

Town of Orangeville

Municipal Class Environmental Assessment for Water Storage and Pumping at Well 5/5A

Schedule 'B' Project File Report

Monday, July 10, 2023

T001436A

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1 Introduction and Study Area

The Town of Orangeville (Town) completed a Schedule B Municipal Class Environmental Assessment study to plan for a new water storage facility at the Wells 5/5A site on Dufferin County Road 16, north of Greenwood Cemetery and Broadway, at the western side of the Town of Orangeville. The Study Area is illustrated in Figure 1. It is within the Township of Amaranth however is owned by the Town.



Figure 1: Study Area

The property entrance is directly off of Dufferin County Road 16, and a short gravel access road leads from Dufferin County Road 16 to the Well 5/5A Water Treatment Plant (WTP). There are three buildings on the property including the WTP, the Well 5B Pumphouse, and Pumphouse buildings. The areas of land surrounding the property are woodland to the west, a rail line and agricultural lands to the north, with a residential property to the north-east, and the Greenwood cemetery immediately to the south.

The Study Area has an area of approximately 6.0 hectares, with the Focused Study Area having an area of approximately 1.2 hectares. The area immediately surrounding the WTP and Pumphouse is grassed and has a gate bar entry from the access road.

1.1 Study Background

The Town is responsible for the treatment and distribution of potable water from groundwater well sources to service approximately 30,000 people of Orangeville. The drinking water distribution system consists of seven Pressure Zones (zones) within the Town, and are known as zones 1-2, 3, 3A, 4, 4A, 4B, and 5. Zone 4 includes the West Sector Reservoir Elevated Water Tank (WSR) constructed in 1998. This elevated tank is a vital component of the Orangeville distribution system, provides a net storage capacity of 5.69 million litres (ML) and services a population equivalent to approximately 5,812 people. Depending upon the water levels inside the WSR, it can be used to supply water to all areas of the Town's distribution system to approximately 30,000 residents.

The Town has been proactive in planning for the WSR necessary rehabilitation upgrades. Being in service for more than 20 years, the WSR is required to be offline for a period of months for the upgrades to occur. When offline, the burden of maintaining water service to Zone 4 must be met by other Orangeville water infrastructure. A review of the existing system raised significant concerns with the capacity of the existing system in meeting the Pressure Zone 4 water servicing demands. As a result, the Town is completing a Schedule B Municipal Class Environmental Assessment (MCEA) study to plan for a new water storage facility at the Wells 5/5A site.

1.2 Municipal Class Environmental Assessment Process

This project was completed under the Class EA process developed by the Municipal Engineers Association for Municipal Water and Wastewater Projects. The Municipal Class Environmental Assessment (MCEA, October 2000 as amended in 2007, 2011 & 2015) is an approved process that proponents of municipal infrastructure projects must follow in order to meet the requirements of the Environmental Assessment Act (EA Act). All municipal infrastructure and new water supply projects in Ontario are subject to the Municipal Class EA process.

The Municipal Class EA was created to ensure that all aspects of the environment are considered during the planning and construction phases of a project. The Class EA process outlines the steps that must be followed to satisfy the EA requirements for water, wastewater, and road projects. The various phases of the Municipal Class EA process are described in Figure 2. In summary the five phases are:

- **Phase 1:** Identification of the problem or opportunity

- **Phase 2:** Identification of alternative solutions to the problem or opportunity and their respective impacts to the environment. Evaluation of alternative solutions and selection of a preferred solution considering public and review agency input.
- **Phase 3:** Identification and evaluation of alternative design approaches for the preferred solution. Selection of the preferred design concept based upon public and review agency input.
- **Phase 4:** Documentation of the planning, rationale, design, and consultation process in a Project File Report (PFR). The PFR must be available to the public and review agencies.
- **Phase 5:** Implementation of the preferred alternative design concept and monitoring for environmental provisions and mitigation measures.

Public and agency consultation is an important part of the Class EA planning process. Gaining input from individuals and groups can help identify project concerns early, and to find ways to address concerns wherever possible. Public consultation is carried out at key stages of the Class EA process to allow time to review and provide input related to the Project. Projects subject to the Class EA process are classified into three possible “schedules” (or categories), depending on the degree of expected impacts:

- **Schedule A** projects represent minor operational and maintenance activities and are approved without the need of further assessment.
- **Schedule A+** projects also represent minor activities and are pre-approved but require public notification prior to project implementation.
- **Schedule B** projects require screening of alternatives for their environmental impacts and Phases 1 and 2 of the planning process must be completed. A Class EA report, also referred to as a Project File Report, consistent with Phase 4 of the Class EA process must be completed subsequent to completion of Phase 2 and filed for public review.
- **Schedule C** projects must satisfy all five phases of the Class EA planning process. These projects have the potential for greater environmental impacts. Phase 3 involves the assessment of alternative methods of carrying out the project, as well as public consultation on the preferred design concept. Phase 4 includes the preparation of a Project File Report (PFR) that is filed for public review.

As indicated before, this Class EA study was carried out as a Schedule B Class EA undertaking with completion of Phases 1 and 2. Preparation of this report completes the requirements for the Class EA study process.

MUNICIPAL CLASS EA PLANNING AND DESIGN PROCESS

NOTE: This flow chart is to be read in conjunction with Part A of the Municipal Class EA

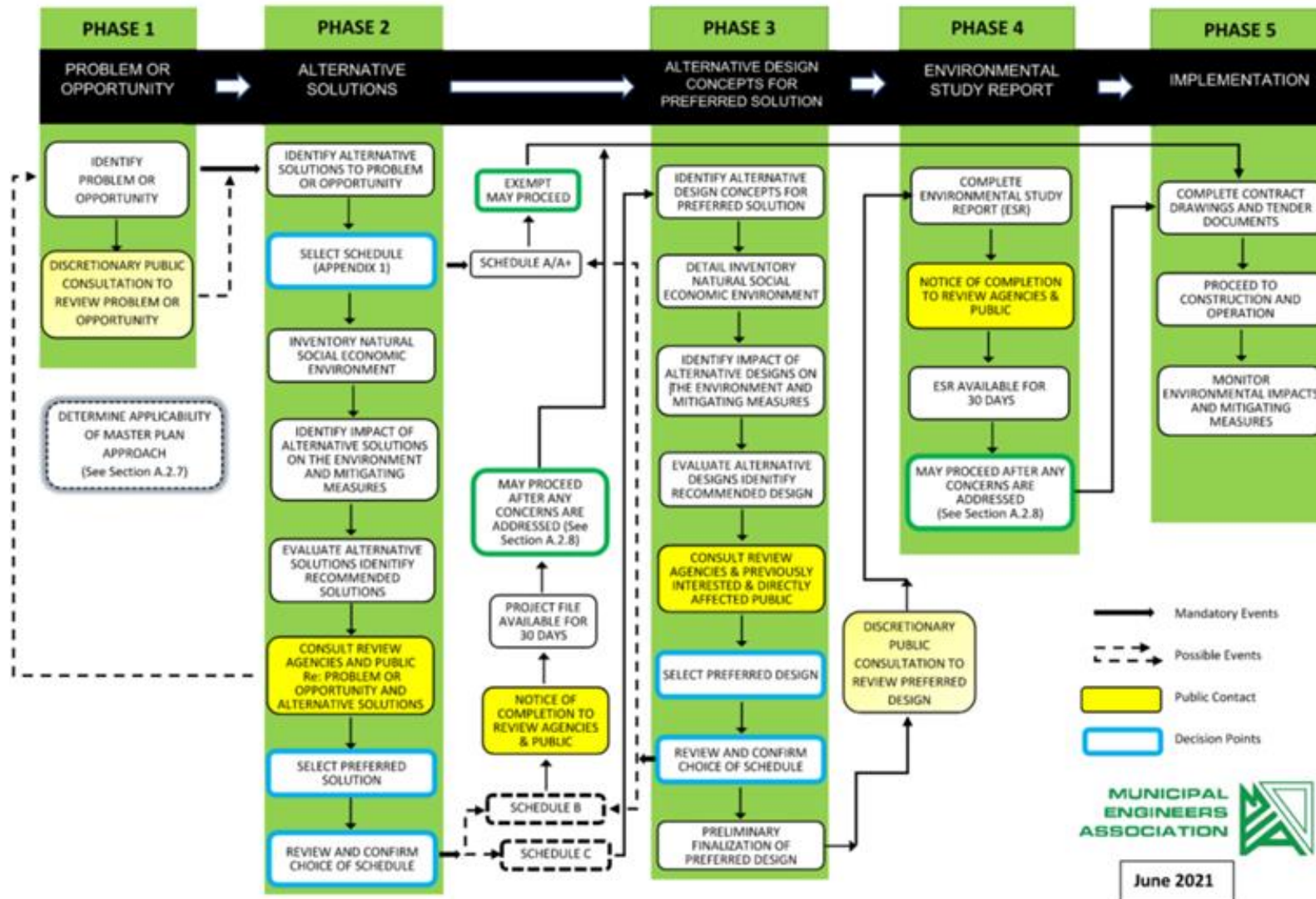


Figure 2: Municipal Class Environmental Assessment Planning and Design Process

1.2.1 Project File

Phases 1 and 2 of the Schedule B Municipal Class EA process are documented in a Project File (i.e., this report), which includes:

- Study background and related studies;
- Description of existing conditions;
- Study area problems and opportunities;
- Development of alternative solutions;
- Evaluation of alternative solutions and identification of the preferred solutions;
- Anticipated impacts and proposed mitigation measures;
- Public and agency consultation; and
- Supporting technical reports.

The Project File for this study is available for a 45-day public review period commencing on **July 13, 2023** and ending on **August 28, 2023**.

A Notice of Study Completion was issued on **July 12, 2023** to notify the public of the completion of the study and initiate the review period.

1.2.2 Notice of Study Completion

As detailed in the Notice of Study Completion, interested persons may provide written comments to the project team by INSERT DATE. All comments and concern should be sent directly to Sarah Pihel at the Town of Orangeville.

Sarah Pihel
Project Manager
Town of Orangeville
87 Broadway
Orangeville, ON L9W 1K1
Email: spihel@orangeville.ca

The MCEA process includes an appeal provision - the Minister of the Environment, Conservation and Parks has the authority and discretion to make an Order under Section 16 of the Environmental Assessment Act. A Section 16 Order may require that the proponent of a project going through a Class Environmental Assessment (Class EA) process:

- Submit an application for approval of the project before they proceed. This is generally referred to as an Individual Environmental Assessment (individual EA).

- Meet further conditions in addition to the conditions in the Class EA. This could include conditions for: further study, monitoring and/or consultation.

The minister can also refer a matter in relation to a section 16(6) Order request to mediation.

Before making an Order, the minister must consider the factors set out in section 16(5) of the Environmental Assessment Act.

If a Section 16 Order request is made, the project proponent cannot proceed with the project until the minister makes a decision on the request. If the minister makes a Section 16 Order, the proponent may only proceed with the project if they follow the conditions in the Order.

Note, Section 16 Order requests were previously known as Part II Order requests.

Reasons for Requesting an Order

A concerned party may ask the minister to make a Section 16(6) Order if:

- they have outstanding concerns that a project going through a Class EA process may have a potential adverse impact on constitutionally protected Aboriginal¹ and treaty rights.
- they believe that an Order may prevent, mitigate or remedy this impact.

A Section 16(6) Order request cannot be made to simply delay or stop the planning and implementation of a project that is going through the MCEA process. Prior to making a Section 16(6) Order request, the concerned party should first try to resolve any concerns directly with the project proponent, in this case, the City of Barrie.

Timing for an Order Request

During the 45-day public comment period, anyone can review the documentation, submit any comments or concerns to the proponent, and request a Section 16(6) Order

To request a Section 16 Order for a project, on the grounds that an Order may prevent, mitigate, or remedy potential adverse impacts on constitutionally protected, Aboriginal and treaty rights, a concerned party must make the request before the public comment period is complete.

For more information and specific instruction, please visit:

<https://www.ontario.ca/page/class-environmental-assessments-section-16-order>

¹ The term 'Aboriginal' is used here as it refers to the rights recognized and affirmed in Section 35 of the Constitution Act

2 Planning and Policy Context

2.1 Provincial Planning Policies

The provincial and municipal policy framework guides infrastructure, land use planning, and strategic investment decisions to support Town growth. This framework was considered in assessing the needs of the study area. The study area problems and opportunities were carried out with consideration of the planning framework to ensure that the Preferred Solution is consistent with the policies and objectives of the various levels of government.

2.1.1 A Place to Grow: Growth Plan for the Greater Golden Horseshoe (2020)

A Place to Grow is a growth plan issued under the Places to Grow Act, 2005, and sets out a vision and policies to better manage growth, to plan for complete communities, and to protect the natural environment. It establishes policies and targets to ensure that municipalities have the land base and the infrastructure to accommodate growth now and into the future.

The vision for the Greater Golden Horseshoe (GGH) is grounded in the following principles that provide the basis for guiding decisions on how land is developed, resources are managed, and public dollars invested:

- Build compact, vibrant and complete communities.
- Plan and manage growth to support a strong and competitive economy.
- Project, conserve, enhance and wisely use the valuable resources of land, air and water for current and future generations.
- Optimize the use of existing and new infrastructure to support growth in a compact, efficient form.
- Provide for different approaches to managing growth that recognize the diversity of communities in the GGH.
- Promote collaboration among all sectors – government, private and non-profit, and residences to achieve the vision.

The Tallman Drive MCEA study contemplates improvements are consistent with the direction the Growth Plan to project, conserve, enhance and wisely use the valuable resources of land, air and water for current and future generations as well as optimize the use of existing and new infrastructure to support growth in a compact, efficient form.

support efficient transit services, support multi-modal uses through provision of safe and comfortable facilities for pedestrians, cyclists, and other active transportation uses, increase efficiency, and provide future flexibility in the transportation network.

2.1.2 Provincial Policy Statement (PPS) (2020)

The Provincial Policy Statement (PPS) is issued under the Planning Act and supports the Growth Plan in providing policy direction for the use and management of land and infrastructure while protecting the environment and resources. The PPS focuses growth within settlement areas and away from significant or sensitive resources and areas which may pose a risk to public health and safety and vice versa. It recognizes that the wise management of development may involve directing, promoting or sustaining growth. Land uses must be carefully managed to accommodate appropriate development to meet the full range of current and future needs, while achieving efficient development patterns.

The Tallman Drive MCEA study is consistent with the PPS in that the study aims to protect the environment and significant or sensitive resources.

It is noted that at the time of preparation of the ESR, the Province is updating the PPS to reflect the More Homes Built Faster Act (2022).

2.1.3 Oak Ridges Moraine Conservation Plan (2017)

The Study Area is outside of the Oak Ridges Moraine conservation area in the Oak Ridges Moraine Conservation Plan, 2017.

2.1.4 Niagara Escarpment Plan (2017)

The Study Area is outside of the Niagara Escarpment Plan area in the Niagara Escarpment Plan, 2017.

2.1.5 Greenbelt Plan (2017)

The Greenbelt Plan was prepared and approved under the Greenbelt Act, 2005, to protect the agricultural land base and the ecological and hydrological features, areas and functions in the Greenbelt.

The Study Area includes lands within the Greenbelt, with land designations of Protected Countryside and Natural Heritage System. Section 4.2 of the Greenbelt Plan outlines the policies for infrastructure that falls within the Protected Countryside and Natural Heritage System protected under the Greenbelt Plan. The key infrastructure policies are briefly described below:

- Protected Countryside: Existing, expanded or new infrastructure, approved under the Environment Assessment Act or receives other similar environmental approval, is permitted within the Protected Countryside, subject to the policies of Section 4.2.
- Natural Heritage System: New or expanding infrastructure shall avoid key natural heritage features, key hydrologic features or key hydrologic areas unless need has been demonstrated and it has been established that there is no reasonable alternative.

The Tallman Drive MCEA study contemplates improvements are consistent with the direction of the Greenbelt Plan as it is recommending to avoid key natural heritage features and key hydrologic features.

2.1.6 Lake Simcoe Protection Plan (2014)

The Study Area is outside of the Lake Simcoe Protection Act Watershed Boundary in the Lake Simcoe Protection Plan, 2014.

2.2 Municipal Planning Policies

2.2.1 Dufferin County Official Plan (2017)

The County Official Plan directs growth management and land use decisions by providing upper-tier land use planning guidance for the County's eight local municipalities. Detailed land use planning and local decision making is managed and administered locally through the local municipal official plans which will conform to the policies of this Plan. The Study Area is located in the rural community of Farmington, within Township of Amaranth, a lower tier municipality within the Dufferin County. Schedule B1 in the Official Plan designates the area "Community Settlement".

The County Official Plan projects a population of 85,000 persons and 33,000 jobs by 2041. This growth is intended to be accommodated as a first priority within the urban settlement areas and is largely contingent upon the local municipalities demonstrating that municipal water services and municipal sewage services are available or planned to accommodate the additional growth.

The range of permitted uses and associated land use policies will be established in the local municipal official plans and in accordance with the policies of the County Official Plan.

2.2.2 Township of Amaranth Official Plan (2018)

The Township of Amaranth's Official Plan documents the policy directions for long-term land use planning within the municipality, based on forecasted growth and development and in accordance with the policies in the Dufferin County Official Plan.

The Township's Official Plan designates the area as Greenbelt Protected Countryside – Rural. Land uses permitted in these lands include uses related to infrastructure.

3 Existing Conditions

3.1 Socio-Economic Environment

3.1.1 Land Use

The Study Area is immediately north and west of the Town of Orangeville and on the edge of the Town of Farmington's municipal boundary, surrounding the site with a variety of land uses.

The uses in close to the Study Area include:

- Private residential property (Directly East)
- Rail Trail (Directly North)
- Orangeville Greenwood Cemetery (Directly South)
- Broadway Pentecostal Church (On Broadway)
- Detached residential homes (On Broadway)
- Brut Automotive (On Broadway)
- Greenwood Ready Mix Construction (On Broadway)
- Headwater Fitness and Racquet Club (On Broadway)
- Commercial plazas (On Broadway to the east of C Line)

The surrounding land uses in Township of Amaranth are shown in Figure 3 and are a mixture of Community Institutional, Estate Residential (Greenbelt Protected Countryside) and Industrial. The lands immediately adjacent to Broadway and County Road 16, within the Town of Orangeville, are designated as Low Density Residential.

At the time of this report, the following development applications are open:

- Zoning By-law Amendment application at north of 515 Broadway to permit a mixed-use subdivision consisting of 270 apartment units with 3,140 sq. m. of commercial uses at grade, and 104 townhouse units.
- Site Plan Approval application at 780 Broadway to development of four (4) townhouse blocks containing 54 dwelling units, and a commercial block consisting of 920.55 square meters of retail space.

**TOWNSHIP OF AMARANTH OFFICIAL PLAN
SCHEDULE "A-3" LAND USE & TRANSPORTATION**

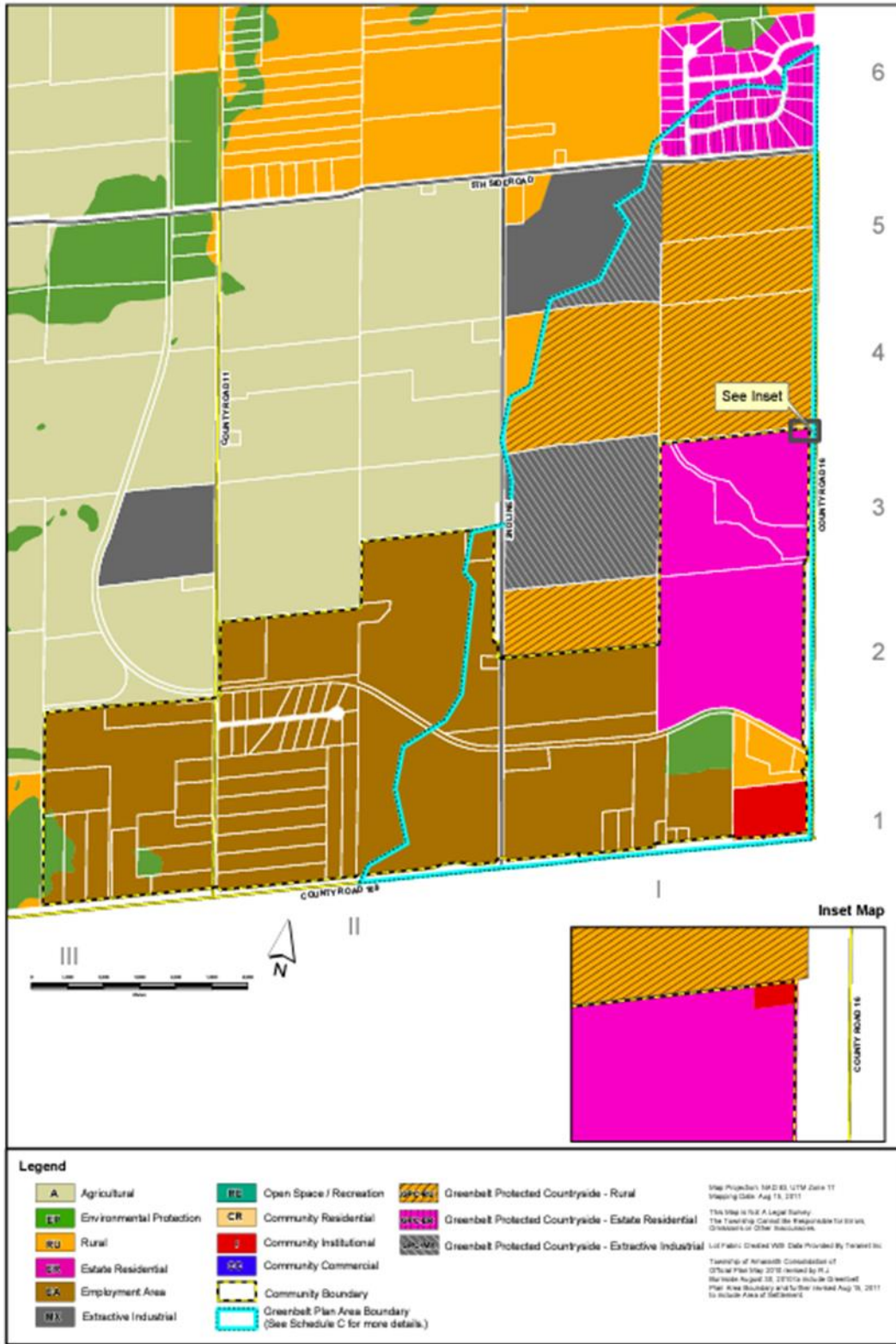


Figure 3: Township of Amaranth Official Plan

3.2 Cultural Heritage

3.2.1 Built Cultural Heritage

A Cultural Heritage Screening Report (CHSR) and subsequently, a Cultural Heritage Evaluation Report (CHER) were conducted as part of the study and are included in **Appendix A**. The assessment was undertaken by Bluestone Research. The purpose of the CHSR is to:

- identify the location of potential heritage structures;
- document the history of the heritage structures within an appropriate historical context;
- complete screening questions;
- provide copies of any existing heritage recognitions; and
- recommend next steps in the heritage impact assessment.

There are two concrete-block structures that are more than 40 years old and the foundation remains from a railway related water tank from 1870-1880. The railway infrastructure may have significant historical value. It was concluded that there is potential for cultural heritage resources within the Project area. Accordingly, the completion of a Cultural Heritage Evaluation Report (CHER) is required. If elements of the property are determined to be of cultural heritage value and because alterations or development is proposed, a Heritage Impact Assessment (HIA) report is needed to assess and avoid, eliminate or mitigate impacts.

This CHSR recommends that a CHER be prepared for the study.

The purpose of the CHER is to:

- identify the legislative framework applicable to the heritage evaluation of the structures;
- provide detailed information on the history of the property and construction of each structure;
- document the existing resources on the property;
- provide completed data sheets for each structure;
- evaluate, determine and, if necessary, describe the cultural heritage values of each structure in Statements of Cultural Heritage Value with a list of Heritage Attributes;
- identify any adjacent heritage properties; and
- recommend next steps.

The research was evaluated against the criteria of Ontario Regulations 9/06 and it was determined that none of the property had cultural heritage value or interest. Therefore, no further heritage-related work is required.

3.2.2 Archaeology

A Stage 1 Background Archaeological Assessment (AA) and Stage 2 Property AA was conducted as part of the study and is included in **Appendix B**. The assessment was carried out by Bluestone Research in accordance with the Ontario Heritage Act (1990, as amended in 2018) and the 2011 Standards and Guidelines for Consultant Archaeologists, administered by the Ministry of Tourism, Culture and Sport (MTCS). The purpose of the Stage 1 AA is to:

- Provide information about the study area's geography, history, previous archaeological fieldwork, and current land conditions;
- Evaluate in detail the study area's archaeological potential which will support recommendations for Stage 2 survey for all or parts of the property; and
- Recommend appropriate strategies for Stage 2 survey.

The Stage 1 background research and property inspection determines that the study area exhibits potential for the identification and recovery of archaeological resources and a Stage 2 archaeological assessment is recommended.

The purpose of the Stage 2 Property AA is to:

- Document all archaeological resources within the study area;
- Determine whether the study area contains archaeological resources requiring further assessment; and
- Recommend appropriate Stage 3 assessment strategies for archaeological sites identified.

No archaeological resources were identified during the Stage 2 AA of the study area, and as such no further archaeological assessment of the property is recommended.

3.3 Natural Environment

A Natural Heritage Assessment (NHA) was completed by LGL Limited and is found in **Appendix C**. The intent of this NHA is to describe existing natural heritage conditions within the study area through a combination of desktop review and field investigation to assess impacts related to the proposed solutions of the MCEA. The report contains recommendations and measures to maintain, mitigate or enhance the natural heritage features in relation to the proposed undertaking.

Through a preliminary review of the Study Area, as shown in Figure 4 (in red), the project team identified an unevaluated wetland, woodlands and watercourses. Consequently, a smaller Focused Study Area was developed for the siting of design alternatives to avoid sensitive natural features to the extent feasible. The Focused Study Area (in dashed black line) was the focus of field investigation conducted to identify natural heritage constraints as they relate to design alternatives part of the MCEA.



Figure 4: LGL Natural Heritage Screening Map

Key findings of the NHA regarding existing conditions are summarized as follows:

- Soils in the area of Well 5/5A as part of the Brady and Hillsburgh series, both comprised of sandy loam with imperfect and good drainage, respectively
- No Provincially significant Areas of Natural and Scientific Interest are present within, or in proximity to the Study Area
- There is an unevaluated wetland feature within the northwest corner of the Study Area but outside of the Focused Study Area
- The Credit Valley Conservation Authority Natural Areas Inventory (CVC, 2021) does not include data for natural areas within or in proximity to the Well 5/5A Study Area

- Three vegetation community types were documented within the Focused Study Area and a total of 60 species were inventoried within these communities
- One plant species, Butternut; *Juglans cinerea* which is listed on the Species at Risk (SAR) List for Ontario as Endangered was found during the June 2022 field investigations along the edge of the Focused Study Area
- A total of 12 bird species were identified in proximity to the Study Area through review of secondary sources.
- One bird species, Eastern Wood-Pewee which is listed on the Species at Risk List for Ontario as Special Concern was documented in the Study Area as a probable breeder
- The Study Area is within the Orangeville Subwatershed with Mill Creek running through the site. Mill Creek at the Study Area is classified as a coldwater creek, with a water quality index rating of “good” downstream of the Well 5/5A site
- One threatened species (Eastern Meadowlark) is within the broader Project area
- Appropriate habitat for Ontario’s four endangered bats is found in the Study Area
- No critical habitat for aquatic SAR was found within one kilometre of the Study Area

3.4 Source Water Protection

The location of the study area is within the Credit Valley Source Protection Area. The Credit Valley Conservation Authority, Toronto and Region Source Protection Authority, and the Central Lake Ontario Source Protection Authority have developed the CTC Source Protection Plan to meet the requirements under the 2006 Clean Water Act and one of its fundamental principles to keep the sources of our drinking water free of contamination. The CTC Source Protection Plan presents Well Head Protection Areas (WHPAs) as areas on the land around a municipal well.

The Ministry of Environment, Conservation and Parks’ Source Protection Information Atlas indicated that the study area is within a WHPAA with a vulnerability score of 10, as well as a WHPA Q1 and Q2 with significant stress. The study area is also within an issue contributing area for sodium and chloride and the Aquifer is identified as Highly Vulnerable.

Specific Source Water Protection policies need to be implemented and followed, as required. Information about vulnerable areas and policies designed to protect municipal sources of drinking water in the area can be found in the CTC Source Protection Plan (<https://ctcswp.ca/protecting-our-water/the-ctc-source-protection-plan/>)

4 Problem and Opportunity Statement

The Town of Orangeville's Drinking Water Distribution Pressure Zone 4 requires more storage and/or pumping capacity to ensure water servicing requirements are met during the shutdown of the West Sector Reservoir, which is required for rehabilitation. This study is being conducted to address the short-term storage and supply deficits during the WSR Rehabilitation Project and future maintenance activities:

- Meet interim servicing requirements when the West Sector Reservoir is out of service by providing fire protection and satisfying both Pressure Zone 4 demands and pressures.
- Improve the reliability of Orangeville's Water Supply System by providing additional long-term storage and pumping availability.
- Improve operational flexibility and reliability of the Well 5/5A station by reducing the likelihood of chlorine line failures and providing available volume for improved CT disinfection.
- Mitigate the shortfalls for instantaneous demand caused by the need for UV unit warm-up.

5 Alternative Solutions

5.1 Long List of Alternatives

5.1.1 Alternative 1: Do Nothing

The “Do Nothing” alternative represents the existing conditions where the current WSR will be taken offline and Well 5/5A and infrastructure will be maintained as is. No improvements or changes would be made to address the identified problem (deficiency) or opportunity.

This alternative does not address the current concerns with the expected water shortages during WSR rehabilitation, operational deficiencies at Well 5/5A, and could potentially place current and future residences, businesses, or industries at risk of water outages. Inaction to improve the water supply infrastructure during WSR rehabilitation would likely result in water supply shortages and Orangeville would continue to experience the same operational pitfalls and continued repair costs at Well 5/5A.

Therefore, given the above noted rationale, this alternative has been eliminated from further consideration.

5.1.2 Alternative 2: Reduce Water Consumption

The “Reduce Water Demands” through implementation of water conservation and water efficiency measures represents a scenario where improvements in water conservation and water efficiency would reduce water consumption to the extent that the existing facilities and infrastructure are sufficient.

This alternative does not address the current concerns with the reoccurring operational issues at the Well 5/5A site and the expected water shortages during WSR Rehabilitation period.

5.1.3 Alternative 3: Temporary Water Servicing

The initial capital cost of constructing permanent infrastructure is generally carried over the service life of that asset and tend to be higher when the planning horizon is extended. Although typically not as robust as a permanent install, a temporary water storage alternative can be a good option if the install location is planned for other use in the future. When planning for more short-term, the overall sizing temporary storage can be reduced since the needs are only for the current population. As a result, other design components requirements such as pumping, support structures, and electrical demands

are reduced. A temporary install could be a better option from a social perspective since the installation is for a short period of time.

Proven and cost-effective options on the market are limited and with those available tend to have a high “throw-away” cost which could be otherwise been spent on improving the overall system. Although it may be called temporary solution there would be components of the water infrastructure needing permanent upgrades.

The overall net benefit of temporarily installing water infrastructure is typically less when compared to a permanent installation. Water servicing is a critical service requiring careful planning and engineering to ensure disruptions are minimized. The importance of safely and reliably meeting community water demands is paramount and a permanent installation offers better protection and reduced risk. For example, if a temporary water servicing was constructed, Pressure Zone 4 could be at serious risk should the WSR shutdown period need an extension into cold weather conditions not suited for the temporary infrastructure.

Therefore, given the above noted rationale, this alternative has been eliminated from further consideration.

5.1.4 Alternative 4A and 4B: Permanent Water Servicing

Standpipe and Booster Pumping Station

Both alternatives 4A and 4B include a standpipe and a booster pumping station (BPS) at the Well 5/5A location. The standpipe would be filled with treated water by the WTP and the Well 5/5A pumps. Additional pumping would be provided at the base of the standpipe to provide on-demand pumping. The main function is to provide adequate water storage to meet the maximum daily volumes of Pressure Zone 4 but also provide the necessary flow during WSR rehabilitation.

The addition of permanent water storage facility would alleviate the high feed pressure requirements of the well pumps which likely cause chlorine line failures and unpredictable Well 5/5A shutdowns. The proposed water storage facility and connecting piping can be designed to increase primary disinfection chlorine contact time and would address one of the major operational concerns at this site. Additionally, water storage and pumping at this location would also eliminate the service delays caused by UV unit start up times since storage would be available.

A booster pumping station would also be installed under these alternatives as they would function to meet the demands of Pressure Zone 4, provide fire protection and would draw the volume from the permanent water storage facility. SCADA upgrades will be required for both the well pumps and new BPS to accommodate the standpipe water

levels and system pressure needs. The controls of the booster pumps would need to be based off system pressure during the WSR Rehabilitation Project and switched to level-control once the WSR is ready to be in-service.

Well Supply

The existing well pumps at Well 5/5A are currently sized to meet the hydraulic grade line requirements of WSR. Under this alternative, the function of the well's pumps would supply water to the standpipe and therefore would not require the same operating pressure of 110m Total Dynamic Head (TDH). As mentioned, the design head of the pumps could be reduced, and controls changed to fill the proposed standpipe to the appropriate levels. The existing SCADA screens show that the Well 5/5A pumps have logged almost 4.5 years of operation and are still considered to have an appreciable life left. Therefore, these pumps should be maintained but adjusted to operate effectively, if practical. Variable frequency drives (VFDs) could be installed on the well pumps to operate at a lower pressure however it should be confirmed during design.

WSR In-Service and Proposed Infrastructure

Once the WSR is online, the upgrades at Well 5/5A will function as a redundant supply for current day and provides some future storage capacity while providing a more reliable water system supply. Therefore, given the above noted rationale and benefits, this alternative has been shortlisted.

5.2 Preliminary Screening and Short List of Alternatives

A preliminary screening of the alternative solutions was carried out in accordance with the methodology outlined in Technical Memorandum No. 2 and summarized in Section 2 of this memorandum. The alternative solution must meet all pre-screening criteria (i.e. YES to all criteria) in order to be carried forward for detailed development and evaluation. The screening results of the alternative solutions are summarized in Table 1.

Table 1: Preliminary Screening Results of Alternative Solutions

Alternative Solution	Compliance Criteria Can the alternative meet objectives of the problem / opportunity statement and comply with Town's needs?	Technical Criteria Can the alternative provide an adequate level of service and redundancy for the existing population in Zone 4?	Technical Criteria Does the associated infrastructure contribute to the overall long-term operability and efficiency of the Drinking Water System?	Short Listed Yes/No
1 – Do Nothing	No	No	No	No
2 – Reduce Water Demand	No	No	No	No
3 – Temporary Water Storage Facility	Yes	Yes	No	No
4 – Permanent Water Storage Facility Site A – High Ground Site B – Low Ground	Yes	Yes	Yes	Yes

The preliminary screening results showed that Alternatives 1, 2, and 3 did not meet the preliminary screening criteria, and therefore are eliminated from further evaluation. Based on results of preliminary screening, Alternatives 4A and 4B are the most viable solutions to provide the additional required water storage and pumping capacity to provide reliability and continued safe water supply to the Town's residents. As noted, the primary component of Alternative 4A and 4B is alternatives for water storage locations within the overall Well 5/5A site and infrastructure configuration. The next phase, the detailed development and evaluation phase, of this Class EA study will focus on identification and evaluation of potential water storage locations and configurations within the broader Well 5/5A site.

5.3 Development of Short-Listed Alternatives

5.3.1 Alternative 4A – Permanent Water Storage Facility at Site A

5.3.1.1 Technical Considerations

Alternatives 4A

This alternative considers the location of the standpipe being on high-ground and at a further distance from the Well 5/5A pumphouse and WTP. The booster pumping station would be located near the Well 5/5A WTP and enclosed by a building. This location offers plenty of room to build, and booster pumping station can be sized smaller by taking advantage of both the existing high head well pumps and high levels in the standpipe. The longer pipe is required to connect to the standpipe, more impact to trees and vegetation but offer much needed additional CT time.

Site A is located along Dufferin County Road 16 close to the intersection of Dufferin County CP Rail Trail, along the hill north of the current Well 5/5A Pumping Station and WTP. A preliminary site layout for Alternative 4A can be seen in Figure 5.

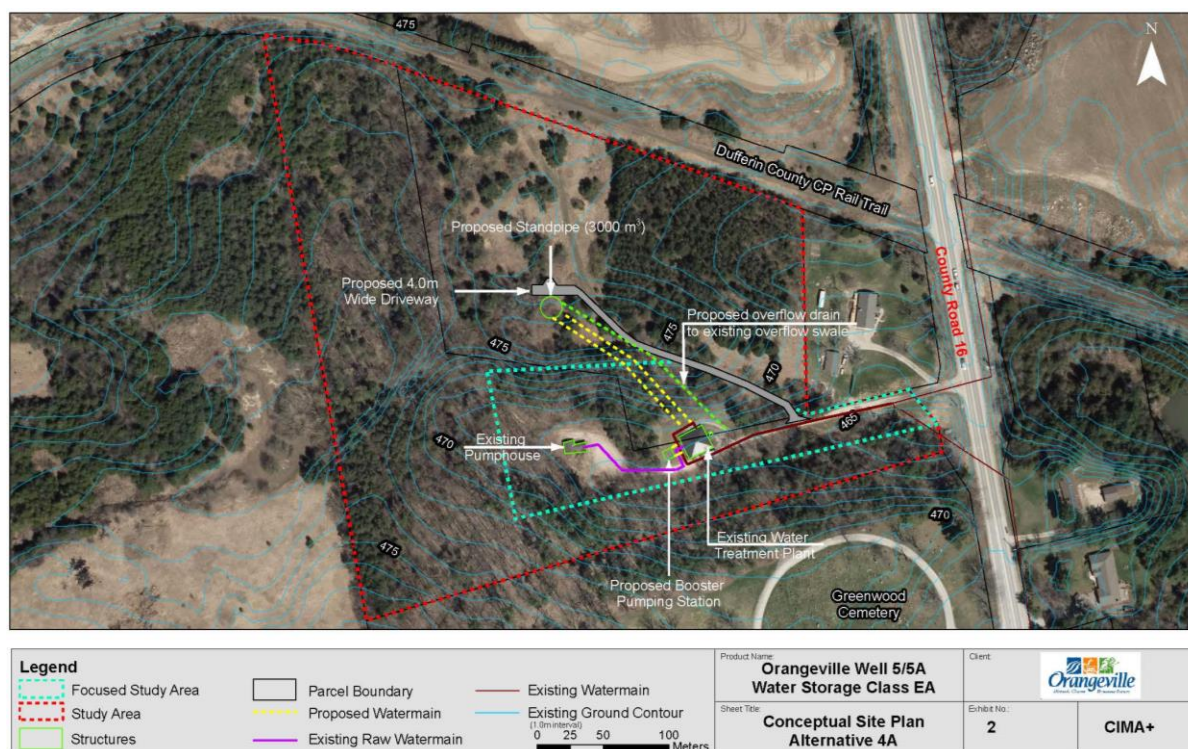


Figure 5: Alternative 4A Proposed Location

This alternative proposes constructing a permanent water storage facility at Site A accompanied with a pumping system and piping connected from the Wells 5/5A WTP to the storage facility. Pipe installation methods like horizontal directional drilling can be

utilized to avoid tree removal however will be evaluated in detailed design. The operational water level of the storage facility would be far below the high-water level of the WSR and therefore a booster station would function to pressurize the water to acceptable levels. The standpipe located on higher ground offers additional hydraulic head for the proposed booster pumps and the longer pipe runs can be used to improve chlorine contact time.

Site A provides a large area to construct a permanent storage facility eliminating most constructability concerns around Well 5/5A pumping station and WTP. However, excavation and tree removal are required at this site due to the high tree density. The elevation difference between Site A to the Wells 5/5A WTP is seen to be as large as 10m which introduces additional challenges in construction. The feed and discharge pipes connecting the new standpipe will be located below the frost line for their entire lengths, from the WTP up the slope to the Site A location. The large available footprint at the Alternative 4A location is beneficial for future expansions and makes construction easier in terms of having space for equipment, materials, and laydowns.

The booster pumping station would be best located at the Well 5/5A WTP since it would lower the electrical requirements at site A however would not totally eliminate it. An electrical connection to the 4A location would be needed mostly for lights and instrumentation. The location of the BPS beside the WTP simplifies the design and provides the best operational benefits.

Other items to be investigated:

- Piping layout to maximize usability of site.
- Existing electrical availability and electrical demands for proposed upgrades including standby generator.
- Operational impact of the WTP process equipment at reduced pressures.
- Determination of soil suitability through a geotechnical investigation.

Well Pumping

When operating under the proposed scenario with additional storage and pumping, the existing well pumps would have a head that would be considerably higher than necessary and could be reduced with variable frequency drives or hydraulic control valves. Reducing the pressure head of the well pumps would result in lower power consumption. However, if the additional storage and pumping are taken offline for maintenance, the well pumps would need to pump to distribution at the existing head and the pump operating point would return to the current setting.

Pump Control

The well pumps are currently controlled by the WSR level and will need to be changed to be controlled based off standpipe level. The booster pumps are to be based off both the WSR level for when it comes back online and also distribution pressure for when WSR is offline.

5.3.1.2 Natural Environmental Considerations

Butternut Health Assessment (BHA) was conducted and identified a single Butternut tree at the proposed site location. The biologist determined that the butternut tree was unhealthy and will not survive in the long-term.

5.3.1.3 Socio-Cultural Considerations

At the Alternative 4A site, the height of the tank is more critical than the diameter of the tank since any visual line of sight of the tank is likely unwanted by residents.

Fortunately, this site has a large footprint and can accommodate a larger diameter tank with a smaller tank height. In order to minimize exposure to visual line of site, the height of the tank can be set lower than the top of tree line which is estimated at around 10m. Actual tree height should be confirmed during design. The natural forested areas around this site can offer some level of buffer to conceal unwanted aesthetics. Approaching the site from the west side of Orangeville on Dufferin Rd 109, visuals of the WSR can be seen as well as infrastructure at Greenwood Construction and the Headwaters Racket Club property. The following Figure 6 is considered the vantage point for the proposed standpipe at the Well 5/5A location.

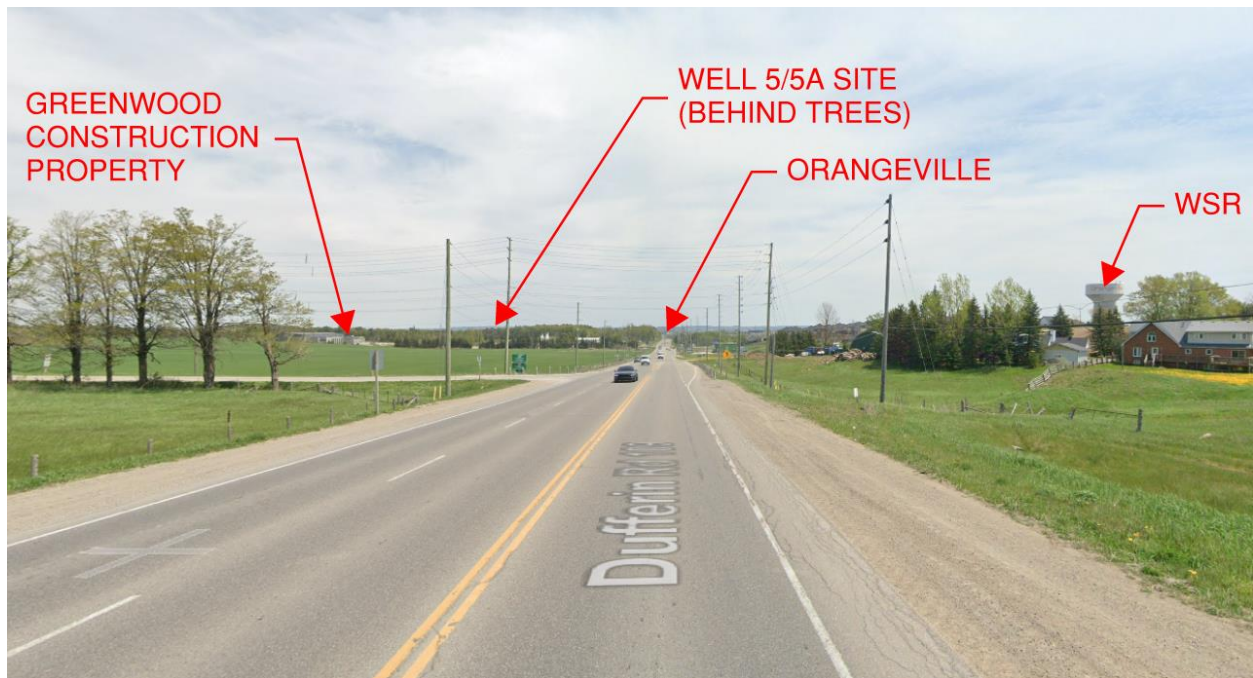


Figure 6: Visual Line of Sight to WSR and Study Area

Beyond that property is the Well 5/5A site with the proposed 4A location. An open field followed by a band of forested area dense with trees could be enough to restrict visual line of sight if the proposed tank is below the top of tree line. Dufferin Road 109 turns into Broadway at the south side of Orangeville Greenwood Cemetery and blocks all visual line of site to Well 5/5A site. Along County Road 16, forested area is also present which likely will not result in aesthetic problems if the proposed tank is limited in height.

It is anticipated additional storage can be used to improve the disinfectant contact time and decrease the minimum chlorine residual required to provide the necessary disinfection.

Other considerations

- Noise, dust, and restricted road access would occur during construction particularly to the private residence sharing the entrance way to Well 5/5A site.
- Alternative 4A site appears to be within the Township of Amaranth but is owned by the Town of Orangeville therefore land acquisition is not anticipated.
- Cultural heritage evaluation report has been completed with the old tank footings at top which indicate insignificant cultural value.

5.3.1.4 Financial Impacts

The costs associated with Alternative 4A include the following:

- Excavation and concrete required for foundation (dependent on design of the tank).
- Supply and installation of elevated standpipe, passive mixing system, instrumentation, possible heat tracing, valves and a booster pumping station.
- Access road and site works.
- Piping modifications and tie-ins to Alternative 4A location.
- Potential for electrical upgrades and standby generator upsizing.
- Horizontal directional drilling and open cut for piping installation.

5.3.2 Alternative 4B – Permanent Water Storage Facility at Site B

5.3.2.1 Technical Considerations

Alternatives 4B

This site would be convenient for operators to access and would require shorter pipe runs. The high sloped topography of the site would be a constructability challenge as there is limited space on site and slope stability becomes a concern. Locations for this lower ground alternative could be reduced further if the conservation authority identifies flood plain concerns.

Site B is located in between the Wells 5/5A Pumping Station and WTP and is shown in in Figure 7.



Figure 7: Alternative 4B Proposed Location

This alternative proposes the construction of a permanent water storage facility at Site B accompanied with a pumping system and a pipe run connected from the Wells 5/5A WTP (similar to Alternative 4A but is at lower elevation). The booster pumps would be sized slightly larger than Alternative 4A, which would increase the required motor size for each pump. Although Site B does not provide a large area for construction, it offers convenience for maintenance and commissioning. The location of the storage tank is on the same site as the Wells 5/5A Pumping Station and WTP, providing easy access for operators and inspectors. Electrical supply could also be shared between Site B and the Wells 5/5A Pumping Station and WTP. A shorter pipe run can be implemented decreasing overall material and construction costs. The existing CT concern could still be addressed with shorter pipe runs but would require larger diameter pipes in a footprint already tight for space.

It may be required to build the storage facility into the slope as limited area exists at Site B. Excavation, tree removal, and slope stability must be considered as Site B is located at the bottom of a slope. Since the site would be further restricted if Alternative 4B was installed, future upgrades or expansions to the WTP would be restricted.

It must be further investigated to determine whether Site B is situated on a floodplain. If so, the storage facility would be susceptible to flooding and safety precautions must be taken to mitigate related risks. A small waterway is present between the cemetery

property and Well 5/5A pumping station that could be important when determining flood plains.

5.3.2.2 Natural Environmental Considerations

Similar to Alternative 4A, Butternut Health Assessment (BHA) was conducted and was found that a single tree was found in the area, but the existing tree was unretainable. The biologist determined that the butternut tree was unhealthy and will not survive in the long-term.

5.3.2.3 Socio-Cultural Considerations

At the Alternative 4B site, the diameter of the tank is more critical than the height of the tank since there are site footprint restrictions. Although the diameter of the tank must fit on site, the aesthetics, and any visual line of sight of the tank are also important to control. Since the site is at a lower elevation than Site A, the height restrictions could be a little more flexible, however, the top of tree line would still be used as a guide to limit tank height. This site also has some densely natural forested areas would offer some buffer to unwanted visuals from roadways and nearby residents, particularly the private residence sharing the same entrance way.

Other considerations

- Noise, dust, and restricted road access would occur during construction particularly to the neighbour sharing the entrance way to Well 5/5A site.
- Alternative 4B site appears to be owned by the Town of Orangeville and land purchasing is not anticipated.

5.3.2.4 Financial Impacts

The costs associated with Alternative 4B are similar to Alternative 4A and the financial benefits that may be realized at 4B are likely offset by the disadvantages since the constructability is likely more complex. Location 4B is closer to the other onsite facilities therefore less piping needs to be installed, reducing costs. Both sites will require site clearing and grubbing, excavation, and installation of equipment. The 4B site may have some more complex excavation due to the surrounding infrastructure and steep slope on site.

5.4 Analysis and Evaluation of Short-Listed Alternatives

5.4.1 Evaluation Methodology






The factors used for the evaluation of the options included social and cultural, technical, natural environmental and economic factors. A detailed description of all criteria and

sub-criteria considered in the evaluation is provided in Technical Memorandum 2 – Evaluation Framework.

Each water storage and pumping alternative has been compared relative to the others and assigned a preliminary score relating to the potential net impact, which intends to reflect the impact that remains, or is predicted to remain, after mitigation measures are in place.

The evaluation of the water servicing alternative was carried out using the Reasoned Argument Method, comparing differences in impacts and establishing a clear rationale for the selection of the water servicing alternative that provides the most overall benefits to this project. The scoring approach used to assign relative scores is summarized in Table 2.

Table 2: Overall Scoring Approach











Score	Description
	Potential impacts are negligible, no mitigation is required.
	Potential impacts are minor and can be easily mitigated through implementation of standard mitigation measures.
	Potential impacts are moderate and implementation of a number of mitigation measures are required to reduce/eliminate the risks.
	Potential impacts are major, and implementation of extensive mitigation measures are required to reduce/eliminate the risks.
	Potential impacts are significant, and implementation of substantial mitigation measures are required to reduce the risks; however, risk cannot be completely eliminated.











5.4.2 Assessment and Evaluation













The rationale and preliminary scoring assigned in the evaluation of Well 5/5A water storage and pumping alternatives are shown in Table 3. Major criteria categories and all sub-criteria used in the evaluation are also included in the table.

Table 3: Assessment and Evaluation of Alternatives

Evaluation Category / Criteria	Alternative 4A – Water Storage at Top of Hill	Alternative 4B – Water Storage Adjacent to Treatment Building
Socio Cultural		
Public Health and Safety – public protection from water quality perspective	<ul style="list-style-type: none">Drinking water quality standards will continue to be met during construction and operation of all proposed infrastructure.	<ul style="list-style-type: none">Drinking water quality standards will continue to be met during construction and operation of all proposed infrastructure.
	●	●
Construction Impacts – short-term impacts on adjacent residents, road users and local uses resulting from noise, dust, traffic, vibration effects, during construction only	<ul style="list-style-type: none">Minor and temporary impacts to air quality and odour due to temporary nature of construction activities.Minor short-term impacts from dust, noise and vibration on neighbouring properties. Appropriate construction techniques and mitigation measures will be implemented.Minor to Moderate impact from temporary disruption to access one private residence during construction. Advance notification and scheduling will be provided to affected residents to mitigate impacts.No to minor traffic disruptions as conceptual standpipe and booster pumping station construction can occur within site boundaries. One private residence shares the entrance road to the Well 5/5A site. The entrance road should not be blocked but construction machinery will be accessing the site through this route.	<ul style="list-style-type: none">Minor and temporary impacts to air quality and odour due to temporary nature of construction activities.Minor short-term impacts from dust, noise and vibration on neighbouring properties. Appropriate construction techniques and mitigation measures will be implemented.Minor impact from temporary disruption to access one private residences during construction. Advance notification and scheduling will be provided to affected residents to mitigate impacts.No to minor traffic disruptions as conceptual standpipe and booster pumping station construction can occur within site boundaries. One private residence shares the entrance road to the Well 5/5A site. The entrance road should not be blocked but construction machinery will be accessing the site through this route.Footprint at Site B is limited and may require significant excavation and material removal for the construction of a standpipe. A smaller diameter tank could be selected but will increase the height of the tank potentially impacting aesthetics.
	◐	◐
Public Perception – potential for public support and acceptance	<ul style="list-style-type: none">There is 1 private residence in the area. Local neighboring residents and landowners may not see a direct benefit to their current or future water supply; however, public concerns have not been raised during the EA study.	<ul style="list-style-type: none">There is 1 private residence in the area. Local neighboring residents and landowners may not see a direct benefit to their current or future water supply; however, public concerns have not been raised during the EA study.
	◑	◑
Aesthetics and Operational Impacts – long-term impacts on adjacent residents and local users from visual effects from new infrastructure and activities related to operation of facilities.	<ul style="list-style-type: none">No to Minor visual impacts on 1 residential property across from the proposed site, which will be buffered to some extent by existing residential access road and vegetation. Existing ground elevations on Site A is high and has some risk of unwanted visual line of sight of the proposed tank. The existing tree heights could be used a guide to set the tank height mitigate unwanted aesthetics. Tank height could be reduced further by increasing the tank diameter which impacts the size of the foundation; however, this location has available footprint to accommodate the size.	<ul style="list-style-type: none">No to Minor visual impacts on 1 residential property across from the proposed site, which will be buffered to some extent by existing natural forested areas. Existing ground elevations on Site B can significantly help to reduce standpipe visibility from immediate neighbors situated nearby the site entrance along Veterans Way. The existing tree heights could be used a guide to set the tank height mitigate unwanted aesthetics. Tank height could be reduced further by increasing the tank diameter which impacts the size of the foundation; however, this location does not have available footprint to accommodate larger diameter tanks.

Evaluation Category / Criteria	Alternative 4A – Water Storage at Top of Hill	Alternative 4B – Water Storage Adjacent to Treatment Building
		
Land Use – Compatibility of proposed works with land uses	<ul style="list-style-type: none"> The land is currently owned by the Town and is zoned for the appropriate usage. 	<ul style="list-style-type: none"> The land is currently owned by the Town and is zoned for the appropriate usage.
		
Property Acquisition – need for land acquisition and availability of property	<ul style="list-style-type: none"> Property acquisition is not anticipated. 	<ul style="list-style-type: none"> Property acquisition is not anticipated.
		
Natural Environment		
Climate Change – potential impact on greenhouse gas emissions and project vulnerability to climatic changes	<ul style="list-style-type: none"> A portion of natural forested area will be replaced with new infrastructure. Moderate effect from replacement of forested area with municipal infrastructure as processes associated with proposed infrastructure are not energy intensive. Also, minimal use of chemical expected, which results in low volume of trucks transporting chemical to the site, and thus, minimal emissions from truck traffic. Preliminary layout has been conceptualized to incorporate energy efficiency lighting and equipment. Additional landscape can be incorporated to contribute to carbon sinks. Energy efficient devices such as VFD's will be implemented, and process controls are aimed to improve energy efficiencies and will continue. Minimal impact from emissions from standby generator as it is only expected to be used for emergency situations. 	<ul style="list-style-type: none"> A portion of natural forested area and side of a vegetated slope will be replaced with new infrastructure. Moderate effect from replacement of forested area with municipal infrastructure as processes associated with proposed infrastructure are not energy intensive. Also, minimal use of chemical expected, which results in low volume of trucks transporting chemical to the site, and thus, minimal emissions from truck traffic. Preliminary layout has been conceptualized to incorporate energy efficiency lighting and equipment. Additional landscape can be incorporated to contribute to carbon sinks. Energy efficient devices such as VFD's will be implemented, and process controls are aimed to improve energy efficiencies and will continue. Minimal impact from emissions from standby generator as it is only expected to be used for emergency situations.
		
Natural Heritage Features – potential impact to existing natural environment, including significant habitat, sensitive features, areas of natural and scientific interest, etc.	<ul style="list-style-type: none"> Site clearance for construction of new infrastructure will involve disturbance to a natural forested area. Site will be restored to original or improved conditions after construction is complete. Site 4A is within CVC regulated areas and outside ORMCP areas. Natural heritage features within Site 4A include habitat for a butternut tree but was determined by a biologist through a Butternut Health Assessment (BHA) that it is not retainable. Low potential for occurrence of SARs on site based on existing habitats. Best management practices will be implemented to minimize impacts where applicable. 	<ul style="list-style-type: none"> Site clearance for construction of new infrastructure will involve disturbance to a partially forested area. Site will be restored to original or improved conditions after construction is complete. Site 4B is within CVC regulated areas and outside ORMCP areas. Natural heritage features within Site 4A include habitat for a butternut tree but was determined by a biologist through a Butternut Health Assessment (BHA) that it is not retainable. Low potential for occurrence of SARs on site based on existing habitats. Best management practices will be implemented to minimize impacts where applicable.
		

Evaluation Category / Criteria	Alternative 4A – Water Storage at Top of Hill	Alternative 4B – Water Storage Adjacent to Treatment Building
Water Resources – potential effects on vulnerable areas during construction	<ul style="list-style-type: none"> Site 4A is not within a vulnerable area. There are two municipal flowing wells recorded within 500 m radius of Site 4A but is protected by a well house. No impact expected. There is a tributary stream leading to Mill Creek south of the site that may need protection during construction. Any potential overflow from the proposed standpipe is expected to occur rarely but will be discharging into the Mill Creek. 	<ul style="list-style-type: none"> Site 4B is not within a vulnerable area. There are two municipal flowing wells recorded within 500 m radius of Site 4B but is protected by a well house. No impact expected. There is a tributary stream leading to Mill Creek south of the site that may need protection during construction. Any potential overflow from the proposed standpipe is expected to occur rarely but will be discharging into the Mill Creek.
		
Archaeological and Cultural Heritage – potential impact to archaeological and cultural heritage resources	<ul style="list-style-type: none"> Site 4A has no archaeological potential. A Stage 2 archaeological assessment has been completed and did not find any archaeological resources. Therefore, no further archaeological assessment of the property is recommended. 	<ul style="list-style-type: none"> Site 4B has no archaeological potential. A Stage 2 archaeological assessment has been completed and did not find any archaeological resources. Therefore, no further archaeological assessment of the property is recommended
		
Regulatory Approvals – complexity in obtaining permits / approvals for proposed works	<ul style="list-style-type: none"> Building permit and site plan approval for new standpipe from Town of Orangeville. Amendment to Municipal Drinking Water License and Drinking Water Works Permit from MECP. Potential approvals from Hydro One for electrical upgrades if required. ESA approvals during construction for any new electrical equipment. 	<ul style="list-style-type: none"> Building permit and site plan approval for new standpipe from Town of Orangeville. Amendment to Municipal Drinking Water License and Drinking Water Works Permit from MECP. Potential approvals from Hydro One for electrical upgrades if required. ESA approvals during construction for any new electrical equipment.
		
Technical and Operational		
Long-term Servicing of Zone 4 – potential for option to support long-term growth and development	<ul style="list-style-type: none"> Site A and conceptual layout offer most flexibility for future expansion and long-term growth. 	<ul style="list-style-type: none"> Site B and conceptual layout restrict future expansion of Well 5/5A.
		
Operational Complexity – relative added complexity from operation of new infrastructure	<ul style="list-style-type: none"> Operation and maintenance requirements will increase with new water storage and new pumping station, relative to existing conditions, with low level of additional operational effort. Site proximity is less ideal for operator convenience. 	<ul style="list-style-type: none"> Operation and maintenance requirements will increase with new reservoir and new pumping station, relative to existing conditions, with low level of additional operational effort. Site proximity is ideal for operator convenience.
		

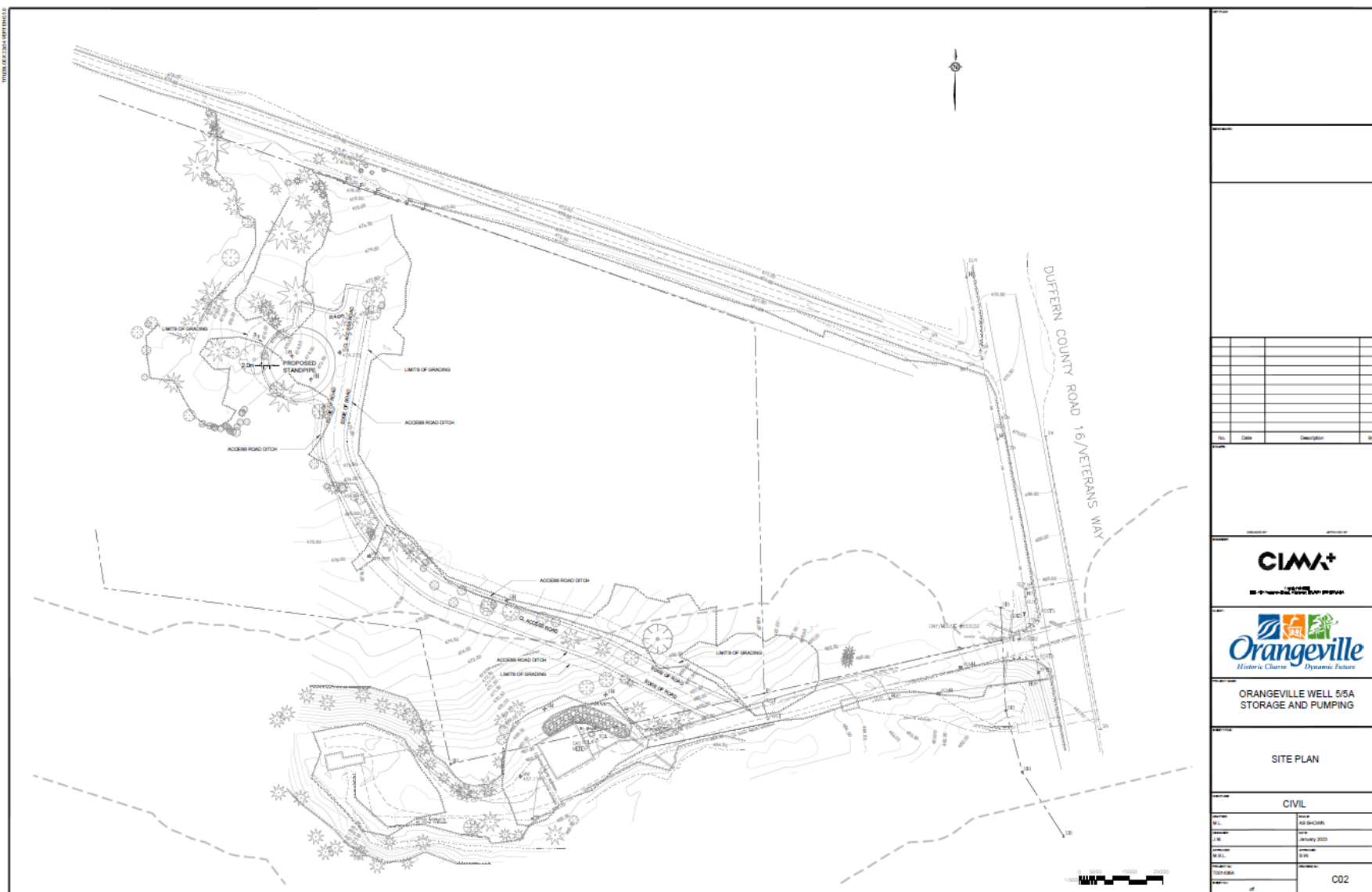
Evaluation Category / Criteria	Alternative 4A – Water Storage at Top of Hill	Alternative 4B – Water Storage Adjacent to Treatment Building
Ease of Implementation – potential level of complexity during construction	<ul style="list-style-type: none">Site A has enough space to accommodate short-term and long-term infrastructure.Some limitations with construction and laydown areas due to the presence of natural environmental features within the site but considered a better option than Site B.	<ul style="list-style-type: none">Site B has limited space to accommodate short-term and long-term infrastructure.Excavation of a vegetated slope is expected and tight space for construction.Electrical and piping connections are closer to tie-in points reducing construction requirements.
		
System Redundancy and Flexibility – potential risk to cease service during emergency situations	<ul style="list-style-type: none">Low risk of service disruptions relative to stored water and pumping given existing standby power and properly planned construction staging. Anticipated service disruptions are considered minimal and installation of valve chambers along feedermain will help reduce the effects on service from maintenance activities.	<ul style="list-style-type: none">Low risk of service disruptions relative to feedermain length and associated chances for watermain breaks and duration of maintenance activities. Anticipated service disruptions are considered minimal and installation of valve chambers along feedermain will help reduce the effects on service from maintenance activities.
		
Energy Efficiency – potential for new systems to maximize energy efficiency	<ul style="list-style-type: none">All infrastructure will be built to incorporate energy efficient systems.	<ul style="list-style-type: none">All infrastructure will be built to incorporate energy efficient systems.
		
Economic		
Capital Costs	\$ 3.4 Million	\$ 3.5 Million
		
OVERALL SCORE		
Legend	Least Desired (Least Benefits, Significant Impact) 	Most Desired (Most Benefits, Minimal Impact) 

5.5 Preferred Alternative

The preferred alternative is “Alternative 4A” for the following reasons:

- Addresses the shortfalls when West Sector Reservoir is taken offline
- Improves the operation of Well 5/5A even after WSR is back online.
- Provides Orangeville water supply with additional storage capacity
- Best available footprint for construction
- Most feasible for constructability
- Higher grade elevation provides some hydraulic benefit
- Maintains space at Well 5/5A for future expansion for pumping or treatment
- Social impacts on aesthetic can be easily mitigated with a reduced tank height while maintaining the required volume

The site plan for Alternative 4A is shown in Figure 8.



Property Acquisition

Alternative 4A site appears to be owned by the Town of Orangeville and land acquisition is not anticipated.

Topographic Challenges

The Well 5/5A and Alternative 4A site has a challenging steep slope likely posing constructability challenges for site piping and layout. All piping is expected at a depth below the frost line and maintain this depth through a steep transition to Site A posing as a potential constructability issue. The contractor could use directional drilling to install the feed and discharge lines from the proposed standpipe to avoid major excavation of the slope and minimize the number of tree removals.

Maintaining Facility Services

Constructability is a major concern when a continuous water service is needed to be maintained. Facility shutdowns are sometimes inevitable, but the length of a shutdown can be mitigated by appropriating an effective construction staging plan and strategy. Detailed design should determine the critical design upgrades to the existing infrastructure to ensure it can accept the proposed equipment. For example, the design should include an evaluation of the electrical availability, required electrical demands, if upgrades are necessary and when shutdowns are possible. Proper planning and construction staging will avoid unneeded disruptions of water service to the community.

Site Access

The access way to the higher site location will have to be maintained by the Town during winter months to allow operator access. It appears there is already an undeveloped access road leading to the site which could be upgraded.

Schedule and Deadlines

The interior liner installed at the WSR reached the end of its useful service life and full replacement is required. Due to the poor interior condition of the WSR, the Class EA and subsequent construction of the Well 5/5A infrastructure must be completed as soon as possible to allow the commencement of the WSR Rehabilitation Project.

The WSR Rehabilitation Project should be completed over the spring and summer months to allow coating removal and application work to take place in appropriate weather conditions. Based on coating application removal and application methodology, winter work is not recommended.

To expedite construction of the Well 5/5A infrastructure, some of the long-lead equipment may be pre-purchased by the Town to limit supply chain issues experienced recently in the industry.

It is anticipated that the Well 5/5A project will be tendered in early summer of 2023. The WSR Rehabilitation Project will follow with commencement expected in early 2024.

Capital Costs

The Town of Orangeville has secured funding through provincial and federal investment programs which enable the financial feasibility of the proposed project.

Operational and Maintenance Costs

The major operational costs of the standpipe and booster pumping station would be electricity. The well pumps could fill the standpipe during times where electrical costs are low, however, the booster pumps would need to operate throughout the day based on distribution pressure. When the WSR is back online, the booster pumps would then be switched back to level-based control and fill the WSR during times when cost of electricity is low. Additionally, to mitigate the costs of operating pumps during high electrical cost periods, variable frequency drives (VFDs) will adjust the pumps speed and increase efficiencies.

Other items to be investigated:

- Piping layout to maximize usability of site.
- Existing electrical availability and electrical demands for proposed upgrades including standby generator.
- Operational impact of the WTP process equipment at reduced pressures.
- Determination soil suitability through a geotechnical investigation.
- Topographical Survey.

6 Consultation

The consultation process and public input are key components of the Municipal Class EA process and are summarized in this section of the report.

6.1 Study Schedule

The study was initiated in April 2022. Key dates in the study were as follows:

- Notice of Study Commencement: April 14, 2022
- Virtual Public Information Centre: August 18 to September 16, 2022
- Notice of Study Completion: July 12, 2023
- Project File Report on Public Record: July 13, 2023

6.2 Summary of Public Consultation Process

Consultation is a key aspect of the EA process. The ***Municipal Class Environmental Assessment*** (October 2000, as amended in 2007, 2011 and 2015) specifies the requirements for consultation for the various classes of EA. Under the ***Municipal Class Environmental Assessment***, the proponents of Schedule B Class EAs are required to conduct consultation at two points during the EA process:

- at the end of Phase 2 allowing the public and stakeholders the opportunity to provide input on the problem/opportunity and alternative solutions; and
- at the completion of the EA to allow the public and stakeholders to review the completed EA.

As per the ***Municipal Class Environmental Assessment***, each stage of consultation identified above is to be advertised by the publication of a Notice to the public. For Schedule B Class EAs, two published Notices are required for each stage of consultation: a Notice of Commencement for the first stage; and a Notice of Completion for the second stage. The consultation program for the EA included the following components.

- **Newspaper advertisements** - The Notice of Study Commencement & Virtual Public Information Centre was published in the Orangeville Citizen newspaper on April 14, 2022 and April 28, 2022 to announce the commencement of the EA. A Notice of the Virtual Public Information Centre was published in the Orangeville Citizen newspaper on August 18, 2022 and August 25, 2022 to invite interested members of the public to the review the material of the Public Information Centre. These public notices are provided in **Appendix D**.

- **Project e-mail mailing list** – A list of agencies, elected officials and indigenous communities was kept up to date throughout the study and was used to send the various notices.
- **Virtual Public Information Centre** –Due to the Covid-19 pandemic, the Town conducted one Public Information Centre through an ArcGIS Storymap from August 18, 2022 to September 16, 2022 on the Town’s website. The project information was displayed along with a feedback survey to allow the public to ask any questions on the study.

6.3 Stakeholder and Agency Participation

A list of stakeholders, including agencies and elected officials, was prepared at the project initiation. Each party on the list of stakeholders was contacted for information or comments. The opportunity for these stakeholders to participate in the project was provided through the notice of study commencement and through the notice of the Virtual Public Information Centre. The following is a summary of the agencies and stakeholders contacted.

Agencies and Authorities

- Ministry of the Environment Conservation and Parks
- Credit Valley Conservation
- Orangeville Fire Department
- Wellington-Dufferin-Guelph Public Health
- Dufferin County Paramedic Service
- Ministry of Tourism, Culture and Sport
- Ministry of Municipal Affairs and Housing - Western Municipal Services Office
- Ministry of Natural Resources and Forestry - Midhurst District
- Ontario Provincial Police
- Upper Grand District School Board
- Dufferin-Peel Catholic District School Board
- County of Dufferin
- Ministry of Children, Community and Social Services
- Ministry of Indigenous Affairs
- Ontario Growth Secretariat

Elected Officials

- Mayor Sandy Brown

- Deputy Mayor Andy Macintosh
- Councillor Joe Andrews
- Councillor Grant Peters
- Councillor Lisa Post
- Councillor Debbie Sherwood
- Councillor Todd Taylor

6.4 Correspondence with Indigenous Groups

At the onset of the study the Ministry of Environment, Conservation and Parks (MECP) was contacted to identify Indigenous Communities that may have interest in this study. In correspondence dated June 13, 2022, the MCEP identified the following Communities to be engaged for this study:

- Saugeen First Nation
- Chippewas of Nawash Unceded First Nation

Williams Treaty Chippewa First Nations:

- Beausoleil First Nation
- Chippewas of Rama First Nation
- Chippewas of Georgina Island First Nation

For the above Williams Treaties communities, please cc Karry Sandy McKenzie, William Treaties First Nations Process Co-ordinator, inquiries@williamstreatiesfirstnations.ca

- Mississaugas of the Credit First Nation
- Huron-Wendat

The correspondence with all stakeholders and Indigenous Groups are provided in **Appendix F**.

6.5 Virtual Public Information Centre

The virtual Public Information Centre (PIC) was posted on the Town's website between from August 18, 2022 to September 16, 2022. The purpose of the PIC was to introduce the project to the community and gather initial feedback on problems and opportunities and potential solutions identified for the study.

The online ArcGIS Storymap enabled participants to learn about the project and provide input on the key issues and concerns. The notice was e-mailed to 16 agency

representatives and stakeholders on August 19, 2022. The notice was also mailed to residents within the study area. A copy of the notice is provided in **Appendix D**.

An online survey was available on the project website for members of the public to submit their comments to the project team. All comments were requested by September 16, 2022. A total of 220 visitors attended the virtual PIC throughout the month and no comments were received.

A copy of the PIC material is available in **Appendix E**. No comments were received from the public.

6.6 Notice of Completion

The last component of the Consultation for an EA is the Notice of Completion. A Notice of Completion is issued to identify completion of the Class EA and is mailed to anyone who expressed an interest in the study.

A Section 16(6) Order (formally known as Part II Order) request may be made to the Ministry of the Environment, Conservation and Parks for an order requiring a higher level of study, or that conditions be imposed, only on the grounds that the requested order may prevent, mitigate or remedy adverse impacts on constitutionally protected Aboriginal and treaty rights.

As per the ***Municipal Class Environmental Assessment***, written requests for a Section 16 order must be submitted to the Minister within the 45-calendar day review period after the proponent has filed the Project File Report and has issued the Notice of Completion of the Project File Report. As previously noted, the Town of Orangeville is voluntarily extending the review period to 45 calendar days. Requests received after the 45-calendar day review period will not be considered.

If no new or outstanding concerns are brought forward during the review period, the Town of Orangeville may complete detail design and construction of the preferred solution.

7 Description of Proposed Undertaking

The implementation of the preferred solution (Alternative 4A) will consist of a standpipe constructed on high-ground and at a further distance from Well 5/5A, and a booster pumping station located adjacent to the Well 5/5A WTP. The standpipe will be connected to the WTP and booster pumping station with piping.

