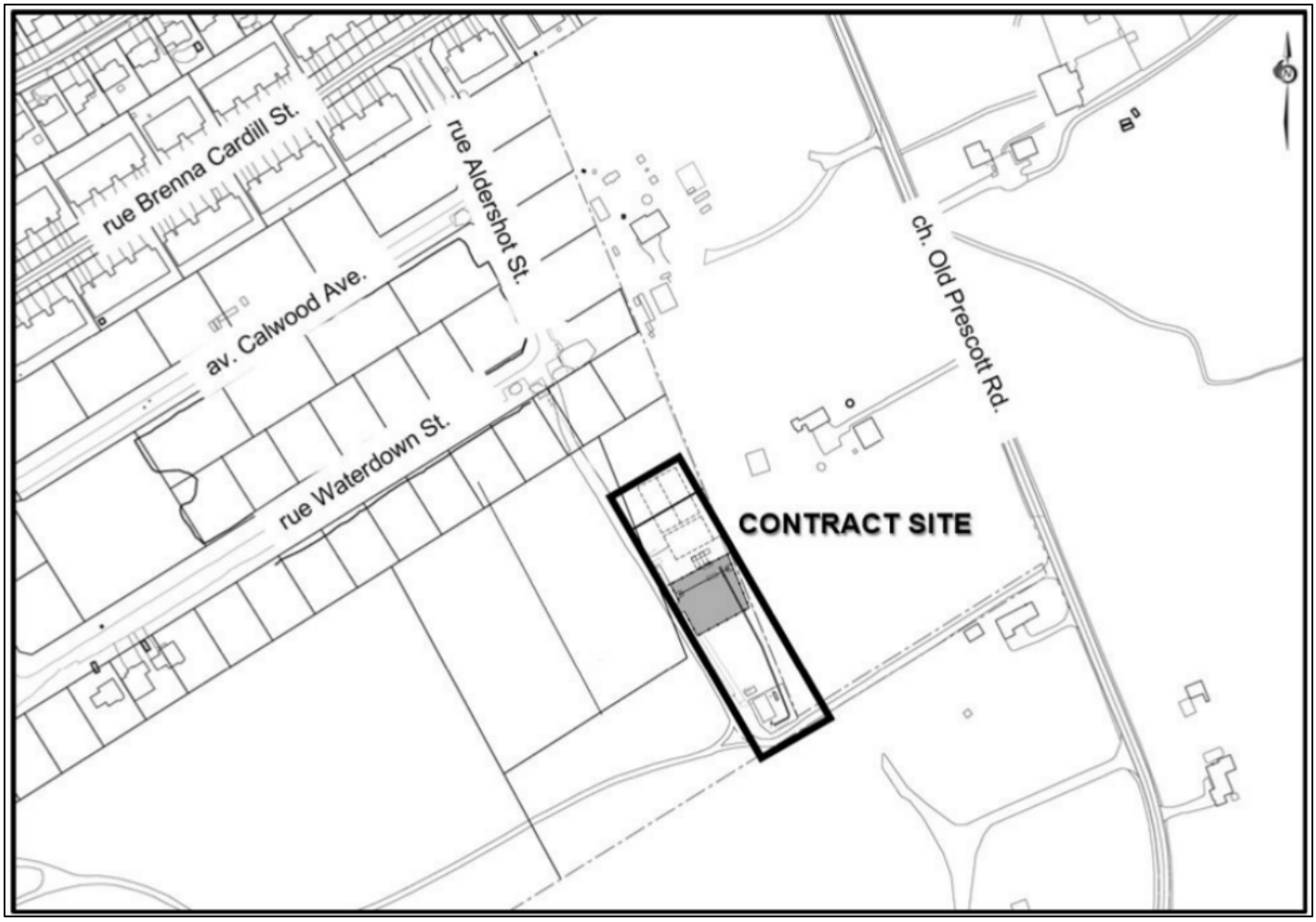

Figure 1: Location of Shadow Ridge Communal Well Water System

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Senior Engineer, Infrastructure Projects
Infrastructure Services, Design & Construction Branch
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Le rapport sur le projet d'EE de portée générale a été rédigé et une période d'examen public de 30 jours est prévue du 23 avril au 26 mai 2025, sur la page ottawa.ca/puitsprofondsshadowridge.

Les personnes qui le souhaitent ont jusqu'au **26 mai 2025** pour fournir des commentaires écrits à notre équipe de projet. Les commentaires et préoccupations doivent être envoyés directement à :

Jeff DeLoyde, M.A.Sc., ing., PGP
Ingénieur principal, Projets d'infrastructure
Services d'infrastructure, Construction et Design municipaux
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Ville d'Ottawa
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Michael Thivierge, ing.,
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Courriel : michael.thivierge@stantec.com

De plus, il est possible de demander à la ministre de l'Environnement, de la Protection de la nature et des Parcs de promulguer un arrêté exigeant l'imposition de conditions supplémentaires ou la tenue d'une évaluation environnementale distincte si l'arrêté demandé peut prévenir, atténuer ou corriger les effets négatifs sur les droits ancestraux ou issus de traités protégés par la Constitution. Les demandes doivent inclure les coordonnées et le nom complet du demandeur.

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777, rue Bay, 5e étage, Toronto (Ontario) M7A 2J3
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Directeur, Direction des évaluations environnementales
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EABDirector@ontario.ca

Les demandes doivent également être transmises à la Ville d'Ottawa par courrier ou par courriel. Veuillez consulter le site Web du Ministère pour obtenir plus d'information sur les demandes d'arrêté en vertu de l'article 16 de la *Loi sur les évaluations environnementales*, à l'adresse suivante : https://www.ontario.ca/fr/page/evaluations-environnementales-de-portee-generale-arrete-pris-en-vertu-de-larticle-16.

Tous les renseignements personnels inclus dans votre demande – tels que le nom, l'adresse, le numéro de téléphone et l'emplacement de la propriété – sont recueillis en vertu de l'article 30 de la *Loi sur les évaluations environnementales* et sont conservés dans le but de créer un dossier qui sera accessible au grand public. Puisque ces renseignements sont recueillis pour permettre de monter un dossier public, les mesures de protection des renseignements personnels prévues dans la Loi sur l'accès à l'information et la protection de la vie privée (LAIPVP) sont sans effet (article 37). Les renseignements personnels que vous donnerez seront versés au dossier public, sauf si vous demandez que ces renseignements restent confidentiels.

Le présent avis a été publié le 4 avril 2025

Puits profonds de Shadow Ridge
Contrat nº CP000632

« Annexe B » de l’étude d’évaluation environnementale municipale de portée générale : avis d’achèvement

La Ville d’Ottawa a terminé l’*étude d’évaluation environnementale (ÉE) municipale de portée générale concernant les puits profonds de Shadow Ridge*. L’actuel système de puits collectifs de Shadow Ridge, situé au 6505B, rue Waterdown (**figure 1**), dans le village de Greely, est exploité par la Ville d’Ottawa. Les puits à faible profondeur qui desservent la collectivité de Shadow Ridge ont été aménagés en 1998. Selon des études antérieures, Shadow Ridge pourrait avoir besoin d’une nouvelle source d’approvisionnement en eau qui permettrait de puiser l’eau dans des puits plus profonds de l’aquifère de Nepean. L’objectif de la présente étude était d’examiner l’approvisionnement des puits de Shadow Ridge et la qualité de leur eau.

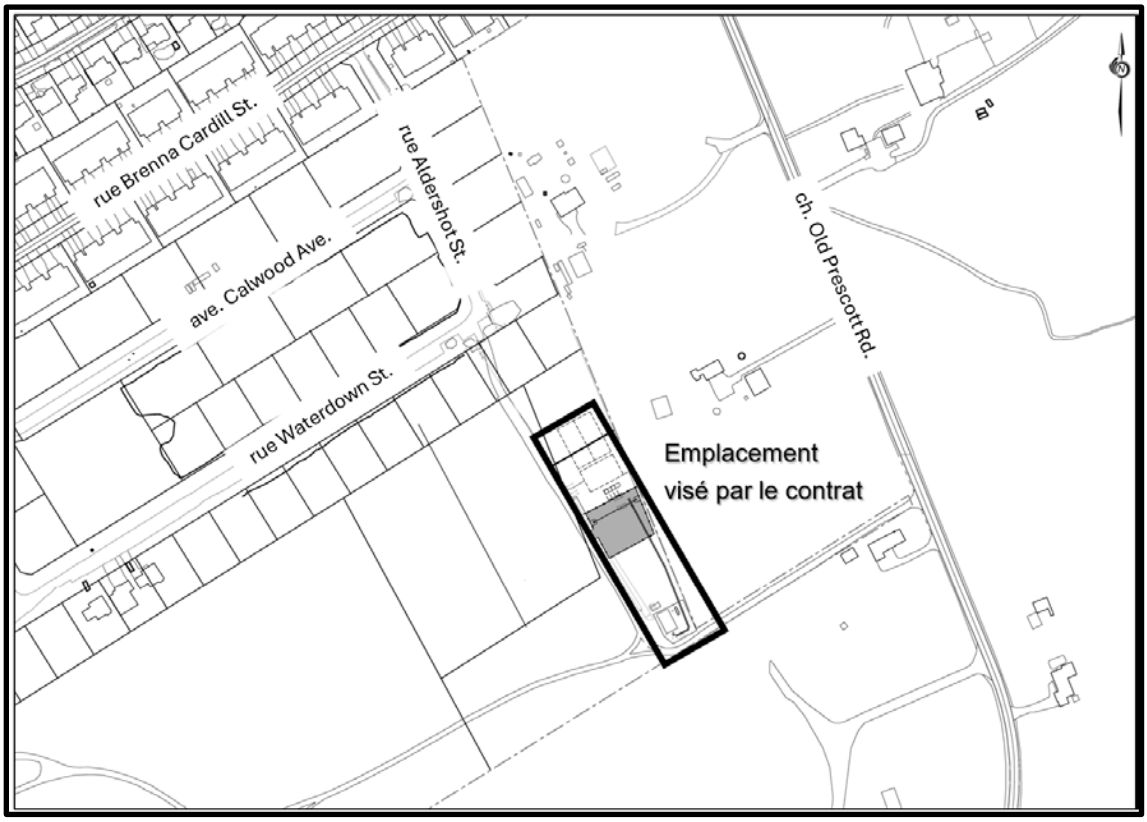


Figure 1 : Emplacement du système de puits collectifs de Shadow Ridge

L’objectif de la phase 1 de cette étude était de définir le problème observé et de déterminer des moyens d’améliorer l’approvisionnement des puits de Shadow Ridge et la qualité de leur eau. Une réunion préliminaire de mise à jour du projet a été organisée afin de discuter des essais de puits profonds et du processus d’évaluation environnementale de portée générale (le 27 avril 2022). La phase 2 de l’étude englobait diverses études environnementales et l’évaluation de trois solutions de rechange à appliquer en fonction de l'environnement naturel et de considérations socio-économiques, culturelles et techniques. Une consultation publique en ligne a été organisée du 17 au 31 mars 2025, afin de présenter l’évaluation des solutions de rechange et la justification de la solution privilégiée. Puisque la qualité de l’eau s’est améliorée et que les concentrations de nitrate se sont stabilisées, la solution d’un statu quo assorti d’une surveillance continue appropriée a été privilégiée car elle répond au mieux au besoin exprimé pour le projet.

Le présent avis a été publié le 4 avril 2025

Appendix C PIC Presentation and Comment Summary

Shadow Ridge Well Improvements

Online Public Information Centre

September 22 - October 6, 2023

Welcome

Welcome to the Online Project Information Centre for the Shadow Ridge Well Improvements Study.

The City has a proactive communications approach. The Project Team will update you on the project using different methods to communicate including letters and posting information on Ottawa.ca.

The purpose of this Online Project Information Centre is to present and gather your feedback on the alternative solutions for the Shadow Ridge Well Improvements Study.

