GREER GALLOWAY
CONSULTING ENGINEERS

Project File Report for the Hastings Standpipe Replacement EA

June 6th, 2023

Prepared for:

Municipality of Trent Hills
66 Front Street South P.O. Box 1030
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Submitted by:

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Project No.: 2237765

Table of Contents

Figures

Appendices

1. INTRODUCTION

1.1. Background

The current welded steel standpipe serving Trent Hills was constructed in 1962 and requires substantial refurbishment. The current standpipe no longer meets the needs of the drinking water system for both storage volume and minimum pressure requirements. Some existing areas of the water distribution system have water pressure that is below the 275 kPa minimum standard. To accommodate increasing volume needs for domestic use and fire protection while providing adequate pressure throughout the distribution system, system upgrades are required. The current standpipe is located at Victoria Street North and Division Street East in Hastings, Trent Hills, ON.

These upgrades and recommendations will be carried out as a Schedule 'B' project under the terms of the Municipal Class Environmental Assessment (Class EA) process, which is approved under the Environmental Assessment Act. A Notice of Commencement was released on December 5th, 2022, to mark the beginning of the project. A Public Information Centre (PIC) was held on April 26th, 2023, during which proposed alternatives and the preferred alternative were presented. A notice of completion will be issued subsequent to this report.

1.2. Study Areas

The relevant area of study is dependent on the alternative solution considered. In general, this EA considers solutions within the existing standpipe site and an alternate site located south of the Trent River. The existing standpipe area consists mostly of municipal roadways and streets while the southern location consists of undeveloped land with a nearby municipal road.

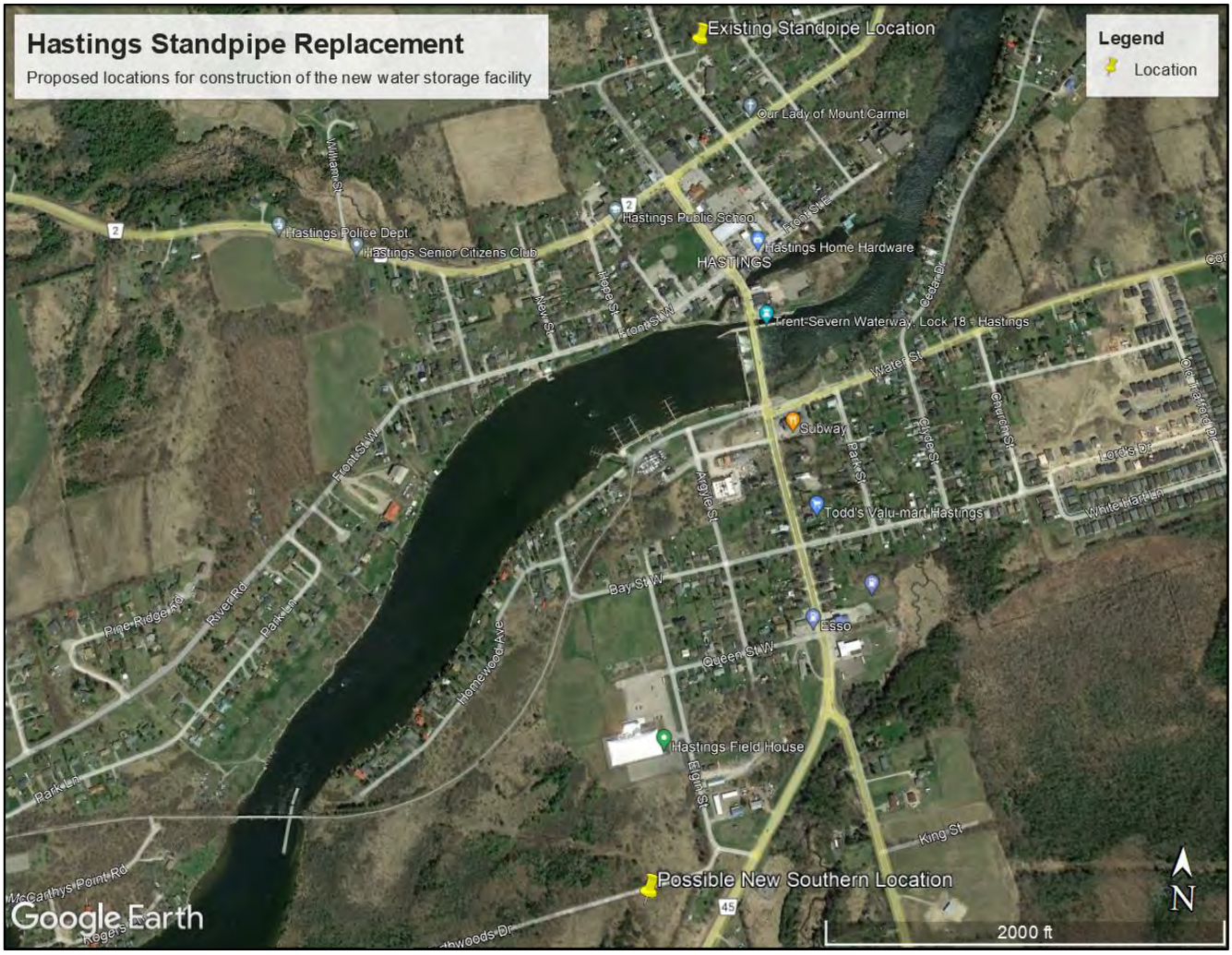

Figure 1: Aerial view of relevant study areas

1.3. Municipal Class Environmental Assessment Process

In Ontario, municipal water and wastewater projects are subject to the provisions of the Municipal Class Environmental Assessment (2000, amended in 2007, 2011 and 2015). The Class Environmental Assessment (Class EA) is an approved planning document which describes the process that proponents must follow in order to meet the requirements of the Environmental Assessment Act (EAA) of Ontario. The Class EA approach allows for the evaluation of the environmental effects of carrying out a project and alternative methods, includes mandatory requirements for public input, and expedites the environmental assessment of smaller recurring projects.

The Class EA planning process was developed to ensure that the potential social, economic, and natural environmental effects are considered in planning water, storm water and sewage projects. Class EAs are a method of dealing with projects which display the following important common characteristics: recurring, usually small in nature, usually limited in scale, predictable range of environmental effects, and responsive to mitigation measures.

Projects which do not display these characteristics must undergo an individual environmental assessment. The Class EA planning process represents an alternative for Ontario municipalities to carry out individual environmental assessments for most municipal sewage, storm water management, and water projects. Since sewage, storm water management, and water projects undertaken by municipalities under the Class EA planning process vary in their environmental impact, such projects are classified in terms of schedules.

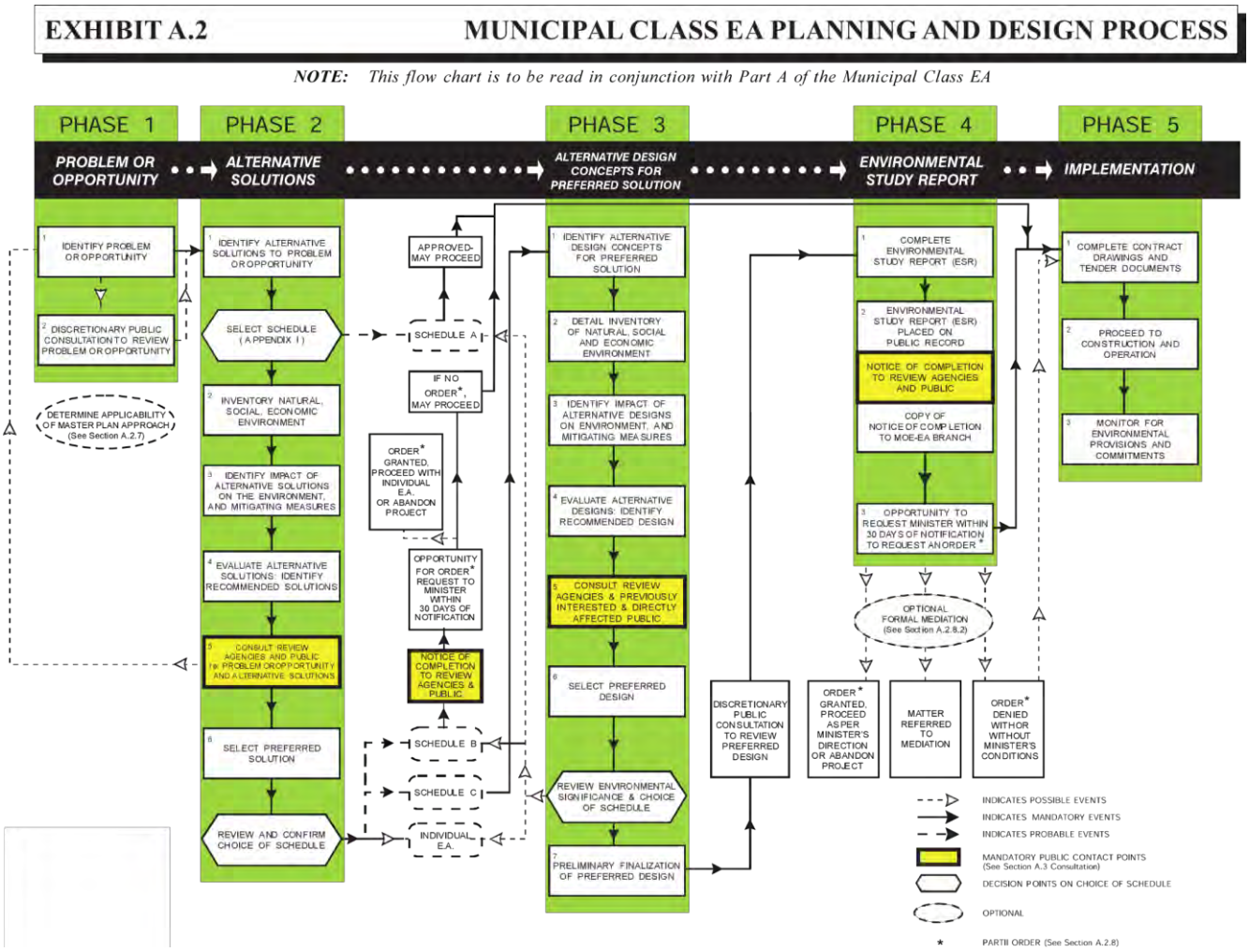

Figure 2: Municipal Class EA Planning and Design Process Flow Diagram.

Schedule A projects are limited in scale, have minimal adverse effects and include the majority of municipal sewage, storm water management, and water operations as well as maintenance activities. These projects are pre-approved and may proceed to implementation without any further requirements under the provisions of the Class EA planning process. Schedule A+ projects are also pre-approved; however, the public must be informed prior to implementation.

Schedule B projects have the potential for some adverse environmental effects. The proponent is required to undertake a screening process involving mandatory contact with directly affected public and with relevant government agencies to ensure that they are aware of the project and that their concerns are addressed. If there

are no outstanding concerns, then the proponent may proceed to implementation. If, however, the screening process raises a concern which cannot be resolved, then the Part II Order ("bump-up") procedure may be invoked; alternatively, the proponent may elect voluntarily to plan the project as a Schedule C undertaking. Typically, Schedule B projects involve extensions to existing Municipal infrastructure such as sewage collection systems and water distribution systems.

Schedule C projects have the potential for significant environmental effects and must proceed under the full planning and documentation procedures specified in the Class EA process. Schedule C projects require that an ESR be prepared and submitted for review by the public. If concerns are raised that cannot be resolved, the "bump-up" procedure may be invoked, which may result in the requirement to complete a full environmental assessment. Typically, these projects involve the construction of Municipal infrastructure such as wastewater treatment facilities, new sewage collection and water distribution systems, and water treatment facilities.

Proponents then proceed through the planning process beginning with Phase 1 (Problem Definition) and advancing towards the end of Phase 2 (Evaluation of Alternative Solutions), where the preferred alternative solution is determined. Having determined the preferred alternative solution, the appropriate project schedule and process for the completion of the project can be followed.

For a Schedule B project, Phase 1 defines the nature and extent of the problem and the project opportunity. Often a discretionary public meeting is held to inform interested parties of the EA planning process and to discuss the problem.

Phase 2 involves the identification of the alternative solutions. Also included is an inventory of the natural, social, and economic environment; the identification of the impacts of alternative solutions on the environment; the identification of mitigation measures; an evaluation of alternative solutions; consultation with review agencies and the public regarding the identified problem and alternative solutions; the identification of the preferred alternative solution; and confirmation of the path or schedule to follow for the balance of the Class EA process. Public consultation is mandatory at this phase and includes review agencies and the affected public. The appropriate EA schedule for the project is also identified.

Phases 3 and 4 are relevant to a Schedule “C” EA. Phase 3 involves the identification of alternative designs for the selected alternative solution. Also included are a detailed inventory of the natural, social, and economic environment relating to the selected alternative solution; the identification of the impacts of alternative designs on the environment; the identification of mitigation measures; consultation with review agencies and the public regarding the alternative designs; and the identification of the recommended alternative design. Public consultation is mandatory at this phase and includes review agencies and the affected public.

Phase 4 represents the culmination of the planning and design process as set out in the Class EA. Phase 4 involves the completion of the documentation including the ESR, if required, and the Notice of Completion. The ESR documents all of the activities undertaken through Phases 1, 2, and 3 including the consultation. The ESR is filed with the Clerk of the Municipality and is placed on the public record for at least 30 days to allow for public review. The public and mandatory agencies are notified through the Notice of Completion, which also discloses the Part II Order (“bump-up”) provisions.

Phase 5 is the implementation phase of the Class EA process. Phase 5 includes final design, construction plans and specifications, tender documents, and construction and operation. It also includes monitoring for environmental provisions and commitments (e.g. mitigation measures) as defined in the ESR.

There is an opportunity for any interested parties to request a Part II Order that results in the project being bumped up from a Class Environmental Assessment to an Individual Environmental Assessment. The "bump-up" opportunity exists at the Notice of Completion stage and must be filed with the Minister of Environment within thirty (30) days of the notice date. The Notice of Completion occurs near the end of Phase 4 for Schedule C projects. The Notice of Completion signifies that the Class EA process has been completed for the project and that the resulting document has been placed on public record.

For projects subject to the provisions of the Class Environmental Assessment Process, a person or agency with a significant concern must communicate the concern to the proponent any time between Phases 2 and 4. If the concern cannot be resolved between the party and the proponent, then that person or agency can request a Part II Order from the Minister. This must be done during the thirty-day public review period after the Notice of Completion has been issued.

The Environmental Assessment Branch of the Ministry of the Environment then has forty-five days to prepare a report to the Minister, who then has twenty-one days to decide. The Minister may deny the request, deny the request with conditions, refer to the Environmental Assessment Advisory Committee, or comply with the request. Obviously, since the Part II Order procedure is arduous, an individual or agency with a significant and legitimate concern is wise to engage in an early and meaningful dialogue with the proponent. The process is specifically referenced in the Notice and addressed in detail during the PICs.

This project is a Schedule "B" Class EA.

The **Proponent** for the project is:

Municipality of Trent Hills
66 Front Street South P.O. Box 1030
Campbellford, ON
K0L 1L0
Attention: Scott White, General Manager of Infrastructure Renewal And Public Works Admin

The **Consulting Engineer** is:

The Greer Galloway Group Inc.
1620 Wallbridge Loyalist Rd.
Belleville, ON
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Attention: Tony Guerrera, P.Eng.

2. PROBLEM OR OPPORTUNITY

2.1. Opportunity Statement

The existing Hastings standpipe which does not provide adequate treated water storage volumes or maintain minimum operating pressures in the water distribution system requires immediate rehabilitation (including interior and exterior coatings) and various safety upgrades.

2.2. Existing System

The Municipality's current water supply system is located on Division Street East and includes a welded steel standpipe constructed in 1962 with 520 m^3 of total storage volume. The water treatment plant (WTP) also provides treated water storage via a clear well reservoir to three wet well chambers that supply the three high lift pumps.

The current standpipe requires substantial refurbishment and no longer meets the requirements of the drinking water system for both storage volume and minimum pressure. Some existing areas of the distribution system have water pressure that is below the 275 kPa minimum standard as outlined in Ministry of Environment, Conservation and Parks (MECP) guidelines. System upgrades are required in order to accommodate increasing volume needs for both domestic and fire protection while maintaining adequate pressure.

2.3. Growth

Residential developments are planned for the Village of Hastings and these growths have been considered when determining the future requirements for the drinking water system. The Trent Hills Residential Development Summary Report confirms that current developments would include approximately 500 additional residential units on available land at this time. In addition, we have assumed a baseline population growth rate of 1% annually to account for infill lots based on historical rates.

3. EVALUATION OF ALTERNATIVE SOLUTIONS

3.1. Alternative Solutions

The following alternative solutions to address the need for additional storage capacity and pressures to support the needs of the community of Hastings were considered:

1) Do Nothing
2) Refurbish and Repair the Existing Standpipe
3) Replace Existing Standpipe at Existing Location (North of Trent River)
4) Replace Existing Standpipe at New Location (South of Trent River)

3.2. Evaluation of Alternatives

Selection of a preferred solution involves evaluating the relative merits of each alternative from a technical perspective as well as assessing the potential impacts on the natural, cultural, social, and economic environments. Technical considerations include the ability to satisfy the problem statement while meeting applicable regulations, codes, and standards (including requirements for MECP approvals). Natural environment includes impacts to groundwater, surface water, terrestrial and aquatic environments, and species at risk. Cultural environment refers to cultural heritage and archaeological resources. Social environment includes impacts to people and communities (e.g., property impacts, noise, odour, aesthetics, recreation). Economic environment includes capital and operating costs as well as impacts on commercial or other activities contributing to overall economic health.

A description of each alternative and evaluation of environmental impacts is presented below:

3.2.1. Alternative 1: Do Nothing

This alternative would have the lowest capital cost and would involve continuing to use the existing standpipe without any changes. This alternative is not feasible as the current standpipe needs immediate rehabilitation for future operations. Additionally, the current standpipe does not satisfy the current and future storage volumes and minimum pressure needs of the community.

3.2.2. Alternative 2: Refurbish and Repair the Existing Standpipe

This option involves refurbishing and repairing the existing standpipe and continuing its use. This includes interior and exterior recoating and various health and safety upgrades. Rehabilitation costs are estimated to be $650,000. Furthermore, this alternative is not feasible as it does not meet the current and future storage volumes and minimum pressures needs. This alternative would provide no detriment to the natural environment or cultural environment. This option, however, would limit growth within the community as the current standpipe is not sufficient to support significant growth or development, negatively affecting the economic environment. This is not considered economically viable to rehabilitate the standpipe as it does not meet the community's needs.

3.2.3. Alternative 3: Replace Existing Standpipe at Existing Site (North of Trent River)

This alternative involves constructing a new water storage facility at the existing standpipe's site. A new standpipe or elevated tank with a larger storage volume and sufficient height to maintain the minimum required water pressure throughout the drinking water distribution system is considered a viable option.

Constructing the replacement storage facility at the existing site is a favourable option because the Municipality owns the land where the new facility could viably be constructed. The site is expected to have no archeological impacts due to having been previously disturbed from the construction of the previous standpipe facility, the road of Division Street East, and the surrounding homes. The existing site has been cleared and there will be no environmental impact as a result of construction. Proximity to the existing standpipe will also allow for an easier connection of the new system with the existing watermain and distribution system. This will minimize downtime and the use of temporary supply works during construction.

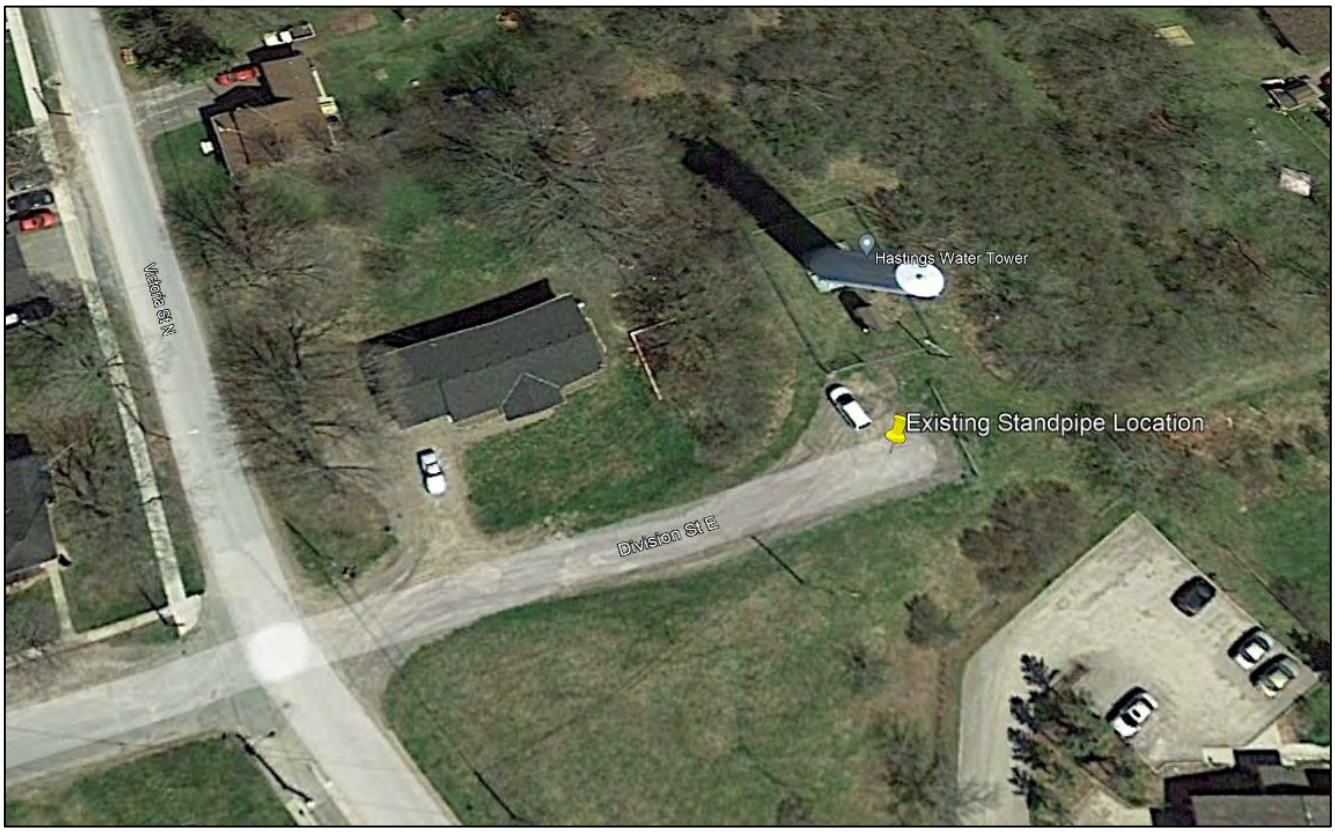

Figure 3: Existing Standpipe Site

3.2.4. Alternative 4: Replace Existing Standpipe at New Site (South of Trent River)

This alternative involves constructing a new water storage facility at a new site located on the south side of Trent River. A new standpipe or elevated tank with a larger storage volume and sufficient height to maintain the

minimum required water pressure throughout the drinking water distribution system is considered a viable option.

Initially, this option of constructing the new water storage facility at a location south of the river was considered to provide operational flexibility. There is a single watermain crossing across the river to service all of the community located on the south side of the river. The existing standpipe and water treatment plant (WTP) are both located on the north side of the river. If the single existing watermain river crossing were to fail, there would not be any other infrastructure to supply the south side of the river. The Municipality has since secured funding for the construction of a second watermain crossing to the south side of the river. The second watermain crossing will provide the operational flexibility to secure the supply of water to the community across the river. This option is considerably more expensive than construction at the existing site due to the additional water main required to reach the new site. With this option, there is greater potential for both environmental and cultural impacts.

Figure 4: New Site South of Trent River

4. PREFERRED ALTERNATIVE

The preferred alternative is to construct a new water storage facility at the existing site and to remove the existing standpipe. This option will provide sufficient storage capacity and pressures in the distribution system while minimizing effects on ecological, aquatic, and cultural heritage environments.

The existing site was chosen as the preferred alternative due to the significantly longer 875 m of watermain required to connect the standpipe from the southern site to the distribution system., which would add significant cost. Additionally, funding has been secured by the Municipality for a separate second watermain crossing to the south of the river. This will provide operational flexibility while allowing the standpipe replacement to remain on the north side of the river.

Multiple locations within the existing site were evaluated for the preferred location for the new tower. Factors considered for evaluating specific locations within the existing site included potential property acquisitions and existing ground elevations. The top of the existing gravel road approximately 20 m south of the existing standpipe was chosen as the preferred location to minimize environmental impacts on the surrounding trees and vegetation. This location is on previously disturbed land during the installation of the existing watermain and is expected to have no potential archeological and cultural impacts. A geotechnical investigation has been completed at this location. Conditions are suitable for construction of the tank foundation. Types of storage facilities considered for the standpipe replacement includes bolted glass fused to steel standpipes, elevated composite steel storage tanks, and elevated bolted glass fused to steel storage tanks. These will be refined at the detailed design phase.

The preferred alternative is to construct a new water storage facility, either a glass fused to steel standpipe, or an elevated storage tank at the existing site and to remove the existing standpipe. The new facility is proposed to be approximately 38 m tall. The total usable storage capacity of the facility will be approximately 1220 m^3 and the taller facility will provide the necessary pressures in the distribution system.

4.1. Mitigating Measures

Minimal impact to the natural environment is expected, as the chosen location is within a previously disturbed area away from existing trees, vegetation, and potential natural habitats. Mitigations include setbacks from existing trees and vegetation. A 10 m setback is proposed from the surrounding trees. Typical construction measures such as silt fencing and sediment control will be implemented.

4.2. Estimated Cost

The high-level estimated cost of the replacement standpipe installation is approximately $3,270,375.00. The cost estimate breakdown is included in Appendix C.

5. EXISTING ENVIRONMENT INVENTORY

A detailed inventory was taken as part of the Environmental Impact Assessment. The Environmental Summary Report is available in Appendix A. A geotechnical report for the preferred site was completed and is available in Appendix B.

5.1. Land Use and Planning

The study areas have a mixture of land uses. The existing standpipe site at Division Street East and Victoria Street North is a residential area, while the southern location is primarily undeveloped land.

5.2. Natural Environment

5.2.1. Terrestrial Environment - Species at Risk Assessment

The ecological features are inventoried In the Environmental Summary Report available in Appendix A.

5.2.2. Geophysical Environment - Geotechnical Investigation

The full geotechnical Investigation Report is available in Appendix B.

5.2.3. Surface Water and Aquatic Environment

The ecological environment of affected aquatic environments are inventoried In the Environmental Summary Report available in Appendix A.

5.3. Archaeological, Heritage, and Cultural Potential

The screening checklist Criteria for Evaluating Archaeological Potential, developed by MCM, was completed as part of the project file (see Appendix D). As the site is located within an existing residential area containing the previously installed standpipe and underground watermains below the road, the study area was determined to have low potential for archaeological resources.

The screening checklist Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes, developed by MCM, was completed as part of the project file for this undertaking (see Appendix D). As the property contains the existing standpipe and underground watermains, the study area was determined to have low potential for built heritage resources and cultural heritage landscapes. Therefore, no Cultural Heritage Evaluation Report and/or Heritage Impact Assessment have been undertaken.

6. CONSULTATION

6.1. Notice of Commencement

The Notice of Commencement (available in Appendix E) dated December 5th, 2022, was published on the Municipality of Trent Hills website and in the local newspaper. The notice provided contact information for the project and invited public participation and comments.

6.2. Public Information Centre

The PIC was advertised on the website using the notice prepared in Appendix F and through the local newspaper. The public information centre was held on April 26th, 2023. There were four attendees (sign in sheet available in Appendix F) and a prepared presentation was completed (available in Appendix F).

6.3. Agency Consultation

Consultation with review agencies has been undertaken throughout the project to establish requirements for approvals, determine the need for technical studies, evaluate environmental impacts of potential solutions, and develop mitigating measures.

Project Notices were circulated to the list of project contacts (available in Appendix G). Records of correspondence, and responses from review agencies including MECP and MCM are included in Appendix I.

Highlights of Agency Consultation/Correspondence:

Emails:

- Notice of Commencement - Hastings Standpipe Replacement EA – MECP response
- Archeological and Heritage Potential Checklists – MCM Response

Automatic Responses have not been included.

6.4. First Nations Consultation

The original notice with information regarding the EA process and goals of the project were distributed to First Nations groups in March 2023. There were no responses received. The EA report and Notice of Completion will be provided to the contacts for each group.

6.5. Notice of Completion

The Notice of Completion (see Appendix J) was issued on **June 6th, 2023** for publication on the Municipality of Trent Hills website. This environmental study report is now available for the required 30-day review period.

7. CONCLUSION

The Municipality of Trent Hills has identified that storage volume capacity and system pressures provided by the existing standpipe in Hastings, Trent Hills is insufficient to support the current and future needs of the community. Various options were considered to resolve the storage volume and pressure issues. Four alternatives were considered, and two feasible alternatives were selected and refined. Detailed evaluation of the alternatives has resulted in the preferred alternative of a new water storage facility, either a glass fused to steel standpipe, or an elevated storage tank constructed at the existing standpipe site and to remove the existing standpipe. The new facility is proposed to be approximately 38 m tall. The total usable storage capacity of the facility will be approximately 1220 m^3 and the taller facility will provide the necessary pressures in the distribution system. This option constitutes the final selected alternative.

Respectfully Submitted,

THE GREER GALLOWAY GROUP INC.
CONSULTING ENGINEERS

Tony Guerrera, P. Eng.
Senior Project Manager

APPENDIX A: Environmental Impact Study

Environmental Summary Report
Hastings DWS - Standpipe Replacement
Municipality of Trent Hills

Prepared for:

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May 2023

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Contents

Figures

1. Introduction

The Municipality of Trent Hills owns the drinking water system that served the village of Hastings. The Hastings Drinking Water System (DWS) currently delivers water to customers via 663 individual services (598 residential and 65 commercial) within the Hastings water distribution systems an additional 68 residential services within the Trentview Estates distribution system.

Treated water storage for the Hastings DWS is currently provided by a 520 m³ welded steel standpipe, located within the distribution system and by a 772 m³ treated water reservoir at the Hastings WTP.

The existing 520 m³ standpipe is ±4.6 m in diameter with a sidewall height of approximately 32 m, base slab of ±206.35 m and a normal top water level of ±237.35 m. Given the location of the standpipe, within the distribution system adjacent to serviced properties, it is estimated that only a volume of 900 m³ is considered “usable” which does not satisfy the current treated water storage requirements, estimated to be in the order of 961 m³.

In addition, the existing welded steel standpipe requires rehabilitation, including interior and exterior coatings and miscellaneous safety upgrades.

It has been recommended that the standpipe be replaced. The option of an elevated tank provides flexibility to service future development lands with ground elevations above 205 m. Based on the evaluation of the Treated water storage options, the recommended long-term solution is to conduct an elevated treated water storage tank southwest side of the existing standpipe. There are no buildings or structures in the area proposed. See Figure 1 and Figure 2 for the location of the new standpipe.

Information regarding existing conditions of the area proposed for the standpipe and adjacent area (study area) was obtained from site visits carried out on October 4 and December 9, 2022 and February 8, 2023.

2. Vegetation Communities

The area proposed for the standpipe is currently used as a parking area with gravel surface and part of the area surrounding the standpipe covered with maintained grass. The area for the construction of the new standpipe will be approximately 350 m. Vegetation adjacent to the existing standpipe has been identified as cultural woodland. This vegetation is within residential development.

The vegetation is highly impacted due to constant anthropogenic disturbance as a result of the presence of residential development surrounding it. A trail is located within the vegetation on the east side. Garbage was found within the vegetation.

Vegetation in the cultural woodland is composed of trees, shrubs, and herbaceous species. Tree species include Manitoba maple (*Acer negundo*), black locust (*Robinia pseudoacacia*), green ash (*Fraxinus pennsylvanica*). Shrub species include common buckthorn (*Rhamnus cathartica*) and common lilac (*Syringa vulgaris*). Herbaceous vegetation is abundant along the edges of the vegetated area. Herbaceous species present include Canada goldenrod (*Solidago canadensis*), New England aster (*Symphyotrichum novae-angliae*), chicory (*Cichorium intybus*), common burdock (*Arctium minus*), common mallow (*Malva neglecta*), common dandelion (*Taraxacum officinale*), riverbank grape (*Vitis riparia*), Virginia creeper (*Parthenocissus quinquefolia*), mosses, and grasses.

3. Terrestrial Wildlife

Minimal wildlife is found in this area as is surrounded by residential development. Potential species found include gray squirrel and racoon.

4. Species at Risk

General reports were obtained from the MNDMNRF online NHIC database regarding records of SAR within the Study Area. Additional records of SAR were obtained from other sources of information. A list of SAR records is included in the following Table 1.

Table 1: Potential Endangered and Threatened Species within the Study Area.

Common Name	Scientific Name	Federal Status	Provincial Status	Probability of Occurrence	Rationale
Birds					
Bobolink	*Dolichonyx oryzivorus*	Threatened	Threatened	Low	Habitat includes hayfields, pastures, fallow or abandoned fields, meadows, tall grass prairie remnants, savannahs and alvar grasslands (COSEWIC, 2010). Suitable habitat for Bobolink is not found on the study area.
Eastern Meadowlark	*Sturnella magna*	Threatened	Threatened	Low	Habitat includes hayfields, pastures, fallow or abandoned fields, meadows, tall grass prairie remnants, savannahs and alvar grasslands (COSEWIC, 2011). Suitable habitat for Eastern Meadowlark is not found on the study area.
Barn Swallow	*Hirundo rustica*	Threatened	Threatened	Low	The natural habitat of Barn Swallow includes caves, holes, crevices and ledges in cliff faces. However, anthropogenic features are often used in farmlands, rural, suburban areas, and villages where they build the nest around many kinds of structures, especially barns and other farm outbuildings, under bridges, wharves, boat-houses, and culverts (COSEWIC, 2011). Suitable habitat is not found on the study area.
Wood Thrush	*Hylocichla mustelina*	Threatened	Special Concern	Low	Wood Thrush nests mainly in second-growth and mature deciduous and mixed forests, with saplings and well-developed understorey layers. The species prefers large forest mosaics and small forest fragments (COSEWIC, 2012). Suitable habitat is not found on the study area.
Eastern Wood-pewee	*Contopus virens*	Special Concern	Special Concern	Low	The Eastern Wood-Peewee prefers mature and intermediate-age deciduous and mixed forest having an open understorey (COSEWIC, 2012). Suitable habitat is not found on the study area.
Amphibians					
Western Chorus Frog	*Pseudacris triseriata*	Threatened	Not at Risk	Low	The Western Chorus Frog requires both terrestrial and aquatic habitats in close proximity. Terrestrial habitat consists mostly of humid prairie, moist woods, meadows, marshes, bottomland swaps, and temporary ponds in open county. For reproduction and tadpole development, this species requires seasonally dry, temporary ponds that are devoid of

Common Name	Scientific Name	Federal Status	Provincial Status	Probability of Occurrence	Rationale
					predators such as fish. The western chorus frog overwinters underground or under surface cover, such as fallen logs (COSEWIC, 2008). Suitable habitat is not found on the study area.
Reptiles					
Snapping Turtle	*Chelydra serpentina*	Special Concern	Special Concern	Low	The Snapping Turtle prefers slow-moving water with soft mud bottom and dense aquatic vegetation. Snapping turtles can be found in almost every kind of freshwater habitat. Nesting occurs on sand and gravel banks along waterways, including artificial dams and railway embankments. Hibernation takes place beneath logs, sticks/overhangs, banks, stumps, submerged logs, deep anoxic mud in marshy areas, and floating mats of vegetation. The nesting season occurs through June into July with hatchlings emerging in late September–early October (COSEWIC, 2008). Suitable habitat is not found on the study area.
Midland Painted Turtle	*Chrysemys picta marginata*	Special Concern	No Status	Low	Habitats include ponds, marshes, lakes and slow-moving creeks. Midland Painted Turtles prefer waterbodies with soft bottoms and areas to bask like logs and rocks protruding from the water (COSEWIC, 2018). Suitable habitat is not found on the study area.
Eastern Ribbonsnake (Great Lakes Population)	*Thamnophis sauritus*	Special Concern	Special Concern	Low	Eastern Ribonsnake is semi-aquatic and found in a variety of wetlands with both flowing and standing water (marshes, bogs, fens, ponds, lake shorelines and wet meadows), vernal pools and moist woods. Snakes may move away from water to give birth, shed or seek cover. Ribbonsnakes appear to select microhabitats suitable for behavioural thermoregulation, foraging, and predator avoidance (COSEWIC, 2012). Suitable habitat is not found on the study area.
Mammals					
Northern Myotis	*Myotis septentrionalis*		Endangered	Low	Hibernation roosts for the three species are found in caves, hollow trees, abandoned buildings, and abandoned mines. Most species choose maternity roosts in woodlands with appropriate tree cavities, caves, crevices, under loose bark, and cracks in cliffs. Little Brown Myotis is found in buildings and rocky habitats (COSEWIC, 2013). Suitable habitat is not found on the study area.
Little Brown Myotis	*Myotis lucifugus*		Endangered	Low	
Tri-coloured Bat	*Perimyotis subflavus*		Endangered	Low	
Insects					
Monarch	*Danaus plexippus*	Special Concern	Special Concern	Low-Medium	Caterpillars feed on milkweed plants found in meadows and open areas. Adult

Common Name	Scientific Name	Federal Status	Provincial Status	Probability of Occurrence	Rationale
					butterflies are found in diverse habitats where they feed on nectar from a variety of wildflowers (COSEWIC, 2016). Wildflowers were observed in the vegetation adjacent to the area for the standpipe.

The general habitat of species that are listed as endangered or threatened is automatically protected under the Endangered Species Act (ESA), 2007. Development shall not be permitted within the habitat of endangered and threatened species, except in accordance with applicable provincial and federal requirements. Special Concern species listed under the ESA are not protected. The Ministry of Natural Resources and Forestry (MNRF) issues authorizations regarding wildlife identified in the schedules (Ont. Reg. 669/98) under the Fish and Wildlife Conservation Act (FWCA). Some species under the ESA (Endangered, Threatened and Special Concern) are also listed in the FWCA schedules. In the case of ESA Special Concern species, the FWCA prevails as the ESA does not provide protection to Special Concern species.

Habitat for Threated and Endangered species is not present in the area where the standpipe is proposed. The vegetation adjacent to the project area is dominated by non-native species as a result of constant anthropogenic disturbance.

Wildflowers were observed along the edges of the vegetated area. It is possible that Monarch butterflies can be present in this area. Impacts to Monarch butterfly are not expected, as removal of vegetation is not required; however, measures should be applied to avoid harm to caterpillars and adult butterflies if the butterflies are observed around the construction area.

5. Significant Natural Heritage Features and Functions

5.1 Significant Woodlands

The area for the new standpipe is within the Village of Hastings. Significant Woodlands are not identified for this area or adjacent land. Therefore, no impacts to Significant Woodlands are anticipated.

5.2 Significant Wetlands

Provincially Significant Wetlands (PSWs) are not identified within 120 m from the area proposed for the new standpipe. Therefore, impacts to wetland are not expected.

5.3 Areas of Natural and Scientific Interest (ANSI)

The property is not within an Area of Natural and Scientific Interest (ANSI).

5.4 Significant Wildlife Habitat

Wildlife species to be found in the area are limited to those adapted to leave close to urban areas. As the project area is within the Village of Hastings, significant wildlife habitat is not present.

6. Impact Assessment and Recommendations

Removal of vegetation is not planned as the area proposed for the standpipe and the working area will be outside the vegetated areas. Therefore, impacts to vegetation and wildlife are not anticipated as long as measures are applied to avoid impacts to vegetation and wildlife.

- Best practices should be implemented during construction to ensure wildlife species are not harmed by equipment or workers activities.
- Prior to beginning activities each day, checks for wildlife should be conducted thorough a visual inspection of the work area and immediate surroundings.
- Restrict all activities, vehicles and structures to the designated areas. Minimize any disturbance to the surrounding areas. The designated areas should be clearly marked by posting signs or fencing.
- Keep secure stockpile materials, vehicles and structures against wildlife entry.
- Litter and other waste material must be appropriately contained and promptly disposed of.
- The use of 'Clean Equipment Protocol' during construction activities is strongly recommended to reduce the spread of exotic species of plants.
- Stand back and allow the animal to leave the site. Wildlife may be encouraged to move away from the work area by shouting, waving of arms, clapping of hands or gentle redirection using a broom. Contact a project biologist/wildlife service provider for assistance if needed (e.g., if young animals are found). Do not unnecessarily harass any wildlife.
- Many species of snake are also protected under provincial and/or federal legislation. If a snake is found in the work area, it should be gently herded out to a safe location.
- Workers should be aware of the potential presence of wildlife and the potential for them to cross through or enter the construction areas.
- Storage, handling and disposal of material used or generated (e.g. organics, soil, grass, woody debris, temporary stockpiles, etc.) during the site preparation should be carried out in a manner that prevents these materials from entering into naturalized areas in the vicinity of the project area.
- Minimize changes to existing land contours and drainage patterns due to grading to reduce/eliminate potential for changes to the existing drainage and hydrology.
- Store or stockpile material in designated areas within the proposed area to be affected and cover to avoid runoff or deposition in the vegetated areas.
- All onsite refuelling is to be carried out over an area provided with spill containment.
- The construction contractor should have a spills kit and an emergency plan in the case of spills.

7. Conclusions and Recommendations

The Municipality of Trent Hills is proposing to replace the existing drinking water standpipe. The location of the new standpipe is proposed southwest of the existing standpipe, on an area covered with maintained grass and gravel (driveway).

The area required for the new standpipe will be minimal. The working area will be restricted to the area with gravel and maintained grass.

Due to the minimal area required and the existing conditions of this area, impacts on vegetation and wildlife (including SAR) and wildlife habitat will be low. Vegetation adjacent to the current standpipe area which includes a control shed, grassed area and driveway will not be affected with the construction of the new standpipe.

Impacts to SAR and SAR habitat are not expected as long as the construction activities are restricted to the area currently impacted and recommended measures are applied.

Recommendations to avoid and/or mitigate potential impacts have been proposed and are considered adequate. Therefore, it is our opinion that the proposed construction of the new standpipe will have low impact on the natural features and their ecological functions.

THE GREER GALLOWAY GROUP INC.
CONSULTING ENGINEERS

Yazmin Ramirez Avila, M.Sc.
Biologist

APPENDIX B: Geotechnical Reports

EXCESS SOIL CHARACTERIZATION REPORT
STANDPIPE REPLACEMENT
DIVISION STREET EAST & VICTORIA STREET NORTH
HASTINGS, MUNICIPALITY OF TRENT HILLS, ONTARIO
REDSTONE PROJECT NO. 23R102

Prepared for:

Municipality of Trent Hills
66 Front Street
Campbellford, Ontario K0L 1L0

April 13, 2023

Redstone Engineering Inc.
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TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

Redstone Engineering

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EXCESS SOIL CHARACTERIZATION REPORT
STANDPIPE REPLACEMENT
DIVISION STREET EAST & VICTORIA STREET NORTH
HASTINGS, MUNICIPALITY OF TRENT HILLS, ONTARIO
REDSTONE PROJECT NO. 23R102

1.0 INTRODUCTION

This report presents the results of chemical testing performed on soil samples in support of the proposed design and construction of a replacement standpipe to be located on the site of an existing standpipe, on Division Street East east of Victoria Street North, in Hastings, Municipality of Trent Hills, Ontario. Redstone Engineering Inc. (Redstone) was retained by the Municipality of Trent Hills (the Municipality, the Client) in order to perform an assessment of past uses (APU), generate a sampling and analysis plan (SAP), and conduct soil characterization through chemical testing of selected soil samples in accordance with O.Reg.406/19 for excess soils to be generated during the proposed construction, in accordance with Redstone's proposal #P1205 dated January 31 2023. The work performed for this investigation was carried out under the authorization of Mr. Scott White representing the Client, by way of signback acceptance dated February 2 2023.

This report must be read in conjunction with Redstone's corresponding geotechnical report for this project, dated April 4 2023 (referred to herein as the Geotechnical Report). The results and discussions presented herein are based in part on fieldwork performed and outlined in the Geotechnical Report.