Overall, the proposed undertaking includes:

- A standpipe with a volume of approximately 3,300 m³, sized for the future 20-year storage requirements. The diameter of the standpipe will be approximately 23 m such that its height of approximately 11 m will not exceed the tree line. The standpipe will include a hydrodynamic mixing system with separate inlet and outlet piping.
- A booster pumping station with a firm capacity of 126 L/s, equal to the current maximum day demand plus fire flow (MDD + FF). There will be four booster pumps (3 duty, 1 standby) that each operate at 42 L/s and 62 m head. The booster pumping station will be a separate, single storey building including associated HVAC, electrical, and instrumentation equipment.
- The existing well pumps will have VFDs installed to allow them to operate to a new hydraulic design point and able to revert back to the current operating pressure when the new reservoir is offline for maintenance.
- Electrical replacement / repairs including a new standby generator, modifications to MCC-1, and new transformer.
- The control program will allow the Well 5/5A system to operate with either level control and/or pressure control to meet the demands of the distribution system.

The longer pipe is required to connect to the standpipe creating an opportunity to provide the required CT time directly in the watermain connections. Construction impacts to surrounding areas can be mitigated by Horizontal Directional Drilling (HDD) methodology.

8 Potential Impacts, Proposed Mitigation and Commitments to Further Work

As with any other construction project, there will be some potential impacts to the public and environment in areas during the construction period. Specific mitigation measures, as described below, are recommended for implementation to reduce anticipated impacts.

8.1 Socio-Economic Environment

8.1.1 Land Use

As the Study Area is owned by the Town and is already being used for the existing Well 5/5A Water Treatment Plant (WTP) and pumphouse, there are no impacts to land use.

8.1.2 Access

The existing Well 5/5A site currently shares an access road with the private residential property directly east of the Study Area. Temporary impact to this residential property may occur during construction. Advance notification and scheduling will be provided to the affected resident to mitigate these impacts.

8.2 Cultural Heritage

8.2.1 Built Cultural Heritage

It was determined that the property does not have any cultural heritage value or interest and therefore there are no impacts to built cultural heritage.

8.2.2 Archaeology

No archaeological impacts, inland and offland, are anticipated as a result of the potential construction disturbance activities associated with the Project within the project area. Should the project boundary be revised and extend beyond the study area limits, additional archaeological assessment may be required due to the potential for submerged archaeological resources located in the surrounding vicinity of the current Study Area. Further to that, if any deeply buried archaeological resources are identified during ground disturbance activity associated with the proposed developments in the Study Area, ground disturbance activities should be immediately halted and the Archaeology Division of the Culture Programs Unit of the Ministry of Citizenship and Multiculturalism be notified.

8.3 Natural Environment

8.3.1 Conservation Regulated Area

The study area is located entirely within the Credit Valley Conservation (CVC) Regulated Area. Through consultation with CVC, they advised that the following would be required:

- A permit for any new structures, grading or construction works within this area.
- Sediment control during construction, and to ensure no degradation to water quality.
- Follow CVC's criteria and requirements for construction in a floodplain.
- Proposed methods to control sedimentation during construction and potential erosion following the completion of the project must be detailed during the detailed design period of this project.
- All disturbed areas will need to be stabilized and restored with native/non-invasive seed mixes and woody species.

8.3.2 Soils, Surface Water and Fish Habitat

Excavation and grading associated with construction have the potential to suspend soil particles, which could result in eroded materials inadvertently affecting vegetation, wildlife, and fish habitat, including impairment of surface water quality.

Through a two-season field survey of Mill Creek, the feature was observed to support intermittent flow with rapid infiltration subsequent to spring freshet and following large rain events. The channel is likely wet for a short period during the spring freshet and expected to dry quickly due to infiltration and the small catchment/headwater nature of the feature. The channel was classified as intermittent flow/indirect fish habitat with a contributing function to downstream fish-bearing reaches.

The closest project component in proximity to Mill Creek is the booster station which will occupy a footprint of approximately 72 m². Works to improve or expand upon the existing WTP would also occur within 30 metres of the Mill Creek channel and have the potential to impact fish habitat. No works are proposed within the channel of Mill Creek; however, the creek intermittently contributes flow and allochthonous materials to downstream reaches of Mill Creek that support direct fish habitat. The mitigation measures for the protection of surface water features as described herein are meant to protect the indirect fish habitat within 30 metres of proposed project works. As additional design detail becomes available, the proposed environmental protection and mitigation

strategies for the protection of fish habitat will need to be reviewed and updated, as necessary.

At this point in the project design, the need for dewatering or pumping (drawdown effects) during construction are not required. Where it is determined in later stages of design that dewatering is required, that activity has the potential to impact water quantity or quality, thereby impacting downstream fish habitat. Dewatering may cause reduction in baseflow where groundwater contributions are reduced, or conversely, discharge back to surface features may cause temperature effects, alter flow regimes and result in erosion.

Site-specific erosion and sedimentation control measures will be identified during detailed design following the *Erosion and Sediment Control Guidelines for Urban Construction* (GGHA 2006). Erosion and sedimentation control measures may include:

- Placing silt fence along watercourses, ditches, and forest/woodland edges in areas of soil disturbance;
- Limiting the extent and duration that soils are exposed to the elements to the minimum area and time necessary to perform the work;
- Managing stormwater during construction to prevent contact with exposed soils;
- Monitoring and maintaining erosion and sedimentation control measures during construction to ensure their effectiveness; and,
- Directing any dewatering discharge to a sediment containment/filtration system or settling basin prior to release to a watercourse.

Erosion and Sediment Control (ESC) measures will be implemented prior to construction commencement and remain in place until construction is complete, and soils have been re-stabilized. This will greatly reduce the potential for soil erosion, and sedimentation, impairment of surface water quality, and impacts to fish habitat.

Potential effects to water quality in the creek during construction will be mitigated through isolation of the work area using erosion and sediment controls which will prevent sediments from exposed soils from reaching Mill Creek. The intermittent nature of the creek provides the opportunity for works within 30 metres to be completed during the dry season, further limiting the likelihood of water quality impacts.

The following measures are required to exclude silt, sediment, debris, petroleum-based substances, and other deleterious zoning:

- Storage, stockpiling and staging areas will be delineated prior to construction and in accordance with the *Erosion and Sediment Control Guideline for Urban Construction* (GGHA 2006).

- An erosion and sediment control site specific plan will be developed that details the ESC plans and responsibilities to include the following, at minimum:
 - Ensuring that construction activities are adequately contained with Erosion and Sediment Control (ESC) measures to include silt fence along watercourses, ditches, and forest/woodland edges in areas of soil disturbance.
 - Limiting the extent and duration that soils are exposed to the elements to the minimum area and time necessary to perform the work.
 - Managing stormwater during construction to prevent contact with exposed soils.
 - Monitoring and maintaining erosion and sedimentation control measures during construction to ensure their effectiveness.
 - Intercept sediment laden drainage as close to the source as possible.
 - Ensuring the contractor has supplemental ESC measures available on site that can be utilized, should additional ESC measures be warranted.
- Construction material, debris, and empty containers will be stored at least 30 m distance from watercourses to prevent their entry into watercourses.
- Equipment refueling, maintenance and washing activities will be conducted at a pre-determined site located at an adequate distance (minimum 30 m) from surface water features and their banks located within the study area to prevent the entry of petroleum, oil, lubricants, or other deleterious substances (including any debris, waste, rubble or concrete material) into watercourses, or their release to the environment. Any material which inadvertently enters a surface water feature will be removed by the Contractor in a manner satisfactory to the Contract Administrator.
- All spills that could potentially cause damage to the environment will be reported to the Spills Action Centre of the MECP. In the event of a spill, containment and clean-up will be completed quickly and effectively. In addition, a Spill Prevention and Response Contingency Plan must be included in the contract package to ensure the appropriate contingency materials to absorb or contain any petroleum products/spills that may be accidentally discharged will be on site at all times.
- Riparian areas within 30 metres of surface water features will be revegetated and/or covered with an erosion control blanket as required until such time that vegetation cover can be established.

- Where a need for dewatering is identified, a detailed Dewatering Plan should be developed in accordance with MECP guidance to include the following, at minimum:
 - Ensure dewatering activities are addressed in site specific Environmental Management Plans to address alterations to baseflow and discharge of water back to surface features (from both a quantity and quality aspect);
 - Maintain existing flow patterns to avoid changing character of vegetation communities and habitat functions; and,
 - Filter groundwater discharge prior to it entering a waterbody using treatment train approach (i.e., via tanks, dewatering pads and filter bags) prior to being released.

The above environmental protection measures will serve to minimize the potential for impacts to surface water and aquatic habitat quality and provide contingency in the case of an unforeseen event.

8.3.3 Vegetation and Vegetation Communities

No provincially designated features (i.e., PSWs or ANSIs) are located within the study area or its vicinity. Construction of new infrastructure will result in the displacement of, and disturbance to, vegetation and vegetation communities. All of the vegetation communities identified within the study area are considered widespread and common in Ontario and secure globally. The recommended project design impacts an area of previous disturbance (gravel parking area, mowed grassed around existing buildings), and vegetation within cultural savannah and mixed forest communities.

The study area has been screened for plant species at risk. One Butternut tree, a species regulated as Endangered by the Ontario Endangered Species Act, 2007, was identified along the edge of the Focused Study Area. A Butternut Health Assessment (BHA) was completed on July 27, 2022 which assessed the tree as Category 1 (non-retainable). The BHA was submitted to MECP and provided to the Town under separate cover as per ESA regulations. Category 1 trees are exempt from Clause 9(1) of the ESA (O Reg. 830/21).

The following potential effects on vegetation are noted:

- Loss of vegetation part of cultural savannah and mixed forest communities;
- Tree removals / pruning along edge of the hedgerow to accommodate entrance into the site;
- Works in proximity to woodland edges may result in impacts as a result of damage to the root zones and/or canopy of trees along the feature edge; and,

- Potential for sedimentation and erosion to result in sediment migration into vegetation communities via site run-off from ground disturbance and from potential dewatering activities.

Mitigation measures listed below will be revised accordingly during detailed design and with each refinement to the design. At a minimum, the following protection/mitigation measures will be implemented to ensure the protection of vegetation and vegetation communities to the extent possible:

- Given the relatively high quality of vegetation observed in the project area (80% native species), it is recommended that construction options for the connections between the proposed standpipe and the existing WTP through the mixed forest community be explored to consider trenchless construction, and/or fine tuning of design to avoid tree removals through a narrower crossing of the woodland feature or through an alignment that confines tree removals to the feature edge to avoid impacts to the woodland. Wherever possible during detailed design, efforts should be made to minimize the project footprint and the extent of vegetation removal. For example, refining the width and alignment of the proposed connection between the WTP and new standpipe, so that impacts to the woodland can be avoided or minimized.
- A tree inventory to include grading limits, and staging, storage and laydown areas will be completed at detailed design to determine tree impacts and refine the project design to minimize impacts to the extent feasible.
- The contractor will ensure that soil migration from the construction area is prevented, and that exposed soils are stabilized as soon as is possible (see soils mitigation).
- Special care will be taken when construction vehicles are operating in the vicinity of the more sensitive forest community. Provisions should be included in the contract package to ensure clear delineation of the work zone in this area to avoid accidental encroachment and avoid impacts to these sensitive features.
- Heavy equipment (wheeled or tracked) will not be permitted outside of the delineated construction and staging areas. Appropriate tree protection will be installed to protect trees and natural areas to be retained, including safeguarding trees and natural areas from construction operations, equipment and vehicles. Prior to construction, trees and natural areas to be protected will be clearly identified in the field by the Contract Administrator and a protective barrier will be installed. The repair or replacement of trees/shrubs identified to remain outside of grading limits that were damaged by construction activities should be

undertaken; and, restoration of disturbed natural areas should use a native species seed mix similar to the character of the surrounding area.

- Native and non-invasive vegetation cover will be used to restore any exposed surfaces.
- Restoration and edge management planning will be undertaken and implemented to mitigate impacts related to vegetation removals and/or impacts near existing edges of natural features. Restoration and edge management planning shall be undertaken by experienced, qualified professionals. Maintenance and warranty should be in place for any restoration works undertaken.

8.3.4 Wildlife and Wildlife Habitat

Wildlife habitat as it occurs within the footprint of the preferred design is comprised of savannah and mixed forest. These areas provide habitat for common/secure mammals. Breeding birds protected under the Migratory Birds Convention Act, 1994 (MBCA) including species listed as special concern (Eastern Wood-pewee) are also using these habitats. was documented on site as a probable breeder. Eastern Wood-pewee uses mixed and deciduous forests. Habitat for species of special concern is considered significant wildlife habitat.

Trees part of the FOM2-2 community represent candidate habitat for bat maternal roosting (including for species at risk).

The construction and operation of infrastructure part of this project has the potential to result in impacts to wildlife and wildlife habitat. Effects related to the construction and operation could include:

- Wildlife and construction equipment/vehicle conflicts;
- Displacement of resident wildlife using habitat for breeding, local movement and foraging due to the disturbance/removal of 341 m² of CUS1 habitat, and 358 m² of FOM2-2;
- Temporary disturbance to wildlife from noise, and on-site construction activity, including disturbance to birds listed under the MBCA that may be using adjacent natural (shrubs, trees, grasses) or built structures as habitat within and/or adjacent to the construction footprint; and,
- Potential displacement of endangered wildlife - where removals/pruning of mature, open grown trees or trees part of the mixed forest community with suitable cavities/leaf clusters for bat maternal roosting is proposed, potential impact to bats (including SAR) is identified.

Mitigation measures listed below will be revised accordingly during detailed design and with each refinement to the design. At a minimum, the following protection/mitigation measures will be implemented to ensure the protection of wildlife and their habitat to the extent possible:

- Avoidance - opportunities to mitigate loss of wildlife habitat include limiting tree and vegetation removals through adjustment of the alignment for the WTP connection and strategic positioning of the design footprint and storage/laydowns areas within manicured or previously paved/disturbed areas to the extent feasible.
- A tree inventory of the design footprint, including grading limits and staging, storage and laydown areas should be completed during detailed design to determine tree impacts and develop a tree protection plan.
- Where the preferred design alternative displaces woodland habitat, additional screening under leaf off condition to identify trees with cavities and/or sloughing bark, and/or acoustic surveys for bats will be required. If bats are using the woodland habitat for roosting, there is potential that species may include those afforded protection under the ESA. The footprint represented in Figure 3 should be revisited in future design phases in consultation with the MECP to ensure no impact to candidate bat habitat part of the woodland community.
- Where any removal of rock piles or pruning of mature, open grown trees (i.e., those outside of a forest community) representing candidate bat roosting habitat is proposed, timing windows to avoid the period from March 15 to November 20 (as recommended by MECP: see Appendix E of the Natural Heritage Assessment) should be employed.
- A number of bird species listed under the MBCA were identified within the study area. The MBCA prohibits the killing, capturing, injuring, taking or disturbing of migratory birds (including eggs) or the damaging, destroying, removing or disturbing of nests. The study area falls within Environment Canada's Nesting Zone C2 (Nesting Period: end of March to end of August). Consequently, to comply with the requirements of the MBCA, it is recommended that disturbance, clearing or disruption of vegetation where birds may be nesting should be completed outside the window of April 1 to August 31 to avoid the breeding bird season for the majority of the species protected under the Act. In the event that project construction must be undertaken between April 1 and August 31, a nest screening survey will be conducted by a qualified avian biologist. If an active nest is located, a mitigation plan will be developed and provided to Environment Canada – Ontario Region for review prior to implementation.

- Where tree removal is proposed within the mixed forest community a screening for owl use may be required. This may include visual surveys/screening for large stick nests during the leaf off period (March/early April), potentially combined with call back or auditory surveys to rule out use of the habitat by Great Horned Owl for nesting. Nests and eggs of this specially protected species are protected under the Fish and Wildlife Conservation Act, 1997.
- Where construction is planned to occur during the active seasons for wildlife, the delineation of the construction area (e.g., silt fencing for erosion and sediment control) can serve to exclude wildlife from entering the work areas to some extent.
- Ensure that an environmental monitor is available in the event that wildlife is encountered in the work zone in order to safely document, and if necessary (under permitting and consultation with MECP) handle and remove wildlife at risk of conflict with construction activities.
- Native vegetation cover will be used to protect any exposed surfaces and ensure that temporarily disturbed areas are adequately restored post-construction (inclusion of milkweed is recommended where conditions are suitable to enhance diversity and maintain food source for Monarch).
- Maintain existing drainage patterns to avoid changing character of vegetation communities and associated habitat functions.

8.4 Source Water Protection

The study area is within the Credit Valley Source Protection Area. The Ministry of Environment, Conservation and Parks' (MECP) Source Protection Information Atlas was queried to identify potential sensitivities of the study area with respect to source water protection. The Credit-Valley-Toronto and Region-Central Lake Ontario (CTC) Source Protection Plan and MECP Source Water Protection Information Portal (SWPIP), were reviewed to identify potential drinking water threats and mitigation measures relevant to this project. The results are discussed in

Table 4.

Table 4: Source Water Protection Mitigation Measures

Vulnerable Areas	Definition	Within Study Area?	Mitigation Discussion
Wellhead Protection Area	The area that surrounds a well through which contaminants are reasonably likely to move toward or reach the well.	Yes, within WHPA-A, score 10. WHPA-B, score 8. WHPA-E, score 6.3. WHPA-Q1 and WHPA-Q2.	Limited activities are permitted within these vulnerable areas. Specific Source Water Protection policies will be implemented and followed.
Wellhead Protection Area E (GUDI)	The area around a well where water quality could be influenced by surface water. GUDI Well: Groundwater Under the Direct Influence of Surface Water.	Well has been identified as GUDI with effective filtration.	Limited activities are permitted within a WHPA E. Specific Source Water Protection policies will be implemented and followed.
Intake Protection Zone	The area around an intake pipe in a lake or river that draws in the surface water used to supply the municipal drinking water system. Three zones (1,2,3) are identified based on the distance around the intake pipe or the length of time for a contaminant to reach the intake.	No	-
Issue Contributing Area	The area where land-based activities contribute to the presence of unwanted substance in the water source.	No	--

Vulnerable Areas	Definition	Within Study Area?	Mitigation Discussion
Highly Vulnerable Aquifer	An underground water supply, or aquifer, which can be easily contaminated because overlaying soil layers are thin or permeable.	Yes, HVA, score 6 ('high' groundwater vulnerability)	Specific Source Water Protection policies will be implemented and followed to protect sensitive hydrological features including current or future sources of drinking water not explicitly addressed in source protection plans.
Event Based Area	The area within a watershed where a spill could pollute the drinking water supply because of sanitary sewers, sewage treatment plans or pipelines that are close to rivers, streams, or other waterbodies.	N/A	--
Wellhead Protection Area Q1	The area where activities that take water without returning it to the same source may be a threat.	Yes, significant threat identified	Specific Source Water Protection policies will be implemented and followed.
Wellhead Protection Area Q2	The area where activities that reduce recharge may be a threat.	Yes, significant threat identified	Specific Source Water Protection policies will be implemented and followed.
Intake Protection Zone Q	Drainage area that contributes surface water to an intake, and the area that provides recharge to an aquifer that contributes to groundwater discharge	No	--

Vulnerable Areas	Definition	Within Study Area?	Mitigation Discussion
	to the drainage area. Part VI.7 of the Technical Rules specifies the rules with respect to delineation of IPZ-Q (Matrix, 2016)		

The following policies within the CTC Source Protection Plan apply to this project's water quality and water quantity threat activities:

- **SAL-1:** If road salt is expected to be used, it will be included in the Risk Management Plan.
- **SAL-7:** The handling and storage of road salt is prohibited. If operations include the use of road salt, it is to be included in the Risk Management Plan.
- **SNO-1:** Snow cannot be stored within the WHPA-A. Any snow piles will be placed within a designated spot outside the WHPA-A and will be described in the Risk Management Plan.
- **FUEL-3:** If fuel is to be stored and handled on site as part of the building, it will be included in the Risk Management Plan.
- **REC-2:** The Risk Management Plan will outline best management practices to increase infiltration of clean water such as disconnecting of downspouts so that pre-development recharge can be maintained.
- **DEM-1/2:** If new pumping is expected, The Town will go through the appropriate route for approvals.

8.5 Climate Change

The construction of the new booster pumping station will be on a grassed area of Site A. However, the construction of the new water storage reservoir on Site A may require tree removal and could have potential effects on climate change. The construction and operation of the new facilities would generate additional greenhouse gas emissions due to heating, lighting, and electrical requirements. In addition, the existing landscape of the area surrounding the preferred sites would need to be altered to accommodate new infrastructure.

Implementation of the following climate mitigation measures should be considered to reduce the long-term generation of carbon emissions arising mainly from operation of the new facility and to enhance carbon storage due to proposed changes in the landscape:

- The preliminary layout incorporates the use of energy efficiency lighting and equipment.
- Energy efficient devices such as VFDs will be implemented, and process controls are aimed to improve energy efficiencies.
- Implementation of an adequate landscape plan, comprising planting of new trees (2:1 new planting for every tree removed) and local non-invasive vegetation species within the new site to contribute to carbon sinks.

8.6 Air Quality, Dust and Noise

Existing land use adjacent to the Study Area include a mix of residential, automotive, institutional (church) and commercial. There are currently no schools, hospitals, or long-term care homes within close proximity to the Study Area. This project is anticipated to have modest / nominal impacts on air quality. The Town of Orangeville is committed to ensuring the environmental health of its residents as demonstrated by the initiatives to support the management of emissions and greenhouse gases.

During construction of the roadway, dust is the primary contaminant of concern. Other contaminants including NO_x and VOC's may be emitted from equipment used during construction activities.

Due to the temporary nature of construction activities, there are no air quality criteria specific to construction activities. However, the Environment Canada "Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities" document provides several mitigation measures for reducing emissions during construction activities. Mitigation techniques discussed in the document include material wetting or use of chemical suppressants to reduce dust, use of wind barriers, and limiting exposed areas which may be a source of dust and equipment washing. It is recommended that these best management practices be followed during construction of the roadway to reduce any air quality impacts that may occur. It is noted that MECP recommends that non-chloride dust suppressants be applied. MECP also recommends referring to the following publication in developing dust control measures: "Cheminfo Services Inc. Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities. Report prepared for Environment Canada. March 2005".

Noise during operation of the proposed infrastructure at the new sites is not expected to differ from the existing conditions due to the distance to the nearest sensitive receptor and the existing noise conditions on the adjacent local roads. In addition, noise emissions associated with the operation of the new equipment will meet the applicable MECP sound level limits, which is expected to be consistent with the Town's requirements.

8.7 Ground Water

At this point in the project design, the need for dewatering or pumping during construction are not known. Where it is determined in later stages of design that dewatering is required to support construction, the required hydrogeological investigations need to be completed to support any permitting requirements and establish appropriate mitigation measures. Any excavations below the water table would require temporary groundwater control during construction.

The potential for, and amount of, groundwater inflow into any excavation will depend on the excavation dimensions and depth. As these details are not available all dewatering recommendations should be considered preliminary and should be confirmed as the design process proceeds.

Where a need for dewatering is identified, a detailed Dewatering Plan should be developed in accordance with MECP guidance to include the following, at minimum:

- Ensure dewatering activities are addressed in site specific Environmental Management Plans to address potential impacts to groundwater quality or quantity;
- If dewatering is necessary, a Permit to take water (PTTW) or registration in the Environmental Activity and Sector Registry (EASR) will be completed;
- An analysis to determine whether a monitoring plan would be needed to monitor the potential impacts of the discharge and, if needed, a description of the plan and the circumstances in which it would be needed; and
- A contingency plan that includes measures to address potential impacts related to the quality and quantity of the discharge, any failures of recommended treatment or control measures and other site-specific impacts such as flooding.

The above environmental protection measures will serve to minimize the potential for impacts to the natural environment and provide contingency in the case of an unforeseen event.

8.8 Excess Materials Management

Any excess soils generated as a result of the work should be managed in accordance with O.Reg.406/19 On-Site and Excess Soil Management made under the Environmental Protection Act, R.S.O. 1990, c.E19 (EPA) and the adopted by reference MECP 'Rules for Soil Management and Excess Soil Quality Standards' as well as other regulatory amendments related to the management of excess soil. Where possible, existing soils may remain on site.

Any excess materials considered as waste will be handled and disposed of in accordance with the EPA and O.Reg.347 as amended.

8.9 Contaminated Sites

A review of publicly available environmental databases was completed in order to provide a preliminary assessment of the presence of actual or potentially contaminated sites within a 500 metre radius of the study area.

The following databases were consulted (accessed November 7, 2022):

- MECP Landfill sites map
- MECP Small landfill sites list
- MECP Access Environment
- Treasury Board of Canada – Federal Contaminated Sites Inventory

The search results for the on-site area indicated the presence of Permit to Take Water records associated with existing municipal supply wells. There were no registered small or large landfill sites, landfill ECA records, or federal contaminated sites indicated to be on-site or within 500m of the site. The presence of two ECA records for Municipal and Private Sewage Works were identified approximately 300 metres west of the site boundaries, however these are not interpreted to represent a notable concern to the proposed project activities.

A

Appendix A: Cultural Heritage Screening Report and Cultural Heritage Evaluation Report

**Cultural Heritage Screening Report for Proposed Well
5/5A, Part of Lot 1, Concession 1, Township of
Amaranth, Historical County of Wellington, County of
Dufferin, Ontario**

Prepared for:

CIMA Canada Inc



Allan Morton, PhD, RPA, CAHP
Heritage Specialist

October 2021

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Executive Summary

Bluestone Research was retained by CIMA Canada Inc. to complete a Cultural Heritage Screening Report (CHSR) as part of a Schedule B Class Environmental Assessment. The study area measures approximately 1.14 hectares in size and is located at 553032 Dufferin County Road 16, Part of Lot 1, Concession 1, Township of Amaranth, Historical County of Wellington, County of Dufferin, Ontario.

According to the cultural heritage guidelines by the Ontario Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI), the study area includes structures that require the next step in the heritage assessment process. The screening questions in Appendix C includes the following relevant queries:

- 1) Does the property have built resources that appear to be more than 40 years of age?
- 2) Does the property, its built resources or landscape features, appear to have significant historical or associative value
- 3) Does the study area contain a parcel of land that has or is adjacent to a known burial site and/or cemetery?

The result for all three of these questions is affirmative. It is situated adjacent to the Orangeville Greenwood Cemetery. There are two concrete-block structures that are more than 40 years old and the foundation remains from a railway related water tank from 1870-1880. The railway infrastructure may have significant historical value. It was concluded that there is potential for cultural heritage resources within the project area. Accordingly, the completion of a Cultural Heritage Evaluation Report (CHER) is required. If elements of the property are determined to be of cultural heritage value and because alterations or development is proposed, a Heritage Impact Assessment (HIA) report is needed to assess and avoid, eliminate or mitigate impacts

This CHSR recommends that a Cultural Heritage Evaluation Report be prepared for the study area.

1.0 INTRODUCTION AND METHODOLOGY

Bluestone Research was retained by CIMA Canada Inc. to complete a Cultural Heritage Screening Report (CHSR) as part of a Schedule B Class Environmental Assessment. The Town of Orangeville has identified a need to provide additional water pumping and storage capacity at this site to alleviate the risk of disruption to water supply. The study area measures approximately 1.14 hectares in size and is located at 553032 Dufferin County Road 16, Laurel, Ontario. As part of the study, Cima Canada Inc. is required to prepare a Cultural Heritage Screening Report (CHSR). Allan Morton, Heritage Specialist, was retained by Cima Canada Inc. to complete the heritage component.

The scope of this CHSR is to:

- identify the location of potential heritage structures;
- document the history of the heritage structures within an appropriate historical context;
- complete screening questions;
- provide copies of any existing heritage recognitions; and
- recommend next steps in the heritage impact assessment.

The methodology for completing this assessment will include the following:

- Review of relevant background data from federal, provincial, and municipal heritage registers and inventories to identify known and potential cultural heritage resources in the study area.
- Consult with municipal planners or heritage officers to gather information about known or potential properties of cultural heritage value or interest in the study area.
- Collate all data gathered during Tasks 1 & 2 to complete the Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes checklist.

2.0 DESCRIPTION OF THE PROPERTY AND IT'S CONTEXT

2.1 LOCATION

The study area is located at 553032 Dufferin County Road 16, Laurel, Ontario. This location is a well, filtration system and distribution point that supplies water to the Town of Orangeville.

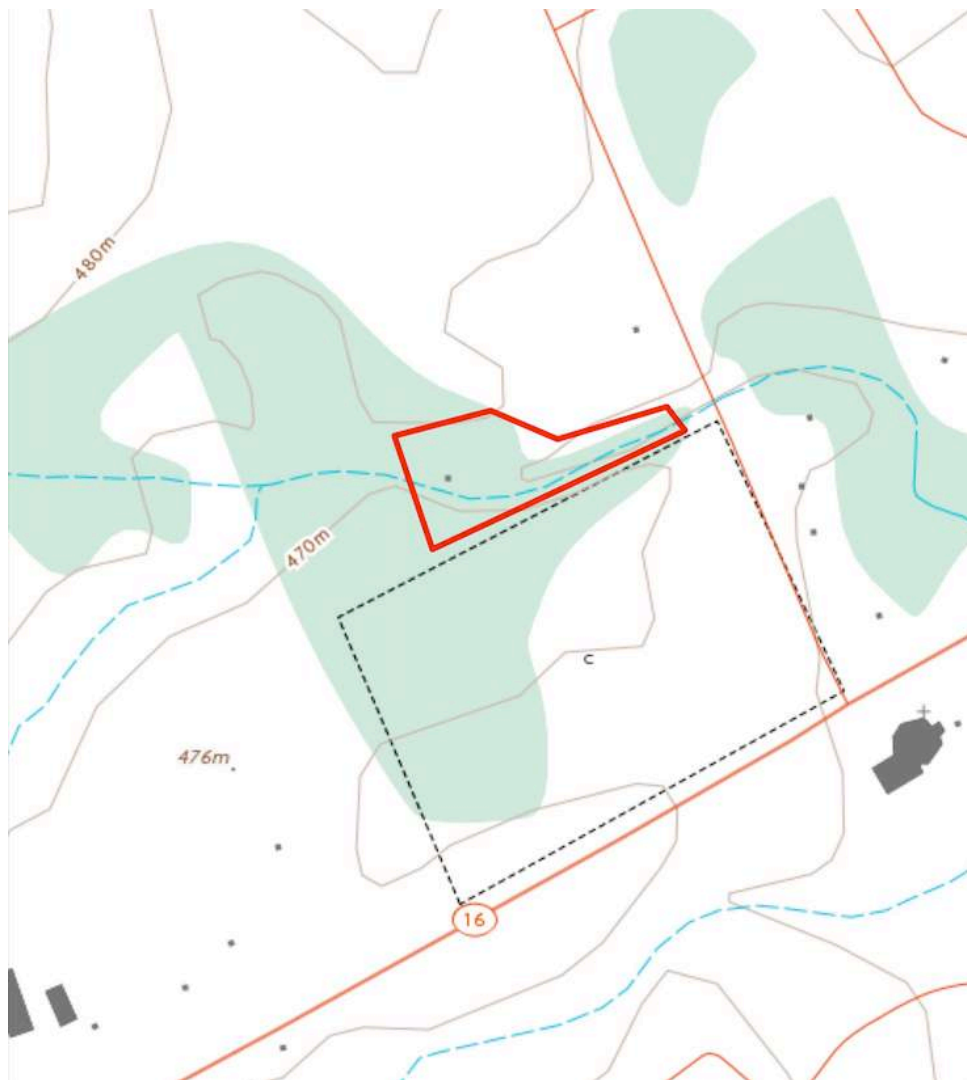


Figure 1. Map of Study Area. Study area is outlined in red. Orangeville Greenwood Cemetery is indicated by the dashed line. [Source: Government of Canada, 2021]

2.2 OWNERSHIP AND LEGAL DESCRIPTION

Currently the location is owned by the Town of Orangeville. The focused study area is part of a larger study area that extends to the north approximately 160 metres to the Dufferin County CP Rail Trail (formerly the Toronto, Grey & Bruce Railway).

The study area is located at Part of Lot 1, Concession 1, Township of Amaranth, Historical County of Wellington, County of Dufferin, Ontario.

2.3 AREA CHARACTER AND PHYSIOGRAPHY

As shown on the maps, the subject land is on the north west edge of the Town of Orangeville adjoining the Orangeville Greenwood Cemetery to the south and expansive rolling farmland to the north and west. Although, historically, the Toronto, Grey & Bruce Railway ran to the north of the study area, it remained undeveloped except as a source of water. The property slopes gently away from the Dufferin County Road 16 and is relatively flat for driveway access east to west. The south and south west sides of the property slope sharply to an unnamed tributary of the Credit River. On the north side is a sharp rise with extreme slope extending 10 to 15 metres high. A flat area at the top of the cliff extends to the north in a gradual slope.

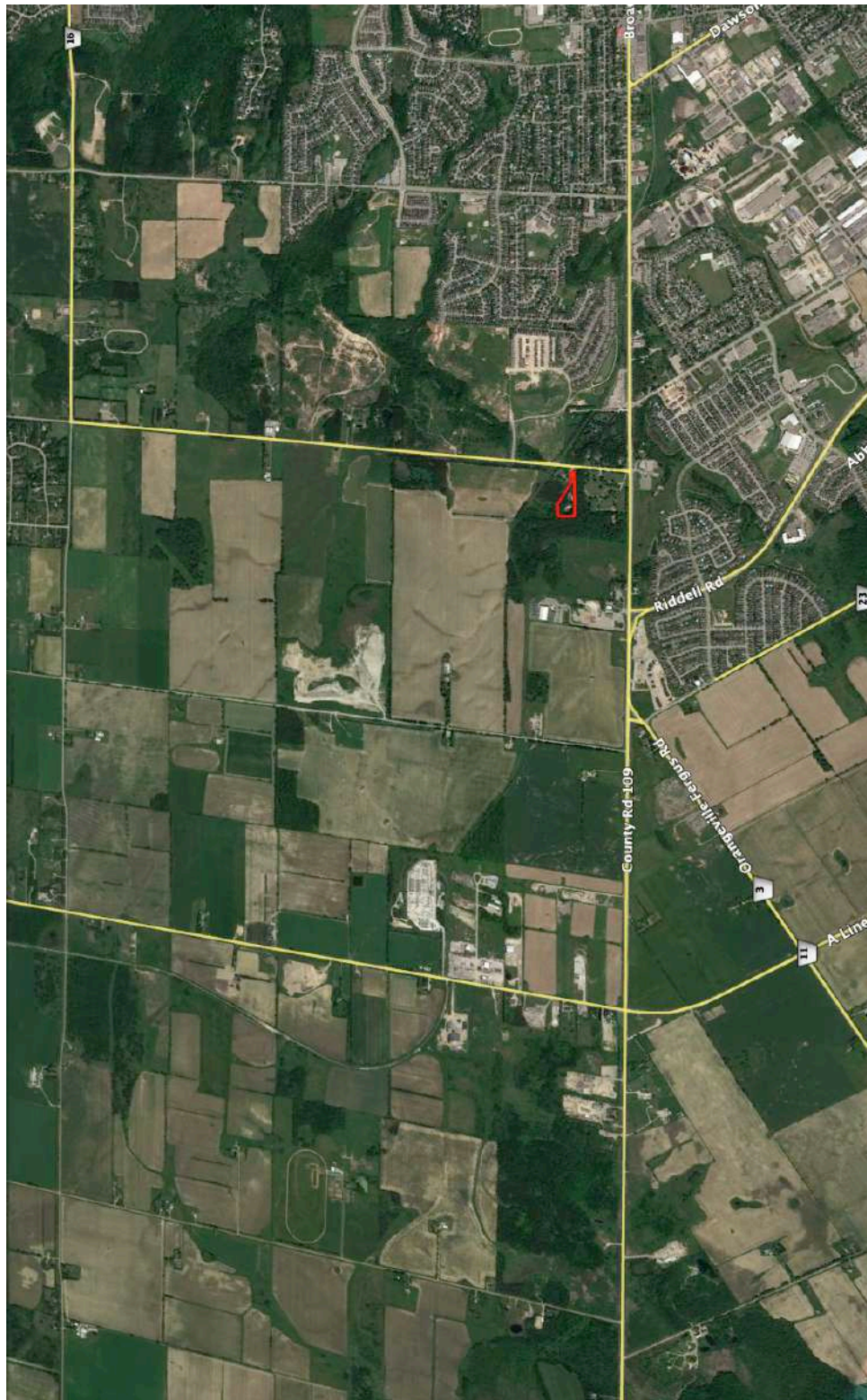


Figure 2. Location of the Study Area showing landscape context. [Source: Google Earth Pro]

The study area is located the Hillsburgh Sandhills physiographic region of Southern Ontario as identified by Chapman and Putnam (1984:146). This region covers approximately 165 square kilometers from Orangeville south for approximately 13 kilometres. The topography of the study area is variable. It slopes westward from the road frontage and includes steep slopes to the creek on the south side and on the north side toward the western half of the property. The elevation of the study area ranges from 460 metres above sea level to 480 metres above sea level.

3.0 HISTORICAL SUMMARY

The Township of Amaranth was first settled in 1822 by Abraham Hughson (UEL). His property included the study area: Lot 1, Concession 1. It was surveyed ten years later. The surveyor, H. Black arranged the lots and concession using the double front system. Lots were measured from the front of the concession to a midpoint, and then from the back of the concession to the midpoint (McIlwraith, 1999, p.58). Historian, S. Sawden wrote in 1867 that the surveyor grew weary of the wetlands of the area and resolved that the township's name should be "pigweed". Because this plant is of the Amaranth genus, that name was finally chosen (Sawden, 1867, p.31)

The dense forests of the area required clearing and that was one of the focuses of the early settlers (Sawden, 1952, p.32). By 1841, the township became part of Wellington County and the population grew to 500 people within ten years. Immigrants from Ulster and other parts of the British Isles and Canada West arrived throughout the 1840s and 1850s. Some established successful mixed farms and others settled in nearby Orangeville, becoming landowners, merchants and tradesmen. This increase prompted the development of viable transportation routes. Incorporated in 1854, Amaranth's population increased to 1200 people within 7 years. This increase was attributed in part by the Civil War in the US. (Sawden, 1952, p.31).

The historical maps of the County of Wellington and the Township of Amaranth depict a well-developed landscape with numerous landowners, structures, early transportation routes, and early town sites. A portion of the 1860 map of the Township of Amaranth is included. No structures are depicted on the 1860 map, but the owner is listed as George McKenny. The Canada Census of 1861 was referenced and George McKinny was found. His listing shows that in 1860, he was 45 years old, born in Ireland, married, and lives in a log house 1.5 stories tall. His wife was Margaret McKinny, born in Ireland in 1816. The listing also shows 5 children: George W., 20; Margaret, 16; William, 13; John, 11 – all born in "States" and Isabelle, 8 born in Upper Canada. The name McKinny (or any variation thereof) does not appear in Amaranth Township.

A portion of the 1877 historic map of the Township of Amaranth is also included. No structures are depicted on the 1877 map, but the owner is listed as Thomas J. Coyne. This individual does not appear in the Canada Census of 1871. He does not appear in the Canada Census of 1881. However, a Mary Catherine Coyne lived in nearby Orangeville. She is listed as a widow, 38 years old with a possible son, John Henry Coyne aged 12 years. Insurance Plans of the Town of Orangeville were referenced, but the study area was outside the town limits. The air photograph from 1954 is not of good enough quality to discern trees from structures.

Historical county atlases were produced primarily to identify factories, offices, residences and landholdings of subscribers and were funded by subscription fees. Landowners who did not subscribe were not always listed on the maps (Caston 1997:100). All structures were not necessarily depicted or placed accurately (Gentilcore and Head 1984). By 1878 much of the current road system was constructed and is still recognizable today.

3.1 TORONTO, GREY, AND BRUCE RAILWAY

The construction of the Toronto, Grey, and Bruce Railway began in Orangeville in 1871 to provide transportation to the farmlands of Wellington, Grey, and Bruce Counties (Kelling, 1981, p.23). Also in 1871, the railway crossed southern Amaranth Township and opened a branch toward Owen Sound. A station was built in Orangeville along with a residence, a telegraph, water tank, grain elevator and stockyards (Sawden 1952). In 1881, Amaranth Township became part of the newly created Dufferin County. According to the historic plaque in Orangeville:

“This pioneer railway was chartered in 1868 and the first sod was turned at Weston on October 5, 1869, by Prince Arthur, third son of Queen Victoria. Constructed under direction of chief engineer Edmund Wragge, the main line from Toronto to Owen Sound was completed in 1873 and a branch line from a point near Orangeville to Teeswater was finished about a year later. Freight and passenger service was begun on the section from Toronto to Orangeville in September 1871, and from Orangeville to Owen Sound in August, 1873. The original choice of narrow-gauge track proved ill-advised and standard gauge track was laid, 1881-83. The line was leased to the Ontario and Quebec Railway in 1883 and absorbed by the C.P.R. the following year.”

The railway was built to provide for the transportation needs of the rural area north of Orangeville. Even though the area was sparsely populated and undeveloped the people that were there found the rudimentary roads difficult and sometime impassable. The area lacked a means of sending produce to market cost effectively and the only means of transport was from distant points on Lake Huron.

Development of the railway proceeded in a series of fits and starts. A tramway was originally envisaged in 1864 from Orangeville to Brampton to connect with the Grand Trunk Railway. A tramway company was created and planned as a horse-pulled series of rail cars, but it failed to generate the necessary funding. It then changed approach and proposed a steam powered railway. Four years later, Ontario legislation approved construction of the Toronto & Owen Sound Central, but this plan was cancelled soon afterward.

Incorporated on 04 March 1868, The Toronto, Grey & Bruce was incorporated with plans to stretch from Toronto to Orangeville, to Southampton on Lake Huron. The Toronto businessmen who funded the venture originally decided to build in a narrow gauge of 3' 6". Cost was the deciding factor as 3' 6" track cost \$5,100 per mile versus the normal 5'6" gauge costing \$3,000 more per mile. The narrow gauge was originally laid using English 40 lb. iron rail by Francis Shanly – a well-known railway contractor, Francis Shanly. Even before the railway was completed, the builders realized their error. The narrow gauge was corrected 3 to 5 years later.

There is no information to be found in any currently available archival source that mentions the construction of railway infrastructure such as bridges and water tanks. Mentions of railway station construction in historic sources tends to include references to water towers, elevators, and stockyards.

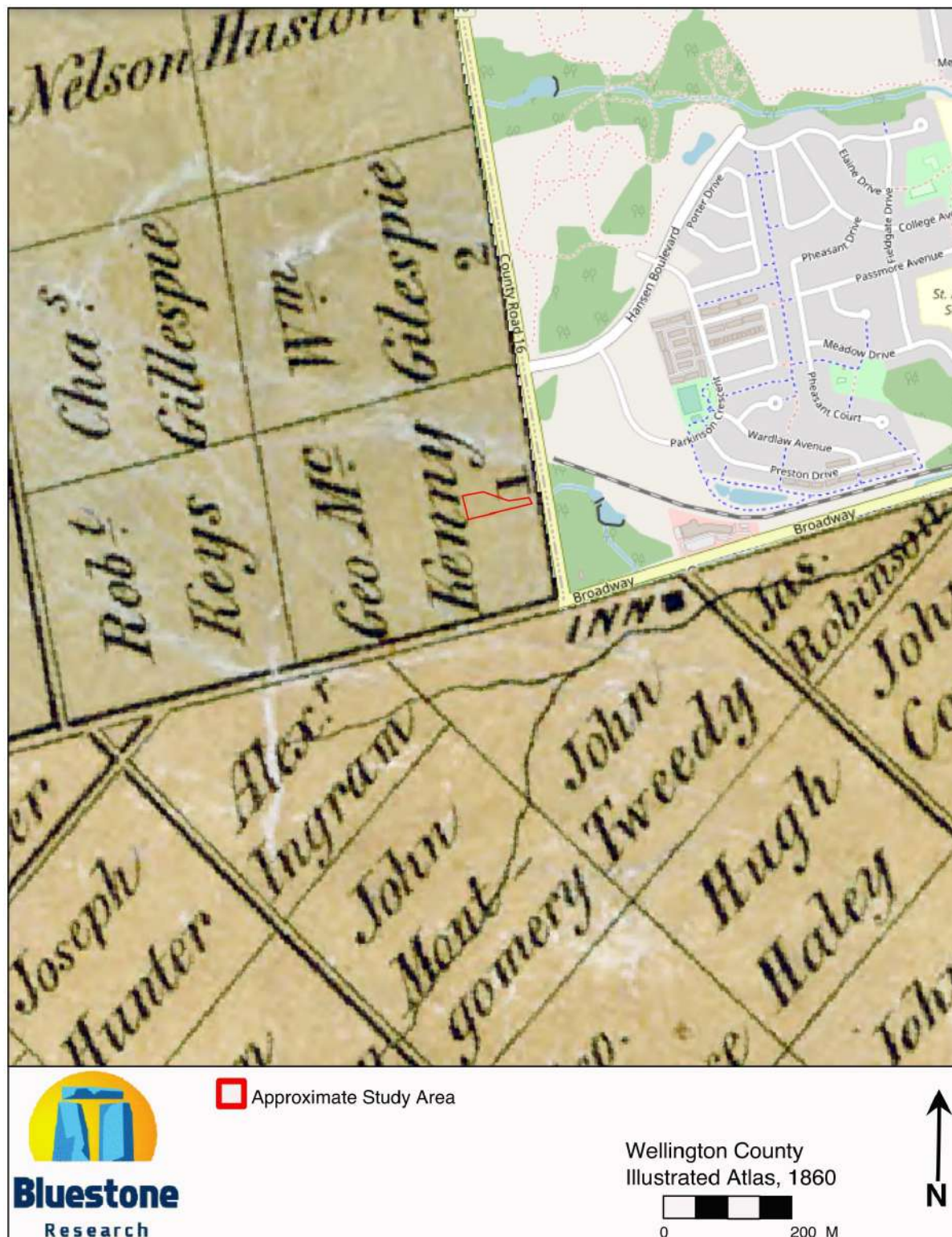


Figure 3. Portion of 1860 Map of Wellington County [Source: University of Toronto]

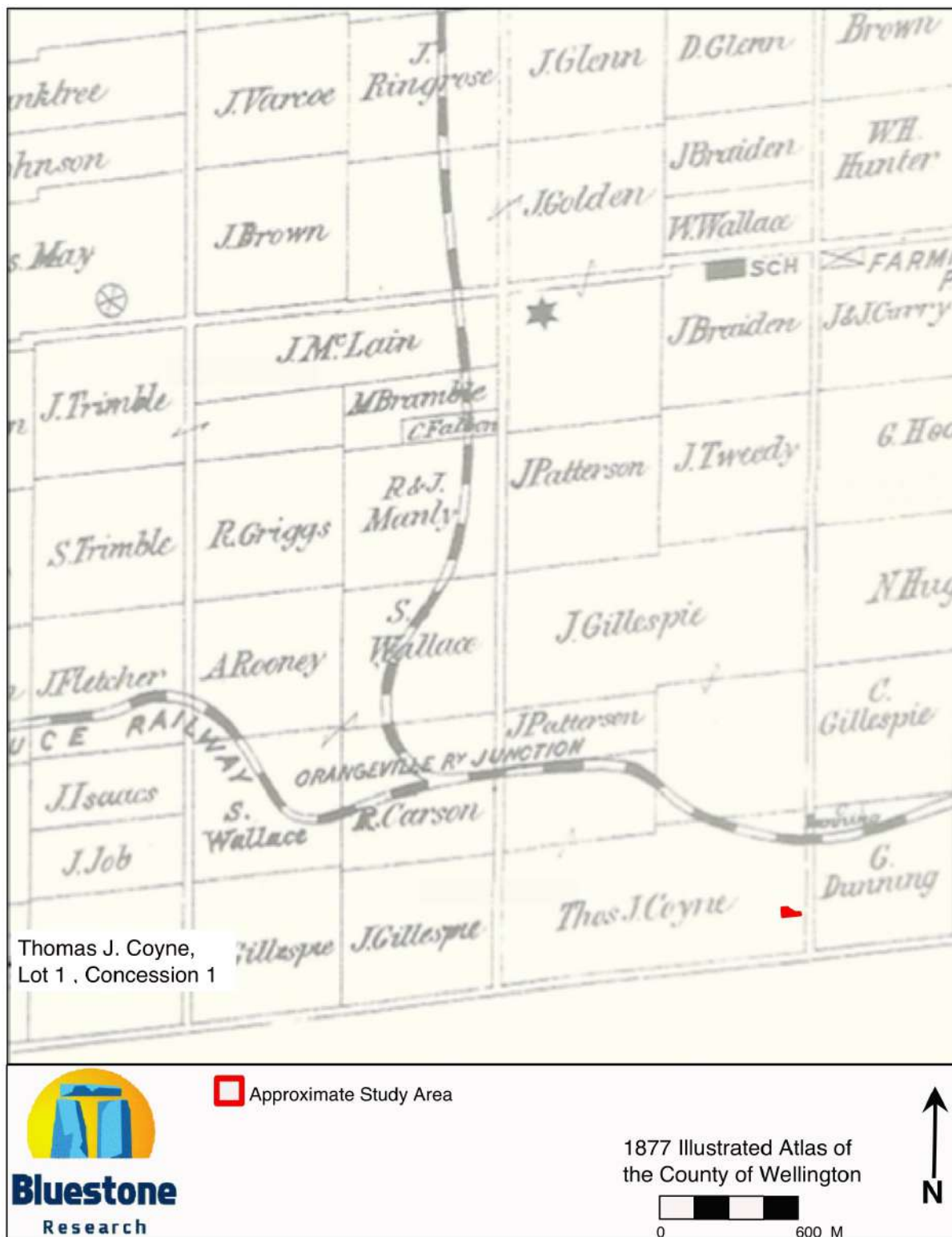


Figure 4. Portion of 1877 Map of Wellington County [Source: University of Toronto]

4.0 RESOURCE DATA SHEETS

Detailed resource data sheets for each historic element in the study area are contained in Appendix B. Three structures in the study area were identified as being more than 40 years old.

A) Well 5/5A Outbuilding.

According to Tim Thompson, a technologist with the Town of Orangeville who is knowledgeable on the history of the study area, this outbuilding,

“originally housed a small underground reservoir and pumps that pumped water diverted from the creek (now dried up) to the distribution system. I'm not sure of the exact age of this building, but a structure in approximately the same location shows up on a 1937 topographic map.”

B) Well 5/5A Pump House.

According to Mr. Thompson, the pump house was originally constructed in approximately 1971 for a single well (Number 5). The building was expanded in 1977 to accommodate well 5A. There must have been an earlier structure on that spot, because a building also appears in the 1937 Topographic map.

C) Well 5/5A Railway Water Tank Foundation.

The foundation for the railway water tank appears in the 1937 Topographic Map of the study area. The tank was installed at some point between the building of the railroad in 1871 and 1937. The water tank was operational until approximately 1954. The tank was removed at that point leaving only four large foundation blocks and a central dry stone lined well approximately 1.5 metres deep.

D) Proximity to the Orangeville Greenwood Cemetery

The Orangeville Greenwood Cemetery was created by Orangeville Council in 1876. The council appointed a committee to investigate available land outside town limits. The Orangeville Cemetery was created that year to provide a burial location away from the town centre.

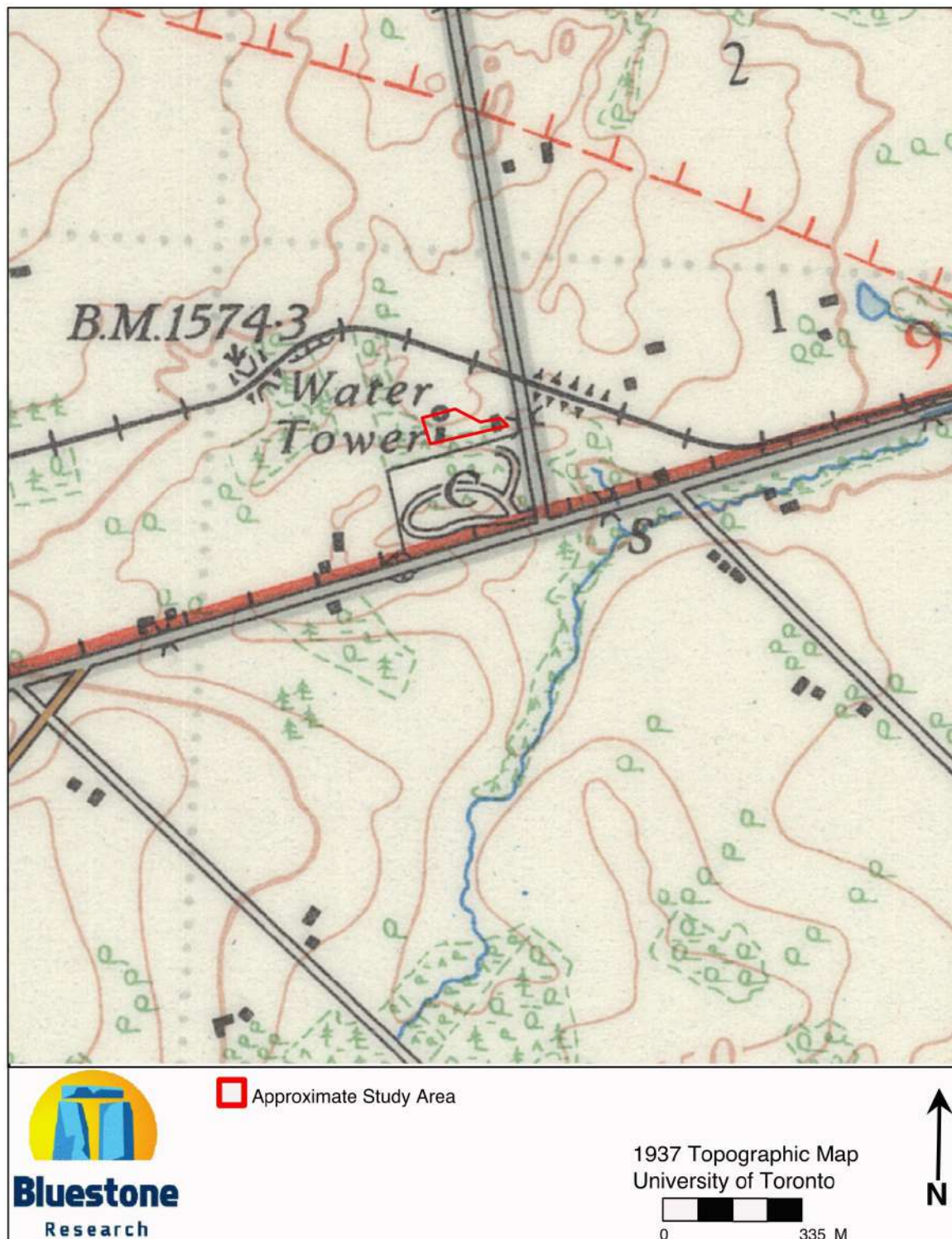


Figure 5. 1937 Topographic Map of the Study Area showing water tank, two utility buildings and the Orangeville Greenwood Cemetery. [Source: University of Toronto]

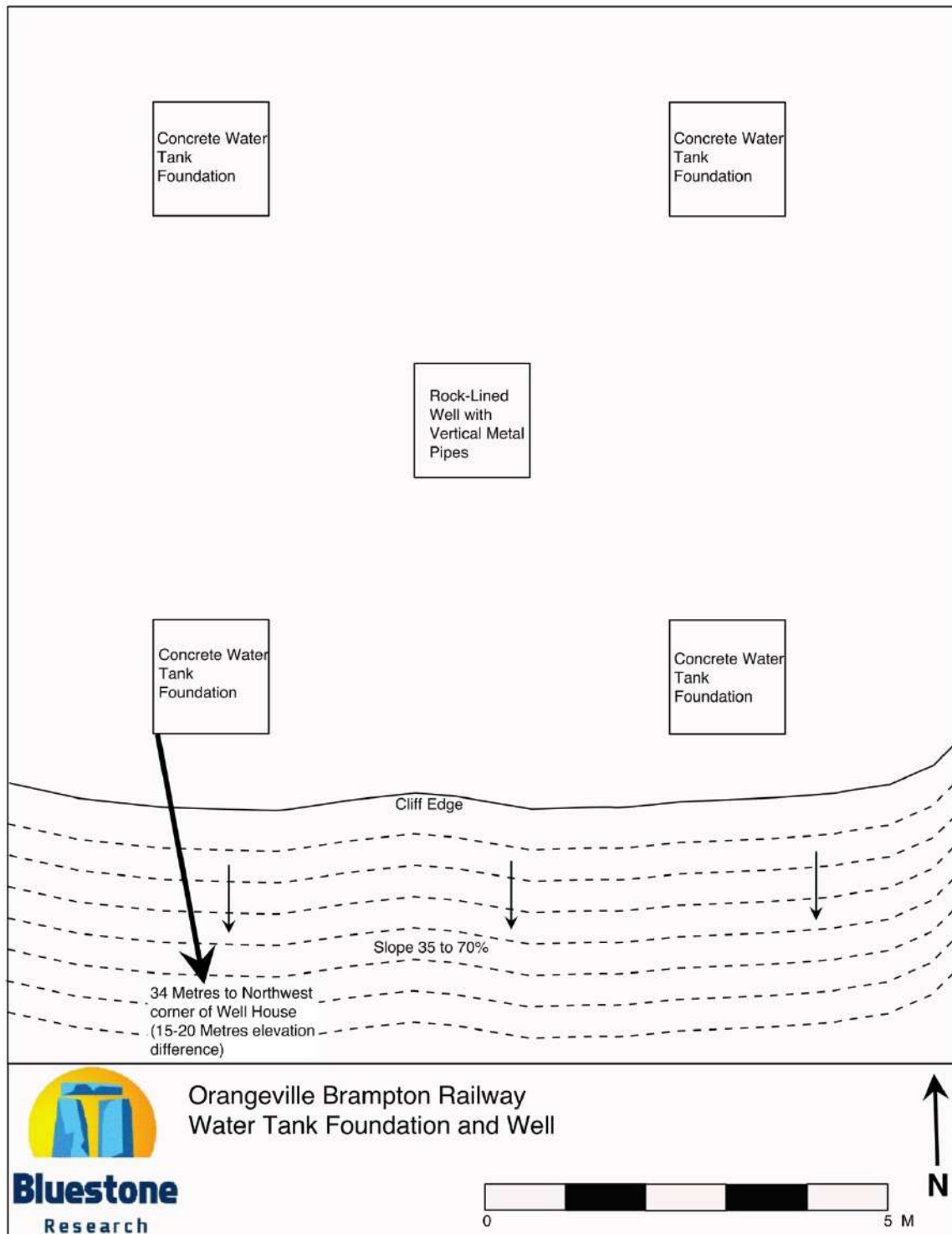


Figure 6. Schematic Drawing of the Railway Water Tank Foundation and Well.

5.0 HERITAGE RECOGNITION

5.1 FEDERAL RECOGNITION

Table 1 summarizes federal heritage programs which might apply to the three structures older than 40 years within the study area. It shows that none of the structures are recognized as heritage by any federal heritage program.

Table 1: Federal Recognition of three structures older than 40 years within the study area		
No.	Program	Are any of the Bridge Sites Recognized as Heritage?
1	National Historic Sites and Monuments No Board – Recognition of Event or Place	No
2	Canadian Register of Historic Places	No
3	Federal Heritage Building Review Office	No

5.2 PROVINCIAL RECOGNITION

Table 2 summarizes provincial heritage programs, including the Ontario Heritage Trust, which might apply to the three structures older than 40 years within the study area. It shows that none of the structures is recognized as heritage by any provincial heritage program.

Table 2: Provincial Recognition of three structures older than 40 years within the study area		
No.	Program	Are any of the Bridge Sites Recognized as Heritage?
1	Government of Ontario – Part IV designation	No
2	Ontario Heritage Trust – Plaque Program	No

3	Ontario Heritage Trust – Heritage Register	No
4	Ontario Heritage Trust – Easement Properties	No

5.3 TOWN OF ORANGEVILLE RECOGNITION

Table 3 summarizes the Town of Orangeville heritage programs that could apply to the three structures older than 40 years within the study area. It shows that none of the structures is recognized as heritage by any Municipal heritage program.

Table 2: Town of Orangeville Recognition of three structures older than 40 years within the study area	
Program	Are any of the Bridge Sites Recognized as Heritage?
Town of Orangeville – Listing under the OHA	No
Town of Orangeville – Part IV designation	No
Town of Orangeville – Part V designation	No
Town of Orangeville – Plaque Program	No

5.4 ADJACENT PROTECTED HERITAGE PROPERTIES

The Town of Orangeville municipal heritage register was examined using the Town's heritage mapping program. There are no protected or listed heritage properties adjacent to the subject sites. Similarly, there are no federal or provincial heritage properties adjacent to the study area based on an examination of the respective heritage data bases.

6.0 SCREENING QUESTIONS

Screening questions and recommendations were completed for each of the three structures older than 40 years within the study area. These questions were prepared as per cultural heritage guidelines by the MHSTCI. This includes screening for cultural

heritage value, age, potential cultural heritage value or interest using Ontario Heritage Act Regulation 09/06, and adjacency.

Complete screening questions and recommendations are provided in Appendix C. As a result of this screening, it is recommended that a Cultural Heritage Evaluation Report (CHER) be completed for the study area and should address the following:

- A) Well 5/5A Outbuilding**
- B) Well 5/5A Pump House**
- C) Well 5/5A Railway Water Tank Foundation**
- D) Proximity to the Orangeville Greenwood Cemetery**

7.0 CONCLUSIONS

The Town of Orangeville retained Cima Canada Inc. to prepare environmental investigation studies of the proposed development at Well 5/5A. These studies must include a heritage impact assessment (HIA) of the proposed work. The first step in an HIA is a heritage screening (Cultural Heritage Screening Report) to determine whether the sites potential provincial cultural heritage properties that warrant further investigation.

This Cultural Heritage Screening Report (CHSR) provides historical information about the sites and their context, details on the current heritage status of the properties and a response to screening questions about the properties. Appendix B contains detailed resource data sheets about each of the structures.

7.1 CONCLUSIONS

This CHSR found that the study area is adjacent to the Orangeville Greenwood Cemetery and that there are three structures within the study area older than 40 years. All three structures appear to have been built prior to 1937, with extensive rebuilding and expansion of the pump house, and removal of the railway water tank except for the foundation.

None of the structures are recognized or protected as a heritage resource at the federal, provincial or municipal level.

There are no protected heritage properties adjacent to the study area.

7.2 RECOMMENDATIONS

Based on the above findings, it is recommended that a Cultural Heritage Evaluation Report be prepared to assess the following:

- A) Well 5/5A Outbuilding**
- B) Well 5/5A Pump House**
- C) Well 5/5A Railway Water Tank Foundation**
- D) Proximity to the Orangeville Greenwood Cemetery**

APPENDIX A

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APPENDIX B

Resource Data Sheets

Well 5/5A Outbuilding	
October 2021	
Property Name:	Well 5/5A Outbuilding
Municipal Address:	553032 Dufferin County Road 16, Laurel, Ontario
Municipality:	Township of Amaranth, County of Dufferin, Ontario.
Ownership:	Town of Orangeville
Date of Construction:	Prior to 1937 (Appears in the 1937 Topographic Map of the Study Area)
Style as Planned:	Industrial modern
Date of Alterations:	Unknown
Style as Found:	Industrial modern
Dimensions:	3.4 metres x 5.1 metres x 3.7 meters
Architect/Designer/Builder:	Unknown
Previous Owner / Occupant	Town of Orangeville
Current Function:	Electric and water works
Previous Function:	Pump house from small reservoir and creek
Adjacent Lands:	Orangeville Greenwood Cemetery to the south, residential and town land to the north and west, residential to the east.

Well 5/5A Pump House	
October 2021	
Property Name:	Well 5/5A Pump House
Municipal Address:	553032 Dufferin County Road 16, Laurel, Ontario
Municipality:	Township of Amaranth, County of Dufferin, Ontario.
Ownership:	Town of Orangeville
Date of Construction:	1971 (replaced an earlier structure installed prior to 1937)
Style as Planned:	Industrial modern
Date of Alterations:	1977
Style as Found:	Industrial modern
Dimensions:	L-shaped. A) 2.8 metres x 6 metres x 3 metres; B) 5.5 metres x 4.8 metres x 3 metres
Architect/Designer/Builder:	Unknown
Previous Owner / Occupant	Town of Orangeville
Current Function:	Water well house
Previous Function:	Water well house
Adjacent Lands:	Orangeville Greenwood Cemetery to the south, residential and town land to the north and west, residential to the east.

Well 5/5A Railway Water Tank Foundation	
October 2021	
Property Name:	Well 5/5A Railway Water Tank Foundation
Municipal Address:	553032 Dufferin County Road 16, Laurel, Ontario
Municipality:	Township of Amaranth, County of Dufferin, Ontario.
Ownership:	Town of Orangeville
Date of Construction:	Approximately 1881
Style as Planned:	Railway infrastructure
Date of Alterations:	1954 (Tank removed in 1954)
Style as Found:	Railway infrastructure
Dimensions:	Four large blocks with a dry stone 1.5 metre shaft in the centre. Blocks arranged in a 12.5 metre square.
Architect/Designer/Builder:	Unknown
Previous Owner / Occupant	Toronto, Grey & Bruce Railway
Current Function:	Ruin
Previous Function:	Foundation for railway water tank
Adjacent Lands:	Orangeville Greenwood Cemetery to the south, residential and town land to the north and west, residential to the east.

APPENDIX C

Cultural Heritage Screening Questions

From
Ontario Heritage Act
ONTARIO REGULATION 9/06
Criteria for Determining Cultural Heritage Value or Interest

CHSR Screening Questions		
Property Name: Well 5/5A		
Municipal Address: 553032 Dufferin County Road 16, Laurel		
Ownership: Town of Orangeville		
Screening for Recognized Cultural Heritage Value	Y/N	Explanatory Notes
If the property includes a railway station, is it designated under the Heritage Railway Stations Protection Act?	N	No railway station on property
If the property includes a bridge, is it on the Heritage Bridge List?	N	Not applicable
Is the property federally owned, and is a building on it designated as a Federal Heritage Building?	N	Study area is not federally owned
Is the property provincially owned or occupied, and has it been identified as a Provincial Heritage Property?	N	Study area is not provincially owned
Is the property a National Historic Site?	N	Not on the list of national historic sites
Is the property commemorated by the Ontario Heritage Trust?	N	Not on OHT commemoration list
Is the property subject to an Ontario Heritage Trust Conservation Easement?	N	Not subject to OHT easement
Is the property municipally designated under the OHA, Part IV?	N	As per Municipal Heritage Register, not designated under Part IV
Is the property part of a municipally designated Heritage Conservation District under the OHA, Part V?	N	As per Municipal Heritage Register, not designated under Part V
Is the property listed on a municipal register?	N	As per Municipal Heritage Register, not listed
Has the heritage value of the property been identified or protected by the municipality through other planning documents, easements or commemorations? (i.e. Heritage overlay, official plan provisions, zoning)	N	Not identified in Town OP or zoning by-law as heritage
Is the subject property recognized or valued by an Aboriginal community?	N	Determined by archaeological assessment
Screening for Age		
Does the property have built resources that appear to be more than 40 years of age?	Y	Two structures built prior to 1937. One structure built in 1971

Property Name: Well 5/5A		
Does the property have landscape features that may have been created or altered more than 40 years ago?	N	Landscape alterations appear to be after 1981
Screening for Potential Cultural Heritage Value or Interest using Ontario Regulation 9/06		
<p>Does the property, its built resources or its landscape features, appear to have significant design value because:</p> <ul style="list-style-type: none"> it is a rare, unique, representative or early example of a style, type, expression, material or construction method, or it displays a high degree of craftsmanship or artistic merit, or it demonstrates a high degree of technical or scientific achievement? 	N	Single concrete block buildings and simple poured concrete and stone water tank foundation
<p>Does the property, its built resources or landscape features, appear to have significant historical or associative value because:</p> <ul style="list-style-type: none"> it has direct associations with a theme, event, belief, person, activity, organization or institution that is significant to a community, or it yields or has the potential to yield, information that contributes to an understanding of a community or culture, or it demonstrates or reflects the work or ideas of an architect, artist, builder, designer or theorist who is significant to a community? 	Y	The water tank foundation may be associated with themes relating to 19 th Century railway construction and infrastructure.
<p>Does the property, its built resources or its landscape features, appear to have significant contextual value because,</p> <ul style="list-style-type: none"> it is important in defining, maintaining or supporting the character of an area, or it is physically, functionally, visually or historically linked to its surroundings, or it is a landmark? 	Y	Historically and functionally linked to the site
Screening for Adjacency to Protected Properties		
Is the property adjacent to a designated property under the OHA, Part IV, a Heritage Conservation District under the OHA, Part V, or a property that is protected by a heritage easement or covenant?	N	There are no protected heritage properties adjacent to the study area.

Property Name: Well 5/5A		
Screening for Adjacency to a known Burial Site and/or Cemetery		
Does the study area contain a parcel of land that has or is adjacent to a known burial site and/or cemetery?	Y	The study area is adjacent to the Orangeville Greenwood Cemetery
Screening Outcomes		
Potential Provincial Heritage Property	N	This property is not provincially owned.
Adjacent Land to a Protected Heritage Property	N	
Adjacent Land to a known Burial Site and/or Cemetery	Y	The study area is adjacent to the Orangeville Greenwood Cemetery
Outcome: This is a potential heritage property		
RECOMMENDATIONS: CHER recommended		

APPENDIX D

Photographs



Image 1. Concrete block utility building located 50 metres west of Dufferin County Road 16. View to the west.



Image 2. Concrete block utility building located 50 metres west of Dufferin County Road 16. View to the southwest.



Image 3. Concrete block utility building located 50 metres west of Dufferin County Road 16. View to the southeast.



Image 4. Concrete block utility building located 50 metres west of Dufferin County Road 16. View to the east.



Image 5. Concrete block utility building located 50 metres west of Dufferin County Road 16. View to the east.



Image 6. Pump house, concrete block building located at western extent of study area. View to the northwest.



Image 7. Pump house, concrete block building located at western extent of study area.
View to the southwest.



Image 8. Pump house, concrete block building located at western extent of study area.
View to the southwest.



Image 9. Pump house, concrete block building located at western extent of study area.
View to the southeast.



Image 10. Pump house, concrete block building located at western extent of study area.
View to the south.



Image 11. Southeast foundation block of former railway water tank. View to the south.



Image 12. Southeast foundation block of former railway water tank. View to the east.



Image 13. Southeast foundation block of former railway water tank showing stone dressing and concrete.



Image 14. Southwest foundation block of former railway water tank showing deterioration of the concrete. View to the west.



Image 15. Southwest foundation block of former railway water tank showing deterioration of the stone blocks and concrete. View to the west.



Image 16. Centre well of former railway water tank. View to the north.



Image 17. Centre well of former railway water tank.

**Cultural Heritage Evaluation Report for Proposed
Well 5/5A, Part of Lot 1, Concession 1, Township of
Amaranth, Historical County of Wellington, County of
Dufferin, Ontario**

Prepared for:

CIMA Canada Inc



Allan Morton, PhD, RPA, CAHP
Heritage Specialist

February 2022

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Executive Summary

Bluestone Research was retained by CIMA Canada Inc. to complete a Cultural Heritage Evaluation Report (CHER) as part of a Schedule B Class Environmental Assessment. The study area measures approximately 1.14 hectares in size and is located at 553032 Dufferin County Road 16, Part of Lot 1, Concession 1, Township of Amaranth, Historical County of Wellington, County of Dufferin, Ontario.

Bluestone used the cultural heritage screening guidelines developed by the Ontario Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI), to determine that the study area had potential cultural heritage value or interest. The property was found to include buildings or structures more than 40 years old (two concrete-block structures and the foundation remains from a water tank). The next step was to prepare a Cultural Heritage Evaluation Report (CHER) for the property.

This CHER evaluates the cultural heritage value or interest of the property which includes three structures, using the criteria of Ontario Regulation (O. Reg.) 9/06 of the Ontario Heritage Act (OHA) specified in clause 29 (1) (a) of the *Ontario Heritage Act (OHA)*.

O.Reg.9/06 is the “Criteria For Determining Cultural Heritage Value Or Interest” of a property. This CHER determined that none of the property had cultural heritage value or interest. Therefore, no further heritage-related work is required.

1.0 INTRODUCTION AND STUDY PURPOSE

Bluestone Research was retained by CIMA Canada Inc. to complete a Cultural Heritage Evaluation Report (CHER) as part of a Schedule B Class Environmental Assessment being undertaken on behalf of the Town of Orangeville. The study area measures approximately 1.14 hectares in size and is located at 553032 Dufferin County Road 16, Laurel, Ontario. Allan Morton, Heritage Specialist, was retained by CIMA Canada Inc. to complete the CHER as the second part of the heritage evaluation process. The first part is a Cultural Heritage Screening Report (CHSR) which was prepared in October, 2021.

The CHSR:

- identified the location of potential heritage structures;
- provided an overview of the history of the structures within their historical context;
- provided preliminary data sheets for each structure;
- completed screening questions;
- provided copies of any existing heritage recognitions; and
- recommended next steps in the heritage evaluation process.

The CHSR includes maps, historic aerial photographs and descriptions of each structure. The report found that:

- there was no existing heritage protection for the property;
- there may be local interest in the structures, from the Museum of Dufferin, the Orangeville Railway Development Board, and Railway History Groups;
- all structures had potential cultural heritage value or interest.

The CHSR recommended that a CHER be prepared for the structures.

The scope of this CHER is to:

- identify the legislative framework applicable to the heritage evaluation of the structures;
- provide detailed information on the history of the property and construction of each structure;
- document the existing resources on the property;
- provide completed data sheets for each structure;
- evaluate, determine and, if necessary, describe the cultural heritage values of each structure in Statements of Cultural Heritage Value with a list of Heritage Attributes;
- identify any adjacent heritage properties; and
- recommend next steps.

The Ontario Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI), has issued the Ontario Heritage Toolkit. From the various publications in the Toolkit, generally, Cultural Heritage Evaluation Reports should include the following:

- sufficient information to understand the property;
- provide a record of the evaluation process;
- articulate the results of the evaluation;
- determine if a property has cultural heritage value or interest and if so;
- include a draft statement of cultural heritage value or interest and heritage attributes.

2.0 DESCRIPTION OF THE PROPERTY AND ITS CONTEXT

2.1 LOCATION

The study area is located at 553032 Dufferin County Road 16, Laurel, Ontario. This location is a well, filtration system and distribution point that supplies water to the Town

of Orangeville. The study area is situated 160 metres south of the Dufferin County CP Rail Trail (formerly the Toronto, Grey & Bruce Railway).