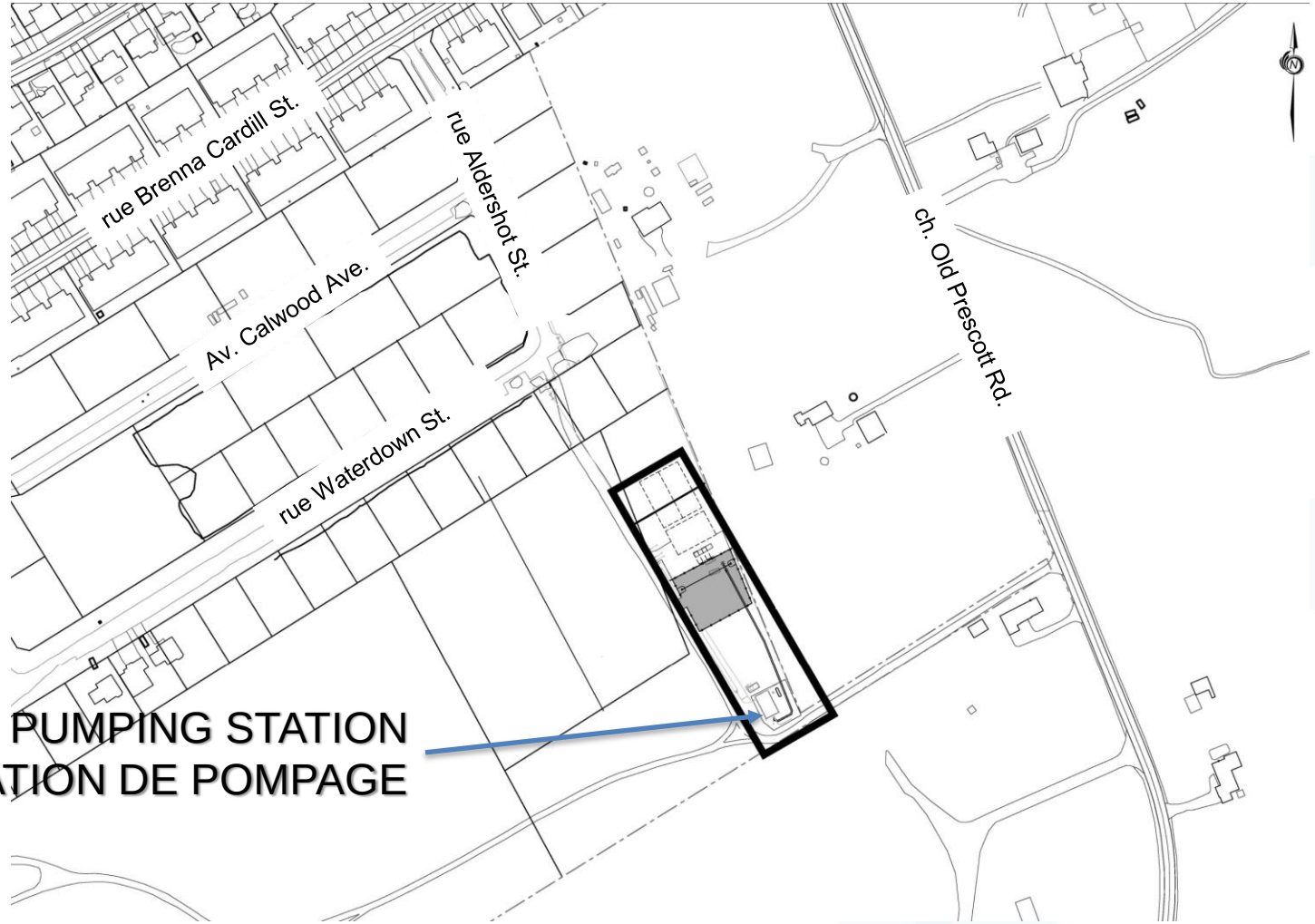
Please review the information presented and **provide your comments by phone or email**, as noted on the last page of this document, **between September 22 - October 6, 2023.**

Purpose of Online Public Information Centre

To present and gather your feedback on:

- Study background and Purpose
- Existing Site and Facility
- Existing Water Quality
- Existing Environmental Conditions
- Proposed Works, Design and Water Quality
- Evaluation Criteria
- Evaluation of Alternative Solutions and Recommended Alternative
- Environmental Impacts and Mitigation Measures
- Schedule
- Budget
- Next Steps

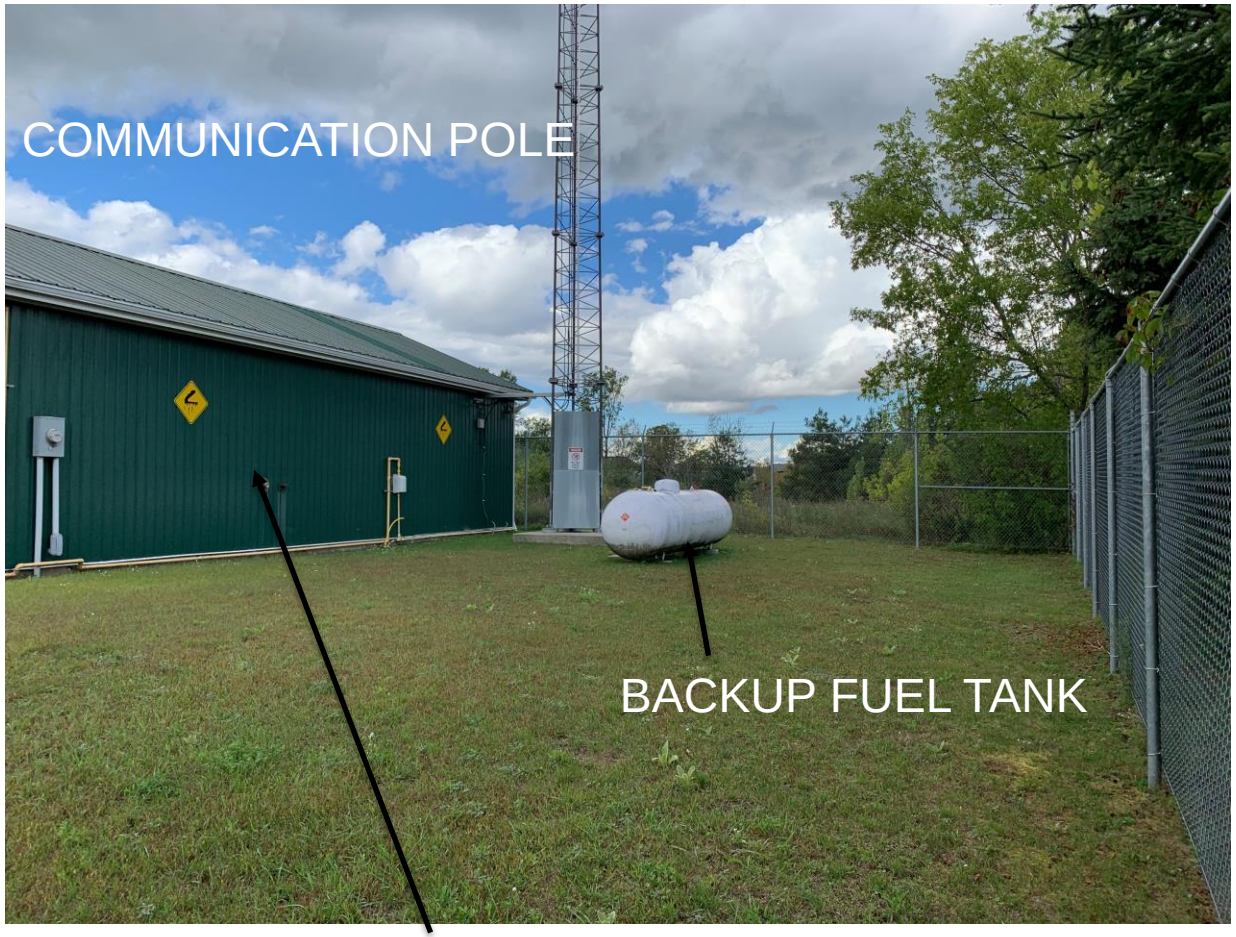
Project Area: 6505B Waterdown Street



Project History

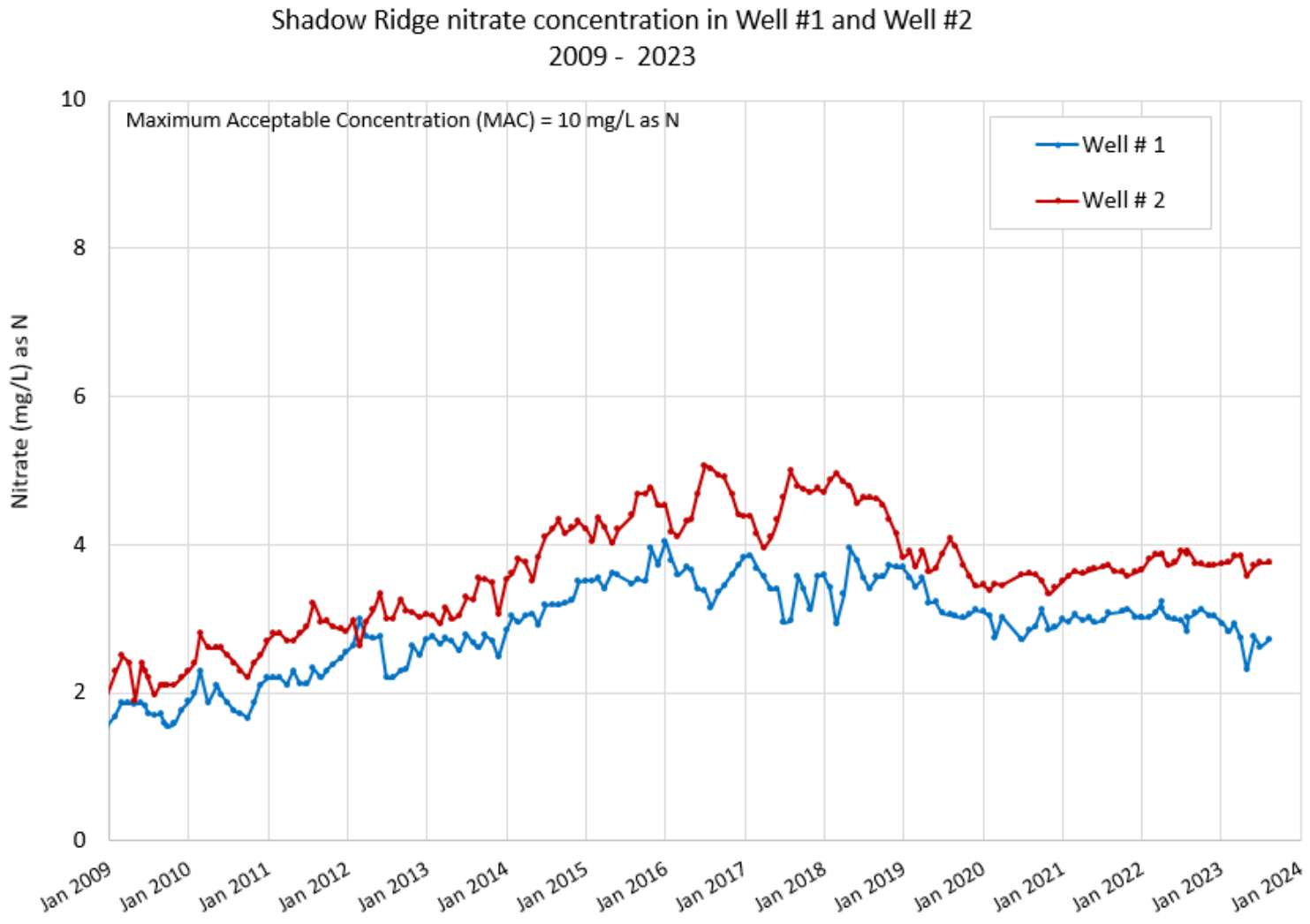
2017	First public information session (December 2017)
	First test well into the Nepean Aquifer
2018	Private property acquisition underway
2019	Private property acquisition completed
	Second test well into the Nepean Aquifer
2020	Third test well into the Nepean Aquifer, including pump testing
2021	Shadow Ridge Well Improvement System Design started
2022 - 2023	Test well drilling to confirm groundwater supply and quality

Existing Site



Existing Shadow Ridge Well System

- **Safe to drink** – meets all Federal and Provincial drinking water standards
- The existing shallow wells are 19 m in depth
- Water quality is excellent, except for nitrate concentrations
- Nitrate concentrations are within the safe drinking water standard of 10 mg/L and do not pose a health concern
- The nitrate source is not known, but likely comes from surface water sources (septic, agriculture)



Understanding Water Quality - Nitrate

Nitrate levels increased from 2008 to 2017. In 2018 the levels remained fairly consistent before decreasing in 2019.

Nitrate concentrations have always been safely below the 10 mg/L Drinking Water standard.

Nitrate can be removed by reverse osmosis or ion exchange, but treatment is complicated and costly.

Problem and Opportunity Statement

The existing Water Pumping Station supplies potable water to wells within the Shadow Ridge community, located in the Village of Greely. The pumping station has experienced increased nitrate levels in recent years, so a solution to improve water quality and supply is required.

Natural Environment

Based on the findings of a natural heritage screening undertaken within and surrounding the project area:

- No Species at Risk have been identified within or 50 m from the Project Area
- There may be potential habitat for tree, bird and bat Species at Risk within the Project Area.

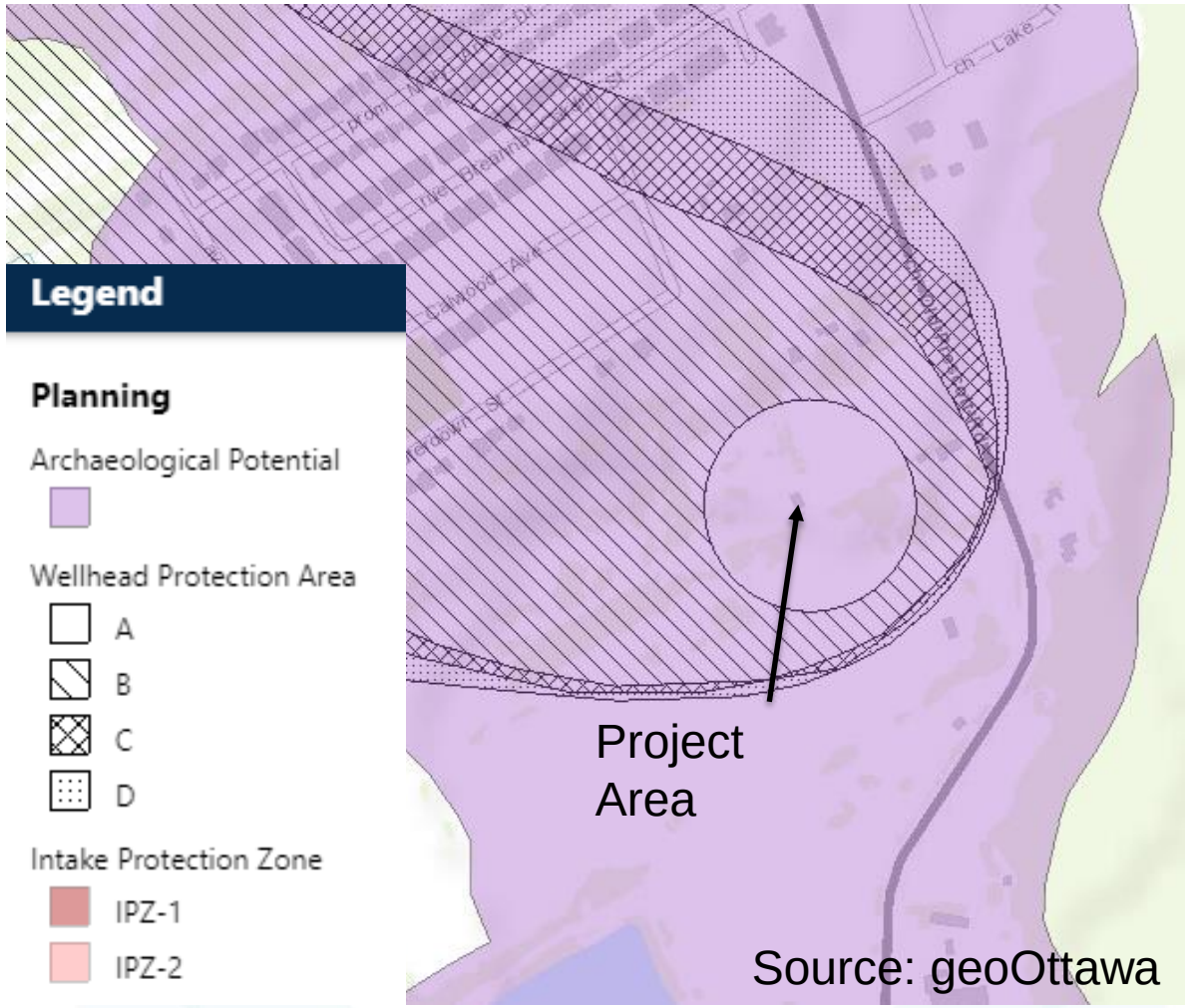
Cultural Heritage

- The City of Ottawa maintains a register of properties that have local cultural heritage value