The project site currently supports an existing standpipe structure, on a concrete base within a continuous chain-link fenced enclosure at the top of a hill. The Client has retained Greer Galloway (GG) to perform the engineering design for this project. Based on GG's information, it is Redstone's understanding that the project will consist of designing and constructing a new/replacement standpipe, with foundations at an approximate depth of 3m to 4m below existing grade (mbeg). During a February 2 2023 site meeting, Mr. Scott White (representing the Client) identified the proposed standpipe location as being southwest of the existing standpipe (in the area of the boreholes – see Figure 1 attached).

GG's request for proposal (RFP) estimated the excess soil volume to be generated during construction as being up to 490m^3. This excess soil volume has been assumed for the purpose of this characterization. Depending on the design, final volume of excess soils generated during construction, and offsite destination(s) considered, further sampling and testing of materials may be required in accordance with O.Reg.406/19. This work must not be considered any form of Record of Site Condition (RSC) or Environmental Site Assessment (ESA). This report does not include an Excess Soil Destination Assessment Report (ESDAR).

2.0 REGULATORY REQUIREMENTS AND GUIDELINES

2.1 ENVIRONMENTAL PROTECTION ACT AND REGULATIONS

In general, matters involving environmental quality of soil and groundwater in Ontario fall under the Environmental Protection Act and its associated regulations and guidance documents, including O.Reg.406/19 and O.Reg.347(558/00). Activities that may involve encountering, removal of, or discharge to groundwater fall under the Ontario Water Resources Act and regulations. The following summarizes the Ontario regulations referenced herein:

- O.Reg.406/19: on January 1, 2021, Phase One of Ontario's new On-Site and Excess Soil Management Regulation (O.Reg.406/19) and supporting/reference documents including O.Reg.153/04, and O.Reg.347 (amended by O.Reg.558/00) took effect under the province's Environmental Protection Act (EPA). O.Reg.406/19 introduces a framework for the management of excess soils generated during construction activities.
- O.Reg.347 (amended by O.Reg.558/00): this regulation is also part of the EPA. Its purpose is to regulate waste management, and provides a framework for waste disposal (including excess soils that are not reusable under O.Reg.406/19).

3.0 ASSESSMENT OF PAST USES

An assessment of past uses (APU) was performed in the form of a site inspection and historical documentation review. The results of the inspection and historical document review are presented in the following sections.

3.1 SITE CONDITIONS

The project site is located at the approximate top of a hill where a standpipe currently exists located on Division Street East, east of the intersection with Victoria Street North, in Hastings, Municipality of Trent Hills, Ontario. The project site currently supports an existing standpipe structure supported on a concrete base contained within a continuous chain-link fenced enclosure (and small associated shed) located at the top of a hill formed by the local topography. A gravel-surfaced access road leads up to the project site. Surrounding properties are generally residential; a residential property with house exists to the west of the site, with vegetated/treed areas located north and east of the existing standpipe.

From the general conditions and surrounding properties observed in the project area, areas of potential environmental concern (APECs) from the perspective of this excess soil testing program are related to the unknown nature and quality of fill materials used to construct the approach roadway and around the existing structures.

3.2 ERIS DATABASE REPORT

An Environmental Risk Information System (ERIS) Database Report was requested for the site and properties within 0.25 km of the site. The ERIS report details a search performed for a number of databases including, but not limited to, the National PCB Inventory, National Pollutant Release Inventory, Occurrence Reporting Information System, Retail Fuel Storage Tanks, Private Fuel Storage Tanks, Waste Disposal Sites Inventory and Certificates of Approval. The ERIS report is provided in Appendix B.

The ERIS report contained no records within the selected databases for the site itself. For surrounding properties, the ERIS report information included the following addresses and corresponding records which, for the purpose of developing a SAP as per O.Reg.406/19, are identified by Redstone as being areas of potential environmental concern (APEC), listed in no particular order:

1. 65 Albert Street East:
    a. SPL (Ontario Spills) - diesel fuel;
2. 79 Victoria Street:
    a. GEN (Ontario Regulation 347 Waste Generators Summary) - waste oils & lubricants;
3. 25 Albert Street West (Hastings Public School):
    a. GEN (Ontario Regulation 347 Waste Generators Summary) – waste oil & lubricants;
4. 129 Victoria Street North:
    a. PES (Pesticide Register)

Further entries appeared in the ERIS report for surrounding properties, but based on their nature and/or relative elevation and/or location, there are no further corresponding items of potential environmental concern identified from the perspective of this excess soil management program. Further details are available within the ERIS report, attached in Appendix B.

3.3 HISTORIC AERIAL PHOTOGRAPHS

Digital photographs for the years 1959 and 1987 (from the National Air Photo Library [NAPL]), and 2018 (ESRI World Imagery) were obtained and reviewed.

The aerial photos indicate the surrounding properties as of 1959 were generally residential and agricultural. Based on the 1987 and 2018 aerial photos the changes that occurred over time in the surrounding area consisted of a general densification of residential development.

Based upon the aerial photographs reviewed, there are no corresponding APECs identified beyond any already identified herein. Copies of the digital photographs are included in Appendix B.

3.4 APU CONCLUSION

The APU identified four (4) potentially contaminating activities (PCAs) that may impact the project site. As a result of the project's relatively small area, only one (1) area of potential environmental concern (APEC) is identified - that being the proposed standpipe footprint area. The APEC is associated with importation of fill of unknown quality for construction of the existing access road and standpipe structures, and for possible impacts resulting from fuel and petroleum storage, waste generation, and pesticide-related activities associated with properties listed in Section 3.2 herein.

Based on these PCA's, within the APEC the related contaminants of potential concern (COPCs) are as follows:

- benzene, toluene, ethylbenzene, and xylenes (BTEX) and Petroleum Hydrocarbons (PHCs, F1-F4);
- metals and inorganics including pH;
- salt-related parameters of electrical conductivity (EC) and sodium adsorption ratio (SAR); and
- organochlorine pesticides (OCPs).

4.0 SAMPLING AND ANALYSIS PLAN

Based on applying O.Reg.406/19 to GG's maximum estimated 490m^3 of excess soil, a total of three (3) samples were targeted for Bulk chemical testing, and three (3) samples targeted for Synthetic Precipitate Leaching Procedure (SPLP) chemical testing. One (1) soil sample (composited from the samples selected for Bulk testing) was additionally tested for Toxicity Characteristic Leaching Procedure (TCLP) as per O.Reg.347 (amended by 558/00).

These samples were tested for the following parameters:

- Ontario Regulation 406/19:
  - Bulk testing: BTEX, PHCs, metals and inorganics, EC and SAR. One (1) sample was additionally tested for OCPs; and
  - SPLP testing: metals, and VOCs including 1,4 dioxane, one (1) sample was additionally tested for OCPs.
- Ontario Regulation 347 (558/00):
  - TCLP testing: VOCs, PCBs, metals, and inorganics.

The overall sampling and analysis plan (SAP) outlined above is based on the work scope as originally proposed for this study, with the additional OCP tests added (as a result of the APEC identified associated with address 129 Victoria Street North). An SAP based on the APU results is outlined in following Table 1. This SAP is based in part on the expectation that the contractor

will reuse the existing granular fill material onsite as some form of backfill (see the Geotechnical Report).

Table 1: Sampling and Analysis Plan

Area	Potential Concern	Location(s)	Rationale	Proposed Analytical Soil Testing
1	Impacts from imported fill material of unknown quality used for existing road and standpipe construction. Also potential impacts from nearby addresses identified in Section 3.2 herein	BH-1 SS-2 BH-2 SS-2 BH-3 SS-3	Possible impacted fill used during construction of existing road and standpipe. Also potential impacts from nearby properties associated with diesel fuel, waste oil and lubricants (see Section 3.2 herein)	All O.Reg.406/19 Bulk and SPLP testing outlined above
2	Impacts from 129 Victoria Street North (Pesticide Registry)	BH-2 SS-2	Possible impacted soil as a result of nearby property associated with Pesticide Registry	O.Reg.406/19 Bulk and SPLP testing for OCPs
3	Impacts from imported fill material of unknown quality used for existing road and standpipe construction.	1 composite sample (Comp-1) formed from BH-1 SS-2/BH-2 SS-2/BH-3 SS-3	Possible impacted fill used during construction of existing road and standpipe. Testing to classify as a waste for landfill disposal	O.Reg.347(558) TCLP testing outlined above

Soil sampling operations were conducted under the supervision of Redstone on February 16 2023. The work consisted of subsurface exploration by means of advancing, sampling and logging a total of three (3) boreholes. The location of each borehole is illustrated on the attached Borehole Location Plan (Figure 1). Representative samples of the strata penetrated by the boreholes were obtained directly from the augers or using a split-barrel, 50 mm diameter spoon sampler advanced by a 63.5 kg hammer dropping approximately 760 mm.

A log of each borehole was maintained, and representative samples of the materials encountered in the boreholes were obtained. The borehole logs are provided in Appendix A.

The boreholes generally encountered either topsoil or gravel fill (with a buried layer of asphalt in one borehole), over earth fill that is underlain by till containing increasing amounts of cobbles and boulders with depth.

Soil samples obtained from the boreholes were inspected in the field immediately upon retrieval for soil type, texture, colour, moisture, presence of any deleterious material, odour, and visual evidence of impacts such as staining. All boreholes were backfilled following completion of the fieldwork. All samples were sealed in clean plastic containers and transported to Redstone's office for further visual-tactile examination, and to select appropriate samples for chemical laboratory analysis.

Based on the samples obtained, visual-olfactory-tactile examination of them, and the SAP as outlined in Table 1, samples were selected and submitted to Eurofins Environment Testing Canada Inc (EET) to perform the chemical analyses. The following Table 2 tabulates the samples that were submitted and testing performed on them.

Table 2: Samples Submitted and Testing Performed

Sample	Soil	Test(s)(1)
BH-1 SS-2	Fill	Bulk (excl OCP), SPLP (excl OCP)
BH-2 SS-2	Fill	Bulk (incl OCP), SPLP (incl OCP)
BH-3 SS-3	Till	Bulk (excl OCP), SPLP (excl OCP)
Comp-1 (composite sample formed from 3 samples above)	Fill & Till	TCLP

(1) Refer to testing previously described (see Section 4 bullets).

5.0 SOIL CHARACTERIZATION

5.1 O.REG.406/19

5.1.1 Bulk Testing

The bulk chemical test results were compared to Generic Excess Soil Quality Standards (ESQS) as per Appendix 1 of O.Reg.406/19 Rules for Soil Management and Excess Soil Quality Standards. The Certificates of Analyses are attached in Appendix C and include a comparison of the test results to Table 1 (Full Depth Background Site Condition Standards) for Residential/ Parkland/ Institutional/ Industrial/ Commercial/ Community property uses.

For further comparison purposes, the following Tables 3 and 4 summarize the samples and corresponding chemical parameters that *exceeded* O.Reg.406/19 ESQS values for all property uses under:

- Table 2.1 (Full Depth ESQS in a Potable Ground Water Condition); and
- Table 3.1 (Full Depth ESQS in a Non-Potable Ground Water Condition).

These standards have been referenced to support excess soil reuse planning, however the applicable excess soils standards must ultimately be determined by the reuse site (and its QP) that receives the excess soil. Other excess soil quality standards may be applicable based on other factors including the volume of soil being received, conditions at the reuse site, and any site-specific instruments or standards that may apply.

All units are in ug/g (ppm) except for electrical conductivity (EC) which is given in mS/cm, sodium adsorption ratio (SAR) which is given in units, and/or if stated otherwise within each table.

Within each of the following tables, exceedances of the specific "Standards for Property Uses" are shown by underlined bold text in **red**.

Table 3: Parameter Exceedances (ESQS - Table 2.1)

Sample	Soil	Table 2.1 – Full Depth Excess Soil Quality Standards in a Potable Groundwater Condition				
		Parameter	Result	Standards for Property Uses		
				Agricultural and Other (AgO)	Residential/ Parkland/ Institutional (RPI)	Industrial/ Commercial/Community (ICC)
BH-3 SS-3	Till	EC SAR	2.13 33.6	0.7 5	0.7 5	1.4 12

Table 4: Parameter Exceedances (ESQS - Table 3.1)

Sample	Soil	Table 3.1 – Full Depth Excess Soil Quality Standards in a Non-Potable Groundwater Condition			
		Parameter	Result	Standards for Property Uses	
				Residential/ Parkland/ Institutional (RPI)	Industrial/ Commercial/ Community (ICC)
BH-3 SS-3	Till	EC SAR	2.13 33.6	0.7 5	1.4 12

The Certificates of Analysis (C of A's) for the chemical testing are attached in Appendix C; these should be referred to for detailed results including a comparison of the results to ESQS for Table 1 Residential/ Parkland/ Institutional/ Industrial/ Commercial/ Community Property Uses.

When compared to ESQS under Tables 2.1 and 3.1, all samples and chemical analytes tested met for all property uses (AgO, RPI, ICC) with the exception of sample BH-3 SS-3, whose EC and SAR values exceeded Table 2.1 (AgO, RPI, ICC) and Table 3.1 (RPI, ICC).

5.1.2 SPLP Leachate Testing

The SPLP leachate test results were compared to Generic Leachate Screening Levels (LSL) as per Appendix 2 of O.Reg.406/19 Rules for Soil Management and Excess Soil Quality Standards from all the tables including Table 2.1 and Table 3.1.

All sample results met O.Reg.406/19 LSL value for all Tables and property uses (including Table 2.1 and Table 3.1). Sample BH-2 SS-2 that was tested for OCPs is noted to have exceeded its hold time before being tested; however, it is noted that this sample was subjected to bulk testing for OCP which indicated negligible levels. The SPLP results for OCP (BH-2 SS-2) are considered reliable.

5.2 O.REG.347 (558/00)

A composite soil sample (identified as Comp-1) was formed by combining portions of each of the three soil samples submitted for the O.Reg.406/19 Bulk and SPLP testing, then submitted for O.Reg.347 (558/00) TCLP leachate testing for VOCs, PCBs, metals, and inorganics.

The TCLP leachate testing results for this sample were compared to, and met, O.Reg.558 Schedule 4 criteria. By meeting O.Reg.558/00 Schedule 4 criteria, the material tested is considered "non-hazardous and non-registrable" waste that is suitable for disposal at an appropriately-licensed landfill facility using an appropriately-licensed hauler. These results may

require further testing depending on the C of A requirements of any particular landfill considered.

6.0 RECOMMENDATIONS

Supporting data upon which these recommendations are based have been presented in the foregoing sections of this report. The following recommendations are governed by the physical and chemical properties of the subsurface materials that were encountered at the site, and assumes that they are representative of the overall site conditions. It should be noted that these conclusions and recommendations are intended for use by the Client only. Contractors bidding on or undertaking any work at the site should examine the factual results of this assessment, satisfy themselves as to the adequacy of the information for construction, and make their own interpretation of this factual data as it affects their management of excess soils generated during construction. Comments, techniques, or recommendations pertaining to construction should not be construed as instructions to the contractor. It is strongly recommended that the Contractor retain their own Qualified Person (QP, as defined by O.Reg.406/19) to support their management of excess materials generated during construction. It is also recommended that the Contractor retain a Health and Safety Officer/professional to assess and mitigate any risks associated with their handling of such materials.

The materials encountered in the boreholes generally consisted of either topsoil or gravel fill (with a buried layer of asphalt in one borehole), over earth fill that is underlain by till containing increasing amounts of cobbles and boulders with depth.

Redstone's corresponding Geotechnical Report should be read for geotechnical information regarding suitability of the existing site soils for reuse based on their geotechnical (physical) properties. The following text is copied from Section 6.2 of Redstone's Geotechnical Report and shown below in *italics*. It discusses the potential reuse of existing materials onsite, based solely on their geotechnical (physical) properties (not considering their chemical properties):

"Some excavated soils may be suitable for use as backfill, provided they do not contain organic material and are not overly wet or high in silt or clay content, and pending final approval to do so being obtained at the time of construction. The following bullets summarize the potential reuse of each major soil strata encountered, from a geotechnical / physical perspective only. It is noted that soil samples obtained during this fieldwork have been subjected to chemical testing for the purpose of chemical characterization in support of excess soils management during construction - the results of this chemical testing are provided separately.

- *gravel and sand fill: a sample of this soil was subjected to gradation analysis, whose results meet OPSS Form 1010 gradation specifications for Granular B Type I and Select Subgrade Material (SSM). However, it is noted that this fill in many instances appeared to contain trace to some organic matter. If, during construction, any of this material proves to be free of organics, and pending final inspection at the time of construction, this fill may be suitable*

for reuse as SSM material. Further confirmatory testing is recommended if it will be considered for reuse where a Granular B Type I is specified.

- *earth fill: due to its organic content, and generally finer-grained composition, this material is not considered suitable for any form of backfill within areas that will be subject to structural loads. It may be considered as general backfill in non-structural areas (landscaping etc).*
- *till: based on its sand/gravel nature, the native sandy soils may be suitable for reuse as select subgrade material (SSM) per OPS, provided that it isn't overly wet, silty or clayey.*

The reuse of any excavated material is conditional on it being workable, at a suitable moisture content, containing no organics, debris or other unsuitable / deleterious materials, and receiving final review and approval for such reuse at the time of construction. The subgrade soils may be susceptible to disturbances, becoming loosened and viscous if overly disturbed and/or exposed to moisture increases. Soils that are otherwise acceptable, but overly wet, will require prior processing (such as aeration) to lower their moisture content before being considered for approval as backfill material."

Note that further restrictions on the reuse of excavated materials may exist based on the chemical properties, as discussed herein.

Considering the tables referenced earlier in this report that compared the test results to O.Reg.406/19 ESQS criteria for Tables 2.1 and 3.1 and LSL Levels for Tables 2.1 and 3.1, the samples tested met all the parameters tested for all property uses, with the exception of sample BH-3 SS-3 (till) whose EC and SAR values exceeded Table 2.1 (AgO, RPI, ICC) and Table 3.1 (RPI, ICC). See Sections 5.1.1 and 5.1.2 herein for details.

It is noted that the parameters EC and SAR can be a result of historic and ongoing application of road de-icing substances for road safety purposes. The Ministry of Environment, Conservation and Park's (MECP's) Rules for Soil Management and Excess Soil Quality Standards says that elevated levels of contaminants used for road safety (including EC and SAR) are exempted when such soils are situated in roadways (or other areas where application of de-icing substances can reasonably be expected for vehicular or pedestrian safety). It is therefore generally accepted that soils impacted by (only) EC and/or SAR may be taken offsite and reused at other Municipal road or otherwise paved site(s) that are not located within environmentally sensitive areas.

For excess soils generated during construction, the following options are available based on the chemical testing to date (note that the soil's physical properties will also need to be considered):

1. Reuse:
    a. Onsite: material can be kept on-site and appropriately reused as backfill or re-grading (eg: for road subgrade, and/or other uses pending geotechnical approval during construction);

b. Offsite:

   i. moved to another Municipal road (or otherwise paved or gravel-surfaced area intended for vehicular or pedestrian traffic and that will be subjected to application of de-icing substances for safety purposes) that is not in an environmentally sensitive area.

   ii. with the exception of EC and SAR-impacted till from the area of BH-3 SS-3, soil may go to a Table 2.1 or Table 3.1 site that is not an environmentally sensitive area. Prior to using this option, EC and SAR-impacted soil in the area of BH-3 SS-3 should be delineated by further testing to confirm the extent of EC and SAR-impacted soils which are excluded from this option.

   iii. if any granular fill is to be moved offsite, chemical testing should be performed on this material to assess and target suitable receiving site(s).

2. Disposal: excess soils generated from this site during construction could be disposed of at a waste disposal landfill or waste transfer facility appropriately certified by the MECP. Results of the O.Reg.347 (558/00) TCLP waste characterization analysis performed (see Section 5.2 herein) confirms that the soils forming the composite sample Comp-1 can be classified as non-registerable, non-hazardous waste that could be disposed of at an MECP-licensed, suitably registered waste disposal site using appropriately-licensed haulers. Further testing may be required to support such disposal, based on the volumes to be disposed and the specific waste landfill's C of A requirements

7.0 CLOSURE AND STATEMENT OF LIMITATIONS

The recommendations made in this report are in accordance with Redstone's present understanding of the project, are based solely on the analysis of the samples obtained and do not represent acceptance or suitability of these materials on behalf of any intended receiving site. The subsurface investigation was performed in accordance with current, generally accepted guidelines. Should any conditions at the site be encountered which differ from those at the test hole locations as described herein, Redstone should be notified immediately in order to permit a reassessment of these recommendations and evaluate the need for further work.

The chemical results discussed herein provide chemical characterization of the soils tested and options for reuse and/or disposal based solely on those test results. The number of samples and/or the analytical parameters tested to date may not be sufficient to meet the requirements of a Record of Site Condition (RSC), or of sampling frequency and/or parameters per O.Reg.406/19 based on final volumes of excess soils generated, and receiving site(s) considered. The final stages of excess soil characterization will require confirmation of the excess soil volumes and proposed destination site(s), at which time any further testing and reporting required by O.Reg.406/19 should be done under the guidance of a QP as per MECP.

Should questions arise regarding any aspect of these documents, please contact Redstone's office.

Sincerely yours,

Garnet Brenchley, P.Eng.
Principal Engineer

Redstone Engineering Inc.

STATEMENT OF LIMITATIONS

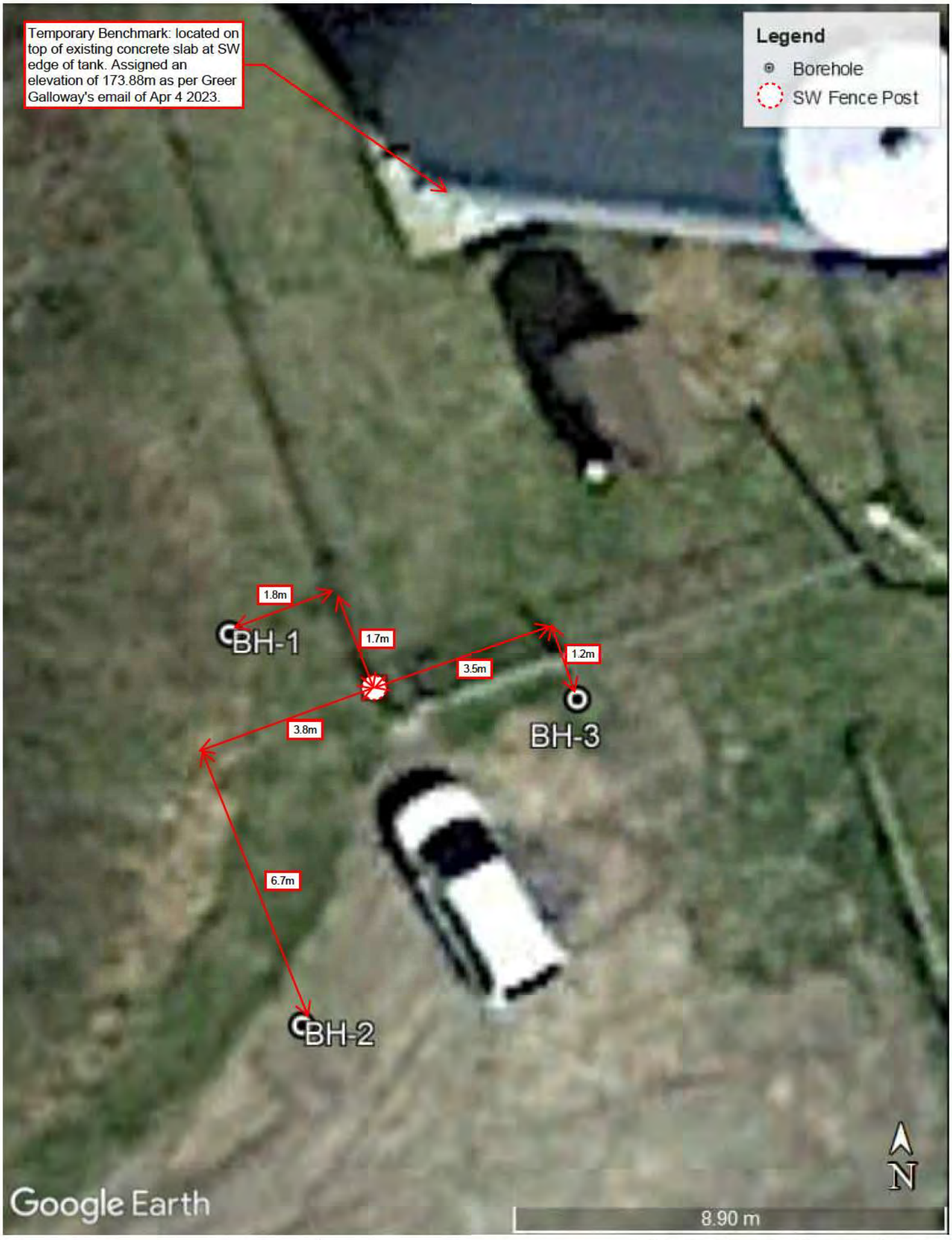
This report is intended solely for the Municipality of Trent Hills and other parties explicitly identified in the report and is prohibited for use by others without Redstone's prior written consent. This report is considered Redstone's professional work product and shall remain the sole property of Redstone. Any unauthorized reuse, redistribution of or reliance on the report shall be at the Client and recipient's sole risk, without liability to Redstone. Client shall defend, indemnify and hold Redstone harmless from any liability arising from or related to Client's unauthorized distribution of the report. No portion of this report may be used as a separate entity; it is to be read in its entirety and shall include all supporting drawings and appendices.

The recommendations made in this report are in accordance with our present understanding of the project, the current site use, ground surface elevations and conditions, and are based on the work scope approved by the Client and described in the report. The services were performed in a manner consistent with that level of care and skill ordinarily exercised by members of geotechnical engineering professions currently practicing under similar conditions in the same locality. No other representations, and no warranties or representations of any kind, either expressed or implied, are made. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties.

All details of design and construction are rarely known at the time of completion of a subsurface study. The recommendations and comments made in the study report are based on our subsurface investigation and resulting understanding of the project, as defined at the time of the study. We should be retained to review our recommendations when the drawings and specifications are complete. Without this review, Redstone will not be liable for any misunderstanding of our recommendations or their application and adaptation into the final design.

It is important to emphasize that a soil investigation is, in fact, a random sampling of a site and the comments included in this report are based on the results obtained at the three (3) borehole locations only. The subsurface conditions confirmed at these 3 locations may vary at other locations. The subsurface conditions can also be significantly modified by construction activities on site (ex. excavation, dewatering and drainage, blasting, pile driving, etc.). These conditions can also be modified by exposure of soils or bedrock to humidity, dry periods or frost. Soil and groundwater conditions between and beyond the test locations may differ both horizontally and vertically from those encountered at the test locations and conditions may become apparent during construction which could not be detected or anticipated at the time of our investigation. Should any conditions at the site be encountered which differ from those found at the test locations, we request that we be notified immediately in order to permit a reassessment of our recommendations. If changed conditions are identified during construction, no matter how minor, the recommendations in this report shall be considered invalid until sufficient review and written assessment of said conditions by Redstone is completed.

FIGURES



Redstone Engineering 1086 Hayes Line Cavan, Ontario 705-768-9042 www.redstoneeng.ca	Drawing Title BOREHOLE LOCATION PLAN HASTINGS STANDPIPE REPLACEMENT DIVISION STREET EAST, HASTINGS, ONTARIO	Orientation see North arrow (above)	Scale see scale bar (above)	Date Mar 2/23 By GB	Project #: 23R102 Figure #: 1

APPENDIX A

BOREHOLE LOGS

Redstone Engineering

BOREHOLE NO. BH-1

PROJECT NUMBER 23R102	**DRILLING COMPANY** G.E.T. Drilling	**COORDINATES** n/a
PROJECT NAME Hastings Standpipe Replaceme	**LICENCE #** 7085	**COORDINATE SYSTEM** n/a
CLIENT Municipality of Trent Hills	**DRILLER** M. Turnbull	**GROUND SURFACE ELEV (m)** 173.6
SITE ADDRESS Division Street East	**DRILL RIG** Truck-mounted	**TOP OF WELL CASING ELEV (m)** n/a
. . . . . Hastings, Ontario	**DRILLING METHOD** see Comments below...	**TOTAL DEPTH (m)** 4.7
	DATE DRILLED February 16, 2023	**LOGGED BY** G.Brenchley, P.Eng.

Drilling Method: solid augers & split spoon (SS) sampler. Elevations based on assumed benchmark (assigned 173.88m elev, on existing tank slab)

Depth (m)	Drilling Method	Sample (Interval and Type)	SPT (N) value or TCR, SCR, RQD	Moisture Cont (%)	Groundwater	Well Monitor Details	Stratigraphy	Stratigraphic Description	Depth (m)	Additional Observations & Remarks	Elevation (m)
0	AU							TOPSOIL	0.2		173.5
		AS-1		14.9				FILL - brown Gravel and Sand with Organics and occasional Cobbles, damp			
0.5											173
		SS-2	17 (9,9,8,15)	8.7					0.8		
1								Grey / brown mottled Silt and Sand with Gravel, trace Cobbles, damp, compact			172.5
								TILL - grey / tan mottled Silty Gravel and Sand with trace to some Cobbles, dry to damp, compact	1.5		
1.5		SS-3	43 (12,20,23, 20)	4.2					1.7	SS-3: 35% Gravel, 43% Sand, 22% Silt and Clay	172
								Dense			
2											171.5
		SS-4	33 (13,13,20)	4.7							
2.5											171
									2.9		
3		SS-5	48 (10,18,30)	4.9				Increased Cobbles and/or Boulders (from grinding auger)		Below 2.9m: auger grinding and slowed down, inferred presence of Cobbles and/or Boulders	170.5
3.5											170
4										Upon completion of drilling: - no groundwater in borehole - borehole caved below about 4.2m	169.5
4.5									4.7		169
5								Borehole terminated at practical refusal to further augering. Presence of Boulder(s) inferred but not confirmed.			168.5
5.5											168
6											167.5

Redstone Engineering

BOREHOLE NO. BH-2

PROJECT NUMBER 23R102
PROJECT NAME Hastings Standpipe Replaceme
CLIENT Municipality of Trent Hills
SITE ADDRESS Division Street East
. . . . . Hastings, Ontario

DRILLING COMPANY G.E.T. Drilling
LICENCE # 7085
DRILLER M. Turnbull
DRILL RIG Truck-mounted
DRILLING METHOD see Comments below...
DATE DRILLED February 16, 2023

COORDINATES n/a
COORDINATE SYSTEM n/a
GROUND SURFACE ELEV (m) 173.5
TOP OF WELL CASING ELEV (m) n/a
TOTAL DEPTH (m) 5.6
LOGGED BY G.Brenchley, P.Eng.

Drilling Method: solid augers & split spoon (SS) sampler. Elevations based on assumed benchmark (assigned 173.88m elev, on existing tank slab)

Depth (m)	Drilling Method	Sample (Interval and Type)	SPT (N) value or TCR, SCR, RQD	Moisture Cont (%)	Groundwater	Well Monitor Details	Stratigraphy	Stratigraphic Description	Depth (m)	Additional Observations & Remarks	Elevation (m)
0	AU	AS-1		5.3				FILL (30mm) - brown Sand and Gravel with Organics and occasional Cobbles, damp	0.03		173.5
								ASPHALT (50mm)	0.08		
								FILL - brown Gravel and Sand with occasional Cobbles, damp	0.3		
0.5								Grey / dark grey mottled Silt and Sand with Gravel, trace Organics, damp, compact			173
1		SS-2	12 (7,6,6,9)	6.0							172.5
1.5		SS-3	22 (2,16,6)					Loose to compact	1.5		172
2											171.5
2.5		SS-4	14 (10,6,8)	2.9				TILL (possible Fill / Disturbed / Reworked Till) - grey Silty Sand and Gravel, damp, compact	2.3		171
3		SS-5	43 (33,16,37)	3.5				Till - grey Silty Sand with Gravel, occasional Cobbles, dry to damp, dense	3.0		170.5
3.5											170
4									4.1		169.5
4.5		SS-6	100 (50=6")	2.2				Increased Cobbles and/or Boulders (from grinding auger)		Below 4.1m: auger grinding and slowed down, inferred presence of Cobbles and/or Boulders	169
5										Upon completion of drilling: - no groundwater in borehole - borehole caved below about 4.3m	168.5
5.5									5.6		168
6								Borehole terminated at practical refusal to further augering. Presence of Boulder(s) inferred but not confirmed.			167.5

Redstone Engineering

BOREHOLE NO. BH-3

PROJECT NUMBER 23R102	**DRILLING COMPANY** G.E.T. Drilling	**COORDINATES** n/a
PROJECT NAME Hastings Standpipe Replaceme	**LICENCE #** 7085	**COORDINATE SYSTEM** n/a
CLIENT Municipality of Trent Hills	**DRILLER** M. Turnbull	**GROUND SURFACE ELEV (m)** 173.8
SITE ADDRESS Division Street East	**DRILL RIG** Truck-mounted	**TOP OF WELL CASING ELEV (m)** n/a
. . . . . Hastings, Ontario	**DRILLING METHOD** see Comments below...	**TOTAL DEPTH (m)** 13.3
	DATE DRILLED February 16, 2023	**LOGGED BY** G.Brenchley, P.Eng.

Drilling Method: solid augers & split spoon (SS) sampler. Elevations based on assumed benchmark (assigned 173.88m elev, on existing tank slab)

Depth (m)	Drilling Method	Sample (Interval and Type)	SPT (N) value or TCR, SCR, RQD	Moisture Cont (%)	Groundwater	Well Monitor Details	Stratigraphy	Stratigraphic Description	Depth (m)	Additional Observations & Remarks	Elevation (m)
0	AU	AS-1		3.7				TOPSOIL	0.15	AS-1: 53% Gravel, 41% Sand, 6% Silt and Clay	173
								FILL - brown Gravel and Sand with trace Silt, trace Organics with rootlets, dry to damp	0.9		
1		SS-2	28 (3,10,18)	6.4				TILL - grey Sandy Gravel with trace to some Silt, occasional Cobbles and Boulders, damp, compact			
		SS-3	29 (12,11,18)	2.0						SS-3: 69% Gravel, 23% Sand, 8% Silt and Clay	172
2		SS-4	30 (9,15,15)	2.9					2.4		
								Dense	3.1		171
3		SS-5	100 (22, 50=6")	5.8				Very dense, increased Cobbles and/or Boulders (from auger grinding)			
4										Below 3.5m: auger grinding and slowed down, inferred presence of Cobbles and/or Boulders	170
5											169
6		SS-6	100 (50=6")	4.4					6.1		168
								Increased Sand, trace Clay			
7											167
8											166
9		SS-7	>100 (50=4")	3.5					9.1	Upon encountering refusal and prior to initiating coring: - no groundwater in borehole - borehole open	165
								Dark grey, moist			
10									10.2		164
	NQ	NQ-8	TCR=39% SCR=11% RQD=6%					Till inferred from core samples retrieved exhibiting silt and clay residue on core fragments of numerous Cobbles and Boulders		Practical refusal to further auger advancement encountered at 10.2m. Diamond coring initiated, advanced to 13.3m.	
11											163
12		NQ-9	TCR=28% SCR=25% RQD=6%							Core samples retrieved indicate Till with numerous Cobbles and Boulders throughout	162
13									13.3		161
								Borehole terminated			

APPENDIX B

ASSESSMENT OF PAST USES (REFERENCE DOCUMENTS)

- ENVIRONMENTAL RISK INFORMATION SYSTEM (ERIS) DATABASE REPORT
- HISTORIC AERIAL PHOTOGRAPHS

ERIS

DATABASE REPORT

Project Property:	*Hastings Standpipe* *Hastings Standpipe* *Division St E, Hastings, Trent Hills ON K0L*
Project No:	
Report Type:	*Quote - Custom-Build Your Own Report*
Order No:	*23012500142*
Requested by:	*Redstone Engineering Inc.*
Date Completed:	*February 14, 2023*

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

Table of Contents

Executive Summary

Property Information:

Project Property:		*Hastings Standpipe* *Hastings Standpipe Division St E, Hastings, Trent Hills ON K0L*
Project No:		
Coordinates:		
	Latitude:	*44.3136028*
	Longitude:	*-77.9576848*
	UTM Northing:	*4,910,960.03*
	UTM Easting:	*264,120.18*
	UTM Zone:	*18T*
Elevation:		*658 FT* *200.44 M*

Order Information:

Order No:	*23012500142*
Date Requested:	*January 25, 2023*
Requested by:	*Redstone Engineering Inc.*
Report Type:	*Quote - Custom-Build Your Own Report*

Historical/Products:

Aerial Photographs	*Aerials - National Collection*
ERIS Xplorer	*ERIS Xplorer*

Executive Summary: Report Summary

Database	Name	Searched	Project Property	Within 0.25 km	Total
AAGR	Abandoned Aggregate Inventory	Y	0	0	0
AGR	Aggregate Inventory	Y	0	0	0
AMIS	Abandoned Mine Information System	Y	0	0	0
ANDR	Anderson's Waste Disposal Sites	Y	0	0	0
AST	Aboveground Storage Tanks	Y	0	0	0
AUWR	Automobile Wrecking & Supplies	Y	0	0	0
BORE	Borehole	Y	0	0	0
CA	Certificates of Approval	Y	0	1	1
CDRY	Dry Cleaning Facilities	Y	0	0	0
CFOT	Commercial Fuel Oil Tanks	Y	0	0	0
CHEM	Chemical Manufacturers and Distributors	Y	0	0	0
CHM	Chemical Register	Y	0	0	0
CNG	Compressed Natural Gas Stations	Y	0	0	0
COAL	Inventory of Coal Gasification Plants and Coal Tar Sites	Y	0	0	0
CONV	Compliance and Convictions	Y	0	0	0
CPU	Certificates of Property Use	Y	0	0	0
DRL	Drill Hole Database	Y	0	0	0
DTNK	Delisted Fuel Tanks	Y	0	0	0
EASR	Environmental Activity and Sector Registry	Y	0	0	0
EBR	Environmental Registry	Y	0	0	0
ECA	Environmental Compliance Approval	Y	0	1	1
EEM	Environmental Effects Monitoring	Y	0	0	0
EHS	ERIS Historical Searches	Y	0	0	0
EIIS	Environmental Issues Inventory System	Y	0	0	0
EMHE	Emergency Management Historical Event	Y	0	0	0
EPAR	Environmental Penalty Annual Report	Y	0	0	0
EXP	List of Expired Fuels Safety Facilities	Y	0	0	0
FCON	Federal Convictions	Y	0	0	0
FCS	Contaminated Sites on Federal Land	Y	0	0	0
FOFT	Fisheries & Oceans Fuel Tanks	Y	0	0	0
FRST	Federal Identification Registry for Storage Tank Systems (FIRSTS)	Y	0	0	0
FST	Fuel Storage Tank	Y	0	0	0
FSTH	Fuel Storage Tank - Historic	Y	0	0	0
GEN	Ontario Regulation 347 Waste Generators Summary	Y	0	3	3
GHG	Greenhouse Gas Emissions from Large Facilities	Y	0	0	0
HINC	TSSA Historic Incidents	Y	0	0	0
IAFT	Indian & Northern Affairs Fuel Tanks	Y	0	0	0

Database	Name	Searched	Project Property	Within 0.25 km	Total
INC	Fuel Oil Spills and Leaks	Y	0	0	0
LIMO	Landfill Inventory Management Ontario	Y	0	0	0
MINE	Canadian Mine Locations	Y	0	0	0
MNR	Mineral Occurrences	Y	0	0	0
NATE	National Analysis of Trends in Emergencies System (NATES)	Y	0	0	0
NCPL	Non-Compliance Reports	Y	0	0	0
NDFT	National Defense & Canadian Forces Fuel Tanks	Y	0	0	0
NDSP	National Defense & Canadian Forces Spills	Y	0	0	0
NDWD	National Defence & Canadian Forces Waste Disposal Sites	Y	0	0	0
NEBI	National Energy Board Pipeline Incidents	Y	0	0	0
NEBP	National Energy Board Wells	Y	0	0	0
NEES	National Environmental Emergencies System (NEES)	Y	0	0	0
NPCB	National PCB Inventory	Y	0	0	0
NPRI	National Pollutant Release Inventory	Y	0	0	0
OGWE	Oil and Gas Wells	Y	0	0	0
OOGW	Ontario Oil and Gas Wells	Y	0	0	0
OPCB	Inventory of PCB Storage Sites	Y	0	0	0
ORD	Orders	Y	0	0	0
PAP	Canadian Pulp and Paper	Y	0	0	0
PCFT	Parks Canada Fuel Storage Tanks	Y	0	0	0
PES	Pesticide Register	Y	0	5	5
PINC	Pipeline Incidents	Y	0	0	0
PRT	Private and Retail Fuel Storage Tanks	Y	0	0	0
PTTW	Permit to Take Water	Y	0	0	0
REC	Ontario Regulation 347 Waste Receivers Summary	Y	0	0	0
RSC	Record of Site Condition	Y	0	0	0
RST	Retail Fuel Storage Tanks	Y	0	0	0
SCT	Scott's Manufacturing Directory	Y	0	0	0
SPL	Ontario Spills	Y	0	1	1
SRDS	Wastewater Discharger Registration Database	Y	0	0	0
TANK	Anderson's Storage Tanks	Y	0	0	0
TCFT	Transport Canada Fuel Storage Tanks	Y	0	0	0
VAR	Variances for Abandonment of Underground Storage Tanks	Y	0	0	0
WDS	Waste Disposal Sites - MOE CA Inventory	Y	0	0	0
WDSH	Waste Disposal Sites - MOE 1991 Historical Approval Inventory	Y	0	0	0
WWIS	Water Well Information System	Y	0	7	7
		Total:	0	18	18

Executive Summary: Site Report Summary - Project Property

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev diff (m)	Page Number

No records found in the selected databases for the project property.

Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev Diff (m)	Page Number
1	WWIS		ON **Well ID:** 4501100	SE/35.7	-1.58	15
2	CA	HASTINGS VILLAGE	DIVISION ST./VICTORIA ST. HASTINGS VILL. ON	WSW/78.8	0.86	17
3	PES	JONATHAN DANIEL COWAN O/A COWAN PEST CONTROL	129 VICTORIA ST HASTINGS ON K0L1Y0	W/126.3	3.39	18
3	PES	JONATHAN COWAN	219 victoria ST N hastings ON K0L 1Y0	W/126.3	3.39	18
3	PES	JONATHAN COWAN	129 victoria ST N hastings ON K0L 1Y0	W/126.3	3.39	18
3	PES		129 victoria ST N hastings ON K0L 1Y0	W/126.3	3.39	19
3	PES	JONATHAN COWAN	129 victoria ST N hastings ON K0L 1Y0	W/126.3	3.39	19
4	WWIS		ON **Well ID:** 4501089	ESE/132.8	-3.36	20
5	SPL	Section 21	65 Albert St. East Trent Hills ON	ESE/174.4	-4.61	22
6	ECA	The Corporation of the Municipality of Trent Hills	149 Victoria St N Trent Hills ON K0L 1L0	WNW/187.1	4.03	23
7	WWIS		ON **Well ID:** 4501121	W/199.9	-0.47	23
8	WWIS		ON	SW/212.6	-0.53	26

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev Diff (m)	Page Number
			Well ID: 4501122			
9	GEN	KAWARTHA PINE RIDGE DISTRICT SCHOOL BOARD	HASTINGS PUBLIC SCHOOL 25 ALBERT STREET HASTINGS ON K0L 1Y0	S/219.5	0.39	29
10	WWIS		ON ***Well ID:*** 4501124	W/219.8	-1.08	29
11	WWIS		ON ***Well ID:*** 4501092	ENE/220.8	-4.30	32
12	WWIS		ON ***Well ID:*** 4501101	WNW/236.7	5.80	35
13	GEN	MINISTRY OF THE ENVIRONMENT	79 VICTORIA ST. NORWOOD C/O P.O. BOX 510 TRENT DR. CAMPBELLFORD ON K0L 1L0	SSE/246.9	-1.76	37
13	GEN	MINISTRY OF THE ENVIRONMENT 25-631	79 VICTORIA ST. NORWOOD C/O P.O. BOX 510 TRENT DR. CAMPBELLFORD ON K0L 1L0	SSE/246.9	-1.76	38

Executive Summary: Summary By Data Source

CA - Certificates of Approval

A search of the CA database, dated 1985-Oct 30, 2011* has found that there are 1 CA site(s) within approximately 0.25 kilometers of the project property.

Equal/Higher Elevation	Address	Direction	Distance (m)	Map Key
HASTINGS VILLAGE	DIVISION ST./VICTORIA ST. HASTINGS VILL. ON	WSW	78.76	2

ECA - Environmental Compliance Approval

A search of the ECA database, dated Oct 2011- Dec 31, 2022 has found that there are 1 ECA site(s) within approximately 0.25 kilometers of the project property.