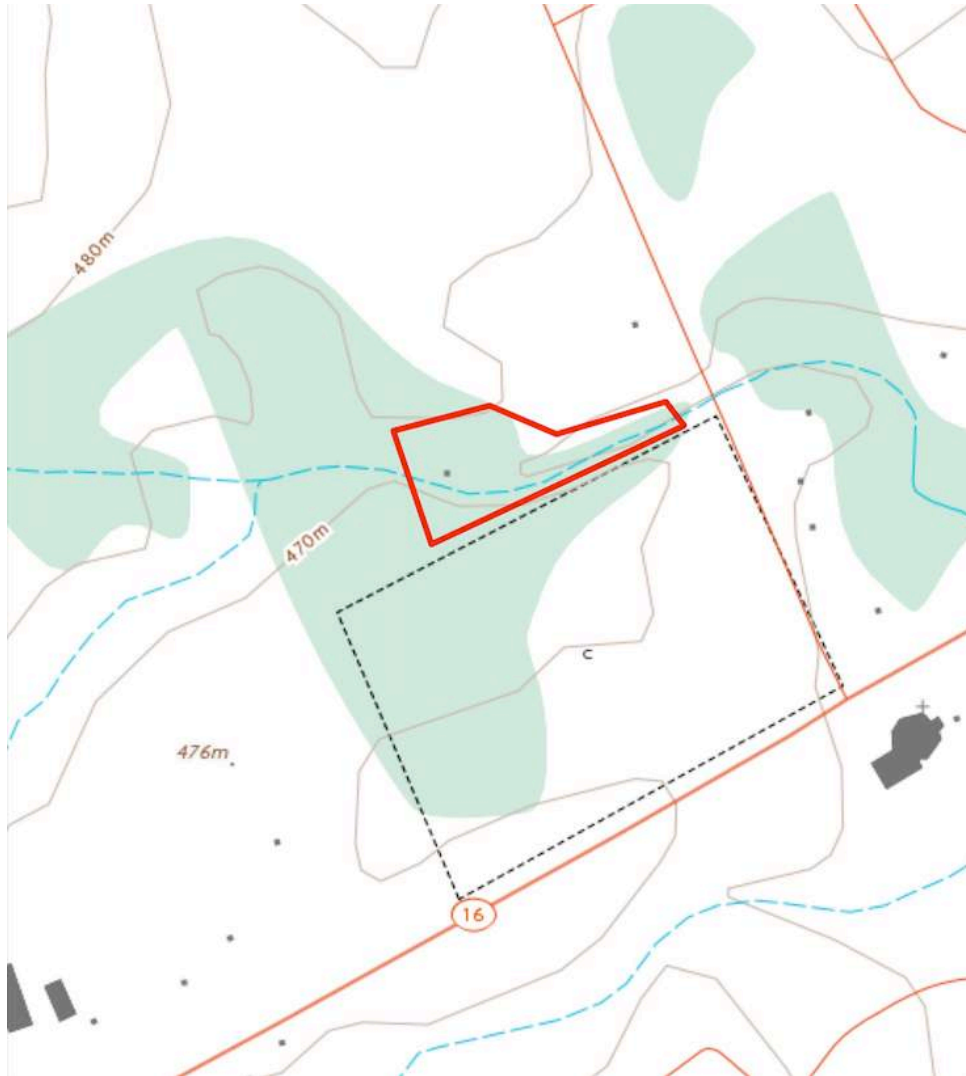


Figure 1. Map of Study Area. Study area is outlined in red. Orangeville Greenwood Cemetery is indicated by the dashed line. [Source: Government of Canada, 2021]

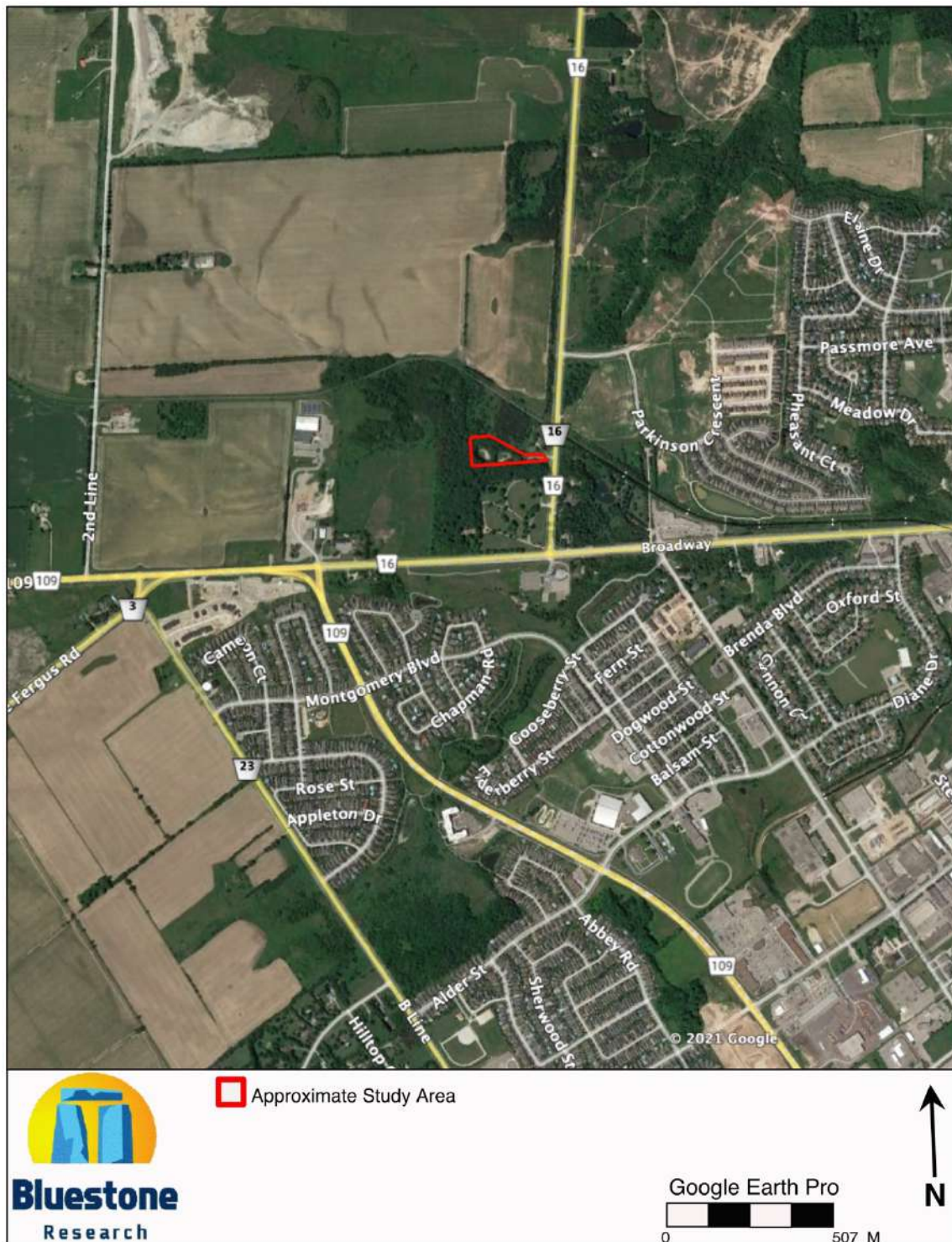


Figure 2. Location of the Study Area showing landscape context.

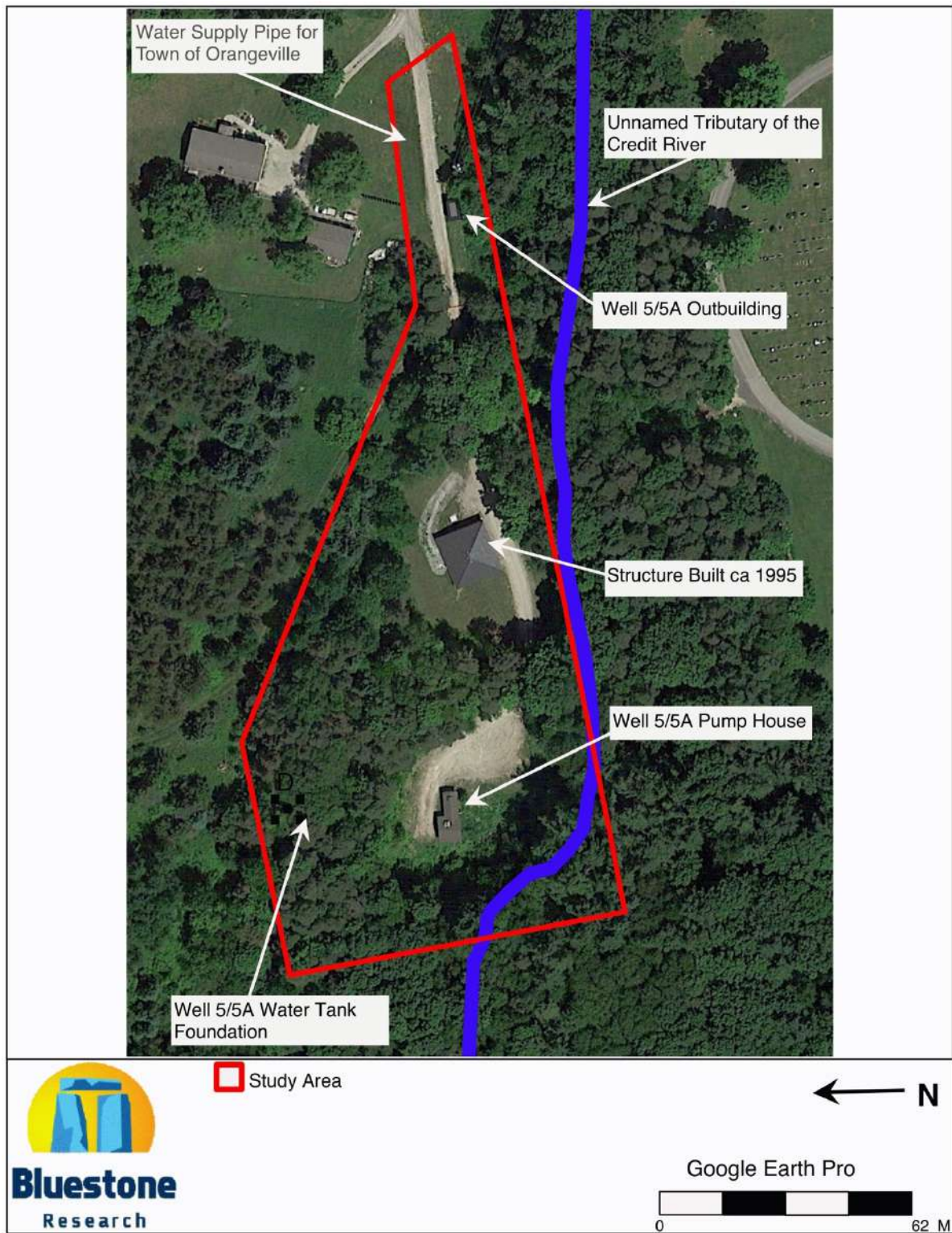


Figure 3. View of the Study Area showing Structures.

3.0 RESEARCH

3.1 DOCUMENTARY EVIDENCE

The Township of Amaranth was first settled in 1822 by Abraham Hughson (UEL). His property included the study area: Lot 1, Concession 1. It was surveyed ten years later. The surveyor, H. Black arranged the lots and concession using the double front system. Lots were measured from the front of the concession to a midpoint, and then from the back of the concession to the midpoint (McIlwraith, 1999, p.58). Historian, S. Sawden wrote in 1867 that the surveyor grew weary of the wetlands of the area and resolved that the township's name should be "pigweed". Because this plant is of the Amaranth genus, that name was finally chosen (Sawden, 1867, p.31)

The dense forests of the area required clearing and that was one of the focuses of the early settlers (Sawden, 1952, p.32). By 1841, the township became part of Wellington County and the population grew to 500 people within ten years. Immigrants from Ulster and other parts of the British Isles and Canada West arrived throughout the 1840s and 1850s. Some established successful mixed farms and others settled in nearby Orangeville, becoming landowners, merchants and tradesmen. This increase prompted the development of viable transportation routes. Incorporated in 1854, Amaranth's population increased to 1200 people within 7 years. This increase was attributed in part by the Civil War in the US. (Sawden, 1952, p.31).

The historical maps of the County of Wellington and the Township of Amaranth depict a well-developed landscape with numerous landowners, structures, early transportation routes, and early town sites. A portion of the 1860 map of the Township of Amaranth is included. No structures are depicted on the 1860 map, but the owner is listed as George McKenny. The Canada Census of 1861 was referenced and George McKinny was found. His listing shows that in 1860, he was 45 years old, born in Ireland, married, and lives in a log house 1.5 stories tall. His wife was Margaret McKinny, born in Ireland in 1816. The listing also shows 5 children: George W., 20; Margaret, 16; William, 13; John, 11 – all born in "States" and Isabelle, 8 born in Upper Canada. The name McKinny (or any variation thereof) does not appear in Amaranth Township.

A portion of the 1877 historic map of the Township of Amaranth is also included. No structures are depicted on the 1877 map, but the owner is listed as Thomas J. Coyne. This individual does not appear in the Canada Census of 1871. He does not appear in the Canada Census of 1881. However, a Mary Catherine Coyne lived in nearby Orangeville. She is listed as a widow, 38 years old with a possible son, John Henry Coyne aged 12 years. Insurance Plans of the Town of Orangeville were referenced, but the study area was outside the town limits. The air photograph from 1954 is not of good enough quality to discern trees from structures.

Historical county atlases were produced primarily to identify factories, offices, residences and landholdings of subscribers and were funded by subscription fees. Landowners who did not subscribe were not always listed on the maps (Caston 1997:100). All structures were not necessarily depicted or placed accurately (Gentilcore and Head 1984). By 1878 much of the current road system was constructed and is still recognizable today.

The Town of Orangeville Clerk's Department provided references that indicate the origins of the study area as part of their infrastructure. They found that By-laws 458 and 460 indicated that the location was purchased for waterworks in 1895.

3.1.1 TORONTO, GREY, AND BRUCE RAILWAY

Because the study area is located 160 metres south of the Toronto, Grey, and Bruce Railway tracks, its background is included here. It was suggested in the CHSR that structures located in the study area were related to this railway, but – as will be explained later – this turned out to be false. The construction of the railway began in Orangeville in 1871 to provide transportation to the farmlands of Wellington, Grey, and Bruce Counties (Kelling, 1981, p.23). Also in 1871, the railway crossed southern Amaranth Township and opened a branch toward Owen Sound. A station was built in Orangeville along with a residence, a telegraph, water tank, grain elevator and stockyards (Sawden 1952). In 1881, Amaranth Township became part of the newly created Dufferin County. According to the historic plaque in Orangeville:

“This pioneer railway was chartered in 1868 and the first sod was turned at Weston on October 5, 1869, by Prince Arthur, third son of Queen Victoria. Constructed under direction of chief engineer Edmund Wragge, the main line from Toronto to Owen Sound was completed in 1873 and a branch line from a point near Orangeville to Teeswater was finished about a year later. Freight and passenger service was begun on the section from Toronto to Orangeville in September 1871, and from Orangeville to Owen Sound in August, 1873. The original choice of narrow-gauge track proved ill-advised and standard gauge track was laid, 1881-83. The line was leased to the Ontario and Quebec Railway in 1883 and absorbed by the C.P.R. the following year.”

The railway was built to provide for the transportation needs of the rural area north of Orangeville. Even though the area was sparsely populated and undeveloped the people that were there found the rudimentary roads difficult and sometime impassable. The area lacked a means of sending produce to market cost effectively and the only means of transport was from distant points on Lake Huron.

Development of the railway proceeded in a series of fits and starts. A tramway was originally envisaged in 1864 from Orangeville to Brampton to connect with the Grand Trunk Railway. A tramway company was created and planned as a horse-pulled series

of rail cars, but it failed to generate the necessary funding. It then changed approach and proposed a steam powered railway. Four years later, Ontario legislation approved construction of the Toronto & Owen Sound Central, but this plan was cancelled soon afterward.

Incorporated on 04 March 1868, The Toronto, Grey & Bruce was incorporated with plans to stretch from Toronto to Orangeville, to Southampton on Lake Huron. The Toronto businessmen who funded the venture originally decided to build in a narrow gauge of 3' 6". Cost was the deciding factor as 3' 6" track cost \$3,000 per mile versus the normal 5'6" gauge costing \$5,100 more per mile. The narrow gauge was originally laid using English 40 lb. iron rail by a well-known railway contractor, Francis Shanly. Even before the railway was completed, the builders realized their error. The narrow gauge was corrected 3 to 5 years later.

There is little information to be found in any currently available archival source that mentions the construction of railway infrastructure such as bridges and water tanks. Mentions of railway station construction in historic sources tends to include passing reference to water towers, elevators, and stockyards.

3.1.2 ARCHAEOLOGICAL ASSESSMENT

In September 2021, the study area was subjected to a Stage 1 Archaeological Background Assessment and a Stage 2 Archaeological Property Assessment. The report was titled, *Stage 1 Background Assessment and Stage 2 Property Assessment of Proposed Well 5/5A, Part of Lot 1, Concession 1, Township of Amaranth, Historical County of Wellington, County of Dufferin, Ontario*. No archaeological resources were identified during the survey and the recommendation was, no further archaeological assessment of the property is recommended.

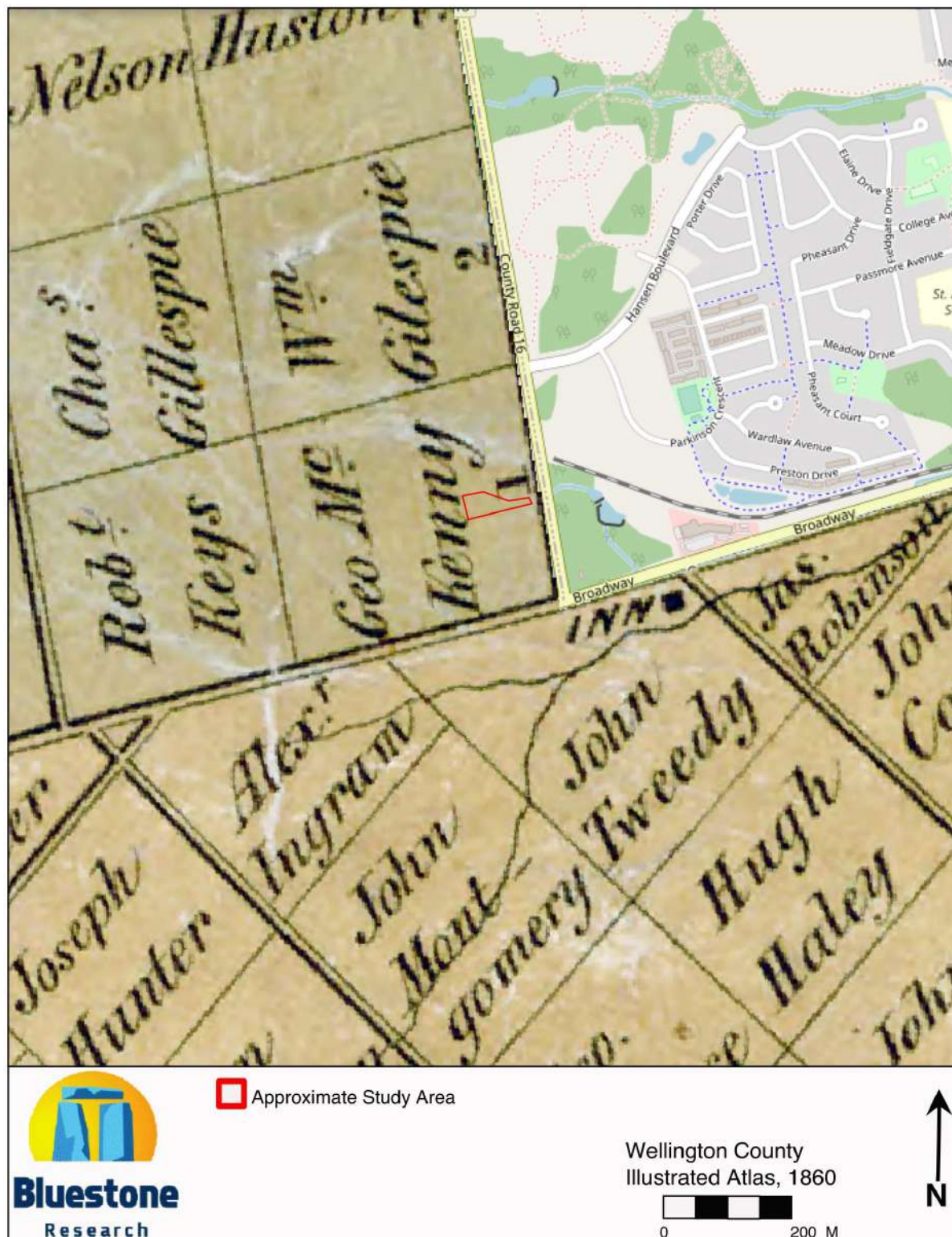


Figure 4. Portion of 1860 Map of Wellington County [Source: University of Toronto]

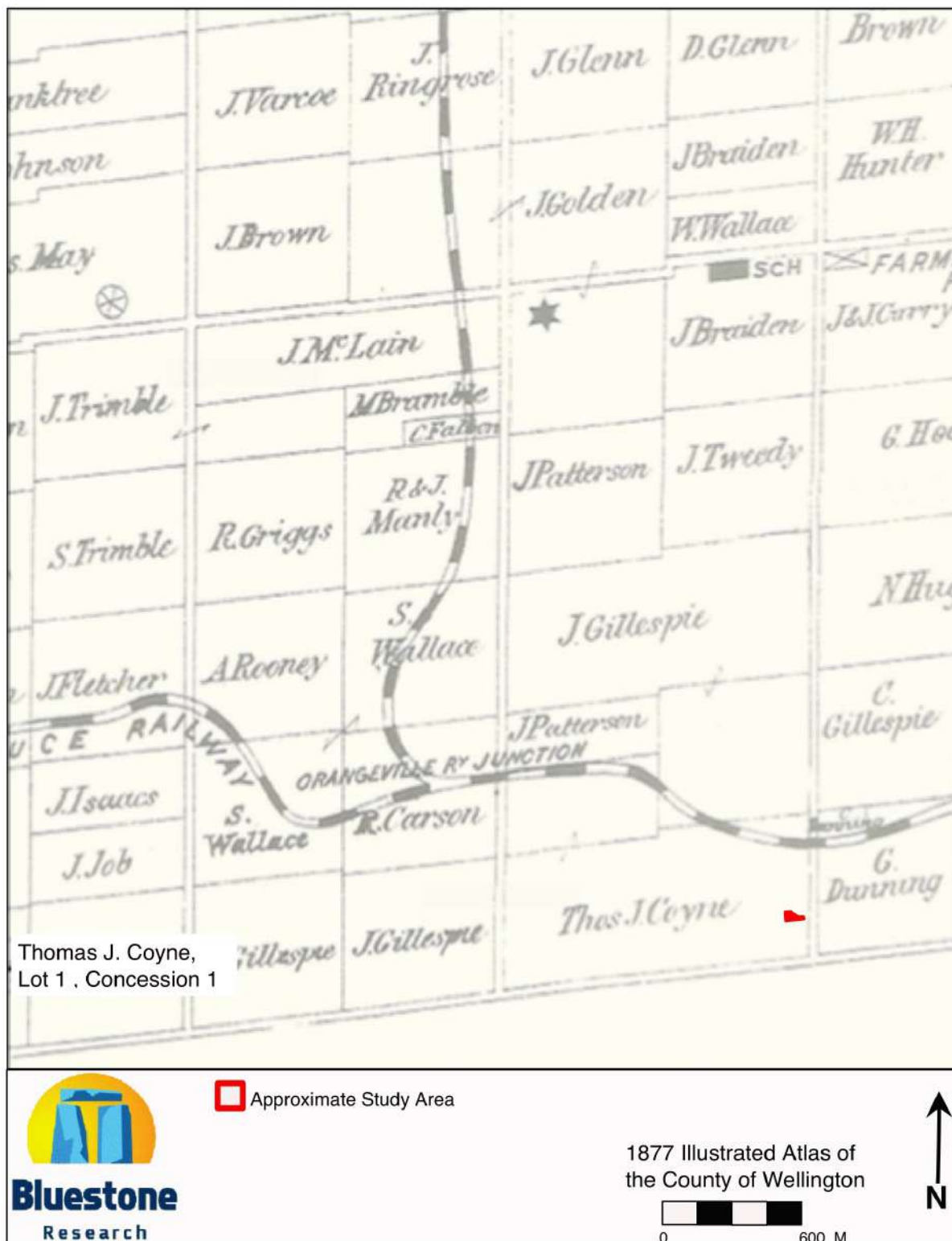


Figure 5. Portion of 1877 Map of Wellington County [Source: University of Toronto]

3.2 PHYSICAL EVIDENCE

3.2.1 BUILDINGS AND STRUCTURES

Other factors considered in this evaluation are resource condition – the extent of deterioration in the attributes and fabric of a resource – and heritage integrity – the extent to which heritage attributes (character defining features) remain in place. It should be noted that this evaluation of resource condition is a visual heritage assessment and not an assessment of structural integrity.

On 02 October 2021, an on-site visual survey of all built and landscape resources of the study area was conducted.


Table 1: Well 5/5A Outbuilding	
October 2021	
Property Name:	Well 5/5A Outbuilding
Municipal Address:	553032 Dufferin County Road 16, Laurel, Ontario
Municipality:	Township of Amaranth, County of Dufferin, Ontario.
Ownership:	Town of Orangeville
Date of Construction:	Prior to 1937 (Appears in the 1937 Topographic Map of the Study Area)
Style as Planned:	Industrial modern
Date of Alterations:	Unknown
Style as Found:	Industrial modern
Dimensions:	3.4 metres x 5.1 metres x 3.7 metres
Architect/Designer/Builder:	Unknown
Previous Owner / Occupant	Town of Orangeville
Current Function:	Electric and water works
Previous Function:	Pump house from small reservoir and creek
Adjacent Lands:	Orangeville Greenwood Cemetery to the south, residential and farmland to the north and west, residential to the east.



Table 2: Well 5/5A Pump House	
October 2021	
Property Name:	Well 5/5A Pump House
Municipal Address:	553032 Dufferin County Road 16, Laurel, Ontario
Municipality:	Township of Amaranth, County of Dufferin, Ontario.
Ownership:	Town of Orangeville
Date of Construction:	1971 (replaced an earlier structure installed prior to 1937)
Style as Planned:	Industrial modern
Date of Alterations:	1977
Style as Found:	Industrial modern
Dimensions:	L-shaped. A) 2.8 metres x 6 metres x 3 metres; B) 5.5 metres x 4.8 metres x 3 metres
Architect/Designer/Builder:	Unknown
Previous Owner / Occupant	Town of Orangeville
Current Function:	Water well house
Previous Function:	Water well house
Adjacent Lands:	Orangeville Greenwood Cemetery to the south, residential and farmland to the north and west, residential to the east.

Table 3: Well 5/5A Water Tank Foundation	
October 2021	
Property Name:	Well 5/5A Water Tank Foundation
Municipal Address:	553032 Dufferin County Road 16, Laurel, Ontario
Municipality:	Township of Amaranth, County of Dufferin, Ontario.
Ownership:	Town of Orangeville
Date of Construction:	Between 1895 and 1937
Style as Planned:	Municipal infrastructure
Date of Alterations:	1954 (Tank removed in 1954)
Style as Found:	Municipal infrastructure
Dimensions:	Four large blocks with a dry stone 1.5 metre shaft in the centre. Blocks arranged in a 12.5 metre square.
Architect/Designer/Builder:	Unknown
Previous Owner / Occupant	Town of Orangeville
Current Function:	Ruin
Previous Function:	Foundation for water tank
Adjacent Lands:	Orangeville Greenwood Cemetery to the south, residential and farmland to the north and west, residential to the east.

See **Appendix C** for further Photographs of each structure and their context

3.3 LANDSCAPE FEATURES

As shown on the maps, the subject land is on the north west edge of the Town of Orangeville adjoining the Orangeville Greenwood Cemetery to the south and expansive rolling farmland to the north and west. Although, historically, the Toronto, Grey & Bruce Railway ran to the north of the study area, the study area remained undeveloped except as a source of water. The property slopes gently away from the Dufferin County Road 16 and is relatively flat for driveway access east to west. The south and south west sides of the property slope sharply to an unnamed tributary of the Credit River. On the north side is a sharp rise with extreme slope extending 10 to 15 metres high. A flat area at the top of the cliff extends to the north in a gradual slope.

The study area is located in the Hillsburgh Sandhills physiographic region of Southern Ontario as identified by Chapman and Putnam (1984:146). This region covers approximately 165 square kilometres from Orangeville south for approximately 13 kilometres. The topography of the study area is variable. It slopes westward from the road frontage and includes steep slopes to the creek on the south side and on the north side toward the western half of the property. The elevation of the study area ranges from 460 metres above sea level to 480 metres above sea level.

3.4 ADJACENT PROPERTY

The Cultural Heritage Screening Report identified the fact that the Greenwood Cemetery is located adjacent to the study area. The Ministry screening recommended that the following sources of information be reviewed.

- 1) Cemeteries Regulations, Ontario Ministry of Consumer Services.

The database of registered cemeteries was reviewed for additional information pertaining to Greenwood Cemetery. No information relating to the study area was identified.

- 2) Ontario Genealogical Society

An attempt was made to locate records of Ontario cemeteries, both currently and no longer in existence; cairns, family plots and burial registers. No cemeteries were identified within the study area.

- 3) Canadian County Atlas Digital Project.

Figure 4 includes a section of this atlas project. No early cemeteries are evident within the study area.

3.5 ORAL EVIDENCE

Three structures in the study area were identified as being more than 40 years old (See Figure 6).

A) Well 5/5A Outbuilding

According to Tim Thompson, a technologist with the Town of Orangeville who is knowledgeable on the history of the study area, this outbuilding,

“originally housed a small underground reservoir and pumps that pumped water diverted from the creek (now dried up) to the distribution system. I'm not sure of the exact age of this building, but a structure in approximately the same location shows up on a 1937 topographic map.”

This structure is rectangular-shaped industrial modern style built of concrete cinder blocks. Its dimensions are: 3.4 metres x 5.1 metres x 3.7 metres. A recent metal door is placed on the west side, with electric lines entering the east side. The roof is flat with metal fascia (see Appendix C: Images 1-5).

B) Well 5/5A Pump House

According to Mr. Thompson, the pump house was originally constructed in approximately 1971 for a single well. The building was expanded in 1977 to accommodate well 5A. There must have been an earlier structure on that spot, because a different building also appears in the 1937 Topographic map.

This structure is roughly L-shaped industrial modern style built of concrete cinder blocks. Its dimensions in two sections are: A) 2.8 metres x 6 metres x 3 metres; B) 5.5 metres x 4.8 metres x 3 metres. Two recent metal doors are placed on the north side, with electric lines entering the east side. The south side of the building has large metal pipes protruding through the wall along with metal venting. The roof is pitch and covered with shingles with metal fascia and soffits (see Appendix C: Images 6-10).

C) Well 5/5A Water Tank Foundation

The foundation for a water tank appears in the 1937 Topographic Map of the study area. The tank was installed at some point prior to 1937. It was operational until approximately 1954. The tank was removed at that point leaving only four large foundation blocks in a 12.5 metre square and a central dry stone lined well approximately 1.5 metres deep. The foundation blocks were built of dressed stone and mortar. Each block was capped in concrete. (see Appendix C: Images 11-17).

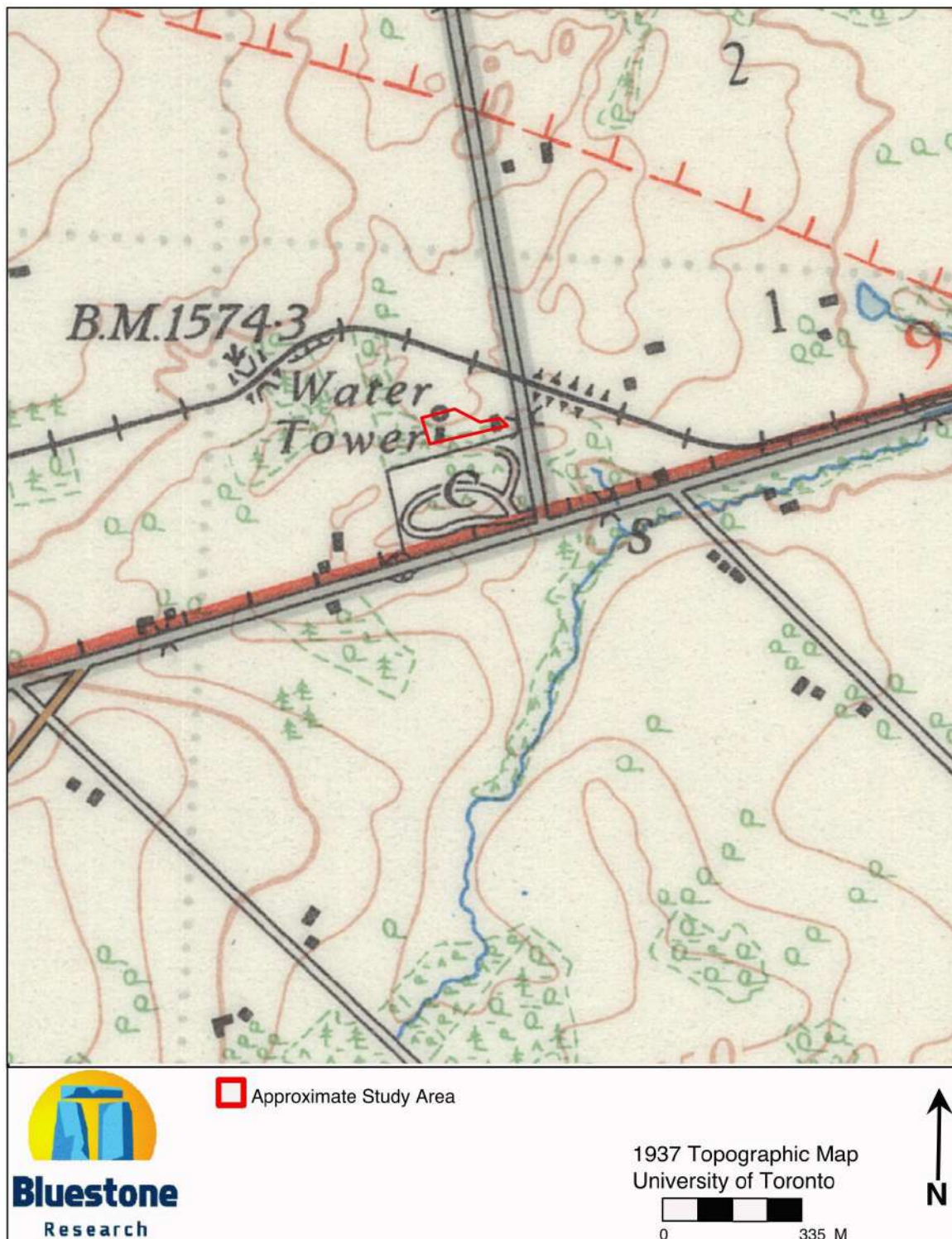


Figure 6. 1937 Topographic Map of the Study Area showing water tank, two utility buildings and the Orangeville Greenwood Cemetery.

Further background information was acquired from specialists and potential expressions of interest were sought. In early November 2021, letters were sent via e-mail to five groups that might have knowledge or an interest in the heritage value of the property and its structures. The letters provided information on the location of the structures, a brief history of the structures (as it was understood at the time) and detailed aerial photographs. Four groups were identified plus a website relevant to railway infrastructure.

Table 4. Knowledge and Interest by Groups		
Group	Response	Comment
Museum of Dufferin	No interest	Had information on a water tower, but probably not at Well 5/5A
Heritage Orangeville	No interest	
Orangeville Brampton Rail Access Group Inc.	No interest	
Toronto Railway Museum	No interest	Slope of tracks at that location means trains could not stop for water
Charles Cooper's Railway Pages	No interest	The foundations of historic railway water tanks were approximately 4 metres wide. The foundation at Well 5/5A is three times too big.

Discussions with the very knowledgeable historians at the Toronto Railway Museum and Charles Cooper's Railway Pages revealed that the water tank foundations in the study area are not railroad related. This was established based on three variables:

- 1) The grade on the rail tracks 160 metres north of the study area is small, but is substantial enough to make stopping a train unlikely. According to historian Thomas McIlwraith (10 December 2021),
 "Regarding the unlikelihood of a railway watering facility at the point in question, I note that in the 3¼ (or so) miles northward from Orangeville there is a change of 280 feet in elevation, meaning an average grade of about 1.2 per cent (more than a foot up for every hundred along). Railways would not prescribe stopping a train on such a grade; it's difficult to get going upward and a stopped train on a single track could obstruct traffic. [The fact that there were] water tanks in Orangeville, Crombies and Grand Valley is important too. I recall that in Orangeville, in the steam days of the 1950s, there were several water-spouts in the vicinity of the station, serving several tracks. Engines would be serviced during regular stops."
- 2) Drawings of railway water tanks for the Toronto, Grey, and Bruce Railway show a base diameter of approximately 4 metres. The size of the water tanks were consistent across the rail network. The width of the foundation in the study area is 12.5 metres. This size difference makes it unlikely that the foundation is railway related.

3) The 1871 land registry instrument (Appendix D) shows the study area and the purchase of the railway corridor. The water tank foundation in the study is not located on railway land. Additionally, there is no water tank indicated on the plat map. Railway historian, Ralph Beaumont is confident that because there is no indication that the water tank foundation is on railway land that it is very unlikely to be railway-related.

4.0 HERITAGE RESOURCE EVALUATION

4.1 INTRODUCTION

Criteria for determining a property's cultural heritage value or interest are specified in Ontario Regulations 9/06. The criteria assist municipalities in evaluating properties for their cultural heritage value or interest for purposes of designation. The regulation groups the criteria into three categories – design or physical value, historical or associative value and contextual value. Under the regulation, a property must meet only one of the criteria to warrant protection under the *Act*.

This evaluation will present a rationale supporting why each criterion was met or not met and if applicable list the attributes that support or contribute to the property's cultural heritage value or interest. A conclusion will summarize whether the information and evaluation against the criteria was sufficient to determine cultural heritage value for the property.

4.2 APPLICATION OF THE CRITERIA IN REGULATION 9/06

The relevant information documented through the research in section 3.0 was evaluated against each of the criteria as described in both O. Reg. 9/06 to determine if the property has cultural heritage value or interest. Table 5 summarizes the evaluation.

Table 5: Application of Criteria in Regulation 9/06		
Criteria	Yes/No	Rationale
Design or Physical Value		Applied to the 3 buildings/structures on the property
i. Rare, unique, representative or early example of a style, type,	NO	The 2 buildings were found to be of simple and typical construction for utilitarian use and did not exemplify any particular style or

expression, material or construction method.		architectural type.
ii. Displays a high degree of craftsmanship or artistic merit.	NO	Simple block buildings which do not display greater than normal quality or at an intensity well above an industry standard.
iii. Demonstrates a high technical or scientific achievement.	NO	The buildings/structures do not represent or exemplify an evolution of construction techniques or the use of new materials within the local historic context.
Historical or Associative Value		Applied to the buildings/structures and landscape features
i. Has direct association with a theme, event, belief, person, activity, organization or institution of community significance.	NO	There was no evidence presented that the property was associated with any themes, events, beliefs, persons, activities, organizations or institutions of community significance. The property was once used to supply some of the water needs to the town of Orangeville and the presumed association with the railway was dispelled by the research.
ii. Yields, or has the potential to yield, information that contributes to an understanding of a community or culture.	NO	The evidence does not support further information on one or more notable or influential aspects of the community's history or culture.
iii. Demonstrates or reflects the work or ideas of an architect, artist, builder, designer or theorist significant to a community.	NO	There was no evidence of an architect, artist builder, designer or theorist significant to a community having any influence, regard or interest in this property.
Contextual Value		
i. Is important in defining, maintaining, or supporting the area character.	NO	The property was not found to be in an area that has a unique or definable character. The property does not contribute to determining, establishing, or affirming the farming character of the area. The property is in an outlying area of the Town of Orangeville and does not contribute to the character of the Town.
ii. Is physically, functionally, visually or historically linked to its surroundings.	NO	Currently the property contains a well, filtration system and distribution point to supply water to the Town of Orangeville. The

		research indicates that the property has been used to supply water since sometime after 1895. The water tower was removed in 1954 and the current structures have evolved over time. These features however do not combine with the landscape to provide a place recognized as a place with a distinctive sense of identity.
iii. Is a landmark.	NO	The property is not well known or easily accessed and its features are not easily discernible within the community or to the public.

4.3 SUMMARY OF CULTURAL HERITAGE VALUE

The research was evaluated against the criteria of O. Reg. 9/06 and it was determined that the property does not have cultural heritage value or interest. The property did not meet the design or physical, historical or associative or contextual criterion.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The property does not have cultural heritage value or interest and therefore no further heritage studies are required. The Town of Orangeville retained CIMA Canada Inc. to prepare environmental investigation studies of the proposed development at Well 5/5A.

Environmental studies include the requirement for heritage studies. For an HIA to be undertaken, a property first needs to be evaluated and identified as having cultural heritage value or interest. This Cultural Heritage Evaluation Report has concluded that the property does not have cultural heritage value or interest, and therefore no further heritage studies are recommended.

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Smith, W.H.

1946. *Smith's Canadian Gazetteer: Comprising Statistical and General Information Respecting all Parts of the Upper Province, or Canada West*. Toronto: H. & W. Rowsell.

7.0 APPENDIX B: HERITAGE POLICIES

This Cultural Heritage Evaluation Report is guided by the following legislation, regulations and publications.

7.1 THE PLANNING ACT AND PROVINCIAL POLICY STATEMENT (2020)

This evaluation is being considered within the context of this legislation.

Part II: Legislative Authority

The Provincial Policy Statement is issued under the authority of section 3 of the Planning Act and came into effect on May 1, 2020.

In respect of the exercise of any authority that affects a planning matter, section 3 of the Planning Act requires that decisions affecting planning matters “shall be consistent with” policy statements issued under the Act.

Section 2 of the *Planning Act* identifies “matters of provincial interest, which includes the conservation of significant features of architectural, cultural, historical, archaeological or scientific interest.”¹

The Provincial Policy Statement (2020) (PPS) issued under the Act is relevant to the subject property. Section 2.6 of the PPS, which addresses Cultural Heritage, states:

Significant built heritage resources and significant cultural heritage landscapes shall be conserved.

The PPS provides the following definitions to the above.

Significant means in regard to cultural heritage and archaeology, “resources that have been determined to have cultural heritage value or interest for the important contribution they make to our understanding of the history of a place, an event, or a people.”

Built heritage resources “means a building, structure, monument, installations or any manufactured remnant that contributes to a property’s cultural heritage value or interest as identified by a community, including Aboriginal community. Built heritage resources are generally located on property that has been designated under Parts IV or V of the *Ontario Heritage Act*, or included on local, provincial and/or federal registers.”

Cultural heritage landscape means a defined geographical area that may have been modified by human activities and is identified as having cultural heritage value or interest by a community including an Aboriginal community. The area may involve features such as structures, spaces, archaeological sites or natural elements that are valued together for their interrelationship meaning or association.

conserved means “the identification, protection, management and use of built *heritage resources*, *cultural heritage landscapes* and *archaeological resources* in a manner that ensures their cultural heritage value or interest is retained under the *Ontario Heritage Act*. This may be achieved by the implementation of recommendations set out in a conservation plan, archaeological assessment and/or heritage impact assessment. Mitigative measures and/or alternative development approaches can be included in these plans and assessments.”

There are additional policies in the PPS, but only section 2.6 of the PPS was utilized because it was directly relevant.

7.2 ONTARIO HERITAGE ACT (OHA)

Part IV of the *Ontario Heritage Act* enables a municipality to list and designate properties of cultural value or interest after consultation with its heritage advisory committee, if one has been appointed. Section 27 of the *Act* requires the municipal clerk to keep a register of properties of cultural heritage value or interest. Subsection 27.1 of the *Act* allows municipal councils to include properties of cultural heritage value that have not been designated (listed properties) on the register after the council has consulted with its heritage advisory committee.

The Provincial Government has established criteria for determining the cultural heritage value or interest of properties through Ontario Regulation 9/06.

Part IV of the *Act* also enables the Minister, after consultation with the Ontario Heritage Trust, to designate properties of cultural heritage value or interest of provincial significance. The Provincial government has established criteria for determining the cultural heritage value or interest of provincial significance through regulation 10/06.

Part V of the *Act* enables a municipality to designate groups of properties of cultural value or interest after a study of the area has been conducted, a plan for the area has been prepared and the municipal heritage committee has been consulted. Such properties are included in the register referenced above.

7.3 ENVIRONMENTAL ASSESSMENT ACT

Under the Environmental Assessment Act, applicable infrastructure projects are subject to assessment so as to determine related impacts on above ground cultural heritage

resources. Infrastructure projects have the potential to impact cultural heritage resources in a variety of ways such as loss or displacement of resources through removal or demolition and the disruption of resources by introducing physical, visual, audible or atmospheric elements that are not in keeping with the resources and/or their setting.

Frequently in considering cultural heritage resources, a 40 year old threshold is used to identify cultural heritage resources. While that threshold does not mean the resource is significant, it is useful for focusing research and evaluation on resources that may have potential cultural heritage value.

8.0 APPENDIX C: PHOTOGRAPHS



Image 1. Concrete block utility building located 50 metres west of Dufferin County Road 16. View to the west.



Image 2. Concrete block utility building located 50 metres west of Dufferin County Road 16. View to the southwest.



Image 3. Concrete block utility building located 50 metres west of Dufferin County Road 16. View to the southeast.



Image 4. Concrete block utility building located 50 metres west of Dufferin County Road 16. View to the east.



Image 5. Concrete block utility building located 50 metres west of Dufferin County Road 16. View to the east.



Image 6. Pump house, concrete block building located at western extent of study area. View to the northwest.



Image 7. Pump house, concrete block building located at western extent of study area.
View to the southwest.



Image 8. Pump house, concrete block building located at western extent of study area.
View to the southwest.



Image 9. Pump house, concrete block building located at western extent of study area.
View to the southeast.



Image 10. Pump house, concrete block building located at western extent of study area.
View to the south.



Image 11. Southeast foundation block of water tank. View to the south.



Image 12. Southeast foundation block of water tank. View to the east.



Image 13. Southeast foundation block of water tank showing stone dressing and concrete.



Image 14. Southwest foundation block of water tank showing deterioration of the concrete. View to the west.



Image 15. Southwest foundation block of water tank showing deterioration of the stone blocks and concrete. View to the west.



Image 16. Centre well of water tank. View to the north.



Image 17. Centre well of water tank.

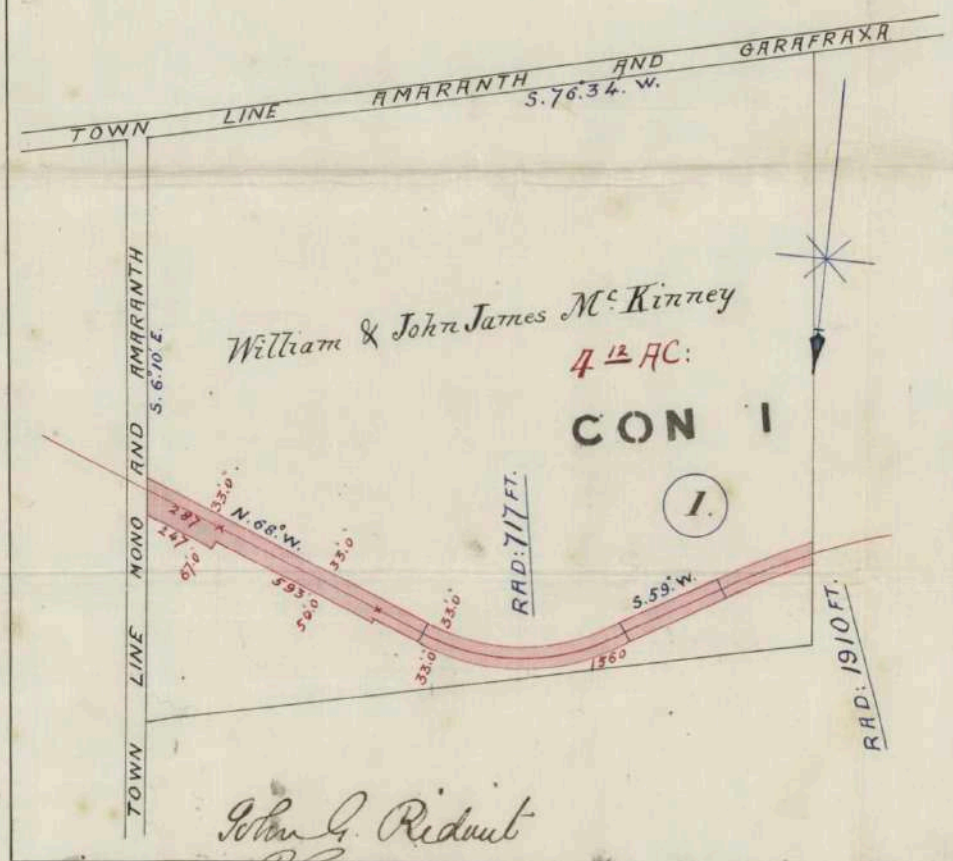
9.0 APPENDIX D: 1871 LAND REGISTRY INSTRUMENT

649 Am

T G & B R

TOWNSHIP OF AMARANTH COUNTY OF WELLINGTON

SCALE 400 FT = 1 INCH



649

Know All Men by these Presents that
 We, William Alexander McHenry and John James McHenry, both of the Township of Aurora in the County of Wellington, Province of Ontario, in consideration of One hundred and thirty four ⁰⁰/₁₀₀ Dollars paid to us by the TORONTO GREY AND BRUCE RAILWAY COMPANY the receipt whereof is hereby acknowledged Do Grant and Convey

All that certain parcel of land situate in the said Township of Aurora, composed of that part of the East Half of 304 number One in the first concession thereof, taken by the said Company for their Railway and shown as the Grants annexed Plan containing Four acres and twelve hundredths of an acre more or less

the same having been selected and laid out by the said Company for the purposes of their Railway To Hold with the appurtenances unto the said Toronto Grey and Bruce Railway Company their successors and assigns

And we hereby for ourselves our heirs and administrators Covenant with the said Company their executors and assigns to indemnify them against any claim in respect of the lands to our brother George and sister Margaret in the title of our late father the same having all been paid and settled and receipts given for the same And we hereby undertake to register the documents and deeds connected with our title within three weeks from this date

As Witness our Hands and Seals this fourth day of June 1882 one thousand eight hundred and eighty two

Signed Sealed and Delivered

in the presence of
 (Having been read over and explained)
 John G. Ridout of the City of Toronto Barrister at Law
 J. H. Fleet Manager
 Agent of Commerce Incorporated

his
 William Alexander X McHenry
 Mark
 his
 John James X McHenry
 Mark

175

Received on the date hereof from the said Company the sum of One hundred and thirty four ⁰⁰/₁₀₀ Dollars 99.00 the consideration herein expressed, and 25 per cent interest

Witnessed for one year
 John G. Ridout
 J. H. Fleet

his
 William Alexander X McHenry
 Mark
 his
 John James X McHenry
 Mark

NOTE.—Both duplicates of the annexed Instrument and of this affidavit must be filled up, signed and sworn respectively, so that they shall be exactly alike.

County of Wellington } John Gibbs Ridout of the }
W. W. G. } County of Wellington }
 Wit: of Orangeville }
 make oath and say. 1st.—That I was personally present and did see the annexed Instrument and a Duplicate thereof duly signed, sealed, and executed by William Alexander McKinnsey and John James McKinnsey two of the parties thereto. 2nd.—That the said Instrument and Duplicate were executed at the village of Orangeville of Canada 3rd.—That I know the said William Alexander and John James McKinnsey, and that Mrs Thompson (formerly Mrs McKinnsey) was present and appointing party thereto. 4th.—That I am a subscribing witness to the said Instrument and Duplicate.

Sworn before me at the village of Orangeville in the County of Wellington this 5th day of June A.D. 1871
John C. Ridout
 A Commissioner, &c.

5th June
 Date 6th March 1871
W. W. G.
W. A. McKinnsey
John James McKinnsey
W. W. G.
W. A. McKinnsey
John James McKinnsey
W. W. G.
W. A. McKinnsey
John James McKinnsey

The Toronto, Grey and Bruce
 Railway Company.

Conveyance
 of lands in the Township
 of Orangeville in the County of
Wellington containing
8 1/2 - 1 - 1/2 Acres

I certify that the within Instrument is duly
 entered and registered in the Registry Office for
 the County of Wellington, in Book 100, for
 the Township of Orangeville and
 is Book 100. of the 9th day of June
 A.D. 1871. - Number 6119

W. W. G.
W. A. McKinnsey
John James McKinnsey
W. W. G.
W. A. McKinnsey
John James McKinnsey
W. W. G.
W. A. McKinnsey
John James McKinnsey

B

Appendix B: Stage 1 Background Archaeological Assessment and Stage 2 Property Archaeological Assessment

**Stage 1 Background Assessment and Stage 2
Property Assessment of Proposed Well 5/5A, Part of
Lot 1, Concession 1, Township of Amaranth,
Historical County of Wellington, County of Dufferin,
Ontario**

Submitted to

CIMA Canada Inc.
900 – 101 Frederick Street
Kitchener ON N2H 6R2

and

The Ontario Ministry of Heritage, Sport, Tourism and Culture Industries

Prepared by



Report Type: Original

Archaeological License Number P229, Allan Morton, PhD, RPA
PIF P229-0079-2021

September 2021

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Executive Summary

Bluestone Research was retained by CIMA Canada Inc. to complete a Stage 1-2 archaeological assessment as part of a Schedule B Class Environmental Assessment. The study area measures approximately 1.14 hectares in size and is located at 553032 Dufferin County Road 16 Part of Lot 1, Concession 1, Township of Amaranth, Historical County of Wellington, County of Dufferin, Ontario.

In accordance with Section 1.3.1 of the Ontario Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), the Stage 1 archaeological assessment has determined that the study area exhibits potential for the identification and recovery of archaeological resources and a Stage 2 archaeological assessment is recommended.

The Stage 2 assessment was conducted on 16-17 August, 2021 under archaeological consulting license P229 issued to Allan Morton, of Bluestone by the MHSTCI. No archaeological resources were identified during the Stage 2 archaeological assessment of the study area, and as such **no further archaeological assessment of the property is recommended.**

The MHSTCI is asked to review the results presented and accept this report into the Ontario Public Register of Archaeological Reports.

Project Personnel

Licensed Archaeologist:	Allan Morton (P229)
Licensed Field Director:	Allan Morton (P229)
Field Technicians:	Marie Morton, Gavin Morton, Jeffery Edwards, Lazlo Vogronics, Shan Choudray
Senior Review:	Marie Morton

Acknowledgements

Proponent Contact:	Erin Longworth, Cima Canada Inc.
Ministry of Tourism, Culture and Sport:	Robert von Bitter, Archaeological Sites Database Coordinator

STAGE 1 BACKGROUND ASSESSMENT AND STAGE 2 PROPERTY ASSESSMENT OF PROPOSED WELL 5/5A, PART OF LOT 1, CONCESSION 1, TOWNSHIP OF AMARANTH, HISTORICAL COUNTY OF WELLINGTON, COUNTY OF DUFFERIN, ONTARIO

Project Context
August 2021

1.0 PROJECT CONTEXT

1.1 DEVELOPMENT CONTEXT

Bluestone Research was retained by Cima Canada Inc. to complete a Stage 1-2 archaeological assessment as part of a Schedule B Class Environmental Assessment. The study area measures approximately 1.16 hectares in size and is located at 553032 Dufferin County Road 16 Part of Lot 1, Concession 1, Township of Amaranth, Historical County of Wellington, County of Dufferin, Ontario.

Permission to enter the study area and document archaeological resources was provided by Erin Longworth of Cima Canada Inc.

1.1.1 Objectives

In compliance with the provincial standards and guidelines set out in the Ministry of Tourism, Culture and Sport's (MHSTCI) 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), the objectives of the Stage 1 Archaeological Overview/Background Study are as follows:

- To provide information about the study area's geography, history, previous archaeological fieldwork, and current land conditions;
- To evaluate in detail the study area's archaeological potential which will support recommendations for Stage 2 survey for all or parts of the property; and
- To recommend appropriate strategies for Stage 2 survey.

To meet these objectives Bluestone archaeologists employed the following research strategies:

- A review of relevant archaeological, historic and environmental literature pertaining to the study area;
- A review of the land use history, including pertinent historic maps;
- An attempted review of the Dufferin Museum's archival holdings; and
- An examination of the Ontario Archaeological Sites Database (ASDB) to determine the presence of known archaeological sites in and around the project area.

The objective of the Stage 2 assessment was to provide an overview of archaeological resources on the property and to determine whether any of the resources might be archaeological sites with cultural

STAGE 1 BACKGROUND ASSESSMENT AND STAGE 2 PROPERTY ASSESSMENT OF PROPOSED WELL 5/5A, PART OF LOT 1, CONCESSION 1, TOWNSHIP OF AMARANTH, HISTORICAL COUNTY OF WELLINGTON, COUNTY OF DUFFERIN, ONTARIO

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heritage value or interest and to provide specific direction for the protection, management and/or recovery of these resources. In compliance with the provincial standards and guidelines set out in the MHSTCI's 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), the objectives of the Stage 2 Property Assessment are as follows:

- To document all archaeological resources within the study area;
- To determine whether the study area contains archaeological resources requiring further assessment; and
- To recommend appropriate Stage 3 assessment strategies for archaeological sites identified.

1.2 HISTORICAL CONTEXT

The study area consists of approximately 1.16 hectares in varied conditions and is a municipal facilities property with some manicured lawn and forested with mostly mature trees. Modern disturbances include driveways, one concrete-block utility shed, one block-constructed water filtration structure built in approximately 2010, and one concrete-block well house. An unnamed tributary of the Credit River flows through the south section of the property. The study area is located at 553032 Dufferin County Road 16 Part of Lot 1, Concession 1, Township of Amaranth, Historical County of Wellington, County of Dufferin, Ontario.

1.2.1 Pre and early Post-contact Aboriginal Resources

Our knowledge of past First Peoples settlement and land use in Dufferin County is incomplete. Nonetheless, using province-wide (MCCR 1997) and region-specific archaeological data, a generalized cultural chronology for native settlement in the area can be proposed. The following paragraphs provide a basic textual summary of the known general cultural trends and a tabular summary appears in Table 1.

The Paleoindian Period

The first human populations to inhabit Ontario came to the region between 12,000 and 10,000 years ago, coincident with the end of the last period of glaciation. Climate and environmental conditions were significantly different than they are today; local environs would not have been welcoming to anything but short-term settlement. Termed Paleoindians by archaeologists, Ontario first peoples would have crossed the landscape in small groups (i.e., bands or family units) searching for food, particularly migratory game species. In the area, caribou may have provided the staple of the Paleoindian diet, supplemented by wild plants, small game, birds and fish. Given the low density of populations on the landscape at this time and their mobile nature, Paleoindian sites are small and ephemeral. They are usually identified by the presence of fluted projectile points and other finely made stone tools.

STAGE 1 BACKGROUND ASSESSMENT AND STAGE 2 PROPERTY ASSESSMENT OF PROPOSED WELL 5/5A, PART OF LOT 1, CONCESSION 1, TOWNSHIP OF AMARANTH, HISTORICAL COUNTY OF WELLINGTON, COUNTY OF DUFFERIN, ONTARIO

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Table 1: Cultural Chronology for Native Settlement within Dufferin County

Period			Time Range (circa)	Diagnostic Features	Complexes
Paleoindian	Early		9000 – 8400 B.C.	fluted projectile points	Gainey, Barnes, Crowfield
	Late		8400 – 8000 B.C.	non-fluted and lanceolate points	Holcombe, Hi-Lo, Lanceolate
Archaic	Early		8000 – 6000 B.C.	serrated, notched, bifurcate base points	Nettling, Bifurcate Base Horizon
	Middle		6000 – 2500 B.C.	stemmed, side & corner notched points	Brewerton, Otter Creek, Stanly/Neville
	Late		2000 – 1800 B.C.	narrow points	Lamoka
			1800 – 1500 B.C.	broad points	Genesee, Adder Orchard, Perkiomen
			1500 – 1100 B.C.	small points	Crawford Knoll
	Terminal		1100 – 850 B.C.	first true cemeteries	Hind
Woodland	Early		800 – 400 B.C.	expanding stemmed points, Vinette pottery	Meadowood
	Middle		400 B.C. – A.D. 600	thick coiled pottery, notched rims; cord marked	Couture
	Late	Western Basin	A.D. 600 – 900	Wayne ware, vertical cord marked ceramics	Riviere au Vase-Algonquin
			A.D. 900 – 1200	first corn; ceramics with multiple band impressions	Young- Algonquin
			A.D. 1200 – 1400	longhouses; bag shaped pots, ribbed paddle	Springwells-Algonquin
			A.D. 1400-1600	villages with earthworks; Parker Festoon pots	Wolf- Algonquin
Contact		Aboriginal	A.D. 1600 – 1700	early historic native settlements	Neutral Huron, Odawa, Wenro
		Euro-Canadian	A.D. 1700-1760	fur trade, missionization, early military establishments	French
			A.D. 1760-1900	Military □ establishments, pioneer settlement	British colonials, UELs

Archaic

The archaeological record of early native life in Southern Ontario indicates a change in lifeways beginning circa 10,000 years ago at the start of what archaeologists call the Archaic Period. The Archaic populations are better known than their Paleoindian predecessors, with numerous sites found throughout the area. The characteristic projectile points of early Archaic populations appear similar in some respects to early varieties and are likely a continuation of early trends. Archaic populations continued to rely heavily on game, particularly caribou, but diversified their diet and exploitation patterns with changing environmental conditions. A seasonal pattern of warm season riverine or lakeshore settlements and interior cold weather occupations has been documented in the archaeological record. Since the large cold weather mammal species that formed the basis of the Paleoindian subsistence pattern became extinct or moved northward with the onset of warmer climate, Archaic populations had a more varied diet, exploiting

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a range of plant, bird, mammal and fish species. Reliance on specific food resources like fish, deer and nuts becomes more pronounced through time and the presence of more hospitable environs and resource abundance led to the expansion of band and family sizes. In the archaeological record, this is evident in the presence of larger sites and aggregation camps, where several families or bands would come together in times of resource abundance. The change to more preferable environmental circumstances led to a rise in population density. As a result, Archaic sites are more abundant than those from the earlier period. Artifacts typical of these occupations include a variety of stemmed and notched projectile points, chipped stone scrapers, ground stone tools (e.g. celts, adzes) and ornaments (e.g. bannerstones, gorgets), bifaces or tool blanks, animal bone and waste flakes, a by-product of the tool making process.

Woodland Period

Significant changes in cultural and environmental patterns are witnessed in the Woodland Period (circa 950 B.C to historic times). The coniferous forests of earlier times were replaced by stands of mixed and deciduous species. Occupations became increasingly more permanent in this period, culminating in major semi-permanent villages by 1,000 years ago. Archaeologically, the most significant changes by Woodland times are the appearance of artifacts manufactured from modeled clay and the construction of house structures. The Woodland Period is often defined by the occurrence of pottery, storage facilities and residential areas similar to those that define the incipient agricultural or Neolithic period in Europe. The earliest pottery was rather crudely made by the coiling method and house structures were simple enclosures.

Iroquoian Period

The primary Late Woodland occupants of the area were the Neutral Nation, an Iroquoian speaking population described by European missionaries. Like other known Iroquoian groups including the Huron (Wendat) and Petun, the Neutral practiced a system of intensive horticulture based on three primary subsistence crops (corn, beans and squash). Neutral villages incorporated a number of longhouses, multi-family dwellings that contained several families related through the female line. The Jesuit Relations describe several Neutral centres in existence in the 17th century, including a number of sites where missions were later established. While precontact Neutral sites may be identified by a predominance of well-made pottery decorated with various simple and geometric motifs, triangular stone projectile points, clay pipes and ground stone implements, sites post-dating European contact are recognized through the appearance of various items of European manufacture. The latter include materials acquired by trade (e.g., glass beads, copper/brass kettles, iron axes, knives and other metal implements) in addition to the personal items of European visitors and Jesuit priests (e.g., finger rings, stoneware, rosaries, glassware). The Neutral were dispersed and their population decimated by the arrival of epidemic European diseases and inter-tribal warfare.

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1.2.2 Historic Euro-Canadian Resources

The Township of Amaranth was first settled in 1822 by Abraham Hughson (UEL). His property included the study area: Lot 1, Concession 1. It was surveyed ten years later. The surveyor, H. Black arranged the lots and concession using the double front system. Lots were measured from the front of the concession to a midpoint, and then from the back of the concession to the midpoint (McIlwraith, 1999, p.58). Historian, S. Sawden wrote in 1867 that the surveyor grew weary of the wetlands of the area and resolved that the township's name should be "pigweed". Because this plant is of the amaranth genus, that name was finally chosen (Sawden, 1867, p.31)

The dense forests of the area required clearing and that was one of the focuses of the early settlers (Sawden, 1952, p.32). By 1841, the township became part of Wellington County and the population grew to 500 people within ten years. Immigrants from Ulster and other parts of the British Isles and Canada West arrived throughout the 1840s and 1850s. Some established successful mixed farms and others settled in nearby Orangeville, becoming landowners, merchants and tradesmen. This increase prompted the development of viable transportation routes. Incorporated in 1854, Amaranth's population increased to 1200 people within 7 years. This increase was attributed in part by the Civil War in the US. (Sawden, 1952, p.31).

The construction of the Toronto, Grey, and Bruce Railway arrived in Orangeville in 1871 to provide transportation to the farmlands of Wellington, Grey, and Bruce Counties (Kelling, 1981, p.23). Also in 1871, the railway crossed southern Amaranth Township and opened a branch toward Owen Sound. A station was built in Orangeville along with a residence, a telegraph, water tank, grain elevator and stockyards (Sawden 1952). In 1881, Amaranth Township became part of the newly created Dufferin County.

The historical maps of the County of Wellington and the Township of Amaranth depict a well-developed landscape with numerous landowners, structures, early transportation routes, and early town sites. A portion of the 1860 map of the Township of Amaranth is included in Section 6. No structures are depicted on the 1860 map, but the owner is listed as George McKenny. The Canada Census of 1861 was referenced and George McKinny was found. His listing shows that in 1860, he was 45 years old, born in Ireland, married, and lives in a log house 1.5 stories tall. His wife was Margaret McKinny, born in Ireland in 1816. The listing also shows 5 children: George W., 20; Margaret, 16; William, 13; John, 11 – all born in "States" and Isabelle, 8 born in Upper Canada. The name McKinny (or any variation thereof) does not appear in Amaranth Township.

A portion of the 1877 historic map of the Township of Amaranth is also included in Section 6. No structures are depicted on the 1877 map, but the owner is listed as Thomas J. Coyne. This individual does not appear in the Canada Census of 1871. He does not appear in the Canada Census of 1881.

STAGE 1 BACKGROUND ASSESSMENT AND STAGE 2 PROPERTY ASSESSMENT OF PROPOSED WELL 5/5A, PART OF LOT 1, CONCESSION 1, TOWNSHIP OF AMARANTH, HISTORICAL COUNTY OF WELLINGTON, COUNTY OF DUFFERIN, ONTARIO

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However, a Mary Catherine Coyne lived in nearby Orangeville. She is listed as a widow, 38 years old with a possible son, John Henry Coyne aged 12 years. Insurance Plans of the Town of Orangeville were referenced, but the study area was outside the town limits. The air photograph from 1954 is not of good enough quality to discern trees from structures.

Historical county atlases were produced primarily to identify factories, offices, residences and landholdings of subscribers and were funded by subscription fees. Landowners who did not subscribe were not always listed on the maps (Caston 1997:100). All structures were not necessarily depicted or placed accurately (Gentilcore and Head 1984). By 1878 much of the current road system was constructed and is still recognizable today.

1.3 ARCHAEOLOGICAL CONTEXT

The study area consists of approximately 1.16 hectares in varied conditions and is a municipal facilities property with some manicured lawn and forested with mostly mature trees. Modern disturbances include driveways, one concrete-block utility shed, one block-constructed water filtration structure built in approximately 2010, and one concrete-block well house. An unnamed tributary of the Credit River flows through the south section of the property. The study area is located at 553032 Dufferin County Road 16 Part of Lot 1, Concession 1, Township of Amaranth, Historical County of Wellington, County of Dufferin, Ontario.

1.3.1 The Natural Environment

The project area is located in the Hillsburgh Sandhills physiographic region of Southern Ontario as identified by Chapman and Putnam (1984:146). This region covers approximately 165 square kilometers from Orangeville south for approximately 13 kilometres. The topography of the study area is variable. It slopes westward from the road frontage and includes steep slopes to the creek on the south side and on the north side toward the western half of the property. The elevation of the study area ranges from 460 metres above sea level to 480 metres above sea level

The soils here are classified as Hillsburgh Sandy Loam. This well-drained soil is ideal for agricultural practices and aboriginal settlement.

Potable water is the single most important resource for any extended human occupation or settlement and since water sources in southwestern Ontario have remained relatively stable over time, proximity to drinkable water is regarded as a useful index for the evaluation of archaeological site potential. In fact, distance to water is one of the most commonly used variables for predictive modeling of archaeological site location in Ontario. The closest extant source of potable water to the study area is an unnamed tributary of the Credit River - flowing through the south section of the study area.

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1.3.2 Previously Known Archaeological Sites and Surveys

In order to compile an inventory of archaeological resources, the registered archaeological site records kept by the MHSTCI were consulted. In Ontario, information concerning archaeological sites stored in the ASDB is maintained by the MHSTCI. This database contains archaeological sites registered according to the Borden system. Under the Borden system, Canada is divided into grid blocks based on latitude and longitude. A Borden Block is approximately 13 kilometres east to west and approximately 18.5 kilometres north to south. Each Borden Block is referenced by a four-letter designator and sites within a block are numbered sequentially as they are found. The study area under review is within Borden Block AIHa.

Information concerning specific site locations is protected by provincial policy, and is not fully subject to the *Freedom of Information and Protection of Privacy Act*. The release of such information in the past has led to looting or various forms of illegally conducted site destruction. Confidentiality extends to all media capable of conveying location, including maps, drawings, or textual descriptions of a site location. The MHSTCI will provide information concerning site location to the party or an agent of the party holding title to a property, or to a licensed archaeologist with relevant cultural resource management interests.

An examination of the ASDB has shown that there are three archaeological sites registered within a one-kilometre radius of the study area (Sites Data Search, 09 August 2021; Government Ontario n.d.). Table 2 summarizes the registered archaeological sites within one-kilometre of the study area. The listed sites do not fall within the study area.

Table 2: Registered Archaeological Sites within One Kilometre of the Study Area

Borden Number	Site Name	Time Period	Affinity	Site Type	Current Development Review Status
AIHa-6		Archaic, Early	Aboriginal	findspot	
AIHa-41	Hughson H 2	Post-Contact	Euro-Canadian	cabin, farmstead, homestead	No Further CHVI
AIHa-33	Ingerham	Post-Contact	Euro-Canadian	homestead	

1.3.3 Summary of Past Archaeological Investigations within 50m

There have been no other documented archaeological investigations within 50 metres of the subject property. However, it should be noted that the Ministry of Tourism, Culture and Sport currently does not provide an inventory of archaeological assessments carried out within 50 metres of a property, so a complete inventory of assessments on lands adjacent to the subject property cannot be provided.

STAGE 1 BACKGROUND ASSESSMENT AND STAGE 2 PROPERTY ASSESSMENT OF PROPOSED WELL 5/5A, PART OF LOT 1, CONCESSION 1, TOWNSHIP OF AMARANTH, HISTORICAL COUNTY OF WELLINGTON, COUNTY OF DUFFERIN, ONTARIO

Project Context
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1.3.4 Archaeological Potential

Archaeological potential is established by determining the likelihood that archaeological resources may be present on a subject property. Bluestone applied archaeological potential criteria commonly used by MHSTCI (Government of Ontario 2011) to determine areas of archaeological potential within the region under study. These variables include proximity to previously identified archaeological sites, distance to various types of water sources, soil texture and drainage, glacial geomorphology, elevated topography and the general topographic variability of the area.

Distance to modern or ancient water sources is generally accepted as the most important determinant of past human settlement patterns and, considered alone, may result in a determination of archaeological potential. However, any combination of two or more other criteria, such as well-drained soils or topographic variability, may also indicate archaeological potential. Finally, extensive land disturbance can eradicate archaeological potential (Wilson and Horne 1995).

As discussed above, distance to water is an essential factor in archaeological potential modeling. When evaluating distance to water it is important to distinguish between water and shoreline, as well as natural and artificial water sources, as these features affect sites locations and types to varying degrees. The MHSTCI categorizes water sources in the following manner:

- Primary water sources: lakes, rivers, streams, creeks;
- Secondary water sources: intermittent streams and creeks, springs, marshes and swamps;
- Past water sources: glacial lake shorelines, relic river or stream channels, cobble beaches, shorelines of drained lakes or marshes; and
- Accessible or inaccessible shorelines: high bluffs, swamp or marshy lake edges, sandbars stretching into marsh.

The closest primary source of potable water to the study area is an unnamed tributary of the Credit River - flowing through the south section of the study area.

Soil texture can be an important determinant of past settlement, usually in combination with other factors such as topography. As indicated previously, the soils within the study area are variable, but include pockets of well-drained and sandy soils that would be suitable for pre-contact Aboriginal agriculture.

An examination of the ASDB has shown that there are three archaeological sites registered within a one-kilometre radius of the study area.

STAGE 1 BACKGROUND ASSESSMENT AND STAGE 2 PROPERTY ASSESSMENT OF PROPOSED WELL 5/5A, PART OF LOT 1, CONCESSION 1, TOWNSHIP OF AMARANTH, HISTORICAL COUNTY OF WELLINGTON, COUNTY OF DUFFERIN, ONTARIO

Field Methods
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For Euro-Canadian sites, archaeological potential can be extended to areas of early Euro-Canadian settlement, including places of military or pioneer settlements; early transportation routes; and properties listed on the municipal register or designated under the *Ontario Heritage Act* or property that local histories or informants have identified with possible historical events. The *Illustrated Historical Atlas of the County of Middlesex, Ont.* demonstrates that the study area and its environs were densely occupied by Euro-Canadian settlers by the later 19th century. Much of the established road system and agricultural settlement from that time is still visible today.

When the above listed criteria are applied to the study area, the archaeological potential for pre-contact Aboriginal, post-contact Aboriginal, and Euro-Canadian sites is deemed to be moderate to high. Thus, in accordance with Section 1.3.1 of the MHSTCI's 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011), the Stage 1 archaeological assessment of the study area has determined that the study area exhibits potential for the identification and recovery of archaeological resources and a Stage 2 archaeological assessment is recommended.