- One (1) heritage building is listed ~550 m away from the facility:
    - 1847 Old Prescott Road – detached residential T-shaped Ontario Cottage style house built circa 1850

Archaeological Conditions

- As part of the City of Ottawa, the site is built on un-ceded Algonquin Anishinaabe Territory
- The current site is designated as area that may have archaeological potential (geoOttawa)
- Test wells areas were cleared of Archaeological potential due to being previously disturbed
- *0478E - Criteria for Evaluating Archaeological Potential* checklist provided by Ministry of Citizenship and Multiculturalism will be required once a Preferred Alternative is chosen

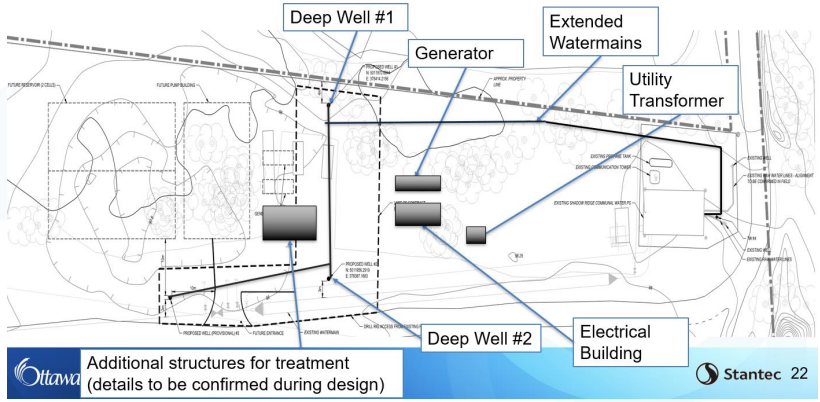


Proposed Alternative Solutions

(A) Do Nothing

(B) Connect to Municipal Water Supply

(C) Expand / Improve the Existing Facility



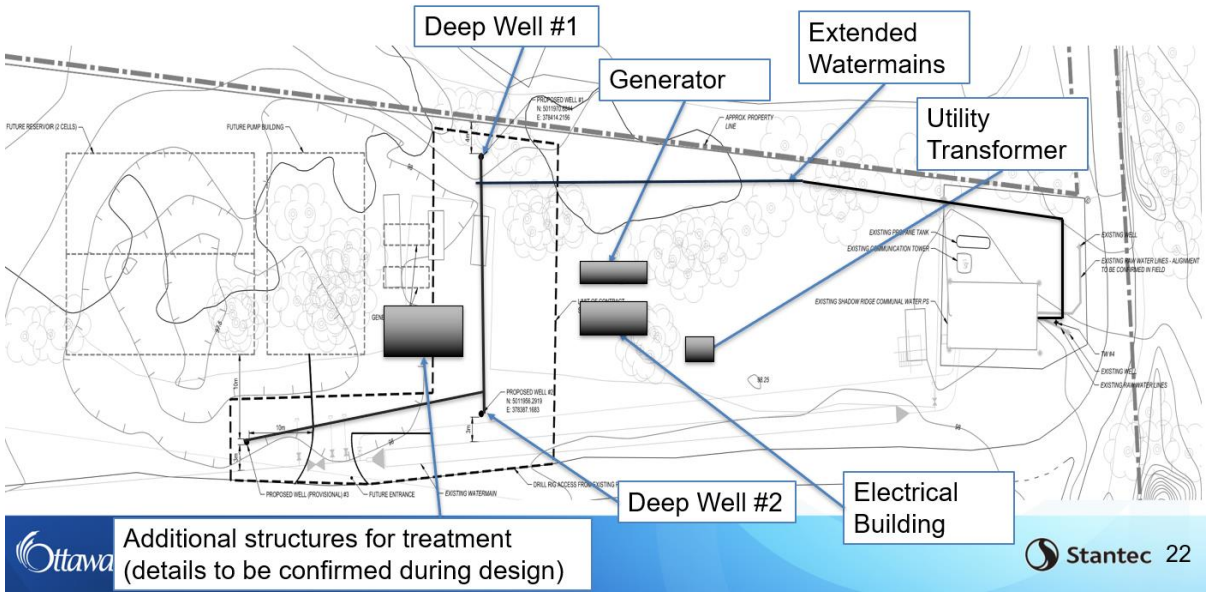
Alternative (A) Do Nothing

- Pumping facility has experienced quality issues since 2008 with rising nitrate impacts due to the shallow nature of the existing wells
- Improvements are needed to maintain quality that meets *Ontario Drinking Water Standards* (O.Reg 169/03).
- Existing wells do not have capacity to support future expansion of residential development in the area therefore this will remain unchanged with the ‘Do Nothing’ option

Alternative (B) Connect to Municipal Water Supply

- Decommission pumping facility and connect to municipal (City of Ottawa) water
- Build new watermain along City roadway, with the closest potential connection location approximately 4.5 km away (Bank St and Mitch Owens Rd).
- Ministry of Environment, Conservation and Parks approvals due to the increased environmental impacts of a new watermain:
  - Potential creek or culvert water course crossings
  - Water quality considerations such as chlorine residual and residence time
- High construction cost due to length of watermain
- Significant public impacts and inconvenience created by construction on active arterial and collector roadways

Alternative (C) Expand / Improve Existing Facility



- Environmental approvals and water servicing arrangements are already in place for existing infrastructure
- Expanded facility would include additional and deeper wells, improvements to the electrical supply system, instrumentation and controls, emergency backup generator, water quality and treatment systems.
- Construction largely restricted to the site itself
- Testing concluded water quality and quantity can be obtained with improved deeper wells at the existing site
- City staff maintenance practices easily adaptable to an expanded facility, simplifying training and maintenance effort.

Evaluation Criteria

Natural Environment

Terrestrial Environment

Aquatic Environment

Technical Consideration

Functionality

Constructability & Feasibility

Cost

Socio-Economic & Cultural Environment

Archaeological Resources

Built Heritage Resources / Cultural Landscape

Land Use

Noise/Vibration

Air Quality

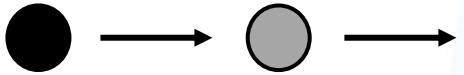
Community Access

Socio Economic

Evaluation of Alternative Solutions

Measuring the net effect includes analyzing and classifying the range of impact, i.e., high positive, low positive, no impact, low negative and high negative

	Alternative A Do Nothing	Alternative B Connect to Municipal Water Supply	Alternative C Expand / Improve Existing Facility
Natural Environment			
Socio-Economic & Cultural Environment			
Technical Considerations			
CONCLUSION	Not Recommended	Not Recommended	Recommended Solution

Least Preferred  **Most Preferred**

Preferred Solution: Alternative C

The drilling of new deeper wells is preferred because:

- Has the least impact on the surrounding natural, cultural and socio-economic environment
  - Low negative impact to terrestrial environment compared to Alternative B due to lower footprint affected by construction
  - Low negative impact to aquatic environment compared to Alternative B due to a lack of creek crossings
- High positive impact in meeting needs of future growth compared to Alternative A
- High positive impact by resolving water quality and quantity concerns compared to Alternatives A and B
- Most technically feasible compared to Alternatives A and B
- Most reasonable cost compared to Alternative B

The deeper well sources indicate:

- No presence of nitrate
- The protected aquifer may have higher iron and manganese, which may result in aesthetic differences in taste and colour (and require slightly more chlorine to treat)
- Water hardness is not expected to change (no change to need for water softener)

Proposed Construction Works of Preferred

The proposed work includes the construction of new, deeper wells to improve the local drinking water quality and supply, including:

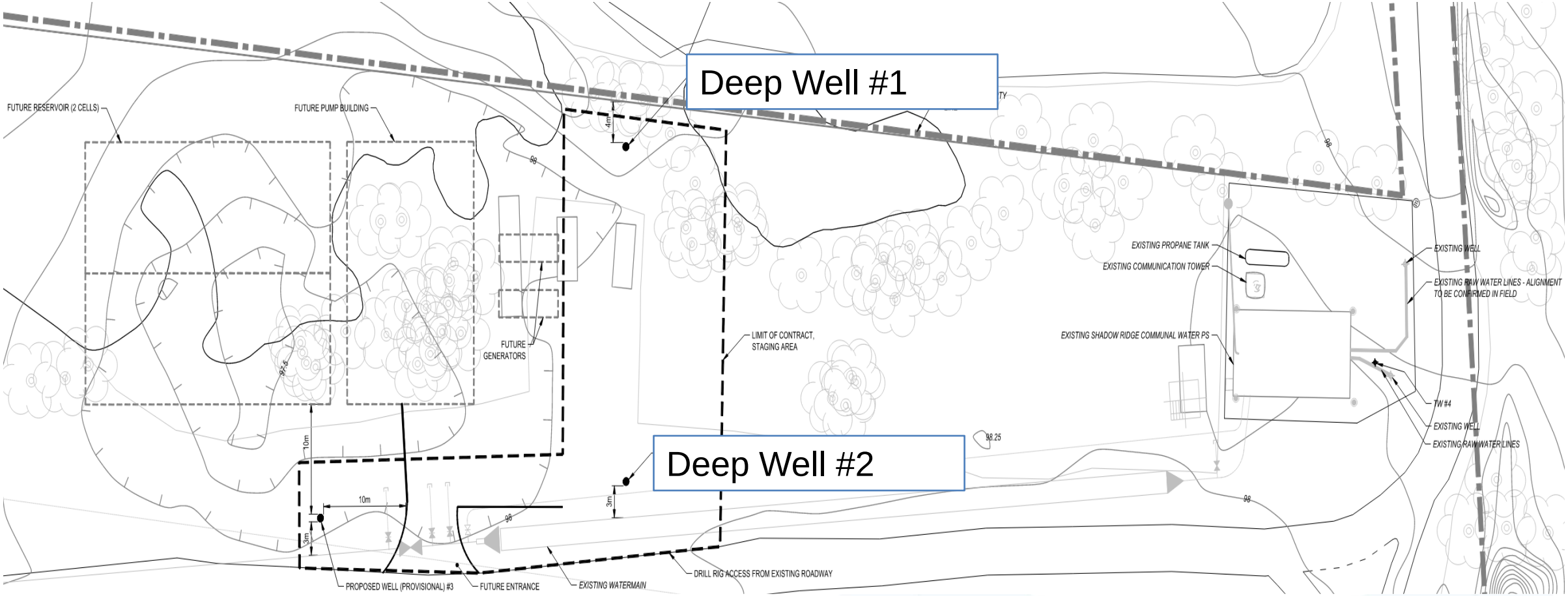
- Two (2) new, approximately 150 m deep water supply wells
- Pumping station modifications (interim) including electrical system improvements and piping
  - New 600V, 3 phase electrical service and transformer
  - New electrical and controls building
  - New standby power generator
  - New watermains, from new wells to the existing station
  - Modifications/improvements to the water treatment process (to be confirmed during design)

The wells will be designed to support existing demand but will also make consideration for future growth.