Equal/Higher Elevation	Address	Direction	Distance (m)	Map Key
The Corporation of the Municipality of Trent Hills	149 Victoria St N Trent Hills ON K0L 1L0	WNW	187.10	6

GEN - Ontario Regulation 347 Waste Generators Summary

A search of the GEN database, dated 1986-Oct 31, 2022 has found that there are 3 GEN site(s) within approximately 0.25 kilometers of the project property.

Equal/Higher Elevation	Address	Direction	Distance (m)	Map Key
KAWARTHA PINE RIDGE DISTRICT SCHOOL BOARD	HASTINGS PUBLIC SCHOOL 25 ALBERT STREET HASTINGS ON K0L 1Y0	S	219.47	9

Lower Elevation	Address	Direction	Distance (m)	Map Key
MINISTRY OF THE ENVIRONMENT 25-631	79 VICTORIA ST. NORWOOD C/O P. O.BOX 510 TRENT DR. CAMPBELLFORD ON K0L 1L0	SSE	246.90	13
MINISTRY OF THE ENVIRONMENT	79 VICTORIA ST. NORWOOD C/O P. O.BOX 510 TRENT DR. CAMPBELLFORD ON K0L 1L0	SSE	246.90	13

PES - Pesticide Register

A search of the PES database, dated Oct 2011- Dec 31, 2022 has found that there are 5 PES site(s) within approximately 0.25 kilometers of the project property.

Equal/Higher Elevation	Address	Direction	Distance (m)	Map Key
	129 victoria ST N hastings ON K0L 1Y0	W	126.29	3
JONATHAN COWAN	129 victoria ST N hastings ON K0L 1Y0	W	126.29	3
JONATHAN DANIEL COWAN O/A COWAN PEST CONTROL	129 VICTORIA ST HASTINGS ON K0L1Y0	W	126.29	3
JONATHAN COWAN	129 victoria ST N hastings ON K0L 1Y0	W	126.29	3
JONATHAN COWAN	219 victoria ST N hastings ON K0L 1Y0	W	126.29	3

SPL - Ontario Spills

A search of the SPL database, dated 1988-Sep 2020; Dec 2020-Mar 2021 has found that there are 1 SPL site(s) within approximately 0.25 kilometers of the project property.

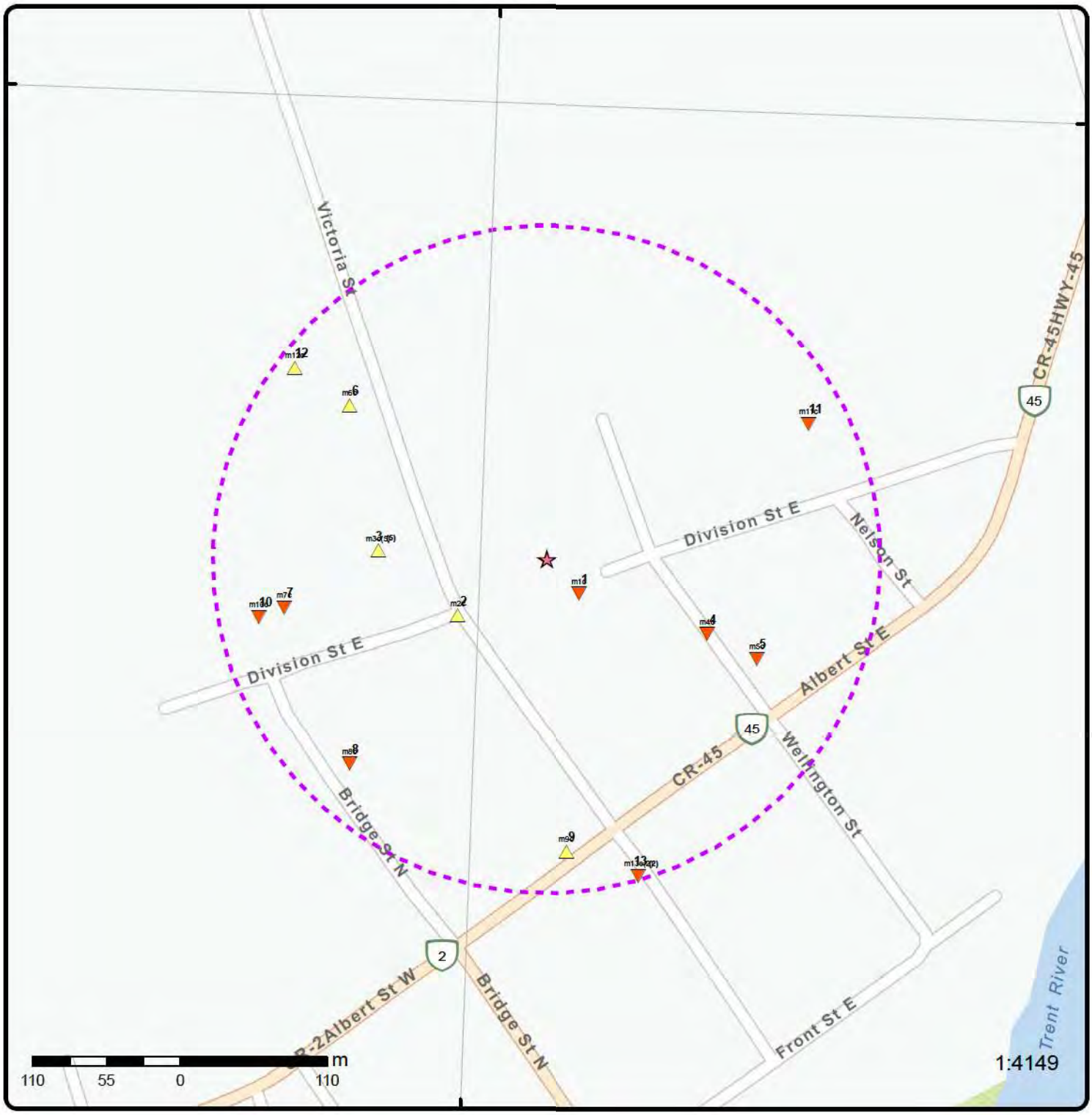
Lower Elevation	Address	Direction	Distance (m)	Map Key
Section 21	65 Albert St. East Trent Hills ON	ESE	174.40	5

WWIS - Water Well Information System

A search of the WWIS database, dated Jun 30 2022 has found that there are 7 WWIS site(s) within approximately 0.25 kilometers of the project property.

Equal/Higher Elevation	Address	Direction	Distance (m)	Map Key
	ON ***Well ID:*** 4501101	WNW	236.65	12

Lower Elevation	Address	Direction	Distance (m)	Map Key
	ON ***Well ID:*** 4501100	SE	35.69	1
	ON ***Well ID:*** 4501089	ESE	132.81	4
	ON ***Well ID:*** 4501121	W	199.86	7
	ON ***Well ID:*** 4501122	SW	212.60	8
	ON ***Well ID:*** 4501124	W	219.84	10
	ON ***Well ID:*** 4501092	ENE	220.85	11



Map: 0.25 Kilometer Radius

Order Number: 23012500142

Address: Hastings Standpipe, Division St E, Hastings, Trent Hills, ON

- Project Property
- Buffer Outline
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- Freeways; Highways
- Traffic Circle; Ramp
- Major Arterial; Minor Arterial
- Local Road
- Service Road; Traffic Circle; Ramp
- Rail
- Beach
- Airport
- Industrial Area
- Military Base
- Aircraft Roads
- Native Reservation
- Hospital
- Shopping & Sports Area
- University/College
- Cemetery; Golf Course
- Parkt (National)
- Park (City/County)

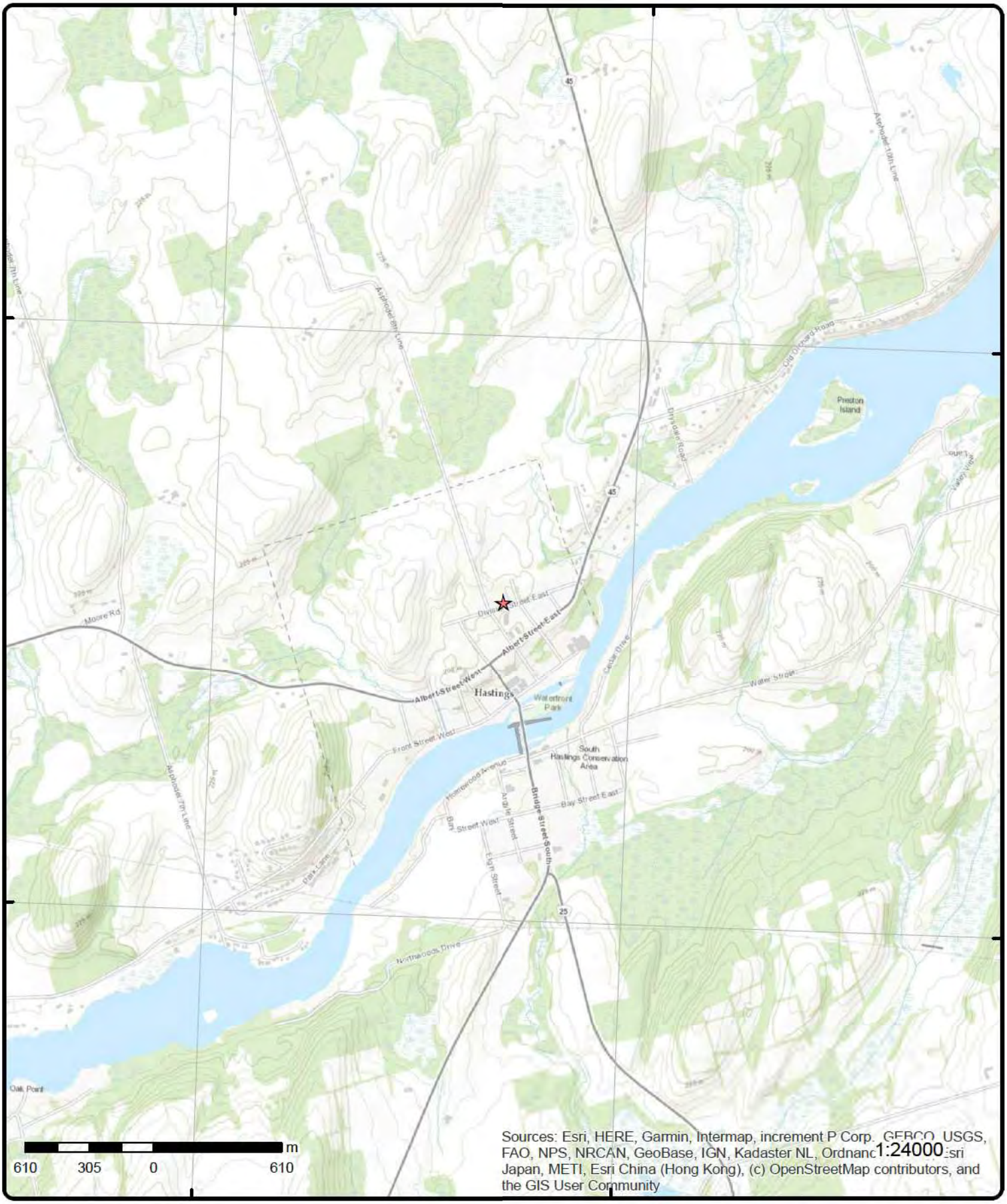
Aerial

Year: 2018

Order Number: 23012500142

Address: Hastings Standpipe, Division St E, Hastings, Trent Hills, ON

Source: ESRI World Imagery



Topographic Map

Order Number: 23012500142

Address: Hastings Standpipe, ON

Source: ESRI World Topographic Map

Detail Report

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
1	1 of 1	SE/35.7	198.9 / -1.58	ON	WWIS

Well ID:	4501100	**Flowing (Y/N):**	
Construction Date:		**Flow Rate:**	
Use 1st:	Domestic	**Data Entry Status:**	
Use 2nd:	0	**Data Src:**	1
Final Well Status:	Water Supply	**Date Received:**	18-Nov-1953 00:00:00
Water Type:		**Selected Flag:**	TRUE
Casing Material:		**Abandonment Rec:**	
Audit No:		**Contractor:**	3121
Tag:		**Form Version:**	1
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	NORTHUMBERLAND
Elevatn Reliabilty:		**Lot:**	
Depth to Bedrock:		**Concession:**	
Well Depth:		**Concession Name:**	
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	
Municipality:	HASTINGS VILLAGE		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/450\4501100.pdf

Additional Detail(s) (Map)

Well Completed Date:	1953/10/13
Year Completed:	1953
Depth (m):	17.9832
Latitude:	44.3133766486513
Longitude:	-77.9573672950223
Path:	450\4501100.pdf

Bore Hole Information

Bore Hole ID:	10280153	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	18
Code OB:		**East83:**	264144.60
Code OB Desc:		**North83:**	4910934.00
Open Hole:		**Org CS:**	
Cluster Kind:		**UTMRC:**	5
Date Completed:	13-Oct-1953 00:00:00	**UTMRC Desc:**	margin of error : 100 m - 300 m
Remarks:		**Location Method:**	p5
Loc Method Desc:	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	931896104
Layer:	1
Color:	7
General Color:	RED
Mat1:	05
Most Common Material:	CLAY
Mat2:	13
Mat2 Desc:	BOULDERS
Mat3:	
Mat3 Desc:	
Formation Top Depth:	0.0
Formation End Depth:	18.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	931896105
Layer:	2
Color:	2
General Color:	GREY
Mat1:	15
Most Common Material:	LIMESTONE
Mat2:	
Mat2 Desc:	
Mat3:	
Mat3 Desc:	
Formation Top Depth:	18.0
Formation End Depth:	59.0
Formation End Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964501100
Method Construction Code:	1
Method Construction:	Cable Tool
Other Method Construction:	

Pipe Information

Pipe ID:	10828723
Casing No:	1
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	930468053
Layer:	1
Material:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	20.0
Casing Diameter:	5.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Construction Record - Casing

Casing ID:	930468054
Layer:	2
Material:	4
Open Hole or Material:	OPEN HOLE
Depth From:	
Depth To:	59.0
Casing Diameter:	5.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Results of Well Yield Testing

Pumping Test Method Desc:	
Pump Test ID:	994501100
Pump Set At:	
Static Level:	34.0
Final Level After Pumping:	59.0
Recommended Pump Depth:	
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	
Water State After Test:	
Pumping Test Method:	
Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	No

Water Details

Water ID:	933750441
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	54.0
Water Found Depth UOM:	ft

Links

Bore Hole ID:	10280153	**Tag No:**	
Depth M:	17.9832	**Contractor:**	3121
Year Completed:	1953	**Path:**	450\4501100.pdf
Well Completed Dt:	1953/10/13	**Latitude:**	44.3133766486513
Audit No:		**Longitude:**	-77.9573672950223

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
2	1 of 1	WSW/78.8	201.3 / 0.86	HASTINGS VILLAGE DIVISION ST./VICTORIA ST. HASTINGS VILL. ON	CA

Certificate #:	7-0110-94-
Application Year:	94
Issue Date:	3/14/1994
Approval Type:	Municipal water
Status:	Approved
Application Type:	
Client Name:	
Client Address:	
Client City:	
Client Postal Code:	

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

Project Description:
Contaminants:
Emission Control:

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3 **1 of 5** **W/126.3** **203.8 / 3.39**

JONATHAN DANIEL COWAN O/A COWAN PEST CONTROL
129 VICTORIA ST
HASTINGS ON K0L1Y0

PES

Detail Licence No:		**Operator Box:**	
Licence No:	10179	**Operator Class:**	
Status:		**Operator No:**	
Approval Date:		**Operator Type:**	
Report Source:	Legacy Licenses (Excluding TS)	**Oper Area Code:**	705
Licence Type:	Operator	**Oper Phone No:**	9171185
Licence Type Code:	02	**Operator Ext:**	
Licence Class:	01	**Operator Lot:**	
Licence Control:		**Oper Concession:**	
Latitude:		**Operator Region:**	
Longitude:		**Operator District:**	
Lot:		**Operator County:**	
Concession:		**Op Municipality:**	
Region:		**Post Office Box:**	
District:		**MOE District:**	
County:		**SWP Area Name:**	
Trade Name:			
PDF URL:			

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3 **2 of 5** **W/126.3** **203.8 / 3.39**

JONATHAN COWAN
219 victoria ST N
hastings ON K0L 1Y0

PES

Detail Licence No:		**Operator Box:**	
Licence No:	L-240-3038565326	**Operator Class:**	
Status:	Active	**Operator No:**	
Approval Date:	2019-12-02	**Operator Type:**	
Report Source:	PEST-Operator	**Oper Area Code:**	
Licence Type:	Operator	**Oper Phone No:**	
Licence Type Code:		**Operator Ext:**	
Licence Class:		**Operator Lot:**	
Licence Control:		**Oper Concession:**	
Latitude:	44.30083333	**Operator Region:**	
Longitude:	-77.80694444	**Operator District:**	
Lot:		**Operator County:**	
Concession:		**Op Municipality:**	
Region:		**Post Office Box:**	
District:		**MOE District:**	Peterborough
County:		**SWP Area Name:**	Lower Trent
Trade Name:			
PDF URL:	http://www.accessenvironment.ene.gov.on.ca/AEWeb/ae/ViewDocument.action?documentRefID=2196700		

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3 **3 of 5** **W/126.3** **203.8 / 3.39**

JONATHAN COWAN
129 victoria ST N
hastings ON K0L 1Y0

PES

Detail Licence No:		**Operator Box:**	
Licence No:	L-240-3038565326	**Operator Class:**	
Status:	Active	**Operator No:**	
Approval Date:	2020-12-08	**Operator Type:**	
Report Source:	PEST-Operator	**Oper Area Code:**	

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

Licence Type:	Operator			**Oper Phone No:**	
Licence Type Code:				**Operator Ext:**	
Licence Class:				**Operator Lot:**	
Licence Control:				**Oper Concession:**	
Latitude:	44.31361111			**Operator Region:**	
Longitude:	-77.95916667			**Operator District:**	
Lot:				**Operator County:**	
Concession:				**Op Municipality:**	
Region:				**Post Office Box:**	
District:				**MOE District:**	Peterborough
County:				**SWP Area Name:**	Otonabee-Peterborough
Trade Name:					
PDF URL:	http://www.accessenvironment.ene.gov.on.ca/AEWeb/ae/ViewDocument.action?documentRefID=2313206				

3	4 of 5	W/126.3	203.8 / 3.39	129 victoria ST N hastings ON K0L 1Y0	PES

Detail Licence No:				**Operator Box:**	
Licence No:	L-240-3038565326			**Operator Class:**	
Status:	Active			**Operator No:**	
Approval Date:	December, 15 2021			**Operator Type:**	
Report Source:	PEST-Operator			**Oper Area Code:**	
Licence Type:	Operator			**Oper Phone No:**	
Licence Type Code:				**Operator Ext:**	
Licence Class:				**Operator Lot:**	
Licence Control:				**Oper Concession:**	
Latitude:	44.31361111			**Operator Region:**	
Longitude:	-77.95916667			**Operator District:**	
Lot:				**Operator County:**	
Concession:				**Op Municipality:**	
Region:				**Post Office Box:**	
District:				**MOE District:**	Peterborough
County:				**SWP Area Name:**	Otonabee-Peterborough
Trade Name:					
PDF URL:	http://www.accessenvironment.ene.gov.on.ca/AEWeb/ae/ViewDocument.action?documentRefID=2543646				

3	5 of 5	W/126.3	203.8 / 3.39	JONATHAN COWAN 129 victoria ST N hastings ON K0L 1Y0	PES

Detail Licence No:				**Operator Box:**	
Licence No:	L-240-8206296108			**Operator Class:**	
Status:	Active			**Operator No:**	
Approval Date:	January 3, 2023			**Operator Type:**	
Report Source:	PEST-Operator			**Oper Area Code:**	
Licence Type:	Operator			**Oper Phone No:**	
Licence Type Code:				**Operator Ext:**	
Licence Class:				**Operator Lot:**	
Licence Control:				**Oper Concession:**	
Latitude:	44.31361111			**Operator Region:**	
Longitude:	-77.95916667			**Operator District:**	
Lot:				**Operator County:**	
Concession:				**Op Municipality:**	
Region:				**Post Office Box:**	
District:				**MOE District:**	Peterborough
County:				**SWP Area Name:**	Otonabee-Peterborough
Trade Name:					
PDF URL:	http://www.accessenvironment.ene.gov.on.ca/AEWeb/ae/ViewDocument.action?documentRefID=2823862				

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
4	1 of 1	ESE/132.8	197.1 / -3.36	ON	WWIS

Well ID:	4501089	**Flowing (Y/N):**	
Construction Date:		**Flow Rate:**	
Use 1st:	Public	**Data Entry Status:**	
Use 2nd:	0	**Data Src:**	1
Final Well Status:	Water Supply	**Date Received:**	26-Sep-1951 00:00:00
Water Type:		**Selected Flag:**	TRUE
Casing Material:		**Abandonment Rec:**	
Audit No:		**Contractor:**	2116
Tag:		**Form Version:**	1
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	NORTHUMBERLAND
Elevatn Reliabilty:		**Lot:**	
Depth to Bedrock:		**Concession:**	
Well Depth:		**Concession Name:**	
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	
Municipality:	HASTINGS VILLAGE		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/450\4501089.pdf

Additional Detail(s) (Map)

Well Completed Date:	1951/04/13
Year Completed:	1951
Depth (m):	12.192
Latitude:	44.3131380626414
Longitude:	-77.956151599712
Path:	450\4501089.pdf

Bore Hole Information

Bore Hole ID:	10280142	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	18
Code OB:		**East83:**	264240.60
Code OB Desc:		**North83:**	4910904.00
Open Hole:		**Org CS:**	
Cluster Kind:		**UTMRC:**	5
Date Completed:	13-Apr-1951 00:00:00	**UTMRC Desc:**	margin of error : 100 m - 300 m
Remarks:		**Location Method:**	p5
Loc Method Desc:	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	931896081
Layer:	3
Color:	
General Color:	
Mat1:	15
Most Common Material:	LIMESTONE

Mat2:
Mat2 Desc:
Mat3:
Mat3 Desc:
Formation Top Depth: 15.0
Formation End Depth: 40.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 931896079
Layer: 1
Color:
General Color:
Mat1: 02
Most Common Material: TOPSOIL
Mat2:
Mat2 Desc:
Mat3:
Mat3 Desc:
Formation Top Depth: 0.0
Formation End Depth: 2.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 931896080
Layer: 2
Color:
General Color:
Mat1: 28
Most Common Material: SAND
Mat2: 11
Mat2 Desc: GRAVEL
Mat3:
Mat3 Desc:
Formation Top Depth: 2.0
Formation End Depth: 15.0
Formation End Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 964501089
Method Construction Code: 1
Method Construction: Cable Tool
Other Method Construction:

Pipe Information

Pipe ID: 10828712
Casing No: 1
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 930468033
Layer: 2
Material: 4

Open Hole or Material:	OPEN HOLE
Depth From:	
Depth To:	40.0
Casing Diameter:	8.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Construction Record - Casing

Casing ID:	930468032
Layer:	1
Material:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	17.0
Casing Diameter:	8.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Results of Well Yield Testing

Pumping Test Method Desc:	PUMP
Pump Test ID:	994501089
Pump Set At:	
Static Level:	13.0
Final Level After Pumping:	17.0
Recommended Pump Depth:	
Pumping Rate:	20.0
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	1
Pumping Duration HR:	4
Pumping Duration MIN:	0
Flowing:	No

Water Details

Water ID:	933750430
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	35.0
Water Found Depth UOM:	ft

Links

Bore Hole ID:	10280142	**Tag No:**	
Depth M:	12.192	**Contractor:**	2116
Year Completed:	1951	**Path:**	450\4501089.pdf
Well Completed Dt:	1951/04/13	**Latitude:**	44.3131380626414
Audit No:		**Longitude:**	-77.956151599712

5	1 of 1	ESE/174.4	195.8 / -4.61	**Section 21** **65 Albert St. East** **Trent Hills ON**	SPL

Ref No:	6171-9N3G2F	**Discharger Report:**	
Site No:	NA	**Material Group:**	

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

Incident Dt:	2014/08/17	**Health/Env Conseq:**	
Year:		**Client Type:**	
Incident Cause:	Collision/Accident	**Sector Type:**	Truck - Only Saddle Tanks
Incident Event:		**Agency Involved:**	
Contaminant Code:	13	**Nearest Watercourse:**	
Contaminant Name:	DIESEL FUEL	**Site Address:**	65 Albert St. East
Contaminant Limit 1:		**Site District Office:**	
Contam Limit Freq 1:		**Site Postal Code:**	
Contaminant UN No 1:		**Site Region:**	
Environment Impact:	Confirmed	**Site Municipality:**	Trent Hills
Nature of Impact:	Soil Contamination	**Site Lot:**	
Receiving Medium:		**Site Conc:**	
Receiving Env:		**Northing:**	
MOE Response:	Planned Field Response	**Easting:**	
Dt MOE Arvl on Scn:		**Site Geo Ref Accu:**	
MOE Reported Dt:	2014/08/17	**Site Map Datum:**	
Dt Document Closed:		**SAC Action Class:**	Highway Spills (usually highway accidents)
Incident Reason:	Other	**Source Type:**	
Site Name:	65 Albert St. East<UNOFFICIAL>		
Site County/District:			
Site Geo Ref Meth:			
Incident Summary:	TT MVA: 150 L diesel to road, 5L to cb		
Contaminant Qty:	155 L		

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6 | **1 of 1** | **WNW/187.1** | **204.5 / 4.03** | **The Corporation of the Municipality of Trent Hills**
149 Victoria St N
Trent Hills ON K0L 1L0 | **ECA**

Approval No:	0592-B37PGW	**MOE District:**	
Approval Date:	2018-08-01	**City:**	
Status:	Approved	**Longitude:**	
Record Type:	ECA	**Latitude:**	
Link Source:	IDS	**Geometry X:**	
SWP Area Name:		**Geometry Y:**	
Approval Type:	ECA-MUNICIPAL AND PRIVATE SEWAGE WORKS		
Project Type:	MUNICIPAL AND PRIVATE SEWAGE WORKS		
Business Name:	The Corporation of the Municipality of Trent Hills		
Address:	149 Victoria St N		
Full Address:			
Full PDF Link:	https://www.accessenvironment.ene.gov.on.ca/instruments/9757-AZQLCQ-13.pdf		
PDF Site Location:			

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7 | **1 of 1** | **W/199.9** | **200.0 / -0.47** | **ON** | **WWIS**

Well ID:	4501121	**Flowing (Y/N):**	
Construction Date:		**Flow Rate:**	
Use 1st:	Domestic	**Data Entry Status:**	
Use 2nd:	0	**Data Src:**	1
Final Well Status:	Water Supply	**Date Received:**	05-Feb-1959 00:00:00
Water Type:		**Selected Flag:**	TRUE
Casing Material:		**Abandonment Rec:**	
Audit No:		**Contractor:**	2104
Tag:		**Form Version:**	1
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	NORTHUMBERLAND
Elevatn Reliabilty:		**Lot:**	
Depth to Bedrock:		**Concession:**	
Well Depth:		**Concession Name:**	
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	

Clear/Cloudy:
Municipality: HASTINGS VILLAGE
Site Info:
UTM Reliability:

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/450\4501121.pdf

Additional Detail(s) (Map)

Well Completed Date: 1958/09/11
Year Completed: 1958
Depth (m): 23.7744
Latitude: 44.3132149939026
Longitude: -77.9601301973666
Path: 450\4501121.pdf

Bore Hole Information

Bore Hole ID: 10280174
DP2BR:
Spatial Status:
Code OB:
Code OB Desc:
Open Hole:
Cluster Kind:
Date Completed: 11-Sep-1958 00:00:00
Remarks:
Loc Method Desc: Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Elevation:
Elevrc:
Zone: 18
East83: 263923.60
North83: 4910924.00
Org CS:
UTMRC: 5
UTMRC Desc: margin of error : 100 m - 300 m
Location Method: p5

Overburden and Bedrock Materials Interval

Formation ID: 931896144
Layer: 2
Color: 6
General Color: BROWN
Mat1: 05
Most Common Material: CLAY
Mat2: 12
Mat2 Desc: STONES
Mat3:
Mat3 Desc:
Formation Top Depth: 1.0
Formation End Depth: 26.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 931896143
Layer: 1
Color:
General Color:
Mat1: 02
Most Common Material: TOPSOIL
Mat2:
Mat2 Desc:

Mat3:
Mat3 Desc:
Formation Top Depth: 0.0
Formation End Depth: 1.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 931896145
Layer: 3
Color:
General Color:
Mat1: 15
Most Common Material: LIMESTONE
Mat2:
Mat2 Desc:
Mat3:
Mat3 Desc:
Formation Top Depth: 26.0
Formation End Depth: 78.0
Formation End Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 964501121
Method Construction Code: 1
Method Construction: Cable Tool
Other Method Construction:

Pipe Information

Pipe ID: 10828744
Casing No: 1
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 930468093
Layer: 1
Material: 1
Open Hole or Material: STEEL
Depth From:
Depth To: 26.0
Casing Diameter: 6.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Construction Record - Casing

Casing ID: 930468094
Layer: 2
Material: 1
Open Hole or Material: STEEL
Depth From:
Depth To: 78.0
Casing Diameter: 6.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Results of Well Yield Testing

Pumping Test Method Desc:	PUMP
Pump Test ID:	994501121
Pump Set At:	
Static Level:	22.0
Final Level After Pumping:	68.0
Recommended Pump Depth:	
Pumping Rate:	3.0
Flowing Rate:	
Recommended Pump Rate:	3.0
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	1
Pumping Duration HR:	5
Pumping Duration MIN:	0
Flowing:	No

Water Details

Water ID:	933750461
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	78.0
Water Found Depth UOM:	ft

Links

Bore Hole ID:	10280174	***Tag No:***	
Depth M:	23.7744	***Contractor:***	2104
Year Completed:	1958	***Path:***	450\4501121.pdf
Well Completed Dt:	1958/09/11	***Latitude:***	44.3132149939026
Audit No:		***Longitude:***	-77.9601301973666

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8 ***1 of 1*** ***SW/212.6*** ***199.9 / -0.53*** ***ON*** ***WWIS***

Well ID:	4501122	***Flowing (Y/N):***	
Construction Date:		***Flow Rate:***	
Use 1st:	Domestic	***Data Entry Status:***	
Use 2nd:	0	***Data Src:***	1
Final Well Status:	Water Supply	***Date Received:***	24-Nov-1958 00:00:00
Water Type:		***Selected Flag:***	TRUE
Casing Material:		***Abandonment Rec:***	
Audit No:		***Contractor:***	4811
Tag:		***Form Version:***	1
Constructn Method:		***Owner:***	
Elevation (m):		***County:***	NORTHUMBERLAND
Elevatn Reliabilty:		***Lot:***	
Depth to Bedrock:		***Concession:***	
Well Depth:		***Concession Name:***	
Overburden/Bedrock:		***Easting NAD83:***	
Pump Rate:		***Northing NAD83:***	
Static Water Level:		***Zone:***	
Clear/Cloudy:		***UTM Reliability:***	
Municipality:	HASTINGS VILLAGE		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/450\4501122.pdf

Additional Detail(s) (Map)

Well Completed Date:	1958/11/18
Year Completed:	1958
Depth (m):	28.0416
Latitude:	44.3121789614757
Longitude:	-77.9594636943444
Path:	450\4501122.pdf

Bore Hole Information

Bore Hole ID:	10280175	***Elevation:***	
DP2BR:		***Elevrc:***	
Spatial Status:		***Zone:***	18
Code OB:		***East83:***	263972.60
Code OB Desc:		***North83:***	4910807.00
Open Hole:		***Org CS:***	
Cluster Kind:		***UTMRC:***	9
Date Completed:	18-Nov-1958 00:00:00	***UTMRC Desc:***	unknown UTM
Remarks:		***Location Method:***	p9
Loc Method Desc:	Original Pre1985 UTM Rel Code 9: unknown UTM		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	931896146
Layer:	1
Color:	
General Color:	
Mat1:	28
Most Common Material:	SAND
Mat2:	
Mat2 Desc:	
Mat3:	
Mat3 Desc:	
Formation Top Depth:	0.0
Formation End Depth:	30.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	931896147
Layer:	2
Color:	
General Color:	
Mat1:	15
Most Common Material:	LIMESTONE
Mat2:	
Mat2 Desc:	
Mat3:	
Mat3 Desc:	
Formation Top Depth:	30.0
Formation End Depth:	92.0
Formation End Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964501122
Method Construction Code:	1
Method Construction:	Cable Tool
Other Method Construction:	

Pipe Information

Pipe ID:	10828745
Casing No:	1
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	930468095
Layer:	1
Material:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	30.0
Casing Diameter:	5.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Construction Record - Casing

Casing ID:	930468096
Layer:	2
Material:	4
Open Hole or Material:	OPEN HOLE
Depth From:	
Depth To:	92.0
Casing Diameter:	5.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Results of Well Yield Testing

Pumping Test Method Desc:	
Pump Test ID:	994501122
Pump Set At:	
Static Level:	30.0
Final Level After Pumping:	90.0
Recommended Pump Depth:	
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	
Pumping Duration HR:	1
Pumping Duration MIN:	0
Flowing:	No

Water Details

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

Water ID: 933750462
Layer: 1
Kind Code: 1
Kind: FRESH
Water Found Depth: 90.0
Water Found Depth UOM: ft

Links

Bore Hole ID: 10280175
Depth M: 28.0416
Year Completed: 1958
Well Completed Dt: 1958/11/18
Audit No:
Tag No:
Contractor: 4811
Path: 450\4501122.pdf
Latitude: 44.3121789614757
Longitude: -77.9594636943444

9	1 of 1	S/219.5	200.8 / 0.39	KAWARTHA PINE RIDGE DISTRICT SCHOOL BOARD HASTINGS PUBLIC SCHOOL 25 ALBERT STREET HASTINGS ON K0L 1Y0	GEN

Generator No: ON0268834
SIC Code:
SIC Description:
Approval Years: 02,03,04
PO Box No:
Country:
Status:
Co Admin:
Choice of Contact:
Phone No Admin:
Contaminated Facility:
MHSW Facility:

Detail(s)

Waste Class: 252
Waste Class Name: WASTE OILS & LUBRICANTS

10	1 of 1	W/219.8	199.4 / -1.08	ON	WWIS

Well ID: 4501124
Construction Date:
Use 1st: Domestic
Use 2nd: 0
Final Well Status: Water Supply
Water Type:
Casing Material:
Audit No:
Tag:
Constructn Method:
Elevation (m):
Elevatn Reliabilty:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:
Pump Rate:
Static Water Level:
Clear/Cloudy:
Municipality: HASTINGS VILLAGE
Site Info:
Flowing (Y/N):
Flow Rate:
Data Entry Status:
Data Src: 1
Date Received: 29-Jan-1959 00:00:00
Selected Flag: TRUE
Abandonment Rec:
Contractor: 4811
Form Version: 1
Owner:
County: NORTHUMBERLAND
Lot:
Concession:
Concession Name:
Easting NAD83:
Northing NAD83:
Zone:
UTM Reliability:

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/450\4501124.pdf

Additional Detail(s) (Map)

Well Completed Date: 1958/12/02
Year Completed: 1958
Depth (m): 17.0688
Latitude: 44.3131458858293
Longitude: -77.9603649533093
Path: 450\4501124.pdf

Bore Hole Information

Bore Hole ID: 10280177
DP2BR:
Spatial Status:
Code OB:
Code OB Desc:
Open Hole:
Cluster Kind:
Date Completed: 02-Dec-1958 00:00:00
Remarks:
Loc Method Desc: Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Elevation:
Elevrc:
Zone: 18
East83: 263904.60
North83: 4910917.00
Org CS:
UTMRC: 5
UTMRC Desc: margin of error : 100 m - 300 m
Location Method: p5

Overburden and Bedrock Materials Interval

Formation ID: 931896150
Layer: 1
Color:
General Color:
Mat1: 23
Most Common Material: PREVIOUSLY DUG
Mat2:
Mat2 Desc:
Mat3:
Mat3 Desc:
Formation Top Depth: 0.0
Formation End Depth: 28.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 931896151
Layer: 2
Color:
General Color:
Mat1: 15
Most Common Material: LIMESTONE
Mat2:
Mat2 Desc:
Mat3:
Mat3 Desc:
Formation Top Depth: 28.0

Formation End Depth:	56.0
Formation End Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964501124
Method Construction Code:	1
Method Construction:	Cable Tool
Other Method Construction:	

Pipe Information

Pipe ID:	10828747
Casing No:	1
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	930468100
Layer:	2
Material:	4
Open Hole or Material:	OPEN HOLE
Depth From:	
Depth To:	56.0
Casing Diameter:	5.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Construction Record - Casing

Casing ID:	930468099
Layer:	1
Material:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	30.0
Casing Diameter:	5.0
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Results of Well Yield Testing

Pumping Test Method Desc:	
Pump Test ID:	994501124
Pump Set At:	
Static Level:	40.0
Final Level After Pumping:	56.0
Recommended Pump Depth:	44.0
Pumping Rate:	2.0
Flowing Rate:	
Recommended Pump Rate:	1.0
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	
Pumping Duration HR:	1
Pumping Duration MIN:	0
Flowing:	No

Water Details

Water ID:	933750464
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	43.0
Water Found Depth UOM:	ft

Links

Bore Hole ID:	10280177	***Tag No:***	
Depth M:	17.0688	***Contractor:***	4811
Year Completed:	1958	***Path:***	450\4501124.pdf
Well Completed Dt:	1958/12/02	***Latitude:***	44.3131458858293
Audit No:		***Longitude:***	-77.9603649533093

11 **1 of 1** **ENE/220.8** **196.1 / -4.30** **ON** **WWIS**

Well ID:	4501092	***Flowing (Y/N):***	
Construction Date:		***Flow Rate:***	
Use 1st:	Domestic	***Data Entry Status:***	
Use 2nd:	0	***Data Src:***	1
Final Well Status:	Water Supply	***Date Received:***	12-Jul-1951 00:00:00
Water Type:		***Selected Flag:***	TRUE
Casing Material:		***Abandonment Rec:***	
Audit No:		***Contractor:***	2116
Tag:		***Form Version:***	1
Constructn Method:		***Owner:***	
Elevation (m):		***County:***	NORTHUMBERLAND
Elevatn Reliabilty:		***Lot:***	
Depth to Bedrock:		***Concession:***	
Well Depth:		***Concession Name:***	
Overburden/Bedrock:		***Easting NAD83:***	
Pump Rate:		***Northing NAD83:***	
Static Water Level:		***Zone:***	
Clear/Cloudy:		***UTM Reliability:***	
Municipality:	HASTINGS VILLAGE		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/450\4501092.pdf

Additional Detail(s) (Map)

Well Completed Date:	1951/07/12
Year Completed:	1951
Depth (m):	9.4488
Latitude:	44.3145742994029
Longitude:	-77.9552708095619
Path:	450\4501092.pdf

Bore Hole Information

Bore Hole ID:	10280145	***Elevation:***	
DP2BR:		***Elevrc:***	
Spatial Status:		***Zone:***	18
Code OB:		***East83:***	264316.60
Code OB Desc:		***North83:***	4911061.00
Open Hole:		***Org CS:***	
Cluster Kind:		***UTMRC:***	5
Date Completed:	12-Jul-1951 00:00:00	***UTMRC Desc:***	margin of error : 100 m - 300 m

Remarks: ***Location Method:*** p5
Loc Method Desc: Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Overburden and Bedrock Materials Interval

Formation ID: 931896086
Layer: 1
Color:
General Color:
Mat1: 02
Most Common Material: TOPSOIL
Mat2:
Mat2 Desc:
Mat3:
Mat3 Desc:
Formation Top Depth: 0.0
Formation End Depth: 2.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 931896087
Layer: 2
Color:
General Color:
Mat1: 05
Most Common Material: CLAY
Mat2: 12
Mat2 Desc: STONES
Mat3:
Mat3 Desc:
Formation Top Depth: 2.0
Formation End Depth: 15.0
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 931896088
Layer: 3
Color:
General Color:
Mat1: 15
Most Common Material: LIMESTONE
Mat2:
Mat2 Desc:
Mat3:
Mat3 Desc:
Formation Top Depth: 15.0
Formation End Depth: 31.0
Formation End Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 964501092
Method Construction Code: 1
Method Construction: Cable Tool
Other Method Construction:

Pipe Information

Pipe ID: 10828715
Casing No: 1
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 930468038
Layer: 1
Material: 1
Open Hole or Material: STEEL
Depth From:
Depth To: 15.0
Casing Diameter: 6.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Construction Record - Casing

Casing ID: 930468039
Layer: 2
Material: 4
Open Hole or Material: OPEN HOLE
Depth From:
Depth To: 31.0
Casing Diameter: 6.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Results of Well Yield Testing

Pumping Test Method Desc:
Pump Test ID: 994501092
Pump Set At:
Static Level: 12.0
Final Level After Pumping: 20.0
Recommended Pump Depth:
Pumping Rate: 6.0
Flowing Rate:
Recommended Pump Rate:
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code:
Water State After Test:
Pumping Test Method:
Pumping Duration HR: 2
Pumping Duration MIN: 0
Flowing: No

Water Details

Water ID: 933750433
Layer: 1
Kind Code: 1

Kind: FRESH
Water Found Depth: 31.0
Water Found Depth UOM: ft

Links

Bore Hole ID:	10280145	**Tag No:**	
Depth M:	9.4488	**Contractor:**	2116
Year Completed:	1951	**Path:**	450\4501092.pdf
Well Completed Dt:	1951/07/12	**Latitude:**	44.3145742994029
Audit No:		**Longitude:**	-77.9552708095619

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12 **1 of 1** **WNW/236.7** **206.2 / 5.80** **ON** **WWIS**

Well ID:	4501101	**Flowing (Y/N):**	
Construction Date:		**Flow Rate:**	
Use 1st:	Domestic	**Data Entry Status:**	
Use 2nd:	0	**Data Src:**	1
Final Well Status:	Water Supply	**Date Received:**	18-Nov-1954 00:00:00
Water Type:		**Selected Flag:**	TRUE
Casing Material:		**Abandonment Rec:**	
Audit No:		**Contractor:**	3121
Tag:		**Form Version:**	1
Constructn Method:		**Owner:**	
Elevation (m):		**County:**	NORTHUMBERLAND
Elevatn Reliabilty:		**Lot:**	
Depth to Bedrock:		**Concession:**	
Well Depth:		**Concession Name:**	
Overburden/Bedrock:		**Easting NAD83:**	
Pump Rate:		**Northing NAD83:**	
Static Water Level:		**Zone:**	
Clear/Cloudy:		**UTM Reliability:**	
Municipality:	HASTINGS VILLAGE		
Site Info:			

PDF URL (Map): https://d2khazk8e83rdv.cloudfront.net/moe_mapping/downloads/2Water/Wells_pdfs/450\4501101.pdf

Additional Detail(s) (Map)

Well Completed Date:	1953/10/21
Year Completed:	1953
Depth (m):	26.2128
Latitude:	44.3148269775073
Longitude:	-77.9601109908507
Path:	450\4501101.pdf

Bore Hole Information

Bore Hole ID:	10280154	**Elevation:**	
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	18
Code OB:		**East83:**	263931.60
Code OB Desc:		**North83:**	4911103.00
Open Hole:		**Org CS:**	
Cluster Kind:		**UTMRC:**	5
Date Completed:	21-Oct-1953 00:00:00	**UTMRC Desc:**	margin of error : 100 m - 300 m
Remarks:		**Location Method:**	p5
Loc Method Desc:	Original Pre1985 UTM Rel Code 5: margin of error : 100 m - 300 m		
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			

Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Overburden and Bedrock Materials Interval

Formation ID:	931896107
Layer:	2
Color:	2
General Color:	GREY
Mat1:	15
Most Common Material:	LIMESTONE
Mat2:	
Mat2 Desc:	
Mat3:	
Mat3 Desc:	
Formation Top Depth:	32.0
Formation End Depth:	86.0
Formation End Depth UOM:	ft

Overburden and Bedrock Materials Interval

Formation ID:	931896106
Layer:	1
Color:	7
General Color:	RED
Mat1:	05
Most Common Material:	CLAY
Mat2:	13
Mat2 Desc:	BOULDERS
Mat3:	11
Mat3 Desc:	GRAVEL
Formation Top Depth:	0.0
Formation End Depth:	32.0
Formation End Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964501101
Method Construction Code:	1
Method Construction:	Cable Tool
Other Method Construction:	

Pipe Information

Pipe ID:	10828724
Casing No:	1
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	930468056
Layer:	2
Material:	4
Open Hole or Material:	OPEN HOLE
Depth From:	
Depth To:	86.0
Casing Diameter:	5.0