2.0 FIELD METHODS

The Stage 2 assessment of 553032 Dufferin County Road 16 was conducted on 16-17 August, 2021 and under PIF # P229-0079-2021 issued to Allan Morton, of Bluestone by the MHSTCI. The study area consists of approximately 1.16 hectares in varied conditions and is a municipal facilities property with some manicured lawn and forested with mostly mature trees. Modern disturbances include driveways, one concrete-block utility shed, one block constructed water filtration structure built in approximately 2010, and one concrete-block well house.

During the Stage 2 survey, assessment conditions were excellent and at no time were the field, weather, or lighting conditions detrimental to the recovery of archaeological material (Table 3). Photos 1 to 33 confirm that field conditions met the requirements for a Stage 2 archaeological assessment, as per the MHSTCI's 2011 *Standards and Guidelines for Consultant Archaeologists* (Section 7.8.6 Standard 1a; Government of Ontario 2011). Figure 10 provides an illustration of the Stage 2 assessment methods. Figure 12 shows photograph locations and directions.

Table 3: Field and Weather Conditions

Date	Activity	Weather	Field Conditions
16 August 2021	Test Pit survey	Sunny and hot	Soils dry and friable
17 August 2021	Test Pit survey	Sunny and hot	Soils dry and friable

STAGE 1 BACKGROUND ASSESSMENT AND STAGE 2 PROPERTY ASSESSMENT OF PROPOSED WELL 5/5A, PART OF LOT 1, CONCESSION 1, TOWNSHIP OF AMARANTH, HISTORICAL COUNTY OF WELLINGTON, COUNTY OF DUFFERIN, ONTARIO

Field Methods
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Approximately 24.5% of the study area consisted of grassed manicured yard, overgrown weeds, and forest and was subject to test pit survey at a 5-metre interval in accordance with Section 2.1.1 of the MHSTCI's 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). Test pitting was also conducted within one metre of built structures in accordance with Section 2.1.2 Standard 4 of the MHSTCI's 2011 *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011). Each test pit was approximately 30 centimeters in diameter and excavated five centimeters into sterile subsoil. The soils and test pits were then examined for stratigraphy, cultural features, or evidence of fill. All soil was screened through six millimeter (mm) mesh hardware cloth to facilitate the recovery of small artifacts and then used to backfill the pit.

The area around the filtration building (labelled B in Figure 10) was disturbed by construction activities. The steep slope to the north of the building was created during construction. A cobble-lined stormwater channel was placed to keep water away from Building B. The structures labelled D in Figure 10 is the foundation and central well for a water tank emplaced to provide water to the Toronto, Grey, and Bruce Railway. It consists of four 1.5 metre square, 1.5 metre tall blocks of poured concrete. They are placed approximately 16 feet apart. In the centre is another poured concrete structure with a centre well, lined with rocks. The well is 5 feet deep and has two large, 8 inch diameter metal pipes protruding 2 feet vertically. The tank was demolished in 1950 according to the Town of Orangeville. The Dufferin Museum and Archives was contacted for the availability of documents related to the construction of railway infrastructure. The museum (closed because of Covid-19) ignored email, voicemail and phone calls. The water tank appears in the 1937 topographic map, but is not depicted on any available earlier maps or photographs. Because the railway was completed in 1871, it is reasonable to infer that the water tank was built at that time, although the metal pipes appear more recent.

An additional 75.5% of the study area consisted of driveways, utility buildings, extensive soil disturbance and slope greater than 20%. These portions could not be tested. Photographs were taken to confirm disturbance. No further archaeological methods were employed since no artifacts were recovered during the test pit survey.

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Record of Finds

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3.0 RECORD OF FINDS

The Stage 2 archaeological assessment was conducted employing the methods described in Section 2.0. An inventory of the documentary record generated by fieldwork is provided in Table 3 below. No archaeological resources were identified during the Stage 2 archaeological assessment of the study area.

Table 3: Inventory of Documentary Record

Document Type	Current Location of Document Type	Additional Comments
12 Pages of field notes	Bluestone office, York Region	In original field book and photocopied in project file
3 Hand drawn maps	Bluestone office, York Region	In original field book and photocopied in project file
1 map provided by Client	Bluestone office, York Region	Hard and digital copies in project file
33 Digital photographs	Bluestone office, York Region	Stored digitally in project file

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Analysis and Conclusions
August 2021

4.0 ANALYSIS AND CONCLUSIONS

The Stage 2 archaeological assessment was carried out in accordance with the Ministry of Tourism, Culture, and Sport's *Standard's and Guidelines for Consultant Archaeologist's* Government of Ontario 2011). Approximately 24.5% of the subject property was subject to a test pit survey at 5-metre intervals. Approximately 75.5% of the study area consisted of driveways, utility buildings, extensive soil disturbance and slope greater than 20%. These portions could not be tested. The Stage 2 assessment did not result in the identification of any archaeological resources.

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Recommendations
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5.0 RECOMMENDATIONS

All work met provincial standards and no archaeological sites were identified during the Stage 2 assessment. If construction plans change to incorporate new areas that were not subject to a Stage 2 field survey, these must be assessed prior to the initiation of construction. In keeping with legislative stipulations, all construction and demolition-related impacts (including, for example, machine travel, material storage and stockpiling, earth moving) must be restricted to the areas that were archaeologically assessed and cleared by the Ontario Ministry of Heritage, Sport, Tourism and Culture Industries through acceptance of the assessment report into the provincial register.

As no archaeological resources were found on the subject property, no further archaeological assessment of the property is required.

Notwithstanding the results and recommendations presented in this study, Bluestone Research notes that no archaeological assessment, no matter how thorough or carefully completed, can necessarily predict, account for, or identify every form of isolated or deeply buried archaeological deposit. In the event that archaeological remains are found during subsequent construction activities, the consultant archaeologist, approval authority, and the Cultural Programs Unit of the Ministry of Tourism Culture and Sport should be immediately notified.

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Advice on Compliance with Legislation
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6.0 ADVICE ON COMPLIANCE WITH LEGISLATION

This report is submitted to the Minister of Tourism, Culture and Sport as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c. 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism, Culture and Sport, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeological Reports referred to in Section 65.1 of the *Ontario Heritage Act*.

Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48(1) of the *Ontario Heritage Act*.

The *Cemeteries Act*, R.S.O. 1990 c. C.4 and the *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.

Archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48(1) of the *Ontario Heritage Act* and may not be altered, or have artifacts removed from them, except by a person holding an archaeological license.

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7.0 BIBLIOGRAPHY AND SOURCES

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8.0 IMAGES

8.1 PHOTOGRAPHS

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Photo 1: Study area. Driveway from Dufferin County Road 16. Area to left of driveway not assessed, because of a large buried watermain. Area to right assessed by Test Pit Survey at 5m Intervals. View to the east.



Photo 2: Study area, Driveway from Dufferin County Road 16 showing maintenance building. Area to right of driveway not assessed, because of large buried watermain. Area to left assessed by Test Pit Survey at 5m Intervals. View to the west.

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Photo 3: Study area. Driveway from Dufferin County Road 16. Area to left of driveway not assessed, because of large buried watermain. Area to right assessed by Test Pit Survey at 5m Intervals. View to the east.



Photo 4: Study area. Driveway from Dufferin County Road 16. Area to left of driveway not assessed, because of large buried watermain. Area to right assessed by Test Pit Survey at 5m Intervals. View to the east.

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Photo 5: Typical shovel test pit. Metre stick indicates North.

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Photo 6: South side of study area between the creek and the driveway. Area assessed by Test Pit Survey at 5m Intervals. View to the south.



Photo 7: South side of study area between the creek and the driveway. Area assessed by Test Pit Survey at 5m Intervals. View to the south.

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Photo 8: South side of study area between the creek and the driveway. Area assessed by Test Pit Survey at 5m Intervals. View to the southwest.



Photo 9: South side of study area between the creek and the driveway. Area assessed by Test Pit Survey at 5m Intervals. View to the east.

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Photo 10: North central side of study area. Area assessed by Test Pit Survey at 5m Intervals.
View to the north.



Photo 11: North central side of study area. Area assessed by Test Pit Survey at 5m Intervals.
View to the north.

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Photo 12: Central section of study area showing the block filtration structure. Area to the left was not assessed because of slope greater than 20% and soil disturbance due to construction and large buried watermain. Area to the right between the gravel driveway and the creek was assessed by Test Pit Survey at 5m Intervals. View to the west.



Photo 13: Central section of study area showing the block filtration structure. Area was not assessed because of slope greater than 20% and soil disturbance due to construction and large buried watermain. Area to the right between the gravel driveway and the creek was assessed by Test Pit Survey at 5m Intervals. View to the east.

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Photo 14: Central section of study area showing the block filtration structure. Area was not assessed because of slope greater than 20% and soil disturbance due to construction and large buried watermain.
View to the northwest.



Photo 15: West end of study area showing the concrete-block well house. Area to the left between the gravel driveway and the creek was assessed by Test Pit Survey at 5m Intervals. View to the west.

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Photo 16: West end of study area showing the concrete-block well house. Gravel area was not assessed. Slope greater than 20% behind the well house and the right side of the photo were not assessed. Area to the left between the gravel driveway and the creek was assessed by Test Pit Survey at 5m Intervals. View to the west.



Photo 17: West end of study area showing driveway and slope greater than 20%. Gravel area and slope was not assessed. View to the east.

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Photo 18: West end of study area showing the gravel driveway. Gravel area and slope greater than 20% (on the left side) was not assessed. Area to the right was assessed by Test Pit Survey at 5m Intervals. View to the east.



Photo 19: West end of study area showing the the north side of concrete-block well house. Area behind the well house was assessed by Test Pit Survey at 5m Intervals. The topography sloped down to the creek greater than 20% immediately behind the well house. Tall vegetation made it difficult to document visually. View to the west.

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Photo 20: West end of study area showing the west side of concrete-block well house. Area behind the well house was assessed by Test Pit Survey at 5m Intervals. The topography sloped down to the creek greater than 20% immediately behind the well house. Tall vegetation made it difficult to document visually. View to the south.



Photo 21: West end of study area showing the south side of concrete-block well house. Area in the foreground assessed by Test Pit Survey at 5m Intervals. View to the west.

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Photo 22: West end of study area showing behind the well house. Assessed by Test Pit Survey at 5m Intervals. The topography sloped down to the creek greater than 20% immediately behind the well house. Tall vegetation made it difficult to document visually. View to the south.



Photo 23: West end of study area showing the south side of concrete-block well house. Area behind the well house was assessed by Test Pit Survey at 5m Intervals. The topography sloped down to the creek greater than 20% immediately behind the well house. Tall vegetation made it difficult to document visually. View to the northwest.

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Photo 24: North side of study area showing slope greater than 20%. Gravel driveway is visible through the trees. This sloped area was not assessed. View to the south.



Photo 25: North side of study area showing slope greater than 20%. One flat bench close to the bottom of the slope allowed assessment by Test Pit Survey at 5m Intervals. Gravel driveway is visible through the trees. This sloped area was not assessed. View to the south.

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Photo 26: North side of study area showing slope greater than 20%. Well house and gravel driveway is visible through the trees. This sloped area was not assessed. View to the southwest.



Photo 27: North side of study area showing slope greater than 20%. This sloped area was not assessed. View to the northwest.

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Photo 28: North side of study area showing concrete water tank foundation. This area was assessed by Test Pit Survey at 5m Intervals. View to the north.



Photo 29: North side of study area showing different view of concrete water tank foundation. This area was assessed by Test Pit Survey at 5m Intervals. View to the east.

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Photo 30: North side of study area showing concrete water tank central well. This area was assessed by Test Pit Survey at 5m Intervals. View to the north.



Photo 31: North side of study area showing concrete water tank central well. Note modern-appearing pipes and dry laid stone walls. View not applicable.

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Photo 32: North side of study area flat area on top of slope. This area was assessed by Test Pit Survey at 5m Intervals. View to the west.



Photo 33: Typical shovel test pit from hilltop. Metre stick indicates North.

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Maps
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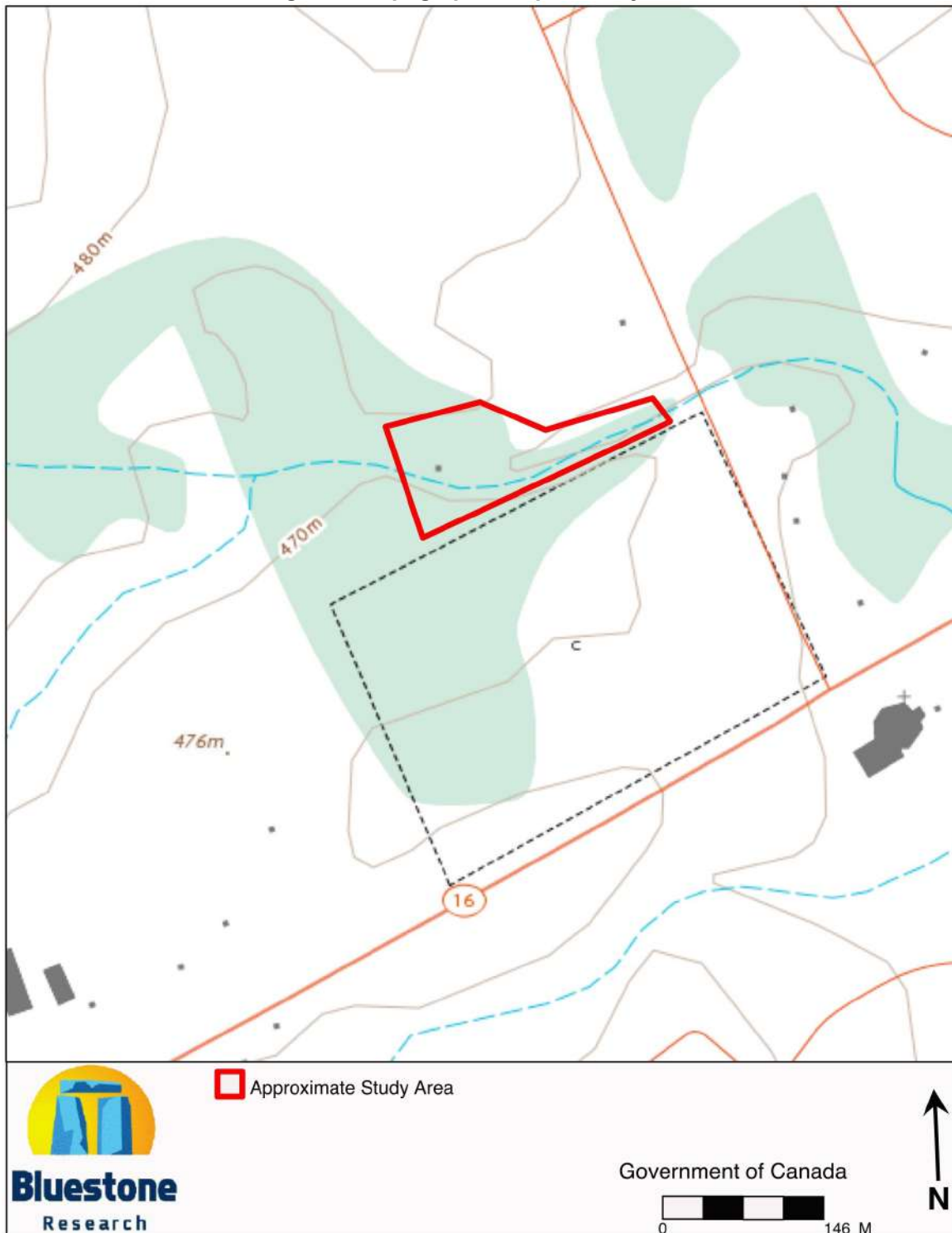
9.0 MAPS

All maps will follow on succeeding pages.

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Maps
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Figure 1: Topographic Map of Study Area



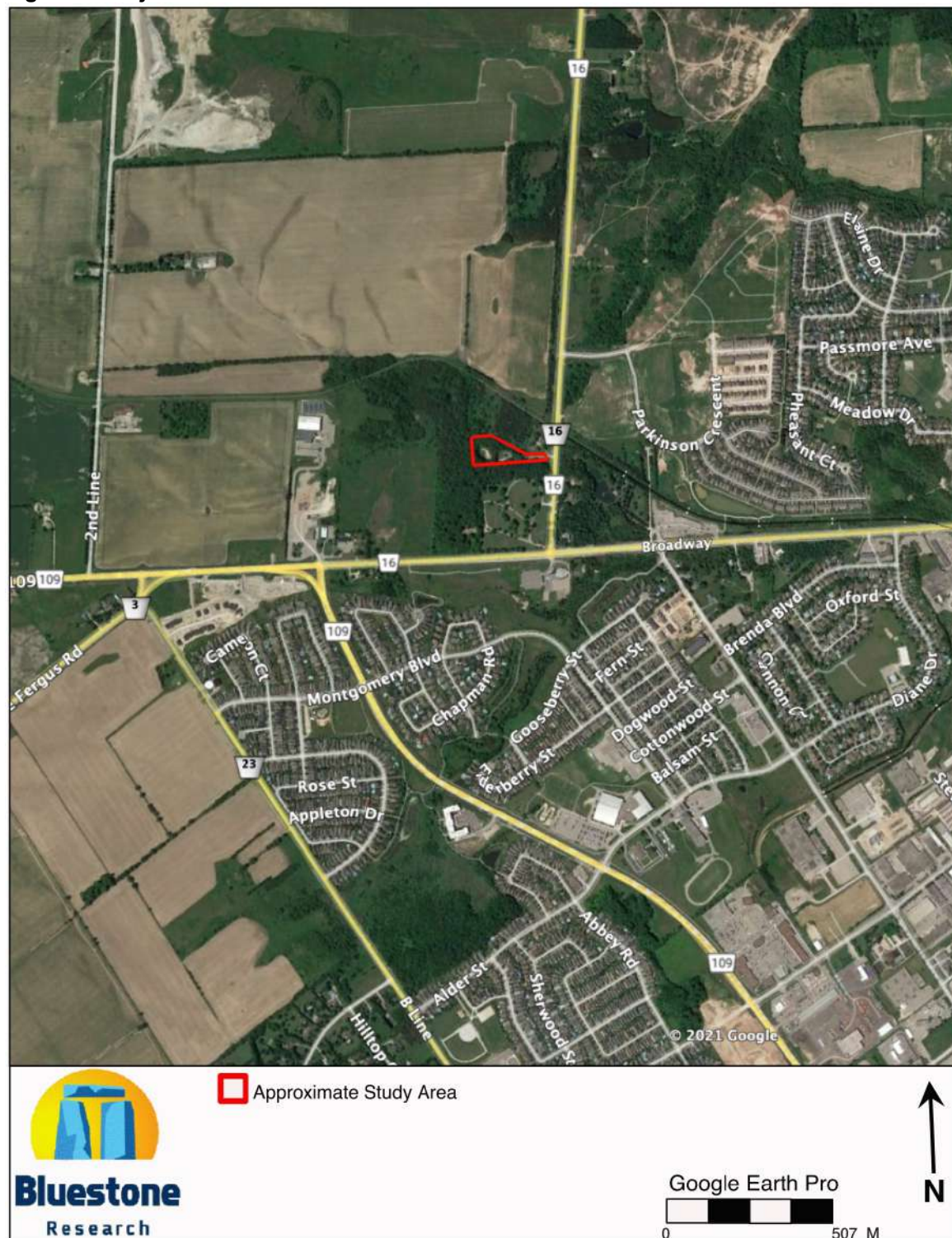
Maps
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Maps
September 2021

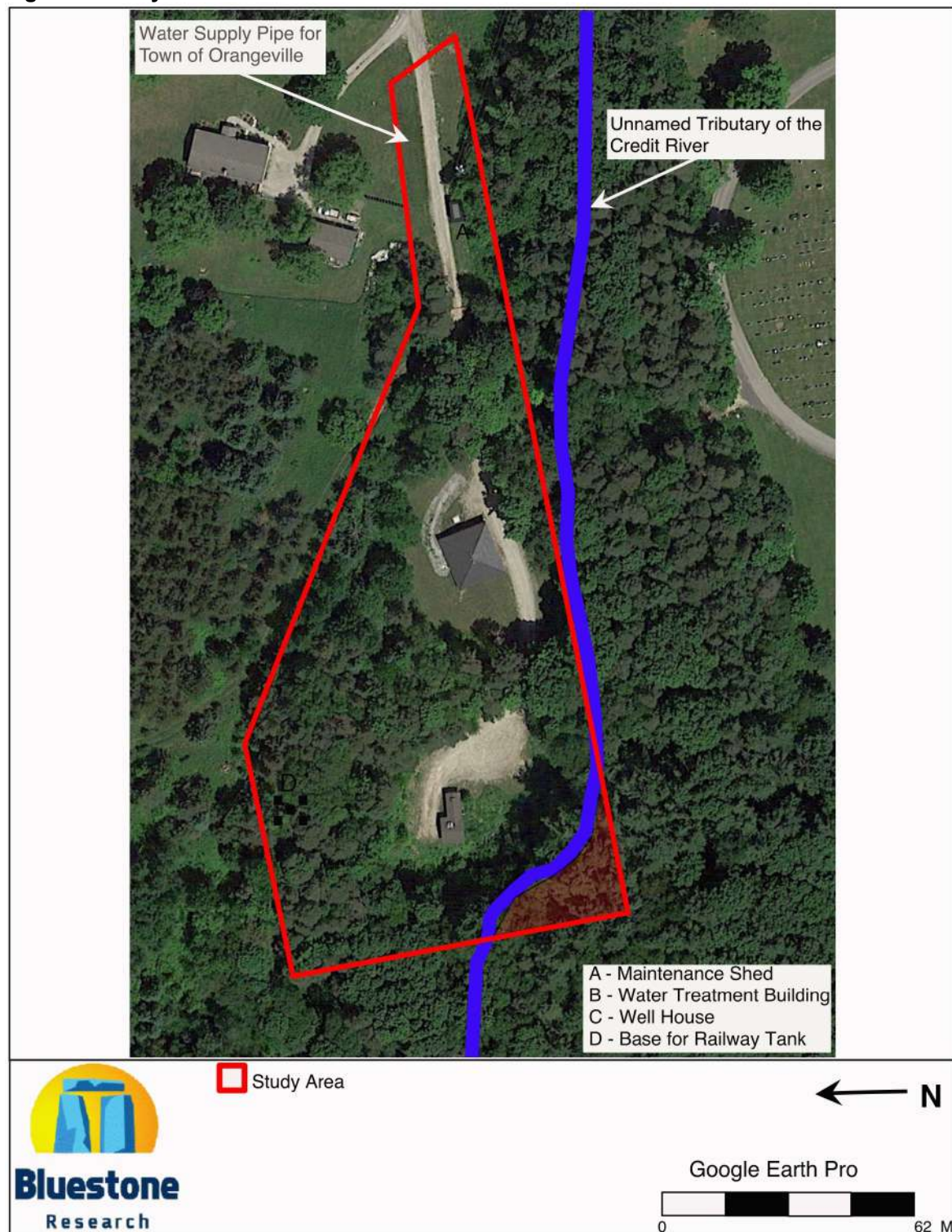
Figure 3: Project Location



STAGE 1 BACKGROUND ASSESSMENT AND STAGE 2 PROPERTY ASSESSMENT OF PROPOSED WELL 5/5A, PART OF LOT 1, CONCESSION 1, TOWNSHIP OF AMARANTH, HISTORICAL COUNTY OF WELLINGTON, COUNTY OF DUFFERIN, ONTARIO

Maps
September 2021

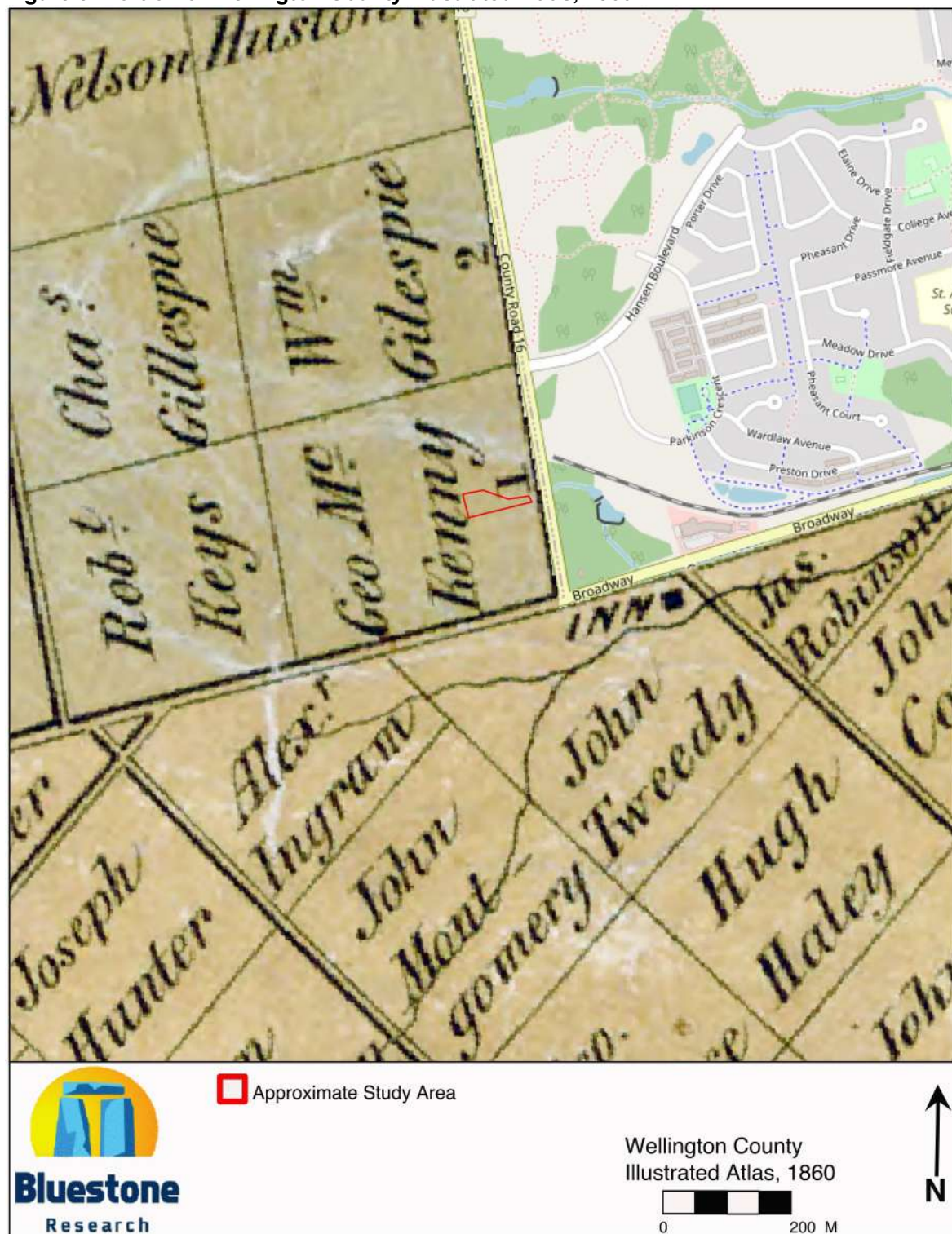
Figure 4: Study Area



STAGE 1 BACKGROUND ASSESSMENT AND STAGE 2 PROPERTY ASSESSMENT OF PROPOSED WELL 5/5A, PART OF LOT 1, CONCESSION 1, TOWNSHIP OF AMARANTH, HISTORICAL COUNTY OF WELLINGTON, COUNTY OF DUFFERIN, ONTARIO

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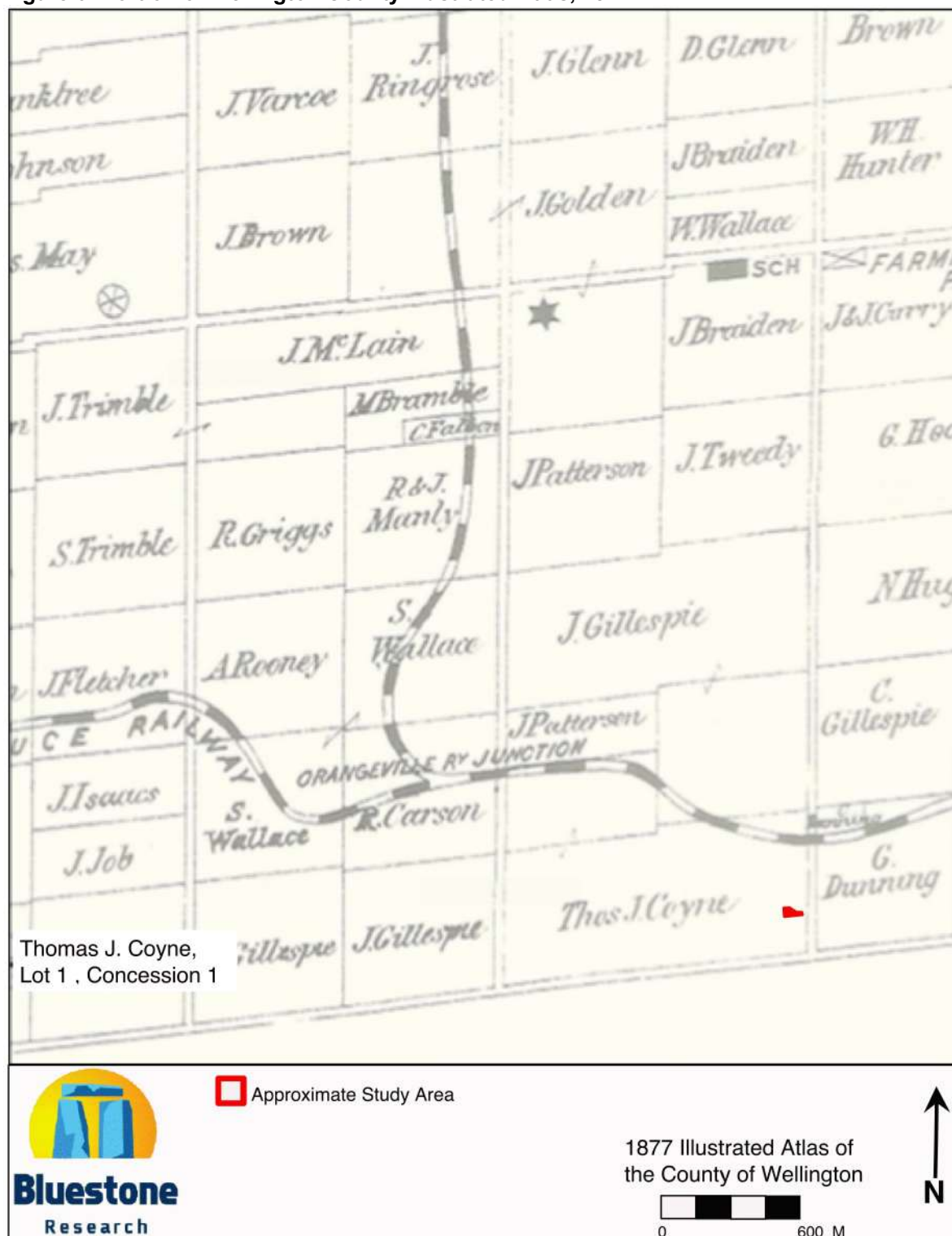
Figure 5: Portion of Wellington County Illustrated Atlas, 1860



STAGE 1 BACKGROUND ASSESSMENT AND STAGE 2 PROPERTY ASSESSMENT OF PROPOSED WELL 5/5A, PART OF LOT 1, CONCESSION 1, TOWNSHIP OF AMARANTH, HISTORICAL COUNTY OF WELLINGTON, COUNTY OF DUFFERIN, ONTARIO

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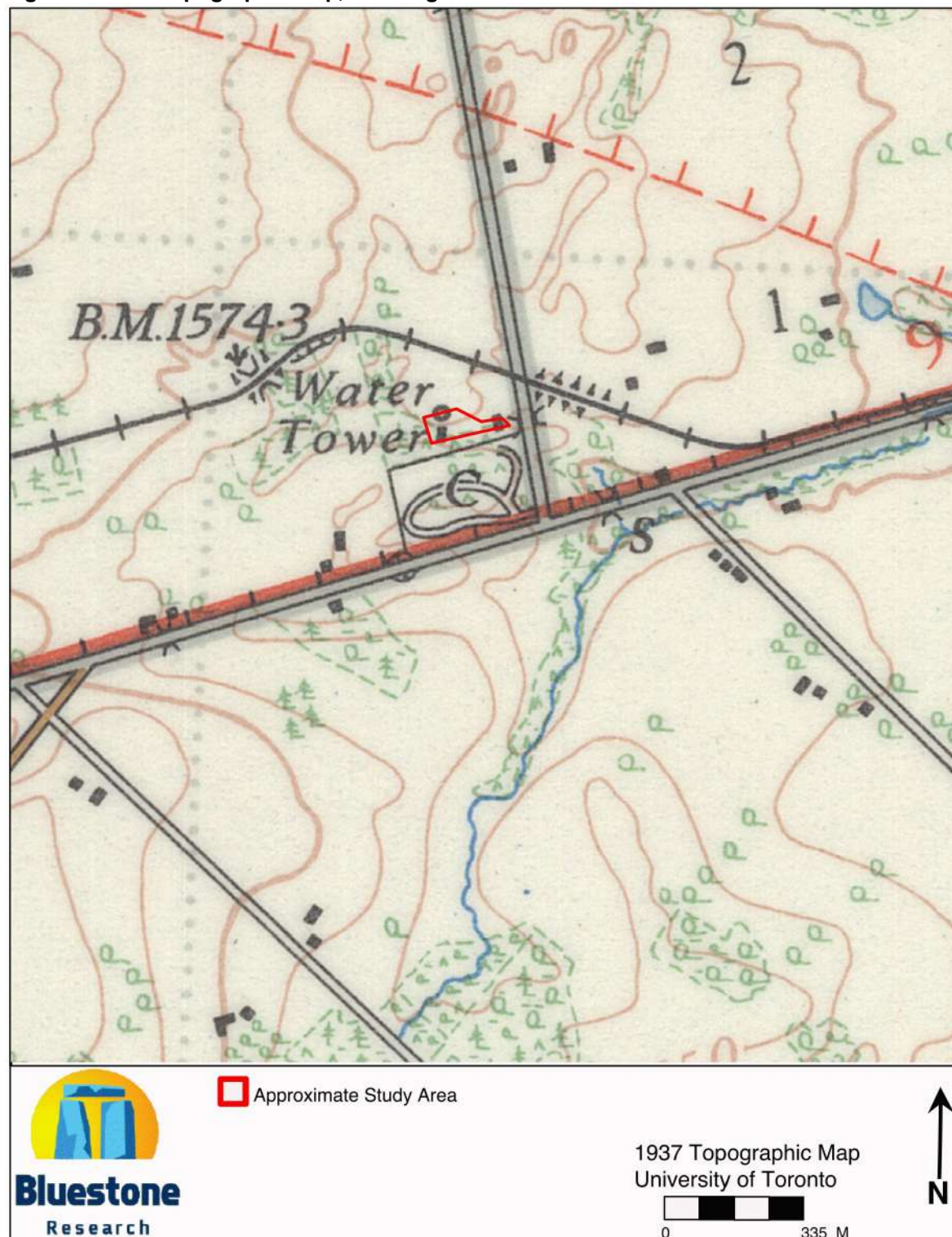
Figure 6: Portion of Wellington County Illustrated Atlas, 1877



STAGE 1 BACKGROUND ASSESSMENT AND STAGE 2 PROPERTY ASSESSMENT OF PROPOSED WELL 5/5A, PART OF LOT 1, CONCESSION 1, TOWNSHIP OF AMARANTH, HISTORICAL COUNTY OF WELLINGTON, COUNTY OF DUFFERIN, ONTARIO

Maps
September 2021

Figure 7: 1937 Topographic Map, showing water tank location



STAGE 1 BACKGROUND ASSESSMENT AND STAGE 2 PROPERTY ASSESSMENT OF PROPOSED WELL 5/5A, PART OF LOT 1, CONCESSION 1, TOWNSHIP OF AMARANTH, HISTORICAL COUNTY OF WELLINGTON, COUNTY OF DUFFERIN, ONTARIO

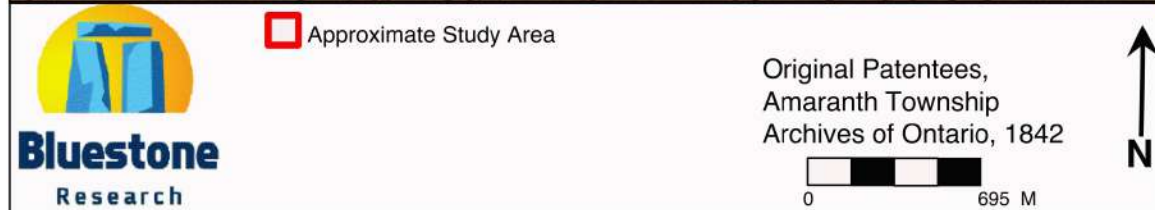
Maps
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Figure 8: 1954 Air Photograph



Maps
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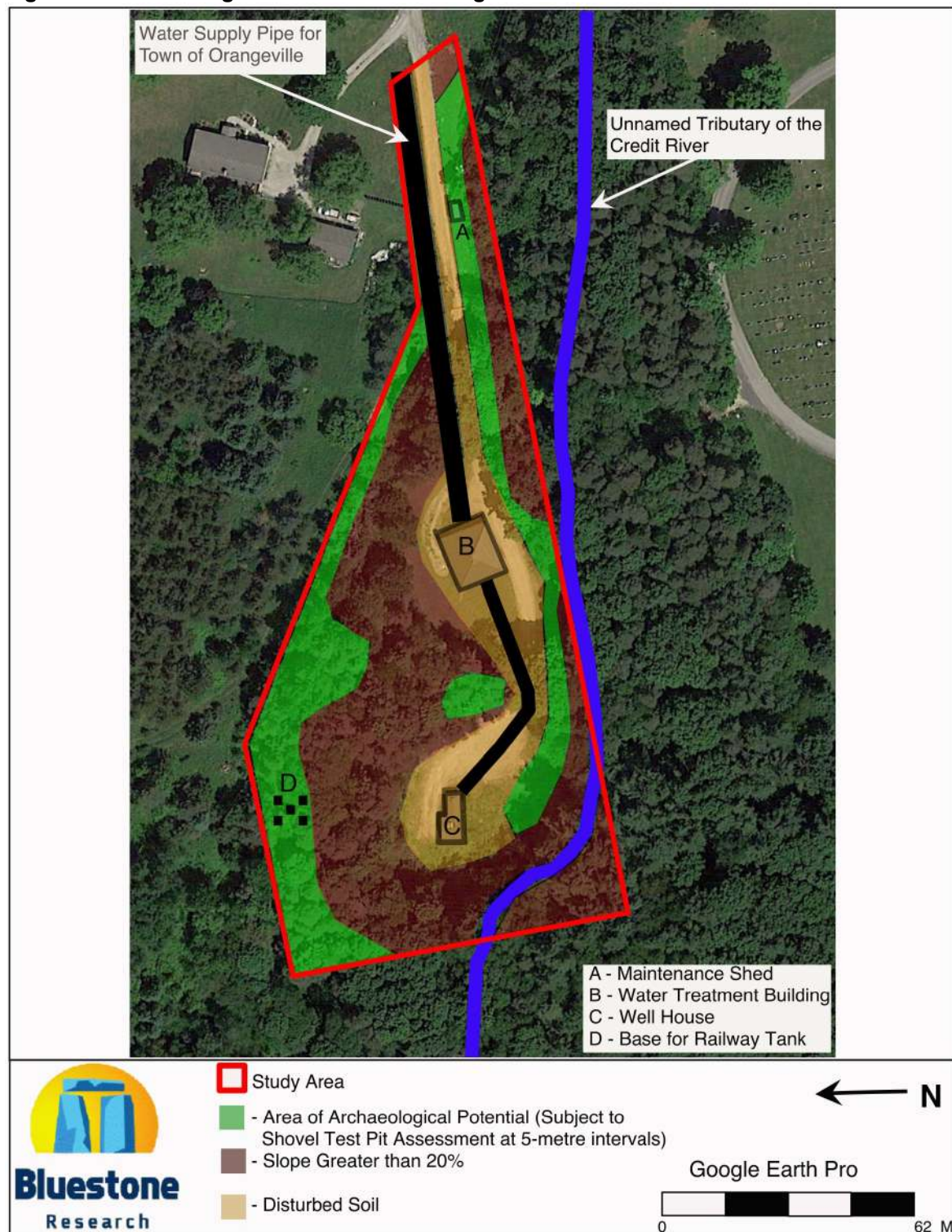
[Handwritten map showing land parcels with names like John Wallace, William Wallace, Charles Gillespie, and others. Includes survey details such as 'Magnetic North' and 'True North'. A red box highlights a specific parcel.]



STAGE 1 BACKGROUND ASSESSMENT AND STAGE 2 PROPERTY ASSESSMENT OF PROPOSED WELL 5/5A, PART OF LOT 1, CONCESSION 1, TOWNSHIP OF AMARANTH, HISTORICAL COUNTY OF WELLINGTON, COUNTY OF DUFFERIN, ONTARIO

Maps
September 2021

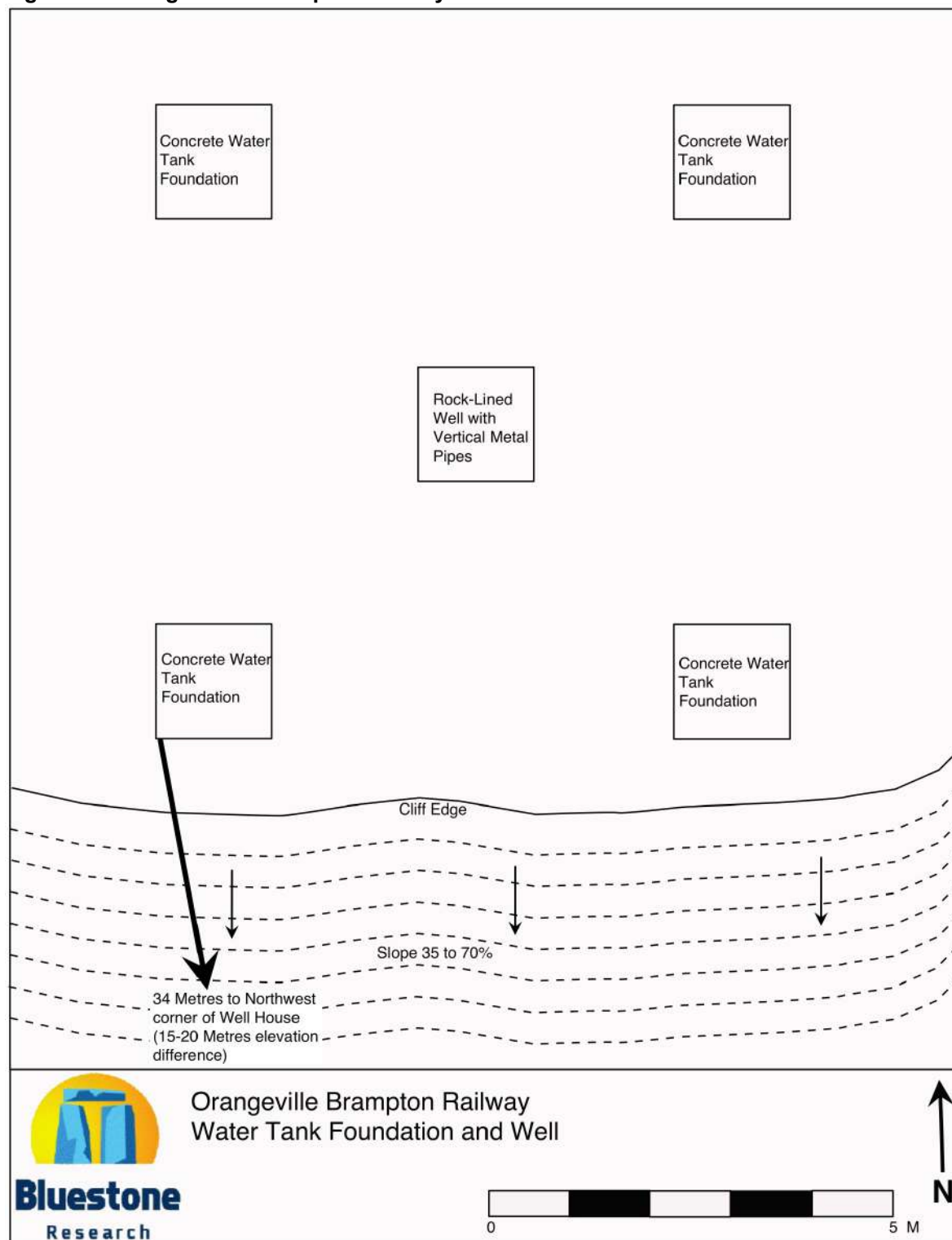
Figure 10: Archaeological Assessment Strategies



STAGE 1 BACKGROUND ASSESSMENT AND STAGE 2 PROPERTY ASSESSMENT OF PROPOSED WELL 5/5A, PART OF LOT 1, CONCESSION 1, TOWNSHIP OF AMARANTH, HISTORICAL COUNTY OF WELLINGTON, COUNTY OF DUFFERIN, ONTARIO

Maps
September 2021

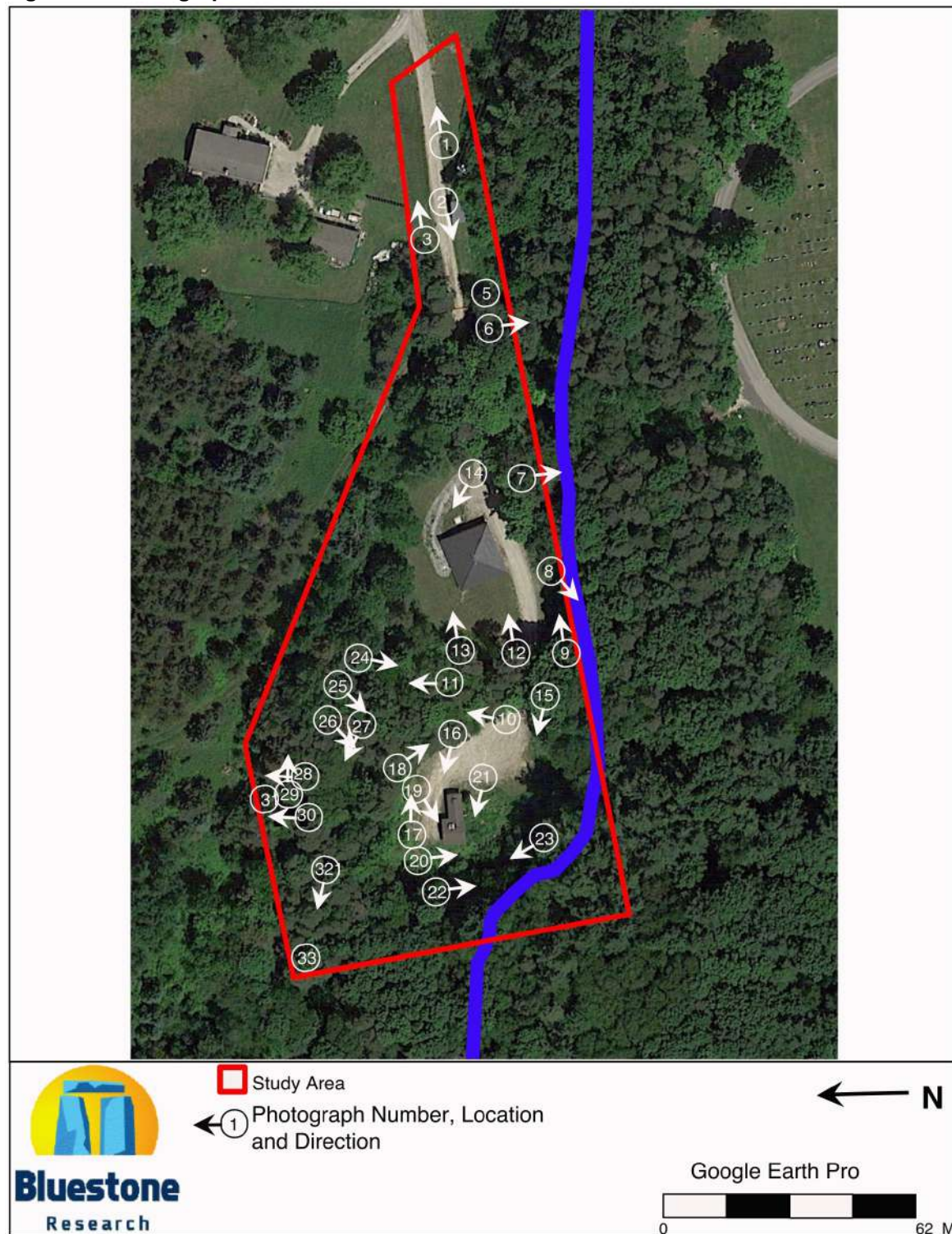
Figure 11: Orangeville – Brampton Railway Water Tank Foundation and Well



STAGE 1 BACKGROUND ASSESSMENT AND STAGE 2 PROPERTY ASSESSMENT OF PROPOSED WELL 5/5A, PART OF LOT 1, CONCESSION 1, TOWNSHIP OF AMARANTH, HISTORICAL COUNTY OF WELLINGTON, COUNTY OF DUFFERIN, ONTARIO

Maps
September 2021

Figure 12: Photograph Locations and Directions



C

Appendix C: Natural Heritage Assessment

Natural Heritage Assessment of the Well 5/5A Site, Orangeville

for:




by:



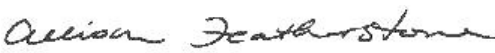
LGL Limited
environmental research associates

June 2023
LGL File TA9150

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Version History:

Date	Version
November 2022	1; Draft
February 2023	2; Revisions to preferred design
June 28, 2023	3; Revisions in response to MECP comments

June 2023
LGL File TA9150

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1.0 Introduction

The Town of Orangeville provides water to its residents through a groundwater supply and network of supply wells, including Well 5/5A, located on Dufferin County Road 16, near the intersection with Broadway and within the Township of Amaranth. The Town of Orangeville (Town) is currently conducting a Schedule B Municipal Class Environmental Assessment (MCEA) study to identify a preferred strategy to provide additional water pumping and storage capacity at the Well 5/5A site.

In support of the MCEA, LGL Limited (LGL) has completed a Natural Heritage Assessment (NHA) for the site. Data pertaining to natural heritage has been collected and reviewed for the areas within and adjacent to the study area to describe existing conditions, identify sensitivities/constraints and evaluate design alternatives for the project.

1.1 Study Area

The study area as displayed in **Figure 1** includes the Town owned property located within Amaranth Township at 553028 Dufferin County Road 16 as well as adjacent lands to consider natural features and functions within and in proximity to the existing well.

The intent of this NHA is to describe existing natural heritage conditions within the study area through a combination of desktop review and field investigation to assess impacts related to the proposed solutions of the MCEA. Early project planning suggested that design alternatives were likely to remain within the well site; however, the site is contiguous to adjacent woodland, wetland and aquatic habitats. With this in mind, two study areas (Study Area and Focused Study Area) were defined for the project to include the geographic extent of adjacent lands and allow for consideration of those features and functions in the evaluation of the MCEA design alternatives. For the purpose of the NHA, the Study Area was reviewed in the context of the following:

- Designated Natural Areas including Areas of Natural and Scientific Interest (ANSIs), significant wetlands, woodlands, and valleylands;
- Vegetation (including species at risk) and vegetation communities;
- Wildlife and wildlife habitat (including species at risk); and,
- Aquatic habitat and fisheries (including species at risk).

To define an area suitable for collection of available background information, a Study Area was defined for the project consisting of the existing well site and additional lands to include adjacent natural areas. The Study Area is bound by the Dufferin County CP Rail Trail to the north, a rural residence and Dufferin County Road 16 to the east, woodland and open space part of a Cemetery to the south, and private lands to the west, as shown in **Figure 1** (in red). Through a preliminary review of available

background information, the project team identified an unevaluated wetland, woodlands and watercourses within the Study Area. Consequently, a smaller Focused Study Area was developed for the siting of design alternatives to avoid sensitive natural features to the extent feasible.

The Focused Study Area (**Figure 1** dashed black line) extends from the Dufferin County Road 16 road right of way approximately 235 m to the west. It is this area that was the focus of field investigation conducted to identify natural heritage constraints as they relate to design alternatives part of the MCEA. The Focused Study Area includes a portion of the property parcel owned by the Town surrounding the existing well site. The woodland and Mill Creek (as it appears on available GIS data layers) were identified through desktop review as the main components of natural heritage within the Focused Study Area.



TOWNSHIP OF
AMARANTH

NHIC: 967826

TOWN OF
ORANGEVILLE

HANSEN BV

PARKINSON CR

Mill Creek

DUFFERIN COUNTY ROAD 16

BROADWAY

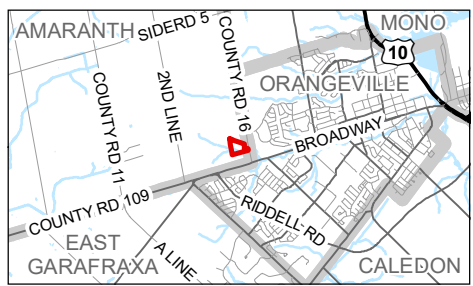
Mill Creek

Sixteen Mile Creek - Credit River Watershed -
Little Credit River - Credit River Subwatershed

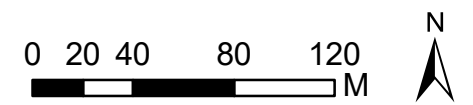
LEGEND

- Study Area
- Focused Study Area
- Aquatic Resources Survey Point (MH-0143-MIL)
- Watercourse - Cold Thermal Regime
- Approximate Regulation Limit (CVC)
- Municipal Boundary
- Provincially Tracked Species (1km x 1km Grid)
- Wetland Not Evaluated per OWES
- Wooded Area

*Note: Entire study area lies within Protected Countryside Designation of the Greenbelt Plan.



Data Source: Dufferin County Open Data, Credit Valley Conservation (CVC), and Ministry of Natural Resources and Forestry (LFO). Contains information licensed under the Open Government Licence - Ontario. Produced by LGL Limited under License with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2022.



Well 5/5A Natural Heritage Screening



Project: TA9150	Figure: 1
Date: February 2, 2022	Prepared By: AM
Scale: 1:3,000	Verified By: LR

2.0 Relevant Policy and Legislation

2.1 Federal Fisheries Act, Department of Fisheries and Oceans (DFO)

The project must comply with the fish and fish habitat protection provisions of the *Fisheries Act*. The Act applies to work being conducted in or near waterbodies that support commercial, recreational, or Aboriginal fisheries. Secondary source information indicates that Mill Creek supports a coldwater recreational fishery. The project is required to demonstrate compliance with the fish and fish habitat protection provisions of the *Fisheries Act* to avoid causing death of fish and harmful alteration, disruption, or destruction of fish habitat. The fish community of Mill Creek has been characterized within the study area using records accessed from the Ministry of Northern Development, Mines, Natural Resources and Forestry (MNDMNRF) Land Information Ontario (LIO) data and a review of aquatic habitat conditions on site was conducted by LGL during field investigations.

2.2 Migratory Birds

The *Migratory Birds Convention Act, 1994* (MBCA) protects migratory birds through a broad prohibition on disturbing or destroying birds, nests and eggs, accompanied by a hunting and permitting regime set out in regulations. Generally, the MBCA states that a person who does not hold a permit authorizing one or more of the following activities or who is not otherwise authorized by the Regulation to carry out that activity must not:

- (a) capture, kill, take, injure or harass a migratory bird;
- (b) destroy, take or disturb an egg; or,
- (c) damage, destroy, remove or disturb a nest, nest shelter, eider duck shelter or duck box.

Migratory birds have been identified within the project area through review of secondary sources and confirmed through field inventories.

2.3 Provincial Policy Statement

The Provincial Policy Statement (PPS 2020) was issued under the Planning Act and came into effect May 1, 2020 to replace the Provincial Policy Statement issued in 2014. The PPS 2020 provides for appropriate development while protecting resources of provincial interest, public health and safety, and the quality of the natural and built environment. The PPS 2020 supports improved land use planning and management, which contributes to a more effective and efficient land use planning system. The following natural heritage policies of the PPS 2020 are of relevance to the project:

2.1 Natural Heritage

2.1.1 Natural features and areas shall be protected for the long term.

2.1.2 The diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems, should be maintained, restored or, where possible, improved, recognizing linkages between and among natural heritage features and areas, surface water features and ground water features.

2.1.3 Natural heritage systems shall be identified in Ecoregions 6E & 7E, recognizing that natural heritage systems will vary in size and form in settlement areas, rural areas, and prime agricultural areas.

2.1.4 Development and site alteration shall not be permitted in:

- a) significant wetlands in Ecoregions 5E, 6E and 7E; and
- b) significant coastal wetlands.

2.1.5 Development and site alteration shall not be permitted in:

- a) significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E;
- b) significant woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River);
- c) significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River);
- d) significant wildlife habitat;
- e) significant areas of natural and scientific interest; and
- f) coastal wetlands in Ecoregions 5E, 6E and 7E that are not subject to policy

2.1.4(b)

unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.

2.1.6 Development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.

2.1.7 Development and site alteration shall not be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements.

2.1.8 Development and site alteration shall not be permitted on adjacent lands to the natural heritage features and areas identified in policies 2.1.4, 2.1.5, and, 2.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.

2.1.9 Nothing in policy 2.1 is intended to limit the ability of agricultural uses to continue.

Policy 4.7 of the PPS describes the importance of official plans for comprehensive, integrated and long-term implementation of the PPS. The Official Plans of municipalities identify provincial interests and set out appropriate land use designations and policies.

2.4 Protection for Species at Risk

For the purpose of this study, Species at Risk (SAR) are defined as species listed as endangered (END), threatened (THR), or special concern (SC) under the provincial *Endangered Species Act* (ESA) and/or the federal *Species at Risk Act* (SARA).

The SARA enacts a broad prohibition against “killing, harming, harassing, capturing or taking an individual of a wildlife species that is listed as an extirpated species, an endangered species, or a threatened species”. Similarly, the SARA prohibits the destruction of the “residence” (e.g., den, nest, or other dwelling place) of species at risk. However, these prohibitions generally do not apply to species on provincial lands unless they are aquatic species or birds protected under the *Migratory Birds Convention Act*.

Under the ESA, species listed provincially as threatened, endangered or extirpated receive regulatory protection as individuals. The habitat of these species also receives protection to include:

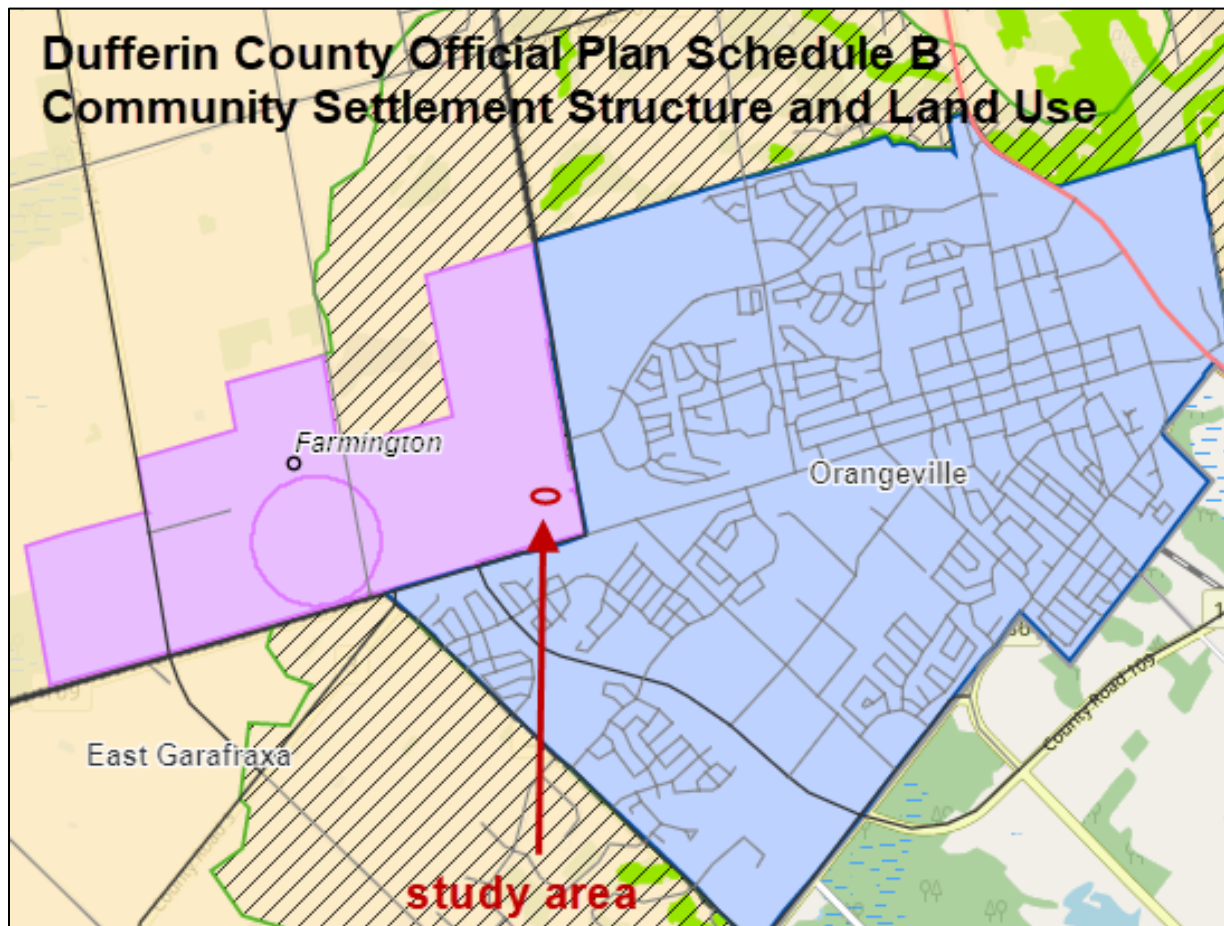
- The area on which a species depends directly or indirectly to carry out its life processes (under clause 2(1)(b) of the Act, and commonly referred to as the general habitat of a species) or,
- The area prescribed for a species in a habitat regulation (under clause 2(1)(a) of the Act, and commonly referred to as the regulated habitat of a species). A habitat regulation may prescribe an area as the habitat of a species by describing the boundaries of the area, by describing the features of the area, or by describing the area in any other manner. Unlike the general habitat of a species, a habitat regulation may include areas currently unoccupied by the species such as areas where the species formerly occurred or areas where there is the potential to re-establish the species (subsection 2(2)). These areas are commonly referred to as “recovery habitat”. Regulated habitat may be smaller or larger than general habitat.
- Both general habitat and regulated habitat include places that the species uses as dens, nests, hibernacula or other residences.

Although habitat of special concern species does not receive regulatory protection under either the ESA, it is considered provincially significant wildlife habitat (SWH) and thus be protected under municipal policy and the Provincial Policy Statement, 2020 (PPS).

2.5 Official Plan

2.5.1 Dufferin County Official Plan (2017)

The study area is located directly east of the Town of Orangeville municipal limits and within the Farmington Settlement Area according to Schedule B Community Settlement Structure and Land Use mapping shown below (Dufferin County, 2017).



This area is identified in Dufferin County Official Plan Schedule E1 Natural Heritage System mapping as 'protected countryside' and part of the Greenbelt Plan Area. The site also falls within the County's Preliminary Natural Heritage System which "includes the Provincial Plan natural heritage systems, as well as the natural heritage features and areas that are identified on Schedule E, in addition to watercourses, and associated flooding hazards, steep slopes, unstable soils and erosion hazards, which establish linkages between the natural heritage features and areas" (Dufferin County, 2017).

2.6 Credit Valley Conservation Authority

The existing well site is within the area regulated by the Credit Valley Conservation (CVC) under the *Regulation of Development, Interference with Wetlands and Alterations*

to Shorelines and Watercourses (Ontario Regulation [O. Reg.] 160/06) as shown in **Figure 1**.

3.0 Existing Conditions – Desktop Review

The documentation of existing conditions began with a review of secondary source information. The following resources were used to characterize the study area in the context of natural heritage, including the following:

- Aerial imagery;
- MNDMNRF Natural Heritage Information Centre (NHIC) database;
- MNDMNRF Land Information Ontario data (fisheries, woodlands, wetlands, wildlife habitat, significant natural areas);
- Department of Fisheries and Oceans (DFO) mapping for aquatic species at risk (SAR);
- The Consolidated Dufferin County Official Plan (Dufferin County, 2017); and,
- Credit River Watershed and Region of Peel Natural Areas Inventories –Volume 9 (CVC, 2021).

3.1 Physiography and Soils

Secondary sources identify the study area as within the Kame Moraines physiographic region. Chapman and Putnam (1984) describe the melting and retreat of the glacier in this area of Ontario as consisting of several lobes which first split apart near Orangeville and Waterloo. Drainage flowing into the crease between the lobes brought in sand and gravel and built the Orangeville Moraine. The sand contains a good deal of calcite while the gravel includes a sprinkling of siltstone, both from east of the Niagara Escarpment. The glaciers also left behind spillways, which today are important sources of gravel. Gravel can be found in many pockets around the County, but the most important deposits are north of Orangeville and in the Grand River Valley. Hoffman et al. 1964 describe soils in the area of Well 5/5A as part of the Brady and Hillsburgh series, both comprised of sandy loam with imperfect and good drainage, respectively.

3.2 Designated Natural Areas

The project area was screened for any designations within various local, regional and provincial policies, the results of which are noted in the following sections.

3.2.1 Areas of Natural and Scientific Interest (ANSIs)

Provincially significant Areas of Natural and Scientific Interest (ANSI) are determined by the MNDMNRF. The agency defines ANSIs as “lands and waters with features that are

important for natural heritage protection, appreciation, scientific study or education”. No ANSIs are present within, or in proximity to, the Study Area.

3.2.2 Significant Wetlands

The potential occurrence of wetland features was screened through a review of available GIS data layers provided by MNDMNRF. Three types of wetland features are identified in MNDMNRF data layers: provincially significant wetlands (PSWs), unevaluated wetlands and other wetlands. The status of wetlands is determined through the application of the Ontario Wetland Evaluation System (OWES). PSWs are those for which an OWES evaluation has resulted in a score sufficient to qualify as a provincially significant feature. Unevaluated wetlands are wetland features that have not undergone an OWES evaluation; and, those presented as evaluated or as ‘other’ wetlands are features where an OWES evaluation has been completed and the resulting score was insufficient to qualify as a provincially significant feature. However, evaluated/other wetlands may also be considered locally significant. MNDMNRF identifies an unevaluated wetland feature within the northwest corner of the Study Area but outside of the Focused Study Area (**Figure 1**).

3.2.3 Significant Woodland

The Dufferin County Official Plan doesn’t include criteria to determine the significance of woodlands shown on Schedule E; however, it does provide the following guidance specific to the significance of woodlands under Policy 5.3 (b):

A woodland would be classified as being significant if it is determined to be an area which is ecologically important in terms of features such as species composition, age of trees and stand history; functionally important due to its contribution to the broader landscape because of its location, size or due to the amount of forest cover in the planning area; or economically important due to site quality, species composition, or past management history.

3.2.4 Significant Valleyland

The Dufferin County Official Plan does not contain criteria to determine whether valleylands are significant; however, it does provide the following guidance specific to the significance of woodlands under Policy 5.3 (c):

[Valleylands] would be considered significant if they are considered to be ecologically important in terms of features, functions, representation or amount, and contributing to the quality and diversity of an identifiable geographic area or natural heritage system.

3.2.5 Environmentally Sensitive Areas

The CVC Natural Areas Inventory (CVC, 2021) does not include data for natural areas within or in proximity to the Well 5/5A Study Area (CVC, 2021).

3.3 Vegetation and Vegetation Communities

An initial natural heritage screening was conducted to identify natural areas within the Study Area. The geographical extent, composition, structure, and function of the vegetation communities were reviewed through interpretation of current aerial imagery. Results of this screening identified a wooded area throughout the majority of the Study Area surrounding the wells, and a large unevaluated wetland along the western boundary.

3.4 Wildlife and Wildlife Habitat

A total of 12 bird species were identified in proximity to the Study Area through review of secondary sources. A list of the wildlife species records compiled for the project is provided in **Appendix A**. Given that the data records incorporate areas outside of the immediate area, not all species listed necessarily occur within the Study Area. The intent of the wildlife list generated through desktop review was to identify species with the potential to occur across the larger geographic setting, and in particular whether SAR are identified in local records.

Of the bird species listed in **Appendix A**, one species is identified as a SAR, one species is protected under the *Fish and Wildlife Conservation Act* (FWCA) and seven species are protected under the MBCA.

3.5 Fisheries and Aquatic Habitat

Fisheries records for Mill Creek downstream of Broadway (MH-0143-MIL in **Figure 1**) were obtained from the MNDMNRF database. The species, provincial rankings, preferred thermal regimes and tolerance to environmental stresses are summarized in **Table 1**.

3.5.1 Mill Creek

The Study Area is located within the Upper Credit River Watershed, and more specifically within the Orangeville Subwatershed. A review of available background information identified the headwaters of Mill Creek flowing through the project area from west to east. The closest aquatic monitoring stations for the CVC's Integrated Watershed Monitoring Program are approximately 1 km and 4 km downstream of the Study Area. Mill Creek in the Study Area is described as a coldwater creek, with a water quality index rating of "good" downstream of the Well 5 site (CVC, 2019). However, the results of both the fish biotic index and aquatic invertebrate family biotic index identify the reach further downstream of the Study Area as "poor". The fish assemblage downstream of the Study Area at Station MH-0143-MIL (**Table 1**) is dominated by coolwater species.

Table 1: MNDMNR Fish Species Occurrence Records for Mill Creek Station MH-0143-MIL (Figure 1).

Common Name	Scientific Name	Thermal Regime	Tolerance	G Rank	S Rank	COSEWIC Status	SARA Status	SARO Status
Western Blacknose	<i>Rhinichthys obtusus</i>	coolwater	intermediate	G5	S5	none		none
Blacknose Shiner	<i>Notropis heterolepis</i>	coolwater	intolerant	G5	S5	none		none
Bluegill	<i>Lepomis macrochirus</i>	warmwater	intermediate	G5	S5	none		none
Bluntnose Minnow	<i>Pimephales notatus</i>	warmwater	moderately tolerant	G5	S5	NAR		NAR
Brassy Minnow	<i>Hybognathus</i>	coolwater	intermediate	G5	S5	none		none
Brook Trout	<i>Salvelinus fontinalis</i>	coldwater	intolerant	G5	S5	none		none
Brook Stickleback	<i>Culaea inconstans</i>	coolwater	intermediate	G5	S5	none		none
Central Mudminnow	<i>Umbra limi</i>	coolwater	tolerant	G5	S5	none		none
Common Shiner	<i>Luxilus cornutus</i>	coolwater	moderately tolerant	G5	S5	none		none
Creek Chub	<i>Semotilus atromaculatus</i>	coolwater	intermediate	G5	S5	none		none
Fathead Minnow	<i>Pimephales promelas</i>	warmwater	tolerant	G5	S5	none		none
Finescale Dace	<i>Chrosomus neogaeus</i>	coolwater	intermediate	G5	S5	none		none
Golden Shiner	<i>Notemigonus crysoleucas</i>	coolwater	moderately tolerant of turbidity	G5	S5	none		none
Largemouth Bass	<i>Micropterus salmoides</i>	warmwater	moderately tolerant	G5	S5	none		none
Longnose Dace	<i>Rhinichthys cataractae</i>	coolwater	moderately tolerant	G5	S5	none		none
Northern Redbelly	<i>Chrosomus eos</i>	coolwater	intermediate	G5	S5	none		none
Pumpkinseed	<i>Lepomis gibbosus</i>	warmwater	intermediate	G5	S5	none		none
White Sucker	<i>Catostomus commersonii</i>	coolwater	generally tolerant	G5	S5	none		none

Species Information Source: Eakins, R. J. 2018. Ontario Freshwater Fishes Life History Database. Version 4.82. On-line database <http://www.ontariofishes.ca>
ESA; Ontario Endangered Species Act, 2007

END-Endangered; a species facing imminent extinction or extirpation in Ontario which is candidate for regulation under Ontario's ESA.

EXP-Extirpated; a species that no longer exists in the wild in Ontario but exists elsewhere.

THR-Threatened; a species that is at risk of becoming endangered in Ontario if limiting factors are not reversed.

SC-Special Concern; a species with characteristics that make it sensitive to human activities or natural events.

NAR - evaluated as not at risk

SARA; Species at Risk Act Schedule 1- official list of wildlife species at risk

THR-threatened; a wildlife species likely to become endangered if limiting factors are not reversed. END-endangered; a wildlife species facing imminent extirpation or extinction. EXT-extirpated; a species no longer existing in the wild in Canada but occurring elsewhere. SC-special concern; a wildlife species that may become a threatened or an endangered species because of a combination of biological characteristics and identified threats

3.6 Species at Risk

The provincial *Endangered Species Act, 2007* (ESA) provides legislation to protect individuals and habitat of species at risk in Ontario. The Committee on the Status of Species at Risk in Ontario (COSSARO) is an independent body that classifies native plants or animals in one of four categories (extirpated, endangered, threatened, special concern). Those species assessed as special concern do not receive species or habitat protection under the ESA; however, their management is encouraged in order to prevent them from becoming further at risk. Habitat of these species also qualifies as significant wildlife habitat.

The MNDMNRF maintains a database of SAR through the NHIC which organizes data into a 1 km x 1 km grid. The project area is located within Square ID 967826. The database search returned records for only one threatened species: Eastern Meadowlark (*Sturnella magna*). Given the extent of the NHIC square, this record may not be specific to the Study Area. Appropriate habitat (woodland) for Ontario's four endangered bats: Eastern Small-footed Myotis (*Myotis leibii*); Little Brown Myotis (*Myotis lucifugus*); Tri-colored Bat (*Perimyotis subflavus*); and, Northern Myotis (*Myotis septentrionalis*) is found in the Study Area.

Migratory birds and aquatic species at risk are also provided protection under the federal *Species at Risk Act, 2002* (SARA). The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) provides advice to government on the status of wildlife species. Schedule 1 of the SARA is the official list of wildlife species at risk in Canada. DFO's Aquatic Species at Risk Mapping was reviewed for the Study Area. No critical habitat for aquatic SAR was found within one kilometre.

A screening of available habitat was completed for the project area in the context of the SAR records noted above as well as any additional SAR identified through review of other secondary source data. The results of the screening are provided in **Appendix C**.

4.0 Existing Conditions – Field Investigations

Field visits were conducted in 2021 and 2022 to confirm conditions on site during the growing season for vegetation and active season for wildlife. **Table 2** present the details of the field investigations.