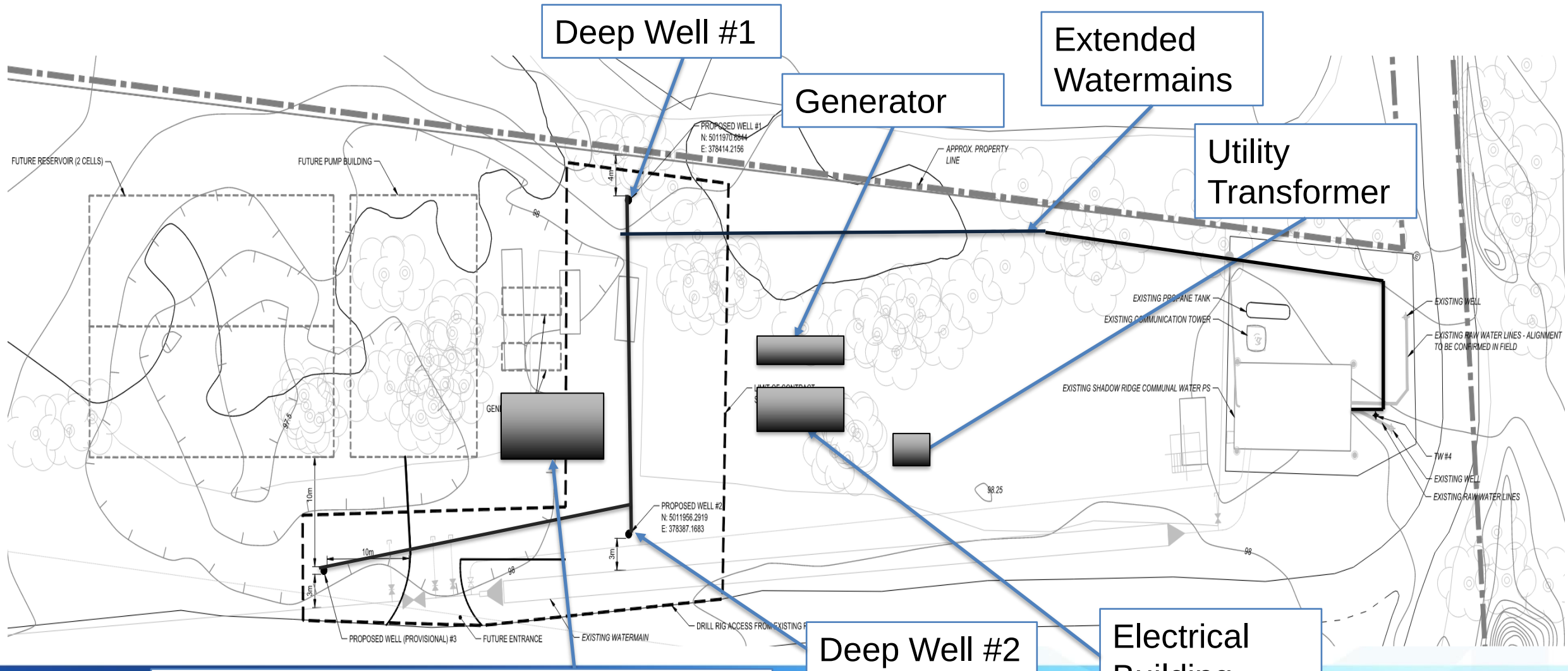
Their safe yield (capacity) was confirmed through pump tests.

Proposed Well Design

- Wells drilled to ~150m deep



Pumping Station Modifications: Proposed Design



Additional structures for treatment (details to be confirmed during design)

Environmental Impacts & Mitigation Measures

Noise / Vibration:

- Temporary noise and vibration impacts are anticipated due to construction activities over the course of one (1) construction season
- As per the City of Ottawa's *Noise By-Law* (No. 2017-255) construction will be limited to 7 am to 8 pm (Monday – Saturday) and 9 am – 10 pm (Sunday and statutory holidays).

Species at Risk & Wildlife:

- Vegetation removals (small shrubs) are anticipated in proximity to the proposed well locations.
- Sensitive timing windows will be avoided when possible (migratory breeding bird and bat maternity roosting period).
- If construction cannot avoid sensitive timing windows, bird nest surveys and maternity roost bat survey swill be required.
- Construction equipment and vehicles are to yield to wildlife.
- If wildlife species are encountered during construction, construction will immediately stop until the animal has moved off the construction site.

Environmental Impacts & Mitigation Measures

Cultural Heritage & Archaeological Conditions

- Identified designated built heritage properties are not anticipated to be impacted by construction or operation of the facility due to its distance from the site
- Due to the original construction of the facility and shallow wells, the property has been extensively and intensively disturbed, and therefore no further archaeological investigations are required

Geotechnical & Groundwater:

- All excavation should be carried out in accordance with the *Occupational Health and Safety Act*, and Regulations for Construction Projects.
- Care must be taken to protect existing structures and utilities during excavation.
- Stockpiling of excavated materials will not be permitted.
- Groundwater that is pumped from excavations will be disposed of appropriately and meet City of Ottawa *Sewer Use By-law* criteria.

Next Steps: Schedule

2023

- Complete Class EA and issue Notice of Completion to begin 30-day public review of the Project File

2024 - 2025

- Complete design and tender for pumping station modifications (Contract 2)
- Contract 2: Improve existing pumping station, commission new deeper wells and ancillary systems
- Abandon existing shallow wells

Future Works

Consideration will be given to future site growth requirements, as known and when practical, in a parallel or successive fashion. Based on demand and reliability needs, such requirements could include:

- Additional pumping station improvements
- Treated water storage reservoirs
- New pumping station
- Additional standby power
- New watermains, etc.

Thank you

Thank you for reviewing the project's information boards. We encourage and welcome your feedback on the Alternatives and Preferred Solution presented.

Please email your comments to the address below between **September 22 – October 6, 2023.**

City Project Manager

Jeff DeLoyde, M.A.Sc., P. Eng., PMP

Senior Engineer, Infrastructure Projects

City of Ottawa

100 Constellation Drive Ottawa, ON K2G 6J8

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Stantec Project Manager

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Senior Associate

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400-1331 Clyde Ave, Ottawa, ON

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Tel: 613-601-8333

Shadow Ridge Well Improvements

Online public engagement opportunity

March 17 to March 31, 2025

Welcome

Welcome to the Online Engagement Opportunity for the Shadow Ridge Well Improvements Study.

The City has a proactive communications approach. The Project Team will update you on the project using different methods to communicate including letters and posting information on ottawa.ca.

The purpose of this Online Engagement Opportunity is to present information and gather your feedback on the alternative solutions for the Shadow Ridge Well Improvements Study.

Please review the information presented and **provide your comments by phone or email**, as noted on the last page of this document, **between March 17 and March 31.**

Land acknowledgement

We recognize that Ottawa is located on unceded territory of the Anishinabe Algonquin Nation.

We extend our respect to all First Nations, Inuit and Métis peoples for their valuable past and present contributions to this land.

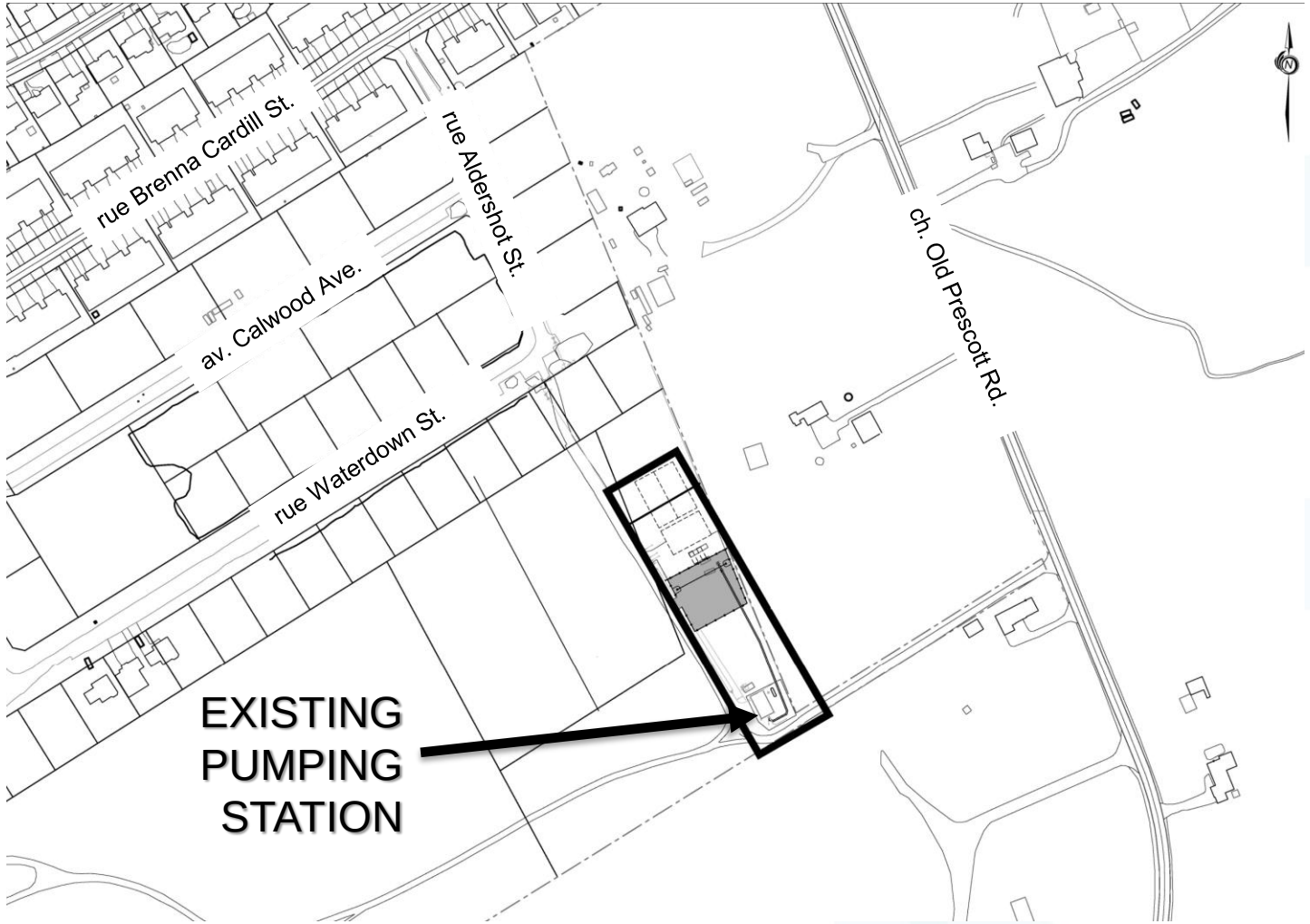
We also recognize and respect the cultural diversity that First Nations, Inuit and Métis people bring to the City of Ottawa.

Purpose of online engagement opportunity

To present information and gather your feedback on:

- Study background and purpose
- Existing site and facility
- Existing water quality
- Existing environmental conditions
- Evaluation criteria
- Evaluation of alternative solutions and recommended alternative
- Environmental impacts and mitigation measures
- Schedule
- Next steps