Casing Diameter UOM: inch
Casing Depth UOM: ft

Construction Record - Casing

Casing ID: 930468055
Layer: 1
Material: 1
Open Hole or Material: STEEL
Depth From:
Depth To: 34.0
Casing Diameter: 5.0
Casing Diameter UOM: inch
Casing Depth UOM: ft

Results of Well Yield Testing

Pumping Test Method Desc:
Pump Test ID: 994501101
Pump Set At:
Static Level: 45.0
Final Level After Pumping: 86.0
Recommended Pump Depth:
Pumping Rate:
Flowing Rate:
Recommended Pump Rate:
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code: 1
Water State After Test: CLEAR
Pumping Test Method:
Pumping Duration HR: 2
Pumping Duration MIN: 0
Flowing: No

Water Details

Water ID: 933750442
Layer: 1
Kind Code: 1
Kind: FRESH
Water Found Depth: 85.0
Water Found Depth UOM: ft

Links

Bore Hole ID: 10280154
Depth M: 26.2128
Year Completed: 1953
Well Completed Dt: 1953/10/21
Audit No:
Tag No:
Contractor: 3121
Path: 450\4501101.pdf
Latitude: 44.3148269775073
Longitude: -77.9601109908507

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13 | ***1 of 2*** | ***SSE/246.9*** | ***198.7 / -1.76*** | ***MINISTRY OF THE ENVIRONMENT***
79 VICTORIA ST. NORWOOD C/O P.O.BOX 510
TRENT DR.
CAMPBELLFORD ON K0L 1L0 | ***GEN***

Generator No: ON1146607
SIC Code: 8273
SIC Description: ENVIRON. ADMIN.
Approval Years: 89
PO Box No:

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB

Country:
Status:
Co Admin:
Choice of Contact:
Phone No Admin:
Contaminated Facility:
MHSW Facility:

Detail(s)

Waste Class: 252
Waste Class Name: WASTE OILS & LUBRICANTS

13	2 of 2	SSE/246.9	198.7 / -1.76	**MINISTRY OF THE ENVIRONMENT 25-631** **79 VICTORIA ST. NORWOOD C/O P.O.BOX 510** **TRENT DR.** **CAMPBELLFORD ON K0L 1L0**	GEN

Generator No: ON1146607
SIC Code: 8273
SIC Description: ENVIRON. ADMIN.
Approval Years: 92,93,94,95,96,97,98
PO Box No:
Country:
Status:
Co Admin:
Choice of Contact:
Phone No Admin:
Contaminated Facility:
MHSW Facility:

Detail(s)

Waste Class: 252
Waste Class Name: WASTE OILS & LUBRICANTS

Unplottable Summary

Total: 4 Unplottable sites

DB	Company Name/Site Name	Address	City	Postal
GEN	NORTHUMBERLAND & NEWCASTLE BD OF ED	HASTINGS PUBLIC SCHOOL LOTS 1 & 2, LOTS 4 & 5, CONC. 8	HASTINGS ON	K0L 1Y0
GEN	NORTHUMBERLAND & NEWCASTLE BOARD OF ED.	HASTINGS PUBLIC SCHOOL LOTS 1 & 2, LOTS 4 & 5, CONC. 8	HASTINGS ON	K0L 1Y0
PES	J.W.FAUX LTD. (C#91668)	BRIDGE ST	HASTINGS ON	K0L1Y0
PES	J.W. FAUX LTD.	BRIDGE ST	HASTINGS ON	K0L 2G0

Unplottable Report

Site: ***NORTHUMBERLAND & NEWCASTLE BD OF ED***
HASTINGS PUBLIC SCHOOL LOTS 1 & 2, LOTS 4 & 5, CONC. 8 HASTINGS ON K0L 1Y0

Database: ***GEN***

Generator No:	ON0268834
SIC Code:	8511
SIC Description:	ELEMT./SECON. EDUC.
Approval Years:	93,94,95,96,97
PO Box No:	
Country:	
Status:	
Co Admin:	
Choice of Contact:	
Phone No Admin:	
Contaminated Facility:	
MHSW Facility:	

Detail(s)

Waste Class:	148
Waste Class Name:	INORGANIC LABORATORY CHEMICALS
Waste Class:	263
Waste Class Name:	ORGANIC LABORATORY CHEMICALS

Site: ***NORTHUMBERLAND & NEWCASTLE BOARD OF ED.***
HASTINGS PUBLIC SCHOOL LOTS 1 & 2, LOTS 4 & 5, CONC. 8 HASTINGS ON K0L 1Y0

Database: ***GEN***

Generator No:	ON0268834
SIC Code:	8511
SIC Description:	ELEMT./SECON. EDUC.
Approval Years:	98,99,00,01
PO Box No:	
Country:	
Status:	
Co Admin:	
Choice of Contact:	
Phone No Admin:	
Contaminated Facility:	
MHSW Facility:	

Detail(s)

Waste Class:	263
Waste Class Name:	ORGANIC LABORATORY CHEMICALS
Waste Class:	148
Waste Class Name:	INORGANIC LABORATORY CHEMICALS

Site: ***J.W.FAUX LTD. (C#91668)***
BRIDGE ST HASTINGS ON K0L1Y0

Database: ***PES***

Detail Licence No:		***Operator Box:***	
Licence No:	03684	***Operator Class:***	
Status:		***Operator No:***	
Approval Date:		***Operator Type:***	
Report Source:	Legacy Licenses (Excluding TS)	***Oper Area Code:***	705
Licence Type:	Retail Vendor Class 02	***Oper Phone No:***	6962891
Licence Type Code:	21	***Operator Ext:***	

Licence Class:	02	***Operator Lot:***	
Licence Control:		***Oper Concession:***	
Latitude:		***Operator Region:***	
Longitude:		***Operator District:***	
Lot:		***Operator County:***	
Concession:		***Op Municipality:***	
Region:		***Post Office Box:***	
District:		***MOE District:***	
County:		***SWP Area Name:***	
Trade Name:			
PDF URL:			

Site: ***J.W. FAUX LTD.***
BRIDGE ST HASTINGS ON K0L 2G0

Database: ***PES***

Detail Licence No:		***Operator Box:***	
Licence No:		***Operator Class:***	
Status:		***Operator No:***	
Approval Date:		***Operator Type:***	
Report Source:		***Oper Area Code:***	
Licence Type:	Vendor	***Oper Phone No:***	
Licence Type Code:		***Operator Ext:***	
Licence Class:		***Operator Lot:***	
Licence Control:		***Oper Concession:***	
Latitude:		***Operator Region:***	
Longitude:		***Operator District:***	
Lot:		***Operator County:***	
Concession:		***Op Municipality:***	
Region:		***Post Office Box:***	
District:		***MOE District:***	
County:		***SWP Area Name:***	
Trade Name:			
PDF URL:			

Appendix: Database Descriptions

Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. ***Note:*** *Databases denoted with " * " indicates that the database will no longer be updated. See the individual database description for more information.*

Abandoned Aggregate Inventory: Provincial AAGR

The MAAP Program maintains a database of abandoned pits and quarries. Please note that the database is only referenced by lot and concession and city/town location. The database provides information regarding the location, type, size, land use, status and general comments.*

Government Publication Date: Sept 2002*

Aggregate Inventory: Provincial AGR

The Ontario Ministry of Northern Development, Mines, Natural Resources and Forestry (ONDMNRF) maintains this database of pits and quarries. The database provides information regarding the registered owner/operator, location name, operation type, approval type, and maximum annual tonnage.

Government Publication Date: Up to Oct 2022

Abandoned Mine Information System: Provincial AMIS

The Abandoned Mines Information System contains data on known abandoned and inactive mines located on both Crown and privately held lands. The information was provided by the Ministry of Northern Development and Mines (MNDM), with the following disclaimer: "the database provided has been compiled from various sources, and the Ministry of Northern Development and Mines makes no representation and takes no responsibility that such information is accurate, current or complete". Reported information includes official mine name, status, background information, mine start/end date, primary commodity, mine features, hazards and remediation.

Government Publication Date: 1800-Mar 2022

Anderson's Waste Disposal Sites: Private ANDR

The information provided in this database was collected by examining various historical documents which aimed to characterize the likely position of former waste disposal sites from 1860 to present. The research initiative behind the creation of this database was to identify those sites that are missing from the Ontario MOE Waste Disposal Site Inventory, as well as to provide revisions and corrections to the positions and descriptions of sites currently listed in the MOE inventory. In addition to historic waste disposal facilities, the database also identifies certain auto wreckers and scrap yards that have been extrapolated from documentary sources. Please note that the data is not warranted to be complete, exhaustive or authoritative. The information was collected for research purposes only.

Government Publication Date: 1860s-Present

Aboveground Storage Tanks: Provincial AST

Historical listing of aboveground storage tanks made available by the Department of Natural Resources and Forestry. Includes tanks used to hold water or petroleum. This dataset has been retired as of September 25, 2014 and will no longer be updated.

Government Publication Date: May 31, 2014

Automobile Wrecking & Supplies: Private AUWR

This database provides an inventory of known locations that are involved in the scrap metal, automobile wrecking/recycling, and automobile parts & supplies industry. Information is provided on the company name, location and business type.

Government Publication Date: 1999-May 31, 2022

Borehole: Provincial BORE

A borehole is the generalized term for any narrow shaft drilled in the ground, either vertically or horizontally. The information here includes geotechnical investigations or environmental site assessments, mineral exploration, or as a pilot hole for installing piers or underground utilities. Information is from many sources such as the Ministry of Transportation (MTO) boreholes from engineering reports and projects from the 1950 to 1990's in Southern Ontario. Boreholes from the Ontario Geological Survey (OGS) including The Urban Geology Analysis Information System (UGAIS) and the York Peel Durham Toronto (YPDT) database of the Conservation Authority Moraine Coalition. This database will include fields such as location, stratigraphy, depth, elevation, year drilled, etc. For all water well data or oil and gas well data for Ontario please refer to WWIS and OOGW.

Government Publication Date: 1875-Jul 2018

Certificates of Approval: Provincial CA

This database contains the following types of approvals: Air & Noise, Industrial Sewage, Municipal & Private Sewage, Waste Management Systems and Renewable Energy Approvals. The MOE in Ontario states that 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 a Certificate of Approval before it can operate lawfully. Fields include approval number, business name, address, approval date, approval type and status. This database will no longer be updated, as CofA's have been replaced by either Environmental Activity and Sector Registry (EASR) or Environmental Compliance Approval (ECA). Please refer to those individual databases for any information after Oct.31, 2011.

Government Publication Date: 1985-Oct 30, 2011*

Dry Cleaning Facilities: Federal CDRY

List of dry cleaning facilities made available by Environment and Climate Change Canada. Environment and Climate Change Canada's Tetrachloroethylene (Use in Dry Cleaning and Reporting Requirements) Regulations (SOR/2003-79) are intended to reduce releases of tetrachloroethylene to the environment from dry cleaning facilities.

Government Publication Date: Jan 2004-Dec 2020

Commercial Fuel Oil Tanks: Provincial CFOT

Locations of commercial underground fuel oil tanks. This is not a comprehensive or complete inventory of commercial fuel tanks in the province; this listing is a copy of records of registered commercial underground fuel oil tanks obtained under Access to Public Information.
Note that the following types of tanks do not require registration: waste oil tanks in apartments, office buildings, residences, etc.; aboveground gas or diesel tanks. Records are not verified for accuracy or completeness.

Government Publication Date: Feb 28, 2022

Chemical Manufacturers and Distributors: Private CHEM

This database includes information from both a one time study conducted in 1992 and private source and is a listing of facilities that manufacture or distribute chemicals. The production of these chemical substances may involve one or more chemical reactions and/or chemical separation processes (i.e. fractionation, solvent extraction, crystallization, etc.).

Government Publication Date: 1999-Jan 31, 2020

Chemical Register: Private CHM

This database includes a listing of locations of facilities within the Province or Territory that either manufacture and/or distributes chemicals.

Government Publication Date: 1999-May 31, 2022

Compressed Natural Gas Stations: Private CNG

Canada has a network of public access compressed natural gas (CNG) refuelling stations. These stations dispense natural gas in compressed form at 3,000 pounds per square inch (psi), the pressure which is allowed within the current Canadian codes and standards. The majority of natural gas refuelling is located at existing retail gasoline that have a separate refuelling island for natural gas. This list of stations is made available by the Canadian Natural Gas Vehicle Alliance.

Government Publication Date: Dec 2012 -Sep 2022

Inventory of Coal Gasification Plants and Coal Tar Sites: Provincial COAL

This inventory includes both the "Inventory of Coal Gasification Plant Waste Sites in Ontario-April 1987" and the Inventory of Industrial Sites Producing or Using Coal Tar and Related Tars in Ontario-November 1988) collected by the MOE. It identifies industrial sites that produced and continue to produce or use coal tar and other related tars. Detailed information is available and includes: facility type, size, land use, information on adjoining properties, soil condition, site operators/occupants, site description, potential environmental impacts and historic maps available. This was a one-time inventory.*

Government Publication Date: Apr 1987 and Nov 1988*

Compliance and Convictions: Provincial CONV

This database summarizes the fines and convictions handed down by the Ontario courts beginning in 1989. Companies and individuals named here have been found guilty of environmental offenses in Ontario courts of law.

Government Publication Date: 1989-Nov 2022

Certificates of Property Use: Provincial CPU

This is a subset taken from Ontario's Environmental Registry (EBR) database. It will include CPU's on the registry such as (EPA s. 168.6) - Certificate of Property Use.

Government Publication Date: 1994 - Dec 31, 2022

Drill Hole Database: Provincial DRL

The Ontario Drill Hole Database contains information on more than 113,000 percussion, overburden, sonic and diamond drill holes from assessment files on record with the department of Mines and Minerals. Please note that limited data is available for southern Ontario, as it was the last area to be completed. The database was created when surveys submitted to the Ministry were converted in the Assessment File Research Image Database (AFRI) project. However, the degree of accuracy (coordinates) as to the exact location of drill holes is dependent upon the source document submitted to the MNDM. Levels of accuracy used to locate holes are: centering on the mining claim; a sketch of the mining claim; a 1:50,000 map; a detailed company map; or from submitted a "Report of Work".

Government Publication Date: 1886 - Oct 2022

Delisted Fuel Tanks: Provincial DTNK

List of fuel storage tank sites that were once found in - and have since been removed from - the list of fuel storage tanks made available by the regulatory agency under Access to Public Information.

Government Publication Date: Feb 28, 2022

Environmental Activity and Sector Registry: Provincial EASR

On October 31, 2011, a smarter, faster environmental approvals system came into effect in Ontario. The EASR allows businesses to register certain activities with the ministry, rather than apply for an approval. The registry is available for common systems and processes, to which preset rules of operation can be applied. The EASR is currently available for: heating systems, standby power systems and automotive refinishing. Businesses whose activities aren't subject to the EASR may apply for an ECA (Environmental Compliance Approval), Please see our ECA database.

Government Publication Date: Oct 2011- Dec 31, 2022

Environmental Registry: Provincial EBR

The Environmental Registry lists proposals, decisions and exceptions regarding policies, Acts, instruments, or regulations that could significantly affect the environment. Through the Registry, thirteen provincial ministries notify the public of upcoming proposals and invite their comments. For example, if a local business is requesting a permit, license, or certificate of approval to release substances into the air or water; these are notified on the registry. Data includes: Approval for discharge into the natural environment other than water (i.e. Air) - EPA s. 9, Approval for sewage works - OWRA s. 53(1), and EPA s. 27 - Approval for a waste disposal site. For information regarding Permit to Take Water (PTTW), Certificate of Property Use (CPU) and (ORD) Orders please refer to those individual databases.

Government Publication Date: 1994 - Dec 31, 2022

Environmental Compliance Approval: Provincial ECA

On October 31, 2011, a smarter, faster environmental approvals system came into effect in Ontario. In the past, a business had to apply for multiple approvals (known as certificates of approval) for individual processes and pieces of equipment. Today, a business either registers itself, or applies for a single approval, depending on the types of activities it conducts. Businesses whose activities aren't subject to the EASR may apply for an ECA. A single ECA addresses all of a business's emissions, discharges and wastes. Separate approvals for air, noise and waste are no longer required. This database will also include Renewable Energy Approvals. For certificates of approval prior to Nov 1st, 2011, please refer to the CA database. For all Waste Disposal Sites please refer to the WDS database.

Government Publication Date: Oct 2011- Dec 31, 2022

Environmental Effects Monitoring: Federal EEM

The Environmental Effects Monitoring program assesses the effects of effluent from industrial or other sources on fish, fish habitat and human usage of fisheries resources. Since 1992, pulp and paper mills have been required to conduct EEM studies under the Pulp and Paper Effluent Regulations. This database provides information on the mill name, geographical location and sub-lethal toxicity data.

Government Publication Date: 1992-2007*

ERIS Historical Searches: Private EHS

ERIS has compiled a database of all environmental risk reports completed since March 1999. Available fields for this database include: site location, date of report, type of report, and search radius. As per all other databases, the ERIS database can be referenced on both the map and "Statistical Profile" page.

Government Publication Date: 1999-Jul 31, 2022

Environmental Issues Inventory System: Federal EIIS

The Environmental Issues Inventory System was developed through the implementation of the Environmental Issues and Remediation Plan. This plan was established to determine the location and severity of contaminated sites on inhabited First Nation reserves, and where necessary, to remediate those that posed a risk to health and safety; and to prevent future environmental problems. The EIIS provides information on the reserve under investigation, inventory number, name of site, environmental issue, site action (Remediation, Site Assessment), and date investigation completed.

Government Publication Date: 1992-2001*

Emergency Management Historical Event: Provincial EMHE

List of locations of historical occurrences of emergency events, including those assigned to the Ministry of Natural Resources by Order-In-Council (OIC) under the Emergency Management and Civil Protection Act, as well as events where MNR provided requested emergency response assistance. Many of these events will have involved community evacuations, significant structural loss, and/or involvement of MNR emergency response staff. These events fall into one of ten (10) type categories: Dam Failure; Drought / Low Water; Erosion; Flood; Forest Fire; Soil and Bedrock Instability; Petroleum Resource Center Event, EMO Requested Assistance, Continuity of Operations Event, Other Requested Assistance. EMHE record details are reproduced by ERIS under License with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2017.

Government Publication Date: Apr 30, 2022

Environmental Penalty Annual Report: Provincial EPAR

This database contains data from Ontario's annual environmental penalty report published by the Ministry of the Environment and Climate Change. These reports provide information on environmental penalties for land or water violations issued to companies in one of the nine industrial sectors covered by the Municipal Industrial Strategy for Abatement (MISA) regulations.

Government Publication Date: Jan 1, 2011 - Dec 31, 2021

List of Expired Fuels Safety Facilities: Provincial EXP

List of facilities and tanks for which there was once a fuel registration. This is not a comprehensive or complete inventory of expired tanks/tank facilities in the province; this listing is a copy of previously registered tanks and facilities obtained under Access to Public Information. Includes private fuel outlets, bulk plants, fuel oil tanks, gasoline stations, marinas, propane filling stations, liquid fuel tanks, piping systems, etc; includes tanks which have been removed from the ground.
Notes: registration was not required for private fuel underground/aboveground storage tanks prior to January 1990, nor for furnace oil tanks prior to May 1, 2002; registration is not required for waste oil tanks in apartments, office buildings, residences, etc., or aboveground gas or diesel tanks. Records are not verified for accuracy or completeness.

Government Publication Date: Feb 28, 2022

Federal Convictions: Federal FCON

Environment Canada maintains a database referred to as the "Environmental Registry" that details prosecutions under the Canadian Environmental Protection Act (CEPA) and the Fisheries Act (FA). Information is provided on the company name, location, charge date, offence and penalty.

Government Publication Date: 1988-Jun 2007*

Contaminated Sites on Federal Land: Federal FCS

The Federal Contaminated Sites Inventory includes information on known federal contaminated sites under the custodianship of departments, agencies and consolidated Crown corporations as well as those that are being or have been investigated to determine whether they have contamination arising from past use that could pose a risk to human health or the environment. The inventory also includes non-federal contaminated sites for which the Government of Canada has accepted some or all financial responsibility. It does not include sites where contamination has been caused by, and which are under the control of, enterprise Crown corporations, private individuals, firms or other levels of government. Includes fire training sites and sites at which Per- and Polyfluoroalkyl Substances (PFAS) are a concern.

Government Publication Date: Jun 2000-Dec 2022

Fisheries & Oceans Fuel Tanks: Federal FOFT

Fisheries & Oceans Canada maintains an inventory of aboveground & underground fuel storage tanks located on Fisheries & Oceans property or controlled by DFO. Our inventory provides information on the site name, location, tank owner, tank operator, facility type, storage tank location, tank contents & capacity, and date of tank installation.

Government Publication Date: 1964-Sep 2019

Federal Identification Registry for Storage Tank Systems (FIRSTS): Federal FRST

A list of federally regulated Storage tanks from the Federal Identification Registry for Storage Tank Systems (FIRSTS). FIRSTS is Environment and Climate Change Canada's database of storage tank systems subject to the Storage Tank for Petroleum Products and Allied Petroleum Products Regulations. The main objective of the Regulations is to prevent soil and groundwater contamination from storage tank systems located on federal and aboriginal lands. Storage tank systems that do not have a valid identification number displayed in a readily visible location on or near the storage tank system may be refused product delivery.

Government Publication Date: May 31, 2018

Fuel Storage Tank: Provincial FST

List of registered private and retail fuel storage tanks. This is not a comprehensive or complete inventory of private and retail fuel storage tanks in the province; this listing is a copy of registered private and retail fuel storage tanks, obtained under Access to Public Information.
Notes: registration was not required for private fuel underground/aboveground storage tanks prior to January 1990, nor for furnace oil tanks prior to May 1, 2002; registration is not required for waste oil tanks in apartments, office buildings, residences, etc., or aboveground gas or diesel tanks. Records are not verified for accuracy or completeness.

Government Publication Date: Feb 28, 2022

Fuel Storage Tank - Historic: Provincial FSTH

The Fuels Safety Branch of the Ontario Ministry of Consumer and Commercial Relations maintained a database of all registered private fuel storage tanks. Public records of private fuel storage tanks are only available since the registration became effective in September 1989. This information is now collected by the Technical Standards and Safety Authority.

Government Publication Date: Pre-Jan 2010*

Ontario Regulation 347 Waste Generators Summary: Provincial GEN

Regulation 347 of the Ontario EPA defines a waste generation site as any site, equipment and/or operation involved in the production, collection, handling and/or storage of regulated wastes. A generator of regulated waste is required to register the waste generation site and each waste produced, collected, handled, or stored at the site. This database contains the registration number, company name and address of registered generators including the types of hazardous wastes generated. It includes data on waste generating facilities such as: drycleaners, waste treatment and disposal facilities, machine shops, electric power distribution etc. This information is a summary of all years from 1986 including the most currently available data. Some records may contain, within the company name, the phrase "See & Use..." followed by a series of letters and numbers. This occurs when one company is amalgamated with or taken over by another registered company. The number listed as "See & Use", refers to the new ownership and the other identification number refers to the original ownership. This phrase serves as a link between the 2 companies until operations have been fully transferred.

Government Publication Date: 1986-Oct 31, 2022

Greenhouse Gas Emissions from Large Facilities: Federal GHG

List of greenhouse gas emissions from large facilities made available by Environment Canada. Greenhouse gas emissions in kilotonnes of carbon dioxide equivalents (kt CO2 eq).

Government Publication Date: 2013-Dec 2019

TSSA Historic Incidents: Provincial HINC

List of historic incidences of spills and leaks of diesel, fuel oil, gasoline, natural gas, propane, and hydrogen recorded by the TSSA in their previous incident tracking system. The TSSA's Fuels Safety Program administers the Technical Standards & Safety Act 2000, providing fuel-related safety services associated with the safe transportation, storage, handling and use of fuels such as gasoline, diesel, propane, natural gas and hydrogen. Under this Act, the TSSA regulates fuel suppliers, storage facilities, transport trucks, pipelines, contractors and equipment or appliances that use fuels. Records are not verified for accuracy or completeness. This is not a comprehensive or complete inventory of historical fuel spills and leaks in the province. This listing is a copy of the data captured at one moment in time and is hence limited by the record date provided here.

Government Publication Date: 2006-June 2009*

Indian & Northern Affairs Fuel Tanks: Federal IAFT

The Department of Indian & Northern Affairs Canada (INAC) maintains an inventory of aboveground & underground fuel storage tanks located on both federal and crown land. Our inventory provides information on the reserve name, location, facility type, site/facility name, tank type, material & ID number, tank contents & capacity, and date of tank installation.

Government Publication Date: 1950-Aug 2003*

Fuel Oil Spills and Leaks: Provincial INC

Listing of spills and leaks of diesel, fuel oil, gasoline, natural gas, propane, and hydrogen reported to the Spills Action Centre (SAC). This is not a comprehensive or complete inventory of fuel-related leaks, spills, and incidents in the province; this listing in a copy of incidents reported to the SAC, obtained under Access to Public Information. Includes incidents from fuel-related hazards such as spills, fires, and explosions. Records are not verified for accuracy or completeness.

Government Publication Date: Feb 28, 2022

Landfill Inventory Management Ontario: Provincial LIMO

The Landfill Inventory Management Ontario (LIMO) database is updated every year, as the Ministry of the Environment, Conservation and Parks compiles new and updated information. Includes small and large landfills currently operating as well as those which are closed and historic. Operators of larger landfills provide landfill information for the previous operating year to the ministry for LIMO including: estimated amount of total waste received, landfill capacity, estimated total remaining landfill capacity, fill rates, engineering designs, reporting and monitoring details, size of location, service area, approved waste types, leachate of site treatment, contaminant attenuation zone and more. The small landfills include information such as site owner, site location and certificate of approval # and status.

Government Publication Date: Mar 21, 2022

Canadian Mine Locations: Private MINE

This information is collected from the Canadian & American Mines Handbook. The Mines database is a national database that provides over 290 listings on mines (listed as public companies) dealing primarily with precious metals and hard rocks. Listed are mines that are currently in operation, closed, suspended, or are still being developed (advanced projects). Their locations are provided as geographic coordinates (x, y and/or longitude, latitude). As of 2002, data pertaining to Canadian smelters and refineries has been appended to this database.

Government Publication Date: 1998-2009*

Mineral Occurrences: Provincial MNR

In the early 70's, the Ministry of Northern Development and Mines created an inventory of approximately 19,000 mineral occurrences in Ontario, in regard to metallic and industrial minerals, as well as some information on building stones and aggregate deposits. Please note that the "Horizontal Positional Accuracy" is approximately +/- 200 m. Many reference elements for each record were derived from field sketches using pace or chain/tape measurements against claim posts or topographic features in the area. The primary limiting factor for the level of positional accuracy is the scale of the source material. The testing of horizontal accuracy of the source materials was accomplished by comparing the plan metric (X and Y) coordinates of that point with the coordinates of the same point as defined from a source of higher accuracy.

Government Publication Date: 1846-Feb 2022

National Analysis of Trends in Emergencies System (NATES): Federal NATE

In 1974 Environment Canada established the National Analysis of Trends in Emergencies System (NATES) database, for the voluntary reporting of significant spill incidents. The data was to be used to assist in directing the work of the emergencies program. NATES ran from 1974 to 1994. Extensive information is available within this database including company names, place where the spill occurred, date of spill, cause, reason and source of spill, damage incurred, and amount, concentration, and volume of materials released.

Government Publication Date: 1974-1994*

Non-Compliance Reports: Provincial NCPL

The Ministry of the Environment provides information about non-compliant discharges of contaminants to air and water that exceed legal allowable limits, from regulated industrial and municipal facilities. A reported non-compliance failure may be in regard to a Control Order, Certificate of Approval, Sectoral Regulation or specific regulation/act.

Government Publication Date: Dec 31, 2021

National Defense & Canadian Forces Fuel Tanks: Federal NDFT

The Department of National Defense and the Canadian Forces maintains an inventory of all aboveground & underground fuel storage tanks located on DND lands. Our inventory provides information on the base name, location, tank type & capacity, tank contents, tank class, date of tank installation, date tank last used, and status of tank as of May 2001. This database will no longer be updated due to the new National Security protocols which have prohibited any release of this database.

Government Publication Date: Up to May 2001*

National Defense & Canadian Forces Spills: Federal NDSP

The Department of National Defense and the Canadian Forces maintains an inventory of spills to land and water. All spill sites have been classified under the "Transportation of Dangerous Goods Act - 1992". Our inventory provides information on the facility name, location, spill ID #, spill date, type of spill, as well as the quantity of substance spilled & recovered.

Government Publication Date: Mar 1999-Apr 2018

National Defence & Canadian Forces Waste Disposal Sites: Federal NDWD

The Department of National Defence and the Canadian Forces maintains an inventory of waste disposal sites located on DND lands. Where available, our inventory provides information on the base name, location, type of waste received, area of site, depth of site, year site opened/closed and status.

Government Publication Date: 2001-Apr 2007*

National Energy Board Pipeline Incidents: Federal NEBI

Locations of pipeline incidents from 2008 to present, made available by the Canada Energy Regulator (CER) - previously the National Energy Board (NEB). Includes incidents reported under the Onshore Pipeline Regulations and the Processing Plant Regulations related to pipelines under federal jurisdiction, does not include incident data related to pipelines under provincial or territorial jurisdiction.

Government Publication Date: 2008-Jun 30, 2021

National Energy Board Wells: Federal NEBP

The NEBW database contains information on onshore & offshore oil and gas wells that are outside provincial jurisdiction(s) and are thereby regulated by the National Energy Board. Data is provided regarding the operator, well name, well ID No./UWI, status, classification, well depth, spud and release date.

Government Publication Date: 1920-Feb 2003*

National Environmental Emergencies System (NEES): Federal NEES

In 2000, the Emergencies program implemented NEES, a reporting system for spills of hazardous substances. For the most part, this system only captured data from the Atlantic Provinces, some from Quebec and Ontario and a portion from British Columbia. Data for Alberta, Saskatchewan, Manitoba and the Territories was not captured. However, NEES is also a repository for previous Environment Canada spill datasets. NEES is composed of the historic datasets ' or Trends ' which dates from approximately 1974 to present. NEES Trends is a compilation of historic databases, which were merged and includes data from NATES (National Analysis of Trends in Emergencies System), ARTS (Atlantic Regional Trends System), and NEES. In 2001, the Emergencies Program determined that variations in reporting regimes and requirements between federal and provincial agencies made national spill reporting and trend analysis difficult to achieve. As a consequence, the department has focused efforts on capturing data on spills of substances which fall under its legislative authority only (CEPA and FA). As such, the NEES database will be decommissioned in December 2004.

Government Publication Date: 1974-2003*

National PCB Inventory: Federal NPCB

Environment Canada's National PCB inventory includes information on in-use PCB containing equipment in Canada including federal, provincial and private facilities. Federal out-of-service PCB containing equipment and PCB waste owned by the federal government or by federally regulated industries such as airlines, railway companies, broadcasting companies, telephone and telecommunications companies, pipeline companies, etc. are also listed. Although it is not Environment Canada's mandate to collect data on non-federal PCB waste, the National PCB inventory includes some information on provincial and private PCB waste and storage sites. Some addresses provided may be Head Office addresses and are not necessarily the location of where the waste is being used or stored.

Government Publication Date: 1988-2008*

National Pollutant Release Inventory: Federal NPRI

Environment Canada has defined the National Pollutant Release Inventory ("NPRI") as a federal government initiative designed to collect comprehensive national data regarding releases to air, water, or land, and waste transfers for recycling for more than 300 listed substances.

Government Publication Date: 1993-May 2017

Oil and Gas Wells: Private OGWE

The Nickle's Energy Group (publisher of the Daily Oil Bulletin) collects information on drilling activity including operator and well statistics. The well information database includes name, location, class, status and depth. The main Nickle's database is updated on a daily basis, however, this database is updated on a monthly basis. More information is available at www.nickles.com.

Government Publication Date: 1988-Nov 30, 2022

Ontario Oil and Gas Wells: Provincial OOGW

In 1998, the MNR handed over to the Ontario Oil, Gas and Salt Resources Corporation, the responsibility of maintaining a database of oil and gas wells drilled in Ontario. The OGSR Library has over 20,000+ wells in their database. Information available for all wells in the ERIS database include well owner/operator, location, permit issue date, and well cap date, license No., status, depth and the primary target (rock unit) of the well being drilled. All geology/stratigraphy table information, plus all water table information is also provide for each well record.

Government Publication Date: 1800-Aug 2021

Inventory of PCB Storage Sites: Provincial OPCB

The Ontario Ministry of Environment, Waste Management Branch, maintains an inventory of PCB storage sites within the province. Ontario Regulation 11/82 (Waste Management - PCB) and Regulation 347 (Generator Waste Management) under the Ontario EPA requires the registration of inactive PCB storage equipment and/or disposal sites of PCB waste with the Ontario Ministry of Environment. This database contains information on: 1) waste quantities; 2) major and minor sites storing liquid or solid waste; and 3) a waste storage inventory.

Government Publication Date: 1987-Oct 2004; 2012-Dec 2013

Orders: Provincial ORD

This is a subset taken from Ontario's Environmental Registry (EBR) database. It will include Orders on the registry such as (EPA s. 17) - Order for remedial work, (EPA s. 18) - Order for preventative measures, (EPA s. 43) - Order for removal of waste and restoration of site, (EPA s. 44) - Order for conformity with Act for waste disposal sites, (EPA s. 136) - Order for performance of environmental measures.

Government Publication Date: 1994 - Dec 31, 2022

Canadian Pulp and Paper: Private PAP

This information is part of the Pulp and Paper Canada Directory. The Directory provides a comprehensive listing of the locations of pulp and paper mills and the products that they produce.

Government Publication Date: 1999, 2002, 2004, 2005, 2009-2014

Parks Canada Fuel Storage Tanks: Federal PCFT

Canadian Heritage maintains an inventory of known fuel storage tanks operated by Parks Canada, in both National Parks and at National Historic Sites. The database details information on site name, location, tank install/removal date, capacity, fuel type, facility type, tank design and owner/operator.

Government Publication Date: 1920-Jan 2005*

Pesticide Register: Provincial PES

The Ontario Ministry of the Environment and Climate Change maintains a database of licensed operators and vendors of registered pesticides.

Government Publication Date: Oct 2011- Dec 31, 2022

Pipeline Incidents: Provincial PINC

List of pipeline incidents (strikes, leaks, spills). This is not a comprehensive or complete inventory of pipeline incidents in the province; this listing in an historical copy of records previously obtained under Access to Public Information. Records are not verified for accuracy or completeness.

Government Publication Date: Feb 28, 2021

Private and Retail Fuel Storage Tanks: Provincial PRT

The Fuels Safety Branch of the Ontario Ministry of Consumer and Commercial Relations maintained a database of all registered private fuel storage tanks and licensed retail fuel outlets. This database includes an inventory of locations that have gasoline, oil, waste oil, natural gas and/or propane storage tanks on their property. The MCCR no longer collects this information. This information is now collected by the Technical Standards and Safety Authority (TSSA).

Government Publication Date: 1989-1996*

Permit to Take Water: Provincial PTTW

This is a subset taken from Ontario's Environmental Registry (EBR) database. It will include PTTW's on the registry such as OWRA s. 34 - Permit to take water.

Government Publication Date: 1994 - Dec 31, 2022

Ontario Regulation 347 Waste Receivers Summary: Provincial REC

Part V of the Ontario Environmental Protection Act ("EPA") regulates the disposal of regulated waste through an operating waste management system or a waste disposal site operated or used pursuant to the terms and conditions of a Certificate of Approval or a Provisional Certificate of Approval. Regulation 347 of the Ontario EPA defines a waste receiving site as any site or facility to which waste is transferred by a waste carrier. A receiver of regulated waste is required to register the waste receiving facility. This database represents registered receivers of regulated wastes, identified by registration number, company name and address, and includes receivers of waste such as: landfills, incinerators, transfer stations, PCB storage sites, sludge farms and water pollution control plants. This information is a summary of all years from 1986 including the most currently available data.

Government Publication Date: 1986-1990, 1992-2019

Record of Site Condition: Provincial RSC

The Record of Site Condition (RSC) is part of the Ministry of the Environment's Brownfields Environmental Site Registry. Protection from environmental cleanup orders for property owners is contingent upon documentation known as a record of site condition (RSC) being filed in the Environmental Site Registry. In order to file an RSC, the property must have been properly assessed and shown to meet the soil, sediment and groundwater standards appropriate for the use (such as residential) proposed to take place on the property. The Record of Site Condition Regulation (O. Reg. 153/04) details requirements related to site assessment and clean up.
RSCs filed after July 1, 2011 will also be included as part of the new (O.Reg. 511/09).

Government Publication Date: 1997-Sept 2001, Oct 2004-Dec 2022

Retail Fuel Storage Tanks: Private RST

This database includes an inventory of retail fuel outlet locations (including marinas) that have on their property gasoline, oil, waste oil, natural gas and / or propane storage tanks.

Government Publication Date: 1999-May 31, 2022

Scott's Manufacturing Directory: Private SCT

Scott's Directories is a data bank containing information on over 200,000 manufacturers across Canada. Even though Scott's listings are voluntary, it is the most comprehensive database of Canadian manufacturers available. Information concerning a company's address, plant size, and main products are included in this database.

Government Publication Date: 1992-Mar 2011*

Ontario Spills: Provincial SPL

List of spills and incidents made available the Ministry of the Environment, Conservation and Parks. This database identifies information such as location (approximate), type and quantity of contaminant, date of spill, environmental impact, cause, nature of impact, etc. Information from 1988-2002 was part of the ORIS (Occurrence Reporting Information System). The SAC (Spills Action Centre) handles all spills reported in Ontario. Regulations for spills in Ontario are part of the MOE's Environmental Protection Act, Part X. The Ministry of the Environment, Conservation and Parks cites the coronavirus pandemic as an explanation for delays in releasing data pursuant to requests.

Government Publication Date: 1988-Sep 2020; Dec 2020-Mar 2021

Wastewater Discharger Registration Database: Provincial SRDS

Facilities that report either municipal treated wastewater effluent or industrial wastewater discharges under the Effluent Monitoring and Effluent Limits (EMEL) and Municipal/Industrial Strategy for Abatement Regulations. The Municipal/Industrial Strategy for Abatement (MISA) division of the Ontario Ministry of Environment keeps record of direct dischargers of toxic pollutants within nine sectors including: Electric Power Generation, Mining, Petroleum Refining, Organic Chemicals, Inorganic Chemicals, Pulp & Paper, Metal Casting, Iron & Steel, and Quarries.

Government Publication Date: 1990-Dec 31, 2020

Anderson's Storage Tanks: Private TANK

The information provided in this database was collected by examining various historical documents, which identified the location of former storage tanks, containing substances such as fuel, water, gas, oil, and other various types of miscellaneous products. Information is available in regard to business operating at tank site, tank location, permit year, permit & installation type, no. of tanks installed & configuration and tank capacity. Data contained within this database pertains only to the city of Toronto and is not warranted to be complete, exhaustive or authoritative. The information was collected for research purposes only.

Government Publication Date: 1915-1953*

Transport Canada Fuel Storage Tanks: Federal TCFT

List of fuel storage tanks currently or previously owned or operated by Transport Canada. This inventory also includes tanks on The Pickering Lands, which refers to 7,530 hectares (18,600 acres) of land in Pickering, Markham, and Uxbridge owned by the Government of Canada since 1972; properties on this land has been leased by the government since 1975, and falls under the Site Management Policy of Transport Canada, but is administered by Public Works and Government Services Canada. This inventory provides information on the site name, location, tank age, capacity and fuel type.

Government Publication Date: 1970 - Apr 2020

Variances for Abandonment of Underground Storage Tanks: Provincial VAR

Listing of variances granted for storage tank abandonment. This is not a comprehensive or complete inventory of tank abandonment variances in the province; this listing is a copy of tank abandonment variance records previously obtained under Access to Public Information. In Ontario, registered underground storage tanks must be removed within two years of disuse; if removal of a tank is not feasible, an application may be sought for a variance from this code requirement.
Records are not verified for accuracy or completeness.

Government Publication Date: Feb 28, 2022

Waste Disposal Sites - MOE CA Inventory: Provincial WDS

The Ontario Ministry of Environment, Waste Management Branch, maintains an inventory of known open (active or inactive) and closed disposal sites in the Province of Ontario. Active sites maintain a Certificate of Approval, are approved to receive and are receiving waste. Inactive sites maintain Certificate(s) of Approval but are not receiving waste. Closed sites are not receiving waste. The data contained within this database was compiled from the MOE's Certificate of Approval database. Locations of these sites may be cross-referenced to the Anderson database described under ERIS's Private Source Database section, by the CA number. All new Environmental Compliance Approvals handed out after Oct 31, 2011 for Waste Disposal Sites will still be found in this database.

Government Publication Date: Oct 2011- Dec 31, 2022

Waste Disposal Sites - MOE 1991 Historical Approval Inventory: Provincial WDSH

In June 1991, the Ontario Ministry of Environment, Waste Management Branch, published the "June 1991 Waste Disposal Site Inventory", of all known active and closed waste disposal sites as of October 30st, 1990. For each "active" site as of October 31st 1990, information is provided on site location, site/CA number, waste type, site status and site classification. For each "closed" site as of October 31st 1990, information is provided on site location, site/CA number, closure date and site classification. Locations of these sites may be cross-referenced to the Anderson database described under ERIS's Private Source Database section, by the CA number.

Government Publication Date: Up to Oct 1990*

Water Well Information System: Provincial WWIS

This database describes locations and characteristics of water wells found within Ontario in accordance with Regulation 903. It includes such information as coordinates, construction date, well depth, primary and secondary use, pump rate, static water level, well status, etc. Also included are detailed stratigraphy information, approximate depth to bedrock and the approximate depth to the water table.

Government Publication Date: Jun 30 2022

Definitions

Database Descriptions: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Elevation: The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

Unplottables: These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.

ERIS

HISTORICAL AERIALS

Project Property:	Hastings Standpipe Hastings Standpipe Division St E, Hastings, Trent Hills ON K0L
Project No:	
Requested By:	Redstone Engineering Inc.
Order No:	23012500142
Date Completed:	February 10, 2023

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

Decade	Year	Image Scale	Source
1950	1959	30000	NAPL
1980	1987	50000	NAPL

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

0 0.125 0.25 0.5
Kilometers

Order Number: 23012500142

Year: 1959
Source: NAPL
Map Scale: 1: 10000
Comments:

ERIS

0 0.125 0.25 0.5
Kilometers

Order Number: 23012500142

Year: 1987
Source: NAPL
Map Scale: 1: 10000
Comments: Best Copy Available

ERIS

Aerial

Year: 2018

Order Number: 23012500142

Address: Hastings Standpipe, Division St E, Hastings, Trent Hills, ON

Source: ESRI World Imagery

APPENDIX C

CHEMICAL LABORATORY DATA

Certificate of Analysis

eurofins | Environment Testing

Client: Redstone Engineering
1086 Hayes Line
Cavan, Ontario
L0A 1C0
Attention: Garnet Brenchley
Invoice to: Redstone Engineering Inc.
PO#:

Report Number: 1994108
Date Submitted: 2023-02-24
Date Reported: 2023-03-03
Project: 23R102
COC #: 905699
Temperature (C): 9
Custody Seal:

Dear Garnet Brenchley:

Please find attached the analytical results for your samples. If you have any questions regarding this report, please do not hesitate to call (613-727-5692).

Report Comments:

R Zafari

Raheleh Zafari 2023.03.03 16:47:39 -05'00'

Raheleh Zafari, Environmental Chemist

All analysis is completed at Eurofins Environment Testing Canada Inc. (Ottawa, Ontario) unless otherwise stated

Eurofins Environment Testing Canada Inc. is accredited by CALA, Canadian Association for Laboratory Accreditation to ISO/IEC 17025 for tests which appear on the scope of accreditation. The scope is available at https://directory.cala.ca/

Please note: Field data, where presented on the report, has been provided by the client and is presented for informational purposes only. Guideline or regulatory limits listed on this report are provided for ease of use (informational purposes) only. Eurofins recommends consulting the official guideline or regulation as required. Unless otherwise stated, measurement uncertainty is not taken into account when determining guideline or regulatory exceedances.

Client: Redstone Engineering
1086 Hayes Line
Cavan, Ontario
L0A 1C0
Attention: Garnet Brenchley
PO#:
Invoice to: Redstone Engineering Inc.