Table 2: Summary of Dates and Tasks for Biophysical Inventories

Date of Inventory	Focus of Field Inventory	Weather
August 10, 2021	Headwater feature assessment (Mill Creek) Wildlife Habitat Assessment	Dry condition assessment 28°C, partly sunny
September 10, 2021	Ecological Land Classification (ELC) Plant Inventory	24°C, partly sunny
April 29, 2022	Amphibian calling survey	10°C, light rain
May 17, 2022	Amphibian calling survey	18°C, light wind
June 8, 2022	Headwater feature assessment (Mill Creek)	Wet weather assessment
June 13, 2022	Breeding Bird Survey, Incidental Wildlife, Wildlife Habitat	Clear, 13°C, calm
June 23, 2022	Breeding Bird Survey, Incidental Wildlife, Wildlife Habitat	Clear, 16°C, calm
June 30, 2022	Botanical screening and ELC update to include additional area north of the Focused Study Area	26°C, partly sunny
July 27, 2022	Butternut Health Assessment	26°C, partly sunny

4.1 Methods

4.1.1 Vegetation and Vegetation Communities

The geographical extent and composition of vegetation communities were initially reviewed through interpretation of aerial imagery for the project area. A field investigation was then conducted on September 10, 2021 for areas where property access was provided (or from nearest accessible vantage point). Given that preliminary planning suggested that design alternatives would be within the well site, the botanical inventory focused on the Focused Study Area. Natural heritage vegetation communities were classified according to the *Ecological Land Classification for Southern Ontario: First Approximation and Its Application* (Lee et al. 1998). The objective of the field effort was to classify the natural vegetation communities and acquire a flora species inventory within the Focused Study Area. Local plant species status was reviewed against that of Dufferin County (Riley et al., 1989) and Credit Valley Conservation Authority (CVC, 2002). Vegetation community status was reviewed for Ontario (NHIC, 1997). Vascular

plant nomenclature follows Newmaster *et al.* (1998) with a few exceptions that have been updated to Newmaster (2012).

In 2022 the potential for design alternatives to extend north of the Focused Study Area was identified by the project team. In response, an LGL botanist conducted a site visit on June 30, 2022 to update the ELC and botanical inventory in that area.

4.1.2 Wildlife and Wildlife Habitat

Wildlife observations were completed during each site visit through pedestrian survey of the Focused Study Area in natural areas and where structures with the potential to provide habitat (e.g., buildings, culverts) were found. Wildlife identification was completed through visual and auditory observations as well as indirect incidental evidence (i.e., tracks, scat, and scents).

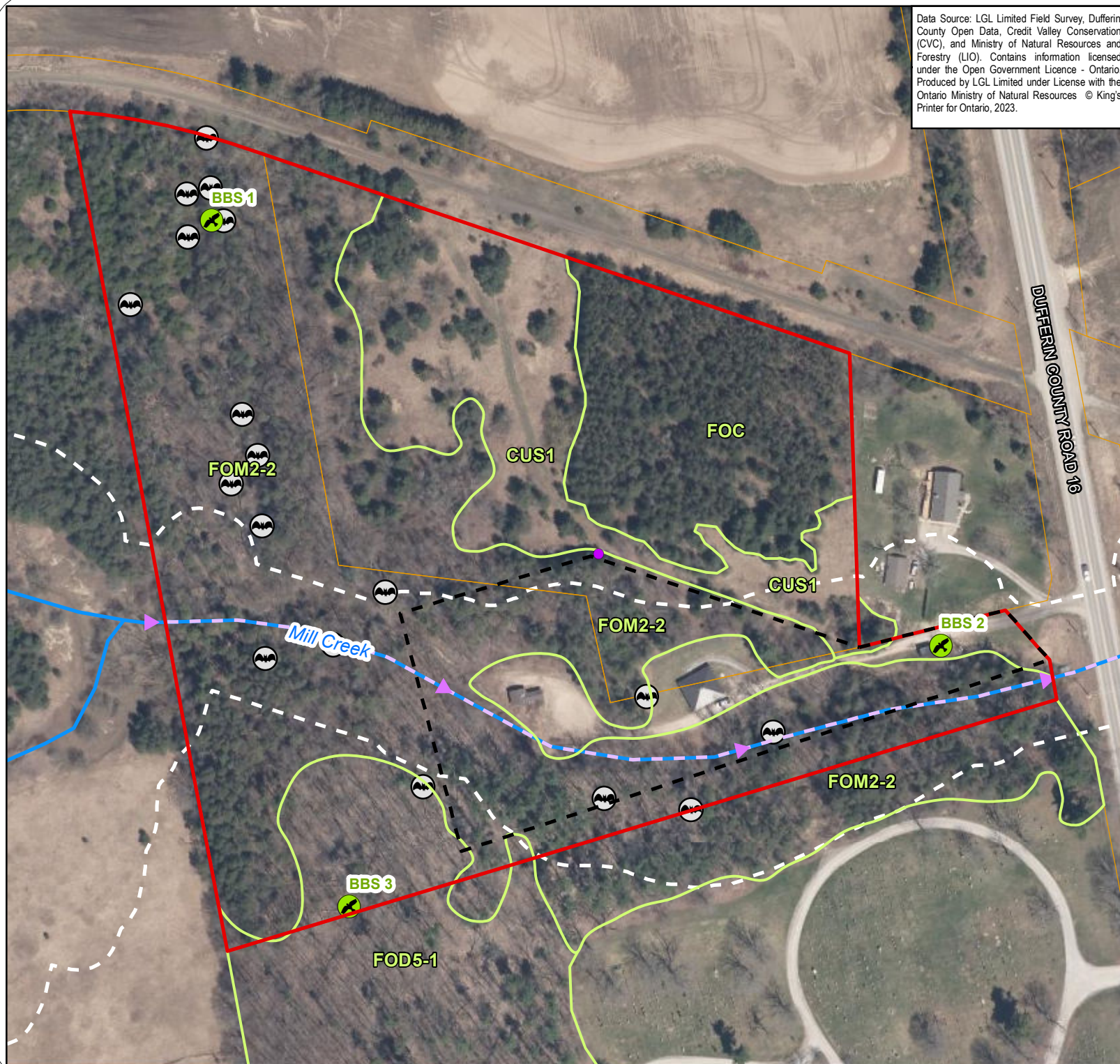
Desktop review of the Study Area identified a wetland feature along the western boundary, therefore amphibian calling surveys were conducted according to the Marsh Monitoring Protocol for vocalizing frogs (Bird Studies Canada 2008). The protocol requires the collection of call data from fixed stations over three survey periods during the spring and early summer (April to early July), with an interval of at least 15 days between surveys. Surveys occur in the evening hours under appropriate weather conditions (i.e., little wind and a minimum air temperature of 5°C, 10°C, and 17°C for each respective survey period).

Breeding bird surveys were conducted in accordance with the Ontario Breeding Bird Atlas Protocol (2001), with breeding evidence for each species documented using the codes shown in **Appendix B**. Three breeding bird survey stations were established and wandering transects were also used to record incidental bird species. The locations of the breeding bird point count stations are shown in **Figure 2**.

All wildlife observations were screened for those listed as at risk provincially, federally, or of local concern.

4.1.3 Aquatic Habitat

The objective of site investigation as it pertained to surface water features was to supplement the data collected through background review to include a description of the watercourse in sufficient detail to allow for the evaluation of alternative design solutions for the project. LGL conducted field visits on August 10, 2021 (during dry conditions) and on June 8, 2022 (following a rain event) to document conditions of the regulated watercourse (Mill Creek) that was identified to cross the Study Area in available MNDSMRF LIO mapping (**Figure 1**).

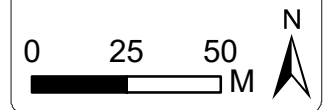


Data Source: LGL Limited Field Survey, Dufferin County Open Data, Credit Valley Conservation (CVC), and Ministry of Natural Resources and Forestry (LIO). Contains information licensed under the Open Government Licence - Ontario. Produced by LGL Limited under License with the Ontario Ministry of Natural Resources © King's Printer for Ontario, 2023.

LEGEND

- Study Area
- Focused Study Area
- Breeding Bird Survey Location
- Butternut Assessed as Non-Retainable
- Candidate Bat Tree
- Intermittent Flow Channel
- Watercourse - Cold Thermal Regime
- Assessment Parcel
- Approximate Regulation Limit (CVC)
- Vegetation Community Boundary

- FOC** Coniferous Forest
- FOD5-1** Dry-Fresh Sugar Maple Deciduous Forest Type
- FOM2-2** Dry-Fresh White Pine-Sugar Maple Mixed Forest Type
- CUS1** Mineral Cultural Savannah Ecosite



Well 5/5A Existing Conditions



Project	TA9150	Figure	2
Date	January 24, 2023	Prepared By:	AM
Scale	1:2,000	Verified By:	LR

4.2 Results

4.2.1 Vegetation and Vegetation Communities

4.2.1.1 Vegetation Communities

Table 3 provides a summary of the vegetation communities documented within the Study Area. Three vegetation community types were documented within the Focused Study Area to include Dry-Fresh White Pine-Sugar Maple Mixed Forest (FOM2-2), Dry-Fresh Sugar Maple Deciduous Forest (FOD5-1), and Mineral Cultural Savannah (CUS1). The existing well site lies within the FOM2-2 community.

4.2.1.2 Vegetation

A total of 60 species were inventoried within the vegetation communities displayed in **Figure 2** and summarized in **Table 3**. A complete list of vascular plant species documented can be found in **Appendix A**. A total of 80 percent of the plant species identified on site are considered native to Ontario, while the remaining 20 percent are considered introduced and non-native to the province. One provincially listed plant species at risk (Butternut; *Juglans cinerea*) was found during the June 2022 field investigations along the edge of the Focused Study Area.

Table 3 Ecological Land Classification (ELC) of Vegetation Communities within the Study Area.

ECL Code	Vegetation Type	Species Association	Community Characteristics
TERRESTRIAL- NATURAL/ SEMI-NATURAL			
FOM	Mixed Forest		
FOM2	Dry-Fresh White Pine-Maple-Oak Mixed Forest		
FOM2-2	Dry-Fresh White Pine-Sugar Maple Mixed Forest Type	Canopy: white pine (<i>Pinus strobus</i>) and sugar maple (<i>Acer saccharum</i> spp. <i>saccharum</i>) dominant. Understory: Mix of black cherry (<i>Prunus serotina</i>), eastern white cedar, and other mixed species Ground Cover: Mix of several species including lily-of-the-valley (<i>Convallaria majalis</i>), wild black current (<i>Ribes americanum</i>), northern lady fern (<i>Athyrium filix-femina</i> var. <i>angustum</i>), and trillium (<i>Trillium</i> sp.)	Tree cover >60% (FO). Coniferous trees >25% and deciduous trees >25% of canopy cover (M). Fresh to moist soils. Dominated by Pine and Maple (2-2).

ECL Code	Vegetation Type	Species Association	Community Characteristics
		Note: Butternut (<i>Juglans cinerea</i>) observed at community edge.	
FOD	Deciduous Forest		
FOD5	Dry-Fresh Sugar Maple Deciduous Forest		
FOD5-1	Dry-Fresh Sugar Maple Deciduous Forest Type	Canopy: Sugar Maple dominant. Ground cover: Mix of several species including wild sarsaparilla (<i>Aralia nudicaulis</i>), lily-of-the-valley, and common helleborine (<i>Epipactis helleborine</i>).	Tree cover >60% (FO). Deciduous trees >75% of canopy cover (D). Sugar maple dominant (5-1).
TERRESTRIAL- CULTURAL			
CUS	Cultural Savannah		
CUS1	Mineral Cultural Savannah	Trees: Mix of Scots Pine (<i>Pinus sylvestris</i>), Manitoba Maple (<i>Acer negundo</i>), Austrian Pine (<i>Pinus nigra</i>), Weeping Willow (<i>Salix x Sepulcralis</i>), and Sugar Maple (<i>Acer saccharum</i> ssp. <i>Saccharum</i>). Ground cover: Mix of mostly Canada Goldenrod (<i>Solidago canadensis</i>), Catchfly (<i>Silene vulgaris</i>), and Awnless Brome (<i>Bromus inermis</i> ssp. <i>inermis</i>).	Community resulting from, or maintained by, cultural or anthropogenic-based disturbances. Often having a large proportion of non-native plant species. 25% < tree cover < 35%.

4.2.2 Wildlife and Wildlife Habitat

4.2.2.1 Wildlife

A total of 40 wildlife species were observed by LGL within the Study Area; this includes five mammals, 33 bird species, and two invertebrates (**Appendix B**). One bird species, Eastern Wood-Pewee (*Contopus virens*), is listed on the Species at Risk List for Ontario as Special Concern. All the other species observed are considered secure and common to the community types found within the Study Area.

4.2.2.2 Birds

Twenty-eight of the bird species observed are considered migratory and are regulated under the MBCA. The MBCA prohibits the killing, capturing, injuring, taking or disturbing of migratory birds (including eggs) or the damaging, destroying, removing or disturbing of nests. While migratory insectivorous and non-game birds are protected year-round, migratory game birds are only protected from March 10 to September 1.

Three species [Blue Jay (*Cyanocitta cristata*), Common Raven (*Corvus corax*) and Great Horned Owl (*Bubo virginianus*)] are protected under the *Fish and Wildlife Conventions Act*. Three bird species observed are not under any legislative protection: American Crow (*Corvus brachyrhynchos*), Brown-headed Cowbird (*Molothrus ater*), and Common Grackle (*Quiscalus quiscula*). Four species [American Redstart (*Setophaga ruticilla*), Hairy Woodpecker (*Picoides villosus*), Pileated Woodpecker (*Dryocopus pileatus*) and Red-breasted Nuthatch (*Sitta canadensis*)] are considered area sensitive according to the *Significant Wildlife Habitat Technical Guide* (SWHTG, 2000). American Redstart, Pileated Woodpecker and Purple Finch are also identified as a high priority (Level 2) species in Wellington County.

Nine bird species are considered probable breeders within the Study Area based on pairs being observed or presumed territory. Seventeen bird species are considered possible based on singing males and species being observed in suitable nesting habitat. All other species were incidentally observed during field visits. During the August 2021 field visit, evidence of breeding was found for both the American Robin (*Turdus migratorius*) and Eastern Phoebe (*Sayornis phoebe*), with nests found on buildings within the well site.

4.2.2.3 Mammals

Five mammals were identified during field investigations in the Study Area including Red Squirrel (*Tamiasciurus hudsonicus*), Eastern Grey Squirrel (*Sciurus carolinensis*), White-tailed Deer (*Odocoileus virginianus*), Eastern Chipmunk (*Tamias striatus*) and Porcupine (*Erithizon dorsatum*). Four of the five mammal species identified in the Study Area are protected under the *Fish and Wildlife Conventions Act* with the Red Squirrel categorized as furbearing, Eastern Grey Squirrel and White-tailed Deer categorized as game species, and Eastern Chipmunk categorized as protected. The mammal species documented represent an assemblage that readily utilizes human influenced landscapes.

4.2.2.4 Amphibians

Evening surveys were conducted to satisfy the first two visits for calling frogs according to the Marsh Monitoring Protocol, as described in Section 4.1.2. No calling was heard during either survey and field investigations confirmed the area identified in LIO data

layers as wetland is comprised of dry upland forest lacking vernal pools. No amphibian breeding habitat was found within the Study Area.

4.2.2.5 Wildlife Habitat

Within the Focused Study Area, the forested communities (FOM2-2 and FOD5-1) surrounding the well property represent the most natural habitat available for wildlife while the buildings on the site are most suitable for urban-tolerant species that utilize structures for roosting or nesting. The FOD and FOM communities represent a linkage opportunity for plants and wildlife as they connect to a contiguous forest that extends beyond the limits of the Study Area.

The headwaters of Mill Creek within the study area were dry during the August 2022 site visit, and deer evidence within the dry creek was noted, suggesting that it is seasonally used as a movement corridor.

During field investigations a Great Horned Owl was found perched in one of the mature trees directly adjacent to the well site to the north. Given that the observation of this species was outside of the breeding period specific habitat function of the study area is unknown. The woodland may afford shelter, habitat, and food opportunities for other wildlife as well.

Trees with diameter >10 cm with sloughing bark or cavities have the potential to support maternal roosting habitat for bats (MNRF Guelph District, 2017). Bat maternal roosting is identified as a type of significant wildlife habitat (SWH) to be considered in Ecoregion 7E (MNRF, 2015). The criterion for significance is that a minimum of 10 cavity/snag trees per hectare of wooded habitat be present. Although trees in various stages of decay were observed and documented during field investigations (**Figure 2**), a full cavity/snag assessment was not completed for the entire woodland community.

4.2.3 Aquatic Habitat

In MNDMNRF LIO data, the headwaters of Mill Creek were identified to cross the Study Area in proximity to the existing well site (**Figure 1**). The feature as observed by LGL biologists on August 10, 2021 and June 8, 2022, consists of an intermittent swale which traverses the southern portion of the study lands. The channel originates in a meadow area at a higher elevation area to the west of the Study Area limits. The poorly defined channel proceeds easterly through the meadow (off-site) prior to entering the FOM2-2 community, where the channel begins to gain definition of bed and banks along with formal substrates. A mix of coarse (rubble and gravel) substrates covered in moss, and fine textured substrates (sand, clay and/or silt) were observed throughout the reach in the Study Area. No groundwater seepage, wetland function or other sources of discharge were found associated with the channel. The channel proceeds mostly in a straight alignment with little meandering, toward County Road 16 where a large

diameter (approx. 1500 mm dia.) ovalized CSP conveys flows across the roadway to the east.

This feature appears to support intermittent flow with rapid infiltration subsequent to spring freshet and following large rain events. The June 8, 2022 visit followed a heavy rain event in which dry conditions were observed in the channel, confirming the intermittent flow regime of the channel in the study area. The channel is likely wet for a short period during the spring freshet, although it is expected that conditions dry quickly due to infiltration and the small catchment/headwater nature of the feature. The channel can be classified as intermittent flow/indirect fish habitat with a contributing function to downstream fish-bearing reaches. The feature is shown in **Appendix D**, Photos 1 to 6.

4.3 Species at Risk

Eastern Wood-Pewee which is listed on the Species at Risk List for Ontario as Special Concern was documented in the Study Area as a probable breeder. A Butternut (Endangered) was found along the northern edge of the Focused Study Area and the FOM2-2 community (**Figure 2**). A Butternut Health Assessment (BHA) was completed on July 26, 2022 which assessed the tree as Category 1 (non-retainable). The BHA was submitted to MECP and provided to the Town under separate cover as per ESA regulations. Category 1 trees are exempt from Clause 9(1) of the ESA (O.Reg. 830/21).

Milkweed plants with the potential to support Monarch (also listed as special concern) were observed in the CUS1 community.

The forested communities in the Study Area also provide candidate habitat for species at risk bats. A screening of available habitat in the Study Area was completed in the context of the SAR records noted through review of secondary source data (Section 3.6) and field inventory. The results of the screening are provided in **Appendix C** along with recommendations for future design phases.

5.0 Summary of Existing Conditions and Constraints



Natural heritage within the Focused Study Area includes the headwaters of Mill Creek and mature mixed and deciduous forests. The disturbed well site is surrounded by the forest communities. It is recommended that alternatives for the project make use of the disturbed well site and avoid intrusion into woodland habitat to the extent possible. The woodland communities support breeding birds protected under the MBCA and represent candidate habitat for bat maternal roosting (including SAR bats). Mill Creek is classified as indirect fish habitat with intermittent flow supporting downstream fish-bearing reaches. To comply with the requirements of the MBCA, it is recommended that disturbance, clearing or disruption of vegetation be completed outside the window of April 1 to August 31 to avoid the breeding season for the majority of the species protected under the Act. Tree removal or pruning of any mature open grown trees with the potential to provide roosting habitat for bats (i.e., suitable cavities) should be completed outside of the roosting period of April 1 to September 30 (to be confirmed with MECP once tree impacts are better understood). Where impacts to trees part of wooded ELC communities are identified, additional inventory for SAR bats and/or acoustic surveys may be required; this is to be confirmed through MECP consultation.

6.0 Evaluation of Alternative Design Options 4A and 4B

Two shortlisted alternatives were provided to LGL Limited for evaluation from a natural environment perspective (Alternative 4A and Alternative 4B as shown in **Table 4**). The assessment of the design alternatives considered potential impacts to vegetation and vegetation communities, wildlife and wildlife habitat, aquatic habitat and species at risk. Given that the location and sizing of the proposed booster station is common across the two alternatives, the evaluation presented focuses primarily on the proposed location of a new standpipe and its connection to the water treatment plant (WTP). In July 2022, a butternut health assessment was completed on the butternut tree located along the FOM2-2 edge and within the footprint of Alternative 4A. The tree was found to be in poor health and assessed as non-retainable (therefore the ESA protections do not apply as per O.Reg. 830/21). Given the larger surface disturbance proposed for the WTP connection and access road part of Alternative 4A within natural features supporting SWH and candidate maternal roost habitat for bats, the preferred alternative from a natural environment perspective was identified as Alternative 4B.

Table 4. Evaluation of Alternatives

	Alternative 4A	Alternative 4B
Natural Heritage Existing Conditions Summary	<p>The project area does not include any provincially significant wetlands (PSWs) or Areas of Natural and Scientific Interest (ANSI). Within the project area, Mill Creek is classified as indirect fish habitat with intermittent flow supporting downstream fish-bearing reaches. The existing well and WTP are within the CVC Regulation Limit for Mill Creek. Forested communities support woodland birds, including Special Concern species (Eastern Wood Pewee), therefore these areas are identified as significant wildlife habitat (SWH). The forest communities also represent candidate habitat for roosting bats, including species at risk (SAR). A butternut tree (endangered species) is located along the border of the FOM2-2 and CUS1 communities. An assessment of the tree determined it to be non-retainable, therefore the provisions of the ESA do not apply to the tree (O.Reg. 830/21).</p> <p>Note: The evaluation of alternatives presented below assumes that no works are required within Mill Creek and that no creek re-alignment is necessary to accommodate either of the proposed alternatives. At the time of the evaluation the following information was provided by the engineering design team with regard to water takings:</p> <ul style="list-style-type: none"> • Operation of the Project will not result in any increase to the water takings beyond the current Permit to Take Water. • The extent of short-term water takings during construction (i.e., construction dewatering) is unknown at this time. This will be determined through Hydrogeological Assessment. <p>Therefore, potential drawdown effects are not part of the assessment that follows. The coldwater fishery supported by Mill Creek has the potential to be impacted by temporary or operational drawdown of the water table. The potential for effects should be revisited once additional detail is available.</p>	

	Alternative 4A	Alternative 4B
Description of Alternatives	 <p>A standpipe water reservoir is proposed to the north of the existing water treatment plant (WTP) in a cultural savannah (CUS1) vegetation community. Connection with the existing WTP will be constructed through a mixed forest (FOM2-2) community and include an access road to the standpipe to allow for future maintenance. The new booster pumping station is proposed in the same location as Alternative 4B - immediately west of the WTP along the edge of the mixed forest community. All components of this alternative are within the CVC Regulation Limit but separated from Mill Creek by the existing parking area and driveway.</p>	 <p>A standpipe water reservoir is proposed in the mixed forest (FOM2-2) vegetation community between the existing WTP and Well 5A. Connection with the existing WTP will cross through a small portion of the FOM2-2 community and along the edge of the disturbed/manicured area where the existing WTP is located. Given the proximity of this alternative to the existing driveway, no new access route is required for longer term maintenance of the new standpipe. The new booster pumping station is proposed in the same location as Alternative 4A - immediately west of the WTP along the edge of the mixed forest community. All components of this alternative are within the CVC Regulation Limit but separated from Mill Creek by the existing driveway.</p>

	Alternative 4A	Alternative 4B
Natural Environment Evaluation of Alternatives	Given that the location and sizing of the new booster station is common across the two alternatives, the evaluation that follows is largely focused on the proposed location of a new standpipe and its connection to the WTP.	
	This alternative proposes construction of a new standpipe within the cultural savannah community and requires a longer connection (approximately 170 metres) to the WTP through the FOM2-2 Dry-Fresh White Pine-Sugar Maple Mixed Forest community. A new access route is also required for long term maintenance of the new standpipe. Compared to Alternative 4B, this alternative represents a much larger footprint of both construction and operational disturbance within natural features supporting SWH, migratory birds and candidate maternal roost habitat for bats.	This alternative proposes construction of a new standpipe, with a relatively short connection (approximately 38 metres) through an area of FOM2-2 already fragmented by the existing well and WTP, and the manicured lawn adjacent to the WTP. Given the reduced size of the disturbance footprint (both temporary/construction and long term/operational) and the reduced sensitivity of the edge habitat affected, Alternative 4B is identified as the preferred alternative under the natural environment criteria.
NE Summary	least preferred	most preferred

7.0 Preferred Alternative

7.1 Description

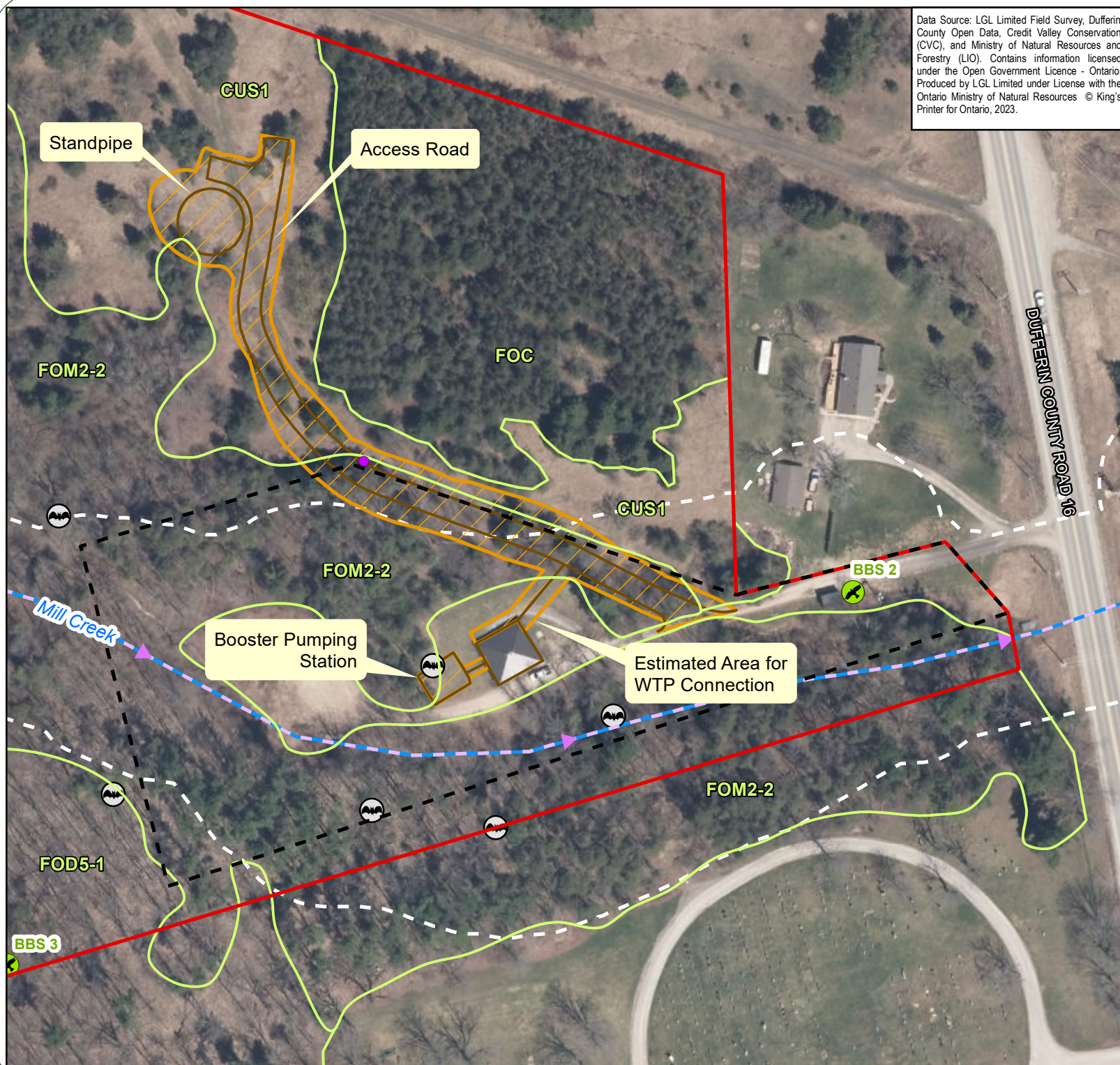
The project team evaluated each of the project alternatives against a wide variety of criteria (natural environment, social, technical, and financial) to identify the preferred design solution as Alternative 4A (**Figure 3**). The preferred design alternative includes construction of a new standpipe and booster station along with associated connections to the existing WTP and a new access road. The impact assessment considers all areas disturbed by project components (construction impacts delineated in **Figure 3**) and the ground cover type affected. Where above ground structures are proposed (i.e., standpipe, booster station, and access road) the disturbance is considered long-term/operational (i.e., permanent removal of vegetation). Construction laydown, storage and staging areas are not defined at this time; however, the assessment that follows assumes areas outside of existing vegetation communities (e.g., existing access road, parking and storage areas in **Figure 3**) will be used for that purpose.

7.2 Impact Assessment

Approximately 13% of the preferred alternative permanent footprint is sited outside of vegetation communities in areas previously disturbed by WTP operations. Approximately 52% of the footprint is located within the cultural savannah (CUS1) community and the remainder of the permanent footprint (35%) is within the mixed forest (FOM2-2) community (**Figure 3**). **Table 5** summarizes the areas of impact of the preferred design by type of ground cover. The permanent/operational footprint (standpipe, booster station and access road) will displace approximately 1,685 m² of natural vegetation part of the cultural savannah and woodland communities. Note, an area of 163 m² occupied by the existing WTP is included in these area calculations.

Table 5 Preferred Alternative Areas of Impact as approximated through GIS level of accuracy (Figure 3).

Groundcover Type	Area of Temporary Disturbance (m ²)	Area of Permanent Disturbance (m ²)
Cultural Savannah (CUS1)	1877.2	1009.1
White Pine-Sugar Maple Mixed Forest (FOM2-2)	1349.5	675.9
Disturbed areas (mowed lawn, gravel surface)	262.2	260.5
Total Area	3488.9	1945.5

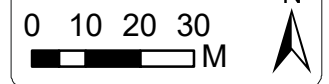


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LEGEND

- Study Area
- Focused Study Area
- Alternative 4B Impact Area - Construction
- Alternative 4B Impact Area - Operations
- Breeding Bird Survey Location
- Butternut Assessed as Non-Retainable
- Candidate Bat Tree
- Intermittent Flow Channel
- Watercourse - Cold Thermal Regime
- Approximate Regulation Limit (CVC)
- Vegetation Community Boundary

- FOC** Coniferous Forest
- FOD5-1** Dry-Fresh Sugar Maple Deciduous Forest Type
- FOM2-2** Dry-Fresh White Pine-Sugar Maple Mixed Forest Type
- CUS1** Mineral Cultural Savannah Ecosite



Well 5/5A Preferred Alternative



Project	TA9150	Figure	3
Date	February 2023	Prepared By:	AM
Scale	1:1,400	Verified By:	LR

7.3 Mitigation Recommendations

This section focuses on the potential effects of the project on natural features and outlines the protection/mitigation measures proposed to manage potential adverse effects on terrestrial and aquatic ecosystems. Environmental effects are identified based on the current level of design detail and the identified natural heritage sensitivities. As additional level of design detail becomes available (i.e., detailed design), the proposed environmental protection and mitigation strategies will need to be reviewed and updated, as necessary.

The potential for impacts associated with construction can first be mitigated through good project planning and use of best practices. Minimizing the extent of disturbance wherever possible through coordination of all projects related planning, including design, staging, and scheduling is key. This includes the incorporation of construction timing windows established for the protection of fish and wildlife, where identified, into the overall project schedule. Consideration should be given to staging/grouping of project activities in such a way that disturbance within the same area would be coordinated to limit the duration of impact. The extent of construction related activity can also be effectively isolated and secured from adjacent natural lands through clear delineation of the work site. The isolation of the work area will also discourage the entry of wildlife into the work zone, thereby minimizing incidental encounters and the risk of incidental wildlife mortality during construction.

7.3.1 Soils, Surface Water and Fish Habitat

Excavation and grading associated with construction have the potential to suspend soil particles, which could result in eroded materials inadvertently affecting vegetation, wildlife and fish habitat, including impairment of surface water quality.

Through a two-season field survey of Mill Creek, the feature was observed to support intermittent flow with rapid infiltration subsequent to spring freshet and following large rain events. The channel is likely wet for a short period during the spring freshet and expected to dry quickly due to infiltration and the small catchment/headwater nature of the feature. The channel was classified as intermittent flow/indirect fish habitat with a contributing function to downstream fish-bearing reaches.

Construction of the new booster station (approximately 285 m²) is proposed within 30m of Mill Creek. No works are proposed within the channel of Mill Creek; however, the proximity of project works to the creek have the potential to impact fish habitat. The creek intermittently contributes flow and allochthonous materials to downstream reaches of Mill Creek that support direct fish habitat. The mitigation measures for the protection of surface water features as described herein are meant to protect the indirect fish habitat within 30 metres of proposed project works. As additional design detail becomes available, the proposed environmental protection and mitigation

strategies for the protection of fish habitat will need to be reviewed and updated, as necessary.

At this point in the project design, the need for dewatering or pumping (drawdown effects) during construction are not well understood. Where it is determined in later stages of design that dewatering is required, that activity has the potential to impact water quantity or quality, thereby impacting downstream fish habitat. Dewatering may cause reduction in baseflow where groundwater contributions are reduced, or conversely, discharge back to surface features may cause temperature effects, alter flow regimes and result in erosion.

Site-specific erosion and sedimentation control measures will be identified during detailed design following the *Erosion and Sediment Control Guidelines for Urban Construction* (GGHA 2006). Erosion and sedimentation control measures should include:

- Placing silt fence along watercourses, ditches, and forest/woodland edges in areas of soil disturbance;
- Limiting the extent and duration that soils are exposed to the elements to the minimum area and time necessary to perform the work;
- Managing stormwater during construction to prevent contact with exposed soils;
- Monitoring and maintaining erosion and sedimentation control measures during construction to ensure their effectiveness; and,
- Directing any dewatering discharge to a sediment containment/filtration system or settling basin prior to release to a watercourse.

Erosion and Sediment Control (ESC) measures will be installed prior to construction and remain in place until construction is complete and soils have been re-stabilized. This will greatly reduce the potential for soil erosion, and sedimentation, impairment of surface water quality, and potential for impacts to fish habitat. The intermittent nature of the creek provides the opportunity for works within 30 metres to be completed during the dry season, further limiting the likelihood of water quality impacts.

The following measures are required to exclude silt, sediment, debris, petroleum-based substances and other deleterious materials from natural areas:

- Storage, stockpiling and staging areas will be delineated prior to construction and in accordance with the *Erosion and Sediment Control Guideline for Urban Construction* (GGHA 2006).
- An erosion and sediment control site specific plan will be developed that details the ESC plans and responsibilities to include the following, at minimum:
 - Ensuring that construction activities are adequately contained with Erosion and Sediment Control (ESC) measures to include silt fence along

- watercourses, ditches, and forest/woodland edges in areas of soil disturbance;
 - Limiting the extent and duration that soils are exposed to the elements to the minimum area and time necessary to perform the work;
 - Managing stormwater during construction to prevent contact with exposed soils;
 - Monitoring and maintaining erosion and sedimentation control measures during construction to ensure their effectiveness;
 - Intercepting sediment laden drainage as close to the source as possible; and,
 - Ensuring the contractor has supplemental ESC measures available on site that can be utilized, should additional ESC measures be warranted.
- Construction material, debris, and empty containers will be stored at least 30 m from watercourses to prevent their entry into watercourses;
 - Equipment refueling, maintenance and washing activities will be conducted at a pre-determined site located at an adequate distance (minimum 30 m) from surface water features and their banks located within the study area to prevent the entry of petroleum, oil, lubricants, or other deleterious substances (including any debris, waste, rubble or concrete material) into watercourses, or their release to the environment. Any material which inadvertently enters a surface water feature will be removed by the Contractor in a manner satisfactory to the Contract Administrator;
 - All spills that could potentially cause damage to the environment will be reported to the Spills Action Centre of the MECP. In the event of a spill, containment and clean-up will be completed quickly and effectively. In addition, a Spill Prevention and Response Contingency Plan must be included in the contract package to ensure the appropriate contingency materials to absorb or contain any petroleum products/spills that may be accidentally discharged will be on site at all times; and,
 - Riparian areas within 30 metres of surface water features will be revegetated and/or covered with an erosion control blanket as required until such time that vegetation cover can be established.
 - Where a need for dewatering is identified, a detailed Dewatering Plan should be developed in accordance with MECP guidance to include the following, at minimum:
 - Ensure dewatering activities are addressed in site specific Environmental

- Management Plans to address alterations to baseflow and discharge of water back to surface features (from both a quantity and quality aspect);
- Maintain existing flow patterns to avoid changing character of vegetation communities and habitat functions; and,
 - Filter groundwater discharge prior to it entering a surface water feature using a treatment train approach (i.e., via tanks, dewatering pads, filter bags) prior to being released.

The above environmental protection measures will serve to minimize the potential for impacts to surface water and aquatic habitat quality and provide contingency in the case of an unforeseen event.

7.3.2 Vegetation and Vegetation Communities

No provincially designated features (i.e., PSWs or ANSIs) are located within the study area or its vicinity. Construction of new infrastructure will result in the displacement of, and disturbance to, vegetation and vegetation communities. All of the vegetation communities identified within the study area are considered widespread and common in Ontario and secure globally. The recommended project design impacts cultural savannah and mixed forest communities. **Table 5** provides a summary of the vegetation removals proposed.

The study area has been screened for plant species at risk. One Butternut tree, a species regulated as Endangered by the Ontario *Endangered Species Act*, 2007, was identified along the edge of the FOM2-2 community (see **Figure 3**). A Butternut Health Assessment (BHA) was completed on July 26, 2022 which assessed the tree as Category 1 (non-retainable). The BHA was submitted to MECP and provided to the Town under separate cover as per ESA regulations. Category 1 trees are exempt from Clause 9(1) of the ESA (O.Reg. 830/21).

The following potential effects on vegetation are noted:

- Loss of vegetation part of cultural savannah and mixed forest communities;
- Tree removals/pruning along edge of the hedgerow to accommodate entrance into the site;
- Works in proximity to woodland edges (e.g., booster station) may result in impacts as a result of damage to the root zones and/or canopy of trees along the feature edge; and,
- Erosion of exposed sediments may result in sediment migration into vegetation communities via site run-off from ground disturbance and from potential dewatering activities.

Mitigation measures listed below will be revised accordingly during detailed design. At a minimum, the following protection/mitigation measures will be implemented to ensure the protection of vegetation and vegetation communities to the extent possible:

- Given the relatively high quality of vegetation observed in the project area (80% native species), it is recommended that construction options for the connections between the proposed standpipe and the existing WTP through the mixed forest community be explored in detailed design. For example, refinement of the access road alignment and/or road width could be considered to minimize tree removals and confine tree removals to feature edges where possible.
- A tree inventory to include grading limits, and staging, storage and laydown areas will be completed at detailed design to determine tree impacts and refine the project design to minimize impacts to the extent feasible.
- The contractor will ensure that soil migration from the construction area is prevented, and that exposed soils are stabilized as soon as is possible (see soils mitigation).
- Special care will be taken when construction vehicles are operating in the vicinity of the more sensitive contiguous forest community (FOM2-2). Provisions should be included in the contract package to ensure clear delineation of the work zone in this area to avoid accidental encroachment into these sensitive features.
- Heavy equipment (wheeled or tracked) should not be permitted outside of the delineated construction and staging areas. It is recommended that appropriate tree protection be installed to protect trees and natural areas to be retained, including safeguarding trees and natural areas from construction operations, equipment and vehicles. Prior to construction, trees and natural areas to be protected should be clearly identified in the field by the Contract Administrator and a protective barrier will be installed. The repair or replacement of trees/shrubs identified to remain outside of grading limits that were damaged by construction activities should be undertaken; and, restoration of disturbed natural areas should use a native species seed mix similar to the character of the surrounding area.
- Native and non-invasive vegetation cover will be used to restore any exposed surfaces.
- Restoration and edge management planning will be undertaken and implemented to mitigate impacts of vegetation removals and/or impacts near existing edges of natural features. Restoration and edge management planning shall be undertaken by experienced, qualified professionals. Maintenance and warranty should be in place for any restoration works undertaken.

7.3.3 Wildlife and Wildlife Habitat

Wildlife habitat as it occurs within the footprint of the preferred design is comprised of savannah and mixed forest. These areas provide habitat for common/secure mammals. Breeding birds protected under the MBCA including species listed as special concern (Eastern Wood-pewee) are also using these habitats. Eastern Wood-pewee was documented on site as a probable breeder. Eastern Wood-pewee uses mixed (FOM) and deciduous (FOD) forests. Habitat for species of special concern is considered significant wildlife habitat.

Trees part of the FOM2-2 community also represent candidate habitat for bat maternal roosting (including for species at risk).

The construction and operation of infrastructure part of this project has the potential to result in impacts to wildlife and wildlife habitat. Effects related to the construction and operation could include:

- Wildlife and construction equipment/vehicle conflicts;
- Displacement of resident wildlife using habitat for breeding, local movement and foraging due to the disturbance/removal of habitat within the CUS1 and FOM2-2 communities (Table 5);
- Temporary disturbance to wildlife from noise, and on-site construction activity, including disturbance to birds listed under the MBCA that may be using adjacent natural (shrubs, trees, grasses) or built structures as habitat within and/or adjacent to the construction footprint; and,
- Potential displacement of endangered wildlife - where removals/pruning of mature, open grown trees or trees part of the mixed forest community with suitable cavities/leaf clusters for bat maternal roosting is proposed, potential impact to bats (including SAR) is identified.

Mitigation measures listed below will be revised accordingly during detailed design and with each refinement to the design. At a minimum, the following protection/mitigation measures will be implemented to ensure the protection of wildlife and their habitat to the extent possible:

- Avoidance - opportunities to mitigate loss of wildlife habitat include limiting tree and vegetation removals through adjustment of the alignment for the WTP connection and strategic positioning of the design footprint and storage/laydowns areas within manicured/previously disturbed or open areas to the extent feasible.
- A tree inventory of the design footprint, including grading limits and staging, storage and laydown areas should be completed during detailed design to determine tree impacts and develop a tree protection plan.
- Where the preferred design alternative displaces woodland habitat, additional

screening under leaf off condition to identify trees with cavities and/or sloughing bark, and/or acoustic surveys for bats will be required. If bats are using the woodland habitat for roosting, there is potential that species may include those afforded protection under the ESA. The footprint represented in **Figure 3** should be revisited in future design phases in consultation with the MECP to ensure no impact to candidate bat habitat part of the woodland community.

- Where any removal of rock piles or removal or pruning of mature, open grown trees (i.e., those outside of a forest community) representing candidate bat roosting habitat is proposed, timing windows to avoid the period from March 15 to November 20 (as recommended by MECP; see Appendix E) should be employed.
- A number of bird species listed under the MBCA were identified within the study area. The MBCA prohibits the killing, capturing, injuring, taking or disturbing of migratory birds (including eggs) or the damaging, destroying, removing or disturbing of nests. The study area falls within Environment Canada's Nesting Zone C2 (Nesting Period: end of March to end of August). Consequently, to comply with the requirements of the MBCA, it is recommended that disturbance, clearing or disruption of vegetation where birds may be nesting should be completed outside the window of April 1 to August 31 to avoid the breeding bird season for the majority of the species protected under the Act. In the event that project construction must be undertaken during the breeding period, a nest screening survey should be conducted by a qualified avian biologist. If an active nest is located, a mitigation plan should be developed in consultation with Environment Canada – Ontario Region.
- Where tree removal is proposed within the mixed forest community a screening for owl use may be required. This may include visual surveys/screening for large stick nests during the leaf off period (March/early April), potentially combined with call back or auditory surveys to rule out use of the habitat by Great Horned Owl for nesting. Nests and eggs of this specially protected species are protected under the Fish and Wildlife Conservation Act, 1997.
- Where construction is planned to occur during the active seasons for wildlife, the delineation of the construction area (e.g., silt fencing for erosion and sediment control) can serve to exclude wildlife from entering the work areas to some extent.
- Ensure that an environmental monitor is available in the event that wildlife is encountered in the work zone in order to safely document, and if necessary (under permitting and consultation with MECP) handle and remove wildlife at risk

of conflict with construction activities.

- Native and non-invasive vegetation cover should be used to protect any exposed surfaces and ensure that temporarily disturbed areas are adequately restored post-construction (inclusion of milkweed is recommended where conditions are suitable to enhance diversity and maintain food source for Monarch).
- Maintain existing drainage patterns to avoid changing character of vegetation communities and associated habitat functions.

8.0 Conclusion

The design alternative chosen as the preferred (**Figure 3**) makes use of some openings in the landscape and some areas surrounding the existing WTP that have been previously disturbed (gravel surfaces and manicured grass). The footprint of the design as it is currently defined requires permanent removal of vegetation part of the cultural savannah and mixed forest communities for construction of a new standpipe, WTP connection and access road. The newly constructed booster station is primarily sited within a manicured/grassed area along the mixed forest edge. It's recommended that opportunities to refine the positioning of the booster station along the FOM2-2 edge be explored during detailed design to avoid tree removals and displacement of associated wildlife habitat.

Mill Creek has the potential to be impacted by temporary or operational drawdown of the water table. Potential drawdown effects of dewatering were unknown at the time of reporting; however, operation of the Project was not anticipated to result in any increase to the water takings beyond the current Permit to Take Water. The potential for drawdown effects should be revisited once additional design detail is available.

Erosion and sediment controls will be implemented to protect natural features, Mill Creek, and downstream fish habitat. Construction timing windows may also apply to works in proximity to the creek, the details of which need to be further considered in future stages of design once the details of construction are better understood. There is opportunity for work to occur 'in the dry' given the intermittent nature of the creek. To comply with the requirements of the MBCA, it is recommended that disturbance, clearing or disruption of vegetation be completed outside the window of April 1 to August 31 to avoid the breeding season for the majority of the species protected under the Act. Removal of rock piles or trees, or pruning of any mature open grown trees (i.e., those not part of a treed ELC community) with the potential to provide roosting habitat for bats in the form of suitable cavities should be completed outside of the roosting period of March 15 to November 20 (to be confirmed with MECP once impacts are better understood). Removal of trees or rock piles within woodland habitat (e.g., FOM2-2), will require consultation with MECP to determine if further study to confirm the

presence/absence of SAR bats is required. An arborist survey is recommended for the construction disturbance area during detailed design to develop a tree preservation plan and establish appropriate mitigation to maintain the woodland function and restore the forest edge.

The mitigation measures outlined in Section 7.0 combined with the above recommendations for refinements to the project design are intended to avoid/minimize impacts to significant natural heritage features and their functions, where feasible. At detailed design, the proposed environmental protection and mitigation strategies outlined herein will need to be reviewed and updated as necessary.

9.0 References

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Appendix A Plant List

Appendix A Plant Species List – Well 5/5A Study Area.

Introduced	Scientific Name	Common Name	GRank	SRank	ESA	SARA	Well-Duff-Riley	CUS1	FOD5-1	FOM2-2
	EQUISETACEAE	HORSETAIL FAMILY								
	Equisetum hyemale var. affine	scouring-rush	G5T5	S5			X		X	X
	OSMUNDACEAE	ROYAL FERN FAMILY								
	Osmunda cinnamomea	cinnamon fern	G5	S5			X		X	
	DRYOPTERIDACEAE	WOOD FERN FAMILY								
	Athyrium filix-femina var. angustum	northern lady fern	G5T5	S5			X		X	X
	Onoclea sensibilis	sensitive fern	G5	S5			X		X	
	PINACEAE	PINE FAMILY								
	Abies balsamea	balsam fir	G5	S5			X			X
*	Pinus nigra	Austrian pine	G?	SE2				X		
	Pinus strobus	eastern white pine	G5	S5			X		X	X
*	Pinus sylvestris	scotch pine	G?	SE5			X	X	X	
	CUPRESSACEAE	CEDAR FAMILY								
	Thuja occidentalis	eastern white cedar	G5	S5			X		X	X
	RANUNCULACEAE	BUTTERCUP FAMILY								
	Actaea pachypoda	white baneberry	G5	S5			X		X	X
	Actaea rubra	red baneberry	G5	S5			X		X	X
	ULMACEAE	ELM FAMILY								
	Ulmus americana	white elm	G5?	S5			X			X
	URTICACEAE	NETTLE FAMILY								
	Laportea canadensis	wood nettle	G5	S5			X		X	X
	JUGLANDACEAE	WALNUT FAMILY								
	Carya cordiformis	bitternut hickory	G5	S5			X			X
	Juglans nigra	black walnut	G5	S4			X Int	X	X	
	Juglans cinerea	butternut	G3G4	S3?	END	END	X			X
	FAGACEAE	BEECH FAMILY								
	Fagus grandifolia	American beech	G5	S5			X			X
	BETULACEAE	BIRCH FAMILY								
	Betula papyrifera	white birch	G5	S5			X			X
	CARYOPHYLLACEAE	PINK FAMILY								
*	Silene vulgaris	catchfly	G?	SE5			X	X		
	GUTTIFERAE	ST. JOHN'S-WORT FAMILY								
*	Hypericum perforatum	common St. John's-wort	G?	SE5			X	X		
	Triadenum fraseri	Fraser's St. John's-wort	G4G5	S5						X
	TILIACEAE	LINDEN FAMILY								
	Tilia americana	basswood	G5	S5			X		X	X
	VIOLACEAE	VIOLET FAMILY								
	Viola sp.	violet								X
	SALICACEAE	WILLOW FAMILY								

Introduced	Scientific Name	Common Name	GRank	SRank	ESA	SARA	Well-Duff-Riley	CUS1	FOD5-1	FOM2-2
	Populus balsamifera ssp. balsamifera	balsam poplar	G5T?	S5			X			X
	Populus grandidentata	large-tooth aspen	G5	S5			X	X		
	Populus tremuloides	trembling aspen	G5	S5			X	X	X	X
*	Salix X sepulcralis	hybrid willow	HYB	SE2				X		
	BRASSICACEAE	MUSTARD FAMILY								
*	Hesperis matronalis	dame's rocket	G4G5	SE5			X	X	X	X
	GROSSULARIACEAE	GOOSEBERRY FAMILY								
	Ribes americanum	wild black currant	G5	S5			X		X	X
	ROSACEAE	ROSE FAMILY								
	Fragaria virginiana ssp. virginiana	scarlet strawberry	G5T?	SU			X	X		X
	Geum canadense	white avens	G5	S5			X	X		X
*	Potentilla recta	rough-fruited cinquefoil	G?	SE5			X	X		
	Prunus serotina	black cherry	G5	S5			X		X	X
	Prunus virginiana var. virginiana	choke cherry	G5T?	S5			X	X	X	X
	Rubus idaeus ssp. strigosus	wild red raspberry	G5T	S5			X	X	X	X
	Rubus occidentalis	thimble-berry	G5	S5			X			X
*	Sorbus aucuparia	European mountain-ash	G5	SE4			X			X
	FABACEAE	PEA FAMILY								
	Amphicarpaea bracteata	hog peanut	G5	S5			X			X
*	Trifolium pratense	red clover	G?	SE5			X	X		
*	Vicia cracca	tufted vetch	G?	SE5			X	X		
	ONAGRACEAE	EVENING-PRIMROSE FAMILY								
	Circaea lutetiana ssp. canadensis	yellowish enchanter's nightshade	G5T5	S5			X		X	X
	CORNACEAE	DOGWOOD FAMILY								
	Cornus alternifolia	alternate-leaved dogwood	G5	S5			X		X	X
	RHAMNACEAE	BUCKTHORN FAMILY								
*	Rhamnus cathartica	common buckthorn	G?	SE5			X		X	X
	VITACEAE	GRAPE FAMILY								
	Parthenocissus vitacea	inserted Virginia-creeper	G5	S5			X	X		X
	Vitis riparia	riverbank grape	G5	S5			X	X		X
	ACERACEAE	MAPLE FAMILY								
	Acer negundo	manitoba maple	G5	S5			X	X		X
	Acer saccharum var. saccharum	sugar maple	G5T?	S5			X	X	X	X
	ANACARDIACEAE	SUMAC FAMILY								
	Toxicodendron radicans ssp. negundo	poison-ivy	G5T	S5					X	X
	OXALIDACEAE	WOOD SORREL FAMILY								
	Oxalis stricta	upright yellow wood-sorrel	G5	S5			X	X	X	
	GERANIACEAE	GERANIUM FAMILY								
	Geranium maculatum	spotted crane's-bill	G5	S5			X			X

Introduced	Scientific Name	Common Name	GRank	SRank	ESA	SARA	Well-Duff-Riley	CUS1	FOD5-1	FOM2-2
*	Geranium robertianum	herb-robert	G5	SE5			X		X	X
	BALSAMINACEAE	TOUCH-ME-NOT FAMILY								
	Impatiens capensis	spotted touch-me-not	G5	S5			X		X	
	ARALIACEAE	GINSENG FAMILY								
	Aralia nudicaulis	wild sarsaparilla	G5	S5			X		X	
	APOCYNACEAE	DOGBANE FAMILY								
*	Vinca minor	periwinkle	G?	SE5			X		X	
	ASCLEPIADACEAE	MILKWEED FAMILY								
	Asclepias syriaca	common milkweed	G5	S5			X	X		
	SOLANACEAE	POTATO FAMILY								
*	Solanum dulcamara	bitter nightshade	G?	SE5			X		X	X
	BORAGINACEAE	BORAGE FAMILY								
*	Echium vulgare	blueweed	G?	SE5			X	X		
	VERBENACEAE	VERVAIN FAMILY								
	Verbena stricta	hoary vervain	G5	S4						X
	LAMIACEAE	MINT FAMILY								
*	Glechoma hederacea	creeping Charlie	G?	SE5			X		X	
*	Prunella vulgaris ssp. vulgaris	common heal-all	G5T?	SE3			X		X	
	PLANTAGINACEAE	PLANTAIN FAMILY								
*	Plantago lanceolata	ribgrass	G5	SE5			X	X		
*	Plantago major	common plantain	G5	SE5			X	X		
	OLEACEAE	OLIVE FAMILY								
	Fraxinus pennsylvanica	red ash	G5	S5			X			X
	SCROPHULARIACEAE	FIGWORT FAMILY								
*	Verbascum thapsus	common mullein	G?	SE5			X	X		
	ASTERACEAE	ASTER FAMILY								
	Aster lateriflorus var. lateriflorus	calico aster	G5T5	S5					X	
*	Cichorium intybus	chicory	G?	SE5			X	X		
	Euthamia graminifolia	flat-topped bushy goldenrod	G5	S5				X		1
*	Hieracium caespitosum	field hawkweed		SE5				X		
*	Leucanthemum vulgare	ox-eye daisy	G?	SE5			X	X		
	Solidago canadensis	canada goldenrod	G5	S5			X	X		
	Symphyotrichum novae-angliae	New England aster	G5	S5			X	X		
*	Tussilago farfara	coltsfoot	G?	SE5			X			X
	ARACEAE	ARUM FAMILY								
	Arisaema triphyllum ssp. triphyllum	small jack-in-the-pulpit	G5T5	S5			X		X	X
	JUNCACEAE	RUSH FAMILY								
	Juncus dudleyi	Dudley's rush	G5	S5			X		X	
	CYPERACEAE	SEDGE FAMILY								
	Carex sp.	sedge							X	

Introduced	Scientific Name	Common Name	GRank	SRank	ESA	SARA	Well-Duff- Riley	CUS1	FOD5-1	FOM2-2
	POACEAE	GRASS FAMILY								
*	Bromus inermis ssp. inermis	awnless brome	G4G5T?	SE5			X	X		
*	Dactylis glomerata	orchard grass	G?	SE5			X	X		
	Phalaris arundinacea	reed canary grass	G5	S5			X			X
*	Phleum pratense	timothy	G?	SE5			X	X		
	Poa pratensis ssp. alpigena	spear grass	G5T?	S4S5				X		
	LILIACEAE	LILY FAMILY								
*	Convallaria majalis	lily-of-the-valley	G5	SE5					X	X
	Maianthemum canadense	wild lily-of-the-valley	G5	S5			X		X	
	Trillium sp.	trillium								X
	ORCHIDACEAE	ORCHID FAMILY								
*	Epipactis helleborine	common helleborine	G?	SE5			X		X	X

Appendix A Table 1 Legend

G-Rank (Global Rank): assigned by a consensus of the network of Conservation Data Centres (CDCs), scientific experts and The Nature Conservancy to designate a rarity rank based on the range-wide status of species, subspecies or variety, according to the following.

G1- extremely rare; usually 5 or fewer occurrences in the overall range or very few remaining individuals or because of some factor (s) making it especially vulnerable

G2-very rare; usually between 5 and 20 occurrences in the overall range or with many individuals in fewer occurrences or because of some factor (s) making it vulnerable to extinction

G3- rare to uncommon; usually between 20 and 100 occurrences; may have fewer occurrences but with a large number of individuals in some populations or may be susceptible to large-scale disturbances

G4-common; usually more than 100 occurrences, usually not susceptible to immediate threats

G5-very common; demonstrably secure under present conditions

GH-historic; no records in the past 20 years

GU-status uncertain; often because of low search effort or cryptic nature of species, more data needed

GX-globally extinct; no records despite specific searches

?-denotes inexact numeric rank

G- global rank has not been obtained from the Nature Conservancy

G?-unranked; or if following a ranking the rank is tentatively assigned

Q-denotes taxonomic status of species, subspecies or variety as questionable

T-denotes the rank applies to a subspecies or variety

S-Rank (Provincial or Subnational ranks): used by the Natural Heritage Information Centre to set protection priorities for rare species and natural communities. Provincial ranks are assigned in a manner similar to that described for global ranks, but consider only those factors within the political boundaries of Ontario.

SX-presumed extirpated; not located despite intensive searches

SH-historical; no known extant occurrences in past 20 years

S1-critically imperiled; typically 1 to 5 extant occurrences

S2-imperiled; typically 6 to 20 extant occurrences

S3-vulnerable; typically 21 to 80 extant occurrences

S4-apparently secure; uncommon but not rare; some cause for long-term concern; usually >80 extant occurrences

S5-secure; common, widespread and abundant

SNA-status not applicable; not a suitable target for conservation (e.g. non-native species)

SU-unrankable; insufficient information to rank confidently

SNR-not ranked

ESA

Ontario Endangered Species Act, 2007

END-Endangered; a species facing imminent extinction or extirpation in Ontario which is a candidate for regulation under Ontario's ESA

EXP-Extirpated; a species that no longer exists in the wild in Ontario but exists elsewhere

THR-Threatened; a species that is at risk of becoming endangered in Ontario if limiting factors are not reversed

SC-Special Concern; a species with characteristics that make it sensitive to human activities or natural events

SARA

Species at Risk Act Schedule 1- official list of wildlife Species at Risk

THR-threatened; a wildlife species likely to become endangered if limiting factors are not reversed

END-endangered; a wildlife species facing imminent extirpation or extinction

EXT-extirpated; a species no longer existing in the wild in Canada but occurring elsewhere

SC-special concern; a wildlife species that may become a threatened or an endangered species because of a combination of biological characteristics and identified threat

Well-Duff Riley

Riley, J.L. et al. 1989. Hamilton-Brant. Distribution and Status of the Vascular Plants of Central Region. Ontario Ministry of Natural Resources. Richmond Hill, Ontario.

Appendix B Wildlife List

Appendix B Wildlife Species List – Well 5/5A Study Area.

Type	Scientific Name	Common Name	eBird- Greenwood Cemetery	NHIC	Breeding Code	Breeding Bird Evidence	Breeding Bird Surveys Station Number	LGL Limited (2021)	LGL Limited (2022)	G-Rank	S-Rank	SARA	SARO	FWCA	MBCA	SWH-TG Area Sensitive Species	Priority Species: Wellington
Bird	<i>Corvus brachyrhynchos</i>	American Crow	X		Probable	H,T,D	1,2,3	X		G5	S5B						
Bird	<i>Spinus tristis</i>	American Goldfinch	X		Possible	H	2	X		G5	S5B				X		level 3
Bird	<i>Setophaga ruticilla</i>	American Redstart			Possible	S	1			G5	S5B				X	X (>100ha forest)	level 2
Bird	<i>Turdus migratorius</i>	American Robin	X		Probable	T	1,2,3	X		G5	S5B				X		
Bird	<i>Poecile atricapillus</i>	Black-capped Chickadee	X		Possible	H	1,2			G5	S5				X		level 4
Bird	<i>Cyanocitta cristata</i>	Blue Jay	X		Possible	H,D,T	1,2,3	X		G5	S5			P			
Bird	<i>Molothrus ater</i>	Brown-headed Cowbird			Possible	H			X	G5	S4B						
Bird	<i>Bombycilla cedrorum</i>	Cedar Waxwing			Possible	H	2	X		G5	S5B				X		
Bird	<i>Spizella passerina</i>	Chipping Sparrow			Probable	T	2			G5	S5B				X		
Bird	<i>Quiscalus quiscula</i>	Common Grackle	X		Possible	H	2	X		G5	S5B						
Bird	<i>Corvus corax</i>	Common Raven						X		G5	S5			P			
Bird	<i>Picoides pubescens</i>	Downy Woodpecker			Possible	H		X	X	G5	S5				X		
Bird	<i>Tyrannus tyrannus</i>	Eastern Kingbird			Possible	H	2			G5	S4B				X		level 3
Bird	<i>Sturnella magna</i>	Eastern Meadowlark		X						G5	S4B		THR		X	X (open grasslands >10ha)	level 2
Bird	<i>Sayornis phoebe</i>	Eastern Phoebe						X		G5	S5B				X		level 3
Bird	<i>Contopus virens</i>	Eastern Wood- Pewee			Probable	T	3			G5	S4B		SC		X		
Bird	<i>Sturnus vulgaris</i>	European Starling	X		Possible	H			X	G5	SNA						
Bird	<i>Spizella pusilla</i>	Field Sparrow			Possible	S	1		X	G5	S4B				X		level 3
Bird	<i>Passerella iliaca</i>	Fox Sparrow	X							G5	S4B				X		
Bird	<i>Ardea herodias</i>	Great Blue Heron							X	G5	S4				X		
Bird	<i>Myiarchus crinitus</i>	Great Crested Flycatcher			Possible	S	3			G5	S4B				X		
Bird	<i>Bubo virginianus</i>	Great Horned Owl						X		G5	S4			P			
Bird	<i>Picoides villosus</i>	Hairy Woodpecker			Possible	H	3			G5	S5				X	X (forests with tall	

Type	Scientific Name	Common Name	eBird- Greenwood Cemetery	NHIC	Breeding Code	Breeding Bird Evidence	Breeding Bird Surveys Station Number	LGL Limited (2021)	LGL Limited (2022)	G-Rank	S-Rank	SARA	SARO	FWCA	MBCA	SWH-TG Area Sensitive Species	Priority Species: Wellington
																trees/snags >25cm)	
Bird	<i>Troglodytes aedon</i>	House Wren			Probable	T	1,2			G5	S5B				X		
Bird	<i>Passerina cyanea</i>	Indigo Bunting			Probable	P,S	1,2			G5	S4B				X		
Bird	<i>Zenaida macroura</i>	Mourning Dove			Possible	H	2			G5	S5				X		
Bird	<i>Cardinalis cardinalis</i>	Northern Cardinal			Probable	S,T	1,2,3			G5	S5				X		
Bird	<i>Colaptes auratus</i>	Northern Flicker			Possible	S	1			G5	S4B				X		
Bird	<i>Dryocopus pileatus</i>	Pileated Woodpecker						X		G5	S5				X	X (40-260ha mature decid/mixed forest w/large diameter trees)	level 2
Bird	<i>Spinus pinus</i>	Pine Siskin	X							G5	S4B				X		
Bird	<i>Setophaga pinus</i>	Pine Warbler			Probable	S,T	1,2,3			G5	S5B				X	X (15-30ha white pine forest)	level 3
Bird	<i>Haemorphous purpureus</i>	Purple Finch			Possible	S	1			G5	S4B				X		level 2
Bird	<i>Sitta canadensis</i>	Red-breasted Nuthatch	X		Probable	T	1			G5	S5				X	X (10ha interior forest)	level 3
Bird	<i>Vireo olivaceus</i>	Red-eyed Vireo			Possible	S	1,2,3			G5	S5B				X		
Bird	<i>Agelaius phoeniceus</i>	Red-winged Blackbird	X							G5	S4						
Bird	<i>Regulus calendula</i>	Ruby-crowned Kinglet						X		G5	S4B				X		level 4
Bird	<i>Melospiza melodia</i>	Song Sparrow			Possible	S	1,2,3			G5	S5B				X		
Invertebrates	<i>Calopteryx maculata</i>	Ebony Jewelwing							X	G5	S5						
Invertebrates	<i>Vanessa atalanta</i>	Red Admiral							X	G5	S5						
Mammals	<i>Tamias striatus</i>	Eastern Chipmunk							X	G5	S5			P			
Mammals	<i>Sciurus carolinensis</i>	Eastern Gray Squirrel						X		G5	S5			G			

Type	Scientific Name	Common Name	eBird- Greenwood Cemetery	NHIC	Breeding Code	Breeding Bird Evidence	Breeding Bird Surveys Station Number	LGL Limited (2021)	LGL Limited (2022)	G-Rank	S-Rank	SARA	SARO	FWCA	MBCA	SWH-TG Area Sensitive Species	Priority Species: Wellington
Mammals	<i>Erithizon dorsatum</i>	Porcupine							X	G5	S5						
Mammals	<i>Tamiasciurus hudsonicus</i>	Red Squirrel						X		G5	S5			F			
Mammals	<i>Odocoileus virginianus</i>	White-tailed Deer						X		G5	S5			G			

Appendix B Legend
See legend in Appendix A and wildlife specific legend information below
MBCA (Migratory Birds Convention Act)
X- Migrant species with afforded protection
FWCA (Fish and Wildlife Conservation Act)
P- protected species
G- game species
F- furbearing species
SWH-TG Area Sensitive Species
(Significant Wildlife Habitat Technical Guide, 2000)
Conservation Priority
Level 1- highest priority
Level 40- lowest priority

Appendix C Species at Risk Habitat Screening

Screening for Species at Risk with Potential to Occur in the Study Area.

Group	Species	SARO Status/ ESA Protection	Data Source	Habitat Description	Habitat Potential within the Study Area	Further Effort Recommended in Preferred Design Consideration
Tree	Butternut (<i>Juglans cinerea</i>)	END/Species and General Habitat Protection	LGL Field Inventory	Generally grows in rich, moist, and well-drained soils often found along streams. May also be found on well-drained gravel sites; seldom found on dry, rocky and sterile soils. In Ontario, the Butternut generally grows alone or in small groups in deciduous forests as well as in hedgerows.	Woodlands	One butternut found during field surveys (Figure 3). A Butternut Health Assessment (BHA) was completed on July 27, 2022 which assessed the tree as Category 1 (non-retainable). The BHA was submitted to MECP and provided to the Town under separate cover as per ESA regulations. Category 1 trees are exempt from Clause 9(1) of the ESA (O.Reg. 830/21).
Bird	Eastern Meadowlark (<i>Sturnella magna</i>)	Threatened/ Species and General Habitat Protection, Category 1, 2 & 3 Protection	NHIC	In Ontario, the eastern meadowlark breeds in pastures, hayfields, meadows and old fields. Eastern meadowlark prefers moderately tall grasslands with abundant litter cover, high grass proportion, and a forb component. They prefer well drained sites or slopes, and sites with different cover layers.	Meadow to the west of the study area	This species was not detected during breeding bird surveys conducted in 2022. No species-specific mitigation identified. The application of timing windows to avoid vegetation removals during breeding season (April 1-August 31) applies across the project for the protection of all breeding birds.
Bird	Eastern Wood-pewee (<i>Contopus virens</i>)	Special Concern, provisions of ESA do not apply	LGL Field Inventory	The Eastern Wood-pewee lives in the mid-canopy layer of forest clearings and edges of deciduous and mixed forests. It is most abundant in intermediate-age mature forest stands with little understory vegetation.	Woodlands	Eastern Wood-Pewee was documented in the Study Area as a probable breeder. Intrusions into woodlands should be avoided to the extent feasible. The application of timing windows to avoid vegetation removals during breeding season (April 1-August 31) applies across the project for the protection of all breeding birds.
Bird	Wood Thrush (<i>Hylocichla mustelina</i>)	Special Concern, provisions of ESA do not apply	No records but suitable habitat present	The Wood Thrush lives in mature deciduous and mixed (conifer-deciduous) forests. They seek moist stands of trees with well-developed undergrowth and tall trees for singing perches. These birds prefer large forests but will also use smaller stands of trees. They build their nests in living saplings, trees or shrubs, usually in sugar maple or American beech.	Woodlands	Wood Thrush was not observed in the Study Area during the 2022 breeding bird surveys. The application of timing windows to avoid vegetation removals during breeding season (April 1-August 31) applies across the project for the protection of all breeding birds.

Group	Species	SARO Status/ ESA Protection	Data Source	Habitat Description	Habitat Potential within the Study Area	Further Effort Recommended in Preferred Design Consideration
Mammal	Eastern Small-footed Myotis (<i>Myotis leibii</i>)	Endangered/ Species and General Habitat Protection	Species Range and suitable habitat	This species is not known to roost within trees, but there is very little known about its roosting habits. The species generally roosts on the ground under rocks, in rock crevices, talus slopes and rock piles. It occasionally inhabits buildings. Areas near the entrances of caves or abandoned mines may be used for hibernaculum where conditions are drafty with low humidity.	Woodlands	No data collection specific to bat roosting or tree condition (appropriate cavities or snags) was completed during the EA. Where tree removals are proposed in woodland habitat, further study may be required during detailed design to ensure protection of SAR bats under the ESA. MECP should be consulted in this regard.
Mammal	Little Brown Myotis (<i>Myotis lucifugus</i>)	Endangered/ Species and General Habitat Protection	Species Range and suitable habitat	Bats are nocturnal and roost in trees and in buildings during the day. They often select attics, abandoned buildings and barns for summer colonies where they can raise their young. Little brown bats hibernate from October or November to March or April, most often in caves or abandoned mines that are humid and remain above freezing.	Woodlands	No data collection specific to bat roosting or tree condition (appropriate cavities or snags) was completed during the EA. Where tree removals are proposed in woodland habitat or removal of any rock piles is proposed, further study may be required during detailed design to ensure protection of SAR bats under the ESA. MECP should be consulted in this regard.
Mammal	Tri-colored Bat (<i>Perimyotis subflavus</i>)	Endangered/ Species and General Habitat Protection	Species Range and suitable habitat	In Ontario, tri-colored bat may roost in foliage, in clumps of old leaves, hanging moss or squirrel nests. They are occasionally found in buildings although there are no records of this in Canada. They typically feed over aquatic areas with an affinity to large-bodied water and will likely roost in close proximity to these. Hibernation sites are found deep within caves or mines in areas of relatively warm temperatures.	Woodlands	No data collection specific to bat roosting or tree condition (appropriate cavities or snags) was completed during the EA. Where tree removals are proposed in woodland habitat, further study may be required during detailed design to ensure protection of SAR bats under the ESA. MECP should be consulted in this regard.
Mammal	Northern Myotis (<i>Myotis septentrionalis</i>)	Endangered/ Species and General Habitat Protection	Species Range and suitable habitat	In Ontario, this species range is extensive and covers much of the province. It will usually roost in hollows, crevices, and under loose bark of mature trees. Roosts may be established in the main trunk or a large branch of either living or dead trees. Caves or abandoned mines may be used for hibernaculum, but high humidity and stable above freezing temperatures are required	Woodlands	No data collection specific to bat roosting or tree condition (appropriate cavities or snags) was completed during the EA. Where tree removals are proposed in woodland habitat, further study may be required during detailed design to ensure protection of SAR bats under the ESA. MECP should be consulted in this regard.

Appendix D Site Photos

WELL 5/5A - ORANGEVILLE PHOTO APPENDIX



Photo 1: CSP culvert at County Road 16 looking SE from the west side of the road (June 8, 2022).



Photo 12 Subject channel looking west from approx. 100 m west of CR16 (June 8, 2022).



Photo 3: Subject channel substrates from approx. 150 m west of CR 16 (June 8, 2022).



Photo 4: Subject channel and substrates from approx. 200 m west of CR 16 (June 8, 2022).



Photo 5: Subject channel looking west from approx. 200 m west of CR16 (June 8, 2022).



Photo 6: Subject channel origin in meadow looking west from approx. 350 m west of CR16 (June 8, 2022).



Photo 7: West building, northern side of building (June 13, 2022).



Photo 8: West building, west side of building (June 13, 2022).



Photo 9: Main Pumphouse west side of building (June 13, 2022).



Photo 10: Main Pumphouse south side of building (June 13, 2022).



Photo 11: Main Pumphouse, east side of building (June 13, 2022).

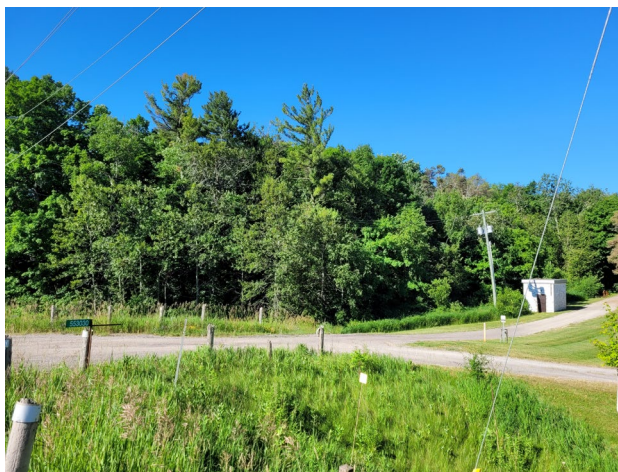


Photo 12: Looking west towards eastern building (June 8, 2022).

WELL 5/5A - ORANGEVILLE PHOTO APPENDIX



Photo 13: Dry-Fresh Sugar Maple Deciduous Forest (FOD5-1) (June 13, 2022).



Photo 14: Dry-fresh White Pine-Sugar Maple Mixed Forest north of Mill Creek (June 13, 2022).



Photo 15: Mineral Cultural Savannah (June 13, 2022).



Photo 16: Coniferous Forest north east corner of Study Area (June 13, 2022).

D

Appendix D: Public Notices

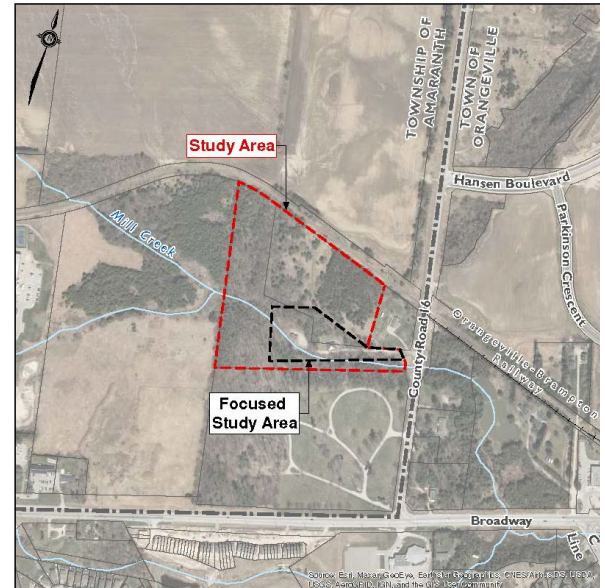


Notice of Commencement

Schedule B Municipal Class Environmental Assessment for Water Storage at Wells 5/5A

What is this study all about?