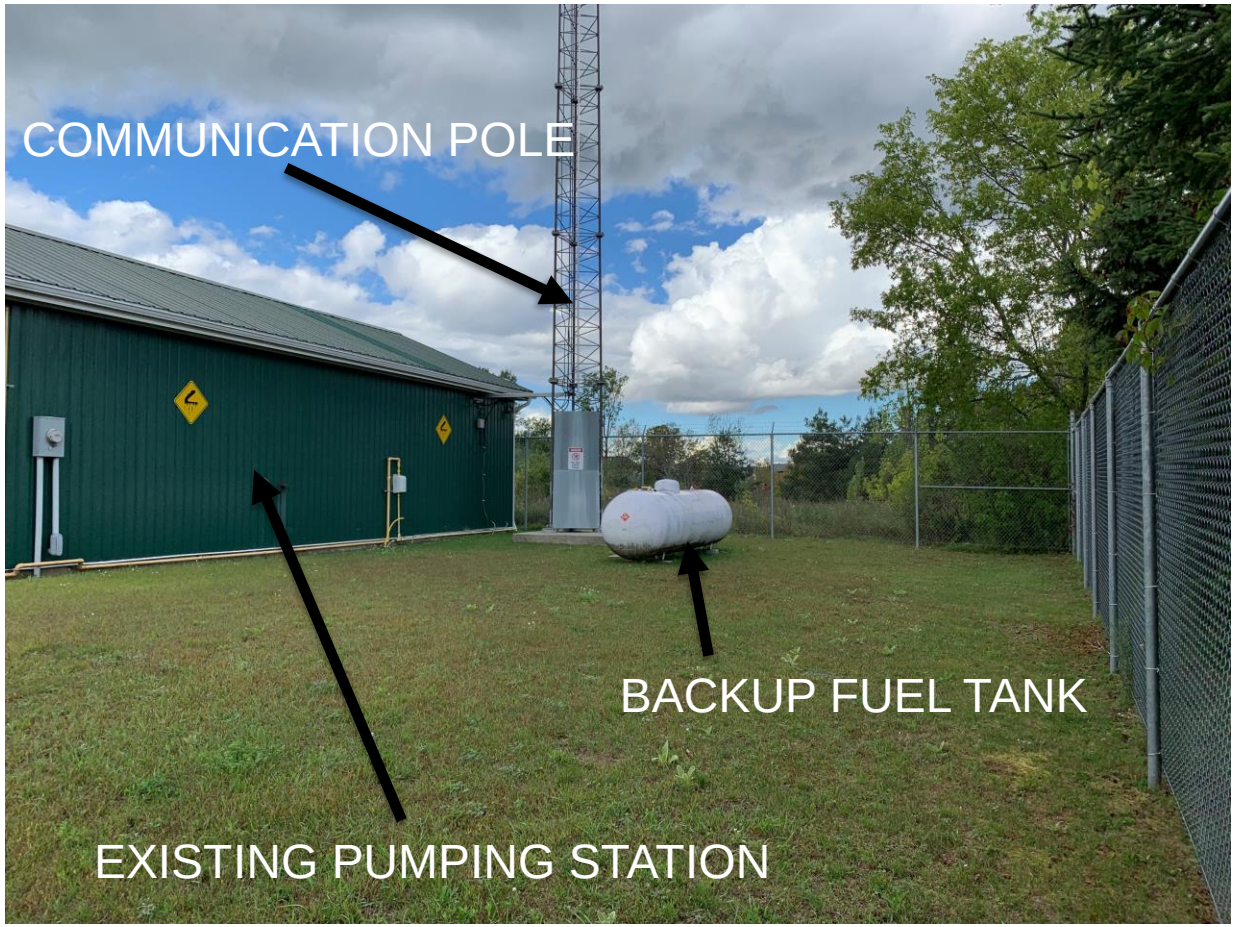
Project area: 6505B Waterdown Street



Project history

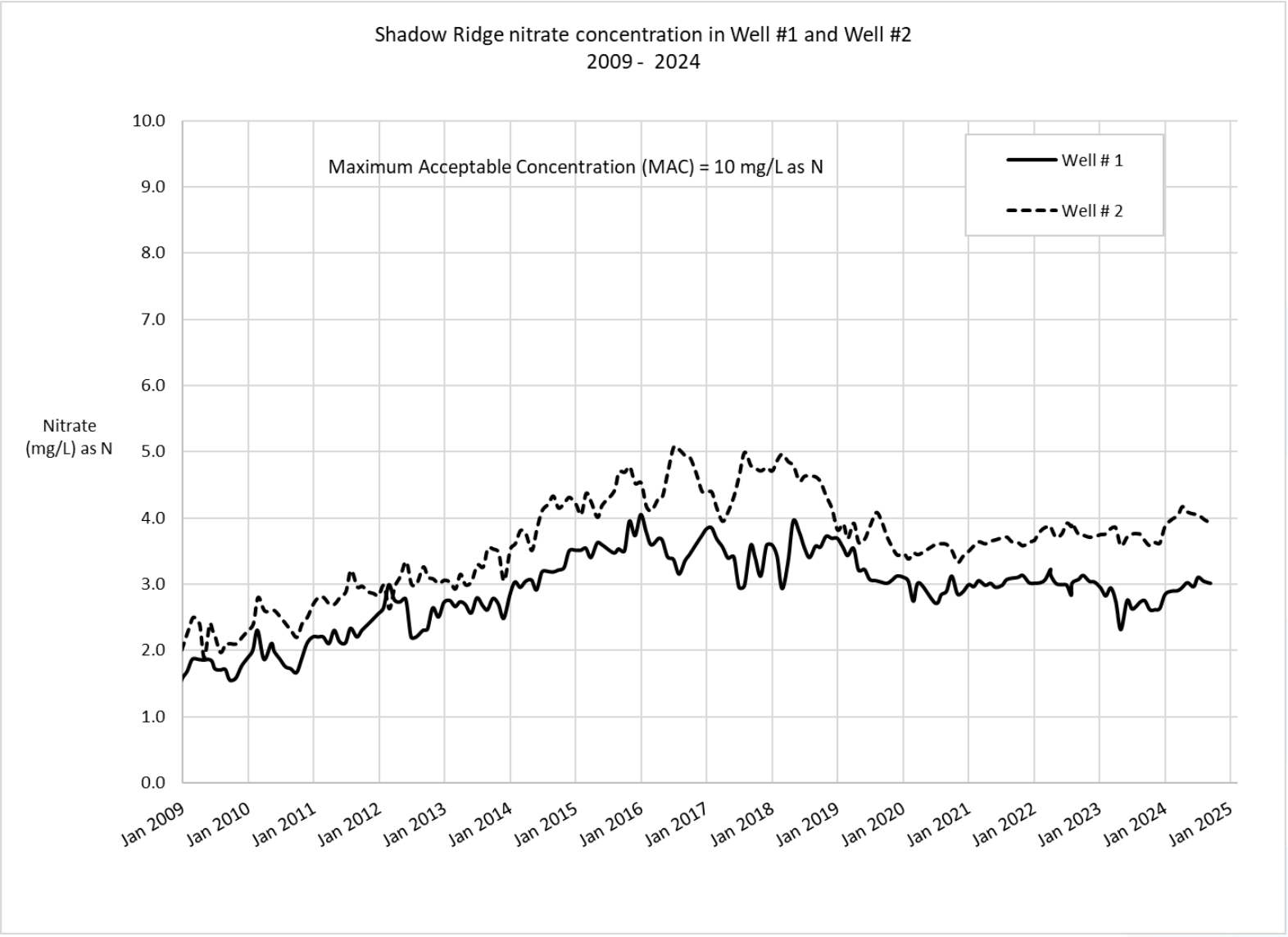
2017	First public information session (December 2017)
	First deep well into the Nepean Aquifer
2018	Private property acquisition underway
2019	Private property acquisition completed
	Second deep well into the Nepean Aquifer
2020	Third deep well into the Nepean Aquifer, including pump testing
2021	Shadow Ridge Well Improvement System Design started
2022 - 2023	Deep well drilling to confirm groundwater supply and quality

Existing site



Existing Shadow Ridge shallow well system

- **Safe to drink** – meets all Federal and Provincial drinking water standards
- The existing shallow wells are 19 m in depth
- Water quality is excellent, except for nitrate concentrations
- Nitrate concentrations are within the safe drinking water standard of 10 mg/L and do not pose a health concern
- The nitrate source is not known, but likely comes from surface water sources (septic, agriculture)



Understanding water quality - Nitrate

Nitrate levels increased from 2008 to 2017 in the existing shallow wells. Declining and now relatively stable trend began in 2019.

Nitrate concentrations have always been safely below the 10 mg/L Drinking Water standard.

Nitrate can be removed by reverse osmosis or ion exchange, but treatment is complicated and costly.

Problem and opportunity statement

The existing shallow groundwater supply wells have been experiencing rising nitrate levels, which raise potential quality concern for residential end users.

The purpose of the Shadow Ridge Deep Wells Class EA is to identify feasible water servicing alternatives to improve the water quality of the Shadow Ridge Communal Well System.

Natural environment

Based on the findings of a natural heritage screening undertaken within and surrounding the project area:

- No Species at Risk have been identified within or 50 m from the Project Area
- There may be potential habitat for tree, bird and bat Species at Risk within the Project Area.

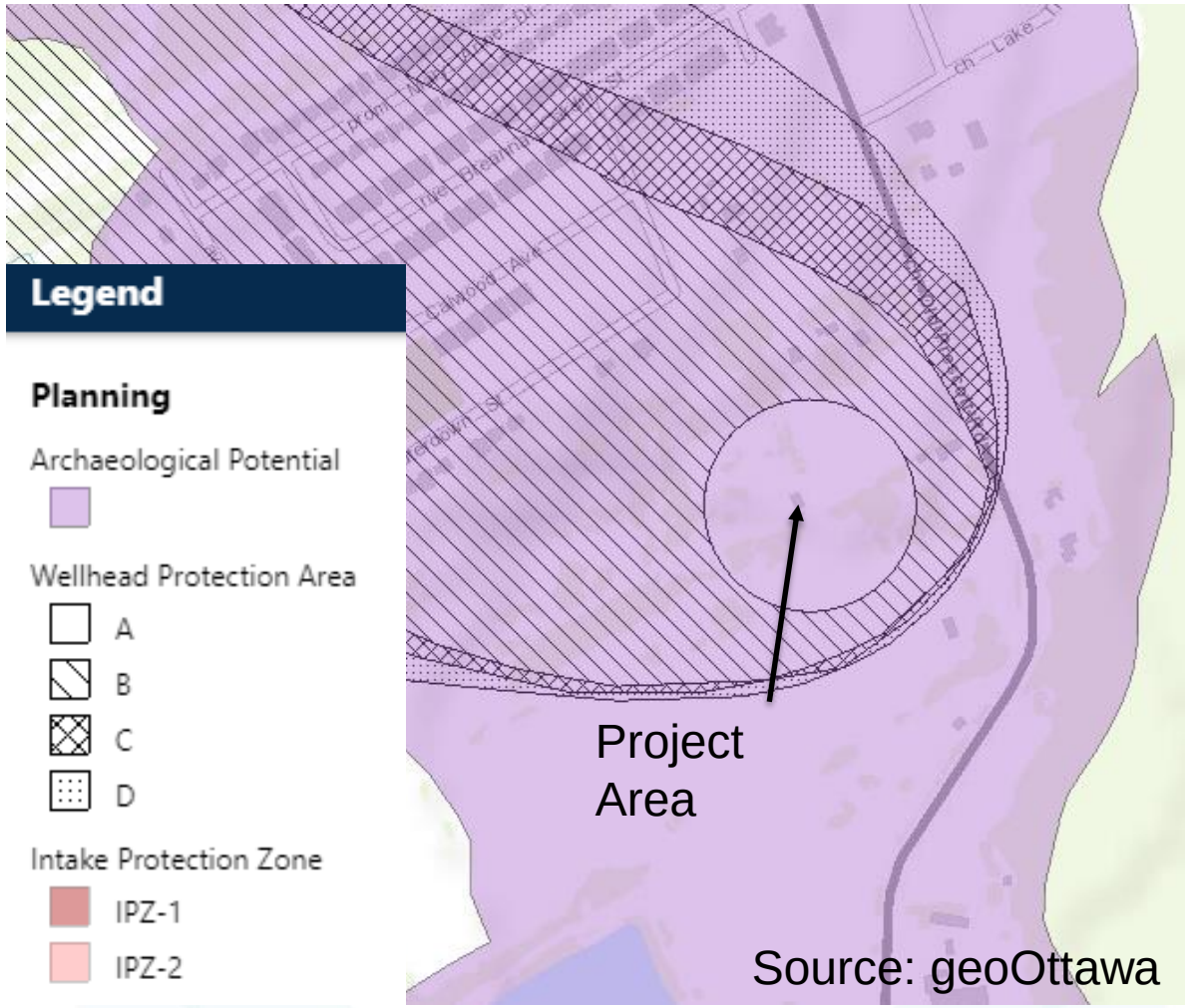
Cultural heritage

- The City of Ottawa maintains a register of properties that have local cultural heritage value

- One (1) heritage building is listed ~550 m away from the facility:
    - 1847 Old Prescott Road – detached residential T-shaped Ontario Cottage style house built circa 1850

Archaeological conditions

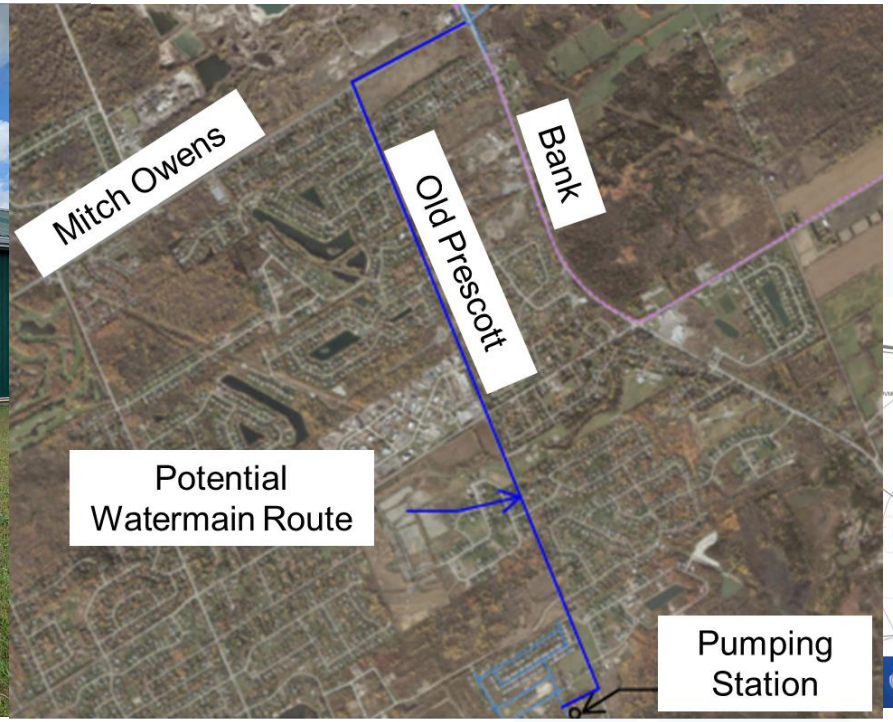
- As part of the City of Ottawa, the site is built on un-ceded Anishinabe Algonquin territory
- The current site is designated as area that may have archaeological potential (geoOttawa)
- Proposed impact areas were cleared of archaeological potential due to being previously disturbed
- *0478E - Criteria for Evaluating Archaeological Potential* checklist provided by Ministry of Citizenship and Multiculturalism will be required once a Preferred Alternative is chosen