Report Number: 1994108
Date Submitted: 2023-02-24
Date Reported: 2023-03-03
Project: 23R102
COC #: 905699

O.Reg 153-T1-All Other Soils

Exceedence Summary

Sample I.D.	Analyte	Result	Units	Criteria
Inorganics				
BH-3 SS-3	Electrical Conductivity	2.13	mS/cm	STD 0.57
BH-3 SS-3	Sodium Adsorption Ratio	33.6		STD 2.4

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Client: Redstone Engineering
1086 Hayes Line
Cavan, Ontario
L0A 1C0
Attention: Garnet Brenchley
PO#:
Invoice to: Redstone Engineering Inc.

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Project: 23R102
COC #: 905699

Guideline = O.Reg 153-T1-All Other Soils - Res/Par/Ins/Ind/Com/Prop

Hydrocarbons

Analyte	Batch No	MRL	Units	Guideline	Lab I.D. 1675778 Sample Matrix Soil153 Sample Type Sample Date 2023-02-16 Sampling Time 08:00 Sample I.D. BH-1 SS-2	Lab I.D. 1675779 Sample Matrix Soil153 Sample Type Sample Date 2023-02-16 Sampling Time 08:00 Sample I.D. BH-2 SS-2	Lab I.D. 1675780 Sample Matrix Soil153 Sample Type Sample Date 2023-02-16 Sampling Time 08:00 Sample I.D. BH-3 SS-3
PHC's F1	438167	10	ug/g	STD 25	<10	<10	<10
PHC's F1-BTEX	438171	10	ug/g		<10	<10	<10
PHC's F2	438197	2	ug/g	STD 10	<2		
	438201	2	ug/g	STD 10			<2
	438243	2	ug/g	STD 10		<2	
PHC's F3	438197	20	ug/g	STD 240	<20		
	438201	20	ug/g	STD 240			<20
	438243	20	ug/g	STD 240		<20	
PHC's F4	438197	20	ug/g	STD 120	<20		
	438201	20	ug/g	STD 120			<20
	438243	20	ug/g	STD 120		<20	

Metals

Analyte	Batch No	MRL	Units	Guideline	Lab I.D. 1675778 Sample Matrix Soil153 Sample Type Sample Date 2023-02-16 Sampling Time 08:00 Sample I.D. BH-1 SS-2	Lab I.D. 1675779 Sample Matrix Soil153 Sample Type Sample Date 2023-02-16 Sampling Time 08:00 Sample I.D. BH-2 SS-2	Lab I.D. 1675780 Sample Matrix Soil153 Sample Type Sample Date 2023-02-16 Sampling Time 08:00 Sample I.D. BH-3 SS-3
Antimony	438163	1	ug/g	STD 1.3	<1	<1	
	438200	1	ug/g	STD 1.3			<1
Arsenic	438163	1	ug/g	STD 18	3	3	
	438200	1	ug/g	STD 18			2
Barium	438163	1	ug/g	STD 220	18	29	
	438200	1	ug/g	STD 220			14
Beryllium	438163	1	ug/g	STD 2.5	<1	<1	
	438200	1	ug/g	STD 2.5			<1

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Metals

Analyte	Batch No	MRL	Units	Guideline	Lab I.D. 1675778 Soil153 2023-02-16 08:00 BH-1 SS-2	Lab I.D. 1675779 Soil153 2023-02-16 08:00 BH-2 SS-2	Lab I.D. 1675780 Soil153 2023-02-16 08:00 BH-3 SS-3
Boron (Hot Water Soluble)	438222	0.5	ug/g		<0.5	<0.5	<0.5
Boron (total)	438163	5	ug/g	STD 36	6	6	
	438200	5	ug/g	STD 36			<5
Cadmium	438163	0.4	ug/g	STD 1.2	<0.4	<0.4	
	438200	0.4	ug/g	STD 1.2			<0.4
Chromium Total	438163	1	ug/g	STD 70	14	14	
	438200	1	ug/g	STD 70			9
Chromium VI	438215	0.20	ug/g	STD 0.66	<0.20	<0.20	<0.20
Cobalt	438163	1	ug/g	STD 21	4	4	
	438200	1	ug/g	STD 21			3
Copper	438163	1	ug/g	STD 92	6	8	
	438200	1	ug/g	STD 92			6
Lead	438163	1	ug/g	STD 120	4	4	
	438200	1	ug/g	STD 120			2
Mercury	438163	0.1	ug/g	STD 0.27	<0.1	<0.1	
	438200	0.1	ug/g	STD 0.27			<0.1
Molybdenum	438163	1	ug/g	STD 2	<1	<1	
	438200	1	ug/g	STD 2			<1
Nickel	438163	1	ug/g	STD 82	9	8	
	438200	1	ug/g	STD 82			6
Selenium	438163	0.5	ug/g	STD 1.5	<0.5	<0.5	
	438200	0.5	ug/g	STD 1.5			0.7
Silver	438163	0.2	ug/g	STD 0.5	<0.2	<0.2	

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Metals

Analyte	Batch No	MRL	Units	Guideline	Lab I.D. 1675778 Soil153 2023-02-16 08:00 BH-1 SS-2	1675779 Soil153 2023-02-16 08:00 BH-2 SS-2	1675780 Soil153 2023-02-16 08:00 BH-3 SS-3
Silver	438200	0.2	ug/g	STD 0.5			<0.2
Thallium	438163	1	ug/g	STD 1	<1	<1	
	438200	1	ug/g	STD 1			<1
Uranium	438163	0.5	ug/g	STD 2.5	<0.5	<0.5	
	438200	0.5	ug/g	STD 2.5			<0.5
Vanadium	438163	2	ug/g	STD 86	12	18	
	438200	2	ug/g	STD 86			18
Zinc	438163	2	ug/g	STD 290	9	18	
	438200	2	ug/g	STD 290			14

Volatiles

Analyte	Batch No	MRL	Units	Guideline	Lab I.D. 1675778 Soil153 2023-02-16 08:00 BH-1 SS-2	1675779 Soil153 2023-02-16 08:00 BH-2 SS-2	1675780 Soil153 2023-02-16 08:00 BH-3 SS-3
Benzene	438167	0.0068	ug/g	STD 0.02	<0.0068	<0.0068	<0.0068
Ethylbenzene	438167	0.018	ug/g	STD 0.05	<0.018	<0.018	<0.018
Toluene	438167	0.08	ug/g	STD 0.2	<0.08	<0.08	<0.08
Xylene Mixture	438170	0.05	ug/g	STD 0.05	<0.05	<0.05	<0.05
Xylene, m/p-	438167	0.05	ug/g		<0.05	<0.05	<0.05
Xylene, o-	438167	0.05	ug/g		<0.05	<0.05	<0.05

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Inorganics

Analyte	Batch No	MRL	Units	Guideline	Lab I.D. 1675778 Soil153 2023-02-16 08:00 BH-1 SS-2	Lab I.D. 1675779 Soil153 2023-02-16 08:00 BH-2 SS-2	Lab I.D. 1675780 Soil153 2023-02-16 08:00 BH-3 SS-3
Cyanide (CN-)	438221	0.005	ug/g	STD 0.051	<0.005	<0.005	<0.005
Electrical Conductivity	438204	0.05	mS/cm	STD 0.57	0.22	0.21	2.13*
pH - CaCl2	438144	2.00			7.52	7.87	7.74
Sodium Adsorption Ratio	438213	0.01		STD 2.4	0.97	0.95	33.6*

Moisture

Analyte	Batch No	MRL	Units	Guideline	Lab I.D. 1675778 Soil153 2023-02-16 08:00 BH-1 SS-2	Lab I.D. 1675779 Soil153 2023-02-16 08:00 BH-2 SS-2	Lab I.D. 1675780 Soil153 2023-02-16 08:00 BH-3 SS-3
Moisture-Humidite	438197	0.1	%		8.7		
	438201	0.1	%				5.2
	438243	0.1	%			6.0	

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PHC Surrogate

Analyte	Batch No	MRL	Units	Guideline	Lab I.D. 1675778 Soil153 2023-02-16 08:00 BH-1 SS-2	Lab I.D. 1675779 Soil153 2023-02-16 08:00 BH-2 SS-2	Lab I.D. 1675780 Soil153 2023-02-16 08:00 BH-3 SS-3
Alpha-androstrane	438197	0	%		69		
	438201	0	%				63
	438243	0	%			74	

VOCs Surrogates

Analyte	Batch No	MRL	Units	Guideline	Lab I.D. 1675778 Soil153 2023-02-16 08:00 BH-1 SS-2	Lab I.D. 1675779 Soil153 2023-02-16 08:00 BH-2 SS-2	Lab I.D. 1675780 Soil153 2023-02-16 08:00 BH-3 SS-3
Toluene-d8	438167	0	%		99	100	100

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Quality Assurance Summary

Batch No	Analyte	Blank	QC % Rec	QC Limits	Spike % Rec	Spike Limits	Dup % RPD	Duplicate Limits
438144	pH - CaCl2	5.18	102	90-110			0	
438163	Silver	<0.2 ug/g	102	70-130	104	70-130	0	0-20
438163	Arsenic	<1 ug/g	85	70-130	93	70-130	0	0-20
438163	Boron (total)	<5 ug/g	93	70-130	155	70-130	0	0-20
438163	Barium	<1 ug/g	80	70-130	129	70-130	1	0-20
438163	Beryllium	<1 ug/g	93	70-130	97	70-130	0	0-20
438163	Cadmium	<0.4 ug/g	88	70-130	94	70-130	0	0-20
438163	Cobalt	<1 ug/g	85	70-130	88	70-130	1	0-20
438163	Chromium Total	<1 ug/g	94	70-130	139	70-130	7	0-20
438163	Copper	<1 ug/g	89	70-130	87	70-130	2	0-20
438163	Mercury	<0.1 ug/g	90	70-130	90	70-130	0	0-20
438163	Molybdenum	<1 ug/g	83	70-130	89	70-130	0	0-20
438163	Nickel	<1 ug/g	92	70-130	99	70-130	5	0-20
438163	Lead	<1 ug/g	84	70-130	83	70-130	1	0-20
438163	Antimony	<1 ug/g	77	70-130	78	70-130	0	0-20
438163	Selenium	<0.5 ug/g	91	70-130	97	70-130	0	0-20
438163	Thallium	<1 ug/g	84	70-130	83	70-130	0	0-20
438163	Uranium	<0.5 ug/g	79	70-130	82	70-130	0	0-20
438163	Vanadium	<2 ug/g	92	70-130	148	70-130	3	0-20
438163	Zinc	<2 ug/g	93	70-130	110	70-130	3	0-20
438167	Benzene	<0.0068	94	60-130	81	50-140	0	0-50
438167	Ethylbenzene	<0.018 ug/g	90	60-130	100	50-140	0	0-50
438167	PHC's F1	<10 ug/g	95	80-120	94	60-140	0	0-30
438167	Xylene, m/p-	<0.05 ug/g	97	60-130	109	50-140	0	0-50
438167	Xylene, o-	<0.05 ug/g	92	60-130	93	50-140	0	0-50
438167	Toluene	<0.08 ug/g	89	60-130	99	50-140	0	0-50
438170	Xylene Mixture							
438171	PHC's F1-BTEX							
438197	PHC's F2	<2 ug/g	85	80-120	93	60-140	0	0-30
438197	PHC's F3	<20 ug/g	84	80-120	93	60-140	0	0-30
438197	PHC's F4	<20 ug/g	84	80-120	93	60-140	0	0-30
438197	Moisture-Humidite	<0.1 %	100	80-120			5	

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Quality Assurance Summary

Batch No	Analyte	Blank	QC % Rec	QC Limits	Spike % Rec	Spike Limits	Dup % RPD	Duplicate Limits
438200	Silver	<0.2 ug/g	101	70-130	95	70-130	0	0-20
438200	Arsenic	<1 ug/g	100	70-130	107	70-130	0	0-20
438200	Boron (total)	<5 ug/g	103	70-130	121	70-130	0	0-20
438200	Barium	<1 ug/g	92	70-130	92	70-130	10	0-20
438200	Beryllium	<1 ug/g	104	70-130	104	70-130	0	0-20
438200	Cadmium	<0.4 ug/g	101	70-130	97	70-130	0	0-20
438200	Cobalt	<1 ug/g	95	70-130	95	70-130	0	0-20
438200	Chromium Total	<1 ug/g	105	70-130	118	70-130	12	0-20
438200	Copper	<1 ug/g	101	70-130	96	70-130	9	0-20
438200	Mercury	<0.1 ug/g	90	70-130	92	70-130	0	0-20
438200	Molybdenum	<1 ug/g	95	70-130	96	70-130	0	0-20
438200	Nickel	<1 ug/g	102	70-130	91	70-130	9	0-20
438200	Lead	<1 ug/g	95	70-130	82	70-130	0	0-20
438200	Antimony	<1 ug/g	73	70-130	92	70-130	0	0-20
438200	Selenium	<0.5 ug/g	110	70-130	110	70-130	0	0-20
438200	Thallium	<1 ug/g	95	70-130	85	70-130	0	0-20
438200	Uranium	<0.5 ug/g	93	70-130	85	70-130	0	0-20
438200	Vanadium	<2 ug/g	102	70-130	127	70-130	6	0-20
438200	Zinc	<2 ug/g	110	70-130	92	70-130	8	0-20
438201	PHC's F2	<2 ug/g	98	80-120	96	60-140	0	0-30
438201	PHC's F3	<20 ug/g	96	80-120	96	60-140	0	0-30
438201	PHC's F4	<20 ug/g	96	80-120	96	60-140	0	0-30
438201	Moisture-Humidite	<0.1 %	100	80-120			6	
438204	Electrical Conductivity	<0.05	103	90-110			0	0-10
438213	Sodium Adsorption Ratio	<0.01					0	
438215	Chromium VI	<0.20 ug/g	105	70-130	77	70-130	0	0-35
438221	Cyanide (CN-)	<0.005 ug/g	87	75-125	87	70-130	0	0-20
438222	Boron (Hot Water Soluble)	<0.5 ug/g	92	70-130	98	60-140	0	0-30
438243	PHC's F2	<2 ug/g	84	80-120	91	60-140	0	0-30
438243	PHC's F3	<20 ug/g	84	80-120	91	60-140	0	0-30
438243	PHC's F4	<20 ug/g	84	80-120	91	60-140	0	0-30
438243	Moisture-Humidite	<0.1 %	100	80-120			8	

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Certificate of Analysis

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Test Summary

Batch No	Analyte	Instrument	Prep aration Date	Analysis Date	Analyst	Method
438144	pH - CaCl2	pH Meter	2023-03-01	2023-03-01	IP	Ag Soil
438163	Silver	ICAPQ-MS	2023-03-01	2023-03-01	SD	EPA 200.8/6020
438163	Arsenic	ICAPQ-MS	2023-03-01	2023-03-01	SD	EPA 200.8/6020
438163	Boron (total)	ICAPQ-MS	2023-03-01	2023-03-01	SD	EPA 200.8/6020
438163	Barium	ICAPQ-MS	2023-03-01	2023-03-01	SD	EPA 200.8/6020
438163	Beryllium	ICAPQ-MS	2023-03-01	2023-03-01	SD	EPA 200.8/6020
438163	Cadmium	ICAPQ-MS	2023-03-01	2023-03-01	SD	EPA 200.8/6020
438163	Cobalt	ICAPQ-MS	2023-03-01	2023-03-01	SD	EPA 200.8/6020
438163	Chromium Total	ICAPQ-MS	2023-03-01	2023-03-01	SD	EPA 200.8/6020
438163	Copper	ICAPQ-MS	2023-03-01	2023-03-01	SD	EPA 200.8/6020
438163	Mercury	ICAPQ-MS	2023-03-01	2023-03-01	SD	EPA 200.8/6020
438163	Molybdenum	ICAPQ-MS	2023-03-01	2023-03-01	SD	EPA 200.8/6020
438163	Nickel	ICAPQ-MS	2023-03-01	2023-03-01	SD	EPA 200.8/6020
438163	Lead	ICAPQ-MS	2023-03-01	2023-03-01	SD	EPA 200.8/6020
438163	Antimony	ICAPQ-MS	2023-03-01	2023-03-01	SD	EPA 200.8/6020
438163	Selenium	ICAPQ-MS	2023-03-01	2023-03-01	SD	EPA 200.8/6020
438163	Thallium	ICAPQ-MS	2023-03-01	2023-03-01	SD	EPA 200.8/6020
438163	Uranium	ICAPQ-MS	2023-03-01	2023-03-01	SD	EPA 200.8/6020
438163	Vanadium	ICAPQ-MS	2023-03-01	2023-03-01	SD	EPA 200.8/6020
438163	Zinc	ICAPQ-MS	2023-03-01	2023-03-01	SD	EPA 200.8/6020
438167	Benzene	GC-MS	2023-02-28	2023-03-01	PJ	V 8260B
438167	Ethylbenzene	GC-MS	2023-02-28	2023-03-01	PJ	V 8260B
438167	PHC's F1	GC/FID	2023-02-28	2023-02-28	PJ	CCME
438167	Xylene, m/p-	GC-MS	2023-02-28	2023-03-01	PJ	V 8260B
438167	Xylene, o-	GC-MS	2023-02-28	2023-03-01	PJ	V 8260B
438167	Toluene	GC-MS	2023-02-28	2023-03-01	PJ	V 8260B
438170	Xylene Mixture	GC-MS	2023-03-01	2023-03-01	PJ	V 8260B
438171	PHC's F1-BTEX	GC/FID	2023-03-01	2023-03-01	PJ	CCME
438197	PHC's F2	GC/FID	2023-03-02	2023-03-02	SS	CCME
438197	PHC's F3	GC/FID	2023-03-02	2023-03-02	SS	CCME
438197	PHC's F4	GC/FID	2023-03-02	2023-03-02	SS	CCME
438197	Moisture-Humidite	Oven	2023-03-02	2023-03-02	SS	ASTM 2216

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Test Summary

Batch No	Analyte	Instrument	Prep aration Date	Analysis Date	Analyst	Method
438200	Silver	ICAPQ-MS	2023-03-02	2023-03-02	SD	EPA 200.8/6020
438200	Arsenic	ICAPQ-MS	2023-03-02	2023-03-02	SD	EPA 200.8/6020
438200	Boron (total)	ICAPQ-MS	2023-03-02	2023-03-02	SD	EPA 200.8/6020
438200	Barium	ICAPQ-MS	2023-03-02	2023-03-02	SD	EPA 200.8/6020
438200	Beryllium	ICAPQ-MS	2023-03-02	2023-03-02	SD	EPA 200.8/6020
438200	Cadmium	ICAPQ-MS	2023-03-02	2023-03-02	SD	EPA 200.8/6020
438200	Cobalt	ICAPQ-MS	2023-03-02	2023-03-02	SD	EPA 200.8/6020
438200	Chromium Total	ICAPQ-MS	2023-03-02	2023-03-02	SD	EPA 200.8/6020
438200	Copper	ICAPQ-MS	2023-03-02	2023-03-02	SD	EPA 200.8/6020
438200	Mercury	ICAPQ-MS	2023-03-02	2023-03-02	SD	EPA 200.8/6020
438200	Molybdenum	ICAPQ-MS	2023-03-02	2023-03-02	SD	EPA 200.8/6020
438200	Nickel	ICAPQ-MS	2023-03-02	2023-03-02	SD	EPA 200.8/6020
438200	Lead	ICAPQ-MS	2023-03-02	2023-03-02	SD	EPA 200.8/6020
438200	Antimony	ICAPQ-MS	2023-03-02	2023-03-02	SD	EPA 200.8/6020
438200	Selenium	ICAPQ-MS	2023-03-02	2023-03-02	SD	EPA 200.8/6020
438200	Thallium	ICAPQ-MS	2023-03-02	2023-03-02	SD	EPA 200.8/6020
438200	Uranium	ICAPQ-MS	2023-03-02	2023-03-02	SD	EPA 200.8/6020
438200	Vanadium	ICAPQ-MS	2023-03-02	2023-03-02	SD	EPA 200.8/6020
438200	Zinc	ICAPQ-MS	2023-03-02	2023-03-02	SD	EPA 200.8/6020
438201	PHC's F2	GC/FID	2023-03-02	2023-03-02	SS	CCME
438201	PHC's F3	GC/FID	2023-03-02	2023-03-02	SS	CCME
438201	PHC's F4	GC/FID	2023-03-02	2023-03-02	SS	CCME
438201	Moisture-Humidite	Oven	2023-03-02	2023-03-02	SS	ASTM 2216
438204	Electrical Conductivity	Electrical Conductivity Mete	2023-03-02	2023-03-02	Z_S	Cond-Soil
438213	Sodium Adsorption Ratio	iCAP OES	2023-03-02	2023-03-02	Z_S	Ag Soil
438215	Chromium VI	FAA	2023-03-02	2023-03-02	MW	M US EPA 3060A
438221	Cyanide (CN-)	Skalar CN Analyzer	2023-03-02	2023-03-02	Z_S	MOECC E3015
438222	Boron (Hot Water Soluble)	iCAP OES	2023-03-02	2023-03-02	Z_S	MOECC E3470
438243	PHC's F2	GC/FID	2023-03-03	2023-03-03	SS	CCME
438243	PHC's F3	GC/FID	2023-03-03	2023-03-03	SS	CCME
438243	PHC's F4	GC/FID	2023-03-03	2023-03-03	SS	CCME
438243	Moisture-Humidite	Oven	2023-03-03	2023-03-03	SS	ASTM 2216

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Methods references and/or additional QA/QC information available on request.

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Client: Redstone Engineering
1086 Hayes Line
Cavan, Ontario
L0A 1C0
Attention: Garnet Brenchley
PO#:
Invoice to: Redstone Engineering Inc.

Report Number: 1994108
Date Submitted: 2023-02-24
Date Reported: 2023-03-03
Project: 23R102
COC #: 905699

CWS for Petroleum Hydrocarbons in Soil - Tier 1

Notes:

1. The laboratory method complies with CCME Tier 1 reference method for PHC in soil. It is validated for laboratory use.
2. Where the F1 fraction (C6 to C10) and BTEX are both measured, F1-BTEX is reported.
3. Where the F2 fraction (C10 to C16) and naphthalene are both measured, F2-naphthalene is reported.
4. Where the F3 fraction (C16 to C34) and PAHs* are both measured, F3-PAH is reported.
5. F4G is analyzed if the chromatogram does not descend to baseline before C50. Where F4 (C34 to C50) and F4G are both reported, the higher result is compared to the standard.
6. Unless otherwise stated in the sample comments, the following criteria have been met where applicable:

   - nC6 and nC10 response factors within 30% of response factor for toluene;
   - nC10, nC16, and nC34 response factors within 10% of each other;
   - C50 response factors within 70% of nC10 + nC16 + nC34 average; and,
   - Linearity is within 15%.

7. Unless otherwise stated in the sample comments, sampling requirements and analytical holding times have been met.
8. Gravimetric heavy hydrocarbons (F4G) cannot be added to the C6 and C50 hydrocarbons.
9. *PAHs = phenanthrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-c,d)pyrene and pyrene.

MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

Certificate of Analysis

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Client: Redstone Engineering
1086 Hayes Line
Cavan, Ontario
L0A 1C0
Attention: Garnet Brenchley
Invoice to: Redstone Engineering Inc.
PO#:

Report Number:	1995402
Date Submitted:	2023-04-03
Date Reported:	2023-04-11
Project:	23R102
COC #:	906678
Temperature (C):	9
Custody Seal:	

Dear Garnet Brenchley:

Please find attached the analytical results for your samples. If you have any questions regarding this report, please do not hesitate to call (613-727-5692).

Report Comments:

R Zafari

Raheleh Zafari 2023.04.11 18:19:10 -04'00'

Raheleh Zafari, Environmental Chemist

All analysis is completed at Eurofins Environment Testing Canada Inc. (Ottawa, Ontario) unless otherwise stated

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Eurofins Environment Testing Canada Inc. is accredited by CALA, Canadian Association for Laboratory Accreditation to ISO/IEC 17025 for tests which appear on the scope of accreditation. The scope is available at https://directory.cala.ca/

Please note: Field data, where presented on the report, has been provided by the client and is presented for informational purposes only. Guideline or regulatory limits listed on this report are provided for ease of use (informational purposes) only. Eurofins recommends consulting the official guideline or regulation as required. Unless otherwise stated, measurement uncertainty is not taken into account when determining guideline or regulatory exceedances.

Certificate of Analysis

Client: Redstone Engineering
1086 Hayes Line
Cavan, Ontario
L0A 1C0
Attention: Garnet Brenchley
PO#:
Invoice to: Redstone Engineering Inc.

Report Number: 1995402
Date Submitted: 2023-04-03
Date Reported: 2023-04-11
Project: 23R102
COC #: 906678

Exceedence Summary

Sample I.D.	Analyte	Result	Units	Criteria

Results relate only to the parameters tested on the samples submitted.
Methods references and/or additional QA/QC information available on request.

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Client: Redstone Engineering
1086 Hayes Line
Cavan, Ontario
L0A 1C0
Attention: Garnet Brenchley
PO#:
Invoice to: Redstone Engineering Inc.

Report Number: 1995402
Date Submitted: 2023-04-03
Date Reported: 2023-04-11
Project: 23R102
COC #: 906678

Guideline = Excess Soil-T1-Res/Park/Inst/Ind/Cml/Co

OCP/PCB

Analyte	Batch No	MRL	Units	Guideline	Lab I.D. 1680295 / Sample Matrix Soil153 / Sample Type / Sample Date 2023-02-16 / Sampling Time / Sample I.D. BH-2 SS-2
Aldrin	439883	0.002	ug/g	STD 0.05	<0.002
Chlordane	439883	0.006	ug/g	STD 0.05	<0.006
Chlordane, alpha-	439883	0.002	ug/g		<0.002
Chlordane, gamma-	439883	0.002	ug/g		<0.002
DDD	439883	0.002	ug/g	STD 0.05	<0.002
DDE	439883	0.002	ug/g	STD 0.05	<0.002
DDT	439883	0.002	ug/g	STD 1.4	<0.002
Dieldrin	439883	0.002	ug/g	STD 0.05	<0.002
Endosulfan	439883	0.004	ug/g	STD 0.04	<0.004
Endosulfan I	439883	0.002	ug/g		<0.002
Endosulfan II	439883	0.002	ug/g		<0.002
Endrin	439883	0.002	ug/g	STD 0.04	<0.002
Heptachlor	439883	0.002	ug/g	STD 0.05	<0.002
Heptachlor Epoxide	439883	0.002	ug/g	STD 0.05	<0.002
Hexachlorobenzene	439883	0.002	ug/g	STD 0.01	<0.002
Hexachlorobutadiene	439883	0.002	ug/g	STD 0.01	<0.002
Hexachlorocyclohexane Gamma-	439883	0.002	ug/g		<0.002
Hexachloroethane	439883	0.002	ug/g	STD 0.01	<0.002
Methoxychlor	439883	0.002	ug/g	STD 0.05	<0.002

Results relate only to the parameters tested on the samples submitted.
Methods references and/or additional QA/QC information available on request.

MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

Client: Redstone Engineering
1086 Hayes Line
Cavan, Ontario
L0A 1C0
Attention: Garnet Brenchley
PO#:
Invoice to: Redstone Engineering Inc.

Report Number: 1995402
Date Submitted: 2023-04-03
Date Reported: 2023-04-11
Project: 23R102
COC #: 906678

Guideline = Excess Soil-T1-Res/Park/Inst/Ind/Cml/Co

PCB Surrogate

Analyte	Batch No	MRL	Units	Guideline	Lab I.D. 1680295 Sample Matrix Soil153 Sample Type Sample Date 2023-02-16 Sampling Time Sample I.D. BH-2 SS-2
Decachlorobiphenyl	439884	0	%		90

Results relate only to the parameters tested on the samples submitted.
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Client: Redstone Engineering
1086 Hayes Line
Cavan, Ontario
L0A 1C0
Attention: Garnet Brenchley
PO#:
Invoice to: Redstone Engineering Inc.

Report Number: 1995402
Date Submitted: 2023-04-03
Date Reported: 2023-04-11
Project: 23R102
COC #: 906678

Quality Assurance Summary

Batch No	Analyte	Blank	QC % Rec	QC Limits	Spike % Rec	Spike Limits	Dup % RPD	Duplicate Limits
439883	Chlordane, alpha-	<0.002 ug/g	68	50-140	84	50-140	0	0-40
439883	Aldrin	<0.002 ug/g	69	50-140	80	50-140	0	0-40
439883	Chlordane	<0.006 ug/g					0	
439883	Dieldrin	<0.002 ug/g	73	50-140	80	50-140	0	0-40
439883	Endosulfan	<0.004 ug/g					0	
439883	Endosulfan I	<0.002 ug/g	67	50-140	84	50-140	0	0-40
439883	Endosulfan II	<0.002 ug/g	75	50-140	86	50-140	0	0-40
439883	Endrin	<0.002 ug/g	73	50-140	84	50-140	0	0-40
439883	Hexachlorocyclohexane Gamma-	<0.002 ug/g	72	50-140	83	50-140	0	0-40
439883	Chlordane, gamma-	<0.002 ug/g	65	50-140	80	50-140	0	0-40
439883	Heptachlor	<0.002 ug/g	73	50-140	81	50-140	0	0-40
439883	Heptachlor Epoxide	<0.002 ug/g	69	50-140	80	50-140	0	0-40
439883	Hexachlorobenzene	<0.002 ug/g	102	50-140		50-140	0	0-40
439883	Hexachlorobutadiene	<0.002 ug/g	95				0	
439883	Hexachloroethane	<0.002 ug/g	93				0	
439883	Methoxychlor	<0.002 ug/g	78	50-140	84	50-140	0	0-40
439883	DDD	<0.002 ug/g	75	50-140	82	50-140	0	0-40
439883	DDE	<0.002 ug/g	75	50-140	85	50-140	0	0-40
439883	DDT	<0.002 ug/g	85	50-140	82	50-140	0	0-40

Results relate only to the parameters tested on the samples submitted.
Methods references and/or additional QA/QC information available on request.

MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

Certificate of Analysis

Client: Redstone Engineering
1086 Hayes Line
Cavan, Ontario
L0A 1C0
Attention: Garnet Brenchley
PO#:
Invoice to: Redstone Engineering Inc.

Report Number: 1995402
Date Submitted: 2023-04-03
Date Reported: 2023-04-11
Project: 23R102
COC #: 906678

Test Summary

Batch No	Analyte	Instrument	Prep aration Date	Analysis Date	Analyst	Method
439883	Chlordane, alpha-	GC/ECD	2023-04-11	2023-04-11	R_G	EPA 8081B/8082A
439883	Aldrin	GC/ECD	2023-04-11	2023-04-11	R_G	EPA 8081B/8082A
439883	Chlordane	GC/ECD	2023-04-11	2023-04-11	R_G	EPA 8081B/8082A
439883	Dieldrin	GC/ECD	2023-04-11	2023-04-11	R_G	EPA 8081B/8082A
439883	Endosulfan	GC/ECD	2023-04-11	2023-04-11	R_G	EPA 8081B/8082A
439883	Endosulfan I	GC/ECD	2023-04-11	2023-04-11	R_G	EPA 8081B/8082A
439883	Endosulfan II	GC/ECD	2023-04-11	2023-04-11	R_G	EPA 8081B/8082A
439883	Endrin	GC/ECD	2023-04-11	2023-04-11	R_G	EPA 8081B/8082A
439883	Hexachlorocyclohexane Gamma-	GC/ECD	2023-04-11	2023-04-11	R_G	EPA 8081B/8082A
439883	Chlordane, gamma-	GC/ECD	2023-04-11	2023-04-11	R_G	EPA 8081B/8082A
439883	Heptachlor	GC/ECD	2023-04-11	2023-04-11	R_G	EPA 8081B/8082A
439883	Heptachlor Epoxide	GC/ECD	2023-04-11	2023-04-11	R_G	EPA 8081B/8082A
439883	Hexachlorobenzene	GC/ECD	2023-04-11	2023-04-11	R_G	EPA 8081B/8082A
439883	Hexachlorobutadiene	GC/ECD	2023-04-11	2023-04-11	R_G	EPA 8081B/8082A
439883	Hexachloroethane	GC/ECD	2023-04-11	2023-04-11	R_G	EPA 8081B/8082A
439883	Methoxychlor	GC/ECD	2023-04-11	2023-04-11	R_G	EPA 8081B/8082A
439883	DDD	GC/ECD	2023-04-11	2023-04-11	R_G	EPA 8081B/8082A
439883	DDE	GC/ECD	2023-04-11	2023-04-11	R_G	EPA 8081B/8082A
439883	DDT	GC/ECD	2023-04-11	2023-04-11	R_G	EPA 8081B/8082A

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Client: Redstone Engineering
1086 Hayes Line
Cavan, Ontario
L0A 1C0
Attention: Garnet Brenchley
PO#:
Invoice to: Redstone Engineering Inc.

Report Number: 1995402
Date Submitted: 2023-04-03
Date Reported: 2023-04-11
Project: 23R102
COC #: 906678

CWS for Petroleum Hydrocarbons in Soil - Tier 1

Notes:

1. The laboratory method complies with CCME Tier 1 reference method for PHC in soil. It is validated for laboratory use.
2. Where the F1 fraction (C6 to C10) and BTEX are both measured, F1-BTEX is reported.
3. Where the F2 fraction (C10 to C16) and naphthalene are both measured, F2-naphthalene is reported.
4. Where the F3 fraction (C16 to C34) and PAHs* are both measured, F3-PAH is reported.
5. F4G is analyzed if the chromatogram does not descend to baseline before C50. Where F4 (C34 to C50) and F4G are both reported, the higher result is compared to the standard.
6. Unless otherwise stated in the sample comments, the following criteria have been met where applicable:

   - nC6 and nC10 response factors within 30% of response factor for toluene;
   - nC10, nC16, and nC34 response factors within 10% of each other;
   - C50 response factors within 70% of nC10 + nC16 + nC34 average; and,
   - Linearity is within 15%.

7. Unless otherwise stated in the sample comments, sampling requirements and analytical holding times have been met.
8. Gravimetric heavy hydrocarbons (F4G) cannot be added to the C6 and C50 hydrocarbons.
9. *PAHs = phenanthrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-c,d)pyrene and pyrene.

MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

Certificate of Analysis

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Client: Redstone Engineering
1086 Hayes Line
Cavan, Ontario
L0A 1C0
Attention: Garnet Brenchley
Invoice to: Redstone Engineering Inc.
PO#:

Report Number:	1994109
Date Submitted:	2023-02-24
Date Reported:	2023-03-03
Project:	23R102
COC #:	905699
Temperature (C):	9
Custody Seal:	

Dear Garnet Brenchley:

Please find attached the analytical results for your samples. If you have any questions regarding this report, please do not hesitate to call (613-727-5692).

Report Comments:

R Zafari

Raheleh Zafari 2023.03.03 16:49:48 -05'00'

Raheleh Zafari, Environmental Chemist

All analysis is completed at Eurofins Environment Testing Canada Inc. (Ottawa, Ontario) unless otherwise stated

Eurofins Environment Testing Canada Inc. is accredited by CALA, Canadian Association for Laboratory Accreditation to ISO/IEC 17025 for tests which appear on the scope of accreditation. The scope is available at https://directory.cala.ca/

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Certificate of Analysis

Client: Redstone Engineering
1086 Hayes Line
Cavan, Ontario
L0A 1C0
Attention: Garnet Brenchley
PO#:
Invoice to: Redstone Engineering Inc.

Report Number: 1994109
Date Submitted: 2023-02-24
Date Reported: 2023-03-03
Project: 23R102
COC #: 905699

Exceedence Summary

Sample I.D.	Analyte	Result	Units	Criteria

Results relate only to the parameters tested on the samples submitted.
Methods references and/or additional QA/QC information available on request.

MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

Client: Redstone Engineering
1086 Hayes Line
Cavan, Ontario
L0A 1C0
Attention: Garnet Brenchley
PO#:
Invoice to: Redstone Engineering Inc.

Report Number: 1994109
Date Submitted: 2023-02-24
Date Reported: 2023-03-03
Project: 23R102
COC #: 905699

Guideline = Excess Soil-Leach T1-Res/Park/Inst & In

Metals

Analyte	Batch No	MRL	Units	Guideline	Lab I.D. 1675781	1675782	1675783
Sample Matrix					SPLP	SPLP	SPLP
Sample Type							
Sample Date					2023-02-16	2023-02-16	2023-02-16
Sampling Time					08:00	08:00	08:00
Sample I.D.					BH-1 SS-2	BH-2 SS-2	BH-3 SS-3
Antimony	438245	0.5	ug/L		<0.5	<0.5	<0.5
Barium	438245	10	ug/L		<10	<10	<10
Beryllium	438245	0.5	ug/L		<0.5	<0.5	<0.5
Boron (total)	438245	10	ug/L		<10	10	<10
Cadmium	438245	0.1	ug/L		<0.1	<0.1	<0.1
Chromium Total	438245	1	ug/L		<1	2	<1
Cobalt	438245	0.2	ug/L		<0.2	<0.2	<0.2
Copper	438245	1	ug/L		<1	<1	<1
Molybdenum	438245	5	ug/L	STD 23	<5	<5	<5
Nickel	438245	5	ug/L		<5	<5	<5
Selenium	438245	1	ug/L		<1	<1	<1
Silver	438245	0.1	ug/L	STD 0.3	<0.1	<0.1	<0.1
Thallium	438245	0.1	ug/L	STD 2	<0.1	<0.1	<0.1
Uranium	438245	1	ug/L		<1	<1	<1
Zinc	438245	10	ug/L		<10	<10	<10

Results relate only to the parameters tested on the samples submitted.
Methods references and/or additional QA/QC information available on request.

MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

Client: Redstone Engineering
1086 Hayes Line
Cavan, Ontario
L0A 1C0
Attention: Garnet Brenchley
PO#:
Invoice to: Redstone Engineering Inc.

Report Number: 1994109
Date Submitted: 2023-02-24
Date Reported: 2023-03-03
Project: 23R102
COC #: 905699

Guideline = Excess Soil-Leach T1-Res/Park/Inst & In

SPLP

Analyte	Batch No	MRL	Units	Guideline	Lab I.D. 1675781	1675782	1675783
Sample Matrix					SPLP	SPLP	SPLP
Sample Type							
Sample Date					2023-02-16 08:00	2023-02-16 08:00	2023-02-16 08:00
Sampling Time							
Sample I.D.					BH-1 SS-2	BH-2 SS-2	BH-3 SS-3
SPLP Extraction	438123				y	y	y
Zero Headspace Extraction	438123				y	y	y

Volatiles

Analyte	Batch No	MRL	Units	Guideline	Lab I.D. 1675781	1675782	1675783
Sample Matrix					SPLP	SPLP	SPLP
Sample Type							
Sample Date					2023-02-16 08:00	2023-02-16 08:00	2023-02-16 08:00
Sampling Time							
Sample I.D.					BH-1 SS-2	BH-2 SS-2	BH-3 SS-3
Bromomethane	438191	0.5	ug/L	STD 0.5	<0.5	<0.5	<0.5
Carbon Tetrachloride	438191	0.2	ug/L	STD 0.2	<0.2	<0.2	<0.2
Chloroform	438191	0.5	ug/L	STD 1	<0.5	<0.5	<0.5
Dichlorobenzene, 1,2-	438191	0.4	ug/L	STD 0.55	<0.4	<0.4	<0.4
Dichlorobenzene, 1,4-	438191	0.4	ug/L	STD 0.5	<0.4	<0.4	<0.4
Dichloroethane, 1,1-	438191	0.4	ug/L	STD 0.5	<0.4	<0.4	<0.4
Dichloroethane, 1,2-	438191	0.5	ug/L	STD 0.5	<0.5	<0.5	<0.5
Dichloroethylene, 1,1-	438191	0.5	ug/L	STD 0.5	<0.5	<0.5	<0.5
Dichloroethylene, 1,2-cis-	438191	0.4	ug/L	STD 0.5	<0.4	<0.4	<0.4
Dichloroethylene, 1,2-trans-	438191	0.4	ug/L	STD 0.5	<0.4	<0.4	<0.4
Dichloropropane, 1,2-	438191	0.5	ug/L	STD 0.5	<0.5	<0.5	<0.5
Dichloropropene,1,3-	438191	0.5	ug/L	STD 0.5	<0.5	<0.5	<0.5
Dichloropropene,1,3-cis-	438191	0.5	ug/L		<0.5	<0.5	<0.5

Results relate only to the parameters tested on the samples submitted.
Methods references and/or additional QA/QC information available on request.

MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

Client: Redstone Engineering
1086 Hayes Line
Cavan, Ontario
L0A 1C0
Attention: Garnet Brenchley
PO#:
Invoice to: Redstone Engineering Inc.

Report Number: 1994109
Date Submitted: 2023-02-24
Date Reported: 2023-03-03
Project: 23R102
COC #: 905699

Guideline = Excess Soil-Leach T1-Res/Park/Inst & In

Volatiles

Analyte	Batch No	MRL	Units	Guideline	Lab I.D. 1675781 SPLP Sample Matrix Sample Type Sample Date 2023-02-16 08:00 Sampling Time Sample I.D. BH-1 SS-2	Lab I.D. 1675782 SPLP Sample Matrix Sample Type Sample Date 2023-02-16 08:00 Sampling Time Sample I.D. BH-2 SS-2	Lab I.D. 1675783 SPLP Sample Matrix Sample Type Sample Date 2023-02-16 08:00 Sampling Time Sample I.D. BH-3 SS-3
Dichloropropene,1,3-trans-	438191	0.5	ug/L		<0.5	<0.5	<0.5
Dioxane, 1,4-	438191	2	ug/L	STD 2	<2	<2	<2
Ethylene dibromide	438191	0.2	ug/L	STD 0.2	<0.2	<0.2	<0.2
Tetrachloroethane, 1,1,1,2-	438191	0.5	ug/L	STD 0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,2,2-	438191	0.5	ug/L	STD 0.5	<0.5	<0.5	<0.5
Tetrachloroethylene	438191	0.3	ug/L	STD 0.5	<0.3	<0.3	<0.3
Trichloroethane, 1,1,2-	438191	0.4	ug/L	STD 0.5	<0.4	<0.4	<0.4
Trichloroethylene	438191	0.3	ug/L	STD 0.5	<0.3	<0.3	<0.3

Moisture

Analyte	Batch No	MRL	Units	Guideline	Lab I.D. 1675781 SPLP Sample Matrix Sample Type Sample Date 2023-02-16 08:00 Sampling Time Sample I.D. BH-1 SS-2	Lab I.D. 1675782 SPLP Sample Matrix Sample Type Sample Date 2023-02-16 08:00 Sampling Time Sample I.D. BH-2 SS-2	Lab I.D. 1675783 SPLP Sample Matrix Sample Type Sample Date 2023-02-16 08:00 Sampling Time Sample I.D. BH-3 SS-3
Moisture-Humidite	438120	0.1	%		8.0	9.0	5.6

Results relate only to the parameters tested on the samples submitted.
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Guideline = Excess Soil-Leach T1-Res/Park/Inst & In

VOCs Surrogates

Analyte	Batch No	MRL	Units	Guideline	Lab I.D. / Sample Matrix / Sample Type / Sample Date / Sampling Time / Sample I.D. 1675781 SPLP 2023-02-16 08:00 BH-1 SS-2	1675782 SPLP 2023-02-16 08:00 BH-2 SS-2	1675783 SPLP 2023-02-16 08:00 BH-3 SS-3
1,2-dichloroethane-d4	438191	0	%		110	109	111
4-bromofluorobenzene	438191	0	%		76	75	75
Toluene-d8	438191	0	%		94	95	95

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Report Number: 1994109
Date Submitted: 2023-02-24
Date Reported: 2023-03-03
Project: 23R102
COC #: 905699

Quality Assurance Summary

Batch No	Analyte	Blank	QC % Rec	QC Limits	Spike % Rec	Spike Limits	Dup % RPD	Duplicate Limits
438120	Moisture-Humidite			80-120				
438123	SPLP Extraction							
438123	Zero Headspace Extraction							
438191	Tetrachloroethane, 1,1,1,2-	<0.5 ug/L	98	60-130	90	50-140	0	0-30
438191	Tetrachloroethane, 1,1,2,2-	<0.5 ug/L	99	60-130	91	50-140	0	0-30
438191	Trichloroethane, 1,1,2-	<0.4 ug/L	97	60-130	91	50-140	0	0-30
438191	Dichloroethane, 1,1-	<0.4 ug/L	92	60-130	84	50-140	0	0-30
438191	Dichloroethylene, 1,1-	<0.5 ug/L	81	60-130	78	50-140	0	0-30
438191	Dichlorobenzene, 1,2-	<0.4 ug/L	94	60-130	86	50-140	0	0-30
438191	Dichloroethane, 1,2-	<0.5 ug/L	92	60-130	83	50-140	0	0-30
438191	Dichloropropane, 1,2-	<0.5 ug/L	92	60-130	85	50-140	0	0-30
438191	Dichloropropene,1,3-							
438191	Dichlorobenzene, 1,4-	<0.4 ug/L	90	60-130	84	50-140	0	0-30
438191	Dioxane, 1,4-			50-140		50-140		0-30
438191	Bromomethane	<0.5 ug/L	81	60-130	79	50-140	0	0-30
438191	Dichloroethylene, 1,2-cis-	<0.4 ug/L	90	60-130	81	50-140	0	0-30
438191	Dichloropropene,1,3-cis-	<0.5 ug/L	82	60-130	76	50-140	0	0-30
438191	Carbon Tetrachloride	<0.2 ug/L	93	60-130	83	50-140	0	0-30
438191	Chloroform	<0.5 ug/L	93	60-130	85	50-140	0	0-30
438191	Ethylene dibromide	<0.2 ug/L	99	60-130	92	50-140	0	0-30
438191	Dichloroethylene, 1,2-trans-	<0.4 ug/L	93	60-130	84	50-140	0	0-30
438191	Dichloropropene,1,3-trans-	<0.5 ug/L	86	60-130	78	50-140	0	0-30
438191	Tetrachloroethylene	<0.3 ug/L	90	60-130	82	50-140	0	0-30
438191	Trichloroethylene	<0.3 ug/L	89	60-130	83	50-140	0	0-30
438245	Silver	<0.1 ug/L	107	80-120		70-130		0-20
438245	Boron (total)	<10 ug/L	105	80-120		80-120		0-20
438245	Barium	<10 ug/L	96	80-120		70-130		0-20
438245	Beryllium	<0.5 ug/L	106	80-120		70-130		0-20
438245	Cadmium	<0.1 ug/L	104	80-120		70-130		0-20
438245	Cobalt	<0.2 ug/L	95	80-120		70-130		0-20
438245	Chromium Total	<1 ug/L	106	80-120		70-130		0-20
438245	Copper	<1 ug/L	102	80-120		70-130		0-20

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L0A 1C0
Attention: Garnet Brenchley
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Invoice to: Redstone Engineering Inc.