The Town of Orangeville (Town) has proactively identified necessary rehabilitation to its West Sector Reservoir (WSR) elevated water storage tank. The rehabilitation work will require the WSR to be offline for several months. A review of the existing water system identified concerns about the Town's water storage capacity with the WSR offline to complete the necessary work. The Town is therefore initiating a Municipal Class Environmental Assessment (MCEA) Study to plan for a new water storage facility at the Wells 5/5A site. The proposed facility will provide additional water storage capacity to support the necessary work at the WSR. The new water storage capacity at Wells 5/5A will leverage the high water yield at this site and address on-going operational issues. A specific location and configuration for the new water storage facility at the Wells 5/5A site will be identified and confirmed through this MCEA process.



How is this study being done?

This study is proceeding in accordance with the requirements of Schedule 'B' projects under the MCEA process, as amended, which is an approved process under the Ontario Environmental Assessment Act.

How to stay involved

We are interested in hearing from you about this project. Please contact either of the project team members below if you have questions or comments, wish to obtain more information on the project, or would like to be included on the Project Contact List.

Sarah Pihel, C.E.T.

Project Technologist
Town of Orangeville
87 Broadway
Orangeville, ON L9W 1K1
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E-mail: spihel@orangeville.ca

Alejandra Boyer

Consultant Class EA Lead
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400-3027 Harvester Road,
Burlington, ON L7N 3G7
Phone: 289-288-0287 ext. 6847
E-mail: alejandra.boyer@cima.ca

All comments and information received from individuals, stakeholder groups and agencies regarding this project are being collected under the authority of the "Municipal Act" to assist the Town of Orangeville in making a decision. Under the "Municipal Act", personal information such as name, address, telephone number, and property location that may be included in a submission becomes part of the public record.

This notice was first issued on April 14, 2022.

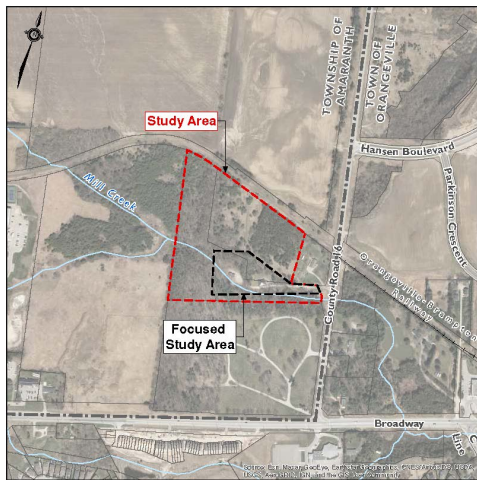


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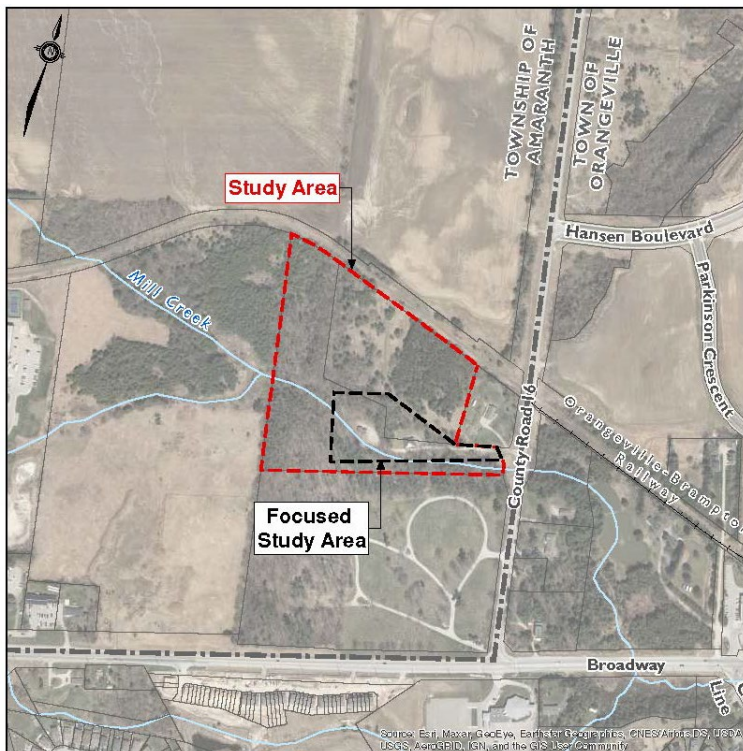
Notice of Virtual Public Information Centre Schedule B Municipal Class Environmental Assessment for Water Storage at Wells 5/5A

What is this study all about?

The Town of Orangeville (Town) has proactively identified necessary rehabilitation to its West Sector Reservoir (WSR) elevated water storage tank. The rehabilitation work will require the WSR to be offline for several months. A review of the existing water system identified concerns about the Town's water storage capacity with the WSR offline to complete the necessary work. The Town has evaluated alternative solutions and would like to review these with the public.

Join us for our Virtual Public Information Centre!

The Town has posted a Virtual Public Information Centre (PIC) that will be available from August 18, 2022 to September 16, 2022. The purpose of the PIC is to present project information and gather feedback from the public.



Do you want to be involved?

Please fill in the feedback survey found in the PIC or contact the project team members below if you have questions or comments, wish to obtain more information on the project, or would like to be included on the Project Contact List. We are interested in hearing from you about this project.

Sarah Pihel, C.E.T.

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Notice of Virtual Public Information Centre

Schedule B Municipal Class Environmental Assessment for Water Storage at Wells 5/5A

The Town of Orangeville (Town) has proactively identified necessary rehabilitation to its West Sector Reservoir (WSR) elevated water storage tank. The rehabilitation work will require the WSR to be offline for several months. A review of the existing water system identified concerns about the Town's water storage capacity with the WSR offline to complete the necessary work. The Town is therefore initiating a Municipal Class Environmental Assessment (MCEA) Study to plan for a new water storage facility at the Wells 5/5A site.

The Town is hosting a Virtual Public Information Centre (PIC) from August 18, 2022 to September 16, 2022. The purpose of the PIC will be to present project information and gather feedback from the public.



Due to efforts to contain the spread of COVID-19, interested persons are invited to access presentation materials, ask questions, and provide comments online.

We are interested in hearing from you about this project. Please contact either of the project team members below if you have questions or comments, wish to obtain more information on the project, or would like to be included on the Project Contact List.

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E

Appendix E: Virtual Public Information Centre



Orangeville Well 5/5A Water Storage Class EA

Welcome and thank you for visiting the online Public Information Centre (PIC) for the Municipal Class Environmental Assessment Study.

August 5, 2022

Accessibility

The Town of Orangeville is committed to creating a community that is accessible to all. We are removing barriers and providing accessible services to residents and visitors alike. Handouts summarizing the information contained in this PIC are available at Town Hall (87 Broadway) for those with limited access to internet or electronic devices.

To request a public document or form related to this Environmental Assessment Study in an alternative format that considers accessibility needs, please give us a call at 519-941-0440 ext. 2292, or contact us by email at publicworksinfo@orangeville.ca.

Online “Open House” Format

We wish we could meet you in person! However due to the global Covid-19 Pandemic, the Town is conducting online public engagement to help keep everyone safe. This format will also allow the public to review the information for a longer period and provide any feedback they may have. The virtual open house materials will perform best on a computer or tablet due to the large amount of visual and interactive material that we want to share with you.

Introduction

The Town of Orangeville (Town) is completing a Schedule B Municipal Class Environmental Assessment (MCEA) study to plan for a new water storage facility at the Wells 5/5A site (Veterans Way north of Cemetery). A new facility is needed due to Elevated Tank on B-Line (County Rd 23) also known as the West Sector Reservoir Elevated Water Tank (WSR) being offline for required rehabilitation upgrades.

Sections to Explore

- Project Background
- MCEA Process
- Problem and Opportunity Statement
- Existing Conditions
- Alternative Solutions
- Recommended Alternative
- Next Steps
- Feedback Survey

Project Background

The Town is responsible for the treatment and distribution of potable water from groundwater well sources to service the approximately 30,000 people of Orangeville. The drinking

water distribution system consists of seven Pressure Zones (zones) within the Town, and are known as zones 1-2, 3, 3A, 4, 4A, 4B, and 5. Zone 4 includes the West Sector Reservoir Elevated Water Tank (WSR) constructed in 1998. This elevated tank is a vital component of the Orangeville distribution system, provides a net storage capacity of 5.69 million litres (ML) and services a population equivalent to approximately 4,900 people. Depending upon the water levels inside the WSR, it can be used to supply water to all areas of the Town's distribution system to approximately 30,000 residents.

The Town has been proactive in the planning for the WSR necessary rehabilitation upgrades. Being in service for more than 20 years, the WSR requires to be offline for a period of months for the upgrades to occur. When offline, the burden of maintaining water service to Zone 4 must be met by other Orangeville water infrastructure. A review of the existing system raised significant concerns with the capacity of the existing system in meeting the Pressure Zone 4 water servicing demands. As a result, the Town is completing a Schedule B Municipal Class Environmental Assessment (MCEA) study to plan for a new water storage facility at the Wells 5/5A site.

Municipal Class Environmental Assessment (MCEA) Process

All municipalities in Ontario are subject to the provisions of the Environmental Assessment Act (EA Act) and its requirements to prepare an Environment Assessment (EA) for applicable public works projects.

As per the framework provided in the Class EA document, the Water Storage and Pumping at Well 5/5A for the Town of Orangeville is being undertaken in accordance with the requirements for Schedule B Projects.

Schedule B projects have the potential for some adverse environmental and social effects. The Town is required to undertake a screening process involving mandatory contact with potentially affected members of the public, Indigenous communities, and relevant review agencies to ensure that they are aware of the project, and that their concerns are addressed. This Public Information Centre is intended to provide the public with information on the results of technical studies conducted in support of the Water Storage and Pumping at Well 5/5A EA and solicit feedback from interested parties.

Problem and Opportunity Statement

The Town of Orangeville's Drinking Water Distribution Pressure Zone 4 requires more storage and/or pumping capacity to ensure water servicing requirements are met during the shutdown of the WSR, which is required for rehabilitation. This study is being conducted to identify the long-term recommendations for the Town's Pressure Zone 4 to:

- Meet servicing requirements when the WSR is out of service,
- Increase the flexibility and reliability of the Well 5/5A station, and
- Improve Orangeville's Water Supply System by providing additional long-term storage, and pumping capacity at Well 5/5A location.

Study Area

The Well 5/5A site is situated on the Dufferin County Road 16, also known as Veterans Way, north of the Greenwood Cemetery and Broadway, at the north-western side of the

Town of Orangeville. The subject property is owned by the Town of Orangeville.



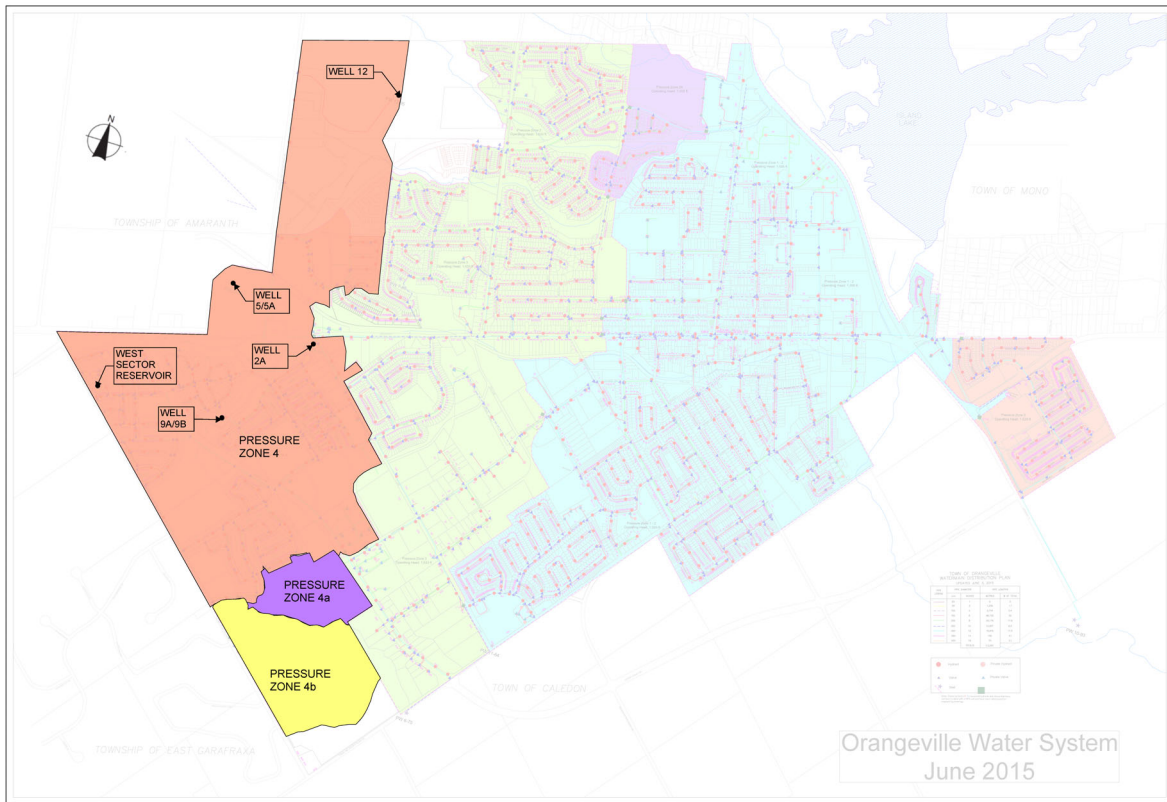
Orangeville Study Site

[Click here for PDF map](#)

Existing Conditions

Pressure Zone 4 (as shown on the map below) serves an area on the west side of the Town of Orangeville, and extends west of C Line, east of B Line (County Road 23), and south of Broadway (County Road 109) to Centennial Road and Spencer Avenue.

The well sites are designed to treat the well water and pump into the system to provide water pressure to the community and fill the WSR. Water stored in the WSR is used to supply shortfalls of supply water of the well sites, such as during a fire flow event or when water consumption is increased (hot weather, lawn watering, pool filling, etc.).



Pressure Zone 4

Environmental Features

As part of the MCEA process, LGL Limited was retained to complete a Natural Heritage Assessment (NHA) of the study area. The project area does not include any Provincially Significant Wetlands or Areas of Natural and Scientific Interest. Within the project area, Mill Creek is classified as indirect fish habitat with intermittent flow supporting downstream fish-bearing reaches. The existing Well 5/5A and WSR are within the Credit Valley Conservation Regulation Limit for Mill Creek. Forested communities support woodland birds, including Special Concern species (Eastern Wood Pewee), therefore these areas are part of significant wildlife habitat. The forest communities also represent candidate habitat for roosting bats, including species at risk. A butternut tree (endangered species) has been located within the study area. A butternut health assessment of the tree has been completed and has been confirmed to be non-retainable.

Archaeological Features

The study area was assessed under a Stage 1 Background Archaeological Assessment (AA) and Stage 2 Property AA by Bluestone Research which identified no archaeological resources within the study area.

As no archaeological resources were found on the subject property, no further archaeological assessment of the property is required.

Cultural Heritage

Bluestone Research has conducted a Cultural Heritage Screening Report and subsequently, a Cultural Heritage Evaluation Report. The research was evaluated against the criteria of Ontario Regulations 9/06 and it was determined that the property does not have cultural heritage value or interest. The property did not meet the design or physical, historical, or associative or contextual criterion.

No further heritage studies are required.

Socio-Economic

The Study Area is located in the rural community of Farmington, within Township of Amaranth, a lower tier municipality within the Dufferin County. Dufferin County's Official Plan designates the area "Community Settlement" (County of Dufferin, 2015). The Town of Amaranth's Official Plan designates the area as "Rural", "Greenbelt Protected Countryside" (Township of Amaranth, 2013).

No impacts to land use are anticipated.

Alternative Solutions

As per the MCEA process, a number of alternative solutions have been evaluated to address the problem statement. As part of this Study, the Town evaluated four different approaches to address the need for a new water storage facility at the Wells 5/5A site.

The approaches include doing nothing, reducing water demands, temporary water servicing, and permanent water servicing. A summary of the evaluation process is provided below.

Alternative 1 - Do Nothing

The “Do Nothing” alternative represents the existing conditions where the current WSR will be taken offline and Well 5/5A and infrastructure will be maintained as is. No improvements or changes would be made to address the identified problem (deficiency) or opportunity.

This alternative does not address the current concerns with the expected water shortages during WSR rehabilitation, operational deficiencies at Well 5/5A, and could potentially place current and future residences, businesses, or industries at risk.

Inaction to improve the water supply infrastructure during WSR rehabilitation would likely result in water supply shortages and Orangeville would continue to experience the same operational pitfalls and continued repair costs at Well 5/5A.

Therefore, given the above noted rationale, this alternative has been eliminated from further consideration.

Alternative 2 - Reduce Water Demand

The “Reduce Water Demands” through implementation of water conservation and water efficiency measures represents

a scenario where improvements in water conservation and water efficiency would reduce water consumption to the extent that the existing facilities and infrastructure are sufficient.

This alternative does not address the current concerns with the reoccurring operational issues at the Well 5/5A site and the expected water shortages during WSR rehabilitation period.

Alternative 3 - Temporary Water Servicing

The initial capital cost of constructing permanent infrastructure is generally carried over the service life of that asset and tend to be higher when the planning horizon is extended. Although typically not as robust as a permanent install, a temporary water storage alternative can be a good option if the install location is planned for other use in the future. When planning for more short-term, the overall sizing of temporary storage can be reduced since the needs are only for the current population. As a result, other design component requirements such as pumping, support structures, and electrical demands are reduced. A temporary install could be a better option from a social perspective since the installation is for a short period of time.

Proven and cost-effective options on the market are limited and with those available tend to have a high “throw-away” cost which could be otherwise been spent on improving the overall system. Although it may be called a temporary solution there would be components of the water infrastructure needing permanent upgrades.

The overall net benefit of temporarily installing water infrastructure is typically less when compared to a permanent installation. Water servicing is a critical service requiring careful planning and engineering to ensure disruptions are

minimized. The importance of safely and reliably meeting community water demands is paramount and a permanent installation offers better protection and reduced risk. For example, if a temporary water servicing was constructed, Pressure Zone 4 could be at serious risk should the WSR shutdown period need an extension into cold weather conditions not suited for the temporary infrastructure.

Therefore, given the above noted rationale, this alternative has been eliminated from further consideration.

Alternative 4A and 4B - Permanent Water Servicing

The preliminary screening results showed that Alternatives 2, and 3 did not meet the preliminary screening criteria, and therefore are eliminated from further evaluation. Based on results of preliminary screening, Alternatives 4A and 4B are the most viable solutions to provide the additional required water storage and pumping capacity to provide reliability and continued safe water supply to the Town's residents. As noted, the primary component of Alternative 4A and 4B are alternatives for water storage locations within the overall Wells 5/5A site and infrastructure configuration.



Alternative Site 4A

[Click here for Site 4A map](#)



Alternative Site 4B







[Click here for Site 4B map](#)

The preliminary screening results showed that Alternatives 2, and 3 did not meet the preliminary screening criteria, and therefore are eliminated from further evaluation. Based on results of preliminary screening, Alternatives 4A and 4B are the most viable

















solutions to provide the additional required water storage and pumping capacity to provide reliability and continued safe water supply to the Town's residents. As noted, the primary component of Alternative 4A and 4B are alternatives for water storage locations within the overall Wells 5/5A site and infrastructure configuration.

The evaluation of Well 5/5A water storage and pumping alternatives are shown in the table below. The colour within the evaluation matrix represents the degree of impact; green demonstrates a low impact/ most desirable and red denotes high impact/least desirable.

The evaluation of the water servicing alternative was carried out using the Reasoned Argument Method, comparing differences in impacts, and establishing a clear rationale for the selection of the water servicing alternative that provides the most overall benefits to this project.

Score		Description
		Potential impacts are negligible, no mitigation is required.
		Potential impacts are minor and can be easily mitigated through implementation of standard mitigation measures.
		Potential impacts are moderate and implementation of a number of mitigation measures are required to reduce/eliminate the risks.

Evaluation Category/Criteria	Alternative 4A – Water Storage at Top of Hill	Alternative 4B – Water Storage Adjacent to Treatment Building
Socio Cultural		
Public Health and Safety public protection from water quality perspective	<ul style="list-style-type: none"> Drinking water quality standards will continue to be met during construction and operation of all proposed infrastructure 	<ul style="list-style-type: none"> Drinking water quality standards will continue to be met during construction and operation of all proposed infrastructure
Construction Impacts short-term impacts on adjacent residents, road users and local uses resulting from noise, dust, traffic, vibration effects, during construction only (Appropriate construction techniques and mitigation measures will be implemented.)	<ul style="list-style-type: none"> Moderate short-term impacts from dust, noise, and vibration Moderate impact from temporary disruption to access 1 private residences during potential access way improvements 	<ul style="list-style-type: none"> Minor short-term impacts from dust, noise, and vibration No to Minor impact from temporary disruption to access 1 private residences during construction Footprint is limited and may require significant excavation and material removal for the construction of a standpipe
Aesthetics and Operational Impacts long-term impacts on adjacent residents and local users from visual effects from new infrastructure and activities related to operation of facilities.	<ul style="list-style-type: none"> No to minor visual impacts on 1 residential property across from the proposed site 	<ul style="list-style-type: none"> No to minor visual impacts on 1 residential property across from the proposed site

Natural Environment			
Natural Heritage Features potential impact to existing natural environment, including significant habitat, sensitive features, areas of natural and scientific interest, etc.	<ul style="list-style-type: none"> Longer connection (approximately 86 metres) to the WTP through some natural features Larger footprint of disturbance 	<ul style="list-style-type: none"> Shorter connection (approximately 38 metres) to the WTP through some natural features 	
	 	 	
Water Resources potential effects on vulnerable areas during construction	<ul style="list-style-type: none"> Site 4A is not within a vulnerable area. There are two municipal flowing wells recorded within 500 m radius of Site 4A but is protected by a well house. No impact expected. There is a tributary stream leading to Mill Creek south of the site that may need protection during construction. 	<ul style="list-style-type: none"> Site 4B is not within a vulnerable area. There are two municipal flowing wells recorded within 500 m radius of Site 4B but is protected by a well house. No impact expected. There is a tributary stream leading to Mill Creek south of the site that may need protection during construction. 	
	 	 	
Archaeological and Cultural Heritage potential impact to archaeological and cultural heritage resources	<ul style="list-style-type: none"> Has no impacts to archaeological or cultural heritage 	<ul style="list-style-type: none"> Has no impacts to archaeological or cultural heritage 	
	 	 	
Regulatory Approvals complexity in obtaining permits/approvals for proposed works	<ul style="list-style-type: none"> Building permit and site plan approval required Amendment to Municipal Drinking Water License and Drinking Water Works Permit from MECP. Potential approvals from Hydro One for electrical upgrades if required. ESA approvals during construction for any new electrical equipment 	<ul style="list-style-type: none"> Building permit and site plan approval required Amendment to Municipal Drinking Water License and Drinking Water Works Permit from MECP. Potential approvals from Hydro One for electrical upgrades if required. ESA approvals during construction for any new electrical equipment 	
	 	 	

Technical and Operational			
Long-term Servicing of Zone 4 potential for option to support long-term growth and development	<ul style="list-style-type: none">Offers flexibility for future expansion and long-term growth	<ul style="list-style-type: none">Space restrictions limit future expansion and long-term growth	
	<div></div> <div></div>	<div></div> <div></div>	
Operational Complexity relative added complexity from operation of new infrastructure	<ul style="list-style-type: none">Operation and maintenance requirements will increaseSite proximity is less ideal for operator convenience	<ul style="list-style-type: none">Operation and maintenance requirements will increaseSite proximity is ideal for operator convenience	
	<div></div> <div></div>	<div></div> <div></div>	
Ease of Implementation potential level of complexity during construction	<ul style="list-style-type: none">Some limitations with construction and laydown areas due to the presence of natural environmental features	<ul style="list-style-type: none">Excavation of a vegetated slope is expected and tight space for constructionElectrical and piping connections are closer to tie-in points reducing construction requirements	
	<div></div> <div></div>	<div></div> <div></div>	
Economic			
Capital Costs	\$ 3.4 m	\$ 3.5 m	
	<div></div> <div></div>	<div></div> <div></div>	
OVERALL SCORE	<div></div>	<div></div>	

Recommended Alternative

The preferred alternative is “Alternative 4A” for the following reasons:

- Addresses the shortfalls when WSR when offline
- Improves the operation of Well 5/5A even after WSR is back online
- Provides Orangeville water supply with additional storage capacity
- Best available footprint for construction
- Most feasible for constructability
- Higher grade elevation provides some hydraulic benefit
- Maintains space at Well 5/5A for future expansion for pumping or treatment
- Social impacts on aesthetic can be easily mitigated with a reduced tank height (below tree level) while maintaining the required volume

Next Steps

Schedule B MCEA projects require a Project File Report to be prepared and submitted for a mandatory 30-day review by the public, regulatory agencies, and Indigenous communities. A Project File Report containing all of the supporting technical reports summarized in this PIC will be released for public, agency, and Indigenous community review in Fall 2022. 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 a Part 16 Order request may be forwarded to the Minister of Environment, Conservation and Parks and copied to the Town of Orangeville.

Construction is proposed to begin within 2 years from the release of the Notice of Completion and the acquirement of all required permits and approvals.

Feedback Survey

We want to hear from you! Please complete the questionnaire by clicking on the link below to provide us with any feedback that you may have on the project. Please provide your feedback by August 30, 2022.

ArcGIS Survey123

ArcGIS Survey123 is a complete, form-centric solution for creating, sharing and analyzing surveys.

<https://survey123.arcgis.com/share/?open=web&embed=fullScreen&id=98c5c41a4ac34c658cfdd884dc358214&hide=navbar,footer,theme>

You can contact the Project Team contact below with any additional comments or questions:

Sarah Pihel, Town of Orangeville

Phone: 519-941-0440 ext. 2292

E-mail: spihel@orangeville.ca

Alejandra Boyer, CIMA Canada Inc.

Phone: 289-288-0287 ext. 6847

E-mail: alejandra.boyer@cima.ca

F

Appendix F: Consultation Record

A: Agencies

Notice of Commencement

Alejandra Boyer

From: Alejandra Boyer
Sent: June 7, 2022 10:12 AM
To: sbrown@orangeville.ca; amacintosh@orangeville.ca; jandrews@orangeville.ca; gpeters@orangeville.ca; lpost@orangeville.ca; dsherwood@orangeville.ca; ttaylor@orangeville.ca
Cc: Sarah Pihel; Martin Lukasiewicz; Stephen Keen
Subject: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - Elected Officials
Attachments: Bradford Street Class EA - Notice of Study Commencement - Agency.pdf

Good morning Mayor Sandy, Deputy Mayor Andy and Town of Orangeville Councillors,

The Town has initiated the design for the full rehabilitation of the West Sector Reservoir. In order to facilitate rehabilitation of the West Sector Reservoir, modifications of the water supply system are required to ensure there would no interruption to customers in the service area. To identify the preferred solution to maintain service, the Town has initiated a Municipal Class Environmental Assessment (Class EA). CIMA+ is assisting the Town in the completion of this study, which is following the Schedule B process of the Municipal Class EA (2000, as amended 2015). Please refer to the attached Notice of Study Commencement for more information.

Please do not hesitate to contact us by responding to this email if you have any questions.

Thank you,

ALEJANDRA BOYER
Planner / Transportation

T 289-288-0287 ext. 6847 M 416-357-3153 F 289-288-0285
400-3027 Harvester Road, Burlington, ON L7N 3G7 CANADA



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Alejandra Boyer

From: Alejandra Boyer
Sent: June 7, 2022 10:02 AM
To: Steven Murphy; Michelle Dunne; Cody Joudry; Silva Yousif; Diksha Marwaha
Cc: Sarah Pihel; Martin Lukasiewicz; Stephen Keen
Subject: RE: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - County of Dufferin
Attachments: Orangeville Water Storage at Wells 55A Class EA - Notice of Commencement.pdf

Thank you, Steve!

Good morning Michelle, Cody, Silva, and Diksha,

Please refer to the attached Notice of Study Commencement for more information and do not hesitate to contact us if you have any questions.

Thank you,

ALEJANDRA BOYER
Planner / Transportation

T 289-288-0287 ext. 6847 M 416-357-3153 F 289-288-0285
400-3027 Harvester Road, Burlington, ON L7N 3G7 CANADA



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From: Steven Murphy <smurphy@dufferincounty.ca>
Sent: June 7, 2022 9:24 AM
To: Alejandra Boyer <Alejandra.Boyer@cima.ca>; phillock@dufferincounty.ca; Scott Burns <sburns@dufferincounty.ca>; Planner <planner@dufferincounty.ca>; Michelle Dunne <mdunne@dufferincounty.ca>; Cody Joudry <cjoudry@dufferincounty.ca>; Silva Yousif <syousif@dufferincounty.ca>; Diksha Marwaha <dmarwaha@dufferincounty.ca>
Cc: Sarah Pihel <SPihel@orangeville.ca>; Martin Lukasiewicz <Martin.Lukasiewicz@cima.ca>; Stephen Keen <Stephen.Keen@cima.ca>
Subject: RE: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - County of Dufferin

EXTERNAL EMAIL

Good morning and thank you for reaching out. Below are a few key contacts within our organization that you may wish to add to your contact list.

- Pam Hillock has retired and is replaced by Michelle Dunne mdunne@dufferincounty.ca
- Cody Joudry is our Director – Development and Tourism and planning falls within his portfolio. cjoudry@dufferincounty.ca
- Supporting Cody we have Silva Yousif, our Senior Planner syousif@dufferincounty.ca
- Diksha Marwaha is our Planning Coordinator dmawaha@dufferincounty.ca

Regards,

Steve Murphy | Manager – Preparedness, 911 & Corporate Projects | Office of the Chief Administrative Officer

County of Dufferin|Phone: 519-941-2816 Ext. 2401| Mobile: 519-938-7215
smurphy@dufferincounty.ca |55 Zina St, Orangeville, ON L9W 1E5

Serving with humility and gratitude upon the traditional territory and ancestral lands of the Tionontati, Attawandaron, Haudenosaunee and Anishinaabe peoples.

From: Alejandra Boyer <Alejandra.Boyer@cima.ca>

Sent: Tuesday, June 7, 2022 9:14 AM

To: phillock@dufferincounty.ca; Scott Burns <sburns@dufferincounty.ca>; Planner <planner@dufferincounty.ca>; Steven Murphy <smurphy@dufferincounty.ca>

Cc: Sarah Pihel <SPihel@orangeville.ca>; Martin Lukasiewicz <Martin.Lukasiewicz@cima.ca>; Stephen Keen <Stephen.Keen@cima.ca>

Subject: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - County of Dufferin

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the contents to be safe.

Good morning,

The Town has initiated the design for the full rehabilitation of the West Sector Reservoir. In order to facilitate rehabilitation of the West Sector Reservoir, modifications of the water supply system are required to ensure there would no interruption to customers in the service area. To identify the preferred solution to maintain service, the Town has initiated a Municipal Class Environmental Assessment (Class EA). CIMA+ is assisting the Town in the completion of this study, which is following the Schedule B process of the Municipal Class EA (2000, as amended 2015). Please refer to the attached Notice of Study Commencement for more information.

If there is another staff representative that this and future notices should be directed to, kindly forward this email and provide the appropriate contact information.

Please do not hesitate to contact us by responding to this email if you have any questions.

Thank you,

ALEJANDRA BOYER
Planner / Transportation

T 289-288-0287 ext. 6847 **M** 416-357-3153 **F** 289-288-0285
400–3027 Harvester Road, Burlington, ON L7N 3G7 CANADA



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Alejandra Boyer

From: Alejandra Boyer
Sent: June 7, 2022 9:44 AM
To: midhurstinfo@ontario.ca
Cc: Sarah Pihel; Martin Lukasiewicz; Stephen Keen
Subject: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - MNDMNRF
Attachments: Orangeville Water Storage at Wells 55A Class EA - Notice of Commencement.pdf

Good morning,

The Town has initiated the design for the full rehabilitation of the West Sector Reservoir. In order to facilitate rehabilitation of the West Sector Reservoir, modifications of the water supply system are required to ensure there would no interruption to customers in the service area. To identify the preferred solution to maintain service, the Town has initiated a Municipal Class Environmental Assessment (Class EA). CIMA+ is assisting the Town in the completion of this study, which is following the Schedule B process of the Municipal Class EA (2000, as amended 2015). Please refer to the attached Notice of Study Commencement for more information.

If there is another staff representative that this and future notices should be directed to, kindly forward this email and provide the appropriate contact information.

Kindly confirm who the MNRF contact will be for this project.

Please do not hesitate to contact us by responding to this email if you have any questions.

Thank you,

ALEJANDRA BOYER
Planner / Transportation

T 289-288-0287 ext. 6847 M 416-357-3153 F 289-288-0285
400-3027 Harvester Road, Burlington, ON L7N 3G7 CANADA



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Alejandra Boyer

From: Alejandra Boyer
Sent: June 7, 2022 9:27 AM
To: christie.hayhow@ontario.ca
Cc: Sarah Pihel; Martin Lukasiewicz; Stephen Keen
Subject: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - MCCSS
Attachments: Orangeville Water Storage at Wells 55A Class EA - Notice of Commencement.pdf

Good morning Christie,

The Town has initiated the design for the full rehabilitation of the West Sector Reservoir. In order to facilitate rehabilitation of the West Sector Reservoir, modifications of the water supply system are required to ensure there would no interruption to customers in the service area. To identify the preferred solution to maintain service, the Town has initiated a Municipal Class Environmental Assessment (Class EA). CIMA+ is assisting the Town in the completion of this study, which is following the Schedule B process of the Municipal Class EA (2000, as amended 2015). Please refer to the attached Notice of Study Commencement for more information.

If there is another staff representative that this and future notices should be directed to, kindly forward this email and provide the appropriate contact information.

Please do not hesitate to contact us by responding to this email if you have any questions.

Thank you,

ALEJANDRA BOYER
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400-3027 Harvester Road, Burlington, ON L7N 3G7 CANADA



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Alejandra Boyer

From: Alejandra Boyer
Sent: June 7, 2022 9:19 AM
To: damian.dupuy@ontario.ca
Cc: Sarah Pihel; Martin Lukasiewicz; Stephen Keen
Subject: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - Ontario Growth Secretariat
Attachments: Orangeville Water Storage at Wells 55A Class EA - Notice of Commencement.pdf

Good morning Damian,

The Town has initiated the design for the full rehabilitation of the West Sector Reservoir. In order to facilitate rehabilitation of the West Sector Reservoir, modifications of the water supply system are required to ensure there would no interruption to customers in the service area. To identify the preferred solution to maintain service, the Town has initiated a Municipal Class Environmental Assessment (Class EA). CIMA+ is assisting the Town in the completion of this study, which is following the Schedule B process of the Municipal Class EA (2000, as amended 2015). Please refer to the attached Notice of Study Commencement for more information.

If there is another staff representative that this and future notices should be directed to, kindly forward this email and provide the appropriate contact information.

Please do not hesitate to contact us by responding to this email if you have any questions.

Thank you,

ALEJANDRA BOYER
Planner / Transportation

T 289-288-0287 ext. 6847 M 416-357-3153 F 289-288-0285
400-3027 Harvester Road, Burlington, ON L7N 3G7 CANADA



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Alejandra Boyer

From: Alejandra Boyer
Sent: June 7, 2022 9:18 AM
To: lise.chabot@ontario.ca
Cc: Sarah Pihel; Martin Lukasiewicz; Stephen Keen
Subject: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - Ministry of Indigenous Affairs
Attachments: Orangeville Water Storage at Wells 55A Class EA - Notice of Commencement.pdf

Good morning Lise,

The Town has initiated the design for the full rehabilitation of the West Sector Reservoir. In order to facilitate rehabilitation of the West Sector Reservoir, modifications of the water supply system are required to ensure there would no interruption to customers in the service area. To identify the preferred solution to maintain service, the Town has initiated a Municipal Class Environmental Assessment (Class EA). CIMA+ is assisting the Town in the completion of this study, which is following the Schedule B process of the Municipal Class EA (2000, as amended 2015). Please refer to the attached Notice of Study Commencement for more information.

If there is another staff representative that this and future notices should be directed to, kindly forward this email and provide the appropriate contact information.

Please do not hesitate to contact us by responding to this email if you have any questions.

Thank you,

ALEJANDRA BOYER
Planner / Transportation

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400-3027 Harvester Road, Burlington, ON L7N 3G7 CANADA



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Alejandra Boyer

From: Alejandra Boyer
Sent: June 7, 2022 9:17 AM
To: maxine.daley@ontario.ca
Cc: Sarah Pihel; Martin Lukasiewicz; Stephen Keen
Subject: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - MCCSS
Attachments: Orangeville Water Storage at Wells 55A Class EA - Notice of Commencement.pdf

Good morning Maxine,

The Town has initiated the design for the full rehabilitation of the West Sector Reservoir. In order to facilitate rehabilitation of the West Sector Reservoir, modifications of the water supply system are required to ensure there would no interruption to customers in the service area. To identify the preferred solution to maintain service, the Town has initiated a Municipal Class Environmental Assessment (Class EA). CIMA+ is assisting the Town in the completion of this study, which is following the Schedule B process of the Municipal Class EA (2000, as amended 2015). Please refer to the attached Notice of Study Commencement for more information.

If there is another staff representative that this and future notices should be directed to, kindly forward this email and provide the appropriate contact information.

Please do not hesitate to contact us by responding to this email if you have any questions.

Thank you,

ALEJANDRA BOYER
Planner / Transportation

T 289-288-0287 ext. 6847 M 416-357-3153 F 289-288-0285
400-3027 Harvester Road, Burlington, ON L7N 3G7 CANADA



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Alejandra Boyer

From: Alejandra Boyer
Sent: June 7, 2022 9:14 AM
To: phillock@dufferincounty.ca; sburns@dufferincounty.ca; planner@dufferincounty.ca; smurphy@dufferincounty.ca
Cc: Sarah Pihel; Martin Lukasiewicz; Stephen Keen
Subject: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - County of Dufferin
Attachments: Orangeville Water Storage at Wells 55A Class EA - Notice of Commencement.pdf

Good morning,

The Town has initiated the design for the full rehabilitation of the West Sector Reservoir. In order to facilitate rehabilitation of the West Sector Reservoir, modifications of the water supply system are required to ensure there would no interruption to customers in the service area. To identify the preferred solution to maintain service, the Town has initiated a Municipal Class Environmental Assessment (Class EA). CIMA+ is assisting the Town in the completion of this study, which is following the Schedule B process of the Municipal Class EA (2000, as amended 2015). Please refer to the attached Notice of Study Commencement for more information.

If there is another staff representative that this and future notices should be directed to, kindly forward this email and provide the appropriate contact information.

Please do not hesitate to contact us by responding to this email if you have any questions.

Thank you,

ALEJANDRA BOYER
Planner / Transportation

T 289-288-0287 ext. 6847 M 416-357-3153 F 289-288-0285
400-3027 Harvester Road, Burlington, ON L7N 3G7 CANADA



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Alejandra Boyer

From: Alejandra Boyer
Sent: June 7, 2022 9:12 AM
To: inquiry@ugdsb.on.ca; julie.cherepacha@dpcdsb.org
Cc: Sarah Pihel; Martin Lukasiewicz; Stephen Keen
Subject: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - School Boards
Attachments: Orangeville Water Storage at Wells 55A Class EA - Notice of Commencement.pdf

Good morning,

The Town has initiated the design for the full rehabilitation of the West Sector Reservoir. In order to facilitate rehabilitation of the West Sector Reservoir, modifications of the water supply system are required to ensure there would no interruption to customers in the service area. To identify the preferred solution to maintain service, the Town has initiated a Municipal Class Environmental Assessment (Class EA). CIMA+ is assisting the Town in the completion of this study, which is following the Schedule B process of the Municipal Class EA (2000, as amended 2015). Please refer to the attached Notice of Study Commencement for more information.

If there is another staff representative that this and future notices should be directed to, kindly forward this email and provide the appropriate contact information.

Please do not hesitate to contact us by responding to this email if you have any questions.

Thank you,

ALEJANDRA BOYER
Planner / Transportation

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400-3027 Harvester Road, Burlington, ON L7N 3G7 CANADA



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Alejandra Boyer

From: Alejandra Boyer
Sent: June 7, 2022 9:09 AM
To: jennifer.davey@opp.ca; abisola.akinwumi@opp.ca
Cc: Sarah Pihel; Martin Lukasiewicz; Stephen Keen
Subject: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - OPP
Attachments: Orangeville Water Storage at Wells 55A Class EA - Notice of Commencement.pdf

Good morning Jennifer and Abisola,

The Town has initiated the design for the full rehabilitation of the West Sector Reservoir. In order to facilitate rehabilitation of the West Sector Reservoir, modifications of the water supply system are required to ensure there would no interruption to customers in the service area. To identify the preferred solution to maintain service, the Town has initiated a Municipal Class Environmental Assessment (Class EA). CIMA+ is assisting the Town in the completion of this study, which is following the Schedule B process of the Municipal Class EA (2000, as amended 2015). Please refer to the attached Notice of Study Commencement for more information.

We understand that the Town of Orangeville Police Service transitioned into OPP as of October 2020. If there is another staff representative that this and future notices should be directed to, kindly forward this email and provide the appropriate contact information.

Please do not hesitate to contact us by responding to this email if you have any questions.

Thank you,

ALEJANDRA BOYER
Planner / Transportation

T 289-288-0287 ext. 6847 M 416-357-3153 F 289-288-0285
400-3027 Harvester Road, Burlington, ON L7N 3G7 CANADA



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Alejandra Boyer

From: Alejandra Boyer
Sent: June 7, 2022 9:07 AM
To: ken.mott@ontario.ca
Cc: Sarah Pihel; Martin Lukasiewicz; Stephen Keen
Subject: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - MNDMNRF
Attachments: Orangeville Water Storage at Wells 55A Class EA - Notice of Commencement.pdf

Good morning Ken,

The Town has initiated the design for the full rehabilitation of the West Sector Reservoir. In order to facilitate rehabilitation of the West Sector Reservoir, modifications of the water supply system are required to ensure there would no interruption to customers in the service area. To identify the preferred solution to maintain service, the Town has initiated a Municipal Class Environmental Assessment (Class EA). CIMA+ is assisting the Town in the completion of this study, which is following the Schedule B process of the Municipal Class EA (2000, as amended 2015). Please refer to the attached Notice of Study Commencement for more information.

If there is another staff representative that this and future notices should be directed to, kindly forward this email and provide the appropriate contact information.

Kindly confirm who the MNRF contact will be for this project.

Please do not hesitate to contact us by responding to this email if you have any questions.

Thank you,

ALEJANDRA BOYER
Planner / Transportation

T 289-288-0287 ext. 6847 M 416-357-3153 F 289-288-0285
400-3027 Harvester Road, Burlington, ON L7N 3G7 CANADA



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CANADA 2021

Alejandra Boyer

From: Alejandra Boyer
Sent: June 7, 2022 9:04 AM
To: erick.boyd@ontario.ca
Cc: Sarah Pihel; Martin Lukasiewicz; Stephen Keen
Subject: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - MMAH
Attachments: Orangeville Water Storage at Wells 55A Class EA - Notice of Commencement.pdf

Good morning Erick,

The Town has initiated the design for the full rehabilitation of the West Sector Reservoir. In order to facilitate rehabilitation of the West Sector Reservoir, modifications of the water supply system are required to ensure there would no interruption to customers in the service area. To identify the preferred solution to maintain service, the Town has initiated a Municipal Class Environmental Assessment (Class EA). CIMA+ is assisting the Town in the completion of this study, which is following the Schedule B process of the Municipal Class EA (2000, as amended 2015). Please refer to the attached Notice of Study Commencement for more information.

If there is another staff representative that this and future notices should be directed to, kindly forward this email and provide the appropriate contact information.

Please do not hesitate to contact us by responding to this email if you have any questions.

Thank you,

ALEJANDRA BOYER
Planner / Transportation

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400-3027 Harvester Road, Burlington, ON L7N 3G7 CANADA



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Alejandra Boyer

From: Alejandra Boyer
Sent: June 7, 2022 9:01 AM
To: karla.barboza@ontario.ca
Cc: Sarah Pihel; Martin Lukasiewicz; Stephen Keen
Subject: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement -MHSTCI
Attachments: Orangeville Water Storage at Wells 55A Class EA - Notice of Commencement.pdf

Good morning Karla,

The Town has initiated the design for the full rehabilitation of the West Sector Reservoir. In order to facilitate rehabilitation of the West Sector Reservoir, modifications of the water supply system are required to ensure there would no interruption to customers in the service area. To identify the preferred solution to maintain service, the Town has initiated a Municipal Class Environmental Assessment (Class EA). CIMA+ is assisting the Town in the completion of this study, which is following the Schedule B process of the Municipal Class EA (2000, as amended 2015). Please refer to the attached Notice of Study Commencement for more information.

If there is another staff representative that this and future notices should be directed to, kindly forward this email and provide the appropriate contact information.

Please do not hesitate to contact us by responding to this email if you have any questions.

Thank you,

ALEJANDRA BOYER
Planner / Transportation

T 289-288-0287 ext. 6847 M 416-357-3153 F 289-288-0285
400-3027 Harvester Road, Burlington, ON L7N 3G7 CANADA



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Alejandra Boyer

From: Alejandra Boyer
Sent: June 7, 2022 8:57 AM
To: info@wdgpublichealth.ca
Cc: Sarah Pihel; Martin Lukasiewicz; Stephen Keen
Subject: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement -Wellington-Dufferin-Guelph Public Health
Attachments: Orangeville Water Storage at Wells 55A Class EA - Notice of Commencement.pdf

Good morning Nicola,

The Town has initiated the design for the full rehabilitation of the West Sector Reservoir. In order to facilitate rehabilitation of the West Sector Reservoir, modifications of the water supply system are required to ensure there would no interruption to customers in the service area. To identify the preferred solution to maintain service, the Town has initiated a Municipal Class Environmental Assessment (Class EA). CIMA+ is assisting the Town in the completion of this study, which is following the Schedule B process of the Municipal Class EA (2000, as amended 2015). Please refer to the attached Notice of Study Commencement for more information.

If there is another staff representative that this and future notices should be directed to, kindly forward this email and provide the appropriate contact information.

Please do not hesitate to contact us by responding to this email if you have any questions.

Thank you,

ALEJANDRA BOYER
Planner / Transportation

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400-3027 Harvester Road, Burlington, ON L7N 3G7 CANADA



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Alejandra Boyer

From: Alejandra Boyer
Sent: June 7, 2022 8:56 AM
To: fireinfo@orangeville.ca; treid@dufferincounty.ca
Cc: Sarah Pihel; Martin Lukasiewicz; Stephen Keen
Subject: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - Fire and EMS
Attachments: Orangeville Water Storage at Wells 55A Class EA - Notice of Commencement.pdf

Good morning,

The Town has initiated the design for the full rehabilitation of the West Sector Reservoir. In order to facilitate rehabilitation of the West Sector Reservoir, modifications of the water supply system are required to ensure there would no interruption to customers in the service area. To identify the preferred solution to maintain service, the Town has initiated a Municipal Class Environmental Assessment (Class EA). CIMA+ is assisting the Town in the completion of this study, which is following the Schedule B process of the Municipal Class EA (2000, as amended 2015). Please refer to the attached Notice of Study Commencement for more information.

If there is another staff representative that this and future notices should be directed to, kindly forward this email and provide the appropriate contact information.

Please do not hesitate to contact us by responding to this email if you have any questions.

Thank you,

ALEJANDRA BOYER
Planner / Transportation

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400-3027 Harvester Road, Burlington, ON L7N 3G7 CANADA



Engineering
for people



Alejandra Boyer

From: Alejandra Boyer
Sent: June 7, 2022 8:51 AM
To: tyler.slaght@cvc.ca
Cc: Sarah Pihel; Martin Lukasiewicz; Stephen Keen
Subject: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - CVC
Attachments: Orangeville Water Storage at Wells 55A Class EA - Notice of Commencement.pdf

Good morning Tyler,

The Town has initiated the design for the full rehabilitation of the West Sector Reservoir. In order to facilitate rehabilitation of the West Sector Reservoir, modifications of the water supply system are required to ensure there would no interruption to customers in the service area. To identify the preferred solution to maintain service, the Town has initiated a Municipal Class Environmental Assessment (Class EA). CIMA+ is assisting the Town in the completion of this study, which is following the Schedule B process of the Municipal Class EA (2000, as amended 2015). Please refer to the attached Notice of Study Commencement for more information.

If there is another staff representative that this and future notices should be directed to, kindly forward this email and provide the appropriate contact information.

Please do not hesitate to contact us by responding to this email if you have any questions.

Thank you,

ALEJANDRA BOYER
Planner / Transportation

T 289-288-0287 ext. 6847 M 416-357-3153 F 289-288-0285
400-3027 Harvester Road, Burlington, ON L7N 3G7 CANADA



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CANADA 2021

Alejandra Boyer

From: Alejandra Boyer
Sent: June 7, 2022 8:50 AM
To: eanotification.wcregion@ontario.ca
Cc: Sarah Pihel; Martin Lukasiewicz; Stephen Keen
Subject: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - MECP
Attachments: Orangeville Water Storage at Wells 55A Class EA - Notice of Commencement.pdf

Good morning,

The Town has initiated the design for the full rehabilitation of the West Sector Reservoir. In order to facilitate rehabilitation of the West Sector Reservoir, modifications of the water supply system are required to ensure there would no interruption to customers in the service area. To identify the preferred solution to maintain service, the Town has initiated a Municipal Class Environmental Assessment (Class EA). CIMA+ is assisting the Town in the completion of this study, which is following the Schedule B process of the Municipal Class EA (2000, as amended 2015). Please refer to the attached Notice of Study Commencement for more information.

If there is another staff representative that this and future notices should be directed to, kindly forward this email and provide the appropriate contact information.

Please do not hesitate to contact us by responding to this email if you have any questions.

Thank you,

ALEJANDRA BOYER
Planner / Transportation

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400-3027 Harvester Road, Burlington, ON L7N 3G7 CANADA



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Notice of PIC

Alejandra Boyer

From: Alejandra Boyer
Sent: August 19, 2022 9:24 AM
Cc: 'Sarah Pihel'; Martin Lukasiewicz; Stephen Keen
Subject: Town of Orangeville Water Storage at Wells 55A Class EA - Notice of PIC
Attachments: Orangeville Water Storage at Wells 5 5A Class EA - Notice of PIC.pdf

Good afternoon,

This week, the Town of Orangeville has **posted a virtual Public Information Centre (PIC)** for Water Storage at Wells 5/5A Municipal Class Environmental Assessment. The PIC will present the study scope, existing conditions, problems and opportunities, alternative solutions, early design concepts, and next steps and will be made available on the Town's website (Orangeville.ca/PICAugust2022) **from August 18, 2022 to September 16, 2022**. We invite you to review this material and reach out to the project team if any aspects of the study may impact your interests. Further details about the PIC and how to provide comments are included in the attached Notice.

If you have any questions or feedback, please do not hesitate to contact us by responding to this email.

Thank you,

ALEJANDRA BOYER
Planner / Transportation

T 289-288-0287 ext. 6847 **M** 416-357-3153 **F** 289-288-0285
400–3027 Harvester Road, Burlington, ON L7N 3G7 CANADA



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Notice of Completion

B: Indigenous Communities

Notice of Commencement

Alejandra Boyer

From: Sarah Pihel <SPihel@orangeville.ca>
Sent: July 4, 2022 3:36 PM
To: sfn@saugeen.org
Cc: sfn@saugeen.org; Martin Lukasiewicz; Alejandra Boyer; Stephen Keen
Subject: Town of Orangeville Water Storage at Wells 55A Class EA - Notice of Study Commencement for Saugeen First Nation
Attachments: Town of Orangeville Water Storage at Wells 55A Class EA - Notice of Study Commencement for Saugeen First Nation.pdf; T001436A-085-220516-PN-Notice of Commencement_e03_V01.pdf; Stage 1-2 Archaeological Assessment of Well 5-5A, Orangeville.pdf

EXTERNAL EMAIL

Good afternoon Chief Anoquot,

The Town of Orangeville, Ontario has initiated a Municipal Class Environmental Assessment (Class EA) to plan for a new water storage facility at the Wells 5/5A site.

CIMA+ is assisting the Town in the completion of this study, which is following the Schedule B process of the Municipal Class EA (2000, as Amended 2015).

Kindly refer to the attached introductory letter and Notice of Commencement for more information about this project. We hope that this email can be shared with Band Administrator, Trish Meekins and Executive Assistant, Leona Roote.

The Project Team would be pleased to meet with you at any time to discuss the project and respond to any questions or concerns you may have.

Please contact the Town of Orangeville's Project Manager Sarah Pihel (spihel@orangeville.ca) directly or respond to this email to provide initial feedback and/or request a meeting.

Respectfully,

Sarah Pihel, C.E.T. | Project Technologist | Infrastructure Services

Town of Orangeville | 87 Broadway | Orangeville, ON L9W 1K1

Office Number- 519-941-0440 Ext. 2292 | Toll Free 1-866-941-0440 Ext. 2292 | Cell: 519-938-7833

spihel@orangeville.ca | www.orangeville.ca

Infrastructure Services

**Chief Lester Anoquot
Saugeen First Nation**

Sent via Email July 4, 2022

**RE: Town of Orangeville
Schedule B Municipal Class Environmental Assessment for Water Storage at Well 5/5A**

Greetings Chief Anoquot,

The Town of Orangeville (Town) has identified necessary rehabilitation measures to its West Sector Reservoir Elevated Water Tank (WSR). The rehabilitation work will require the WSR to be offline for several months for upgrades to occur. When offline, the burden of maintaining water service to Zone 4 must be met by other Orangeville water infrastructure. A review of the existing water system identified concerns about the Town's water storage capacity with the WSR offline to complete the necessary work.

The Town is therefore initiating a Municipal Class Environmental Assessment (MCEA) Study to plan for a new water storage facility at the Wells 5/5A site. The proposed facility will provide additional water storage capacity to support the necessary work at the WSR. The new water storage capacity at Wells 5/5A will leverage the high-water yield at this site and address on-going operational issues. A specific location and configuration for the new water storage facility at the Wells 5/5A site will be identified and confirmed through this MCEA process.

CIMA+ is assisting the Town in the completion of this study. The Notice of Study Commencement is attached and more information about the Study is in this covering letter. The MCEA Study will be completed in accordance with the Ontario Environmental Assessment Act and will fulfill the requirements of the MCEA process (October 2000, as amended in 2015). The project team will examine a full range of alternatives and identify a preferred strategy to address identified needs. One Public Information Centres (PIC) will be held. The PIC will be held in an online format and is tentatively scheduled for Summer 2022 to present the purpose and scope of this study, existing conditions and to review alternative solutions. Advanced notification of the PIC will be provided.

The study area is depicted on the attached key map and encompasses an area of Town-owned lands on the west side of Dufferin County Road 16. The study area is in a rural setting. The areas of land surrounding the site are woodland to the west, and north, with a residential property to the north-east, and the Greenwood cemetery immediately to the south. As part of the MCEA process, a review of natural features and groundwater conditions is being undertaken. These reports can be made available upon request.

A Stage 1-2 Archaeological Assessment has been completed and is attached for your consideration.

The Town respectfully recognizes Indigenous Nations as rightsholders and is committed to undertaking this MCEA study in a way that is respectful of the rights and interests of Indigenous Communities.

At this time, we invite you to confirm if your community has an interest in this MCEA study and how your community wishes to be engaged through the study.

The Project Team would be pleased to meet with you at any time to discuss the project and respond to any questions or concerns you may have.

Please contact the Town of Orangeville Project Manager to provide initial feedback and/or request a meeting:

Sincerely,

Sarah Pihel, C.E.T.
Project Technologist
Town of Orangeville
87 Broadway
Orangeville, ON L9W 1K1
Phone: 519-941-0440 ext. 2292
E-mail: spihel@orangeville.ca

cc: Martin, CIMA+
Alejandra Boyer, CIMA+
Stephen Keen, CIMA+

Encl. Notice of Study Commencement, Study Area Map, Archeological Assessment

Alejandra Boyer

From: Sarah Pihel <SPihel@orangeville.ca>
Sent: July 4, 2022 3:39 PM
To: chief.veronica@nawash.ca
Cc: executiveassistant@nawash.ca; Martin Lukasiewicz; Alejandra Boyer; Stephen Keen
Subject: Town of Orangeville Water Storage at Wells 55A Class EA - Notice of Study Commencement for Chippewas of Nawash Unceded First Nation
Attachments: Town of Orangeville Water Storage at Wells 55A Class EA - Notice of Study Commencement for Chippewas of Nawash Unceded First Nation.pdf; T001436A-085-220516-PN-Notice of Commencement_e03_V01.pdf; Stage 1-2 Archaeological Assessment of Well 5-5A, Orangeville.pdf

EXTERNAL EMAIL

Good afternoon Ogimaakwe Smith,

The Town of Orangeville, Ontario has initiated a Municipal Class Environmental Assessment (Class EA) to plan for a new water storage facility at the Wells 5/5A site.

CIMA+ is assisting the Town in the completion of this study, which is following the Schedule B process of the Municipal Class EA (2000, as Amended 2015).

Kindly refer to the attached introductory letter and Notice of Commencement for more information about this project.

The Project Team would be pleased to meet with you at any time to discuss the project and respond to any questions or concerns you may have.

Please contact the Town of Orangeville's Project Manager Sarah Pihel (spihel@orangeville.ca) directly or respond to this email to provide initial feedback and/or request a meeting.

Respectfully,

Sarah Pihel, C.E.T. | Project Technologist | Infrastructure Services

Town of Orangeville | 87 Broadway | Orangeville, ON L9W 1K1

Office Number- 519-941-0440 Ext. 2292 | Toll Free 1-866-941-0440 Ext. 2292 | Cell: 519-938-7833

spihel@orangeville.ca | www.orangeville.ca

Infrastructure Services

**Chief Lester Anoquot
Chippewas of Nawash Unceded First Nation**

Sent via Email July 4, 2022

**RE: Town of Orangeville
Schedule B Municipal Class Environmental Assessment for Water Storage at Well 5/5A**

Greetings Ogimaakwe Smith,

The Town of Orangeville (Town) has identified necessary rehabilitation measures to its West Sector Reservoir Elevated Water Tank (WSR). The rehabilitation work will require the WSR to be offline for several months for upgrades to occur. When offline, the burden of maintaining water service to Zone 4 must be met by other Orangeville water infrastructure. A review of the existing water system identified concerns about the Town's water storage capacity with the WSR offline to complete the necessary work.

The Town is therefore initiating a Municipal Class Environmental Assessment (MCEA) Study to plan for a new water storage facility at the Wells 5/5A site. The proposed facility will provide additional water storage capacity to support the necessary work at the WSR. The new water storage capacity at Wells 5/5A will leverage the high-water yield at this site and address on-going operational issues. A specific location and configuration for the new water storage facility at the Wells 5/5A site will be identified and confirmed through this MCEA process.

CIMA+ is assisting the Town in the completion of this study. The Notice of Study Commencement is attached and more information about the Study is in this covering letter. The MCEA Study will be completed in accordance with the Ontario Environmental Assessment Act and will fulfill the requirements of the MCEA process (October 2000, as amended in 2015). The project team will examine a full range of alternatives and identify a preferred strategy to address identified needs. One Public Information Centres (PIC) will be held. The PIC will be held in an online format and is tentatively scheduled for Summer 2022 to present the purpose and scope of this study, existing conditions and to review alternative solutions. Advanced notification of the PIC will be provided.

The study area is depicted on the attached key map and encompasses an area of Town-owned lands on the west side of Dufferin County Road 16. The study area is in a rural setting. The areas of land surrounding the site are woodland to the west, and north, with a residential property to the north-east, and the Greenwood cemetery immediately to the south. As part of the MCEA process, a review of natural features and groundwater conditions is being undertaken. These reports can be made available upon request.

A Stage 1-2 Archaeological Assessment has been completed and is attached for your consideration.

The Town respectfully recognizes Indigenous Nations as rightsholders and is committed to undertaking this MCEA study in a way that is respectful of the rights and interests of Indigenous Communities.

At this time, we invite you to confirm if your community has an interest in this MCEA study and how your community wishes to be engaged through the study.

The Project Team would be pleased to meet with you at any time to discuss the project and respond to any questions or concerns you may have.

Please contact the Town of Orangeville Project Manager to provide initial feedback and/or request a meeting:

Sincerely,

Sarah Pihel, C.E.T.
Project Technologist
Town of Orangeville
87 Broadway
Orangeville, ON L9W 1K1
Phone: 519-941-0440 ext. 2292
E-mail: spihel@orangeville.ca

cc: Terry King, Executive Assistant, executiveassistant@nawash.ca
Martin, CIMA+
Alejandra Boyer, CIMA+
Stephen Keen, CIMA+

Encl. Notice of Study Commencement, Study Area Map, Archeological Assessment

Alejandra Boyer

From: Sarah Pihel <SPihel@orangeville.ca>
Sent: July 4, 2022 3:43 PM
To: executiveassistant@chimnissing.ca
Cc: jcopegog@chimnissing.ca; consultation@chimnissing.ca; inquiries@williamstreatiesfirstnations.ca; Martin Lukasiewicz; Alejandra Boyer; Stephen Keen
Subject: RE: Town of Orangeville Water Storage at Wells 55A Class EA - Notice of Study Commencement for Beausoleil First Nation
Attachments: Town of Orangeville Water Storage at Wells 55A Class EA - Notice of Study Commencement for Beausoleil First Nation.pdf; T001436A-085-220516-PN-Notice of Commencement_e03_V01.pdf; Stage 1-2 Archaeological Assessment of Well 5-5A, Orangeville.pdf

EXTERNAL EMAIL

Good afternoon Chief Sandy,

The Town of Orangeville, Ontario has initiated a Municipal Class Environmental Assessment (Class EA) to plan for a new water storage facility at the Wells 5/5A site.

CIMA+ is assisting the Town in the completion of this study, which is following the Schedule B process of the Municipal Class EA (2000, as Amended 2015).

Kindly refer to the attached introductory letter and Notice of Commencement for more information about this project.

The Project Team would be pleased to meet with you at any time to discuss the project and respond to any questions or concerns you may have.

Please contact the Town of Orangeville's Project Manager Sarah Pihel (spihel@orangeville.ca) directly or respond to this email to provide initial feedback and/or request a meeting.

Respectfully,

Sarah

Sarah Pihel, C.E.T. | Project Technologist | Infrastructure Services

Town of Orangeville | 87 Broadway | Orangeville, ON L9W 1K1

Office Number- 519-941-0440 Ext. 2292 | Toll Free 1-866-941-0440 Ext. 2292 | Cell: 519-938-7833

spihel@orangeville.ca | www.orangeville.ca

Infrastructure Services

**Chief Joanne Sandy
Beausoleil First Nation**

Sent via Email July 4, 2022

**RE: Town of Orangeville
Schedule B Municipal Class Environmental Assessment for Water Storage at Well 5/5A**

Greetings Chief Sandy,

The Town of Orangeville (Town) has identified necessary rehabilitation measures to its West Sector Reservoir Elevated Water Tank (WSR). The rehabilitation work will require the WSR to be offline for several months for upgrades to occur. When offline, the burden of maintaining water service to Zone 4 must be met by other Orangeville water infrastructure. A review of the existing water system identified concerns about the Town's water storage capacity with the WSR offline to complete the necessary work.

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A Stage 1-2 Archaeological Assessment has been completed and is attached for your consideration.

The Town respectfully recognizes Indigenous Nations as rightsholders and is committed to undertaking this MCEA study in a way that is respectful of the rights and interests of Indigenous Communities.

At this time, we invite you to confirm if your community has an interest in this MCEA study and how your community wishes to be engaged through the study.

The Project Team would be pleased to meet with you at any time to discuss the project and respond to any questions or concerns you may have.

Please contact the Town of Orangeville Project Manager to provide initial feedback and/or request a meeting:

Sincerely,

Sarah Pihel, C.E.T.
Project Technologist
Town of Orangeville
87 Broadway
Orangeville, ON L9W 1K1
Phone: 519-941-0440 ext. 2292
E-mail: spihel@orangeville.ca

cc: Jane Copegog, Lands Manager, jcopegog@chimnissing.ca
Susan Copegog, Consultation Worker, consultation@chimnissing.ca
Karry Sandy McKenzie, William Treaties First Nations Process Co-ordinator,
inquiries@williamstreatiesfirstnations.ca
Martin, CIMA+
Alejandra Boyer, CIMA+
Stephen Keen, CIMA+

Encl. Notice of Study Commencement, Study Area Map, Archeological Assessment

Alejandra Boyer

From: Sarah Pihel <SPihel@orangeville.ca>
Sent: July 4, 2022 3:48 PM
To: klarocca@scugogfirstnation.com
Cc: Martin Lukasiewicz; Alejandra Boyer; Stephen Keen
Subject: RE: Town of Orangeville Water Storage at Wells 55A Class EA - Notice of Study Commencement for Chippewas of Georgina Island First Nation
Attachments: Town of Orangeville Water Storage at Wells 55A Class EA - Notice of Study Commencement for Chippewas of Georgina Island First Nation.pdf; T001436A-085-220516-PN-Notice of Commencement_e03_V01.pdf; Stage 1-2 Archaeological Assessment of Well 5-5A, Orangeville.pdf

EXTERNAL EMAIL

Good afternoon Chief Big Canoe,

The Town of Orangeville, Ontario has initiated a Municipal Class Environmental Assessment (Class EA) to plan for a new water storage facility at the Wells 5/5A site.

CIMA+ is assisting the Town in the completion of this study, which is following the Schedule B process of the Municipal Class EA (2000, as Amended 2015).

Kindly refer to the attached introductory letter and Notice of Commencement for more information about this project.

The Project Team would be pleased to meet with you at any time to discuss the project and respond to any questions or concerns you may have.

Please contact the Town of Orangeville's Project Manager Sarah Pihel (spihel@orangeville.ca) directly or respond to this email to provide initial feedback and/or request a meeting.

Respectfully,

Sarah

Sarah Pihel, C.E.T. | Project Technologist | Infrastructure Services

Town of Orangeville | 87 Broadway | Orangeville, ON L9W 1K1

Office Number- 519-941-0440 Ext. 2292 | Toll Free 1-866-941-0440 Ext. 2292 | Cell: 519-938-7833

spihel@orangeville.ca | www.orangeville.ca

Infrastructure Services

**Chief Donna Big Canoe
Chippewas of Georgina Island First Nation**

Sent via Email July 4, 2022

**RE: Town of Orangeville
Schedule B Municipal Class Environmental Assessment for Water Storage at Well 5/5A**

Greetings Chief Big Canoe,

The Town of Orangeville (Town) has identified necessary rehabilitation measures to its West Sector Reservoir Elevated Water Tank (WSR). The rehabilitation work will require the WSR to be offline for several months for upgrades to occur. When offline, the burden of maintaining water service to Zone 4 must be met by other Orangeville water infrastructure. A review of the existing water system identified concerns about the Town's water storage capacity with the WSR offline to complete the necessary work.

The Town is therefore initiating a Municipal Class Environmental Assessment (MCEA) Study to plan for a new water storage facility at the Wells 5/5A site. The proposed facility will provide additional water storage capacity to support the necessary work at the WSR. The new water storage capacity at Wells 5/5A will leverage the high-water yield at this site and address on-going operational issues. A specific location and configuration for the new water storage facility at the Wells 5/5A site will be identified and confirmed through this MCEA process.

CIMA+ is assisting the Town in the completion of this study. The Notice of Study Commencement is attached and more information about the Study is in this covering letter. The MCEA Study will be completed in accordance with the Ontario Environmental Assessment Act and will fulfill the requirements of the MCEA process (October 2000, as amended in 2015). The project team will examine a full range of alternatives and identify a preferred strategy to address identified needs. One Public Information Centres (PIC) will be held. The PIC will be held in an online format and is tentatively scheduled for Summer 2022 to present the purpose and scope of this study, existing conditions and to review alternative solutions. Advanced notification of the PIC will be provided.

The study area is depicted on the attached key map and encompasses an area of Town-owned lands on the west side of Dufferin County Road 16. The study area is in a rural setting. The areas of land surrounding the site are woodland to the west, and north, with a residential property to the north-east, and the Greenwood cemetery immediately to the south. As part of the MCEA process, a review of natural features and groundwater conditions is being undertaken. These reports can be made available upon request.

A Stage 1-2 Archaeological Assessment has been completed and is attached for your consideration.

The Town respectfully recognizes Indigenous Nations as rightsholders and is committed to undertaking this MCEA study in a way that is respectful of the rights and interests of Indigenous Communities.

At this time, we invite you to confirm if your community has an interest in this MCEA study and how your community wishes to be engaged through the study.

The Project Team would be pleased to meet with you at any time to discuss the project and respond to any questions or concerns you may have.

Please contact the Town of Orangeville Project Manager to provide initial feedback and/or request a meeting:

Sincerely,

Sarah Pihel, C.E.T.
Project Technologist
Town of Orangeville
87 Broadway
Orangeville, ON L9W 1K1
Phone: 519-941-0440 ext. 2292
E-mail: spihel@orangeville.ca

cc: Karry Sandy McKenzie, William Treaties First Nations Process Co-ordinator,
inquiries@williamstreatiesfirstnations.ca
Martin, CIMA+
Alejandra Boyer, CIMA+
Stephen Keen, CIMA+

Encl. Notice of Study Commencement, Study Area Map, Archeological Assessment

Alejandra Boyer

From: Sarah Pihel <SPihel@orangeville.ca>
Sent: July 4, 2022 3:50 PM
To: Stacey.LaForme@mncfn.ca
Cc: mark.laforme@mncfn.ca; doca@mncfn.ca; abby.laforme@mncfn.ca; Martin Lukasiewicz; Alejandra Boyer; Stephen Keen
Subject: Town of Orangeville Water Storage at Wells 55A Class EA - Notice of Study Commencement for Mississaugas of the Credit First Nation
Attachments: Town of Orangeville Water Storage at Wells 55A Class EA - Notice of Study Commencement for Mississaugas of the Credit First Nation.pdf; T001436A-085-220516-PN-Notice of Commencement_e03_V01.pdf; Stage 1-2 Archaeological Assessment of Well 5-5A, Orangeville.pdf

EXTERNAL EMAIL

Good afternoon Chief LaForme,

The Town of Orangeville, Ontario has initiated a Municipal Class Environmental Assessment (Class EA) to plan for a new water storage facility at the Wells 5/5A site.

CIMA+ is assisting the Town in the completion of this study, which is following the Schedule B process of the Municipal Class EA (2000, as Amended 2015).

Kindly refer to the attached introductory letter and Notice of Commencement for more information about this project.

The Project Team would be pleased to meet with you at any time to discuss the project and respond to any questions or concerns you may have.

Please contact the Town of Orangeville's Project Manager Sarah Pihel (spihel@orangeville.ca) directly or respond to this email to provide initial feedback and/or request a meeting.

Respectfully,

Sarah

Sarah Pihel, C.E.T. | Project Technologist | Infrastructure Services

Town of Orangeville | 87 Broadway | Orangeville, ON L9W 1K1

Office Number- 519-941-0440 Ext. 2292 | Toll Free 1-866-941-0440 Ext. 2292 | Cell: 519-938-7833

spihel@orangeville.ca | www.orangeville.ca

Infrastructure Services

Chief R. Stacey LaForme
Mississaugas of the Credit First Nation

Sent via Email July 4, 2022

RE: Town of Orangeville
Schedule B Municipal Class Environmental Assessment for Water Storage at Well 5/5A

Greetings Chief LaForme,

The Town of Orangeville (Town) has identified necessary rehabilitation measures to its West Sector Reservoir Elevated Water Tank (WSR). The rehabilitation work will require the WSR to be offline for several months for upgrades to occur. When offline, the burden of maintaining water service to Zone 4 must be met by other Orangeville water infrastructure. A review of the existing water system identified concerns about the Town's water storage capacity with the WSR offline to complete the necessary work.

The Town is therefore initiating a Municipal Class Environmental Assessment (MCEA) Study to plan for a new water storage facility at the Wells 5/5A site. The proposed facility will provide additional water storage capacity to support the necessary work at the WSR. The new water storage capacity at Wells 5/5A will leverage the high-water yield at this site and address on-going operational issues. A specific location and configuration for the new water storage facility at the Wells 5/5A site will be identified and confirmed through this MCEA process.

CIMA+ is assisting the Town in the completion of this study. The Notice of Study Commencement is attached and more information about the Study is in this covering letter. The MCEA Study will be completed in accordance with the Ontario Environmental Assessment Act and will fulfill the requirements of the MCEA process (October 2000, as amended in 2015). The project team will examine a full range of alternatives and identify a preferred strategy to address identified needs. One Public Information Centres (PIC) will be held. The PIC will be held in an online format and is tentatively scheduled for Summer 2022 to present the purpose and scope of this study, existing conditions and to review alternative solutions. Advanced notification of the PIC will be provided.

The study area is depicted on the attached key map and encompasses an area of Town-owned lands on the west side of Dufferin County Road 16. The study area is in a rural setting. The areas of land surrounding the site are woodland to the west, and north, with a residential property to the north-east, and the Greenwood cemetery immediately to the south. As part of the MCEA process, a review of natural features and groundwater conditions is being undertaken. These reports can be made available upon request.

A Stage 1-2 Archaeological Assessment has been completed and is attached for your consideration.

The Town respectfully recognizes Indigenous Nations as rightsholders and is committed to undertaking this MCEA study in a way that is respectful of the rights and interests of Indigenous Communities.

At this time, we invite you to confirm if your community has an interest in this MCEA study and how your community wishes to be engaged through the study.

The Project Team would be pleased to meet with you at any time to discuss the project and respond to any questions or concerns you may have.