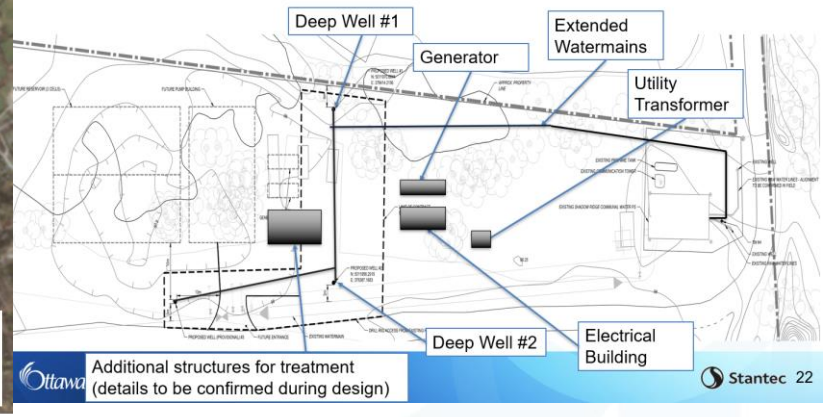
Proposed alternative solutions

(1) Do nothing

(2) Connect to municipal water supply



(3) Improved groundwater supply from deep wells



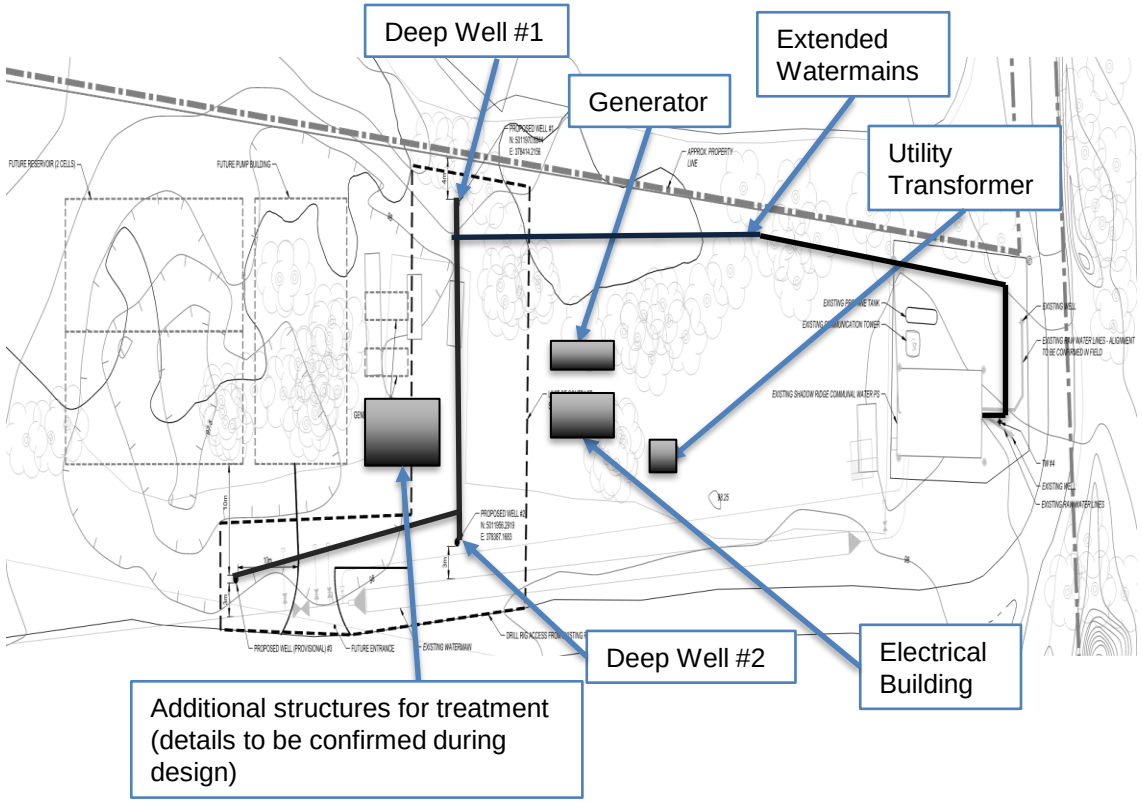
Alternative 1: Do nothing

- Pumping facility had experienced rising nitrate concentrations between 2008 and 2017, due to the shallow nature of the existing wells.
- Nitrate concentrations declined starting in 2019 and have remained relatively stable since then.
- Nitrate concentrations have always been safely below the 10 mg/L drinking water standard.
- The existing pump station does not have capacity to support future expansion of residential development in the area beyond Phase 2B, therefore this will remain unchanged with the ‘Do Nothing’ option

Alternative 2: Connect to municipal water supply

- Decommission pumping facility and connect to municipal (City of Ottawa) water
- Build new watermain along City roadway, with the closest potential connection location approximately 4.5 km away (Bank Street and Mitch Owens Road).
- Ministry of the Environment, Conservation and Parks approvals due to the increased environmental impacts of a new watermain:
  - Potential creek or culvert water course crossings
  - Water quality considerations such as chlorine residual and residence time
- High construction cost due to length of watermain
- Significant public impacts and inconvenience created by construction on active arterial and collector roadways

Alternative 3: Improved groundwater supply from deep wells



- Environmental approvals and water servicing arrangements are already in place for existing infrastructure
- Expanded facility would include additional and deeper wells, improvements to the electrical supply system, instrumentation and controls, emergency backup generator, water quality and treatment systems.
- Construction largely restricted to the site itself
- Testing concluded water quantity can be obtained with improved deeper wells at the existing site. Water treatment to be provided.
- City staff maintenance practices easily adaptable to an expanded facility, simplifying training and maintenance effort.

Evaluation criteria

Natural environment

- Terrestrial environment
- Aquatic environment

Technical consideration

- Functionality
- Constructability & feasibility
- Cost

Socio-economic & cultural environment

- Archaeological resources
- Built Heritage resources / Cultural landscape
- Land use
- Noise/vibration
- Air quality
- Community access
- Socio-economic impacts

Evaluation of alternative solutions

Measuring the net effect includes analyzing and classifying the range of impact, such as high positive, low positive, no impact, low negative and high negative

	Alternative 1: Do Nothing	Alternative 2: Connect to Municipal Water Supply	Alternative 3: Improved Groundwater Supply from deep wells
Natural environment	**Preferred**	Not preferred	Not preferred
Socio-economic & cultural environment	**Preferred**	Not preferred	Not preferred
Technical considerations	**Preferred**	Not preferred	Not preferred
CONCLUSION	**Recommended solution**	Not recommended	Not recommended

Preferred solution: Alternative 1

The ‘Do Nothing’ solution is preferred because:

- It will maintain the current water quality with no impacts to surrounding natural and socio-economic environment.
- As nitrate concentration in the shallow wells is now stable, has improved somewhat, and acceptable quality standards are maintained, no modifications to the existing system are required.
- It best supports the identified need for the project, which was driven by a previously increasing trend in nitrate concentration.

Alternatives 2 and 3 will impact the natural and socio-economic environment and are considering more impactful than Alternative 1 due to greater environmental impacts, higher capital costs, longer construction periods and numerous permit requirements. Alternative 3 is anticipated to incur the highest operational and maintenance costs, due to the need to mitigate and manage iron and manganese and have the greatest potential for aesthetic water quality complaints.

Environmental impacts & mitigation measures

As part of the Class EA process, measures should be identified to offset potential environmental impacts of the proposed undertaking.

Since the preferred alternative is to do nothing, and there will be no impacts to the natural and socio-economic environment, there is no need for mitigation.

Next steps: Schedule

2025

- Complete Municipal Class Environmental Assessment
- Issue the ‘Notice of Completion’ which begins the 30-day public review of the project file
- Closure of comment period: March 31, 2025
- Posting of final report and comments: Spring 2025

Future works

Consideration will be given to future site growth requirements, as known and when practical, in a parallel or successive fashion.

Based on demand and reliability needs, such requirements could include:

- Future pumping station improvements
- Treated water storage reservoirs
- New pumping station
- Additional standby power
- New watermains, etc.

Thank you

Thank you for reviewing the project's information boards. We encourage and welcome your feedback on the alternatives and preferred solution presented.

Please email your comments to the address below between **March 17 – 31, 2025.**

City Project Manager

Jeff DeLoyde, M.A.Sc., P. Eng., PMP

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Tel: 613-601-8333

Amélioration des puits de Shadow Ridge

Consultation publique en ligne

Du 17 au 31 mars 2025

Bienvenue

Bienvenue à la consultation en ligne concernant l'Étude relative à l'amélioration des puits de Shadow Ridge.

La Ville utilise une approche proactive en matière de communications. L'équipe responsable du projet vous tiendra au courant de l'évolution des travaux en ayant recours à diverses méthodes de communication, notamment des lettres et des publications sur Ottawa.ca.

L'objectif de la présente séance de consultation en ligne est de vous informer et de connaître votre avis sur les solutions proposées pour l'Étude relative à l'amélioration des puits de Shadow Ridge.

Veuillez prendre connaissance de l'information présentée et **soumettre vos commentaires par téléphone ou par courriel** (voir la dernière page du présent document) **entre le 17 mars et le 31 mars.**

Reconnaissance du territoire

Nous reconnaissons qu'Ottawa se trouve sur un territoire non cédé de la Nation Anishinabe Algonquine.

Nous tenons d'ailleurs à saluer l'ensemble des membres des Premières Nations et des peuples inuits et métis pour leur apport précieux, passé et présent, dans la région.

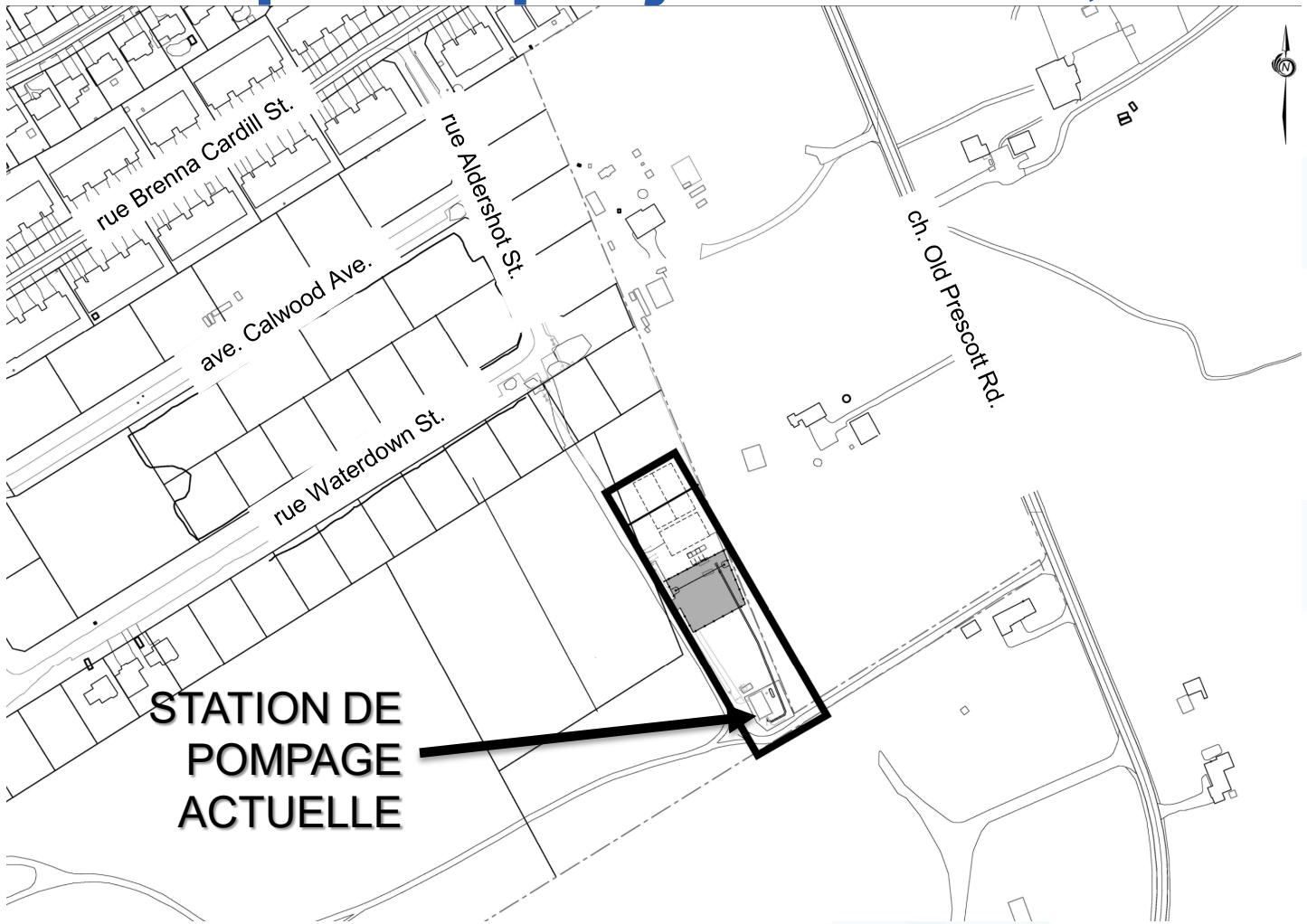
De plus, nous reconnaissons et respectons la diversité culturelle des membres des Premières Nations, des Inuits et des Métis, diversité qui enrichit notre ville.

But de la présente consultation en ligne

Présenter des informations et connaître votre avis sur les points suivants.