Report Number: 1994109
Date Submitted: 2023-02-24
Date Reported: 2023-03-03
Project: 23R102
COC #: 905699

Quality Assurance Summary

Batch No	Analyte	Blank	QC % Rec	QC Limits	Spike % Rec	Spike Limits	Dup % RPD	Duplicate Limits
438245	Molybdenum	<5 ug/L	93	80-120		70-130		0-20
438245	Nickel	<5 ug/L	102	80-120		70-130		0-20
438245	Antimony	<0.5 ug/L	84	80-120		70-130		0-20
438245	Selenium	<1 ug/L	112	80-120		70-130		0-20
438245	Thallium	<0.1 ug/L	92	80-120		70-130		0-20
438245	Uranium	<1 ug/L	82	80-120		70-130		0-20
438245	Zinc	<10 ug/L	110	80-120		70-130		0-20

Results relate only to the parameters tested on the samples submitted.
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Report Number: 1994109
Date Submitted: 2023-02-24
Date Reported: 2023-03-03
Project: 23R102
COC #: 905699

Test Summary

Batch No	Analyte	Instrument	Prep aration Date	Analysis Date	Analyst	Method
438120	Moisture-Humidite	Oven	2023-02-28	2023-02-28	IP	ASTM 2216
438123	SPLP Extraction		2023-03-01	2023-03-01	IP	mSPLP E9003/EPA 1312
438123	Zero Headspace Extraction		2023-03-01	2023-03-01	IP	mSPLP E9003/EPA 1312
438191	Tetrachloroethane, 1,1,1,2-	GC-MS	2023-03-01	2023-03-01	PJ	EPA 8260
438191	Tetrachloroethane, 1,1,2,2-	GC-MS	2023-03-01	2023-03-01	PJ	EPA 8260
438191	Trichloroethane, 1,1,2-	GC-MS	2023-03-01	2023-03-01	PJ	EPA 8260
438191	Dichloroethane, 1,1-	GC-MS	2023-03-01	2023-03-01	PJ	EPA 8260
438191	Dichloroethylene, 1,1-	GC-MS	2023-03-01	2023-03-01	PJ	EPA 8260
438191	Dichlorobenzene, 1,2-	GC-MS	2023-03-01	2023-03-01	PJ	EPA 8260
438191	Dichloroethane, 1,2-	GC-MS	2023-03-01	2023-03-01	PJ	EPA 8260
438191	Dichloropropane, 1,2-	GC-MS	2023-03-01	2023-03-01	PJ	EPA 8260
438191	Dichloropropene,1,3-	GC-MS	2023-03-01	2023-03-01	PJ	EPA 8260
438191	Dichlorobenzene, 1,4-	GC-MS	2023-03-01	2023-03-01	PJ	EPA 8260
438191	Dioxane, 1,4-	GC-MS	2023-03-01	2023-03-01	PJ	EPA 8260
438191	Bromomethane	GC-MS	2023-03-01	2023-03-01	PJ	EPA 8260
438191	Dichloroethylene, 1,2-cis-	GC-MS	2023-03-01	2023-03-01	PJ	EPA 8260
438191	Dichloropropene,1,3-cis-	GC-MS	2023-03-01	2023-03-01	PJ	EPA 8260
438191	Carbon Tetrachloride	GC-MS	2023-03-01	2023-03-01	PJ	EPA 8260
438191	Chloroform	GC-MS	2023-03-01	2023-03-01	PJ	EPA 8260
438191	Ethylene dibromide	GC-MS	2023-03-01	2023-03-01	PJ	EPA 8260
438191	Dichloroethylene, 1,2-trans-	GC-MS	2023-03-01	2023-03-01	PJ	EPA 8260
438191	Dichloropropene,1,3-trans-	GC-MS	2023-03-01	2023-03-01	PJ	EPA 8260
438191	Tetrachloroethylene	GC-MS	2023-03-01	2023-03-01	PJ	EPA 8260
438191	Trichloroethylene	GC-MS	2023-03-01	2023-03-01	PJ	EPA 8260
438245	Silver	ICAPQ-MS	2023-03-03	2023-03-03	SD	EPA 200.8
438245	Boron (total)	ICAPQ-MS	2023-03-03	2023-03-03	SD	EPA 200.8
438245	Barium	ICAPQ-MS	2023-03-03	2023-03-03	SD	EPA 200.8
438245	Beryllium	ICAPQ-MS	2023-03-03	2023-03-03	SD	EPA 200.8
438245	Cadmium	ICAPQ-MS	2023-03-03	2023-03-03	SD	EPA 200.8
438245	Cobalt	ICAPQ-MS	2023-03-03	2023-03-03	SD	EPA 200.8
438245	Chromium Total	ICAPQ-MS	2023-03-03	2023-03-03	SD	EPA 200.8
438245	Copper	ICAPQ-MS	2023-03-03	2023-03-03	SD	EPA 200.8

Results relate only to the parameters tested on the samples submitted.
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Certificate of Analysis

Client: Redstone Engineering
1086 Hayes Line
Cavan, Ontario
L0A 1C0
Attention: Garnet Brenchley
PO#:
Invoice to: Redstone Engineering Inc.

Report Number: 1994109
Date Submitted: 2023-02-24
Date Reported: 2023-03-03
Project: 23R102
COC #: 905699

Test Summary

Batch No	Analyte	Instrument	Prep aration Date	Analysis Date	Analyst	Method
438245	Molybdenum	ICAPQ-MS	2023-03-03	2023-03-03	SD	EPA 200.8
438245	Nickel	ICAPQ-MS	2023-03-03	2023-03-03	SD	EPA 200.8
438245	Antimony	ICAPQ-MS	2023-03-03	2023-03-03	SD	EPA 200.8
438245	Selenium	ICAPQ-MS	2023-03-03	2023-03-03	SD	EPA 200.8
438245	Thallium	ICAPQ-MS	2023-03-03	2023-03-03	SD	EPA 200.8
438245	Uranium	ICAPQ-MS	2023-03-03	2023-03-03	SD	EPA 200.8
438245	Zinc	ICAPQ-MS	2023-03-03	2023-03-03	SD	EPA 200.8

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CWS for Petroleum Hydrocarbons in Soil - Tier 1

Notes:

1. The laboratory method complies with CCME Tier 1 reference method for PHC in soil. It is validated for laboratory use.
2. Where the F1 fraction (C6 to C10) and BTEX are both measured, F1-BTEX is reported.
3. Where the F2 fraction (C10 to C16) and naphthalene are both measured, F2-naphthalene is reported.
4. Where the F3 fraction (C16 to C34) and PAHs* are both measured, F3-PAH is reported.
5. F4G is analyzed if the chromatogram does not descend to baseline before C50. Where F4 (C34 to C50) and F4G are both reported, the higher result is compared to the standard.
6. Unless otherwise stated in the sample comments, the following criteria have been met where applicable:

   - nC6 and nC10 response factors within 30% of response factor for toluene;
   - nC10, nC16, and nC34 response factors within 10% of each other;
   - C50 response factors within 70% of nC10 + nC16 + nC34 average; and,
   - Linearity is within 15%.

7. Unless otherwise stated in the sample comments, sampling requirements and analytical holding times have been met.
8. Gravimetric heavy hydrocarbons (F4G) cannot be added to the C6 and C50 hydrocarbons.
9. *PAHs = phenanthrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-c,d)pyrene and pyrene.

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Certificate of Analysis

eurofins | Environment Testing

Client: Redstone Engineering
1086 Hayes Line
Cavan, Ontario
L0A 1C0
Attention: Garnet Brenchley
Invoice to: Redstone Engineering Inc.
PO#:

Report Number:	1995403
Date Submitted:	2023-04-03
Date Reported:	2023-04-11
Project:	23R102
COC #:	906678
Temperature (C):	9
Custody Seal:	

Dear Garnet Brenchley:

Please find attached the analytical results for your samples. If you have any questions regarding this report, please do not hesitate to call (613-727-5692).

Sample Comment Summary

Sample ID: 1680296	BH-2 SS-2	Hold time for SPLP extraction exceeded. Results might be low biased.

Report Comments:

R Zafari

Raheleh Zafari 2023.04.11 15:45:00 -04'00'

Raheleh Zafari, Environmental Chemist

All analysis is completed at Eurofins Environment Testing Canada Inc. (Ottawa, Ontario) unless otherwise stated

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Eurofins Environment Testing Canada Inc. is accredited by CALA, Canadian Association for Laboratory Accreditation to ISO/IEC 17025 for tests which appear on the scope of accreditation. The scope is available at https://directory.cala.ca/

Please note: Field data, where presented on the report, has been provided by the client and is presented for informational purposes only. Guideline or regulatory limits listed on this report are provided for ease of use (informational purposes) only. Eurofins recommends consulting the official guideline or regulation as required. Unless otherwise stated, measurement uncertainty is not taken into account when determining guideline or regulatory exceedances.

Certificate of Analysis

Client: Redstone Engineering
1086 Hayes Line
Cavan, Ontario
L0A 1C0
Attention: Garnet Brenchley
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Report Number: 1995403
Date Submitted: 2023-04-03
Date Reported: 2023-04-11
Project: 23R102
COC #: 906678

Exceedence Summary

Sample I.D.	Analyte	Result	Units	Criteria

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Report Number: 1995403
Date Submitted: 2023-04-03
Date Reported: 2023-04-11
Project: 23R102
COC #: 906678

Guideline = Excess Soil-Leach T1-Res/Park/Inst & In

OCP/PCB

Analyte	Batch No	MRL	Units	Guideline	Lab I.D. 1680296 Sample Matrix SPLP Sample Type Sample Date 2023-02-16 Sampling Time Sample I.D. BH-2 SS-2
Dieldrin	439864	0.006	ug/L	STD 0.095	<0.006
Endrin	439864	0.006	ug/L	STD 0.061	<0.006
Heptachlor	439864	0.006	ug/L	STD 0.01	<0.006
Heptachlor Epoxide	439864	0.006	ug/L	STD 0.01	<0.006

SPLP

Analyte	Batch No	MRL	Units	Guideline	Lab I.D. 1680296 Sample Matrix SPLP Sample Type Sample Date 2023-02-16 Sampling Time Sample I.D. BH-2 SS-2
SPLP Extraction	439696				y

Results relate only to the parameters tested on the samples submitted.
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Date Submitted: 2023-04-03
Date Reported: 2023-04-11
Project: 23R102
COC #: 906678

Guideline = Excess Soil-Leach T1-Res/Park/Inst & In

Moisture

Analyte	Batch No	MRL	Units	Guideline	Lab I.D. 1680296 Sample Matrix SPLP Sample Type Sample Date 2023-02-16 Sampling Time Sample I.D. BH-2 SS-2
Moisture-Humidite	439696	0.1	%		8.1

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Report Number: 1995403
Date Submitted: 2023-04-03
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Project: 23R102
COC #: 906678

Quality Assurance Summary

Batch No	Analyte	Blank	QC % Rec	QC Limits	Spike % Rec	Spike Limits	Dup % RPD	Duplicate Limits
439696	Moisture-Humidite			80-120				
439696	SPLP Extraction							
439864	Dieldrin	<0.006 ug/L	95	50-140		50-140		0-30
439864	Endrin	<0.006 ug/L	81	50-140		50-140		0-30
439864	Heptachlor	<0.006 ug/L	95	50-140		50-140		0-30
439864	Heptachlor Epoxide	<0.006 ug/L	73	50-140		50-140		0-30

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Certificate of Analysis

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COC #: 906678

Test Summary

Batch No	Analyte	Instrument	Prep aration Date	Analysis Date	Analyst	Method
439696	Moisture-Humidite	Oven	2023-04-05	2023-04-05	IP	ASTM 2216
439696	SPLP Extraction		2023-04-06	2023-04-06	IP	mSPLP E9003/EPA 1312
439864	Dieldrin	GC/ECD	2023-04-11	2023-04-11	R_G	EPA 8081B
439864	Endrin	GC/ECD	2023-04-11	2023-04-11	R_G	EPA 8081B
439864	Heptachlor	GC/ECD	2023-04-11	2023-04-11	R_G	EPA 8081B
439864	Heptachlor Epoxide	GC/ECD	2023-04-11	2023-04-11	R_G	EPA 8081B

Results relate only to the parameters tested on the samples submitted.
Methods references and/or additional QA/QC information available on request.

MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

Client: Redstone Engineering
1086 Hayes Line
Cavan, Ontario
L0A 1C0
Attention: Garnet Brenchley
PO#:
Invoice to: Redstone Engineering Inc.

Report Number: 1995403
Date Submitted: 2023-04-03
Date Reported: 2023-04-11
Project: 23R102
COC #: 906678

CWS for Petroleum Hydrocarbons in Soil - Tier 1

Notes:

1. The laboratory method complies with CCME Tier 1 reference method for PHC in soil. It is validated for laboratory use.
2. Where the F1 fraction (C6 to C10) and BTEX are both measured, F1-BTEX is reported.
3. Where the F2 fraction (C10 to C16) and naphthalene are both measured, F2-naphthalene is reported.
4. Where the F3 fraction (C16 to C34) and PAHs* are both measured, F3-PAH is reported.
5. F4G is analyzed if the chromatogram does not descend to baseline before C50. Where F4 (C34 to C50) and F4G are both reported, the higher result is compared to the standard.
6. Unless otherwise stated in the sample comments, the following criteria have been met where applicable:

   - nC6 and nC10 response factors within 30% of response factor for toluene;
   - nC10, nC16, and nC34 response factors within 10% of each other;
   - C50 response factors within 70% of nC10 + nC16 + nC34 average; and,
   - Linearity is within 15%.

7. Unless otherwise stated in the sample comments, sampling requirements and analytical holding times have been met.
8. Gravimetric heavy hydrocarbons (F4G) cannot be added to the C6 and C50 hydrocarbons.
9. *PAHs = phenanthrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-c,d)pyrene and pyrene.

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eurofins | Environment Testing

Certificate of Analysis

Client: Redstone Engineering
1086 Hayes Line
Cavan, Ontario
L0A 1C0
Attention: Garnet Brenchley
PO#:
Invoice to: Redstone Engineering Inc.

Report Number: 1994110
Date Submitted: 2023-02-24
Date Reported: 2023-03-03
Project: 23R102
COC #: 905699

Dear Garnet Brenchley:

Please find attached the analytical results for your samples. If you have any questions regarding this report, please do not hesitate to call (613-727-5692).

Report Comments:

R Zafari

Raheleh Zafari 2023.03.03 16:34:14 -05'00'

APPROVAL: _____

Raheleh Zafari, Environmental Chemist

All analysis is completed at Eurofins Environment Testing Canada Inc. (Ottawa, Ontario) unless otherwise indicated.

Eurofins Environment Testing Canada Inc. (Ottawa, Ontario) is accredited by CALA, Canadian Association for Laboratory Accreditation to ISO/IEC 17025 for tests which appear on the scope of accreditation. The scope is available at: https://directory.cala.ca/.

Eurofins Environment Testing Canada Inc. (Ottawa, Ontario) is licensed by the Ontario Ministry of the Environment, Conservation, and Parks (MECP) for specific tests in drinking water (license #2318). A copy of the license is available upon request.

Eurofins Environment Testing Canada Inc. (Ottawa, Ontario) is accredited by the Ontario Ministry of Agriculture, Food, and Rural Affairs for specific tests in agricultural soils.

Please note: Field data, where presented on the report, has been provided by the client and is presented for informational purposes only. Guideline values listed on this report are provided for ease of use (informational purposes) only. Eurofins recommends consulting the official provincial or federal guideline as required. Unless otherwise stated, measurement uncertainty is not taken into account when determining guideline or regulatory exceedances.

eurofins | Environment Testing

Certificate of Analysis

Client: Redstone Engineering
1086 Hayes Line
Cavan, Ontario
L0A 1C0
Attention: Garnet Brenchley
PO#:
Invoice to: Redstone Engineering Inc.

Report Number: 1994110
Date Submitted: 2023-02-24
Date Reported: 2023-03-03
Project: 23R102
COC #: 905699

Group	Analyte	MRL	Units	Guideline	Lab I.D. / Sample Matrix / Sample Type / Sampling Date / Sample I.D.
					1675784 / R347 / / 2023-02-16 / Comp-1
Anions	F	0.10	mg/L	LQC 150.0	0.23
General Chemistry	Cyanide (free)	0.05	mg/L	LQC 20.0	<0.05
Leachate	REG 558 Leach				y
	Zero Headspace Extraction				y
Mercury	Hg	0.001	mg/L	LQC 0.1	<0.001
Metals	Ag	0.01	mg/L	LQC 5	<0.01
	As	0.02	mg/L	LQC 2.5	<0.02
	B	0.1	mg/L	LQC 500.0	<0.1
	Ba	0.01	mg/L	LQC 100.0	0.44
	Cd	0.008	mg/L	LQC 0.5	<0.008
	Cr	0.05	mg/L	LQC 5.0	<0.05
	Pb	0.01	mg/L	LQC 5.0	<0.01
	Se	0.02	mg/L	LQC 1.0	<0.02
	U	0.01	mg/L	LQC 10.0	<0.01
Moisture	Moisture-Humidite	0.1	%		3.5
Others	NO2 + NO3 as N	1.0	mg/L	LQC 1000	<1.0
PCBs	Polychlorinated Biphenyls (PCBs)	0.1	ug/L	LQC 300	<0.1
VOCs Surrogates	1,2-dichloroethane-d4	0	%		111
	4-bromofluorobenzene	0	%		75
	Toluene-d8	0	%		93
Volatiles	1,1-dichloroethylene	0.5	ug/L	LQC 1400	<0.5
	1,2-dichlorobenzene	0.4	ug/L	LQC 20000	<0.4
	1,2-dichloroethane	0.5	ug/L	LQC 500	<0.5
	1,4-dichlorobenzene	0.4	ug/L	LQC 500	<0.4
	Benzene	0.5	ug/L	LQC 500	<0.5

Guideline = REG 558 *** = Guideline Exceedence**

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eurofins | Environment Testing

Certificate of Analysis

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PO#:
Invoice to: Redstone Engineering Inc.

Report Number: 1994110
Date Submitted: 2023-02-24
Date Reported: 2023-03-03
Project: 23R102
COC #: 905699

Group	Analyte	MRL	Units	Guideline	Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.
					1675784 R347 2023-02-16 Comp-1
Volatiles	Carbon Tetrachloride	0.2	ug/L	LQC 500	<0.2
	Chloroform	0.5	ug/L	LQC 10000	<0.5
	Dichloromethane	4.0	ug/L	LQC 5000	<4.0
	Methyl Ethyl Ketone (MEK)	2	ug/L	LQC 200000	<2
	Monochlorobenzene	0.5	ug/L	LQC 8000	<0.5
	Tetrachloroethylene	0.3	ug/L	LQC 3000	<0.3
	Trichloroethylene	0.3	ug/L	LQC 5000	<0.3
	Vinyl Chloride	0.2	ug/L	LQC 200	<0.2

Guideline = REG 558 *** = Guideline Exceedence**

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Attention: Garnet Brenchley
PO#:
Invoice to: Redstone Engineering Inc.

Report Number: 1994110
Date Submitted: 2023-02-24
Date Reported: 2023-03-03
Project: 23R102
COC #: 905699

QC Summary

Analyte	Blank	QC % Rec	QC Limits
Run No 438120 **Analysis/Extraction Date** 2023-02-28 **Analyst** IP **Method** ASTM 2216			
Moisture-Humidite			80-120
Run No 438123 **Analysis/Extraction Date** 2023-03-01 **Analyst** IP **Method** EPA 1311/O. Reg 347			
REG 558 Leach			
Zero Headspace Extraction			
Run No 438191 **Analysis/Extraction Date** 2023-03-01 **Analyst** PJ **Method** EPA 8260			
Dichloroethylene, 1,1-	<0.5 ug/L	81	60-130
Dichlorobenzene, 1,2-	<0.4 ug/L	94	60-130
Dichloroethane, 1,2-	<0.5 ug/L	92	60-130
Dichlorobenzene, 1,4-	<0.4 ug/L	90	60-130
Benzene	<0.5 ug/L	94	60-130
Carbon Tetrachloride	<0.2 ug/L	93	60-130
Chloroform	<0.5 ug/L	93	60-130
Methylene Chloride	<4.0 ug/L	97	60-130
Methyl Ethyl Ketone	<2 ug/L	110	60-130

Guideline = REG 558 *** = Guideline Exceedence**

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Client: Redstone Engineering
1086 Hayes Line
Cavan, Ontario
L0A 1C0
Attention: Garnet Brenchley
PO#:
Invoice to: Redstone Engineering Inc.

Report Number: 1994110
Date Submitted: 2023-02-24
Date Reported: 2023-03-03
Project: 23R102
COC #: 905699

QC Summary

Analyte	Blank	QC % Rec	QC Limits
Chlorobenzene	<0.5 ug/L	93	60-130
Tetrachloroethylene	<0.3 ug/L	90	60-130
Trichloroethylene	<0.3 ug/L	89	60-130
Vinyl Chloride	<0.2 ug/L	79	60-130
Run No 438210 **Analysis/Extraction Date** 2023-03-02 **Analyst** R_G **Method** EPA 8081B			
Polychlorinated Biphenyls	<0.1 ug/L	91	60-140
Run No 438220 **Analysis/Extraction Date** 2023-03-02 **Analyst** AaN **Method** M SM3112B-3500B			
Mercury	<0.001 mg/L	105	76-123
Run No 438221 **Analysis/Extraction Date** 2023-03-02 **Analyst** Z_S **Method** SM4500-CNC/MOE E3015			
Cyanide (CN-)	<0.05 mg/L	87	75-125
Run No 438228 **Analysis/Extraction Date** 2023-03-03 **Analyst** SKH **Method** C SM4500-NO3-F			
NO2 + NO3 as N	<1.0 mg/L	107	80-120
Run No 438246 **Analysis/Extraction Date** 2023-03-03 **Analyst** SD **Method** EPA 200.8			
Silver	<0.01 mg/L	80	70-130

Guideline = REG 558 *** = Guideline Exceedence**

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Methods references and/or additional QA/QC information available on request.

MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

Certificate of Analysis

Client: Redstone Engineering
1086 Hayes Line
Cavan, Ontario
L0A 1C0
Attention: Garnet Brenchley
PO#:
Invoice to: Redstone Engineering Inc.

Report Number: 1994110
Date Submitted: 2023-02-24
Date Reported: 2023-03-03
Project: 23R102
COC #: 905699

QC Summary

Analyte	Blank	QC % Rec	QC Limits
Arsenic	<0.02 mg/L	92	70-130
Boron (total)	<0.1 mg/L	77	70-130
Barium	<0.01 mg/L	90	70-130
Cadmium	<0.008 mg/L	92	70-130
Chromium Total	<0.05 mg/L	96	70-130
Lead	<0.01 mg/L	89	70-130
Selenium	<0.02 mg/L	103	70-130
Uranium	<0.01 mg/L	84	70-130
Run No 438251 **Analysis/Extraction Date** 2023-03-03 **Analyst** AET **Method** C SM4500-FC			
F	<0.10 mg/L	98	90-110

Guideline = REG 558 *** = Guideline Exceedence**

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Methods references and/or additional QA/QC information available on request.

MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

APPENDIX C: Cost Estimate

HASTINGS STANDPIPE REPLACEMENT COST ESTIMATE

Item Spec. #	Description	Unit	Quantity	Unit Price	Total Amount
1	Mobilization and Demobilization	LS	1	$ 10,000.00	$ 10,000.00
2	Insurance and Bonding	LS	1	$ 10,000.00	$ 10,000.00
3	Maintenance Manuals and Record Drawings	LS	1	$ 5,000.00	$ 5,000.00
4	Supply and Installation of New Standpipe	LS	1	$ 1,840,000.00	$ 1,840,000.00
5	Supply and Installation of New Mixing System	LS	1	$ 31,000.00	$ 31,000.00
6	Supply and Installation of Concrete Foundation	LS	1	$ 175,000.00	$ 175,000.00
7	Excavation, Removals, and Backfill for Tank Foundation	LS	1	$ 100,000.00	$ 100,000.00
8	Installation of New Valve Chamber Vault and Building	LS	1	$ 300,000.00	$ 300,000.00
9	Supply and Installation of Piping, Valves, and Accessories	LS	1	$ 100,000.00	$ 100,000.00
10	Flow Meter and Level Control Instrumentation and Integration	LS	1	$ 50,000.00	$ 50,000.00
11	Relocate Existing Communications Equipment to top of New Standpipe	LS	1	$ 5,000.00	$ 5,000.00
12	Demolition and Removal of Existing Standpipe	LS	1	$ 100,000.00	$ 100,000.00
13	Installation of New Watermain	m	25	$ 500.00	$ 12,500.00
14	Watermain Connection to Limits, Disinfection, and Testing	LS	1	$ 20,000.00	$ 20,000.00
15	Excavation, Removals, and Backfill for Valve Chamber and Watermain	LS	1	$ 50,000.00	$ 50,000.00

16	Pump VFDs and Integration at Plant	LS	1	$ 45,000.00	$ 45,000.00
17	Supply and Installation of New Pumps	Ea.	3	$ 25,000.00	$ 75,000.00
18	Mechanical General Work	LS	1	$ 50,000.00	$ 50,000.00
19	Electrical General Work	LS	1	$ 50,000.00	$ 50,000.00
20	HVAC General Work	LS	1	$ 15,000.00	$ 15,000.00
21	Fencing	LS	1	$ 25,000.00	$ 25,000.00
22	Environmental Protection and Dewatering	LS	1	$ 50,000.00	$ 50,000.00
23	Granular A Reinstatement for Watermain	Tonne	25	$ 25.00	$ 625.00
24	Granular B Reinstatement for Watermain	Tonne	50	$ 25.00	$ 1,250.00
25	Site Works	LS	1	$ 50,000.00	$ 50,000.00
26	Contingencies	LS	1	$ 100,000.00	$ 100,000.00
				Sub-Total	**$ 3,270,375.00**
				13% H.S.T.	**$ 425,148.75**
				TOTAL	**$ 3,695,523.75**

APPENDIX D: Checklists

Ontario

Ministry of Tourism, Culture and Sport

Programs & Services Branch
401 Bay Street, Suite 1700
Toronto ON M7A 0A7

Criteria for Evaluating Archaeological Potential

A Checklist for the Non-Specialist

The **purpose of the checklist** is to determine:

- if a property(ies) or project area may contain archaeological resources i.e., have archaeological potential
- it includes all areas that may be impacted by project activities, including – but not limited to:
  - the main project area
  - temporary storage
  - staging and working areas
  - temporary roads and detours

Processes covered under this checklist, such as:

- *Planning Act*
- *Environmental Assessment Act*
- *Aggregates Resources Act*
- *Ontario Heritage Act* – Standards and Guidelines for Conservation of Provincial Heritage Properties

Archaeological assessment

If you are not sure how to answer one or more of the questions on the checklist, you may want to hire a licensed consultant archaeologist (see page 4 for definitions) to undertake an archaeological assessment.

The assessment will help you:

- identify, evaluate and protect archaeological resources on your property or project area
- reduce potential delays and risks to your project

Note: By law, archaeological assessments **must** be done by a licensed consultant archaeologist. Only a licensed archaeologist can assess – or alter – an archaeological site.

What to do if you:

- **find an archaeological resource**

  If you find something you think may be of archaeological value during project work, you must – by law – stop all activities immediately and contact a licensed consultant archaeologist

  The archaeologist will carry out the fieldwork in compliance with the *Ontario Heritage Act* [s.48(1)].

- **unearth a burial site**

  If you find a burial site containing human remains, you must immediately notify the appropriate authorities (i.e., police, coroner's office, and/or Registrar of Cemeteries) and comply with the *Funeral, Burial and Cremation Services Act*.

Other checklists

Please use a separate checklist for your project, if:

- you are seeking a Renewable Energy Approval under Ontario Regulation 359/09 – separate checklist
- your Parent Class EA document has an approved screening criteria (as referenced in Question 1)

Please refer to the Instructions pages when completing this form.

Project or Property Name

Hastings Standpipe Replacement

Project or Property Location (upper and lower or single tier municipality)

Hastings, Trent Hills - Division Street East & Victoria Street North

Proponent Name

The Municipality of Trent Hills

Proponent Contact Information

Tony Guerrera - tguerrera@greergalloway.com - (613) 966-3068

Screening Questions

	Yes	No
1. Is there a pre-approved screening checklist, methodology or process in place?	☐	☑

If Yes, please follow the pre-approved screening checklist, methodology or process.

If No, continue to Question 2.

	Yes	No
2. Has an archaeological assessment been prepared for the property (or project area) and been accepted by MTCS?	☐	☑

If Yes, do **not** complete the rest of the checklist. You are expected to follow the recommendations in the archaeological assessment report(s).

The proponent, property owner and/or approval authority will:

- summarize the previous assessment
- add this checklist to the project file, with the appropriate documents that demonstrate an archaeological assessment was undertaken e.g., MTCS letter stating acceptance of archaeological assessment report

The summary and appropriate documentation may be:

- submitted as part of a report requirement e.g., environmental assessment document
- maintained by the property owner, proponent or approval authority

If No, continue to Question 3.

	Yes	No
3. Are there known archaeological sites on or within 300 metres of the property (or the project area)?	☐	☑
4. Is there Aboriginal or local knowledge of archaeological sites on or within 300 metres of the property (or project area)?	☐	☑
5. Is there Aboriginal knowledge or historically documented evidence of past Aboriginal use on or within 300 metres of the property (or project area)?	☐	☑
6. Is there a known burial site or cemetery on the property or adjacent to the property (or project area)?	☐	☑
7. Has the property (or project area) been recognized for its cultural heritage value?	☐	☑

If Yes to any of the above questions (3 to 7), do **not** complete the checklist. Instead, you need to hire a licensed consultant archaeologist to undertake an archaeological assessment of your property or project area.

If No, continue to question 8.

	Yes	No
8. Has the entire property (or project area) been subjected to recent, extensive and intensive disturbance?	☑	☐

If Yes to the preceding question, do **not** complete the checklist. Instead, please keep and maintain a summary of documentation that provides evidence of the recent disturbance.

An archaeological assessment is not required.

If No, continue to question 9.

	Yes	No
9. Are there present or past water sources within 300 metres of the property (or project area)?	☐	☐

If Yes, an archaeological assessment is required.

If No, continue to question 10.

	Yes	No
10. Is there evidence of two or more of the following on the property (or project area)?	☐	☐

- elevated topography
- pockets of well-drained sandy soil
- distinctive land formations
- resource extraction areas
- early historic settlement
- early historic transportation routes

If Yes, an archaeological assessment is required.

If No, there is low potential for archaeological resources at the property (or project area).

The proponent, property owner and/or approval authority will:

- summarize the conclusion
- add this checklist with the appropriate documentation to the project file

The summary and appropriate documentation may be:

- submitted as part of a report requirement e.g., under the *Environmental Assessment Act, Planning Act* processes
- maintained by the property owner, proponent or approval authority

Instructions

Please have the following available, when requesting information related to the screening questions below:

- a clear map showing the location and boundary of the property or project area
  - large scale and small scale showing nearby township names for context purposes
- the municipal addresses of all properties within the project area
- the lot(s), concession(s), and parcel number(s) of all properties within a project area

In this context, the following definitions apply:

- **consultant archaeologist** means, as defined in Ontario regulation as an archaeologist who enters into an agreement with a client to carry out or supervise archaeological fieldwork on behalf of the client, produce reports for or on behalf of the client and provide technical advice to the client. In Ontario, these people also are required to hold a valid professional archaeological licence issued by the Ministry of Tourism, Culture and Sport.
- **proponent** means a person, agency, group or organization that carries out or proposes to carry out an undertaking or is the owner or person having charge, management or control of an undertaking.

1. Is there a pre-approved screening checklist, methodology or process in place?

An existing checklist, methodology or process may be already in place for identifying archaeological potential, including:

- one prepared and adopted by the municipality e.g., archaeological management plan
- an environmental assessment process e.g., screening checklist for municipal bridges
- one that is approved by the Ministry of Tourism, Culture and Sport under the Ontario government's Standards & Guidelines for Conservation of Provincial Heritage Properties [s. B.2.]

2. Has an archaeological assessment been prepared for the property (or project area) and been accepted by MTCS?

Respond 'yes' to this question, if all of the following are true:

- an archaeological assessment report has been prepared and is in compliance with MTCS requirements
  - a letter has been sent by MTCS to the licensed archaeologist confirming that MTCS has added the report to the Ontario Public Register of Archaeological Reports (Register)
- the report states that there are no concerns regarding impacts to archaeological sites

Otherwise, if an assessment has been completed and deemed compliant by the MTCS, and the ministry recommends further archaeological assessment work, this work will need to be completed.

For more information about archaeological assessments, contact:

- approval authority
- proponent
- consultant archaeologist
- Ministry of Tourism, Culture and Sport at archaeology@ontario.ca

3. Are there known archaeological sites on or within 300 metres of the property (or project area)?

MTCS maintains a database of archaeological sites reported to the ministry.

For more information, contact MTCS Archaeological Data Coordinator at archaeology@ontario.ca.

4. Is there Aboriginal or local knowledge of archaeological sites on or within 300 metres of the property?

Check with:

- Aboriginal communities in your area
- local municipal staff

They may have information about archaeological sites that are not included in MTCS' database.

Other sources of local knowledge may include:

- property owner
- local heritage organizations and historical societies
- local museums
- municipal heritage committee
- published local histories

5. Is there Aboriginal knowledge or historically documented evidence of past Aboriginal use on or within 300 metres of the property (or property area)?

Check with:

- Aboriginal communities in your area
- local municipal staff

Other sources of local knowledge may include:

- property owner
- local heritage organizations and historical societies
- local museums
- municipal heritage committee
- published local histories

6. Is there a known burial site or cemetery on the property or adjacent to the property (or project area)?

For more information on known cemeteries and/or burial sites, see:

- Cemeteries Regulation Unit, Ontario Ministry of Consumer Services – for database of registered cemeteries
- Ontario Genealogical Society (OGS) – to locate records of Ontario cemeteries, both currently and no longer in existence; cairns, family plots and burial registers
- Canadian County Atlas Digital Project – to locate early cemeteries

In this context, 'adjacent' means 'contiguous', or as otherwise defined in a municipal official plan.

7. Has the property (or project area) been recognized for its cultural heritage value?

There is a strong chance there may be archaeological resources on your property (or immediate area) if it has been listed, designated or otherwise identified as being of cultural heritage value by:

- your municipality
- Ontario government
- Canadian government

This includes a property that is:

- designated under *Ontario Heritage Act* (the OHA), including:
  - individual designation (Part IV)
  - part of a heritage conservation district (Part V)
  - an archaeological site (Part VI)
- subject to:
  - an agreement, covenant or easement entered into under the OHA (Parts II or IV)
  - a notice of intention to designate (Part IV)
  - a heritage conservation district study area by-law (Part V) of the OHA
- listed on:
  - a municipal register or inventory of heritage properties
  - Ontario government's list of provincial heritage properties
  - Federal government's list of federal heritage buildings
- part of a:
  - National Historic Site
  - UNESCO World Heritage Site
- designated under:
  - *Heritage Railway Station Protection Act*
  - *Heritage Lighthouse Protection Act*
- subject of a municipal, provincial or federal commemorative or interpretive plaque.

To determine if your property or project area is covered by any of the above, see:

- Part A of the MTCS Criteria for Evaluating Potential for Built Heritage and Cultural Heritage Landscapes

Part VI – Archaeological Sites

Includes five sites designated by the Minister under Regulation 875 of the Revised Regulation of Ontario, 1990 (Archaeological Sites) and 3 marine archaeological sites prescribed under Ontario Regulation 11/06.

For more information, check Regulation 875 and Ontario Regulation 11/06.

8. Has the entire property (or project area) been subjected to recent extensive and intensive ground disturbance?

Recent: after-1960

Extensive: over all or most of the area

Intensive: thorough or complete disturbance

Examples of ground disturbance include:

- quarrying
- major landscaping – involving grading below topsoil
- building footprints and associated construction area
  - where the building has deep foundations or a basement
- infrastructure development such as:
  - sewer lines
  - gas lines
  - underground hydro lines
  - roads
  - any associated trenches, ditches, interchanges. **Note**: this applies only to the excavated part of the right-of-way; the remainder of the right-of-way or corridor may not have been impacted.

A ground disturbance does **not** include:

- agricultural cultivation
- gardening
- landscaping

Site visits

You can typically get this information from a site visit. In that case, please document your visit in the process (e.g., report) with:

- photographs
- maps
- detailed descriptions

If a disturbance isn't clear from a site visit or other research, you need to hire a licensed consultant archaeologist to undertake an archaeological assessment.

9. Are there present or past water bodies within 300 metres of the property (or project area)?

Water bodies are associated with past human occupations and use of the land. About 80-90% of archaeological sites are found within 300 metres of water bodies.

Present

- Water bodies:
  - primary - lakes, rivers, streams, creeks
  - secondary - springs, marshes, swamps and intermittent streams and creeks
- accessible or inaccessible shoreline, for example:
  - high bluffs
  - swamps
  - marsh fields by the edge of a lake
  - sandbars stretching into marsh

Water bodies not included:

- man-made water bodies, for example:
  - temporary channels for surface drainage
  - rock chutes and spillways
  - temporarily ponded areas that are normally farmed
  - dugout ponds
- artificial bodies of water intended for storage, treatment or recirculation of:
  - runoff from farm animal yards
  - manure storage facilities
  - sites and outdoor confinement areas

Past

Features indicating past water bodies:

- raised sand or gravel beach ridges – can indicate glacial lake shorelines
- clear dip in the land – can indicate an old river or stream
- shorelines of drained lakes or marshes
- cobble beaches

You can get information about water bodies through:

- a site visit
- aerial photographs
- 1:10,000 scale Ontario Base Maps - or equally detailed and scaled maps.

10. Is there evidence of two or more of the following on the property (or project area)?

- elevated topography
- pockets of well-drained sandy soil
- distinctive land formations
- resource extraction areas
- early historic settlement
- early historic transportation routes

- **Elevated topography**

  Higher ground and elevated positions - surrounded by low or level topography - often indicate past settlement and land use.

  Features such as eskers, drumlins, sizeable knolls, plateaus next to lowlands, or other such features are a strong indication of archaeological potential.

  Find out if your property or project area has elevated topography, through:

  - site inspection
  - aerial photographs
  - topographical maps

- **Pockets of well-drained sandy soil, especially within areas of heavy soil or rocky ground**

  Sandy, well-drained soil - in areas characterized by heavy soil or rocky ground - may indicate archaeological potential

  Find out if your property or project area has sandy soil through:

  - site inspection
  - soil survey reports

- **Distinctive land formations**

  Distinctive land formations include – but are not limited to:

  - waterfalls
  - rock outcrops
  - rock faces
  - caverns
  - mounds, etc.

  They were often important to past inhabitants as special or sacred places. The following sites may be present – or close to – these formations:

  - burials
  - structures
  - offerings
  - rock paintings or carvings

  Find out if your property or project areas has a distinctive land formation through:

  - a site visit
  - aerial photographs
  - 1:10,000 scale Ontario Base Maps - or equally detailed and scaled maps.

- **Resource extraction areas**

  The following resources were collected in these extraction areas:

  - food or medicinal plants e.g., migratory routes, spawning areas, prairie
  - scarce raw materials e.g., quartz, copper, ochre or outcrops of chert
  - resources associated with early historic industry e.g., fur trade, logging, prospecting, mining

  Aboriginal communities may hold traditional knowledge about their past use or resources in the area.

- **Early historic settlement**

  Early Euro-Canadian settlement include – but are not limited to:

  - early military or pioneer settlement e.g., pioneer homesteads, isolated cabins, farmstead complexes
  - early wharf or dock complexes
  - pioneers churches and early cemeteries

  For more information, see below – under the early historic transportation routes.

- **Early historic transportation routes** - such as trails, passes, roads, railways, portage routes, canals.

  For more information, see:

  - historical maps and/or historical atlases
    - for information on early settlement patterns such as trails (including Aboriginal trails), monuments, structures, fences, mills, historic roads, rail corridors, canals, etc.
    - Archives of Ontario holds a large collection of historical maps and historical atlases
    - digital versions of historic atlases are available on the Canadian County Atlas Digital Project
  - commemorative markers or plaques such as local, provincial or federal agencies
  - municipal heritage committee or other local heritage organizations
    - for information on early historic settlements or landscape features (e.g., fences, mill races, etc.)
    - for information on commemorative markers or plaques

Ontario

Ministry of Tourism, Culture and Sport

Programs & Services Branch
401 Bay Street, Suite 1700
Toronto ON M7A 0A7

Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes

A Checklist for the Non-Specialist

The **purpose of the checklist** is to determine:

- if a property(ies) or project area:
  - is a recognized heritage property
  - may be of cultural heritage value
- it includes all areas that may be impacted by project activities, including – but not limited to:
  - the main project area
  - temporary storage
  - staging and working areas
  - temporary roads and detours

Processes covered under this checklist, such as:

- *Planning Act*
- *Environmental Assessment Act*
- *Aggregates Resources Act*
- *Ontario Heritage Act* – Standards and Guidelines for Conservation of Provincial Heritage Properties

Cultural Heritage Evaluation Report (CHER)

If you are not sure how to answer one or more of the questions on the checklist, you may want to hire a qualified person(s) (see page 5 for definitions) to undertake a cultural heritage evaluation report (CHER).

The CHER will help you:

- identify, evaluate and protect cultural heritage resources on your property or project area
- reduce potential delays and risks to a project

Other checklists

Please use a separate checklist for your project, if:

- you are seeking a Renewable Energy Approval under Ontario Regulation 359/09 – separate checklist
- your Parent Class EA document has an approved screening criteria (as referenced in Question 1)

Please refer to the Instructions pages for more detailed information and when completing this form.

Project or Property Name

Hastings Standpipe Replacement

Project or Property Location (upper and lower or single tier municipality)

Hastings, Trent Hills - Division Street East & Victoria Street North

Proponent Name

The Municipality of Trent Hills

Proponent Contact Information

Tony Guerrera - tguerrera@greergalloway.com - (613) 966-3068

Screening Questions

	Yes	No
1. Is there a pre-approved screening checklist, methodology or process in place?	☐	☑

If Yes, please follow the pre-approved screening checklist, methodology or process.

If No, continue to Question 2.

Part A: Screening for known (or recognized) Cultural Heritage Value

	Yes	No
2. Has the property (or project area) been evaluated before and found **not** to be of cultural heritage value?	☐	☑

If Yes, do **not** complete the rest of the checklist.