Please contact the Town of Orangeville Project Manager to provide initial feedback and/or request a meeting:

Sincerely,

Sarah Pihel, C.E.T.
Project Technologist
Town of Orangeville
87 Broadway
Orangeville, ON L9W 1K1
Phone: 519-941-0440 ext. 2292
E-mail: spihel@orangeville.ca

cc: Mark LaForme, Department of Consultation and Accommodation, mark.laforme@mncfn.ca
Joelle Williams, Environmental and Archaeological Assistant, doca@mncfn.ca
Abby LaForme, Acting Consultation Coordinator, abby.laforme@mncfn.ca
Martin, CIMA+
Alejandra Boyer, CIMA+
Stephen Keen, CIMA+

Encl. Notice of Study Commencement, Study Area Map, Archeological Assessment

Alejandra Boyer

From: Sarah Pihel <SPihel@orangeville.ca>
Sent: July 4, 2022 3:52 PM
To: tina.durand@wendake.ca
Cc: melanievincent21@yahoo.ca; Lori-Jeanne.Bolduc@wendake.ca; dominic.sainte-marie@wendake.ca; Mario.GrosLouis@wendake.ca; Martin Lukasiewicz; Alejandra Boyer; Stephen Keen
Subject: Town of Orangeville Water Storage at Wells 55A Class EA - Notice of Study Commencement for Huron Wendat
Attachments: Town of Orangeville Water Storage at Wells 55A Class EA - Notice of Study Commencement for Huron Wendat.pdf; T001436A-085-220516-PN-Notice of Commencement_e03_V01.pdf; Stage 1-2 Archaeological Assessment of Well 5-5A, Orangeville.pdf

EXTERNAL EMAIL

Good afternoon Grand Chief Vincent,

The Town of Orangeville, Ontario has initiated a Municipal Class Environmental Assessment (Class EA) to plan for a new water storage facility at the Wells 5/5A site.

CIMA+ is assisting the Town in the completion of this study, which is following the Schedule B process of the Municipal Class EA (2000, as Amended 2015).

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The Project Team would be pleased to meet with you at any time to discuss the project and respond to any questions or concerns you may have.

Please contact the Town of Orangeville's Project Manager Sarah Pihel (spihel@orangeville.ca) directly or respond to this email to provide initial feedback and/or request a meeting.

Respectfully,

Sarah

Sarah Pihel, C.E.T. | Project Technologist | Infrastructure Services

Town of Orangeville | 87 Broadway | Orangeville, ON L9W 1K1

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spihel@orangeville.ca | www.orangeville.ca

Infrastructure Services

**Grand Chief Remy Vincent
Huron Wendat**

Sent via Email July 4, 2022

**RE: Town of Orangeville
Schedule B Municipal Class Environmental Assessment for Water Storage at Well 5/5A**

Greetings Grand Chief Vincent,

The Town of Orangeville (Town) has identified necessary rehabilitation measures to its West Sector Reservoir Elevated Water Tank (WSR). The rehabilitation work will require the WSR to be offline for several months for upgrades to occur. When offline, the burden of maintaining water service to Zone 4 must be met by other Orangeville water infrastructure. A review of the existing water system identified concerns about the Town's water storage capacity with the WSR offline to complete the necessary work.

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CIMA+ is assisting the Town in the completion of this study. The Notice of Study Commencement is attached and more information about the Study is in this covering letter. The MCEA Study will be completed in accordance with the Ontario Environmental Assessment Act and will fulfill the requirements of the MCEA process (October 2000, as amended in 2015). The project team will examine a full range of alternatives and identify a preferred strategy to address identified needs. One Public Information Centres (PIC) will be held. The PIC will be held in an online format and is tentatively scheduled for Summer 2022 to present the purpose and scope of this study, existing conditions and to review alternative solutions. Advanced notification of the PIC will be provided.

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A Stage 1-2 Archaeological Assessment has been completed and is attached for your consideration.

The Town respectfully recognizes Indigenous Nations as rightsholders and is committed to undertaking this MCEA study in a way that is respectful of the rights and interests of Indigenous Communities.

At this time, we invite you to confirm if your community has an interest in this MCEA study and how your community wishes to be engaged through the study.

The Project Team would be pleased to meet with you at any time to discuss the project and respond to any questions or concerns you may have.

Please contact the Town of Orangeville Project Manager to provide initial feedback and/or request a meeting:

Sincerely,

Sarah Pihel, C.E.T.
Project Technologist
Town of Orangeville
87 Broadway
Orangeville, ON L9W 1K1
Phone: 519-941-0440 ext. 2292
E-mail: spihel@orangeville.ca

cc: Mélanie Vincent, Consultant for Nation Huronne-Wendat, melanievincent21@yahoo.ca
Lori-Jeanne Bolduc, Lori-Jeanne.Bolduc@wendake.ca
Dominic Ste-Marie, dominic.sainte-marie@wendake.ca
Mario Gros-Louis, Mario.GrosLouis@wendake.ca
Martin, CIMA+
Alejandra Boyer, CIMA+
Stephen Keen, CIMA+

Encl. Notice of Study Commencement, Study Area Map, Archeological Assessment

Alejandra Boyer

From: Sarah Pihel <SPihel@orangeville.ca>
Sent: July 5, 2022 9:12 AM
To: chief@ramafirstnation.ca
Cc: communications@ramafirstnation.ca; inquiries@williamstreatiesfirstnations.ca; Martin Lukasiewicz; Alejandra Boyer; Stephen Keen
Subject: Town of Orangeville Water Storage at Wells 55A Class EA - Notice of Study Commencement for Chippewas of Rama First Nation
Attachments: Town of Orangeville Water Storage at Wells 55A Class EA - Notice of Study Commencement for Chippewas of Rama First Nation (004).pdf; T001436A-085-220516-PN-Notice of Commencement_e03_V01.pdf; Stage 1-2 Archaeological Assessment of Well 5-5A, Orangeville.pdf

EXTERNAL EMAIL

Good morning Chief Williams,

The Town of Orangeville, Ontario has initiated a Municipal Class Environmental Assessment (Class EA) to plan for a new water storage facility at the Wells 5/5A site.

CIMA+ is assisting the Town in the completion of this study, which is following the Schedule B process of the Municipal Class EA (2000, as Amended 2015).

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The Project Team would be pleased to meet with you at any time to discuss the project and respond to any questions or concerns you may have.

Please contact the Town of Orangeville's Project Manager Sarah Pihel (spihel@orangeville.ca) directly or respond to this email to provide initial feedback and/or request a meeting.

Respectfully,

Sarah

Sarah Pihel, C.E.T. | Project Technologist | Infrastructure Services

Town of Orangeville | 87 Broadway | Orangeville, ON L9W 1K1

Office Number- 519-941-0440 Ext. 2292 | Toll Free 1-866-941-0440 Ext. 2292 | Cell: 519-938-7833

spihel@orangeville.ca | www.orangeville.ca

Infrastructure Services

**Chief Edward Williams
Chippewas of Rama First Nation**

Sent via Email June 29, 2022

**RE: Town of Orangeville
Schedule B Municipal Class Environmental Assessment for Water Storage at Well 5/5A**

Greetings Chief Williams

The Town of Orangeville (Town) has identified necessary rehabilitation measures to its West Sector Reservoir Elevated Water Tank (WSR). The rehabilitation work will require the WSR to be offline for several months for upgrades to occur. When offline, the burden of maintaining water service to Zone 4 must be met by other Orangeville water infrastructure. A review of the existing water system identified concerns about the Town's water storage capacity with the WSR offline to complete the necessary work.

The Town is therefore initiating a Municipal Class Environmental Assessment (MCEA) Study to plan for a new water storage facility at the Wells 5/5A site. The proposed facility will provide additional water storage capacity to support the necessary work at the WSR. The new water storage capacity at Wells 5/5A will leverage the high-water yield at this site and address on-going operational issues. A specific location and configuration for the new water storage facility at the Wells 5/5A site will be identified and confirmed through this MCEA process.

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A Stage 1-2 Archaeological Assessment has been completed and is attached for your consideration.

The Town respectfully recognizes Indigenous Nations as rightsholders and is committed to undertaking this MCEA study in a way that is respectful of the rights and interests of Indigenous Communities.

We have reviewed the Chippewas of Rama First Nation consultation protocols and confirm that a submission has also been made through the web-based portal.

At this time, we invite you to confirm if your community has an interest in this MCEA study and how your community wishes to be engaged through the study.

The Project Team would be pleased to meet with you at any time to discuss the project and respond to any questions or concerns you may have.

Please contact the Town of Orangeville Project Manager to provide initial feedback and/or request a meeting:

Sincerely,

Sarah Pihel, C.E.T.
Project Technologist
Town of Orangeville
87 Broadway
Orangeville, ON L9W 1K1
Phone: 519-941-0440 ext. 2292
E-mail: spihel@orangeville.ca

cc: Sharda James, Community Consultation, communications@ramafirstnation.ca
Karry Sandy McKenzie, William Treaties First Nations Process Co-ordinator,
inquiries@williamstreatiesfirstnations.ca
Martin, CIMA+
Alejandra Boyer, CIMA+
Stephen Keen, CIMA+

Encl. Notice of Study Commencement, Study Area Map, Archeological Assessment

Notice of PIC

Alejandra Boyer

From: Sarah Pihel <SPihel@orangeville.ca>
Sent: August 19, 2022 10:34 AM
To: tina.durand@wendake.ca; melanievincent21@yahoo.ca; administration@cnhw.qc.ca; Dominic Ste-Marie; Mario.GrosLouis@wendake.ca; Lori-Jeanne Bolduc
Cc: Alejandra Boyer; Martin Lukasiewicz
Subject: Town of Orangeville Water Storage at Wells 55A Class EA - Notice of PIC
Attachments: Orangeville Water Storage at Wells 5 5A Class EA - Notice of PIC.pdf

EXTERNAL EMAIL

Good morning Grand Chief Vincent,

This week, the Town of Orangeville has **posted a virtual Public Information Centre (PIC)** for Water Storage at Wells 5/5A Municipal Class Environmental Assessment. The PIC will present the study scope, existing conditions, problems and opportunities, alternative solutions, early design concepts, and next steps and will be made available on the Town's website (Orangeville.ca/PICAugust2022) **from August 18, 2022 to September 16, 2022**. We invite you to review this material and reach out to the project team if any aspects of the study may impact your interests. Further details about the PIC and how to provide comments are included in the attached Notice.

If you have any questions or feedback, please do not hesitate to contact us by responding to this email.

Thank you,

Sarah Pihel, C.E.T. | Project Manager, Capital Works | Infrastructure Services

Town of Orangeville | 87 Broadway | Orangeville, ON L9W 1K1

Office Number- 519-941-0440 Ext. 2292 | Toll Free 1-866-941-0440 Ext. 2292 | Cell: 519-938-7833

spihel@orangeville.ca | www.orangeville.ca



Election Day is October 24, 2022

Visit elections.orangeville.ca to learn more.

Alejandra Boyer

From: Sarah Pihel <SPihel@orangeville.ca>
Sent: August 19, 2022 10:31 AM
To: Chief, R Stacey Laforme; Mark LaForme; DOCA; Abby LaForme
Cc: Alejandra Boyer; Martin Lukasiewicz
Subject: Town of Orangeville Water Storage at Wells 55A Class EA - Notice of PIC
Attachments: Orangeville Water Storage at Wells 5 5A Class EA - Notice of PIC.pdf

EXTERNAL EMAIL

Good morning Chief LaForme,

This week, the Town of Orangeville has **posted a virtual Public Information Centre (PIC)** for Water Storage at Wells 5/5A Municipal Class Environmental Assessment. The PIC will present the study scope, existing conditions, problems and opportunities, alternative solutions, early design concepts, and next steps and will be made available on the Town's website (Orangeville.ca/PICAugust2022) **from August 18, 2022 to September 16, 2022**. We invite you to review this material and reach out to the project team if any aspects of the study may impact your interests. Further details about the PIC and how to provide comments are included in the attached Notice.

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Thank you,

Sarah Pihel, C.E.T. | Project Manager, Capital Works | Infrastructure Services

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Election Day is October 24, 2022

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Alejandra Boyer

From: Sarah Pihel <SPihel@orangeville.ca>
Sent: August 19, 2022 10:30 AM
To: klarocca@scugogfirstnation.com
Cc: Alejandra Boyer; Martin Lukasiewicz
Subject: Town of Orangeville Water Storage at Wells 55A Class EA - Notice of PIC
Attachments: Orangeville Water Storage at Wells 5 5A Class EA - Notice of PIC.pdf

EXTERNAL EMAIL

Good morning Chief Big Canoe,

This week, the Town of Orangeville has **posted a virtual Public Information Centre (PIC)** for Water Storage at Wells 5/5A Municipal Class Environmental Assessment. The PIC will present the study scope, existing conditions, problems and opportunities, alternative solutions, early design concepts, and next steps and will be made available on the Town's website (Orangeville.ca/PICAugust2022) **from August 18, 2022 to September 16, 2022**. We invite you to review this material and reach out to the project team if any aspects of the study may impact your interests. Further details about the PIC and how to provide comments are included in the attached Notice.

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Thank you,

Sarah Pihel, C.E.T. | Project Manager, Capital Works | Infrastructure Services

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Alejandra Boyer

From: Sarah Pihel <SPihel@orangeville.ca>
Sent: August 19, 2022 10:29 AM
To: chief@ramafirstnation.ca; communications@ramafirstnation.ca
Cc: inquiries@williamstreatiesfirstnations.ca; Alejandra Boyer; Martin Lukasiewicz
Subject: Town of Orangeville Water Storage at Wells 55A Class EA - Notice of PIC
Attachments: Orangeville Water Storage at Wells 5 5A Class EA - Notice of PIC.pdf

EXTERNAL EMAIL

Good morning Chief Williams,

This week, the Town of Orangeville has **posted a virtual Public Information Centre (PIC)** for Water Storage at Wells 5/5A Municipal Class Environmental Assessment. The PIC will present the study scope, existing conditions, problems and opportunities, alternative solutions, early design concepts, and next steps and will be made available on the Town's website (Orangeville.ca/PICAugust2022) **from August 18, 2022 to September 16, 2022**. We invite you to review this material and reach out to the project team if any aspects of the study may impact your interests. Further details about the PIC and how to provide comments are included in the attached Notice.

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Thank you,

Sarah Pihel, C.E.T. | Project Manager, Capital Works | Infrastructure Services

Town of Orangeville | 87 Broadway | Orangeville, ON L9W 1K1

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spihel@orangeville.ca | www.orangeville.ca



Election Day is October 24, 2022

Visit elections.orangeville.ca to learn more.

Alejandra Boyer

From: Sarah Pihel <SPihel@orangeville.ca>
Sent: August 19, 2022 10:27 AM
To: bfncchief@chimnissing.ca; executiveassistant@chimnissing.ca; jcopegog@chimnissing.ca; consultation@chimnissing.ca
Cc: Alejandra Boyer; Martin Lukasiewicz
Subject: Town of Orangeville Water Storage at Wells 55A Class EA - Notice of PIC
Attachments: Orangeville Water Storage at Wells 5 5A Class EA - Notice of PIC.pdf

EXTERNAL EMAIL

Good morning Chief Sandy,

This week, the Town of Orangeville has **posted a virtual Public Information Centre (PIC)** for Water Storage at Wells 5/5A Municipal Class Environmental Assessment. The PIC will present the study scope, existing conditions, problems and opportunities, alternative solutions, early design concepts, and next steps and will be made available on the Town's website (Orangeville.ca/PICAugust2022) **from August 18, 2022 to September 16, 2022**. We invite you to review this material and reach out to the project team if any aspects of the study may impact your interests. Further details about the PIC and how to provide comments are included in the attached Notice.

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Thank you,

Sarah Pihel, C.E.T. | Project Manager, Capital Works | Infrastructure Services

Town of Orangeville | 87 Broadway | Orangeville, ON L9W 1K1

Office Number- 519-941-0440 Ext. 2292 | Toll Free 1-866-941-0440 Ext. 2292 | Cell: 519-938-7833

spihel@orangeville.ca | www.orangeville.ca



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Alejandra Boyer

From: Sarah Pihel <SPihel@orangeville.ca>
Sent: August 19, 2022 10:24 AM
To: chief.veronica@nawash.ca; executiveassistant@nawash.ca
Cc: Alejandra Boyer; Martin Lukasiewicz
Subject: Town of Orangeville Water Storage at Wells 55A Class EA - Notice of PIC
Attachments: Orangeville Water Storage at Wells 5 5A Class EA - Notice of PIC.pdf

EXTERNAL EMAIL

Good morning Ogimaakwe Smith,

This week, the Town of Orangeville has **posted a virtual Public Information Centre (PIC)** for Water Storage at Wells 5/5A Municipal Class Environmental Assessment. The PIC will present the study scope, existing conditions, problems and opportunities, alternative solutions, early design concepts, and next steps and will be made available on the Town's website (Orangeville.ca/PICAugust2022) **from August 18, 2022 to September 16, 2022**. We invite you to review this material and reach out to the project team if any aspects of the study may impact your interests. Further details about the PIC and how to provide comments are included in the attached Notice.

If you have any questions or feedback, please do not hesitate to contact us by responding to this email.

Thank you,

Sarah Pihel, C.E.T. | Project Manager, Capital Works | Infrastructure Services

Town of Orangeville | 87 Broadway | Orangeville, ON L9W 1K1

Office Number- 519-941-0440 Ext. 2292 | Toll Free 1-866-941-0440 Ext. 2292 | Cell: 519-938-7833

spihel@orangeville.ca | www.orangeville.ca



Election Day is October 24, 2022

Visit elections.orangeville.ca to learn more.

Alejandra Boyer

From: Sarah Pihel <SPihel@orangeville.ca>
Sent: August 19, 2022 10:22 AM
To: sfn@saugeen.org
Cc: Alejandra Boyer; Martin Lukasiewicz
Subject: Town of Orangeville Water Storage at Wells 55A Class EA - Notice of PIC
Attachments: Orangeville Water Storage at Wells 5 5A Class EA - Notice of PIC.pdf

EXTERNAL EMAIL

Good morning Chief Anoquot,

This week, the Town of Orangeville has **posted a virtual Public Information Centre (PIC)** for Water Storage at Wells 5/5A Municipal Class Environmental Assessment. The PIC will present the study scope, existing conditions, problems and opportunities, alternative solutions, early design concepts, and next steps and will be made available on the Town's website (Orangeville.ca/PICAugust2022) **from August 18, 2022 to September 16, 2022**. We invite you to review this material and reach out to the project team if any aspects of the study may impact your interests. Further details about the PIC and how to provide comments are included in the attached Notice.

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Review of Draft Project File Report

Alejandra Boyer

From: Sarah Pihel <SPihel@orangeville.ca>
Sent: May 3, 2023 11:17 AM
To: tina.durand@wendake.ca
Cc: melanievincent21@yahoo.ca; administration@cnhw.qc.ca; Dominic Ste-Marie; Mario Gros Louis; Lori-Jeanne Bolduc; Alejandra Boyer
Subject: Town of Orangeville - Water Storage and Pumping at Well 5/5A

EXTERNAL EMAIL

Good morning Grand Chief Vincent,

The Town of Orangeville has completed a DRAFT of the Environmental Study Report for the Water Storage and Pumping at Well 5/5A Municipal Class Environmental Assessment (MCEA) for your review and comment, prior to this document becoming available to the public in June 2023.

The ESR is a comprehensive document that reflects all aspects of the planning and decision-making process. To provide some context, we have included a brief description of the overall project here:

The Town of Orangeville's Drinking Water Distribution Pressure Zone 4 requires more storage and/or pumping capacity to ensure water servicing requirements are met during the shutdown of the West Sector Reservoir, which is required for rehabilitation. This study is being conducted to address the short-term storage and supply deficits during the WSR Rehabilitation Project and future maintenance activities:

- *Meet interim servicing requirements when the West Sector Reservoir is out of service by providing fire protection and satisfying both Pressure Zone 4 demands and pressures.*
- *Improve the reliability of Orangeville's Water Supply System by providing additional long-term storage and pumping availability.*
- *Improve operational flexibility and reliability of the Well 5/5A station by reducing the likelihood of chlorine line failures and providing available volume for improved CT disinfection.*
- *Mitigate the shortfalls for instantaneous demand caused by the need for UV unit warm-up.*

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 [Town of Orangeville ET Rehab EA DRAFT ESR April 2023.pdf](#)

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Please do not hesitate to reach out if you have any questions or wish to request a meeting.

Many thanks,

Sarah

Sarah Pihel, C.E.T. | Project Manager, Capital Works | Infrastructure Services

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spihel@orangeville.ca | www.orangeville.ca

Alejandra Boyer

From: Sarah Pihel <SPihel@orangeville.ca>
Sent: May 3, 2023 11:15 AM
To: Stacey.LaForme@mncfn.ca
Cc: Mark LaForme; DOCA; Abby LaForme; Alejandra Boyer
Subject: Town of Orangeville - Water Storage and Pumping at Well 5/5A

EXTERNAL EMAIL

Good morning Chief LaForme,

The Town of Orangeville has completed a DRAFT of the Environmental Study Report for the Water Storage and Pumping at Well 5/5A Municipal Class Environmental Assessment (MCEA) for your review and comment, prior to this document becoming available to the public in June 2023.

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spihel@orangeville.ca | www.orangeville.ca

Alejandra Boyer

From: Sarah Pihel <SPihel@orangeville.ca>
Sent: May 3, 2023 11:10 AM
To: bfnchief@chimnissing.ca
Cc: executiveassistant@chimnissing.ca; consultation@chimnissing.ca; communications@ramafirstnation.ca; chief@ramafirstnation.ca; klarocca@scugogfirstnation.com; Alejandra Boyer
Subject: Town of Orangeville - Water Storage and Pumping at Well 5/5A

EXTERNAL EMAIL

Good morning Chief Sandy,

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Sarah

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spihel@orangeville.ca | www.orangeville.ca

Alejandra Boyer

From: Sarah Pihel <SPihel@orangeville.ca>
Sent: May 3, 2023 11:07 AM
To: chief.veronica@nawash.ca
Cc: Alejandra Boyer
Subject: Town of Orangeville - Water Storage and Pumping at Well 5/5A

EXTERNAL EMAIL

Good morning Ogimaakwe Smith,

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Many thanks,

Sarah

Sarah Pihel, C.E.T. | Project Manager, Capital Works | Infrastructure Services

Town of Orangeville | 87 Broadway| Orangeville, ON L9W 1K1

Office Number- 519-941-0440 Ext. 2292 | Toll Free 1-866-941-0440 Ext. 2292 | Cell: 519-938-7833

spihel@orangeville.ca | www.orangeville.ca

Alejandra Boyer

From: Sarah Pihel <SPihel@orangeville.ca>
Sent: May 3, 2023 11:06 AM
To: sfn@saugeen.org
Cc: Alejandra Boyer
Subject: Town of Orangeville - Water Storage and Pumping at Well 5/5A

EXTERNAL EMAIL

Good morning Chief Anoquot,

The Town of Orangeville has completed a DRAFT of the Environmental Study Report for the Water Storage and Pumping at Well 5/5A Municipal Class Environmental Assessment (MCEA) for your review and comment, prior to this document becoming available to the public in June 2023.

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Sarah

Sarah Pihel, C.E.T. | Project Manager, Capital Works | Infrastructure Services

Town of Orangeville | 87 Broadway| Orangeville, ON L9W 1K1

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spihel@orangeville.ca | www.orangeville.ca

Alejandra Boyer

From: Sarah Pihel <SPihel@orangeville.ca>
Sent: May 3, 2023 9:19 AM
To: Alejandra Boyer
Subject: RE: Town of Orangeville - Water Storage and Pumping at Well 5/5A - DRAFT ESR for Indigenous Communities Review and Comment

EXTERNAL EMAIL

Good morning Alejandra,

To confirm, the information below, is the email that I am to send to the indigenous groups (below the list of Chiefs). When do you want me to send the emails? You mentioned wanting to send them out the same day as the MECP.

Sarah

Sarah Pihel, C.E.T. | Project Manager, Capital Works | Infrastructure Services

Town of Orangeville | 87 Broadway | Orangeville, ON L9W 1K1

Office Number- 519-941-0440 Ext. 2292 | Toll Free 1-866-941-0440 Ext. 2292 | Cell: 519-938-7833

spihel@orangeville.ca | www.orangeville.ca

From: Alejandra Boyer <Alejandra.Boyer@cima.ca>
Sent: Tuesday, May 2, 2023 4:38 PM
To: Sarah Pihel <SPihel@orangeville.ca>
Subject: RE: Town of Orangeville - Water Storage and Pumping at Well 5/5A - DRAFT ESR for Indigenous Communities Review and Comment

No problem! Below is the email text and attached is the contact list – see ‘Indigenous’ tab (I have highlighted the chiefs for your to send to). You can cc the others.

Good afternoon Chief Anoquot,
Good afternoon Ogimaakwe Smith,
Good afternoon Chief Sandy,
Good afternoon Chief Big Canoe,
Good afternoon Chief LaForme,
Good afternoon Grand Chief Vincent
Good morning Chief Williams,

The Town of Orangeville has completed a DRAFT of the Environmental Study Report for the Water Storage and Pumping at Well 5/5A Municipal Class Environmental Assessment (MCEA) for your review and comment, prior to this document becoming available to the public in June 2023.

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Please do not hesitate to reach out if you have any questions or wish to request a meeting.

Many thanks,

ALEJANDRA BOYER
Planner / Transportation

T 289-288-0287 ext. 6847 M 416-357-3153 F 289-288-0285
400–3027 Harvester Road, Burlington, ON L7N 3G7 CANADA



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Follow us    

From: Sarah Pihel <SPihel@orangeville.ca>

Sent: May 2, 2023 4:24 PM

To: Alejandra Boyer <Alejandra.Boyer@cima.ca>

Subject: RE: Town of Orangeville - Water Storage and Pumping at Well 5/5A - DRAFT ESR for Indigenous Communities Review and Comment

EXTERNAL EMAIL

Hi Ali,

I am so sorry that I missed your earlier email on this. I think that if you could draft the emails and provide me the list, I will send the emails to contacts since this is the approach with past correspondence.

Sarah

Sarah Pihel, C.E.T. | Project Manager, Capital Works | Infrastructure Services

Town of Orangeville | 87 Broadway | Orangeville, ON L9W 1K1

Office Number- 519-941-0440 Ext. 2292 | Toll Free 1-866-941-0440 Ext. 2292 | Cell: 519-938-7833

spihel@orangeville.ca | www.orangeville.ca

From: Alejandra Boyer <Alejandra.Boyer@cima.ca>

Sent: Tuesday, May 2, 2023 4:19 PM

To: Sarah Pihel <SPihel@orangeville.ca>

Subject: RE: Town of Orangeville - Water Storage and Pumping at Well 5/5A - DRAFT ESR for Indigenous Communities Review and Comment

Hi Sarah,

Just following up as I want these to be sent out around the same day as the MECP email.

Thanks so much.

Ali

ALEJANDRA BOYER

Planner / Transportation

T 289-288-0287 ext. 6847 M 416-357-3153 F 289-288-0285
400-3027 Harvester Road, Burlington, ON L7N 3G7 CANADA



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Best Employer
CANADA 2021

Follow us    

From: Alejandra Boyer

Sent: April 28, 2023 3:38 PM

To: Sarah Pihel <SPihel@orangeville.ca>

Subject: Town of Orangeville - Water Storage and Pumping at Well 5/5A - DRAFT ESR for Indigenous Communities Review and Comment

Hi Sarah,

Are you ok with me sending the draft ESR to the indigenous communities or would you like me to draft the emails for you to send?

Thank you,
Ali

ALEJANDRA BOYER
Planner / Transportation

T 289-288-0287 ext. 6847 **M** 416-357-3153 **F** 289-288-0285
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Follow us    

Alejandra Boyer

From: Sarah Pihel <SPihel@orangeville.ca>
Sent: June 20, 2023 11:07 AM
To: tina.durand@wendake.ca
Cc: melanievincent21@yahoo.ca; administration@cnhw.qc.ca; Dominic Ste-Marie; Mario Gros Louis; Lori-Jeanne Bolduc; Alejandra Boyer
Subject: RE: Town of Orangeville - Water Storage and Pumping at Well 5/5A

EXTERNAL EMAIL

Good morning Grand Chief Vincent,

On this eve of National Indigenous Peoples Day, our community is honoured to celebrate this important day of recognition and celebration of First Nations, Inuit and Metis peoples. The Town respectfully recognizes Indigenous Nations as rightsholders and is committed to undertaking this MCEA study in a way that is respectful of the rights and interests of Indigenous Communities.

As we approach the filing of the Environmental Study Report, we would like to follow up once more to see if Huron-Wendat Nation has any comments on the final findings and recommendations.

The Project Team would be pleased to meet with you at any time to discuss the project and respond to any questions or concerns you may have. Please do not hesitate to provide feedback and/or request a meeting.

Sincerely,

Sarah

Sarah Pihel, C.E.T. | Project Manager, Capital Works | Infrastructure Services

Town of Orangeville | 87 Broadway | Orangeville, ON L9W 1K1

Office Number- 519-941-0440 Ext. 2292 | Toll Free 1-866-941-0440 Ext. 2292 | Cell: 519-938-7833

spihel@orangeville.ca | www.orangeville.ca

From: Sarah Pihel
Sent: Wednesday, May 3, 2023 11:17 AM
To: tina.durand@wendake.ca
Cc: melanievincent21@yahoo.ca; administration@cnhw.qc.ca; Dominic Ste-Marie <Dominic.Sainte-Marie@wendake.ca>; Mario Gros Louis <Mario.GrosLouis@wendake.ca>; Lori-Jeanne Bolduc <Lori-Jeanne.Bolduc@wendake.ca>; Alejandra Boyer <Alejandra.Boyer@cima.ca>
Subject: Town of Orangeville - Water Storage and Pumping at Well 5/5A

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Alejandra Boyer

From: Sarah Pihel <SPihel@orangeville.ca>
Sent: June 20, 2023 11:04 AM
To: Stacey.LaForme@mncfn.ca
Cc: Mark LaForme; DOCA; Abby LaForme; Alejandra Boyer
Subject: RE: Town of Orangeville - Water Storage and Pumping at Well 5/5A

EXTERNAL EMAIL

Good morning Chief LaForme,

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As we approach the filing of the Environmental Study Report, we would like to follow up once more to see if Mississaugas of the Credit First Nation has any comments on the final findings and recommendations.

The Project Team would be pleased to meet with you at any time to discuss the project and respond to any questions or concerns you may have. Please do not hesitate to provide feedback and/or request a meeting.

Sincerely,

Sarah

Sarah Pihel, C.E.T. | Project Manager, Capital Works | Infrastructure Services

Town of Orangeville | 87 Broadway | Orangeville, ON L9W 1K1

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spihel@orangeville.ca | www.orangeville.ca

From: Sarah Pihel
Sent: Wednesday, May 3, 2023 11:15 AM
To: Stacey.LaForme@mncfn.ca
Cc: Mark LaForme <mark.laforme@mncfn.ca>; DOCA <doca@mncfn.ca>; Abby LaForme <abby.laforme@mncfn.ca>; Alejandra Boyer <Alejandra.Boyer@cima.ca>
Subject: Town of Orangeville - Water Storage and Pumping at Well 5/5A

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spihel@orangeville.ca | www.orangeville.ca

Alejandra Boyer

From: Sarah Pihel <SPihel@orangeville.ca>
Sent: June 20, 2023 10:55 AM
To: chief@ramafirstnation.ca; communications@ramafirstnation.ca
Cc: Alejandra Boyer
Subject: RE: Town of Orangeville - Water Storage and Pumping at Well 5/5A

EXTERNAL EMAIL

Good morning Chief Williams,

On this eve of National Indigenous Peoples Day, our community is honoured to celebrate this important day of recognition and celebration of First Nations, Inuit and Metis peoples. The Town respectfully recognizes Indigenous Nations as rightsholders and is committed to undertaking this MCEA study in a way that is respectful of the rights and interests of Indigenous Communities.

As we approach the filing of the Environmental Study Report, we would like to follow up once more to see if Chippewas of Rama has any comments on the final findings and recommendations.

The Project Team would be pleased to meet with you at any time to discuss the project and respond to any questions or concerns you may have. Please do not hesitate to provide feedback and/or request a meeting.

Sincerely,

Sarah

Sarah Pihel, C.E.T. | Project Manager, Capital Works | Infrastructure Services

Town of Orangeville | 87 Broadway | Orangeville, ON L9W 1K1

Office Number- 519-941-0440 Ext. 2292 | Toll Free 1-866-941-0440 Ext. 2292 | Cell: 519-938-7833

spihel@orangeville.ca | www.orangeville.ca

From: Sarah Pihel
Sent: Wednesday, May 3, 2023 11:18 AM
To: chief@ramafirstnation.ca
Subject: Town of Orangeville - Water Storage and Pumping at Well 5/5A

Good morning Chief Williams,

My apologies as I did not address you by title in my earlier email where you were copied.


The Town of Orangeville has completed a DRAFT of the Environmental Study Report for the Water Storage and Pumping at Well 5/5A Municipal Class Environmental Assessment (MCEA) for your review and comment, prior to this document becoming available to the public in June 2023.

The ESR is a comprehensive document that reflects all aspects of the planning and decision-making process. To provide some context, we have included a brief description of the overall project here:

The Town of Orangeville's Drinking Water Distribution Pressure Zone 4 requires more storage and/or pumping capacity to ensure water servicing requirements are met during the shutdown of the West Sector Reservoir, which is required for rehabilitation. This study is being conducted to address the short-term storage and supply deficits during the WSR Rehabilitation Project and future maintenance activities:

- *Meet interim servicing requirements when the West Sector Reservoir is out of service by providing fire protection and satisfying both Pressure Zone 4 demands and pressures.*
- *Improve the reliability of Orangeville's Water Supply System by providing additional long-term storage and pumping availability.*
- *Improve operational flexibility and reliability of the Well 5/5A station by reducing the likelihood of chlorine line failures and providing available volume for improved CT disinfection.*
- *Mitigate the shortfalls for instantaneous demand caused by the need for UV unit warm-up.*

The file is being shared with you via OneDrive – I am providing you with the link here, but you will also receive a separate email indicating that you have been granted access.

 [Town of Orangeville ET Rehab EA DRAFT ESR April 2023.pdf](#)

Please note, given that the ESR is still Draft – there are certain aspects that are highlighted for future completion, following agency and Indigenous Community Review of the draft.

We request that you undertake your review and provide comments by May 31, 2023. We would be pleased to meet with you to discuss any areas of interest or concern, or simply to provide an overview of the project to assist you in your review of the ESR.

Please do not hesitate to reach out if you have any questions or wish to request a meeting.

Many thanks,

Sarah

Sarah Pihel, C.E.T. | Project Manager, Capital Works | Infrastructure Services

Town of Orangeville | 87 Broadway | Orangeville, ON L9W 1K1

Office Number- 519-941-0440 Ext. 2292 | Toll Free 1-866-941-0440 Ext. 2292 | Cell: 519-938-7833

spihel@orangeville.ca | www.orangeville.ca

Alejandra Boyer

From: Sarah Pihel <SPihel@orangeville.ca>
Sent: June 20, 2023 10:50 AM
To: bfnchief@chimnissing.ca
Cc: executiveassistant@chimnissing.ca; consultation@chimnissing.ca; communications@ramafirstnation.ca; chief@ramafirstnation.ca; klarocca@scugogfirstnation.com; Alejandra Boyer
Subject: RE: Town of Orangeville - Water Storage and Pumping at Well 5/5A

EXTERNAL EMAIL

Good morning Chief Sandy,

On this eve of National Indigenous Peoples Day, our community is honoured to celebrate this important day of recognition and celebration of First Nations, Inuit and Metis peoples. The Town respectfully recognizes Indigenous Nations as rightsholders and is committed to undertaking this MCEA study in a way that is respectful of the rights and interests of Indigenous Communities.

As we approach the filing of the Environmental Study Report, we would like to follow up once more to see if Beausoleil First Nation has any comments on the final findings and recommendations.

The Project Team would be pleased to meet with you at any time to discuss the project and respond to any questions or concerns you may have. Please do not hesitate to provide feedback and/or request a meeting.

Sincerely,

Sarah

Sarah Pihel, C.E.T. | Project Manager, Capital Works | Infrastructure Services

Town of Orangeville | 87 Broadway | Orangeville, ON L9W 1K1

Office Number- 519-941-0440 Ext. 2292 | Toll Free 1-866-941-0440 Ext. 2292 | Cell: 519-938-7833

spihel@orangeville.ca | www.orangeville.ca

From: Sarah Pihel
Sent: Wednesday, May 3, 2023 11:10 AM
To: bfnchief@chimnissing.ca
Cc: executiveassistant@chimnissing.ca; consultation@chimnissing.ca; communications@ramafirstnation.ca; chief@ramafirstnation.ca; klarocca@scugogfirstnation.com; Alejandra Boyer <Alejandra.Boyer@cima.ca>
Subject: Town of Orangeville - Water Storage and Pumping at Well 5/5A

Good morning Chief Sandy,


The Town of Orangeville has completed a DRAFT of the Environmental Study Report for the Water Storage and Pumping at Well 5/5A Municipal Class Environmental Assessment (MCEA) for your review and comment, prior to this document becoming available to the public in June 2023.

The ESR is a comprehensive document that reflects all aspects of the planning and decision-making process. To provide some context, we have included a brief description of the overall project here:

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Please note, given that the ESR is still Draft – there are certain aspects that are highlighted for future completion, following agency and Indigenous Community Review of the draft.

We request that you undertake your review and provide comments by May 31, 2023. We would be pleased to meet with you to discuss any areas of interest or concern, or simply to provide an overview of the project to assist you in your review of the ESR.

Please do not hesitate to reach out if you have any questions or wish to request a meeting.

Many thanks,

Sarah

Sarah Pihel, C.E.T. | Project Manager, Capital Works | Infrastructure Services

Town of Orangeville | 87 Broadway | Orangeville, ON L9W 1K1

Office Number- 519-941-0440 Ext. 2292 | Toll Free 1-866-941-0440 Ext. 2292 | Cell: 519-938-7833

spihel@orangeville.ca | www.orangeville.ca

Alejandra Boyer

From: Sarah Pihel <SPihel@orangeville.ca>
Sent: June 20, 2023 10:46 AM
To: chief.veronica@nawash.ca
Cc: Alejandra Boyer
Subject: RE: Town of Orangeville - Water Storage and Pumping at Well 5/5A

EXTERNAL EMAIL

Good morning Ogimaakwe Smith,

On this eve of National Indigenous Peoples Day, our community is honoured to celebrate this important day of recognition and celebration of First Nations, Inuit and Metis peoples. The Town respectfully recognizes Indigenous Nations as rightsholders and is committed to undertaking this MCEA study in a way that is respectful of the rights and interests of Indigenous Communities.

As we approach the filing of the Environmental Study Report, we would like to follow up once more to see if Chippewas of Nawash Unceded First Nation has any comments on the final findings and recommendations.

The Project Team would be pleased to meet with you at any time to discuss the project and respond to any questions or concerns you may have. Please do not hesitate to provide feedback and/or request a meeting.

Sincerely,

Sarah

Sarah Pihel, C.E.T. | Project Manager, Capital Works | Infrastructure Services

Town of Orangeville | 87 Broadway | Orangeville, ON L9W 1K1

Office Number- 519-941-0440 Ext. 2292 | Toll Free 1-866-941-0440 Ext. 2292 | Cell: 519-938-7833

spihel@orangeville.ca | www.orangeville.ca

From: Sarah Pihel
Sent: Wednesday, May 3, 2023 11:07 AM
To: chief.veronica@nawash.ca
Cc: Alejandra Boyer <Alejandra.Boyer@cima.ca>
Subject: Town of Orangeville - Water Storage and Pumping at Well 5/5A

Good morning Ogimaakwe Smith,


The Town of Orangeville has completed a DRAFT of the Environmental Study Report for the Water Storage and Pumping at Well 5/5A Municipal Class Environmental Assessment (MCEA) for your review and comment, prior to this document becoming available to the public in June 2023.

The ESR is a comprehensive document that reflects all aspects of the planning and decision-making process. To provide some context, we have included a brief description of the overall project here:

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We request that you undertake your review and provide comments by May 31, 2023. We would be pleased to meet with you to discuss any areas of interest or concern, or simply to provide an overview of the project to assist you in your review of the ESR.

Please do not hesitate to reach out if you have any questions or wish to request a meeting.

Many thanks,

Sarah

Sarah Pihel, C.E.T. | Project Manager, Capital Works | Infrastructure Services

Town of Orangeville | 87 Broadway | Orangeville, ON L9W 1K1

Office Number- 519-941-0440 Ext. 2292 | Toll Free 1-866-941-0440 Ext. 2292 | Cell: 519-938-7833

spihel@orangeville.ca | www.orangeville.ca

Alejandra Boyer

From: Sarah Pihel <SPihel@orangeville.ca>
Sent: June 20, 2023 10:41 AM
To: sfn@saugeen.org
Cc: Alejandra Boyer
Subject: RE: Town of Orangeville - Water Storage and Pumping at Well 5/5A

EXTERNAL EMAIL

Good morning Chief Anoquot,

On this eve of National Indigenous Peoples Day, our community is honoured to celebrate this important day of recognition and celebration of First Nations, Inuit and Metis peoples. The Town respectfully recognizes Indigenous Nations as rightsholders and is committed to undertaking this MCEA study in a way that is respectful of the rights and interests of Indigenous Communities.

As we approach the filing of the Environmental Study Report, we would like to follow up once more to see if the Saugeen First Nation has any comments on the final findings and recommendations.

The Project Team would be pleased to meet with you at any time to discuss the project and respond to any questions or concerns you may have. Please do not hesitate to provide feedback and/or request a meeting.

Sincerely,

Sarah

Sarah Pihel, C.E.T. | Project Manager, Capital Works | Infrastructure Services

Town of Orangeville | 87 Broadway | Orangeville, ON L9W 1K1

Office Number- 519-941-0440 Ext. 2292 | Toll Free 1-866-941-0440 Ext. 2292 | Cell: 519-938-7833

spihel@orangeville.ca | www.orangeville.ca

From: Sarah Pihel
Sent: Wednesday, May 3, 2023 11:06 AM
To: sfn@saugeen.org
Cc: Alejandra Boyer <Alejandra.Boyer@cima.ca>
Subject: Town of Orangeville - Water Storage and Pumping at Well 5/5A

Good morning Chief Anoquot,


The Town of Orangeville has completed a DRAFT of the Environmental Study Report for the Water Storage and Pumping at Well 5/5A Municipal Class Environmental Assessment (MCEA) for your review and comment, prior to this document becoming available to the public in June 2023.

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We request that you undertake your review and provide comments by May 31, 2023. We would be pleased to meet with you to discuss any areas of interest or concern, or simply to provide an overview of the project to assist you in your review of the ESR.

Please do not hesitate to reach out if you have any questions or wish to request a meeting.

Many thanks,

Sarah

Sarah Pihel, C.E.T. | Project Manager, Capital Works | Infrastructure Services

Town of Orangeville | 87 Broadway | Orangeville, ON L9W 1K1

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spihel@orangeville.ca | www.orangeville.ca

Notice of Completion

A: Correspondence Tracker

Last Updated: August 19, 2022 by Alejandra Boyer

Study Milestones	
Notice of Commencement <ul style="list-style-type: none">- Notice of Commencement – first issued on April 14, 2022- Agencies, Councillors, Regional Staff, and Stakeholders were circulated the Notice of Commencement via email on June 7, 2022.- First Nations were circulated the Notice of Commencement via email on July 4, 2022	Notice of PIC <p>Councillors, First Nations, Regional Staff, and Stakeholders were circulated the Notice of PIC via email on August 19, 2022.</p>

The following table includes stakeholder and public comments. Comments have been formatted and spelling errors corrected, otherwise the content is “as submitted”.

Contact	Correspondence Received	Response
Notice of Commencement		
Ministry of Municipal Affairs and Housing Erick Boyd Municipal Services Office - Western 659 Exeter Road, 2nd Floor London, ON N6E 1L3 226-688-9058 Erick.Boyd@ontario.ca	June 7, 2022 / Email Hi Alejandra, Thank you for your email regarding this Municipal Class EA. I have copied Kay Grant in my office who is the MMAH planner with responsibility for Dufferin County. Have a good day, Erick	
County of Dufferin Steve Murphy Manager 911 & Corporate Projects Office of the Chief Administrative Officer, County of Dufferin 519-941-2816 Ext. 2401 519-938-7215 smurphy@dufferincounty.ca	June 7, 2022 / Email Good morning and thank you for reaching out. Below are a few key contacts within our organization that you may wish to add to your contact list. <ul style="list-style-type: none">• Pam Hillock has retired and is replaced by Michelle Dunne mdunne@dufferincounty.ca• Cody Joudry is our Director – Development and Tourism and planning falls within his portfolio. cjoudry@dufferincounty.ca• Supporting Cody we have Silva Yousif, our Senior Planner syousif@dufferincounty.ca• Diksha Marwaha is our Planning Coordinator dmarwaha@dufferincounty.ca Regards, Steve Murphy	June 7, 2022 / Email Thank you, Steve! Good morning Michelle, Cody, Silva, and Diksha, Please refer to the attached Notice of Study Commencement for more information and do not hesitate to contact us if you have any questions. Thank you, Alejandra Boyer

MNDMNRF Midhurst District Office 2284 Nursery Road, Midhurst, ON, L9X 1N8 Tel: (705) 725-7549	June 7, 2022 / Email Hello, Thank you for your email. Your request or inquiry has been assigned to a district staff technical expert and is being reviewed. In accordance with government service standards, you will receive a reply from the individual assigned to your file within the next 15 business days. To report a natural resource violation, please call the MNRF TIPS line at 1-877-847-7667. Thank you,	
County of Dufferin Tom Reid Chief, Dufferin County Paramedic Service, County of Dufferin 519-941-9608 treid@dufferincounty.ca 325 Blind Line, Orangeville, ON L9W 5J8	June 7, 2022 / Email No I don't know of any others that need notification Thanks Tom Tom Reid	
Upper Grand District School Board Jennifer Stolz Administrative Assistant – Facility Services Upper Grand District School Board 519-822-4420 Ext. 831 jennifer.stolz@ugdsb.on.ca	June 8, 2022 / Email Hi there, We received the attached notice and I just wondered what impact if any this will have on our schools in the area. From what I can tell it is closest to Credit Meadows ES which is on Blind Line. Jennifer Stolz	June 28, 2022/ Email Hi Jennifer, My apologies for the delayed response. Please see the map below which shows the pressure zones in the area. Credit Meadows Elementary School is within a different pressure zone and minimal impacts are expected. Please let me know if you have any other questions. Thank you, Alejandra

<p>Dufferin-Peel Catholic District School Board</p> <p>Julie Cherepacha Executive Superintendent of Finance, Chief Financial, Officer and Treasurer Dufferin-Peel Catholic District School Board 40 Matheson Boulevard West, Mississauga ON L5R 1C5 905-890-0708 Ext. 24262 Julie.cherepacha@dpcdsb.org</p>	<p>June 8, 2022 / Email</p> <p>Good afternoon Alejandra, For future notices and communications, can you please add the following staff representatives:</p> <p>Stephanie Cox, Manager, Planning Stephanie.cox@dpcdsb.org</p> <p>Joanne Rogers, Senior Planner Joanne.rogers@dpcdsb.org</p> <p>Thank you, Julie Cherepacha</p>	
<p>Ontario Ministry of the Environment, Conservation and Parks</p> <p>Joan Del Villar Cuicas Regional Environmental Planner (A) Project Review Unit, Environmental Assessment Branch Ontario Ministry of the Environment, Conservation and Parks Joan.delvillarcuicas@ontario.ca 365-889-1180</p>	<p>June 13, 2022 / Email</p> <p>Hi Alejandra,</p> <p>Thank you for providing the Project Information Form for this project. Yes, I am the MECP contact going forward.</p> <p>Thanks,</p> <p>Joan</p>	

<p>Ontario Ministry of the Environment, Conservation and Parks</p> <p>Joan Del Villar Cuicas Regional Environmental Planner (A) Project Review Unit, Environmental Assessment Branch Ontario Ministry of the Environment, Conservation and Parks Joan.delvillarcuicas@ontario.ca 365-889-1180</p>	<p>June 13, 2022 / Email</p> <p>Good afternoon,</p> <p>Please find attached MECP’s Letter of Acknowledgement and attachments in response to the Notice of Commencement for the Town of Orangeville Municipal Class Environmental Assessment for Water Storage at Wells 5/ 5A.</p> <p>Please do not hesitate to contact me if you have any questions.</p> <p>Regards,</p> <p>Joan Del Villar Cuicas</p>	
<p>Credit Valley Conservation</p> <p>Eric James Junior Regulations Officer, Planning and Development Services Credit Valley Conservation 1255 Old Derry Road Mississauga, ON L5N 6R4 905-670-1615 ext 284 Cell (416) 666-0727 1-800-668-5557 eric.james@cvc.ca</p>	<p>June 15, 2022 / Email</p> <p>Hi Alejandra,</p> <p>I will be the main point of contact from CVC for this file, you can send any future notices to me directly.</p> <p>Thanks, Eric</p>	
<p>Ministry of Northern Development, Mines, Natural Resources & Forestry</p> <p>Amy Clement Regional Planner Land Use Planning and Strategic Issues Section, Southern Region Amy.clement@ontario.ca (705) 465-1639</p>	<p>June 20, 2022 / Email</p> <p>Good afternoon,</p> <p>Please see attached response to the Town of Orangeville Water Storage at Wells 5/5A EA.</p> <p>Thank you,</p> <p>Amy</p>	

<p>Mississaugas of the Credit First Nation</p> <p>Abby LaForme, Acting Consultation Coordinator Department of Consultation & Accommodation (DOCA) 4065 Highway 6, Hagersville, ON N0A 1H0 (905) 768 – 4260 Abby.LaForme@mncfn.ca</p>	<p>July 6, 2022 / Email</p> <p>Good Afternoon Sarah,</p> <p>Thank you for reaching out to the Mississaugas of the Credit First Nation, Department of Consultation and Accommodation. MCFN DOCA would like a copy of the EA Study when it is complete to review and comment on. I have forwarded your notice of commencement and attachments to the Archaeological Operations Supervisor, Adam LaForme (Adam.LaForme@mncfn.ca). If you have any Archaeological inquiries please feel free to reach out to Adam.</p> <p>Thank you</p> <p>Abby LaForme,</p>	
	<p>July 18, 2022 / Email</p> <p>Aanii Sarah,</p> <p>On behalf of the Mississaugas of the Credit First Nation, Department of Consultation and Accommodation, I reviewed the Stage 1-2 Archaeological Assessment report prepared by Bluestone for Wells 5/5A site.</p> <p>I do not have questions or comments about the archaeological work conducted. MCFN currently agrees with the recommendations of the report.</p> <p>Miigwetch,</p>	

<p>Ministry of Tourism, Culture and Sport</p> <p>Laura Hatcher Heritage Planner Heritage Planning Unit Programs and Services Branch Heritage, Tourism and Culture Division 437-239-3404 laura.e.hatcher@ontario.ca</p>	<p>July 7, 2022 / Email</p> <p>Dear Sarah Pihel and Alejandra Boyer,</p> <p>Thank you for providing the Ministry of Tourism, Culture and Sport (MTCS) with the Notice of Commencement for the above-referenced project. MTCS’s interest in this Environmental Assessment (EA) project relates to its mandate of conserving Ontario’s cultural heritage, which includes:</p> <ul style="list-style-type: none">• archaeological resources,• built heritage resources, and• cultural heritage landscapes. <p>Under the EA process, the proponent is required to determine a project’s potential impact on known (previously recognized) and potential cultural heritage resources.</p> <p>Identifying Cultural Heritage Resources While some cultural heritage resources may have already been formally identified, others may be identified through screening and evaluation.</p> <p>Archaeological Resources This EA project may impact archaeological resources and should be screened using the MTCS Criteria for Evaluating Archaeological Potential to determine if an archaeological assessment is needed. MTCS archaeological sites data are available at archaeology@ontario.ca.</p> <p>If the EA project area exhibits archaeological potential, then an archaeological assessment (AA) should be undertaken by an archaeologist licenced under the Ontario Heritage Act (OHA), who is responsible for submitting the report directly to MTCS for review.</p> <p>Built Heritage Resources and Cultural Heritage Landscapes The MHSTCI Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes should be completed to help determine whether this EA project may impact built heritage resources and/or cultural heritage landscapes.</p> <p>If there is potential for built heritage resources and/or cultural heritage landscapes on the property MHSTCI recommends that a Heritage Impact Assessment (HIA), prepared by a</p>	<p>July 15, 2022 / Email</p> <p>Good afternoon Laura,</p> <p>Thank you for your email. Please see the following reports that have been completed for the project:</p> <ul style="list-style-type: none">• A Stage 1 & 2 Archaeological Assessment with PIF number P229-0079-2021 was submitted to the Ministry on Sep 22, 2021. I have attached it here for your reference.• A Cultural Heritage Screening Report was completed, resulting in the need for a Cultural Heritage Evaluation Report (CHER). A CHER was completed and there are no further cultural heritage value concerns. Both reports are also attached for your review and comments. <p>Kindly advise if you have any comments. Thank you, Alejandra Boyer</p>
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	<p>qualified consultant, be completed to assess potential project impacts. Our Ministry’s Info Sheet #5: Heritage Impact Assessments and Conservation Plans outlines the scope of HIAs. Please send the HIA to MTCS for review and comment, and make it available to local organizations or individuals who have expressed interest in review.</p> <p>Community input should be sought to identify locally recognized and potential cultural heritage resources. Sources include, but are not limited to, municipal heritage committees, historical societies and other local heritage organizations.</p> <p>Cultural heritage resources are often of critical importance to Indigenous communities. Indigenous communities may have knowledge that can contribute to the identification of cultural heritage resources, and we suggest that any engagement with Indigenous communities includes a discussion about known or potential cultural heritage resources that are of value to them.</p> <p>Environmental Assessment Reporting</p> <p>All technical cultural heritage studies and their recommendations are to be addressed and incorporated into EA projects. Please advise MTCS whether any technical cultural heritage studies will be completed for this EA project, and provide them to MTCS before issuing a Notice of Completion. If screening has identified no known or potential cultural heritage resources, or no impacts to these resources, please include the completed checklists and supporting documentation in the EA report or file.</p> <p>Thank you for consulting MHSTCI on this project and please continue to do so throughout the EA process. If you have any questions or require clarification, please do not hesitate to contact me.</p> <p>Best, Laura</p>	
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Huron Wendat Dominic Ste-Marie dominic.sainte-marie@wendake.ca	July 26, 2022 / Email Ndio Sarah, I am writing to you as a follow-up to the emails below, I am taking over your requests on behalf of the Ontario consultation team. Please note that the Huron-Wendat Nation expects to be consulted for comments of draft stage 2 AA reports looking forward along with sending monitors on site for all archeological works including stage 2. We would of course like to send monitors for the purpose of construction monitoring. Tiawenhk chia’ önenh Dominic Ste-Marie	July 27, 2022 / Email Dear Dominic: Thank you for your email of July 26th. I am the archaeologist for this project, and can report that the study area was subject to a Stage 1 and 2 archaeological assessment last year. We found that the study area was heavily disturbed by construction activities starting around 1895. An entire hillside was removed and the ground flattened to make room for a well pump house and a large parking lot. We followed Ministry Standards and Guidelines precisely - and identified no historic or prehistoric archaeological resources. Please be assured that if we found any archaeological resources, your office would have been the first phone call we made A copy of the archaeological report is attached. If you have any questions, please do not hesitate to be in touch. Your sincerely, Allan Morton
	August 12, 2023 / Email Kwe Allan, Thank you for your reply, the Huron-Wendat Nation therefore has no comments on this project at this point. You are welcome to contact us for assistance if any archeology feels necessary at some point. Tiawenhk chia’ önenh Dominic Ste-Marie	

Notice of PIC		
<p>MNRF Midhurst District Office</p> <p>2284 Nursery Road Midhurst, ON L9X 1N8 (705) 725-7549 midhurstinfo@ontario.ca</p>	<p>August 19, 2022 / Email</p> <p>Hello,</p> <p>Thank you for your email. Your request or inquiry has been assigned to a district staff technical expert and is being reviewed. In accordance with government service standards, you will receive a reply from the individual assigned to your file within the next 15 business days.</p> <p>To report a natural resource violation, please call the MNRF TIPS line at 1-877-847-7667.</p> <p>Thank you,</p>	
<p>County of Dufferin</p> <p>Steve Murphy Manager 911 & Corporate Projects Office of the Chief Administrative Officer, County of Dufferin 519-941-2816 Ext. 2401 519-938-7215 smurphy@dufferincounty.ca</p>	<p>August 19, 2022 / Email</p> <p>Alejandra,</p> <p>Could you please share a link to the PIC, it is not easily found on the town’s website.</p> <p>Thanks in advance, Steve Murphy</p>	<p>August 19, 2022 / Email</p> <p>Good morning Steven,</p> <p>Please try the link below:</p> <p>https://www.orangeville.ca/en/news/notice-of-virtual-public-information-centre.aspx</p> <p>Regards,</p> <p>Sarah</p>

Agencies

Alejandra Boyer

From: Boyd, Erick (MMAH) <Erick.Boyd@ontario.ca>
Sent: June 7, 2022 9:18 AM
To: Alejandra Boyer
Cc: Sarah Pihel; Martin Lukasiewicz; Stephen Keen; Grant, Kay (MMAH)
Subject: RE: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - MMAH

Follow Up Flag: Follow up
Flag Status: Flagged

EXTERNAL EMAIL

Hi Alejandra,

Thank you for your email regarding this Municipal Class EA. I have copied Kay Grant in my office who is the MMAH planner with responsibility for Dufferin County.

Have a good day,
Erick

Erick Boyd, RPP, MCIP

Manager, Community Planning and Development
Ministry of Municipal Affairs and Housing
Municipal Services Office - Western
659 Exeter Road, 2nd Floor
London, ON N6E 1L3
Ph.: 226-688-9058
Fax: 519-873-4018
Email: Erick.Boyd@ontario.ca

Help a family in need by taking part in MMAH's Spring Food Drive.

From: Alejandra Boyer <Alejandra.Boyer@cima.ca>
Sent: June 7, 2022 9:04 AM
To: Boyd, Erick (MMAH) <Erick.Boyd@ontario.ca>
Cc: Sarah Pihel <SPihel@orangeville.ca>; Martin Lukasiewicz <Martin.Lukasiewicz@cima.ca>; Stephen Keen <Stephen.Keen@cima.ca>
Subject: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - MMAH

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Good morning Erick,

The Town has initiated the design for the full rehabilitation of the West Sector Reservoir. In order to facilitate rehabilitation of the West Sector Reservoir, modifications of the water supply system are required to ensure there would no interruption to customers in the service area. To identify the preferred solution to maintain service, the Town has initiated a Municipal Class Environmental Assessment (Class EA). CIMA+ is assisting the Town in the completion of

this study, which is following the Schedule B process of the Municipal Class EA (2000, as amended 2015). Please refer to the attached Notice of Study Commencement for more information.

If there is another staff representative that this and future notices should be directed to, kindly forward this email and provide the appropriate contact information.

Please do not hesitate to contact us by responding to this email if you have any questions.

Thank you,

ALEJANDRA BOYER
Planner / Transportation

T 289-288-0287 ext. 6847 **M** 416-357-3153 **F** 289-288-0285
400–3027 Harvester Road, Burlington, ON L7N 3G7 CANADA



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Alejandra Boyer

From: Steven Murphy <smurphy@dufferincounty.ca>
Sent: June 7, 2022 9:24 AM
To: Alejandra Boyer; phillock@dufferincounty.ca; Scott Burns; Planner; Michelle Dunne; Cody Joudry; Silva Yousif; Diksha Marwaha
Cc: Sarah Pihel; Martin Lukasiewicz; Stephen Keen
Subject: RE: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - County of Dufferin

Follow Up Flag: Follow up
Flag Status: Flagged

EXTERNAL EMAIL

Good morning and thank you for reaching out. Below are a few key contacts within our organization that you may wish to add to your contact list.

- Pam Hillock has retired and is replaced by Michelle Dunne mdunne@dufferincounty.ca
- Cody Joudry is our Director – Development and Tourism and planning falls within his portfolio. cjoudry@dufferincounty.ca
- Supporting Cody we have Silva Yousif, our Senior Planner syousif@dufferincounty.ca
- Diksha Marwaha is our Planning Coordinator dmawaha@dufferincounty.ca

Regards,

Steve Murphy | Manager – Preparedness, 911 & Corporate Projects | Office of the Chief Administrative Officer

County of Dufferin | Phone: 519-941-2816 Ext. 2401 | Mobile: 519-938-7215
smurphy@dufferincounty.ca | 55 Zina St, Orangeville, ON L9W 1E5

Serving with humility and gratitude upon the traditional territory and ancestral lands of the Tionontati, Attawandaron, Haudenosaunee and Anishinaabe peoples.

From: Alejandra Boyer <Alejandra.Boyer@cima.ca>
Sent: Tuesday, June 7, 2022 9:14 AM
To: phillock@dufferincounty.ca; Scott Burns <sburns@dufferincounty.ca>; Planner <planner@dufferincounty.ca>; Steven Murphy <smurphy@dufferincounty.ca>
Cc: Sarah Pihel <SPihel@orangeville.ca>; Martin Lukasiewicz <Martin.Lukasiewicz@cima.ca>; Stephen Keen <Stephen.Keen@cima.ca>
Subject: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - County of Dufferin

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Please do not hesitate to contact us by responding to this email if you have any questions.

Thank you,

ALEJANDRA BOYER
Planner / Transportation

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400–3027 Harvester Road, Burlington, ON L7N 3G7 CANADA



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Alejandra Boyer

From: Tom Reid <treid@dufferincounty.ca>
Sent: June 7, 2022 11:50 AM
To: Alejandra Boyer
Subject: RE: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - Fire and EMS

Follow Up Flag: Follow up
Flag Status: Flagged

EXTERNAL EMAIL

No I don't know of any others that need notification
Thanks Tom

Tom Reid | Chief | Dufferin County Paramedic Service

County of Dufferin | Phone: 519-941-9608 ext 6001 | Fax 519 941-2486 | Cell 519 939 0119
325 Blind Line, Orangeville, ON L9W 5J8

From: Alejandra Boyer <Alejandra.Boyer@cima.ca>
Sent: Tuesday, June 7, 2022 8:56 AM
To: fireinfo@orangeville.ca; Tom Reid <treid@dufferincounty.ca>
Cc: Sarah Pihel <SPihel@orangeville.ca>; Martin Lukasiewicz <Martin.Lukasiewicz@cima.ca>; Stephen Keen <Stephen.Keen@cima.ca>
Subject: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - Fire and EMS

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Good morning,

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Please do not hesitate to contact us by responding to this email if you have any questions.

Thank you,

ALEJANDRA BOYER

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Alejandra Boyer

From: Cherepacha, Julie <Julie.Cherepacha@dpcdsb.org>
Sent: June 8, 2022 1:45 PM
To: Alejandra Boyer
Subject: RE: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - School Boards

Follow Up Flag: Follow up
Flag Status: Flagged

EXTERNAL EMAIL

Good afternoon Alejandra,
For future notices and communications, can you please add the following staff representatives:

Stephanie Cox, Manager, Planning
Stephanie.cox@dpcdsb.org

Joanne Rogers, Senior Planner
Joanne.rogers@dpcdsb.org

Thank you,

Julie Cherepacha, CPA, CGA

Executive Superintendent of Finance, Chief Financial Officer and Treasurer
Dufferin-Peel Catholic District School Board
40 Matheson Boulevard West, Mississauga ON L5R 1C5
905-890-0708 Ext. 24262 | 416-986-9780 (Mobile) | Julie.cherepacha@dpcdsb.org
www.dpcdsb.org | @DPCDSBSchools

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From: Alejandra Boyer <Alejandra.Boyer@cima.ca>
Sent: Tuesday, June 7, 2022 9:12 AM
To: inquiry@ugdsb.on.ca; Cherepacha, Julie <Julie.Cherepacha@dpcdsb.org>
Cc: Sarah Pihel <SPihel@orangeville.ca>; Martin Lukasiewicz <Martin.Lukasiewicz@cima.ca>; Stephen Keen <Stephen.Keen@cima.ca>
Subject: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - School Boards

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Good morning,

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If there is another staff representative that this and future notices should be directed to, kindly forward this email and provide the appropriate contact information.

Please do not hesitate to contact us by responding to this email if you have any questions.

Thank you,

ALEJANDRA BOYER
Planner / Transportation

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400–3027 Harvester Road, Burlington, ON L7N 3G7 CANADA



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Alejandra Boyer

From: EA Notices to WCRegion (MECP) <eanotification.wcregion@ontario.ca>
Sent: June 13, 2022 9:48 AM
To: Alejandra Boyer
Subject: RE: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - MECP

Follow Up Flag: Follow up
Flag Status: Flagged

EXTERNAL EMAIL

Hi Alejandra,

Thank you for providing the Project Information Form for this project.
Yes, I am the MECP contact going forward.

Thanks,

Joan

Joan Del Villar Cuicas (she/her)
Regional Environmental Planner (A)
Project Review Unit | Environmental Assessment Branch
Ontario Ministry of the Environment, Conservation and Parks
Joan.delvillarcuicas@ontario.ca | Phone: 365-889-1180

From: Alejandra Boyer <Alejandra.Boyer@cima.ca>
Sent: Friday, June 10, 2022 1:52 PM
To: EA Notices to WCRegion (MECP) <eanotification.wcregion@ontario.ca>
Subject: RE: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - MECP

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Hi Joan,

Please see the attached form.
Can you please confirm if you will be the MECP contact going forward?

Thank you,

Alejandra

From: EA Notices to WCRegion (MECP) <eanotification.wcregion@ontario.ca>
Sent: June 9, 2022 12:50 PM

To: Alejandra Boyer <Alejandra.Boyer@cima.ca>

Subject: RE: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - MECP

EXTERNAL EMAIL

Hello Alejandra,
Thank you for circulating the Notice of commencement. Could you please also provide the Project information form for this project. Please see attachment for instructions.

Thanks,
Joan Del Villar Cuicas (she/her)
Regional Environmental Planner (A)
Project Review Unit | Environmental Assessment Branch
Ontario Ministry of the Environment, Conservation and Parks
Joan.delvillarcuicas@ontario.ca | Phone: 365-889-1180

From: Alejandra Boyer <Alejandra.Boyer@cima.ca>

Sent: Tuesday, June 7, 2022 8:50 AM

To: EA Notices to WCRegion (MECP) <eanotification.wcregion@ontario.ca>

Cc: Sarah Pihel <SPihel@orangeville.ca>; Martin Lukasiewicz <Martin.Lukasiewicz@cima.ca>; Stephen Keen <Stephen.Keen@cima.ca>

Subject: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - MECP

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Good morning,

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Please do not hesitate to contact us by responding to this email if you have any questions.

Thank you,

ALEJANDRA BOYER
Planner / Transportation

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400–3027 Harvester Road, Burlington, ON L7N 3G7 CANADA



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Alejandra Boyer

From: Del Villar Cuicas, Joan (MECP) <Joan.DelVillarCuicas@ontario.ca>
Sent: June 13, 2022 12:59 PM
To: Alejandra Boyer; Sarah Pihel
Cc: Potter, Katy (MECP); Burdon, Jeff (MECP); Whitelaw, Clarissa (MECP); Ferraro, Stefanie (MECP)
Subject: RE: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - MECP
Attachments: Acknowledgement Letter_Township of Orangeville_Orangeville Water Storage Well 55A.pdf; Client Guide to Preliminary Screening-May 2019.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

EXTERNAL EMAIL

Good afternoon,

Please find attached MECP's Letter of Acknowledgement and attachments in response to the Notice of Commencement for the Town of Orangeville Municipal Class Environmental Assessment for Water Storage at Wells 5/ 5A.

Please do not hesitate to contact me if you have any questions.

Regards,

Joan Del Villar Cuicas (she/her)
Regional Environmental Planner (A)
Project Review Unit | Environmental Assessment Branch
Ontario Ministry of the Environment, Conservation and Parks
Joan.delvillarcuicas@ontario.ca | Phone: 365-889-1180

From: Alejandra Boyer <Alejandra.Boyer@cima.ca>
Sent: Tuesday, June 7, 2022 8:50 AM
To: EA Notices to WCRegion (MECP) <eanotification.wcregion@ontario.ca>
Cc: Sarah Pihel <SPihel@orangeville.ca>; Martin Lukasiewicz <Martin.Lukasiewicz@cima.ca>; Stephen Keen <Stephen.Keen@cima.ca>
Subject: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - MECP

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Thank you,

ALEJANDRA BOYER
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Ministry of the Environment,
Conservation and Parks

Environmental Assessment Branch

1st Floor
135 St. Clair Avenue W
Toronto [ON M4V 1P5](#)
Tel.: 416 314-8001
Fax.: 416 314-8452

Ministère de l'Environnement, de la
Protection de la nature et des Parcs

*Direction des évaluations
environnementales*

Rez-de-chaussée
135, avenue St. Clair Ouest
Toronto [ON M4V 1P5](#)
Tél. : 416 314-8001
Téléc. : 416 314-8452



June 13, 2022

Sarah Pihel
Project Technologist
Town of Orangeville
E-mail: spihel@orangeville.ca

(Via Email Only)

Alejandra Boyer
Consultant Class EA lead
CIMA Canada Inc.
E-mail: alejandra.boyer@cima.ca

Re: **Municipal Class Environmental Assessment for Water Storage at Wells 5/5A
Town of Orangeville
Schedule B Municipal Class Environmental Assessment
Response to Notice of Commencement**

Dear Sarah Pihel and Alejandra Boyer,

This letter is in response to the Notice of Commencement for the above noted project. The Ministry of the Environment, Conservation and Parks (MECP) acknowledges that the Town of Orangeville (proponent) has indicated that the study is following the approved environmental planning process for a Schedule B project under the Municipal Class Environmental Assessment (Class EA).

Given the Class EA was completed in 2019, the ministry is providing an updated list of Indigenous communities and the updated **(February 2021)** attached "Areas of Interest" document provides guidance regarding the ministry's interests with respect to the Class EA process. Please address all areas of interest in the EA documentation at an appropriate level for the EA study. Proponents who address all the applicable areas of interest can minimize potential delays to the project schedule. **Further information is provided at the end of the Areas of Interest document relating to recent changes to the Environmental Assessment Act through Bill 197, Covid-19 Economic Recovery Act 2020.**

The Crown has a legal duty to consult Aboriginal communities when it has knowledge, real or constructive, of the existence or potential existence of an Aboriginal or treaty right and contemplates conduct that may adversely impact that right. Before authorizing this project, the Crown must ensure that its duty to consult has been fulfilled, where such a duty is triggered. Although the duty to consult with Aboriginal peoples is a duty of the Crown, the Crown may delegate procedural aspects of this duty to project proponents while retaining oversight of the consultation process.

The proposed project may have the potential to affect Aboriginal or treaty rights protected under Section 35 of Canada's *Constitution Act* 1982. Where the Crown's duty to consult is triggered in relation to the proposed project, **the MECP is delegating the procedural aspects of rights-based consultation to the proponent through this letter.** The Crown intends to rely on the delegated consultation process in discharging its duty to consult and maintains the right to participate in the consultation process as it sees fit.

Based on information provided to date and the Crown's preliminary assessment the proponent is required to consult with the following communities who have been identified as potentially affected by the proposed project:

- Saugeen First Nation
- Chippewas of Nawash Unceded First Nation

Williams Treaty Chippewa First Nations:

- Beausoleil First Nation
- Chippewas of Rama First Nation
- Chippewas of Georgina Island First Nation

For the above Williams Treaties communities, please cc Karry Sandy McKenzie, William Treaties First Nations Process Co-ordinator, inquiries@williamstreatiesfirstnations.ca

- Mississaugas of the Credit First Nation
- Huron-Wendat

Steps that the proponent may need to take in relation to Aboriginal consultation for the proposed project are outlined in the "[Code of Practice for Consultation in Ontario's Environmental Assessment Process](#)". Additional information related to Ontario's Environmental Assessment Act is available online at: www.ontario.ca/environmentalassessments.

Please also refer to the attached document "A Proponent's Introduction to the Delegation of Procedural Aspects of consultation with Aboriginal Communities" for further information, including the MECP's expectations for EA report documentation related to consultation with communities.

The proponent must contact the Director of Environmental Assessment Branch (EABDirector@ontario.ca) under the following circumstances subsequent to initial discussions with the communities identified by MECP:

- Aboriginal or treaty rights impacts are identified to you by the communities
- You have reason to believe that your proposed project may adversely affect an Aboriginal or treaty right
- Consultation with Indigenous communities or other stakeholders has reached an impasse
- A Part II Order request is expected on the basis of impacts to Aboriginal or treaty rights

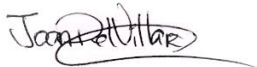
The MECP will then assess the extent of any Crown duty to consult for the circumstances and will consider whether additional steps should be taken, including what role you will be asked to play should additional steps and activities be required.

A draft copy of the report should be sent directly to me prior to the filing of the final report, allowing a minimum of 30 days for the ministry's technical reviewers to provide comments.

Please also ensure a copy of the final notice is sent to the ministry's West Central Region EA notification email account (eanotification.wcregion@ontario.ca) after the draft report is reviewed and finalized.

Should you or any members of your project team have any questions regarding the material above, please contact me at joan.delvillarcuicas@ontario.ca or 365-889-1180.

Yours truly,



Joan Del Villar C
Regional Environmental Planner – West Central Region

cc Katy Potter, Supervisor, Environmental Assessment Services, MECP
Jeff Burdon, Guelph District Manager, MECP
Clarissa Whitelaw, Guelph District Supervisor, MECP
Stephanie Ferraro, Guelph District Supervisor, MECP

Attach: Areas of Interest
A Proponent's Introduction to the Delegation of Procedural Aspects of Consultation with
Aboriginal Communities

AREAS OF INTEREST (v. February 2021)

It is suggested that you check off each section after you have considered / addressed it.

☐ Planning and Policy

- Projects located in MECP Central Region are subject to [A Place to Grow: Growth Plan for the Greater Golden Horseshoe \(2020\)](#). Parts of the study area may also be subject to the [Oak Ridges Moraine Conservation Plan \(2017\)](#), [Niagara Escarpment Plan \(2017\)](#), [Greenbelt Plan \(2017\)](#) or [Lake Simcoe Protection Plan \(2014\)](#). Applicable plans and the applicable policies should be identified in the report, and the proponent should describe how the proposed project adheres to the relevant policies in these plans.
- The [Provincial Policy Statement \(2020\)](#) contains policies that protect Ontario's natural heritage and water resources. Applicable policies should be referenced in the report, and the proponent should describe how the proposed project is consistent with these policies.
- In addition to the provincial planning and policy level, the report should also discuss the planning context at the municipal and federal levels, as appropriate.

☐ Source Water Protection

The *Clean Water Act*, 2006 (CWA) aims to protect existing and future sources of drinking water. To achieve this, several types of vulnerable areas have been delineated around surface water intakes and wellheads for every municipal residential drinking water system that is located in a source protection area. These vulnerable areas are known as a Wellhead Protection Areas (WHPAs) and surface water Intake Protection Zones (IPZs). Other vulnerable areas that have been delineated under the CWA include Highly Vulnerable Aquifers (HVAs), Significant Groundwater Recharge Areas (SGRAs), Event-based modelling areas (EBAs), and Issues Contributing Areas (ICAs). Source protection plans have been developed that include policies to address existing and future risks to sources of municipal drinking water within these vulnerable areas.