- Contexte et but de l'étude
- Site et installations actuels
- Qualité de l'eau actuelle
- Conditions environnementales actuelles
- Critères d'évaluation
- Évaluation des solutions proposées et solution recommandée
- Répercussions environnementales et mesures d'atténuation
- Calendrier
- Prochaines étapes

Secteur visé par le projet : 6505B, rue Waterdown



Historique du projet

2017	Première séance d'information publique (décembre 2017)
	Premier puits profond dans l'aquifère de Nepean
2018	Acquisition de propriétés privées en cours
2019	Acquisition de propriétés privées terminée
	Deuxième puits profond dans l'aquifère de Nepean
2020	Troisième puits d'essai dans l'aquifère de Nepean et mise à l'essai de pompes
2021	Début des études relatives à l'amélioration du système de puits de Shadow Ridge
2022 - 2023	Forage de puits profonds pour vérifier l'approvisionnement en eau souterraine et sa qualité

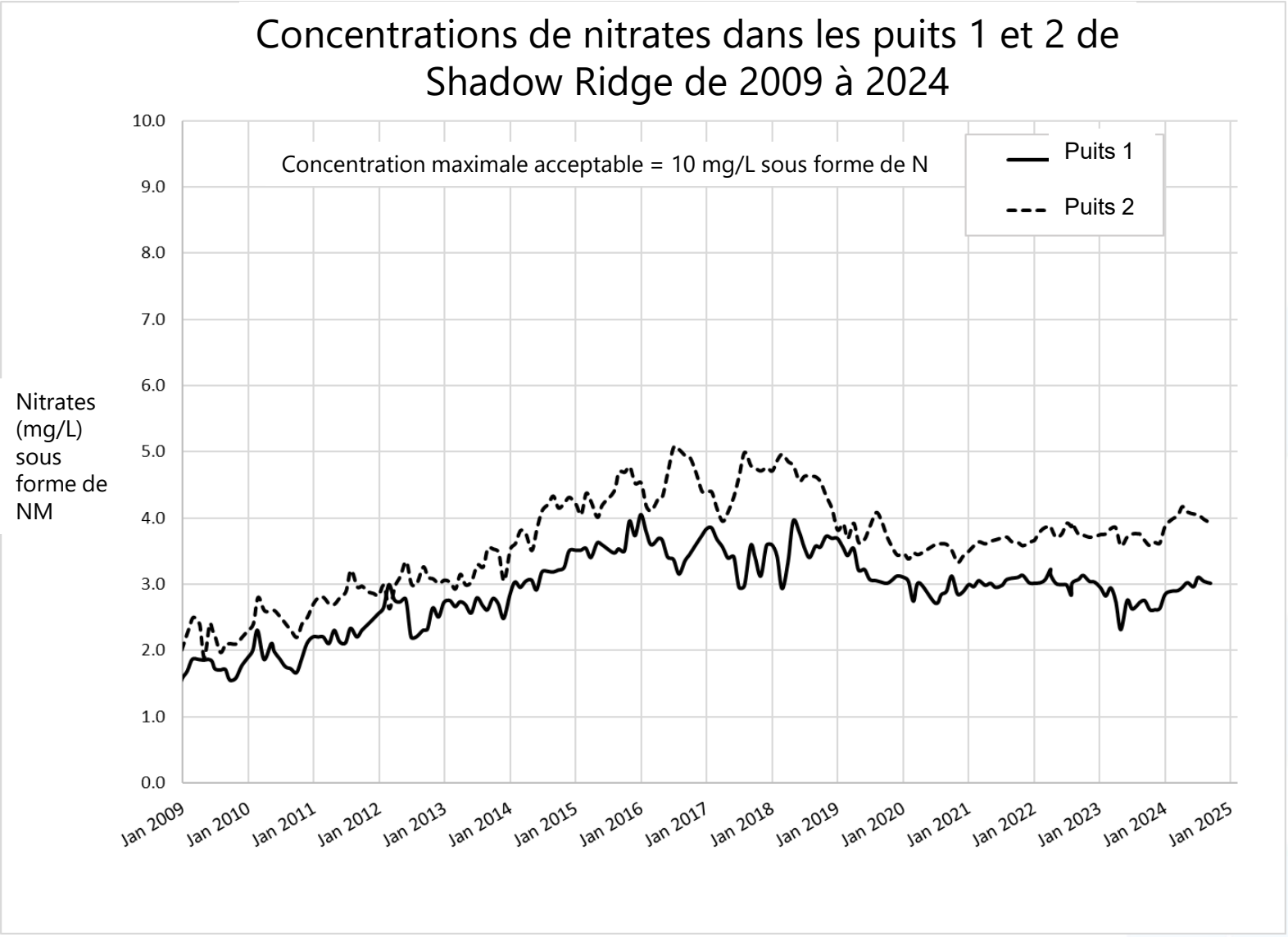
Site actuel


TOUR DE COMMUNICATION
RÉSERVOIR DE CARBURANT DE SECOURS
STATION DE POMPAGE ACTUELLE


PUITS PEU PROFONDS ACTUELS

Système de puits peu profonds actuel de Shadow Ridge

- **Propre à la consommation** — répond à toutes les normes fédérales et provinciales en matière d'eau potable
- Les puits peu profonds actuels ont une profondeur de 19 m.
- La qualité de l'eau est excellente, à l'exception des concentrations de nitrates.
- Les concentrations de nitrate respectent la norme de salubrité de l'eau potable de 10 mg/L et ne posent aucun danger pour la santé.
- L'origine des nitrates est inconnue, mais ils proviennent probablement des eaux de surface (fosses septiques, agriculture).



Comprendre la qualité de l'eau — Nitrates

Les concentrations de nitrates ont augmenté entre 2008 et 2017 dans les puits peu profonds. La tendance était à la baisse, puis une stabilité relative s'est amorcée en 2019.

Les concentrations de nitrates ont toujours été bien inférieures à la norme de 10 mg/L pour l'eau potable.

Les nitrates peuvent être éliminés par osmose inverse ou par échange d'ions, mais le traitement est compliqué et coûteux.

Énoncé du problème et des possibilités

Les puits peu profonds actuels ont affiché une augmentation des concentrations de nitrates, ce qui soulève des préoccupations en matière de qualité pour les résidents desservis.

Le but de l'Évaluation environnementale municipale de portée générale relative aux puits profonds de Shadow Ridge est de trouver des solutions réalisables pour améliorer la qualité de l'eau du réseau de puits collectifs de Shadow Ridge.

Environnement naturel

D’après les résultats d’un examen du patrimoine naturel effectué à l’intérieur et aux alentours de la zone visée par le projet :

- aucune espèce en péril n’a été recensée dans la zone visée par le projet et à moins de 50 m de celle-ci;
- la zone visée par le projet pourrait contenir un habitat utilisé par des espèces d’arbres, d’oiseaux et de chauves-souris en péril.

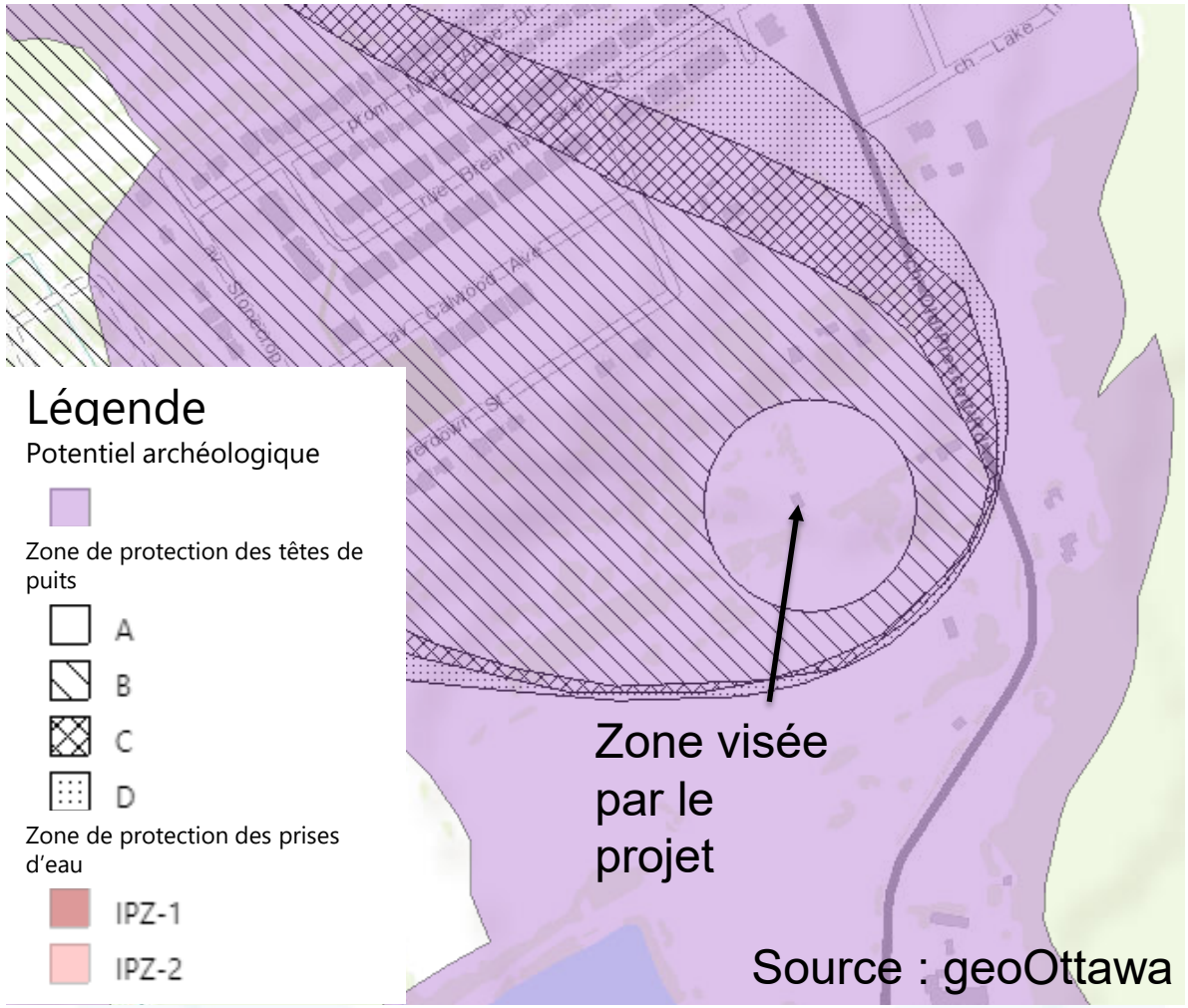
Patrimoine culturel

- La Ville d'Ottawa tient un registre des propriétés ayant une valeur sur le plan du patrimoine culturel local.

- Un bâtiment patrimonial est répertorié à environ 550 m de l'installation.
    - Il s'agit du 1847, chemin Old Prescott, maison résidentielle isolée de style cottage ontarien avec plan en T construite vers 1850.

Conditions archéologiques

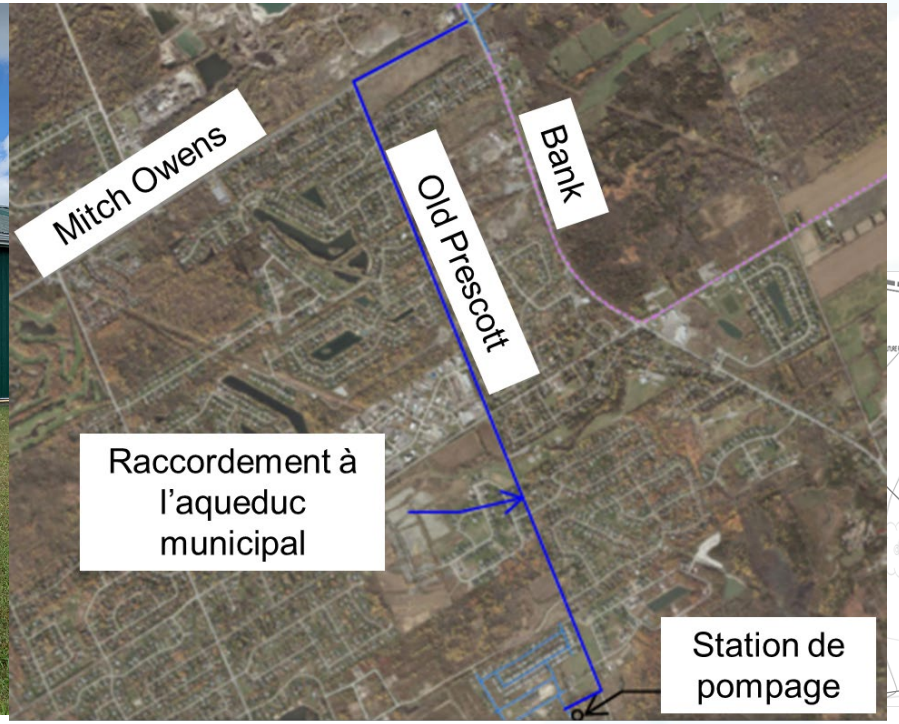
- Faisant partie de la ville d'Ottawa, le site se trouve sur le territoire non cédé de la Nation Anishinabe Algonquine.
- Le site actuel est désigné comme une zone qui pourrait avoir un potentiel archéologique (geoOttawa).
- Les zones qui seraient touchées n'affichent plus de potentiel archéologique en raison de perturbations antérieures.
- La liste de vérification 0478F — Critères d'évaluation du potentiel archéologique, fournie par le ministère des Affaires civiques et du Multiculturalisme sera exigée une fois que la solution privilégiée aura été choisie.