The proponent, property owner and/or approval authority will:

- summarize the previous evaluation and
- add this checklist to the project file, with the appropriate documents that demonstrate a cultural heritage evaluation was undertaken

The summary and appropriate documentation may be:

- submitted as part of a report requirement
- maintained by the property owner, proponent or approval authority

If No, continue to Question 3.

	Yes	No
3. Is the property (or project area):		
a. identified, designated or otherwise protected under the *Ontario Heritage Act* as being of cultural heritage value?	☐	☑
b. a National Historic Site (or part of)?	☐	☑
c. designated under the *Heritage Railway Stations Protection Act*?	☐	☑
d. designated under the *Heritage Lighthouse Protection Act*?	☐	☑
e. identified as a Federal Heritage Building by the Federal Heritage Buildings Review Office (FHBRO)?	☐	☑
f. located within a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site?	☐	☑

If Yes to any of the above questions, you need to hire a qualified person(s) to undertake:

- a Cultural Heritage Evaluation Report, if a Statement of Cultural Heritage Value has not previously been prepared or the statement needs to be updated

If a Statement of Cultural Heritage Value has been prepared previously and if alterations or development are proposed, you need to hire a qualified person(s) to undertake:

- a Heritage Impact Assessment (HIA) – the report will assess and avoid, eliminate or mitigate impacts

If No, continue to Question 4.

Part B: Screening for Potential Cultural Heritage Value

	Yes	No
4. Does the property (or project area) contain a parcel of land that:		
a. is the subject of a municipal, provincial or federal commemorative or interpretive plaque?	☐	☑
b. has or is adjacent to a known burial site and/or cemetery?	☐	☑
c. is in a Canadian Heritage River watershed?	☐	☑
d. contains buildings or structures that are 40 or more years old?	☐	☑

Part C: Other Considerations

	Yes	No
5. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area):		
a. is considered a landmark in the local community or contains any structures or sites that are important in defining the character of the area?	☐	☑
b. has a special association with a community, person or historical event?	☐	☑
c. contains or is part of a cultural heritage landscape?	☐	☑

If Yes to one or more of the above questions (Part B and C), there is potential for cultural heritage resources on the property or within the project area.

You need to hire a qualified person(s) to undertake:

- a Cultural Heritage Evaluation Report (CHER)

If the property is determined to be of cultural heritage value and alterations or development is proposed, you need to hire a qualified person(s) to undertake:

- a Heritage Impact Assessment (HIA) – the report will assess and avoid, eliminate or mitigate impacts

If No to all of the above questions, there is low potential for built heritage or cultural heritage landscape on the property.

The proponent, property owner and/or approval authority will:

- summarize the conclusion
- add this checklist with the appropriate documentation to the project file

The summary and appropriate documentation may be:

- submitted as part of a report requirement e.g. under the *Environmental Assessment Act, Planning Act* processes
- maintained by the property owner, proponent or approval authority

Instructions

Please have the following available, when requesting information related to the screening questions below:

- a clear map showing the location and boundary of the property or project area
  - large scale and small scale showing nearby township names for context purposes
- the municipal addresses of all properties within the project area
- the lot(s), concession(s), and parcel number(s) of all properties within a project area

For more information, see the Ministry of Tourism, Culture and Sport's Ontario Heritage Toolkit or Standards and Guidelines for Conservation of Provincial Heritage Properties.

In this context, the following definitions apply:

- **qualified person(s)** means individuals – professional engineers, architects, archaeologists, etc. – having relevant, recent experience in the conservation of cultural heritage resources.
- **proponent** means a person, agency, group or organization that carries out or proposes to carry out an undertaking or is the owner or person having charge, management or control of an undertaking.

1. Is there a pre-approved screening checklist, methodology or process in place?

An existing checklist, methodology or process may already be in place for identifying potential cultural heritage resources, including:

- one endorsed by a municipality
- an environmental assessment process e.g. screening checklist for municipal bridges
- one that is approved by the Ministry of Tourism, Culture and Sport (MTCS) under the Ontario government's Standards & Guidelines for Conservation of Provincial Heritage Properties [s.B.2.]

Part A: Screening for known (or recognized) Cultural Heritage Value

2. Has the property (or project area) been evaluated before and found not to be of cultural heritage value?

Respond 'yes' to this question, if all of the following are true:

A property can be considered not to be of cultural heritage value if:

- a Cultural Heritage Evaluation Report (CHER) - or equivalent - has been prepared for the property with the advice of a qualified person and it has been determined not to be of cultural heritage value and/or
- the municipal heritage committee has evaluated the property for its cultural heritage value or interest and determined that the property is not of cultural heritage value or interest

A property may need to be re-evaluated, if:

- there is evidence that its heritage attributes may have changed
- new information is available
- the existing Statement of Cultural Heritage Value does not provide the information necessary to manage the property
- the evaluation took place after 2005 and did not use the criteria in Regulations 9/06 and 10/06

Note: Ontario government ministries and public bodies [prescribed under Regulation 157/10] may continue to use their existing evaluation processes, until the evaluation process required under section B.2 of the Standards & Guidelines for Conservation of Provincial Heritage Properties has been developed and approved by MTCS.

To determine if your property or project area has been evaluated, contact:

- the approval authority
- the proponent
- the Ministry of Tourism, Culture and Sport

3a. Is the property (or project area) identified, designated or otherwise protected under the *Ontario Heritage Act* as being of cultural heritage value e.g.:

i. designated under the *Ontario Heritage Act*

- individual designation (Part IV)
- part of a heritage conservation district (Part V)

Individual Designation – Part IV

A property that is designated:

- by a municipal by-law as being of cultural heritage value or interest [s.29 of the *Ontario Heritage Act*]
- by order of the Minister of Tourism, Culture and Sport as being of cultural heritage value or interest of provincial significance [s.34.5]. **Note**: To date, no properties have been designated by the Minister.

Heritage Conservation District – Part V

A property or project area that is located within an area designated by a municipal by-law as a heritage conservation district [s. 41 of the *Ontario Heritage Act*].

For more information on Parts IV and V, contact:

- municipal clerk
- Ontario Heritage Trust
- local land registry office (for a title search)

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ii. subject of an agreement, covenant or easement entered into under Parts II or IV of the *Ontario Heritage Act*

An agreement, covenant or easement is usually between the owner of a property and a conservation body or level of government. It is usually registered on title.

The primary purpose of the agreement is to:

- preserve, conserve, and maintain a cultural heritage resource
- prevent its destruction, demolition or loss

For more information, contact:

- Ontario Heritage Trust - for an agreement, covenant or easement [clause 10 (1) (c) of the *Ontario Heritage Act*]
- municipal clerk – for a property that is the subject of an easement or a covenant [s.37 of the *Ontario Heritage Act*]
- local land registry office (for a title search)

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iii. listed on a register of heritage properties maintained by the municipality

Municipal registers are the official lists - or record - of cultural heritage properties identified as being important to the community.

Registers include:

- all properties that are designated under the *Ontario Heritage Act* (Part IV or V)
- properties that have not been formally designated, but have been identified as having cultural heritage value or interest to the community

For more information, contact:

- municipal clerk
- municipal heritage planning staff
- municipal heritage committee

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iv. subject to a notice of:

- intention to designate (under Part IV of the *Ontario Heritage Act*)
- a Heritage Conservation District study area bylaw (under Part V of the *Ontario Heritage Act*)

A property that is subject to a **notice of intention to designate** as a property of cultural heritage value or interest and the notice is in accordance with:

- section 29 of the *Ontario Heritage Act*
- section 34.6 of the *Ontario Heritage Act.* **Note**: To date, the only applicable property is Meldrum Bay Inn, Manitoulin Island. [s.34.6]

An area designated by a municipal by-law made under section 40.1 of the *Ontario Heritage Act* as a **heritage conservation district study area**.

For more information, contact:

- municipal clerk – for a property that is the subject of notice of intention [s. 29 and s. 40.1]
- Ontario Heritage Trust

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v. included in the Ministry of Tourism, Culture and Sport's list of provincial heritage properties

Provincial heritage properties are properties the Government of Ontario owns or controls that have cultural heritage value or interest.

The Ministry of Tourism, Culture and Sport (MTCS) maintains a list of all provincial heritage properties based on information provided by ministries and prescribed public bodies. As they are identified, MTCS adds properties to the list of provincial heritage properties.

For more information, contact the MTCS Registrar at registrar@ontario.ca.

3b. Is the property (or project area) a National Historic Site (or part of)?

National Historic Sites are properties or districts of national historic significance that are designated by the Federal Minister of the Environment, under the *Canada National Parks Act*, based on the advice of the Historic Sites and Monuments Board of Canada.

For more information, see the National Historic Sites website.

3c. Is the property (or project area) designated under the *Heritage Railway Stations Protection Act*?

The *Heritage Railway Stations Protection Act* protects heritage railway stations that are owned by a railway company under federal jurisdiction. Designated railway stations that pass from federal ownership may continue to have cultural heritage value.

For more information, see the Directory of Designated Heritage Railway Stations.

3d. Is the property (or project area) designated under the *Heritage Lighthouse Protection Act*?

The *Heritage Lighthouse Protection Act* helps preserve historically significant Canadian lighthouses. The Act sets up a public nomination process and includes heritage building conservation standards for lighthouses which are officially designated.

For more information, see the Heritage Lighthouses of Canada website.

3e. Is the property (or project area) identified as a Federal Heritage Building by the Federal Heritage Buildings Review Office?

The role of the Federal Heritage Buildings Review Office (FHBRO) is to help the federal government protect the heritage buildings it owns. The policy applies to all federal government departments that administer real property, but not to federal Crown Corporations.

For more information, contact the Federal Heritage Buildings Review Office.

See a directory of all federal heritage designations.

3f. Is the property (or project area) located within a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site?

A UNESCO World Heritage Site is a place listed by UNESCO as having outstanding universal value to humanity under the Convention Concerning the Protection of the World Cultural and Natural Heritage. In order to retain the status of a World Heritage Site, each site must maintain its character defining features.

Currently, the Rideau Canal is the only World Heritage Site in Ontario.

For more information, see Parks Canada – World Heritage Site website.

Part B: Screening for potential Cultural Heritage Value

4a. Does the property (or project area) contain a parcel of land that has a municipal, provincial or federal commemorative or interpretive plaque?

Heritage resources are often recognized with formal plaques or markers.

Plaques are prepared by:

- municipalities
- provincial ministries or agencies
- federal ministries or agencies
- local non-government or non-profit organizations

For more information, contact:

- municipal heritage committees or local heritage organizations – for information on the location of plaques in their community
- Ontario Historical Society's Heritage directory – for a list of historical societies and heritage organizations
- Ontario Heritage Trust – for a list of plaques commemorating Ontario's history
- Historic Sites and Monuments Board of Canada – for a list of plaques commemorating Canada's history

4b. Does the property (or project area) contain a parcel of land that has or is adjacent to a known burial site and/or cemetery?

For more information on known cemeteries and/or burial sites, see:

- Cemeteries Regulations, Ontario Ministry of Consumer Services – for a database of registered cemeteries
- Ontario Genealogical Society (OGS) – to locate records of Ontario cemeteries, both currently and no longer in existence; cairns, family plots and burial registers
- Canadian County Atlas Digital Project – to locate early cemeteries

In this context, adjacent means contiguous or as otherwise defined in a municipal official plan.

4c. Does the property (or project area) contain a parcel of land that is in a Canadian Heritage River watershed?

The Canadian Heritage River System is a national river conservation program that promotes, protects and enhances the best examples of Canada's river heritage.

Canadian Heritage Rivers must have, and maintain, outstanding natural, cultural and/or recreational values, and a high level of public support.

For more information, contact the Canadian Heritage River System.

If you have questions regarding the boundaries of a watershed, please contact:

- your conservation authority
- municipal staff

4d. Does the property (or project area) contain a parcel of land that contains buildings or structures that are 40 or more years old?

A 40 year 'rule of thumb' is typically used to indicate the potential of a site to be of cultural heritage value. The approximate age of buildings and/or structures may be estimated based on:

- history of the development of the area
- fire insurance maps
- architectural style
- building methods

Property owners may have information on the age of any buildings or structures on their property. The municipality, local land registry office or library may also have background information on the property.

Note: 40+ year old buildings or structure do not necessarily hold cultural heritage value or interest; their age simply indicates a higher potential.

A building or structure can include:

- residential structure
- farm building or outbuilding
- industrial, commercial, or institutional building
- remnant or ruin
- engineering work such as a bridge, canal, dams, etc.

For more information on researching the age of buildings or properties, see the Ontario Heritage Tool Kit Guide Heritage Property Evaluation.

Part C: Other Considerations

5a. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) is considered a landmark in the local community or contains any structures or sites that are important to defining the character of the area?

Local or Aboriginal knowledge may reveal that the project location is situated on a parcel of land that has potential landmarks or defining structures and sites, for instance:

- buildings or landscape features accessible to the public or readily noticeable and widely known
- complexes of buildings
- monuments
- ruins

5b. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) has a special association with a community, person or historical event?

Local or Aboriginal knowledge may reveal that the project location is situated on a parcel of land that has a special association with a community, person or event of historic interest, for instance:

- Aboriginal sacred site
- traditional-use area
- battlefield
- birthplace of an individual of importance to the community

5c. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) contains or is part of a cultural heritage landscape?

Landscapes (which may include a combination of archaeological resources, built heritage resources and landscape elements) may be of cultural heritage value or interest to a community.

For example, an Aboriginal trail, historic road or rail corridor may have been established as a key transportation or trade route and may have been important to the early settlement of an area. Parks, designed gardens or unique landforms such as waterfalls, rock faces, caverns, or mounds are areas that may have connections to a particular event, group or belief.

For more information on Questions 5.a., 5.b. and 5.c., contact:

- Elders in Aboriginal Communities or community researchers who may have information on potential cultural heritage resources. Please note that Aboriginal traditional knowledge may be considered sensitive.
- municipal heritage committees or local heritage organizations
- Ontario Historical Society's "Heritage Directory" - for a list of historical societies and heritage organizations in the province

An internet search may find helpful resources, including:

- historical maps
- historical walking tours
- municipal heritage management plans
- cultural heritage landscape studies
- municipal cultural plans

Information specific to trails may be obtained through Ontario Trails.

Ontario

Ministry of Tourism, Culture and Sport

Programs & Services Branch
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Toronto ON M7A 0A7

Criteria for Evaluating Marine Archaeological Potential
A Checklist for Non-Marine Archaeologists

Purpose

The **purpose of this checklist** is to help proponents determine:

- if a property or project area may contain marine archaeological resources or have marine archaeological potential

A marine archaeological site is fully or partially submerged, or lies below or partially below the high-water mark of any body of water.

The property or project area includes all submerged areas that may be impacted by project activities, including, but not limited to:

- the main project area
- temporary storage and stockpiling locations
- staging and work areas, such as docking platforms and dredging locations
- temporary features such as access routes, anchors, moorings and cofferdams.

Please refer to the **instructions** on pages 4 through 9 when completing this checklist

Processes covered

- *Planning Act*
- *Environmental Assessment Act*
- *Aggregate Resources Act*
- *Ontario Heritage Act*
  - Standards & Guidelines for Conservation of Provincial Heritage Properties
- *Canadian Environmental Assessment Act*
- *Canada Shipping Act*

Marine archaeological assessment

The assessment will help you:

- identify, evaluate and protect marine archaeological resources on your property or project area
- reduce potential delays and risks to your project

If you are not sure how to answer one or more of the questions on the checklist, you may want to hire a licensed marine archaeologist (defined on page 5) to undertake a marine archaeological assessment.

Note: Under Part VI of the *Ontario Heritage Act*, all marine archaeological assessments **must** be done by a licensed marine archaeologist. Only a licensed marine archaeologist can assess – or alter – a marine archaeological site.

Have you found a site?

If you find something you think may be of marine archaeological value during project work, you **must** – by law – stop all activities immediately and contact a licensed marine archaeologist. The marine archaeologist will carry out the fieldwork in compliance with the *Ontario Heritage Act*.

Have you found human remains?

If you find remains (e.g., bones) that could be of human origin, you **must** – by law - immediately notify the appropriate authorities (police, coroner's office, or Registrar of Cemeteries) and comply with the *Funeral, Burial and Cremation Services Act*.

Other Checklists

Please use a separate checklist for your project if:

- your Parent Class EA document has approved screening criteria
- your ministry's or prescribed public body's approved Identification and Evaluation Process includes approved screening criteria

Project or Property Name
Hastings Standpipe Replacement

Project or Property Location (upper and lower or single tier municipality)
Hastings, Trent Hills - Division Street East & Victoria Street North

Proponent Name
The Municipality of Trent Hills

Proponent Contact Information

Telephone Number	Fax Number	Email Address
613-966-3068	613-966-3087	tguerrera@greergalloway.com

Screening Questions

1. Is there a government-authorized, pre-approved screening checklist, methodology or process in place?

☐ Yes ☑ No

If **Yes**, please follow the pre-approved screening checklist, methodology or process. Do not complete the rest of this checklist.
If **No**, continue to Question 2.

2. Has a marine archaeological assessment been prepared for the property or project area and been entered by MTCS into the Ontario Public Register of Archaeological Reports?

☐ Yes ☑ No

If **Yes**, do **not** complete the rest of the checklist. You are expected to follow the recommendations in the marine archaeological assessment report(s).

The proponent and/or approval authority will:

- summarize the previous marine archaeological assessment
- follow any recommendations for further marine archaeological assessment work, as applicable
- add this checklist to the project file, with the appropriate documents that demonstrate a marine archaeological assessment was undertaken (e.g. MTCS letter that states that the report has been entered into the Ontario Public Register of Archaeological Reports)

The summary and appropriate documentation may be:

- submitted as part of a report requirement, e.g. environmental assessment document
- maintained by the proponent or approval authority

If **No**, continue to Question 3.

3. Are there known marine or land-based archaeological sites on or within 500 metres of the property or project area?

☐ Yes ☑ No

4. Is there Aboriginal or local knowledge of marine or land-based archaeological sites on or within 500 metres of the property or project area?

☐ Yes ☑ No

5. Is there Aboriginal knowledge or historically documented evidence of past Aboriginal use on or within 500 metres of the property or project area?

☐ Yes ☑ No

6. Is there a known burial site or cemetery on the property or adjacent to the property or project area?

☐ Yes ☑ No

7. Has the property or project area been recognized for its cultural heritage value?

☐ Yes ☑ No

If **Yes** to any of questions 3 to 7, do **not** complete the checklist. Your property or project area could contain marine archaeological resources: please hire a licensed marine archaeologist to conduct a marine archaeological assessment.
If **No**, continue to Question 8.

8. Has the entire property or project area been subjected to recent, extensive and intensive disturbance?

☑ Yes ☐ No

If **Yes**, do **not** complete the checklist. Instead, please keep and maintain a summary of documentation that provides evidence of the recent disturbance. A marine archaeological assessment is not required.
If **No**, continue to Question 9.

9. Are there two or more reported or registered ship wreck sites or reports of lost ships within a five kilometre radius of the property or project area?

☐ Yes ☐ No

If **Yes**, a marine archaeological assessment is required.

If **No**, continue to Question 10.

10. Is the property or project area within one kilometre of an active or historic harbour, seaplane or floatplane base, tunnel, ferry route, marine terminal, or winter road?

☐ Yes ☐ No

If **Yes**, a marine archaeological assessment is required.

If **No**, continue to Question 11.

11. Where the project impacts fourth order or higher watercourses, are there existing narrows, rapids, waterfalls or does the watercourse enter or leave a body of water within 300 metres of the property or project area?

☐ Yes ☐ No

If **Yes**, a marine archaeological assessment is required.

If **No**, continue to Question 12.

12. Are there potential built heritage or cultural heritage landscape resources that may be of cultural heritage value or interest adjacent to the watercourse or water body?

☐ Yes ☐ No

If **Yes**, a marine archaeological assessment is required.

If **No**, continue to Question 13.

13. Are there inundated beaches, bluffs, lakeshores, streams or river banks within 300 metres of the property or project area?

☐ Yes ☐ No

If **Yes**, a marine archaeological assessment is required.

If **No**, continue to Question 14.

14. Are there inundated beaches, lakeshores or river/creek banks beyond 300 metres and at greater depth than the project area with evidence of two or more of the following in the project area?

- elevated bathymetric features such as drumlins, eskers, kames, ridges, etc.
- pockets of sandy lakebed
- distinctive bathymetric formations such as escarpments, shoals, promontories, reefs, etc.
- inundated resource extraction areas (quarry, fishery)
- inundated historical settlement including built heritage resources or cultural heritage landscapes
- inundated historical transportation routes

☐ Yes ☐ No

If **Yes**, a marine archaeological assessment is required.

If **No**, there is low potential for marine archaeological resources at the property (or project area).

The proponent, property owner and/or approval authority will:

- summarize the conclusion
- add this checklist with the appropriate documentation to the project report or file

The summary and appropriate documentation may be:

- submitted as part of a report requirement, e.g. under the *Environmental Assessment Act*, *Planning Act* processes
- maintained and retained by the property owner, proponent or approval authority

Instructions

Please have the following available, when requesting information related to the screening questions:

- a clear map or chart showing the location and boundary of the property or project area
  - large scale and small scale maps/charts showing nearby islands or township names for context
- the municipal addresses of all properties or water lots within or adjacent to the project area, if any
- the lot, concession, parcel number or mining claims of any properties within the project area

In this context, the following definitions apply:

- **licensed marine archaeologist** means an archaeologist who has a valid marine archaeology licence issued by the Ministry of Tourism, Culture and Sport to practice in Ontario. As a consultant, a licensed marine archaeologist enters into an agreement with a client to carry out or supervise marine archaeological work on behalf of the client, produce reports for or on behalf of the client and provide technical advice to the client.
- **proponent** means a person, agency, group or organization that carries out or proposes to carry out an undertaking or is the owner or person having charge, management or control of an undertaking.

1. Is there a pre-approved screening checklist, methodology or process in place?

An existing checklist, methodology or process may be already in place to identify marine archaeological potential, including:

- one prepared and adopted by the municipality, such as an archaeological management plan
- an environmental assessment process, such as a screening checklist for municipal bridges
- projects being reviewed under the Canadian *Environmental Assessment Act*.
- one that is approved by the Ministry of Tourism, Culture and Sport under the Ontario government's Standards & Guidelines for Conservation of Provincial Heritage Properties [s. B.2.]

2. Has a marine archaeological assessment been prepared for the property or project area and been entered into the Ontario Public register of Archaeological Reports?

Respond 'yes' to this question, if all of the following are true:

- a marine archaeological assessment report has been prepared and complies with MTCS requirements
  - a letter has been sent by MTCS to the licensed marine archaeologist confirming that MTCS has entered the report into to the Ontario Public Register of Archaeological Reports (Register)
- the report contains a recommendation stating that there are no further concerns regarding impacts to marine archaeological sites

If a marine archaeological assessment report has been completed and deemed compliant by MTCS, and the report contains a recommendation that further marine archaeological assessment work be undertaken, this work will need to be completed.

For more information about previously conducted marine archaeological assessments, contact:

- approval authority (such as a municipality or conservation authority)
- proponent for whom the marine archaeological assessment was carried out
- consultant archaeologist qualified to hold a marine archaeology licence in Ontario
- Ministry of Tourism, Culture and Sport at archaeology@ontario.ca

3. Are there known marine or land-based archaeological sites on or within 500 metres of the property or project area?

MTCS maintains a database of marine and land-based archaeological sites reported to the ministry. Land-based archaeological sites may extend into adjacent waterbodies.

For more information, contact MTCS Archaeological Data Coordinator at archaeology@ontario.ca.

4. Is there Aboriginal or local knowledge of marine or land-based archaeological sites on or within 500 metres of the property or project area?

Check with:

- Aboriginal communities in your area
- local municipal staff

Aboriginal communities may have knowledge that can contribute to the identification of cultural heritage resources, and we suggest that any engagement with Aboriginal communities includes a discussion about known or potential cultural heritage resources that are of value to these communities. Aboriginal communities and local municipal staff may have information about marine archaeological sites that are not included in the MTCS database or reported to the ministry.

Other sources of local knowledge include the following:

- property owner
- local heritage organizations and historical societies, Association for Great Lakes Maritime History
- local and provincial dive organizations (Save Ontario Shipwrecks, Ontario Underwater Council), Preserve Our Wrecks, Ontario Marine Heritage Committee)
- local dive shops
- local amateur divers and diving associations
- local museums
- municipal heritage committees
- published local histories

5. Is there Aboriginal knowledge or historically documented evidence of past Aboriginal use on or within 500 metres of the property or project area?

Check with:

- Aboriginal communities in your area
- local municipal staff

Other sources of local knowledge include the following:

- property owner
- local heritage organizations and historical societies
- local museums
- municipal heritage committees
- published local histories

6. Is there a known burial site or cemetery on the property or adjacent to the property or project area?

For more information on known cemeteries or burial sites contact the following:

- Cemeteries Regulation Unit, Ontario Ministry of Consumer Services – for database of registered cemeteries
- Ontario Genealogical Society (OGS) – to locate records of Ontario cemeteries, both currently and no longer in existence; cairns, family plots and burial registers
- Canadian County Atlas Digital Project – to locate early cemeteries

In this context, ‘adjacent’ means ‘contiguous’, or as otherwise defined in a municipal official plan.

When wrecks are associated with a loss of life, the area in the vicinity of the wreck may be established as a cemetery.

7. Has the property or project area been recognized for its cultural heritage value?

There is a strong chance there may be marine archaeological resources on the property or project area if it has been listed, designated or otherwise identified as being of cultural heritage value by:

- Municipal government
- Ontario government
- Canadian government

This includes a property that is:

- designated under *Ontario Heritage Act* (the OHA), including:
  - individual designation (Part IV)
  - part of a heritage conservation district (Part V)
  - a land or marine archaeological site (Part VI)
- subject to:
  - an agreement, covenant or easement entered into under the OHA (Parts II or IV)
  - a notice of intention to designate (Part IV)
  - a heritage conservation district study area by-law (Part V) of the OHA
- included on:
  - a municipal register or inventory of heritage properties
  - Ontario government's list of provincial heritage properties
  - Federal government's list of federal heritage buildings
- part of a:
  - National Historic Site
  - UNESCO World Heritage Site
- designated under:
  - *Heritage Railway Station Protection Act*
  - *Heritage Lighthouse Protection Act*
- subject of a municipal, provincial or federal commemorative or interpretive plaque.

To determine if your property or project area is covered by any of the above, see:

- Part A of the MTCS Criteria for Evaluating Potential for Built Heritage and Cultural Heritage Landscapes

Part VI – Archaeological Sites
Includes three marine archaeological sites prescribed under Ontario Regulation 11/06 and five terrestrial archaeological sites designated by the Minister under Regulation 875 of the Revised Regulation of Ontario, 1990.

For more information, refer to Regulation 875 and Ontario Regulation 11/06.

8. Has the entire property or project area been subjected to recent, extensive and intensive disturbance?

Recent: after-1960

Extensive: over all or most of the area

Intensive: thorough or complete disturbance

Examples of ground disturbance include:

- quarrying
- dredging
- structural footprints and associated construction areas
    - where the structure has deep foundations or footings
- infrastructure development such as:
    - dams
    - pipelines, hydro lines or other utility trenches
    - causeways
    - bridges

Note: this applies only to the excavated part of the right-of-way or corridor as the remainder may not be impacted

A ground disturbance does not include:

- aqua-cultural activities, such as a fish farm
- areas of traditional or commercial harvesting of fish, shellfish or water-based vegetation
- traditional agricultural areas that have been inundated

Property (Project Area) Inspection

Some documentation may provide evidence of prior disturbance, such as:

- photographs
- maps
- detailed descriptions and blueprints of prior projects

If complete disturbance isn't clear from documents available, an archaeologist licensed for marine archaeology can be hired to undertake an underwater and/or remote-sensing inspection of the study area to determine whether there is any remaining marine archaeological potential.

9. Are there two or more reported or registered ship wreck sites or reports of lost ships within a five kilometre radius of the property or project area?

The presence of two or more ship wreck sites or reports of lost ships in the vicinity may indicate increased marine archaeological potential for additional marine wrecks.

10. Is the property or project area within one kilometre of an active or historic harbour, seaplane or floatplane base, tunnel, ferry route, marine terminal, or winter road?

Focussed areas of marine activity on- and off-shore are indicators for potential marine archaeology due to:

- deliberate structures built in or on the water, such as:
    - mooring and anchoring structures
    - weirs, piers, docks, cribwork
    - groynes, breakwaters, artificial reefs
    - vessels scuttled for utilitarian or other purposes
    - infrastructure related to the construction or operation of a facility like marine railways
- incidental features, such as:
    - beached or sunken vessels or aircraft
    - dropped objects

As a result, there is potential for marine archaeological features or artifacts.

11. Where the project impacts fourth order or higher watercourses, are there existing narrows, rapids, waterfalls or does the watercourse enter or leave a body of water within 300 metres of the property or project area?

Fourth order and higher watercourses (on the Strahler scale) have potential association with human activity around narrows, rapids, waterfalls and proximity to waterbodies such as lakes due to:

- fish harvesting and related dams or weirs
- portage locations for navigable waterways
- early historical fording locations
- early historical water power sources for mills

These activities may result in marine archaeological features or artifacts.

12. Are there potential built heritage or cultural heritage landscape resources that may be of cultural heritage value or interest adjacent to the watercourse or water body?

Euro-Canadian settlement immediately adjacent to water bodies or watercourses may be focussed on the water for specific industrial, commercial or residential uses resulting in marine archaeological features or artifacts. For guidance, see the MTCS Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes

13. Are there inundated beaches, bluffs, lakeshores, streams or river banks within 300 metres of the property or project area?

The margins of water bodies are associated with past human occupations and use of the land. About 80-90% of archaeological sites are found within 300 metres of water bodies.

- water body types:
  - primary - lakes, rivers, streams, creeks
  - secondary - springs, marshes, swamps and intermittent streams and creeks
- water bodies can include constructed water bodies or watercourses, such as:
  - temporary channels for surface drainage
  - rock chutes and spillways
- Accessible or inaccessible shorelines can also have archaeological potential, for example:
  - high bluffs or cliffs
  - sandbars

You can get information about inundated shoreline features through:

- a site visit
- aerial photographs
- bathymetric data
- geological and physiographic studies

14. Are there inundated beaches, lakeshores or river/creek banks beyond 300 metres and at greater depth than the project area with evidence of two or more of the following in the project area?

- elevated bathymetric features such as drumlins, eskers, kames, ridges, etc.
- pockets of sandy lakebed
- distinctive bathymetric formations such as escarpments, shoals, promontories, reefs, etc.
- inundated resource extraction areas (quarry, fishery)
- inundated historical settlement including built heritage resources or cultural heritage landscapes
- inundated historical transportation routes

Landforms associated with past human occupations that have later been inundated, as historically documented or demonstrated through water-level chronologies, retain their archaeological potential.

- **Elevated bathymetric features**
  Higher ground and elevated positions, surrounded by low or level topography, often indicate past settlement and land use. Features such as eskers, drumlins, sizeable knolls, plateaus next to lowlands or other such features are a strong indication of archaeological potential.
  Find out if your property or project area had elevated topography prior to inundation through:
  - nautical charts
  - bathymetric data

- **Pockets of sandy lakebed**

  Areas of sandy soil, prior to being inundated, that would be well-drained and in areas characterized by heavy soil or rocky ground may indicate archaeological potential

  Find out if your property or project area had sandy soil through:

  - site visits
  - lakebed studies and sediment borehole data

- **Distinctive bathymetric formations**

  Distinctive land formations include – but are not limited to:

  - waterfalls
  - rock outcrops or faces
  - caverns
  - mounds

  Prior to inundation such features were often important to past inhabitants as special or sacred places. The following sites may be present at – or close to – these formations:

  - burials
  - structures
  - offerings
  - rock paintings or carvings

  Find out if your property or project area has a distinctive land formation through:

  - site visits
  - aerial photographs
  - bathymetric data

- **Inundated resource extraction areas**

  Prior to inundation, the following resources were collected in these extraction areas:

  - food or medicinal plants e.g. migratory routes, spawning areas, prairie
  - scarce raw materials e.g. quartz, copper, ochre or outcrops of chert
  - resources associated with early historic industry e.g. fur trade, logging, prospecting, mining

  Aboriginal communities may hold traditional knowledge about their past use or resources in the area.

- **Inundated early historic settlement**

  Early Euro-Canadian settlements include – but are not limited to:

  - early military or pioneer settlement, e.g. pioneer homesteads, isolated cabins, farmstead complexes
  - early wharf or dock complexes
  - pioneers churches and early cemeteries

- **Inundated early historic transportation routes** - such as trails, passes, roads, railways, portage routes, canals.

  For more information, see:

  - historical maps or atlases
    - for information on early settlement patterns such as trails (including Aboriginal trails), monuments, structures, fences, mills, historic roads, rail corridors, canals, etc.
    - Archives of Ontario holds a large collection of historical maps and atlases
    - digital versions of historical atlases are available on the Canadian County Atlas Digital Project
  - commemorative markers or plaques such as those posted by local, provincial or federal agencies
  - municipal heritage committees or other local heritage organizations
    - for information on early historic settlements or landscape features (e.g. fences, mill races)
    - for information on commemorative markers or plaques


Hastings Water Tower
Existing Standpipe to be Removed
Proposed New Standpipe Location
- Tank Diameter 8.6m
- Tank Height 38.65m
2.8m
Existing Water Main
Asphodel 8th Line
Victoria St N
Division St E
Victoria St
128
107
35
45
109

APPENDIX E: Notice of Commencement

The Municipality of Trent Hills

NOTICE OF COMMENCEMENT

Hastings Standpipe Replacement – Class Environmental Assessment

The current standpipe serving Trent Hills requires substantial refurbishment and no longer meets the needs of the drinking water system for both storage volume and meeting the required minimum pressures. Some existing areas of the water distribution system have water pressure that is below the 275 kPa minimum standard. To accommodate increasing volume needs for domestic use and fire protection while providing adequate pressure throughout the distribution system, system upgrades are required. The current standpipe is located at Victoria Street N and Division Street E in Trent Hills, ON. A keymap is attached showing the existing standpipe location and a possible location for the new water storage facility.

A Municipal Class Environmental Assessment (EA) study has been initiated to determine the preferred solution for ensuring that the drinking water system will meet existing demand and support future growth. The following water storage and supply options were considered:

- Do nothing
- Refurbish and repair the existing standpipe
- Construct a new water storage facility at the existing standpipe site
- Construct a new water storage facility at a new location south of the river

Detailed evaluation of the alternatives has resulted in a recommendation to construct a larger storage facility at the present site and remove the existing standpipe. The project is proceeding according to the requirements for a Schedule B project.

The Class EA process includes:

- Consultation with the public, review agencies, and other stakeholders
- Field investigations
- Evaluation of viable alternative solutions
- Assessment of the impacts of the alternative solutions and identification of measures to mitigate any adverse environmental, social, cultural, and economic impacts
- Selection of a preferred solution

Public input into the planning and design of this project is encouraged. If you have any comments or questions regarding this project, or would like to receive further information, please send an email to one of the following project contacts:

Scott White
General Manager of Infrastructure Renewal
And Public Works Admin
Municipality of Trent Hills
66 Front Street South P.O. Box 1030
Campbellford, ON K0L 1L0
T: 705-653-1900 x 244
F: 705-653-5203
Email: Scott.White@trenthills.ca

Tony Guerrera, P.Eng.
The Greer Galloway Group Inc.
1620 Wallbridge Loyalist Road
Belleville, ON K8N 4Z5
T: (613) 966-3068
F: (613) 966-3087
Email: tguerrera@greergalloway.com

This notice issued December 5, 2022

Under the *Freedom of Information and Protection of Privacy Act* and the *Environmental Assessment Act*, unless otherwise stated in the submission, any personal information such as name, address, telephone number and property location included in a submission will become part of the public record files for this project and will be released, if requested, to any person.

Hastings Standpipe Replacement

Proposed locations for construction of the new water storage facility

Legend

Location

Existing Standpipe Location

Possible New Southern Location

Our Lady of Mount Carmel

Hastings Public School

Hastings Police Dept

Hastings Senior Citizens Club

Hastings Home Hardware

HASTINGS

Trent-Severn Waterway, Lock 18 - Hastings

Subway

Todd's Valu-mart Hastings

Esso

Hastings Field House

William St

Front St E

New St

Hope St

Front St W

Cedar Dr

Water St

Clyde St

Church St

Old Trafford Dr

Lord's Dr

White Hart Ln

Park St

Argyle St

Elgin St

Bay St W

Queen St W

King St

Homewood Ave

River Rd

Park Ln

Pine Ridge Rd

McCarthys Point Rd

Rogers Dr

2

45

N

2000 ft

Google Earth

APPENDIX F: Public Information Centre

The Municipality of Trent Hills

Notice of Public Information Center

Hastings Standpipe Replacement – Class Environmental Assessment

The Municipality of Trent Hills is currently planning upgrades to the drinking water system for the Village of Hastings. The Municipality has identified that the current standpipe serving the community requires substantial refurbishment and no longer meets the needs of the drinking water system for both storage volume and meeting the required minimum pressures. The current standpipe is located at Victoria Street N and Division Street E in Hastings, Trent Hills, ON.

The project is being carried out with the requirements for a Schedule 'B' project under the terms of the Municipal Class Environmental Assessment (Class EA) process, which is approved under the Environmental Assessment Act. As part of the Class EA process for reviewing the standpipe replacement, public comment during the evaluation of alternative solutions will be requested.

The Municipality is conducting a public information center on **Wednesday, April 26, 2023 from 5:00 pm to 7:00 pm**. This will be held at the **Hastings Civic Centre**, located at **6 Albert Street, Hastings, Ontario**. We are interested in hearing any comments or concerns that you may have about this project. A public database of comments will be maintained and, except for personal information, included in the study documentation that will be made available for public review. Parties interested in providing input or that wish to obtain additional information at this stage of the study are asked to submit comments in writing to:

Scott White
General Manager of Infrastructure Renewal
And Public Works Admin
Municipality of Trent Hills
66 Front Street South P.O. Box 1030
Campbellford, ON K0L 1L0
T: 705-653-1900 x 244
F: 705-653-5203
Email: Scott.White@trenthills.ca

Tony Guerrera, P.Eng.
The Greer Galloway Group Inc.
1620 Wallbridge Loyalist Road
Belleville, ON K8N 4Z5
T: (613) 966-3068
F: (613) 966-3087
Email: tguerrera@greergalloway.com

This notice issued March 27, 2023

GREER GALLOWAY
CONSULTING ENGINEERS

HASTINGS STANDPIPE REPLACEMENT PROJECT

Public Information Centre (PIC) – Sign-in Sheet

Date: April 26th, 2023
Location: Hastings, Ontario

PLEASE PRINT CLEARLY

NAME	TELEPHONE NUMBER	EMAIL ADDRESS
Debra McMullan	[redacted]	[redacted]
Paul Falzon	[redacted]	[redacted]
Gord George	[redacted]	[redacted]
Moira Hall	[redacted]	[redacted]

SHEET ___ of ___

GREER GALLOWAY
CONSULTING ENGINEERS

Public Information Centre

Hastings Standpipe Replacement

Wednesday, April 26th, 2023

Location:	Hastings Civic Centre
Time:	5:00 pm – 7:00 pm

MUNICIPALITY OF TRENT HILLS

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CONSULTING ENGINEERS

Public Information Centre Downstairs

MUNICIPALITY OF
TRENT HILLS

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CONSULTING ENGINEERS

Background Information

The current welded steel standpipe serving Trent Hills was constructed in 1962 and requires substantial refurbishment and no longer meets the needs of the drinking water system for both storage volume and meeting the required minimum pressures. Some existing areas of the water distribution system have water pressure that is below the 275 kPa minimum standard.

To accommodate increasing volume needs for domestic use and fire protection while providing adequate pressure throughout the distribution system, system upgrades are required. The current standpipe is located at Victoria Street N and Division Street E in Trent Hills, ON.

These upgrades and recommendations will be carried out as a Schedule ‘B’ project under the terms of the Municipal Class Environmental Assessment (Class EA) process, which is approved under the Environmental Assessment Act.

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TRENT HILLS

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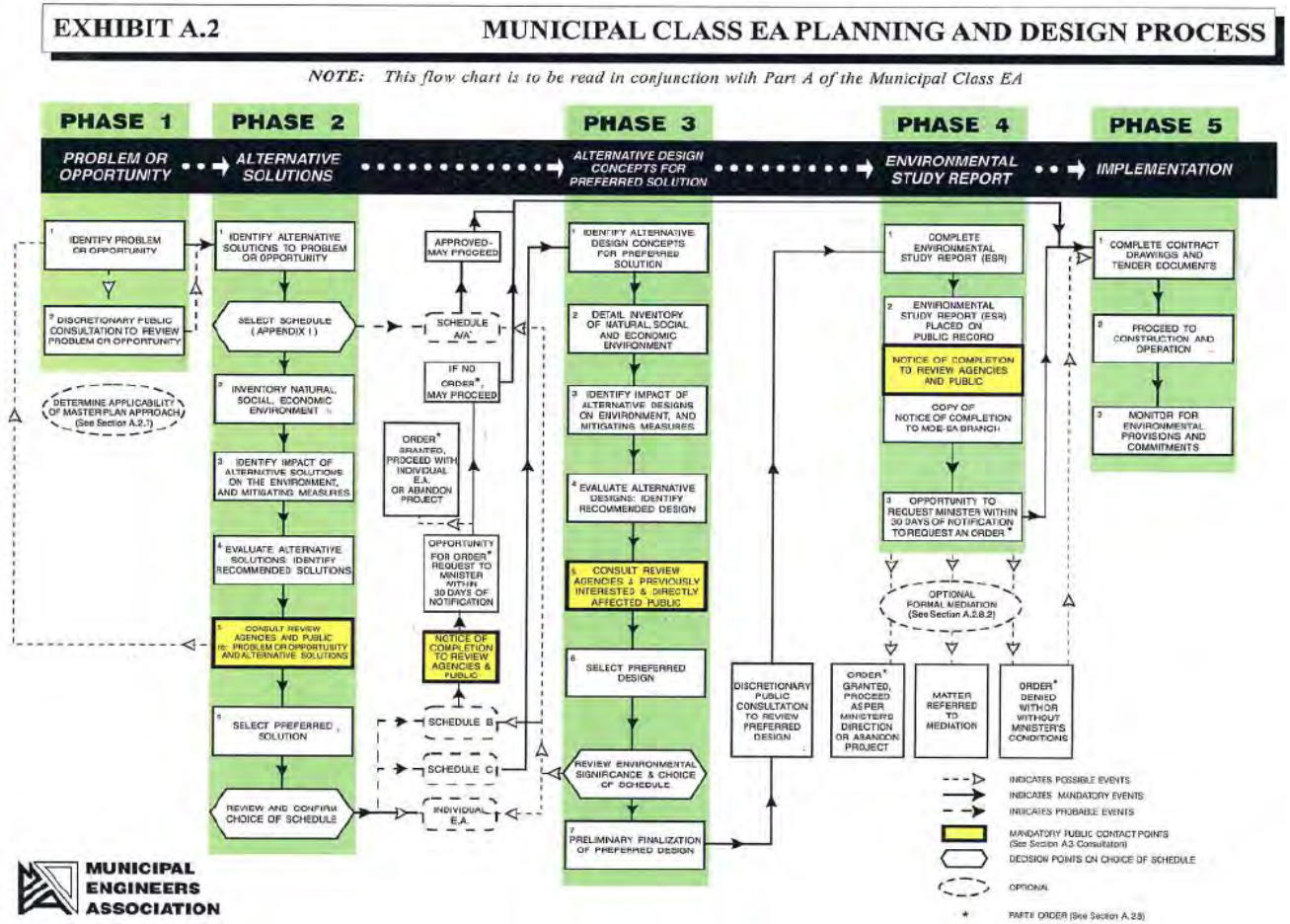
Municipal Class EA Process

- Meets the requirements of Ontario's Environmental Assessment Act by ensuring that potential environmental impacts of projects are considered.
- Consultation with the public and interested stakeholders including government review agencies and First Nations is required to identify environmental impacts of alternative solutions, develop mitigating measures and identify a preferred solution.



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Alternatives

Do Nothing

This alternative would have the lowest capital cost and would involve continuing to use the existing standpipe without any changes. This alternative is not feasible as the current standpipe needs immediate rehabilitation for future operations.