Projects that are subject to the Environmental Assessment Act that fall under a Class EA, or one of the Regulations, have the potential to impact sources of drinking water if they occur in designated vulnerable areas or in the vicinity of other at-risk drinking water systems (i.e. systems that are not municipal residential systems). MEA Class EA projects may include activities that, if located in a vulnerable area, could be a threat to sources of drinking water (i.e. have the potential to adversely affect the quality or quantity of drinking water sources) and the activity could therefore be subject to policies in a source protection plan. Where an activity poses a risk to drinking water, policies in the local source protection plan may impact how or where that activity is undertaken. Policies may prohibit certain activities, or they may require risk management measures for these activities. Municipal Official Plans, planning decisions, Class EA projects (where the project includes an activity that is a threat to drinking water) and prescribed instruments must conform with policies that address significant risks to drinking water and must have regard for policies that address moderate or low risks.

- In October 2015, the MEA Parent Class EA document was amended to include reference to the Clean Water Act (Section A.2.10.6) and indicates that proponents undertaking a Municipal Class EA project must identify early in their process whether a project is or could potentially be occurring with a vulnerable area. **Given this requirement, please include a section in the report on source water protection.**
 - The proponent should identify the source protection area and should clearly document how the proximity of the project to sources of drinking water (municipal or other) and any delineated vulnerable areas was considered and assessed. Specifically, the report should

discuss whether or not the project is located in a vulnerable area and provide applicable details about the area.

- If located in a vulnerable area, proponents should document whether any project activities are prescribed drinking water threats and thus pose a risk to drinking water (this should be consulted on with the appropriate Source Protection Authority). Where an activity poses a risk to drinking water, the proponent must document and discuss in the report how the project adheres to or has regard to applicable policies in the local source protection plan. This section should then be used to inform and be reflected in other sections of the report, such as the identification of net positive/negative effects of alternatives, mitigation measures, evaluation of alternatives etc.
- While most source protection plans focused on including policies for significant drinking water threats in the WHPAs and IPZs it should be noted that even though source protection plan policies may not apply in HVAs, these are areas where aquifers are sensitive and at risk to impacts and within these areas, activities may impact the quality of sources of drinking water for systems other than municipal residential systems.
- In order to determine if this project is occurring within a vulnerable area, proponents can use this mapping tool: <http://www.applications.ene.gov.on.ca/swp/en/index.php>. Note that various layers (including WHPAs, WHPA-Q1 and WHPA-Q2, IPZs, HVAs, SGRAs, EBAs, ICAs) can be turned on through the “Map Legend” bar on the left. The mapping tool will also provide a link to the appropriate source protection plan in order to identify what policies may be applicable in the vulnerable area.
- For further information on the maps or source protection plan policies which may relate to their project, proponents must contact the appropriate source protection authority. **Please consult with the local source protection authority to discuss potential impacts on drinking water. Please document the results of that consultation within the report and include all communication documents/correspondence.**

More Information

For more information on the *Clean Water Act*, source protection areas and plans, including specific information on the vulnerable areas and drinking water threats, please refer to [Conservation Ontario's website](#) where you will also find links to the local source protection plan/assessment report.

A list of the prescribed drinking water threats can be found in [section 1.1 of Ontario Regulation 287/07](#) made under the *Clean Water Act*. In addition to prescribed drinking water threats, some source protection plans may include policies to address additional “local” threat activities, as approved by the MECP.

☐ **Climate Change**

The document "[Considering Climate Change in the Environmental Assessment Process](#)" (Guide) is now a part of the Environmental Assessment program's Guides and Codes of Practice. The Guide sets out the MECP's expectation for considering climate change in the preparation, execution and documentation of environmental assessment studies and processes. The guide provides examples, approaches, resources, and references to assist proponents with consideration of climate change in EA. Proponents should review this Guide in detail.

• **The MECP expects proponents of Class EA projects to:**

1. Consider during the assessment of alternative solutions and alternative designs, the following:
 - a. the project's expected production of greenhouse gas emissions and impacts on carbon sinks (climate change mitigation); and
 - b. resilience or vulnerability of the undertaking to changing climatic conditions (climate change adaptation).
2. Include a discrete section in the report detailing how climate change was considered in the EA.

How climate change is considered can be qualitative or quantitative in nature and should be scaled to the project's level of environmental effect. In all instances, both a project's impacts on climate change (mitigation) and impacts of climate change on a project (adaptation) should be considered.

- The MECP has also prepared another guide to support provincial land use planning direction related to the completion of energy and emission plans. The "[Community Emissions Reduction Planning: A Guide for Municipalities](#)" document is designed to educate stakeholders on the municipal opportunities to reduce energy and greenhouse gas emissions, and to provide guidance on methods and techniques to incorporate consideration of energy and greenhouse gas emissions into municipal activities of all types. We encourage you to review the Guide for information.

☐ **Air Quality, Dust and Noise**

- If there are sensitive receptors in the surrounding area of this project, a quantitative air quality/odour impact assessment will be useful to evaluate alternatives, determine impacts and identify appropriate mitigation measures. The scope of the assessment can be determined based on the potential effects of the proposed alternatives, and typically includes source and receptor characterization and a quantification of local air quality impacts on the sensitive receptors and the environment in the study area. The assessment will compare to all applicable standards or guidelines for all contaminants of concern. **Please contact this office for further consultation on the level of Air Quality Impact Assessment required for this project if not already advised.**
- If a quantitative Air Quality Impact Assessment is not required for the project, the MECP expects that the report contain a qualitative assessment which includes:
 - A discussion of local air quality including existing activities/sources that significantly impact local air quality and how the project may impact existing conditions;
 - A discussion of the nearby sensitive receptors and the project's potential air quality impacts on present and future sensitive receptors;
 - A discussion of local air quality impacts that could arise from this project during both construction and operation; and
 - A discussion of potential mitigation measures.
- As a common practice, "air quality" should be used an evaluation criterion for all road projects.
- Dust and noise control measures should be addressed and included in the construction plans to ensure that nearby residential and other sensitive land uses within the study area are not adversely affected during construction activities.
- The MECP recommends that non-chloride dust-suppressants be applied. For a comprehensive list of fugitive dust prevention and control measures that could be applied, refer to [Cheminfo Services Inc. Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities](#) report prepared for Environment Canada. March 2005.
- The report should consider the potential impacts of increased noise levels during the operation of the completed project. The proponent should explore all potential measures to mitigate significant noise impacts during the assessment of alternatives.

☐ **Ecosystem Protection and Restoration**

- Any impacts to ecosystem form and function must be avoided where possible. The report should describe any proposed mitigation measures and how project planning will protect and enhance the local ecosystem.
- Natural heritage and hydrologic features should be identified and described in detail to assess potential impacts and to develop appropriate mitigation measures. The following sensitive environmental features may be located within or adjacent to the study area:

- Key Natural Heritage Features: Habitat of endangered species and threatened species, fish habitat, wetlands, areas of natural and scientific interest (ANSIs), significant valleylands, significant woodlands; significant wildlife habitat (including habitat of special concern species); sand barrens, savannahs, and tallgrass prairies; and alvars.
- Key Hydrologic Features: Permanent streams, intermittent streams, inland lakes and their littoral zones, seepage areas and springs, and wetlands.
- Other natural heritage features and areas such as: vegetation communities, rare species of flora or fauna, Environmentally Sensitive Areas, Environmentally Sensitive Policy Areas, federal and provincial parks and conservation reserves, Greenland systems etc.

We recommend consulting with the Ministry of Natural Resources and Forestry (MNRF), Fisheries and Oceans Canada (DFO) and your local conservation authority to determine if special measures or additional studies will be necessary to preserve and protect these sensitive features. In addition, you may consider the provisions of the Rouge Park Management Plan if applicable.

□ **Species at Risk**

- The Ministry of the Environment, Conservation and Parks has now assumed responsibility of Ontario's Species at Risk program. Information, standards, guidelines, reference materials and technical resources to assist you are found at <https://www.ontario.ca/page/species-risk>.
- The Client's Guide to Preliminary Screening for Species at Risk (Draft May 2019) has been attached to the covering email for your reference and use. Please review this document for next steps.
- For any questions related to subsequent permit requirements, please contact SAROntario@ontario.ca.

□ **Surface Water**

- The report must include enough information to demonstrate that there will be no negative impacts on the natural features or ecological functions of any watercourses within the study area. Measures should be included in the planning and design process to ensure that any impacts to watercourses from construction or operational activities (e.g. spills, erosion, pollution) are mitigated as part of the proposed undertaking.
- Additional stormwater runoff from new pavement can impact receiving watercourses and flood conditions. Quality and quantity control measures to treat stormwater runoff should be considered for all new impervious areas and, where possible, existing surfaces. The ministry's [Stormwater Management Planning and Design Manual \(2003\)](#) should be referenced in the report and utilized when designing stormwater control methods. **A Stormwater Management Plan should be prepared as part of the Class EA process** that includes:
 - Strategies to address potential water quantity and erosion impacts related to stormwater draining into streams or other sensitive environmental features, and to ensure that adequate (enhanced) water quality is maintained
 - Watershed information, drainage conditions, and other relevant background information
 - Future drainage conditions, stormwater management options, information on erosion and sediment control during construction, and other details of the proposed works
 - Information on maintenance and monitoring commitments.
- Ontario Regulation 60/08 under the *Ontario Water Resources Act* (OWRA) applies to the Lake Simcoe Basin, which encompasses Lake Simcoe and the lands from which surface water drains into Lake Simcoe. If the proposed sewage treatment plant is listed in Table 1 of the regulation, the report should describe how the proposed project and its mitigation measures are consistent with the requirements of this regulation and the OWRA.

- Any potential approval requirements for surface water taking or discharge should be identified in the report. A Permit to Take Water (PTTW) under the OWRA will be required for any water takings that exceed 50,000 L/day, except for certain water taking activities that have been prescribed by the Water Taking EASR Regulation – O. Reg. 63/16. These prescribed water-taking activities require registration in the EASR instead of a PTTW. Please review the [Water Taking User Guide for EASR](#) for more information. Additionally, an Environmental Compliance Approval under the OWRA is required for municipal stormwater management works.

☐ **Groundwater**

- The status of, and potential impacts to any well water supplies should be addressed. If the project involves groundwater takings or changes to drainage patterns, the quantity and quality of groundwater may be affected due to drawdown effects or the redirection of existing contamination flows. In addition, project activities may infringe on existing wells such that they must be reconstructed or sealed and abandoned. Appropriate information to define existing groundwater conditions should be included in the report.
- If the potential construction or decommissioning of water wells is identified as an issue, the report should refer to Ontario Regulation 903, Wells, under the OWRA.
- Potential impacts to groundwater-dependent natural features should be addressed. Any changes to groundwater flow or quality from groundwater taking may interfere with the ecological processes of streams, wetlands or other surficial features. In addition, discharging contaminated or high volumes of groundwater to these features may have direct impacts on their function. Any potential effects should be identified, and appropriate mitigation measures should be recommended. The level of detail required will be dependent on the significance of the potential impacts.
- Any potential approval requirements for groundwater taking or discharge should be identified in the report. A Permit to Take Water (PTTW) under the OWRA will be required for any water takings that exceed 50,000 L/day, with the exception of certain water taking activities that have been prescribed by the Water Taking EASR Regulation – O. Reg. 63/16. These prescribed water-taking activities require registration in the EASR instead of a PTTW. Please review the [Water Taking User Guide for EASR](#) for more information.
- Consultation with the railroad authorities is necessary wherever there is a plan to use construction dewatering in the vicinity of railroad lines or where the zone of influence of the construction dewatering potentially intercepts railroad lines.

☐ **Excess Materials Management**

- In December 2019, MECP released a new regulation under the Environmental Protection Act, titled “[On-Site and Excess Soil Management](#)” (O. Reg. 406/19) to support improved management of excess construction soil. This regulation is a key step to support proper management of excess soils, ensuring valuable resources don’t go to waste and to provide clear rules on managing and reusing excess soil. New risk-based standards referenced by this regulation help to facilitate local beneficial reuse which in turn will reduce greenhouse gas emissions from soil transportation, while ensuring strong protection of human health and the environment. The new regulation is being phased in over time, with the first phase in effect on January 1, 2021. For more information, please visit <https://www.ontario.ca/page/handling-excess-soil>.

- The report should reference that activities involving the management of excess soil should be completed in accordance with O. Reg. 406/19 and the MECP's current guidance document titled "[Management of Excess Soil – A Guide for Best Management Practices](#)" (2014).
- All waste generated during construction must be disposed of in accordance with ministry requirements

□ **Contaminated Sites**

- Any current or historical waste disposal sites should be identified in the report. The status of these sites should be determined to confirm whether approval pursuant to Section 46 of the EPA may be required for land uses on former disposal sites. We recommend referring to the [MECP's D-4 guideline](#) for land use considerations near landfills and dumps.
 - Resources available may include regional/local municipal official plans and data; provincial data on [large landfill sites](#) and [small landfill sites](#); Environmental Compliance Approval information for waste disposal sites on [Access Environment](#).
- Other known contaminated sites (local, provincial, federal) in the study area should also be identified in the report (Note – information on federal contaminated sites is found on the Government of Canada's [website](#)).
- The location of any underground storage tanks should be investigated in the report. Measures should be identified to ensure the integrity of these tanks and to ensure an appropriate response in the event of a spill. The ministry's Spills Action Centre must be contacted in such an event.
- Since the removal or movement of soils may be required, appropriate tests to determine contaminant levels from previous land uses or dumping should be undertaken. If the soils are contaminated, you must determine how and where they are to be disposed of, consistent with *Part XV.1 of the Environmental Protection Act* (EPA) and Ontario Regulation 153/04, Records of Site Condition, which details the new requirements related to site assessment and clean up. Please contact the appropriate MECP District Office for further consultation if contaminated sites are present.

□ **Servicing, Utilities and Facilities**

- The report should identify any above or underground utilities in the study area such as transmission lines, telephone/internet, oil/gas etc. The owners should be consulted to discuss impacts to this infrastructure, including potential spills.
- The report should identify any servicing infrastructure in the study area such as wastewater, water, stormwater that may potentially be impacted by the project.
- Any facility that releases emissions to the atmosphere, discharges contaminants to ground or surface water, provides potable water supplies, or stores, transports or disposes of waste must have an Environmental Compliance Approval (ECA) before it can operate lawfully. Please consult with MECP's Environmental Permissions Branch to determine whether a new or amended ECA will be required for any proposed infrastructure.
- We recommend referring to the ministry's [environmental land use planning guides](#) to ensure that any potential land use conflicts are considered when planning for any infrastructure or facilities related to wastewater, pipelines, landfills or industrial uses.

□ **Mitigation and Monitoring**

- Contractors must be made aware of all environmental considerations so that all environmental standards and commitments for both construction and operation are met. Mitigation measures should be clearly referenced in the report and regularly monitored during the construction stage of the project. In addition, we encourage proponents to conduct post-construction monitoring to ensure all mitigation measures have been effective and are functioning properly.
- Design and construction reports and plans should be based on a best management approach that centres on the prevention of impacts, protection of the existing environment, and opportunities for rehabilitation and enhancement of any impacted areas.
- The proponent's construction and post-construction monitoring plans must be documented in the report, as outlined in Section A.2.5 and A.4.1 of the MEA Class EA parent document.

□ **Consultation**

- The report must demonstrate how the consultation provisions of the Class EA have been fulfilled, including documentation of all stakeholder consultation efforts undertaken during the planning process. This includes a discussion in the report that identifies concerns that were raised and **describes how they have been addressed by the proponent** throughout the planning process. The report should also include copies of comments submitted on the project by interested stakeholders, and the proponent's responses to these comments (as directed by the Class EA to include full documentation).
- Please include the full stakeholder distribution/consultation list in the documentation.

□ **Class EA Process**

- If this project is a Master Plan: there are several different approaches that can be used to conduct a Master Plan, examples of which are outlined in Appendix 4 of the Class EA. **The Master Plan should clearly indicate the selected approach for conducting the plan**, by identifying whether the levels of assessment, consultation and documentation are sufficient to fulfill the requirements for Schedule B or C projects. Please note that any Schedule B or C projects identified in the plan would be subject to Part II Order Requests under the Environmental Assessment Act, although the plan itself would not be. **Please include a description of the approach being undertaken (use Appendix 4 as a reference).**
- If this project is a Master Plan: Any identified projects should also include information on the MCEA schedule associated with the project.
- The report should provide clear and complete documentation of the planning process in order to allow for transparency in decision-making.
- The Class EA requires the consideration of the effects of each alternative on all aspects of the environment (including planning, natural, social, cultural, economic, technical). The report should include a level of detail (e.g. hydrogeological investigations, terrestrial and aquatic assessments, cultural heritage assessments) such that all potential impacts can be identified, and appropriate mitigation measures can be developed. Any supporting studies conducted during the Class EA process should be referenced and included as part of the report.
- Please include in the report a list of all subsequent permits or approvals that may be required for the implementation of the preferred alternative, including but not limited to, MECP's PTTW, EASR Registrations and ECAs, conservation authority permits, species at risk permits, MTO permits and approvals under the *Impact Assessment Act*, 2019.

- Ministry guidelines and other information related to the issues above are available at <http://www.ontario.ca/environment-and-energy/environment-and-energy>. We encourage you to review all the available guides and to reference any relevant information in the report.

Amendments to the EAA through the Covid-19 Economic Recovery Act, 2020

Once the EA Report is finalized, the proponent must issue a Notice of Completion providing a minimum 30-day period during which documentation may be reviewed and comment and input can be submitted to the proponent. The Notice of Completion must be sent to the appropriate MECP Regional Office email address (for projects in MECP Southwest Region, the email is eanotification.swregion@ontario.ca).

The public has the ability to request a higher level of assessment on a project if they are concerned about potential adverse impacts to constitutionally protected Aboriginal and treaty rights. In addition, the Minister may issue an order on his or her own initiative within a specified time period. The Director (of the Environmental Assessment Branch) will issue a Notice of Proposed Order to the proponent if the Minister is considering an order for the project within 30 days after the conclusion of the comment period on the Notice of Completion. At this time, the Director may request additional information from the proponent. Once the requested information has been received, the Minister will have 30 days within which to make a decision or impose conditions on your project.

Therefore, the proponent cannot proceed with the project until at least 30 days after the end of the comment period provided for in the Notice of Completion. Further, the proponent may not proceed after this time if:

- a Part II Order request has been submitted to the ministry regarding potential adverse impacts to constitutionally protected Aboriginal and treaty rights, or
- the Director has issued a Notice of Proposed order regarding the project.

Please ensure that the Notice of Completion advises that outstanding concerns are to be directed to the proponent for a response, and that in the event there are outstanding concerns regarding potential adverse impacts to constitutionally protected Aboriginal and treaty rights, Part II Order requests on those matters should be addressed in writing to:

Minister Jeff Yurek
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

A PROPONENT'S INTRODUCTION TO THE DELEGATION OF PROCEDURAL ASPECTS OF CONSULTATION WITH ABORIGINAL COMMUNITIES

DEFINITIONS

The following definitions are specific to this document and may not apply in other contexts:

Aboriginal communities – the First Nation or Métis communities identified by the Crown for the purpose of consultation.

Consultation – the Crown's legal obligation to consult when the Crown has knowledge of an established or asserted Aboriginal or treaty right and contemplates conduct that might adversely impact that right. This is the type of consultation required pursuant to s. 35 of the *Constitution Act, 1982*. Note that this definition does not include consultation with Aboriginal communities for other reasons, such as regulatory requirements.

Crown – the Ontario Crown, acting through a particular ministry or ministries.

Procedural aspects of consultation – those portions of consultation related to the process of consultation, such as notifying an Aboriginal community about a project, providing information about the potential impacts of a project, responding to concerns raised by an Aboriginal community and proposing changes to the project to avoid negative impacts.

Proponent – the person or entity that wants to undertake a project and requires an Ontario Crown decision or approval for the project.

I. PURPOSE

The Crown has a legal duty to consult Aboriginal communities when it has knowledge of an existing or asserted Aboriginal or treaty right and contemplates conduct that may adversely impact that right. In outlining a framework for the duty to consult, the Supreme Court of Canada has stated that the Crown may delegate procedural aspects of consultation to third parties. This document provides general information about the Ontario Crown's approach to delegation of the procedural aspects of consultation to proponents.

This document is not intended to instruct a proponent about an individual project, and it does not constitute legal advice.

II. WHY IS IT NECESSARY TO CONSULT WITH ABORIGINAL COMMUNITIES?

The objective of the modern law of Aboriginal and treaty rights is the *reconciliation* of Aboriginal peoples and non-Aboriginal peoples and their respective rights, claims and interests. Consultation is an important component of the reconciliation process.

The Crown has a legal duty to consult Aboriginal communities when it has knowledge of an existing or asserted Aboriginal or treaty right and contemplates conduct that might adversely impact that right. For example, the Crown's duty to consult is triggered when it considers issuing a permit, authorization or approval for a project which has the potential to adversely impact an Aboriginal right, such as the right to hunt, fish, or trap in a particular area.

The scope of consultation required in particular circumstances ranges across a spectrum depending on both the nature of the asserted or established right and the seriousness of the potential adverse impacts on that right.

Depending on the particular circumstances, the Crown may also need to take steps to accommodate the potentially impacted Aboriginal or treaty right. For example, the Crown may be required to avoid or minimize the potential adverse impacts of the project.

III. THE CROWN'S ROLE AND RESPONSIBILITIES IN THE DELEGATED CONSULTATION PROCESS

The Crown has the responsibility for ensuring that the duty to consult, and accommodate where appropriate, is met. However, the Crown may delegate the procedural aspects of consultation to a proponent.

There are different ways in which the Crown may delegate the procedural aspects of consultation to a proponent, including through a letter, a memorandum of understanding, legislation, regulation, policy and codes of practice.

If the Crown decides to delegate procedural aspects of consultation, the Crown will generally:

- Ensure that the delegation of procedural aspects of consultation and the responsibilities of the proponent are clearly communicated to the proponent;
- Identify which Aboriginal communities must be consulted;
- Provide contact information for the Aboriginal communities;
- Revise, as necessary, the list of Aboriginal communities to be consulted as new information becomes available and is assessed by the Crown;
- Assess the scope of consultation owed to the Aboriginal communities;
- Maintain appropriate oversight of the actions taken by the proponent in fulfilling the procedural aspects of consultation;
- Assess the adequacy of consultation that is undertaken and any accommodation that may be required;
- Provide a contact within any responsible ministry in case issues arise that require direction from the Crown; and
- Participate in the consultation process as necessary and as determined by the Crown.

IV. THE PROPONENT'S ROLE AND RESPONSIBILITIES IN THE DELEGATED CONSULTATION PROCESS

Where aspects of the consultation process have been delegated to a proponent, the Crown, in meeting its duty to consult, will rely on the proponent's consultation activities and documentation of those activities. The consultation process informs the Crown's decision of whether or not to approve a proposed project or activity.

A proponent's role and responsibilities will vary depending on a variety of factors including the extent of consultation required in the circumstance and the procedural aspects of consultation the Crown has delegated to it. Proponents are often in a better position than the Crown to discuss a project and its potential impacts with Aboriginal communities and to determine ways to avoid or minimize the adverse impacts of a project.

A proponent can raise issues or questions with the Crown at any time during the consultation process. If issues or concerns arise during the consultation that cannot be addressed by the proponent, the proponent should contact the Crown.

a) What might a proponent be required to do in carrying out the procedural aspects of consultation?

Where the Crown delegates procedural aspects of consultation, it is often the proponent's responsibility to provide notice of the proposed project to the identified Aboriginal communities. The notice should indicate that the Crown has delegated the procedural aspects of consultation to the proponent and should include the following information:

- a description of the proposed project or activity;
- mapping;
- proposed timelines;
- details regarding anticipated environmental and other impacts;
- details regarding opportunities to comment; and
- any changes to the proposed project that have been made for seasonal conditions or other factors, where relevant.

Proponents should provide enough information and time to allow Aboriginal communities to provide meaningful feedback regarding the potential impacts of the project. Depending on the nature of consultation required for a project, a proponent also may be required to:

- provide the Crown with copies of any consultation plans prepared and an opportunity to review and comment;
- ensure that any necessary follow-up discussions with Aboriginal communities take place in a timely manner, including to confirm receipt of information, share and update information and to address questions or concerns that may arise;
- as appropriate, discuss with Aboriginal communities potential mitigation measures and/or changes to the project in response to concerns raised by Aboriginal communities;
- use language that is accessible and not overly technical, and translate material into Aboriginal languages where requested or appropriate;
- bear the reasonable costs associated with the consultation process such as, but not limited to, meeting hall rental, meal costs, document translation(s), or to address technical & capacity issues;
- provide the Crown with all the details about potential impacts on established or asserted Aboriginal or treaty rights, how these concerns have been considered and addressed by the proponent and the Aboriginal communities and any steps taken to mitigate the potential impacts;
- provide the Crown with complete and accurate documentation from these meetings and communications; and
- notify the Crown immediately if an Aboriginal community not identified by the Crown approaches the proponent seeking consultation opportunities.

b) What documentation and reporting does the Crown need from the proponent?

Proponents should keep records of all communications with the Aboriginal communities involved in the consultation process and any information provided to these Aboriginal communities.

As the Crown is required to assess the adequacy of consultation, it needs documentation to satisfy itself that the proponent has fulfilled the procedural aspects of consultation delegated to it. The documentation required would typically include:

- the date of meetings, the agendas, any materials distributed, those in attendance and copies of any minutes prepared;
- the description of the proposed project that was shared at the meeting;
- any and all concerns or other feedback provided by the communities;
- any information that was shared by a community in relation to its asserted or established Aboriginal or treaty rights and any potential adverse impacts of the proposed activity, approval or disposition on such rights;
- any proposed project changes or mitigation measures that were discussed, and feedback from Aboriginal communities about the proposed changes and measures;
- any commitments made by the proponent in response to any concerns raised, and feedback from Aboriginal communities on those commitments;
- copies of correspondence to or from Aboriginal communities, and any materials distributed electronically or by mail;
- information regarding any financial assistance provided by the proponent to enable participation by Aboriginal communities in the consultation;
- periodic consultation progress reports or copies of meeting notes if requested by the Crown;
- a summary of how the delegated aspects of consultation were carried out and the results; and
- a summary of issues raised by the Aboriginal communities, how the issues were addressed and any outstanding issues.

In certain circumstances, the Crown may share and discuss the proponent's consultation record with an Aboriginal community to ensure that it is an accurate reflection of the consultation process.

c) Will the Crown require a proponent to provide information about its commercial arrangements with Aboriginal communities?

The Crown may require a proponent to share information about aspects of commercial arrangements between the proponent and Aboriginal communities where the arrangements:

- include elements that are directed at mitigating or otherwise addressing impacts of the project;
- include securing an Aboriginal community's support for the project; or
- may potentially affect the obligations of the Crown to the Aboriginal communities.

The proponent should make every reasonable effort to exempt the Crown from confidentiality provisions in commercial arrangements with Aboriginal communities to the extent necessary to allow this information to be shared with the Crown.

The Crown cannot guarantee that information shared with the Crown will remain confidential. Confidential commercial information should not be provided to the Crown as part of the consultation record if it is not relevant to the duty to consult or otherwise required to be submitted to the Crown as part of the regulatory process.

V. WHAT ARE THE ROLES AND RESPONSIBILITIES OF ABORIGINAL COMMUNITIES' IN THE CONSULTATION PROCESS?

Like the Crown, Aboriginal communities are expected to engage in consultation in good faith. This includes:

- responding to the consultation notice;
- engaging in the proposed consultation process;
- providing relevant documentation;
- clearly articulating the potential impacts of the proposed project on Aboriginal or treaty rights; and
- discussing ways to mitigate any adverse impacts.

Some Aboriginal communities have developed tools, such as consultation protocols, policies or processes that provide guidance on how they would prefer to be consulted. Although not legally binding, proponents are encouraged to respect these community processes where it is reasonable to do so. Please note that there is no obligation for a proponent to pay a fee to an Aboriginal community in order to enter into a consultation process.

To ensure that the Crown is aware of existing community consultation protocols, proponents should contact the relevant Crown ministry when presented with a consultation protocol by an Aboriginal community or anyone purporting to be a representative of an Aboriginal community.

VI. WHAT IF MORE THAN ONE PROVINCIAL CROWN MINISTRY IS INVOLVED IN APPROVING A PROPONENT'S PROJECT?

Depending on the project and the required permits or approvals, one or more ministries may delegate procedural aspects of the Crown's duty to consult to the proponent. The proponent may contact individual ministries for guidance related to the delegation of procedural aspects of consultation for ministry-specific permits/approvals required for the project in question. Proponents are encouraged to seek input from all involved Crown ministries sooner rather than later.

Alejandra Boyer

From: James, Eric <Eric.James@cvc.ca>
Sent: June 15, 2022 3:03 PM
To: Alejandra Boyer
Cc: Sarah Pihel; Martin Lukasiewicz; Stephen Keen
Subject: RE: [External] Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - CVC

Follow Up Flag: Follow up
Flag Status: Flagged

EXTERNAL EMAIL

Hi Alejandra,

I will be the main point of contact from CVC for this file, you can send any future notices to me directly.

Thanks,
Eric

Please note I am working remotely – please call my cell or email me

Eric James |

Junior Regulations Officer, Planning and Development Services | Credit Valley Conservation
1255 Old Derry Road Mississauga, ON L5N 6R4
905-670-1615 ext 284 | Cell (416) 666-0727 | 1-800-668-5557
eric.james@cvc.ca | cvc.ca



[View our privacy statement](#)



From: Alejandra Boyer <Alejandra.Boyer@cima.ca>
Sent: Tuesday, June 7, 2022 8:51 AM
To: Slaght, Tyler <Tyler.Slaght@cvc.ca>
Cc: Sarah Pihel <SPihel@orangeville.ca>; Martin Lukasiewicz <Martin.Lukasiewicz@cima.ca>; Stephen Keen <Stephen.Keen@cima.ca>
Subject: [External] Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - CVC

You don't often get email from alejandra.boyer@cima.ca. [Learn why this is important](#)

[CAUTION] This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe. If in doubt contact help211@cvc.ca

Good morning Tyler,

The Town has initiated the design for the full rehabilitation of the West Sector Reservoir. In order to facilitate rehabilitation of the West Sector Reservoir, modifications of the water supply system are required to ensure there would no interruption to customers in the service area. To identify the preferred solution to maintain service, the Town has initiated a Municipal Class Environmental Assessment (Class EA). CIMA+ is assisting the Town in the completion of this study, which is following the Schedule B process of the Municipal Class EA (2000, as amended 2015). Please refer to the attached Notice of Study Commencement for more information.

If there is another staff representative that this and future notices should be directed to, kindly forward this email and provide the appropriate contact information.

Please do not hesitate to contact us by responding to this email if you have any questions.

Thank you,

ALEJANDRA BOYER
Planner / Transportation

T 289-288-0287 ext. 6847 M 416-357-3153 F 289-288-0285
400-3027 Harvester Road, Burlington, ON L7N 3G7 CANADA



Engineering
for people



Alejandra Boyer

From: Clement, Amy (NDMNRF) <Amy.Clement@ontario.ca>
Sent: June 20, 2022 2:54 PM
To: Alejandra Boyer
Cc: Sarah Pihel; Martin Lukasiewicz; Stephen Keen
Subject: RE: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - MNDMNR
Attachments: NDMNRResponse_OrangevilleWaterStorage_2022-06-20.pdf
Follow Up Flag: Follow up
Flag Status: Flagged

EXTERNAL EMAIL

Good afternoon,

Please see attached response to the Town of Orangeville Water Storage at Wells 5/5A EA.

Thank you,

Amy

Amy Clement (she/her)

Regional Planner
Land Use Planning and Strategic Issues Section | Southern Region
Ministry of Northern Development, Mines, Natural Resources & Forestry
Amy.clement@ontario.ca
(705) 465-1639

Please Note: As part of providing [accessible customer service](#), please let me know if you have any accommodation needs or require communication supports or alternate formats

From: Alejandra Boyer <Alejandra.Boyer@cima.ca>
Sent: June 7, 2022 9:44 AM
To: MIDHURSTINFO (NDMNR) <MIDHURSTINFO@ontario.ca>
Cc: Sarah Pihel <SPihel@orangeville.ca>; Martin Lukasiewicz <Martin.Lukasiewicz@cima.ca>; Stephen Keen <Stephen.Keen@cima.ca>
Subject: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - MNDMNR

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Good morning,

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If there is another staff representative that this and future notices should be directed to, kindly forward this email and provide the appropriate contact information.

Kindly confirm who the MNRF contact will be for this project.

Please do not hesitate to contact us by responding to this email if you have any questions.

Thank you,

ALEJANDRA BOYER
Planner / Transportation

T 289-288-0287 ext. 6847 **M** 416-357-3153 **F** 289-288-0285
400–3027 Harvester Road, Burlington, ON L7N 3G7 CANADA



Engineering
for people



June 20, 2022

Alejandra Boyer
Consultant Class EA Lead
CIMA Canada Inc.
400-3027 Harvester Road,
Burlington, ON L7N 3G7
289-288-0287 ext. 6847
Alejandra.boyer@cima.ca

SUBJECT: Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA

Dear Alejandra,

The Ministry of Northern Development, Mines, Natural Resources and Forestry (NDMNRF) received the Notice of Commencement for the Water Storage at Wells 5/5A EA on June 07, 2022. Thank you for circulating this to our office. Please note that we have not completed a screening of natural heritage or other resource values for the project at this time. This response, however, does provide information to guide you in identifying and assessing natural features and resources as required by applicable policies and legislation, as well as engaging with the Ministry for advice as needed.

Please also note that it is the proponent's responsibility to be aware of, and comply with, all relevant federal or provincial legislation, municipal by-laws or other agency approvals.

Natural Heritage

NDMNRF's natural heritage and natural resources GIS data layers can be obtained through the Ministry's [Land Information Ontario \(LIO\)](#) website. You may also view natural heritage information online (e.g., Provincially Significant Wetlands, ANSI's, woodlands, etc.) using the [Make a Map: Natural Heritage Areas](#) tool.

We recommend that you use the above-noted sources of information during the review of your project proposal.

Natural Hazards

A series of natural hazard technical guides developed by NDMNRF are available to support municipalities and conservation authorities implement the natural hazard policies in the Provincial Policy Statement (PPS). For example, standards to address flood risks and the potential impacts and costs from riverine flooding are addressed in the *Technical Guide River and Stream Systems: Flooding Hazard Limit (2002)*. We recommend that you consider these technical guides as you assess specific improvement projects that can be undertaken to reduce the risk of flooding.

Petroleum Wells & Oil, Gas and Salt Resources Act

There may be petroleum wells within the proposed project area. Please consult the Ontario Oil, Gas and Salt Resources Library website (www.ogsrlibrary.com) for the best-known data on any wells

recorded by NDMNRF. Please reference the 'Definitions and Terminology Guide' listed in the publications on the library website to better understand the well information available. Any oil and gas wells in your project area are regulated by the *Oil, Gas and Salt Resource Act*, and the supporting regulations and operating standards. If any unanticipated wells are encountered during development of the project, or if the proponent has questions regarding petroleum operations, the proponent should contact the Petroleum Operations Section at POSRecords@ontario.ca or 519-873-4634.

Fish and Wildlife Conservation Act

Please note, that should the project require:

- The relocation of fish outside of the work area, a Licence to Collect Fish for Scientific Purposes under the *Fish and Wildlife Conservation Act* will be required.
- The relocation of wildlife outside of the work area (including amphibians, reptiles, and small mammals), a Wildlife Collector's Authorization under the *Fish and Wildlife Conservation Act* will be required.

Public Lands Act & Lakes and Rivers Improvement Act

Some Project may be subject to the provisions of the *Public Lands Act* or *Lakes and River Improvement Act*. Please review the information on NDMNRF's web pages provided below regarding when an approval is, or is not, required. Please note that many of the authorizations under the *Lakes and Rivers Improvement Act* are administered by the local Conservation Authority.

- For more information about the *Public Lands Act*: <https://www.ontario.ca/page/crown-land-work-permits>
- For more information about the *Lakes and Rivers Improvement Act*: <https://www.ontario.ca/page/lakes-and-rivers-improvement-act-administrative-guide>

After reviewing the information provided, if you have not identified any of NDMNRF's interests stated above, there is no need to circulate any subsequent notices to our office. If you have identified any of NDMNRF's interests and/or may require permit(s) or further technical advice, please direct your specific questions to midhurstinfo@ontario.ca.

If you have any questions or concerns, please feel free to contact me.

Best Regards,

Amy Clement
Regional Planner
Ministry of Northern Development, Mines, Natural Resources and Forestry (NDMNRF)
(705) 465 1639
amy.clement@ontario.ca

Alejandra Boyer

From: Jennifer Stolz <Jennifer.Stolz@ugdsb.on.ca>
Sent: June 28, 2022 10:58 AM
To: Alejandra Boyer
Subject: RE: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - School Boards

Follow Up Flag: Follow up
Flag Status: Flagged

EXTERNAL EMAIL

Great! Thank you.

Jennifer Stolz (she/her)
Administrative Assistant – Facility Services
Upper Grand District School Board
519-822-4420 Ext. 831
jennifer.stolz@ugdsb.on.ca

From: Alejandra Boyer <Alejandra.Boyer@cima.ca>
Sent: Tuesday, June 28, 2022 9:35 AM
To: Jennifer Stolz <Jennifer.Stolz@ugdsb.on.ca>
Subject: RE: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - School Boards

Hi Jennifer,

My apologies for the delayed response. Please see the map below which shows the pressure zones in the area. Credit Meadows Elementary School is within a different pressure zone and minimal impacts are expected.



Please let me know if you have any other questions.

Thank you,

Alejandra

From: Jennifer Stolz <Jennifer.Stolz@ugdsb.on.ca>

Sent: June 8, 2022 12:05 PM

To: Alejandra Boyer <Alejandra.Boyer@cima.ca>

Subject: RE: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - School Boards

EXTERNAL EMAIL

Hi there,

We received the attached notice and I just wondered what impact if any this will have on our schools in the area. From what I can tell it is closest to Credit Meadows ES which is on Blind Line.

Jennifer Stolz (she/her)
Administrative Assistant – Facility Services
Upper Grand District School Board
519-822-4420 Ext. 831
jennifer.stolz@ugdsb.on.ca

From: Noel Dyer <Noel.Dyer@ugdsb.on.ca>

Sent: Tuesday, June 7, 2022 2:27 PM

To: Jennifer Stolz <Jennifer.Stolz@ugdsb.on.ca>

Subject: FW: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - School Boards

Hye,

I don't know if anyone in Operations needs to know about this or not. Just FYI.

Noel Dyer

Geographic Information Systems (GIS) Analyst
Upper Grand District School Board
500 Victoria Road North
Guelph, Ontario
N1E 6K2

519-822-4420 ext 823

From: inquiry <inquiry@ugdsb.on.ca>

Sent: Tuesday, June 7, 2022 9:52 AM

To: Noel Dyer <Noel.Dyer@ugdsb.on.ca>

Subject: Fw: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - School Boards

From: Alejandra Boyer <Alejandra.Boyer@cima.ca>

Sent: Tuesday, June 7, 2022 9:12 AM

To: inquiry <inquiry@ugdsb.on.ca>; julie.cherepacha@dpcdsb.org <julie.cherepacha@dpcdsb.org>

Cc: Sarah Pihel <SPihel@orangeville.ca>; Martin Lukasiewicz <Martin.Lukasiewicz@cima.ca>; Stephen Keen <Stephen.Keen@cima.ca>

Subject: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement - School Boards

Good morning,

The Town has initiated the design for the full rehabilitation of the West Sector Reservoir. In order to facilitate rehabilitation of the West Sector Reservoir, modifications of the water supply system are required to ensure there would no interruption to customers in the service area. To identify the preferred solution to maintain service, the Town has initiated a Municipal Class Environmental Assessment (Class EA). CIMA+ is assisting the Town in the completion of this study, which is following the Schedule B process of the Municipal Class EA (2000, as amended 2015). Please refer to the attached Notice of Study Commencement for more information.

If there is another staff representative that this and future notices should be directed to, kindly forward this email and provide the appropriate contact information.

Please do not hesitate to contact us by responding to this email if you have any questions.

Thank you,

ALEJANDRA BOYER

Planner / Transportation

T 289-288-0287 ext. 6847 M 416-357-3153 F 289-288-0285
400-3027 Harvester Road, Burlington, ON L7N 3G7 CANADA



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Alejandra Boyer

From: Abby LaForme <Abby.LaForme@mncfn.ca>
Sent: July 6, 2022 3:53 PM
To: Sarah Pihel; Chief, R Stacey Laforme
Cc: Mark LaForme; DOCA; Martin Lukasiewicz; Alejandra Boyer; Stephen Keen
Subject: RE: Town of Orangeville Water Storage at Wells 55A Class EA - Notice of Study Commencement for Mississaugas of the Credit First Nation

Follow Up Flag: Follow up
Flag Status: Flagged

EXTERNAL EMAIL

Good Afternoon Sarah,

Thank you for reaching out to the Mississaugas of the Credit First Nation, Department of Consultation and Accommodation.

MCFN DOCA would like a copy of the EA Study when it is complete to review and comment on.

I have forwarded your notice of commencement and attachments to the Archaeological Operations Supervisor, Adam LaForme (Adam.LaForme@mncfn.ca).

If you have any Archaeological inquiries please feel free to reach out to Adam.

Thank you

Abby LaForme,
Acting Consultation Coordinator



Mississaugas of the Credit First Nation (MCFN)
Department of Consultation & Accommodation (DOCA)
4065 Highway 6, Hagersville, ON N0A 1H0
Ph: (905) 768 – 4260
Email: Abby.LaForme@mncfn.ca

From: Sarah Pihel <SPihel@orangeville.ca>
Sent: Monday, July 4, 2022 3:50 PM
To: Chief, R Stacey Laforme <Stacey.Laforme@mncfn.ca>
Cc: Mark LaForme <Mark.LaForme@mncfn.ca>; DOCA <DOCA@mncfn.ca>; Abby LaForme <Abby.LaForme@mncfn.ca>; Martin Lukasiewicz <Martin.Lukasiewicz@cima.ca>; Alejandra Boyer <Alejandra.Boyer@cima.ca>; Stephen Keen <Stephen.Keen@cima.ca>
Subject: Town of Orangeville Water Storage at Wells 55A Class EA - Notice of Study Commencement for Mississaugas of the Credit First Nation

Good afternoon Chief LaForme,

The Town of Orangeville, Ontario has initiated a Municipal Class Environmental Assessment (Class EA) to plan for a new water storage facility at the Wells 5/5A site.

CIMA+ is assisting the Town in the completion of this study, which is following the Schedule B process of the Municipal Class EA (2000, as Amended 2015).

Kindly refer to the attached introductory letter and Notice of Commencement for more information about this project.

The Project Team would be pleased to meet with you at any time to discuss the project and respond to any questions or concerns you may have.

Please contact the Town of Orangeville's Project Manager Sarah Pihel (spihel@orangeville.ca) directly or respond to this email to provide initial feedback and/or request a meeting.

Respectfully,

Sarah

Sarah Pihel, C.E.T. | Project Technologist | Infrastructure Services

Town of Orangeville | 87 Broadway | Orangeville, ON L9W 1K1

Office Number- 519-941-0440 Ext. 2292 | Toll Free 1-866-941-0440 Ext. 2292 | Cell: 519-938-7833

spihel@orangeville.ca | www.orangeville.ca

Alejandra Boyer

From: Alejandra Boyer
Sent: July 15, 2022 4:05 PM
To: Laura.E.Hatcher@ontario.ca
Cc: Sarah Pihel; Stephen Keen
Subject: RE: File 0016853: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement -MHSTCI
Attachments: Stage 1-2 Archaeological Assessment of Well 5-5A, Orangeville FINAL.pdf; CHER Well 55A Revised FINAL.pdf; CHSR Well 55A.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Good afternoon Laura,

Thank you for your email. Please see the following reports that have been completed for the project:

- A Stage 1 & 2 **Archaeological Assessment** with PIF number P229-0079-2021 was submitted to the Ministry on Sep 22, 2021. I have attached it here for your reference.
- A **Cultural Heritage Screening Report** was completed, resulting in the need for a **Cultural Heritage Evaluation Report** (CHER). A CHER was completed and there are no further cultural heritage value concerns. Both reports are also attached for your review and comments.

Kindly advise if you have any comments.

Thank you,

ALEJANDRA BOYER
Planner / Transportation

T 289-288-0287 ext. 6847 M 416-357-3153 F 289-288-0285
400-3027 Harvester Road, Burlington, ON L7N 3G7 CANADA



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From: Hatcher, Laura (MTCS) <Laura.E.Hatcher@ontario.ca>
Sent: July 7, 2022 1:37 PM
To: Alejandra Boyer <Alejandra.Boyer@cima.ca>; Sarah Pihel <SPihel@orangeville.ca>
Subject: FW: File 0016853: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement -MHSTCI

EXTERNAL EMAIL

Dear Sarah Pihel and Alejandra Boyer,

Thank you for providing the Ministry of Tourism, Culture and Sport (MTCS) with the Notice of Commencement for the above-referenced project. MTCS's interest in this Environmental Assessment (EA) project relates to its mandate of conserving Ontario's cultural heritage, which includes:

- archaeological resources,
- built heritage resources, and
- cultural heritage landscapes.

Under the EA process, the proponent is required to determine a project's potential impact on known (previously recognized) and potential cultural heritage resources.

Identifying Cultural Heritage Resources

While some cultural heritage resources may have already been formally identified, others may be identified through screening and evaluation.

Archaeological Resources

This EA project may impact archaeological resources and should be screened using the MTCS [Criteria for Evaluating Archaeological Potential](#) to determine if an archaeological assessment is needed. MTCS archaeological sites data are available at archaeology@ontario.ca.

If the EA project area exhibits archaeological potential, then an archaeological assessment (AA) should be undertaken by an archaeologist licenced under the *Ontario Heritage Act (OHA)*, who is responsible for submitting the report directly to MTCS for review.

Built Heritage Resources and Cultural Heritage Landscapes

The MHSTCI [Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes](#) should be completed to help determine whether this EA project may impact built heritage resources and/or cultural heritage landscapes.

If there is potential for built heritage resources and/or cultural heritage landscapes on the property MHSTCI recommends that a Heritage Impact Assessment (HIA), prepared by a qualified consultant, be completed to assess potential project impacts. Our Ministry's [Info Sheet #5: Heritage Impact Assessments and Conservation Plans](#) outlines the scope of HIAs. Please send the HIA to MTCS for review and comment, and make it available to local organizations or individuals who have expressed interest in review.

Community input should be sought to identify locally recognized and potential cultural heritage resources. Sources include, but are not limited to, municipal heritage committees, historical societies and other local heritage organizations.

Cultural heritage resources are often of critical importance to Indigenous communities. Indigenous communities may have knowledge that can contribute to the identification of cultural heritage resources, and we suggest that any engagement with Indigenous communities includes a discussion about known or potential cultural heritage resources that are of value to them.

Environmental Assessment Reporting

All technical cultural heritage studies and their recommendations are to be addressed and incorporated into EA projects. Please advise MTCS whether any technical cultural heritage studies will be completed for this EA project, and provide them to MTCS before issuing a Notice of Completion. If screening has identified no known or potential cultural heritage resources, or no impacts to these resources, please include the completed checklists and supporting documentation in the EA report or file.

Thank you for consulting MHSTCI on this project and please continue to do so throughout the EA process. If you have any questions or require clarification, please do not hesitate to contact me.

Best,
Laura

Laura Hatcher, MCIP, RPP

Heritage Planner

Heritage Planning Unit | Programs and Services Branch | Heritage, Tourism and Culture Division

Ministry of Tourism, Culture and Sport

Tel. 437-239-3404 **New** | email: laura.e.hatcher@ontario.ca

From: Alejandra Boyer <Alejandra.Boyer@cima.ca>

Sent: June-07-22 9:01 AM

To: Barboza, Karla (MHSTCI) <Karla.Barboza@ontario.ca>

Cc: Sarah Pihel <SPihel@orangeville.ca>; Martin Lukasiewicz <Martin.Lukasiewicz@cima.ca>; Stephen Keen <Stephen.Keen@cima.ca>

Subject: Town of Orangeville Water Storage at Wells 55A Schedule B Municipal Class EA - Notice of Study Commencement -MHSTCI

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Good morning Karla,

The Town has initiated the design for the full rehabilitation of the West Sector Reservoir. In order to facilitate rehabilitation of the West Sector Reservoir, modifications of the water supply system are required to ensure there would no interruption to customers in the service area. To identify the preferred solution to maintain service, the Town has initiated a Municipal Class Environmental Assessment (Class EA). CIMA+ is assisting the Town in the completion of this study, which is following the Schedule B process of the Municipal Class EA (2000, as amended 2015). Please refer to the attached Notice of Study Commencement for more information.

If there is another staff representative that this and future notices should be directed to, kindly forward this email and provide the appropriate contact information.

Please do not hesitate to contact us by responding to this email if you have any questions.

Thank you,

ALEJANDRA BOYER

Planner / Transportation

T 289-288-0287 ext. 6847 M 416-357-3153 F 289-288-0285
400-3027 Harvester Road, Burlington, ON L7N 3G7 CANADA



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Alejandra Boyer

From: Marie-Annick Prevost <Marie-Annick.Prevost@mncfn.ca>
Sent: July 18, 2022 9:45 AM
To: Sarah Pihel
Cc: Martin Lukasiewicz; Alejandra Boyer; Stephen Keen; Adam LaForme
Subject: RE: Town of Orangeville Water Storage at Wells 55A Class EA - Notice of Study Commencement for Mississaugas of the Credit First Nation

Follow Up Flag: Follow up
Flag Status: Flagged

EXTERNAL EMAIL

Aanii Sarah,

On behalf of the Mississaugas of the Credit First Nation, Department of Consultation and Accommodation, I reviewed the Stage 1-2 Archaeological Assessment report prepared by Bluestone for Wells 5/5A site.

I do not have questions or comments about the archaeological work conducted. MCFN currently agrees with the recommendations of the report.

Miigwetch,

Marie-Annick Prevost, Ph.D. (she/her)
Field archaeologist



Mississaugas of the Credit First Nation (MCFN)
Department of Consultation and Accommodation (DOCA)
4065 Highway 6 North, Hagersville, ON N0A 1H0
Cell: 905-870-5844

From: Sarah Pihel <SPihel@orangeville.ca>
Sent: Monday, July 4, 2022 3:50 PM
To: Chief, R Stacey Laforme <Stacey.Laforme@mncfn.ca>
Cc: Mark LaForme <Mark.LaForme@mncfn.ca>; DOCA <DOCA@mncfn.ca>; Abby LaForme <Abby.LaForme@mncfn.ca>; Martin Lukasiewicz <Martin.Lukasiewicz@cima.ca>; Alejandra Boyer <Alejandra.Boyer@cima.ca>; Stephen Keen <Stephen.Keen@cima.ca>
Subject: Town of Orangeville Water Storage at Wells 55A Class EA - Notice of Study Commencement for Mississaugas of the Credit First Nation

Good afternoon Chief LaForme,

The Town of Orangeville, Ontario has initiated a Municipal Class Environmental Assessment (Class EA) to plan for a new water storage facility at the Wells 5/5A site.

CIMA+ is assisting the Town in the completion of this study, which is following the Schedule B process of the Municipal Class EA (2000, as Amended 2015).

Kindly refer to the attached introductory letter and Notice of Commencement for more information about this project.

The Project Team would be pleased to meet with you at any time to discuss the project and respond to any questions or concerns you may have.

Please contact the Town of Orangeville's Project Manager Sarah Pihel (spihel@orangeville.ca) directly or respond to this email to provide initial feedback and/or request a meeting.

Respectfully,

Sarah

Sarah Pihel, C.E.T. | Project Technologist | Infrastructure Services

Town of Orangeville | 87 Broadway | Orangeville, ON L9W 1K1

Office Number- 519-941-0440 Ext. 2292 | Toll Free 1-866-941-0440 Ext. 2292 | Cell: 519-938-7833

spihel@orangeville.ca | www.orangeville.ca

Alejandra Boyer

From: MIDHURSTINFO (MNRF) <MIDHURSTINFO@ontario.ca>
Sent: August 19, 2022 9:25 AM
To: Alejandra Boyer
Subject: RE: Town of Orangeville Water Storage at Wells 55A Class EA - Notice of PIC

Importance: Low

EXTERNAL EMAIL

Hello,

Thank you for your email. Your request or inquiry has been assigned to a district staff technical expert and is being reviewed. In accordance with government service standards, you will receive a reply from the individual assigned to your file within the next 15 business days.

To report a natural resource violation, please call the MNRF TIPS line at 1-877-847-7667.

Thank you,

MNRF Midhurst District Office
2284 Nursery Road
Midhurst, ON
L9X 1N8
Tel: (705) 725-7549

As part of providing [accessible customer service](#), please let us know if you have any accommodation needs or require communication supports or alternate formats.

<<<automated message>>>

Alejandra Boyer

From: Sarah Pihel <SPihel@orangeville.ca>
Sent: August 19, 2022 10:44 AM
To: Steven Murphy; Alejandra Boyer
Cc: Martin Lukasiewicz; Stephen Keen
Subject: RE: Town of Orangeville Water Storage at Wells 55A Class EA - Notice of PIC

Follow Up Flag: Follow up
Flag Status: Flagged

EXTERNAL EMAIL

Good morning Steven,

Please try the link below:

<https://www.orangeville.ca/en/news/notice-of-virtual-public-information-centre.aspx>

Regards,

Sarah

Sarah Pihel, C.E.T. | Project Manager, Capital Works | Infrastructure Services

Town of Orangeville | 87 Broadway | Orangeville, ON L9W 1K1

Office Number- 519-941-0440 Ext. 2292 | Toll Free 1-866-941-0440 Ext. 2292 | Cell: 519-938-7833

spihel@orangeville.ca | www.orangeville.ca



Election Day is October 24, 2022

Visit elections.orangeville.ca to learn more.

From: Steven Murphy <smurphy@dufferincounty.ca>
Sent: Friday, August 19, 2022 10:42 AM
To: Alejandra Boyer <Alejandra.Boyer@cima.ca>
Cc: Sarah Pihel <SPihel@orangeville.ca>; Martin Lukasiewicz <Martin.Lukasiewicz@cima.ca>; Stephen Keen <Stephen.Keen@cima.ca>
Subject: RE: Town of Orangeville Water Storage at Wells 55A Class EA - Notice of PIC

Alejandra,

Could you please share a link to the PIC, it is not easily found on the town's website.

Thanks in advance,

Steve Murphy | Manager – Preparedness, 911 & Corporate Projects | Office of the Chief Administrative Officer

County of Dufferin|Phone: 519-941-2816 Ext. 2401| Mobile: 519-938-7215

smurphy@dufferincounty.ca |55 Zina St, Orangeville, ON L9W 1E5

Serving with humility and gratitude upon the traditional territory and ancestral lands of the Tionontati, Attawandaron, Haudenosaunee and Anishinaabe peoples. To learn more about the Indigenous History and Treaty Lands in Dufferin County check out this [resource guide](#).

From: Alejandra Boyer <Alejandra.Boyer@cima.ca>

Sent: Friday, August 19, 2022 9:24 AM

Cc: Sarah Pihel <SPihel@orangeville.ca>; Martin Lukasiewicz <Martin.Lukasiewicz@cima.ca>; Stephen Keen <Stephen.Keen@cima.ca>

Subject: Town of Orangeville Water Storage at Wells 55A Class EA - Notice of PIC

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the contents to be safe.

Good afternoon,

This week, the Town of Orangeville has **posted a virtual Public Information Centre (PIC)** for Water Storage at Wells 5/5A Municipal Class Environmental Assessment. The PIC will present the study scope, existing conditions, problems and opportunities, alternative solutions, early design concepts, and next steps and will be made available on the Town's website (Orangeville.ca/PICAugust2022) **from August 18, 2022 to September 16, 2022**. We invite you to review this material and reach out to the project team if any aspects of the study may impact your interests. Further details about the PIC and how to provide comments are included in the attached Notice.

If you have any questions or feedback, please do not hesitate to contact us by responding to this email.

Thank you,

ALEJANDRA BOYER

Planner / Transportation

T 289-288-0287 ext. 6847 M 416-357-3153 F 289-288-0285
400-3027 Harvester Road, Burlington, ON L7N 3G7 CANADA



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**Ministry of the Environment,
Conservation and Parks**

**Ministère de l'Environnement,
de la Protection de la nature
et des Parcs**

Environmental Assessment
Branch

Direction des évaluations
environnementales

1st Floor
135 St. Clair Avenue W
Toronto ON M4V 1P5
Tel.: 416 314-8001
Fax.: 416 314-8452

Rez-de-chaussée
135, avenue St. Clair Ouest
Toronto ON M4V 1P5
Tél. : 416 314-8001
Téléc. : 416 314-8452

Via E-mail Only

May 25, 2023

Sarah Pihel
Project Technologist
Town of Orangeville
Email: spihel@orangeville.ca

Alejandra Boyer
Planner / Transportation
CIMA Canada Inc.
Email: alejandra.boyer@cima.ca

**Re: Municipal Class Environmental Assessment for Water Storage and Pumping at Well 5/5A
Town of Orangeville
Municipal Class Environmental Assessment – Schedule B
Project Review Unit Comments – Draft Project File Report**

Dear Project Team,

Thank you for providing the ministry with an opportunity to comment on the draft Project File Report (Report) for the above noted Class Environmental Assessment (EA) project. Our understanding is that in order to enhance and meet the water service requirements during the rehabilitation of the West Sector Reservoir, the Town of Orangeville (the proponent) needs to update Drinking Water Distribution Pressure Zone 4. The proponent has determined that the preferred alternative is to build a permanent water storage facility at Site A, along with a pumping system and piping connecting Wells 5/5A WTP to the storage facility. The Ministry of the Environment, Conservation and Parks (ministry) provides the following comments for your consideration.

General

- 1) The Ministry of Natural Resources and Forestry (MNRF) has returned to their MNRF title, and no longer use the Ministry of Northern Development, Mines, Natural Resources and Forestry (NDMNRF) title.
- 2) The Ministry of Tourism, Culture and Sport (MTCS) has returned to their MTCS title, and no longer use the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) title.
- 3) Please note that the responsibility for administration of the Ontario Heritage Act and matters related to cultural heritage have been transferred from the Ministry of Tourism, Culture and Sport (MTCS) to the Ministry of Citizenship and Multiculturalism (MCM). Individual staff roles and contact information remain unchanged.
- 4) The word “from” is repeated twice in Appendix A (page 3.7).
- 5) In Appendix D, the second and third image of the Notice of Commencement are the same.
- 6) Section 8.3.4 of the Report touches on requirements of the “MBCA”. Although the acronym is defined in Appendix C Natural Heritage Assessment where the Migratory Birds Convention Act, 1994 (MBCA) requirements are elaborated upon, it is recommended that acronyms in the body of the report be defined at the first instance of their use.

Evaluation of Alternatives

- 7) It is recommended that the preferred alternative be highlighted in the report to provide more clarity (i.e., Highlight the preferred alternative for Table 8: Summary of Evaluation of Preferred Alternative Evaluation Scoring on Page 37).
- 8) The capital costs found in Table 3 (Assessment and Evaluation of Alternatives) should include what value is being represented (i.e., million) to improve clarity.

Notice of Completion

- 9) Please ensure that the date for the Notice of Completion and any follow- up correspondence will be included in the final Project File Report.
- 10) Section 6.6: Notice of Completion of the Report does not reflect the changes made to the Environmental Assessment Act in July 2020, which scoped the grounds on which a s.16 order request (formerly referred to as a Part II order request) can be made to the Minister. Section 16(6) of the Environmental Assessment Act provides that a request for an order can be made only on the grounds that the order may prevent, mitigate, or remedy adverse impacts on existing Aboriginal and treaty rights of the Aboriginal peoples of Canada as recognized and affirmed in section 35 of the Constitution Act, 1982. Please update this section and ensure that the Notice of Completion contains current information.

Further information can be found on link below:

[Class environmental assessments: Section 16 Order | ontario.ca](https://www.ontario.ca/class-environmental-assessments-section-16-order)

Planning and Policy

- 11) It is recommended to expand Section 2: *Planning and Policy Context* of the Report to include a description on how the proposed project is consistent with each provincial planning policy.

Agency Consultation

- 12) All correspondence with review agency staff should be documented in the Report as per Section A.3.6 of the Municipal Class EA, 2015 document, "Review agency responses are to be documented in the Project File or the ESR." [A.3.6 REVIEW AGENCIES \(municipalclassea.ca\)](#). The ministry recommends that the proponent include in Appendix F of the Project File Report copies of all the correspondence (emails, letters, etc) from the agencies.

Indigenous Consultation

- 13) It appears that The Town of Orangeville provided notices to an appropriate list of communities, however, not all the communities have responded to the notifications. Please note Indigenous communities frequently receive a high volume of project notices and require time to review project proposals. For this reason, it is important that a proponent utilize different methods of reaching out to communities and reach out to the communities at different points in the process. Please make sure that detailed documentation of these efforts is contained in the consultation record of the Class EA.
- 14) Further to any follow-up during the review period for the EA, the proponent should continue reaching out to all communities previously engaged if there any substantial changes to the project/process or if they are applying for subsequent permits from the ministry that may be of interest or concern to communities. The ministry recommends that the proponent include the record of consultation with any subsequent applications to the ministry to help in our review of those applications.

Air Quality and Odour

- 15) Table 3 (Page 30) on Construction Impacts identifies potential dust impacts during construction. The ministry expects an air qualitative assessment which includes:
- A discussion of local air quality including existing activities/sources that significantly impact local air quality and how the project may impact existing conditions;
 - A discussion of the nearby sensitive receptors and the project's potential air quality impacts on present and future sensitive receptors;
 - A discussion of local air quality impacts that could arise from this project during both construction and operation; and
 - A discussion of potential mitigation measures.
- 16) Please note that the ministry recommends that non-chloride dust suppressants be applied during construction.

Groundwater

- 17) If dewatering is necessary to allow/facilitate construction, then a Permit to take water (PTTW) or registration in the Environmental Activity and Sector Registry (EASR) may be required depending on the location (sensitivity) and volume of water to be removed.

More information regarding EASR and PTTW can be found at the following links:
<https://www.ontario.ca/page/water-taking-and-transfer-user-guide-clarifications-and-exemptions>

<https://www.ontario.ca/page/water-taking-user-guide-environmental-activity-and-sector-registry>

Surface Water

- 18) Installing sediment and erosion control measures during construction is critical both in terms of protecting the water quality and reducing the impacts to local aquatic community. Further to Sections 7.3.1 Soils, Surface Water and Fish Habitat of the Report, an appropriate erosion and sediment control plan should be designed in the detailed design stage to capture all necessary mitigation measures.

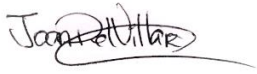
Species at Risk

- 19) Please note that it is the responsibility of the proponent to ensure that Species at Risk (SAR) are not killed, harmed, or harassed, and that their habitat is not damaged or destroyed through the proposed activities to be carried out on the site. If the proposed activities cannot avoid impacting protected species and their habitats, then the proponent will need to apply for an authorization under the Endangered Species Act (ESA). As is noted in the Report, if the proponent believes that their proposed activities are going to have an impact or are uncertain about the impacts, they should contact SAROntario@ontario.ca to undergo a formal review under the ESA.

Thank you for circulating this draft Report for the ministry's consideration. Please document the provision of the draft Report to the ministry as well as this Project Review Unit Comments letter in the final report, and please provide an accompanying response letter to support our review of the final report. A copy of the final Notice should be sent to the ministry's West Central Region EA notification email account (eanotification.wcregion@ontario.ca).

Should you or any members of your project team have any questions regarding the material above, please contact me at joan.delvillarcuicas@ontario.ca.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Joan Del Villar Cuicas', with a stylized flourish extending from the end.

Joan Del Villar Cuicas
Regional Environmental Planner
Project Review Unit, Environmental Assessment Branch
Ontario Ministry of the Environment, Conservation and Parks

**Ministry of the Environment,
Conservation and Parks**

**Ministère de l'Environnement,
de la Protection de la nature
et des Parcs**

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Branch

Direction des évaluations
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Via E-mail Only

June 12, 2023

Sarah Pihel
Project Technologist
Town of Orangeville
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**Re: Municipal Class Environmental Assessment for Water Storage and Pumping at Well 5/5A
Town of Orangeville Municipal Class Environmental Assessment – Schedule B
Project Review Unit Comments – Draft Project File Report**

Dear Project Team,

Thank you for providing the ministry with an opportunity to comment on the draft Project File Report (Report) for the above noted Class Environmental Assessment (EA) project. Our understanding is that in order to enhance and meet the water service requirements during the rehabilitation of the West Sector Reservoir, the Town of Orangeville (the proponent) needs to update Drinking Water Distribution Pressure Zone 4. The proponent has determined that the preferred alternative is to build a permanent water storage facility at Site A, along with a pumping system and piping connecting Wells 5/5A WTP to the storage facility. The Ministry of the Environment, Conservation and Parks (ministry) provides the following comments for your consideration.

Source Water Protection

The Water Storage and Pumping at Well 5/5A undertaking, as described in the MCEA for the Town of Orangeville, is located in the Credit Valley Source Protection Area and is therefore subject to the policies of the approved Credit Valley, Toronto, Central Lake Ontario (CTC) Source Protection Plan (SPP).

1. Given that the study area of the preferred alternative is located within a WHPA-A with a vulnerability score of 10, WHPA-B with a vulnerability score of 8, WHPA-E with a vulnerability score of 6.3, an ICA for sodium and chloride, as well as in a WHPA-Q1 and WHPA-Q2 for water quantity threats that may pose significant stress to the aquifer (see Figure 1 below), there may be certain activities associated with the construction, operation, and maintenance of the new water storage facility that may pose a significant drinking water threat to the drinking water source.

The site is also located within a HVA with a vulnerability score of 6. This means threats can be moderate/low and select policies may apply. In addition, within HVAs there may be other kinds of drinking water systems present that are not explicitly addressed by the source protection plan and the proponent should take these into consideration. EA projects should protect sensitive hydrologic features including current or future sources of drinking water not explicitly addressed in source protection plans, such as private systems – individual or clusters, and designated facilities within the meaning of O. Reg. 170/03 under the Safe Drinking Water Act – i.e., camps, schools, health care facilities, seasonal users, etc.

2. As part of the MCEA, the proponent discusses source water protection in sections 3.4 and 8.4 of the Project File Report. The report correctly identifies the source protection vulnerable areas for both water quality and quantity that intersect with the study area as described above. The report also recognizes that specific policies of the CTC SPP may need to be implemented to address the threats to the drinking water source, but the report does not identify the potential threat activities (e.g., handling storage of fuel, application of road salt, etc.) that may be associated with the construction, operation, and maintenance of the new water storage facility that what would need to be addressed through the implementation of relevant SPP policies.

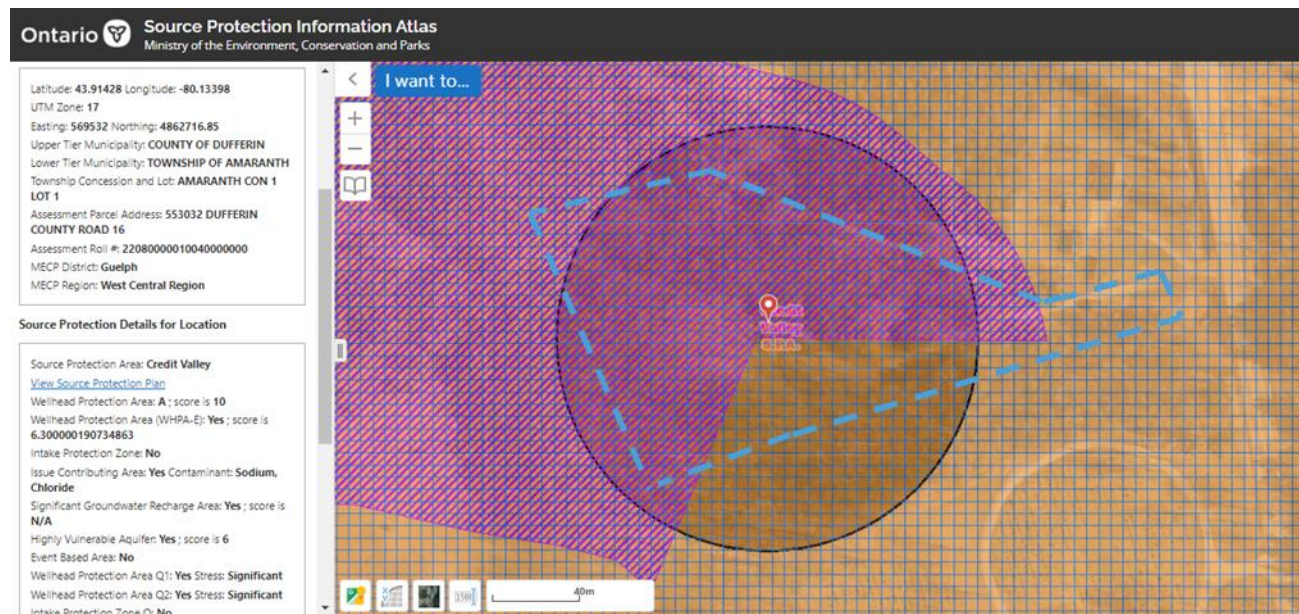
As a result of several overlapping source protection vulnerable areas that intersect with the focused study area of this undertaking, there may be at least 22 policies in the CTC SPP that potentially apply to address both water quality and water quantity threat activities. The proponent should be aware of these policies and consider them before project development. These policies include (but not necessarily limited to):

- SAL-1: Risk management plan for Application of Road Salt (Unassumed Roads and Private Parking Lots)
- SAL-2: Risk management plan for Application of Road Salt (Public Roads)

- SAL-3: Land use planning for Application of Road Salt
- SAL-7: Prohibition (future threat) and risk management plan (existing threat) for the Handling and Storage of Road Salt
- SAL-9: Monitoring of the Application of Road Salt and the Handling and Storage of Road Salt
- SAL-10: Land use planning for Moderate/ Low Threats related to the Application of Road Salt
- SAL-11: Specify action (best management practices) for Moderate/ Low Threats related to the Application of Road Salt
- SNO-1: Prohibition (future threat) and risk management plan (existing threat) for the storage of snow
- FUEL-1: Prescribed instrument for the Handling and Storage of Fuel (Municipal Wellheads)
- FUEL-3: Prohibition (future threat) and risk management plan (existing threat) for the Handling and Storage of Fuel
- DNAP-1: Prohibition (future threat) and risk management plan (existing threat) for the Handling and Storage of a Dense Non-Aqueous Phase Liquid
- DNAP-3: Specify action (best management practices) for Moderate/ Low Threats related to the Handling and Storage of a Dense Non-Aqueous Phase Liquid
- OS-1: Prohibition and risk management plan for the Handling and Storage of an Organic Solvent
- OS-3: Specify action (best management practices) for Moderate/ Low Threats related to the Handling and Storage of an Organic Solvent
- DEM-1: Prescribed instrument for an activity that takes water from an aquifer or a surface water body without returning the water taken to the same aquifer or surface water body
- DEM-2: Land use planning for an activity that takes water from an aquifer or a surface water body without returning the water taken to the same aquifer or surface water body
- DEM-4: Specify action (Municipal Water Conservation Plans) for an activity that takes water from an aquifer or a surface water body without returning the water taken to the same aquifer or surface water body
- DEM-6: Specify action (Joint Municipal Water Management) for an activity that takes water from an aquifer or a surface water body without returning the water taken to the same aquifer or surface water body
- DEM-9: Specify action (identifying additional water supplies) for an activity that takes water from an aquifer or a surface water body without returning the water taken to the same aquifer or surface water body
- REC-1: Land use planning for an activity that reduces recharge to an aquifer

- REC-2: Risk management plan for an activity that reduces recharge to an aquifer
 - REC-3: Specify action (actions to maximize aquifer recharge) for an activity that reduces recharge to an aquifer
3. The proponent should consult with the local source protection authority if they have not already done so for further guidance and direction on which SPP policies apply to the associated activities with the new water storage facility.

Figure 1. Focused study area for the proposed water storage facility in the Town of Orangeville as outlined in dashed blue lines and the various source protection vulnerable areas with which the area intersects.



Species at Risk


4. Section 8.3.3 Vegetation and Vegetation Communities identifies that one Category 2 Butternut was identified and assessed by a Butternut Health Expert. This report goes on to state that “Category 2 trees are not subject to the protections provided to the species under the ESA.” This is incorrect. Butternut, as an Endangered species, is protected under the ESA with both species (s.9) and habitat (s.10) protections applying. The exceptions to this are if the tree was determined to be cultivated (with eligibility requirements outlined in the BHE report) or if it is a hybrid. If this was determined to be a non-cultivated Butternut, the removal may be eligible for registration under O. Reg. 830/21, Part V.
5. Section 8.3.4 Wildlife and Wildlife Habitat (p.49) states “Native and non-invasive vegetation cover will be used to restore any exposed surfaces.” It is strongly recommended that native vegetation is used, as oftentimes “non-invasive” vegetation is not properly assessed and may prove to be invasive and detrimental to the environment in mid to long-term usage.

6. Section 8.3.4 Wildlife and Wildlife Habitat (p.50) identifies that this may be potential habitat for SAR bat species, but only identifies the Little Brown Myotis explicitly. Other species may also be present and using this habitat as it is within range (i.e., Northern Myotis, Tri-coloured Bat, and Eastern Small-footed Myotis). Surveys should be conducted to determine presence of SAR bats and their habitats, including that for the Eastern Small-footed (MYLE). MYLE prefers roosting in rocky habitat, such as talus slopes or rock piles, and thus requires searches beyond potential snag trees. It should also be noted that MYLE's active window is longer than that of the other SAR bats (March 15 – November 20). This will need to be accounted for to avoid and mitigate impacts to MYLE under the ESA.
7. Research has shown that smaller trees (less than 25 cm DBH) can also provide roosting habitat to bats. The appendix (under section 4.2.2.5 Wildlife Habitat) states that "large diameter trees" were surveyed for, so it is possible trees were not adequately surveyed on this property for potential roost habitat.
8. If fencing will be used as part of mitigation/avoidance measures, it is important to ensure fencing is appropriate to the species targeted for exclusion and that it is implemented prior to the species' active timing window, if possible, for it to be effective.
9. Handling SAR species should not be part of the mitigation plan, as this is prohibited for species listed as EXP, END or THR under the ESA, s.9, with some exceptions (e.g., registration under a conditional exemption, permit conditions).

Thank you for circulating this draft Report for the ministry's consideration. Please document the provision of the draft Report to the ministry as well as this Project Review Unit Comments letter in the final report, and please provide an accompanying response letter to support our review of the final report. A copy of the final Notice should be sent to the ministry's West Central Region EA notification email account (eanotification.wcregion@ontario.ca).

Should you or any members of your project team have any questions regarding the material above, please contact me at joan.delvillarcuicas@ontario.ca.

Sincerely,



Joan Del Villar Cuicas
Regional Environmental Planner

Project Review Unit, Environmental Assessment Branch
Ontario Ministry of the Environment, Conservation and Parks



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