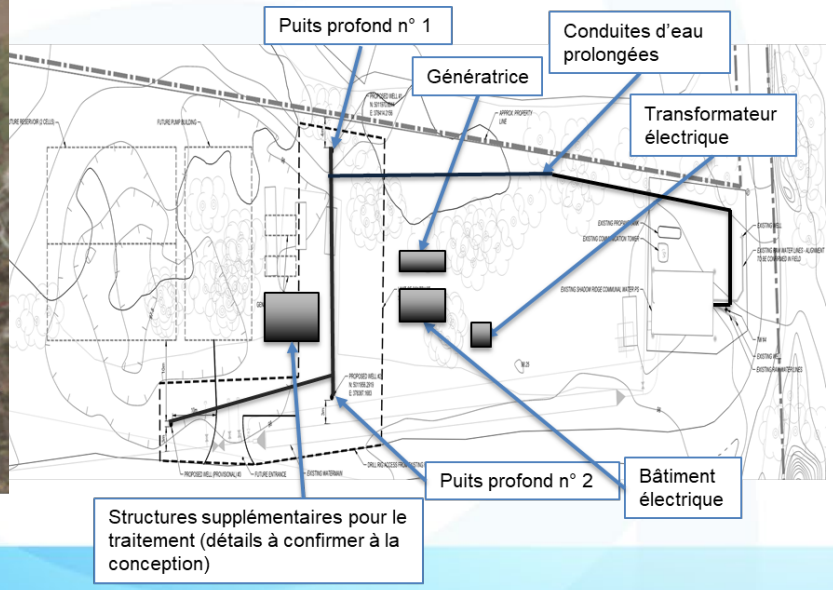
Solutions proposées

1) Ne rien faire

2) Raccordement à l'aqueduc municipal



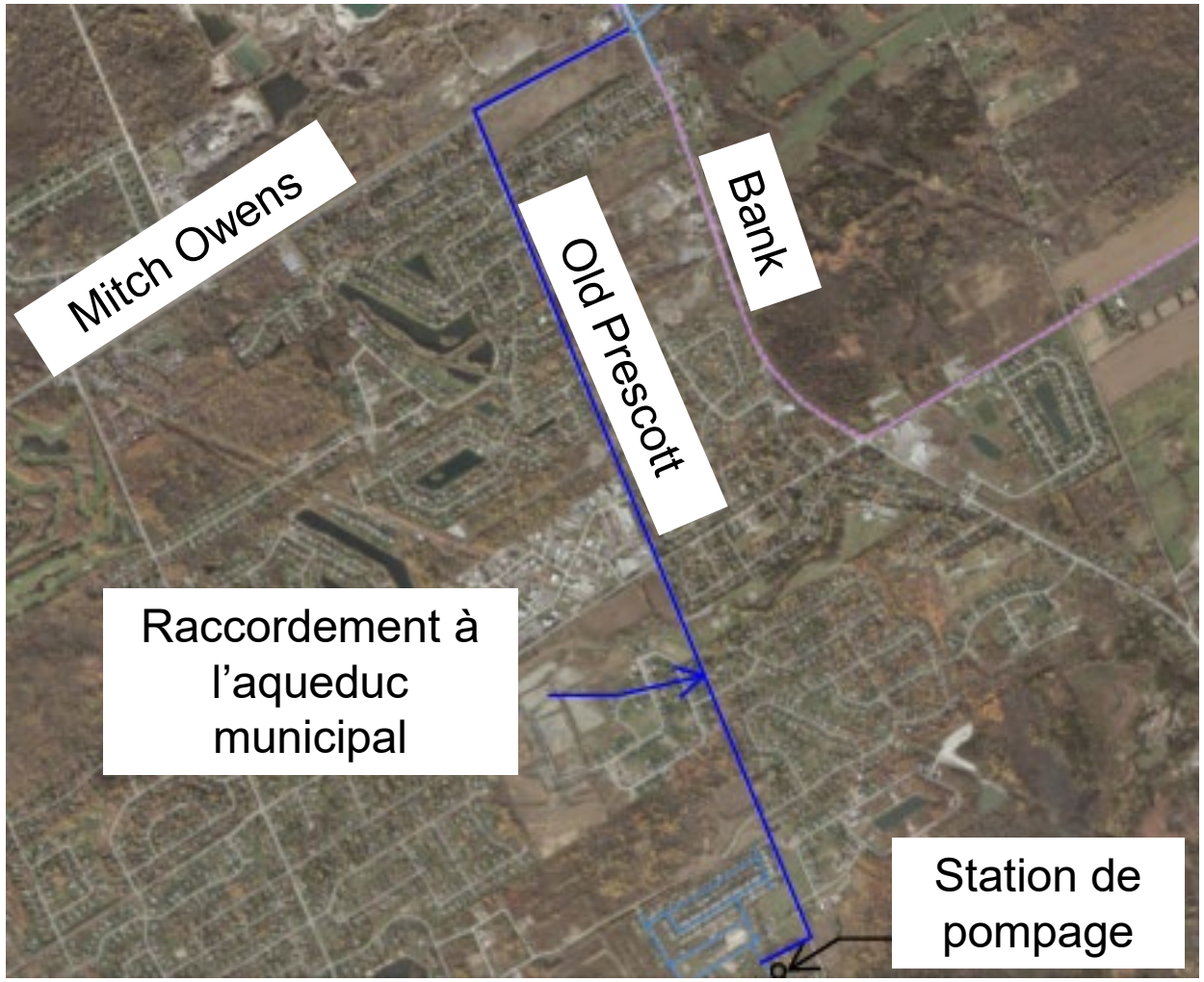
3) Amélioration de l'approvisionnement en eau souterraine grâce à des puits profonds



Solution 1 : Ne rien faire

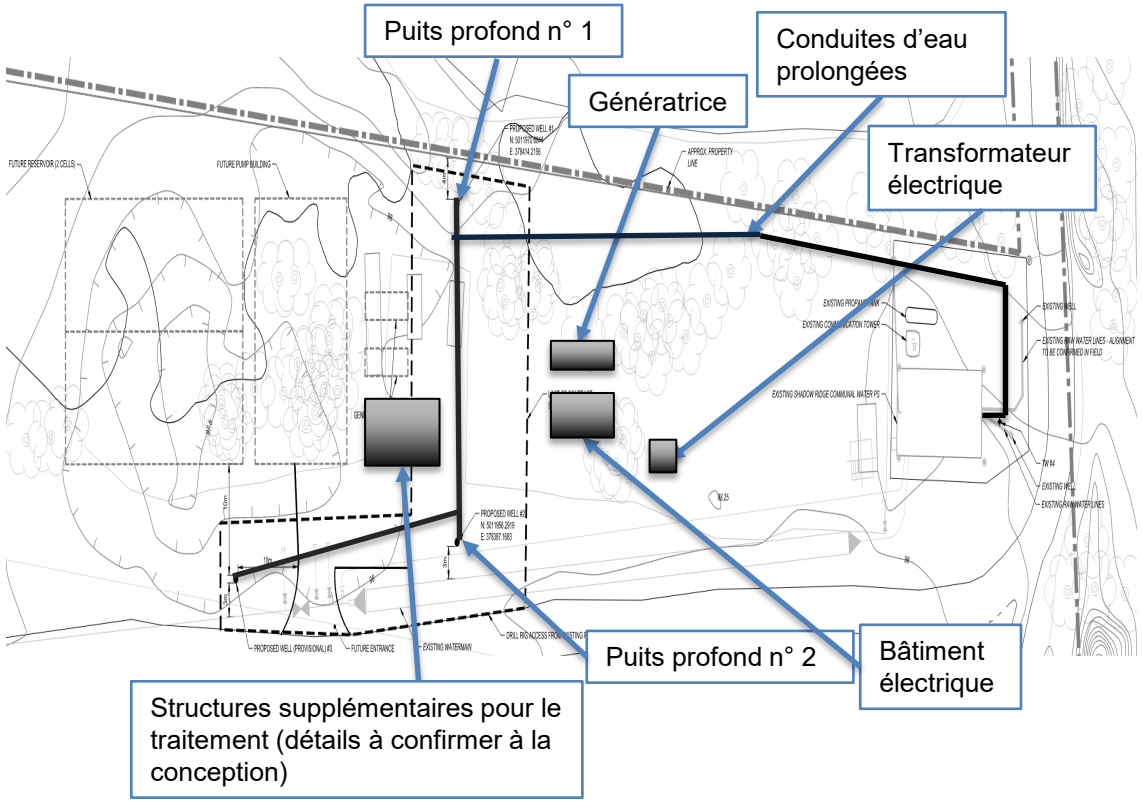
- La station de pompage a affiché une augmentation des concentrations de nitrates entre 2008 et 2017 en raison de la faible profondeur des puits exploités.
- Les concentrations de nitrates ont diminué à partir de 2019 et sont restées relativement stables depuis.
- Les concentrations de nitrates ont toujours été bien inférieures à la norme de 10 mg/L pour l'eau potable.
- La station de pompage actuelle n'a pas la capacité nécessaire pour soutenir l'expansion à venir de l'aménagement résidentiel dans la zone au-delà de la phase 2 B. La situation demeurera donc inchangée si la solution « Ne rien faire » est choisie.

Solution 2 : Raccordement à l’aqueduc municipal



- Mise hors service de la station de pompage et raccordement à l’aqueduc municipal (Ville d'Ottawa).
- Construction d’une nouvelle conduite d’eau principale le long des routes de la Ville. L’emplacement du raccordement le plus proche sera situé à environ 4,5 km (à l’angle de la rue Bank et du chemin Mitch Owens).
- Approbations du ministère de l’Environnement, de la Protection de la nature et des Parcs requises en raison des répercussions environnementales accrues liées à la construction d’une nouvelle conduite d’eau principale.
  - Traversées de ruisseau ou franchissements de ponceaux potentiels.
  - Considérations relatives à la qualité de l’eau, telles que le chlore résiduel et le temps de séjour.
- Coût de construction élevé en raison de la longueur de la conduite d’eau principale.
- Répercussions sur le public et inconvénients importants occasionnés par l’exécution de travaux sur des artères et des routes collectrices importantes.

3) Amélioration de l’approvisionnement en eau grâce à des puits profonds



- Autorisations environnementales et dispositions relatives à la viabilisation en eau déjà en place pour les infrastructures actuelles.
- Installation agrandie comprenant des puits supplémentaires et plus profonds, des améliorations du système d’alimentation électrique, des instruments et des dispositifs de contrôle, une génératrice auxiliaire d’urgence et un système de qualité et de traitement de l’eau.
- Construction en grande partie limitée au site même.
- Possibilité d’obtenir la quantité d’eau requise en améliorant les puits plus profonds du site actuel confirmée par les essais. Traitement de l’eau à prévoir.
- Pratiques d’entretien du personnel de la Ville faciles à adapter à une installation agrandie, simplifiant ainsi la formation et les travaux d’entretien.

Critères d’évaluation

Environnement naturel

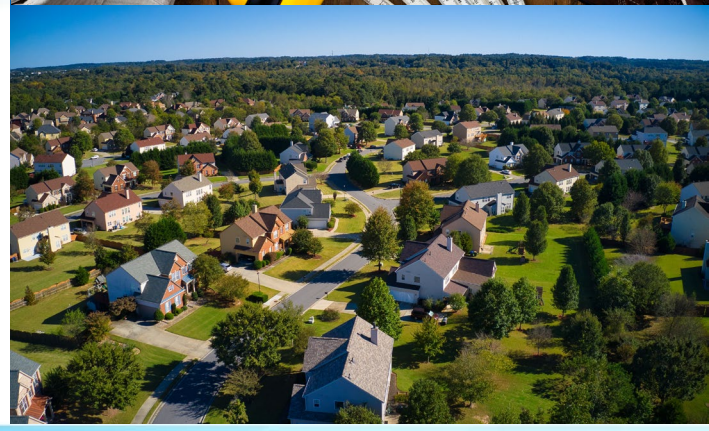
- Environnement terrestre
- Environnement aquatique

Considérations techniques

- Fonctionnalité
- Constructibilité et faisabilité
- Coût

Environnement socio-économique et culturel

- Ressources archéologiques
- Ressources du patrimoine bâti/Paysage culturel
- Utilisation des sols
- Bruit/vibrations
- Qualité de l’air
- Accès communautaire
- Répercussions socio-économiques



Évaluation des solutions

La mesure de l'effet net comprend l'analyse et la classification de l'étendue des retombées, c.-à-d. des retombées positives importantes ou moindres, aucune retombée, des retombées négatives moindres ou importantes.

	Solution 1 Ne rien faire	Solution 2 Raccordement à l'aqueduc municipal	Solution 3 Amélioration de l'approvisionnement en eau grâce à des puits profonds
Environnement naturel	**Solution privilégiée**	Solution non recommandée	Solution non recommandée
Environnement socioéconomique et culturel	**Solution privilégiée**	Solution non recommandée	Solution non recommandée
Considérations techniques	**Solution privilégiée**	Solution non recommandée	Solution non recommandée
CONCLUSION	**Solution recommandée**	Solution non recommandée	Solution non recommandée

Solution privilégiée : Solution 1

La solution « Ne rien faire » est privilégiée pour les raisons suivantes.

- Elle maintiendra la qualité de l'eau actuelle sans avoir d'incidence sur les environnements naturel et socio-économique du secteur.
- Étant donné que la concentration de nitrates dans les puits peu profonds est désormais stable, qu'elle s'est quelque peu améliorée et que des normes de qualité acceptables sont maintenues, il n'est pas nécessaire de modifier le système actuel.
- Elle répond au mieux au besoin exprimé pour le projet, à savoir la tendance à la hausse des concentrations de nitrates.

Les solutions 2 et 3 auront des répercussions sur les environnements naturel et socio-économique et pourraient avoir des conséquences plus importantes que la solution 1 en raison de leurs effets environnementaux plus importants, d'investissements plus élevés, de périodes de construction plus longues et du nombre important de permis requis. De son côté, la solution 3 devrait entraîner les coûts d'exploitation et d'entretien les plus élevés du fait qu'elle requiert une limitation et une gestion de la quantité de fer et de manganèse et du fait qu'elle est la plus susceptible de donner lieu à des plaintes concernant la qualité esthétique de l'eau.

Répercussions environnementales et mesures d'atténuation

Le processus d'évaluation environnementale municipale de portée générale exige que des mesures soient définies pour compenser les répercussions que peut avoir le projet sur l'environnement.

Étant donné que la solution privilégiée consiste à ne rien faire et qu'il n'y aura aucune incidence sur les environnements naturel et socio-économique, aucune mesure d'atténuation n'est à prévoir.

Prochaines étapes : Calendrier

2025

- Terminer l'évaluation environnementale municipale de portée générale.
- Émettre l'« avis d'achèvement », qui marque le début de la période d'examen public de 30 jours du dossier.
- Clôture de la période de consultation : 31 mars 2025
- Publication du rapport définitif et des commentaires : Printemps 2025

Travaux futurs

On tiendra compte des besoins futurs en matière de croissance du site, dans la mesure où ils sont connus et qu'il est possible de le faire, de manière concomitante ou consécutive.

En fonction de la demande et des besoins en matière de fiabilité, certaines exigences pourraient devoir être respectées :

- apport d'améliorations à la station de pompage;
- aménagement de réservoirs de stockage des eaux traitées;
- construction d'une nouvelle station de pompage;
- mise en place d'une autre génératrice d'urgence;
- installation de nouvelles conduites d'eau principales, etc.

Merci!

Merci d'avoir pris le temps de lire les panneaux d'information du projet. Nous vous invitons à nous faire part de vos commentaires sur les solutions présentées ainsi que la solution privilégiée.

Veuillez envoyer vos commentaires par courriel à l'adresse ci-dessous entre le **17 mars et le 31 mars 2025**.

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