Refurbish and Repair the Existing Standpipe

This option involves completing the refurbishments and repairs the existing standpipe requires and continuing to use it. This includes interior and exterior recoating and various health and safety upgrades. Rehabilitation costs are estimated to be $650,000. Furthermore, this alternative is not feasible as it does not meet the current and future storage volumes and minimum pressures needs. This is not considered economically viable to rehabilitate the standpipe which does not meet the community's needs.

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Alternatives

Replace Existing Standpipe at Existing Location (North of Trent River)

This alternative involves constructing a new water storage facility at the existing standpipe's site. A new standpipe or elevated tank with a larger storage volume and sufficient height to maintain the minimum required water pressure throughout the drinking water distribution system is considered a viable option.

Replace Existing Standpipe at New Location (South of Trent River)

This alternative involves constructing a new water storage facility at a new site located on the south side of Trent River. A new standpipe or elevated tank with a larger storage volume and sufficient height to maintain the minimum required water pressure throughout the drinking water distribution system is considered a viable option.

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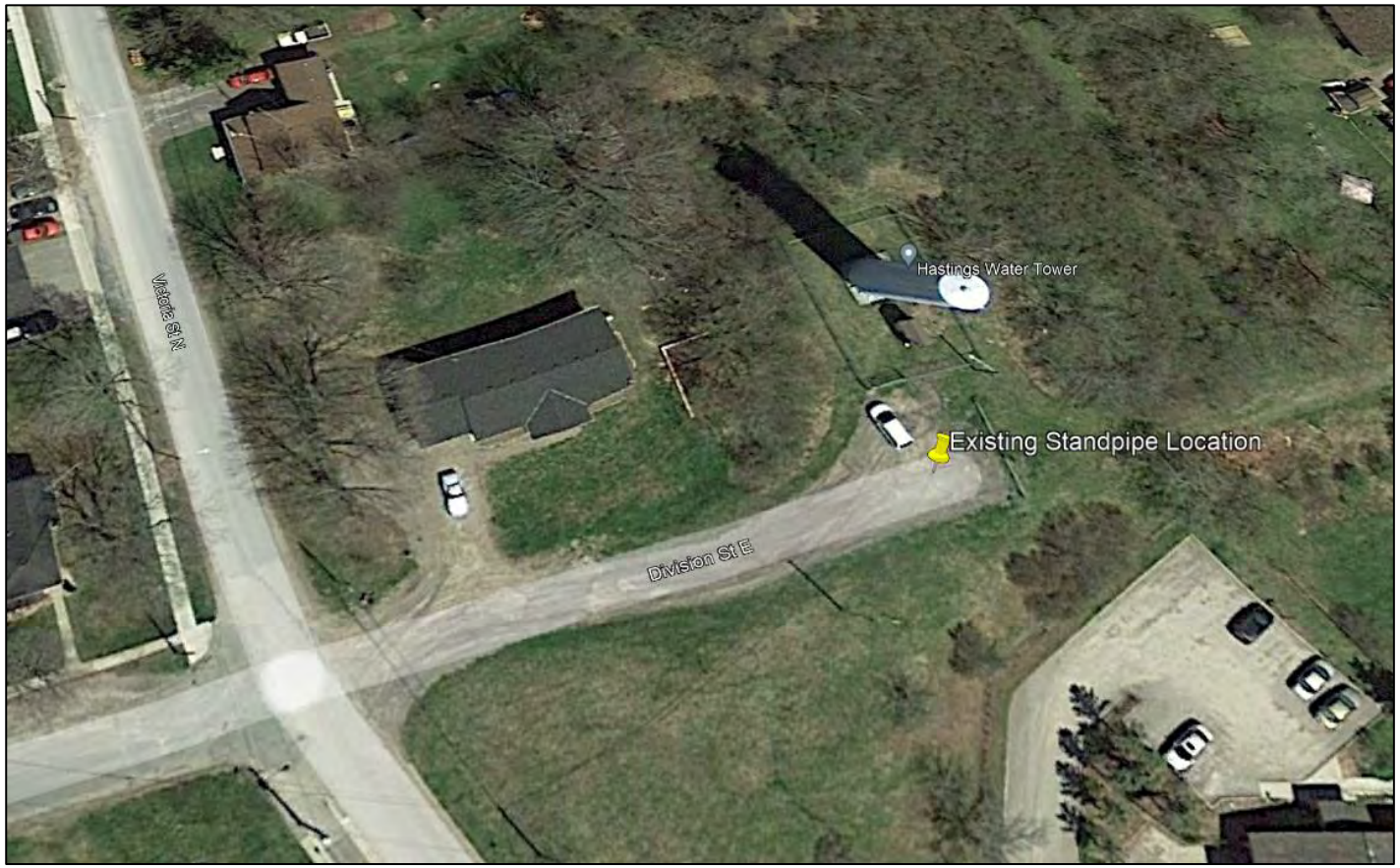

Existing standpipe location

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Possible New Southern Location

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Preferred Alternative

- The preferred alternative is a new water storage facility, either a glass fused to steel standpipe, or an elevated storage tank constructed at the existing site and to remove the existing standpipe. The new facility is proposed to be approximately 38 m tall. The total usable storage capacity of the facility will be approximately 1220 m^3 and the taller facility will provide the necessary pressures in the distribution system.
- The existing site was chosen as the preferred alternative due to the significantly longer 875 m of watermain required to connect the standpipe from the southern site to the distribution system. Additionally, funding has been secured for a second watermain crossing to the south of the river. This will provide operational flexibility while keeping the standpipe replacement on the north side of the river.

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Preferred Alternative

- Several locations within the existing site were evaluated for the preferred location for the new tower. The top of the existing gravel road was chosen as the preferred location to minimize environmental impacts on the surrounding trees and vegetation.
- The glass fused to steel standpipe was chosen as the best type of storage facility for this project. While there are advantages to an elevated storage tank option, it is not economically feasible, and a standpipe is the best option to achieve the required upgrades to the system at the lowest supply and construction costs.

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Preferred Alternative

Current welded steel standpipe

Elevated storage tank

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Glass fused to steel standpipe

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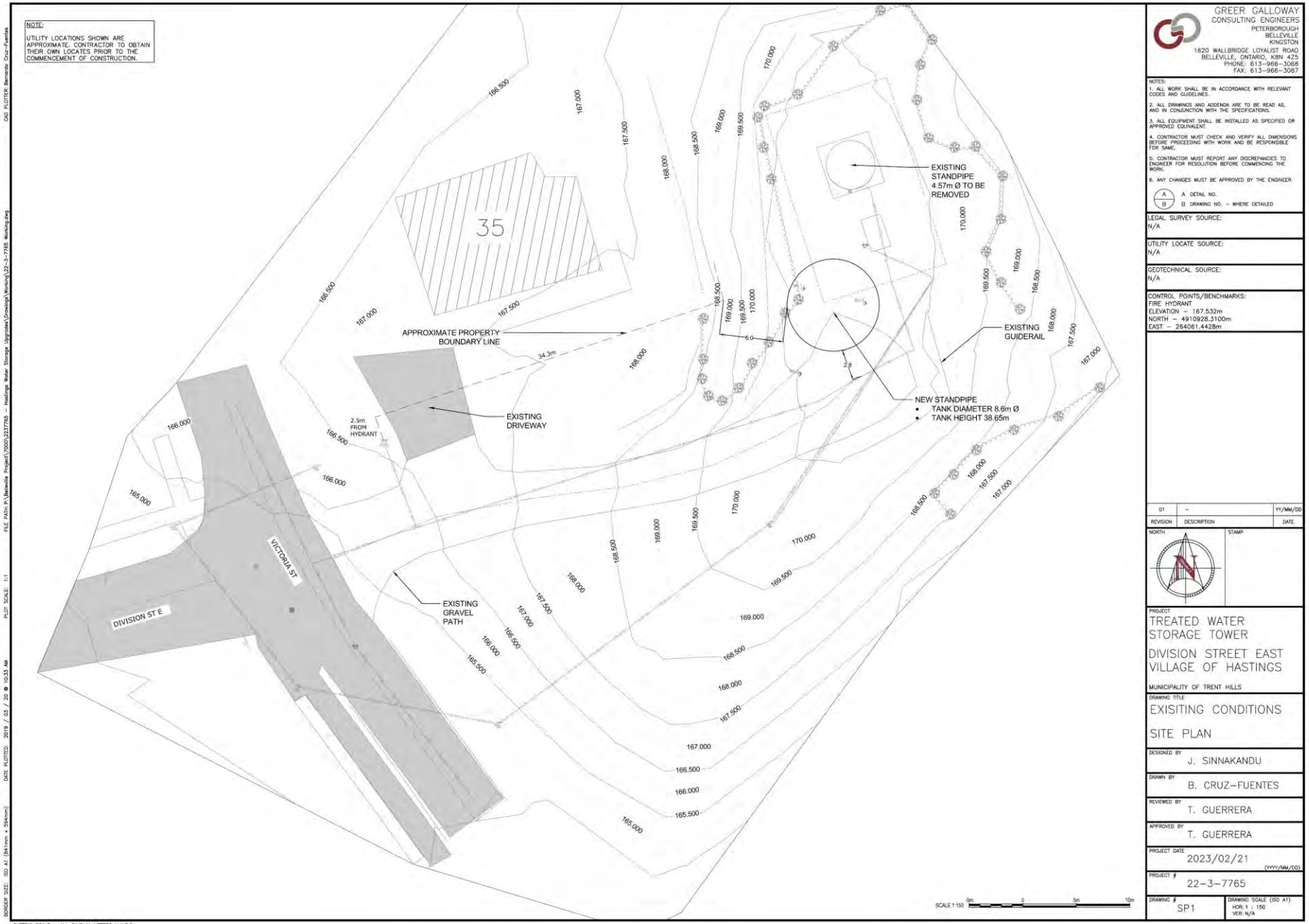
Summary of Standpipe Replacement Requirements

Estimated Total 20 year Service Population	3156
Estimated 20 year Max Daily Demand	2524.75 m^3/day
Base Elevation	206 m
Diameter	8.6 m
Total Height (1 m freeboard)	**38 m (EL. 244 m)**
Usable Storage	**1219.85 m^3**
WTP Reservoir Available Storage	656.2 m^3
Total Available System Storage	**1876.05 m^3**

MUNICIPALITY OF TRENT HILLS



GREER GALLOWAY
CONSULTING ENGINEERS
PETERBOROUGH
BELLEVILLE
KINGSTON
1620 WALLBRIDGE LOYALIST ROAD
BELLEVILLE, ONTARIO, K8N 4Z5
PHONE: 613-966-3068
FAX: 613-966-3087

NOTES:
1. ALL WORK SHALL BE IN ACCORDANCE WITH RELEVANT CODES AND GUIDELINES.
2. ALL DRAWINGS AND ADDENDA ARE TO BE READ AS, AND IN CONJUNCTION WITH THE SPECIFICATIONS.
3. ALL EQUIPMENT SHALL BE INSTALLED AS SPECIFIED OR APPROVED EQUIVALENT.
4. CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH WORK AND BE RESPONSIBLE FOR SAME.
5. CONTRACTOR MUST REPORT ANY DISCREPANCIES TO ENGINEER FOR RESOLUTION BEFORE COMMENCING THE WORK.
6. ANY CHANGES MUST BE APPROVED BY THE ENGINEER.

A/B — A DETAIL NO. / B DRAWING NO. – WHERE DETAILED

LEGAL SURVEY SOURCE:
N/A

UTILITY LOCATE SOURCE:
N/A

GEOTECHNICAL SOURCE:
N/A

CONTROL POINTS/BENCHMARKS:
FIRE HYDRANT
ELEVATION – 167.532m
NORTH – 4910928.3100m
EAST – 264061.4428m

REVISION	DESCRIPTION	DATE
01	–	YY/MM/DD

NORTH

STAMP

PROJECT
TREATED WATER STORAGE TOWER
DIVISION STREET EAST
VILLAGE OF HASTINGS
MUNICIPALITY OF TRENT HILLS

DRAWING TITLE
EXISITING CONDITIONS
SITE PLAN

DESIGNED BY: J. SINNAKANDU
DRAWN BY: B. CRUZ-FUENTES
REVIEWED BY: T. GUERRERA
APPROVED BY: T. GUERRERA
PROJECT DATE: 2023/02/21 (YYYY/MM/DD)
PROJECT #: 22-3-7765
DRAWING #: SP1
DRAWING SCALE (ISO A1): HOR: 1 : 150 VER: N/A

CAD PLOTTER: Bernardo Cruz-Fuentes
FILE PATH: P:\Belleville Project\7000\22377765 – Hastings Water Storage Upgrades\Drawings\Working\22-3-7765 Working.dwg
PLOT SCALE: 1:1
DATE PLOTTED: 2019 / 03 / 20 @ 10:33 AM
BORDER SIZE: ISO A1 (841mm x 594mm)

GREER GALLOWAY
CONSULTING ENGINEERS

Thank you

MUNICIPALITY OF
TRENT HILLS

APPENDIX G: Project Contacts

Stakeholder	Address	Number	Email	Attention	Comment
Mississaugas of Scugog Island First Nation	22521 Island Road, Port Perry, ON L9L 1B6		info@scugogfirstnation.com;	Dave Mowat, Community Consultation Specialist	For first nations also CC: inquiries@williamstreatiesfirstnations.ca;
Curve Lake First Nation	22 Winookeeda Road, Curve Lake, ON K0L 1R0		emilyw@curvelake.ca; juliek@curvelake.ca; kaitlinh@curvelake.ca;	Chief Emily Whetung, Julie Kapyrka, Lands Resource Consultation Liaison Kaitlin Hill, Lands Resource Consultation Liaison	
Mohawks of the Bay of Quinte	24 Meadow Drive, Tyendinaga Mohawk Territory, ON K0K 1X0		consultation@mbq-tmt.org; lisam@mbq-tmt.org; nicoles@mbq-tmt.org;	Charlotte Gurnsey, Consultation Coordinator	
Alderville First Nation	11696 Second Line, P.O. Box 46 Roseneath, ON K0K 2X0		consultation@alderville.ca;	Chief Dave Mowat	
Kawartha Nishnawbe		807.623.8228	kawarthanishnawbecouncil@outlook.com; CC: nodin.webb@hotmail.com; samgharvey@live.com;		
Hiawatha First Nation	123 Paudash Street R. R. #2	705-295-4421	chiefcarr@hiawathafn.ca ; tcowie@hiawathafn.ca; sdavison@hiawathafn.ca;	Chief Greg Cowie	
Chippewas of Georgina Island			jl.porte@georginaisland.com;		
Chippewas of Rama First Nation			evelynb@ramafirstnation.ca; shardayj@ramafirstnation.ca;		
Chippewas of Beausoleil First Nation			info@chimnissing.ca; jcopegog@chimnissing.ca;		
Lower Trent Conservation	714 Murray Street, R.R. 1, Trenton, Ontario, K8V 5P4	613-394-4829	janet.noyes@ltc.on.ca;		
MECP - Eastern Region	1259 Gardiners Road, Unit 3 Kingston ON K7P 3J6	613 549 4000	Jacqueline.Fuller@ontario.ca; Jon.Orpana@ontario.ca; eanotification.eregion@ontario.ca;	Notices go the the specific notice email	
Ministry of Heritage, Sport, Tourism and Culture Industries			Joseph.Harvey@ontario.ca; Karla.Barboza@ontario.ca;	Barboza, Karla Harvey, Joseph	
Environment Canada, Public Works Canada	4900 Yonge St., Suite 1205 North York, ON M2N 6A6	416-952-0813	ONT.Web@pwgsc-tpsgc.gc.ca;		

APPENDIX H: Agency Correspondence

	Class EA/Streamlined EA	Proponent Name	Proponent Contact	Project Name	Project Schedule	Project Type	Project Location	MOECC Region	Project Initiation Date
1	CO - Remedial flood and erosion control projects								
2	GO Transit - Class EA								
3	Hydro One - Minor transmission facilities								
4	MEA - Class EA for municipal infrastructure projects	The Municipality of Trent Hills	Scott White	Hastings Standpipe Replacement	Schedule B	Municipal water and wastewater projects	Trent Hills, Municipality of	Eastern	12/5/2022
5	Ministry of Infrastructure - Public work								
6	MNDM - Activities of the Ministry of Northern Development and Mines under the Mining Act								
7	MNRF - Provincial parks and conservation reserves								
8	MNRF - Resource stewardship and facility development projects								
9	MTO - Provincial transportation facilities								
10	O. Reg. 101/07 - Waste management projects								
11	O. Reg. 116/01 - Electricity projects								
12	OWA - Waterpower projects								

From: Jeanorth Sinnakandu
To: eanotification.eregion@ontario.ca
Cc: Tony Guerrera
Subject: Notice of Commencement - Hastings Standpipe Class EA
Date: Thursday, December 01, 2022 4:13:00 PM
Attachments: image001.jpg
Hastings Standpipe-ea_project_information_form.xlsx
Notice of Commencement + Keymap - Hastings Water Storage.pdf

Hello,

I am submitting the attached documents to initiate the Class EA process for the Hasting Standpipe Replacement in Trent Hills, ON. The attachments include the completed project information form and the Notice of Commencement with a Keymap showing the potential locations for the new standpipe. The Notice will be published by the Municipality of Trent Hills on December 5, 2022. Thank you.

Regards,

Jeanorth Sinnakandu, P.Eng.

1620 Wallbridge Loyalist Road, Belleville ON K8N 4Z5
Tel: (613) 966-3068 Ext: 334; Fax: (613) 966-3087
Cell: (647) 680-4973
Web Site: www.greergalloway.com
E-Mail: jsinnakandu@greergalloway.com

The Municipality of Trent Hills

NOTICE OF COMMENCEMENT

Hastings Standpipe Replacement – Class Environmental Assessment

The current standpipe serving Trent Hills requires substantial refurbishment and no longer meets the needs of the drinking water system for both storage volume and meeting the required minimum pressures. Some existing areas of the water distribution system have water pressure that is below the 275 kPa minimum standard. To accommodate increasing volume needs for domestic use and fire protection while providing adequate pressure throughout the distribution system, system upgrades are required. The current standpipe is located at Victoria Street N and Division Street E in Trent Hills, ON. A keymap is attached showing the existing standpipe location and a possible location for the new water storage facility.

A Municipal Class Environmental Assessment (EA) study has been initiated to determine the preferred solution for ensuring that the drinking water system will meet existing demand and support future growth. The following water storage and supply options were considered:

- Do nothing
- Refurbish and repair the existing standpipe
- Construct a new water storage facility at the existing standpipe site
- Construct a new water storage facility at a new location south of the river

Detailed evaluation of the alternatives has resulted in a recommendation to construct a larger storage facility at the present site and remove the existing standpipe. The project is proceeding according to the requirements for a Schedule B project.

The Class EA process includes:

- Consultation with the public, review agencies, and other stakeholders
- Field investigations
- Evaluation of viable alternative solutions
- Assessment of the impacts of the alternative solutions and identification of measures to mitigate any adverse environmental, social, cultural, and economic impacts
- Selection of a preferred solution

Public input into the planning and design of this project is encouraged. If you have any comments or questions regarding this project, or would like to receive further information, please send an email to one of the following project contacts:

Scott White
General Manager of Infrastructure Renewal
And Public Works Admin
Municipality of Trent Hills
66 Front Street South P.O. Box 1030
Campbellford, ON K0L 1L0
T: 705-653-1900 x 244
F: 705-653-5203
Email: Scott.White@trenthills.ca

Tony Guerrera, P.Eng.
The Greer Galloway Group Inc.
1620 Wallbridge Loyalist Road
Belleville, ON K8N 4Z5
T: (613) 966-3068
F: (613) 966-3087
Email: tguerrera@greergalloway.com

This notice issued December 5, 2022

Under the *Freedom of Information and Protection of Privacy Act* and the *Environmental Assessment Act*, unless otherwise stated in the submission, any personal information such as name, address, telephone number and property location included in a submission will become part of the public record files for this project and will be released, if requested, to any person.

Hastings Standpipe Replacement

Proposed locations for construction of the new water storage facility

Legend

Location

Existing Standpipe Location

Possible New Southern Location

Our Lady of Mount Carmel

Hastings Public School

Hastings Police Dept

Hastings Senior Citizens Club

Hastings Home Hardware

HASTINGS

Trent-Severn Waterway, Lock 18 - Hastings

Subway

Todd's Valu-mart Hastings

Esso

Hastings Field House

William St

Front St E

New St

Hope St

Front St W

Cedar Dr

Water St

Clyde St

Church St

Old Trafford Dr

Lord's Dr

White Hart Ln

Park St

Argyle St

Elgin St

Bay St W

Queen St W

King St

Homewood Ave

River Rd

Park Ln

Pine Ridge Rd

McCarthys Point Rd

Rogers Dr

2

45

N

2000 ft

Google Earth

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

December 15, 2022

Scott White
General Manager of Infrastructure Renewal
And Public Works Admin
Municipality of Trent Hills
Scott.White@trenthills.ca

BY EMAIL ONLY

Re:

Municipality of Trent Hills
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT Hastings Standpipe Replacement, Schedule B
Response to Notice of Commencement

Dear Scott White

This letter is in response to the Notice of Commencement (issued December 5, 2022) for the above noted project. The Ministry of the Environment, Conservation and Parks (MECP) acknowledges that the 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).

The current standpipe serving Trent Hills requires substantial refurbishment and no longer meets the needs of the drinking water system for both storage volume and meeting the required minimum pressures. Some existing areas of the water distribution system have water pressure that is below

the 275 kPa minimum standard. To accommodate increasing volume needs for domestic use and fire protection while providing adequate pressure throughout the distribution system, system upgrades are required. The current standpipe is located at Victoria Street N and Division Street E in Trent Hills, ON. A keymap is attached showing the existing standpipe location and a possible location for the new water storage facility.

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The Class EA process includes:

- Consultation with the public, review agencies, and other stakeholders
- Field investigations
- Evaluation of viable alternative solutions
- Assessment of the impacts of the alternative solutions and identification of measures to mitigate any adverse environmental, social, cultural, and economic impacts
- Selection of a preferred solution

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. The Areas of Interest is a current and complete list and may not pertain to every project depending on scale and scope. Proponents and /or consultants are best positioned to assess the items that would be appropriately addressed in the respective ESR or project file.

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:

- **Chippewas of Rama First Nation**
- **Chippewas of Georgina Island**
- **Beausoleil First Nation**
- **Alderville First Nation**
- **Curve Lake First Nation**
- **Hiawatha First Nation**
- **Mississaugas of Scugog Island First Nation**

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

- **Mohawks of the Bay of Quinte**
- **Kawartha Nishnawbe**

If the proponent has undertaken archeological studies and are required to undertake any work related to archeological resources, they should also include:

- **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 the 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; or
- A Section 16 Order request is expected on the basis of impacts to Aboriginal or treaty rights

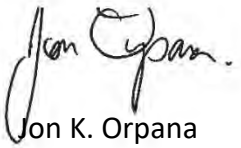
The MECP will then assess the extent of any Crown duty to consult for the circumstances and will consider whether additional steps should be taken, including what role you will be asked to play should additional steps and activities be required.

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 Eastern Region EA notification email account (eanotification.eregion@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 jon.orpana@ontario.ca.

Sincerely,



Jon K. Orpana
Regional Environmental Planner – Eastern Region

Cc:

Jacqueline Fuller, Water Compliance Supervisor, Peterborough District Office, MECP
Email: jacqueline.fuller@ontario.ca

Tony Guerrera, P.Eng.
The Greer Galloway Group Inc.
Email: tguerrera@greergalloway.com

Encl. Areas of Interest

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's Eastern Region**.** Parts of the study area may also be subject to the Oak Ridges Moraine Conservation 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 / considerations for SAR, 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 Eastern Region, the email is eanotification.eregion@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 Section 16 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, Section 16 Order requests on those matters should be addressed in writing to:

Minister
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

Gabriel Goad

From: Tony Guerrera
Sent: Tuesday, March 07, 2023 12:24 PM
To: Jeanorth Sinnakandu
Cc: Samuel Hutton
Subject: FW: Trent Hills Standpipe Replacement MEA
Attachments: fjo_NoticeofCommencementResponse_MunicipalityofTrentHills_WaterStroage_SchedB.pdf; Supporting Attachment - Proponent's Intro to Delegation of Procedural Aspects of Consultation with Aboriginal Communities.docx; Supporting Attachment - Species at Risk Proponents Guide to Preliminary Screening (Draft May 2019).pdf

I do not believe I forwarded this to Jeanorth.
Have we sent out contact letters to all agencies, including the FN groups as outlined?
Please ensure that you review documents and follow the guidance. If you have questions, ask me.
Sam, I have copied you for the SAR attachment. We will need to complete this process ASAP for Brighton. I think the main item is to contact them. Jeanorth, we need to do the same for Hastings.

From: Orpana, Jon (MECP) <Jon.Orpana@ontario.ca>
Sent: Thursday, December 15, 2022 3:35 PM
To: scott.white@trenthills.ca
Cc: Fuller, Jacqueline (MECP) <Jacqueline.Fuller@ontario.ca>; Tony Guerrera <tguerrera@greergalloway.com>
Subject: Trent Hills Standpipe Replacement MEA

Hello Mr. White,

Please find MECP's preliminary correspondence on the above mentioned project.

Attached and enclosed are also some resources for you to consider for your project. Also is enclosed a list of indigenous communities you should consult with at a minimum.

Thanks in advance.

Jon

Jon K. Orpana
Regional Environmental Planner
Environmental Assessment Branch
Ministry of the Environment, Conservation and Parks
Kingston Regional Office
PO Box 22032, 1259 Gardiners Road
Kingston, Ontario
K7M 8S5

Phone: (613) 548-6918
Fax: (613) 548-6908
Email: jon.orpana@ontario.ca

Ontario

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 mitigates 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.

Client's Guide to Preliminary Screening for Species at Risk

Ministry of the Environment, Conservation and Parks

Species at Risk Branch, Permissions and Compliance

DRAFT - May 2019

Table of Contents

1.0 Purpose, Scope, Background and Context

1.1 Purpose of this Guide

This guide has been created to:

- help clients better understand their obligation to gather information and complete a preliminary screening for species at risk before contacting the ministry,
- outline guidance and advice clients can expect to receive from the ministry at the preliminary screening stage,
- help clients understand how they can gather information about species at risk by accessing publicly available information housed by the Government of Ontario, and
- provide a list of other potential sources of species at risk information that exist outside the Government of Ontario.

It remains the client's responsibility to:

- carry out a preliminary screening for their projects,
- obtain best available information from all applicable information sources,
- conduct any necessary field studies or inventories to identify and confirm the presence or absence of species at risk or their habitat,
- consider any potential impacts to species at risk that a proposed activity might cause, and
- comply with the *Endangered Species Act* (ESA).

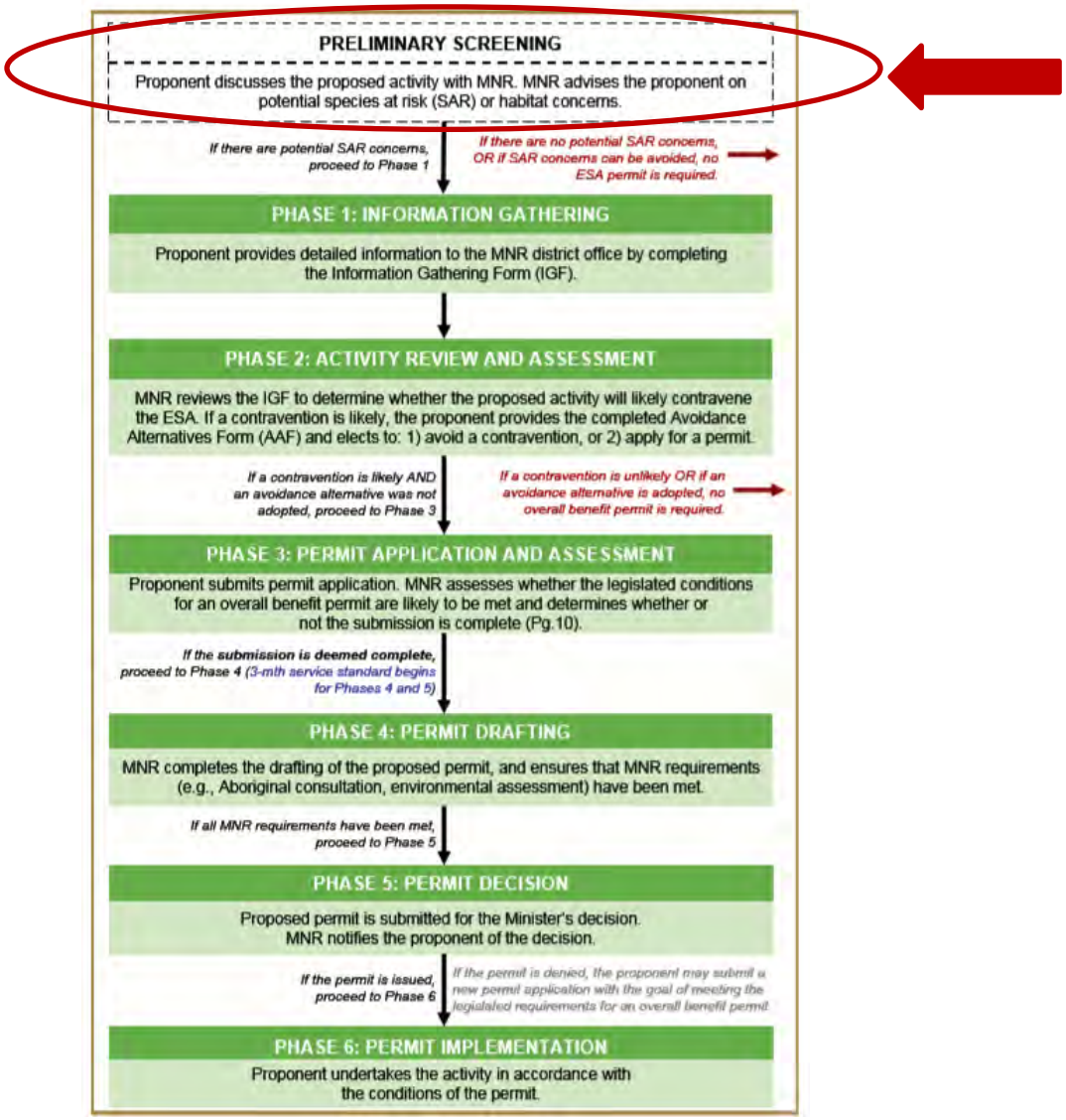
To provide the most efficient service, clients should initiate species at risk screenings and seek information from all applicable information sources identified in this guide, at a minimum, prior to contacting Government of Ontario ministry offices for further information or advice.

1.2 Scope

This guide is a resource for clients seeking to understand if their activity is likely to impact species at risk or if they are likely to trigger the need for an authorization under the ESA. It is not intended to circumvent any detailed site surveys that may be necessary to document species at risk or their habitat nor to circumvent the need to assess the impacts of a proposed activity on species at risk or their habitat. This guide is not an exhaustive list of available information sources for any given area as the availability of information on species at risk and their habitat varies across the province. This guide is intended to support projects and activities carried out on Crown and private land, by private landowners, businesses, other provincial ministries and agencies, or municipal government.

1.3 Background and Context

To receive advice on their proposed activity, clients must first determine whether any species at risk or their habitat exist or are likely to exist at or near their proposed activity, and whether their proposed activity is likely to contravene the ESA. Once this step is complete, clients may contact the ministry at SAROntario@ontario.ca to discuss the main purpose, general methods, timing and location of their proposed activity as well as information obtained about species at risk and their habitat at, or near, the site. At this stage, the ministry can provide advice and guidance to the client about potential species at risk or habitat concerns, measures that the client is considering to avoid adverse effects on species at risk or their habitat and whether additional field surveys are advisable. This is referred to as the "Preliminary Screening" stage. For more information on additional phases in the diagram below, please refer to the *Endangered Species Act Submission Standards for Activity Review and 17(2)(c) Overall Benefit Permits* policy available online at https://www.ontario.ca/page/species-risk-overall-benefit-permits



2.0 Roles and Responsibilities

To provide the most efficient service, clients should initiate species at risk screenings and seek information from all applicable information sources identified in this guide prior to contacting Government of Ontario ministry offices for further information or advice.

Step 1: Client seeks information regarding species at risk or their habitat that exist, or are likely to exist, at or near their proposed activity by referring to all applicable information sources identified in this guide.

Step 2: Client reviews and consider guidance on whether their proposed activity is likely to contravene the ESA (see section 3.4 of this guide for guidance on what to consider).

Step 3: Client gathers information identified in the checklist in section 4 of this guide.

Step 4: Client contacts the ministry at SAROntario@ontario.ca to discuss their preliminary screening. Ministry staff will ask the client questions about the main purpose, general methods, timing and location of their proposed activity as well as information obtained about species at risk and their habitat at, or near, the site. Ministry staff will also ask the client for their interpretation of the impacts of their activity on species at risk or their habitat as well as measures the client has considered to avoid any adverse impacts.

Step 5: Ministry staff will provide advice on next steps.

Option A: Ministry staff may advise the client they can proceed with their activity without an authorization under the ESA where the ministry is confident that:

- no protected species at risk or habitats are likely to be present at or near the proposed location of the activity; or
- protected species at risk or habitats are known to be present but the activity is not likely to contravene the ESA; or
- through the adoption of avoidance measures, the modified activity is not likely to contravene the ESA.

Option B: Ministry staff may advise the client to proceed to Phase 1 of the overall benefit permitting process (i.e. Information Gathering in the previous diagram), where:

- there is uncertainty as to whether any protected species at risk or habitats are present at or near the proposed location of the activity; or
- the potential impacts of the proposed activity are uncertain; or
- ministry staff anticipate the proposed activity is likely to contravene the ESA.

3.0 Information Sources

Land Information Ontario (LIO) and the Natural Heritage Information Centre (NHIC) maintain and provide information about species at risk, as well as related information about fisheries, wildlife, crown lands, protected lands and more. This information is made available to organizations, private individuals, consultants, and developers through online sources and is often considered under various pieces of legislation or as part of regulatory approvals and planning processes.

The information available from LIO or NHIC and the sources listed in this guide should not be considered as a substitute for site visits and appropriate field surveys. Generally, this information can be regarded as a starting point from which to conduct further field surveys, if needed. While this data represents best available current information, it is important to note that a lack of information for a site does not mean that species at risk or their habitat are not present. There are many areas where the Government of Ontario does not currently have information, especially in more remote parts of the province. The absence of species at risk location data at or near your site does not necessarily mean no species at risk are present at that location. On-site assessments can better verify site conditions, identify and confirm presence of species at risk and/or their habitats.

Information on the location (i.e. observations and occurrences) of species at risk is considered sensitive and therefore publicly available only on a 1km square grid as opposed to as a detailed point on a map. This generalized information can help you understand which species at risk are in the general vicinity of your proposed activity and can help inform field level studies you may want to undertake to confirm the presence, or absence of species at risk at or near your site.

Should you require specific and detailed information pertaining to species at risk observations and occurrences at or near your site on a finer geographic scale; you will be required to demonstrate your need to access this information, to complete data sensitivity training and to obtain a Sensitive Data Use License from the NHIC. Information on how to obtain a license can be found online at https://www.ontario.ca/page/get-natural-heritage-information.

Many organizations (e.g. other Ontario ministries, municipalities, conservation authorities) have ongoing licensing to access this data so be sure to check if your organization has this access and consult this data as part of your preliminary screening if your organization already has a license.

3.1 Make a Map: Natural Heritage Areas

The Make a Natural Heritage Area Map (available online at http://www.gisapplication.lrc.gov.on.ca/mamnh/Index.html?site=MNR_NHLUPS_NaturalHeritage&viewer=NaturalHeritage&locale=en-US provides public access to natural heritage information, including species at risk, without the user needing to have Geographic Information System (GIS) capability. It allows users to view and identify generalized species at risk information, mark areas of interest, and create and print a custom map directly from the web application. The tool also shows topographic information such as roads, rivers, contours and municipal boundaries.

Users are advised that sensitive information has been removed from the natural areas dataset and the occurrences of species at risk has been generalized to a 1-kilometre grid to mitigate the risks to the species (e.g. illegal harvest, habitat disturbance, poaching).

The web-based mapping tool displays natural heritage data, including:

- Generalized Species at risk occurrence data (based on a 1-km square grid),
- Natural Heritage Information Centre data.

Data cannot be downloaded directly from this web map; however, information included in this application is available digitally through Land Information Ontario (LIO) at https://www.ontario.ca/page/land-information-ontario.

3.2 Land Information Ontario (LIO)

Most natural heritage data is publicly available. This data is managed in a large provincial corporate database called the LIO Warehouse and can be accessed online through the LIO Metadata Management Tool at https://www.javacoeapp.lrc.gov.on.ca/geonetwork/srv/en/main.home. This tool provides descriptive information about the characteristics, quality and context of the data. Publicly available geospatial data can be downloaded directly from this site.

While most data are publicly available, some data may be considered highly sensitive (i.e. nursery areas for fish, species at risk observations) and as such, access to some data maybe restricted.

3.3 Additional Species at Risk Information Sources

- The Breeding Bird Atlas can be accessed online at http://www.birdsontario.org/atlas/index.jsp?lang=en
- eBird can be accessed online at https://ebird.org/home
- iNaturalist can be accessed online at https://www.inaturalist.org/
- The Ontario Reptile and Amphibian Atlas can be accessed online at https://ontarionature.org/programs/citizen-science/reptile-amphibian-atlas
- Your local Conservation Authority. Information to help you find your local Conservation Authority can be accessed online at https://conservationontario.ca/conservation-authorities/find-a-conservation-authority/

  Local naturalist groups or other similar community-based organizations
- Local Indigenous communities
- Local land trusts or other similar Environmental Non-Government Organizations
- Field level studies to identify if species at risk, or their habitat, are likely present or absent at or near the site.
- When an activity is proposed within one of the continuous caribou ranges, please be sure to consider the caribou Range Management Policy. This policy includes figures and maps of the continuous caribou range, can be found online at https://www.ontario.ca/page/range-management-policy-support-woodland-caribou-conservation-and-recovery

3.4 Information Sources to Support Impact Assessments

- Guidance to help you understand if your activity is likely to adversely impact species at risk or their habitat can be found online at https://www.ontario.ca/page/policy-guidance-harm-and-harass-under-endangered-species-act and https://www.ontario.ca/page/categorizing-and-protecting-habitat-under-endangered-species-act
- A list of species at risk in Ontario is available online at https://www.ontario.ca/page/species-risk-ontario. On this webpage, you can find out more about each species, including where is lives, what threatens it and any specific habitat protections that apply to it by clicking on the photo of the species.

4.0 Check-List

Please feel free to use the check list below to help you confirm you have explored all applicable information sources and to support your discussion with Ministry staff at the preliminary screening stage.

- ✓ Land Information Ontario (LIO)
- ✓ Natural Heritage Information Centre (NHIC)
- ✓ The Breeding Bird Atlas
- ✓ eBird
- ✓ iNaturalist
- ✓ Ontario Reptile and Amphibian Atlas
- ✓ List Conservation Authorities you contacted:_____

  _____
- ✓ List local naturalist groups you contacted:_____

  _____
- ✓ List local Indigenous communities you contacted:_____

  _____
- ✓ List any other local land trusts or Environmental Non-Government Organizations you contacted:_____

  _____
- ✓ List and field studies that were conducted to identify species at risk, or their habitat, likely to be present or absent at or near the site: _____

  _____
- ✓ List what you think the likely impacts of your activity are on species at risk and their habitat (e.g. damage or destruction of habitat, killing, harming or harassing species at risk):_____

  _____

Gabriel Goad

From: Jeanorth Sinnakandu
Sent: Tuesday, May 23, 2023 2:39 PM
To: Gabriel Goad
Subject: FW: Hastings Standpipe Replacement EA - Archeological and Heritage Potential Checklists - [MCM file 0018831]

Regards,

Jeanorth Sinnakandu, P.Eng.

GREER GALLOWAY
CONSULTING ENGINEERS

1620 Wallbridge Loyalist Road, Belleville ON K8N 4Z5
Tel: (613) 966-3068 Ext: 334; Fax: (613) 966-3087
Cell: (647) 680-4973
Web Site: www.greergalloway.com
E-Mail: jsinnakandu@greergalloway.com

From: Harvey, Joseph (MCM) <Joseph.Harvey@ontario.ca>
Sent: Tuesday, May 23, 2023 1:36 PM
To: Jeanorth Sinnakandu <jsinnakandu@greergalloway.com>
Cc: Barboza, Karla (MCM) <Karla.Barboza@ontario.ca>; Minkin, Dan (MCM) <Dan.Minkin@ontario.ca>
Subject: FW: Hastings Standpipe Replacement EA - Archeological and Heritage Potential Checklists - [MCM file 0018831]

Hi Jeanorth,

Thanks for reaching out.

The Project File Report (PFR) should include both completed checklists along with a rationale for your findings with supporting documentation.

Question 8 of the completed checklist Criteria for Evaluating Archaeological Potential indicates that the current study area can be shown to have been subject to recent, extensive and intensive disturbance. A disturbance that is both extensive and intensive includes activities such as quarrying, deep foundations, and building footprints and associated construction areas. Common activities that **do not** qualify as ground disturbances include agricultural cultivation, gardening or landscaping. For partial disturbances such as utility lines, sewers and roadways it is important to note that this criterion applies only to the excavated right of way.

If the property has been subjected to recent, extensive and intensive disturbance the PFR should include a rationale/summary of documentation that supports this conclusion. If that is the case, please see the suggested language below:

> The screening checklist Criteria for Evaluating Archaeological Potential, developed by MCM, was completed as part of the project file (see Appendix x). The study area was determined to have low potential for archaeological resources.
>
> [Insert rationale/ summary of documentation that provides evidence of the recent disturbance]

In addition, we recommend including the following language in the PFR to account for Built Heritage Resources and Cultural Heritage Landscapes:

> The screening checklist Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes, developed by MCM, was completed as part of the project file ~~for this undertaking~~ (see Appendix x). The study area was determined to have low potential for built heritage resources and cultural heritage landscapes. Therefore, no Cultural Heritage Evaluation Report and/or Heritage Impact Assessment have been undertaken.

Please let us know if you have any additional questions or concerns. Any additional notices, information and documentation should be sent to the following MCM contacts:

- Karla Barboza, Team Lead - Heritage (Acting) | Heritage Planning Unit (Ministry of Citizenship and Multiculturalism) | 416-660-1027| karla.barboza@ontario.ca
- Dan Minkin, Heritage Planner | Heritage Planning Unit (Ministry of Citizenship and Multiculturalism) | 416-786-7553| Dan.Minkin@ontario.ca

Thanks,

Joseph Harvey | Heritage Planner
Citizenship, Inclusion and Heritage Division | Heritage Branch | Heritage Planning Unit
Ministry of Citizenship and Multiculturalism
613.242.3743
Joseph.Harvey@ontario.ca

From: Jeanorth Sinnakandu <jsinnakandu@greergalloway.com>
Sent: May 17, 2023 12:16 PM
To: Harvey, Joseph (MCM) <Joseph.Harvey@ontario.ca>; Barboza, Karla (MCM) <Karla.Barboza@ontario.ca>
Subject: Hastings Standpipe Replacement EA - Archeological and Heritage Potential Checklists

Hello,

I am working on the EA for the Hastings Standpipe Replacement in Trent Hills, Ontario. We are expecting to conclude the EA and submit our File Report soon. I have attached our archeological and heritage checklists for the project. Our project area for the preferred alternative is a recently disturbed area and we believe there is no potential for archeological and heritage impacts. It is an existing residential area with a previously installed underground watermain pipe and existing standpipe water tower. We are proposing to install a new replacement standpipe at the existing site including underground foundation and piping to reconnect to the existing watermain.

The attached air map shows the proposed location for installing our new standpipe and the existing watermain. Are the conclusions from the checklists acceptable for this project area? Thank you.

Regards,

Jeanorth Sinnakandu, P.Eng.

1620 Wallbridge Loyalist Road, Belleville ON K8N 4Z5
Tel: (613) 966-3068 Ext: 334; Fax: (613) 966-3087
Cell: (647) 680-4973
Web Site: www.greergalloway.com
E-Mail: jsinnakandu@greergalloway.com

APPENDIX I: Public Correspondence

Gabriel Goad

From: Tony Guerrera
Sent: Tuesday, April 18, 2023 10:09 AM
To: Jeanorth Sinnakandu
Subject: FW: Hastings Standpipe Replacement meeting on Wednesday April 26 2023

For project file.

From: david myles [redacted]
Sent: Monday, April 17, 2023 8:20 PM
To: Tony Guerrera <tguerrera@greergalloway.com>
Cc: Scott.White@trenthills.ca
Subject: Re: Hastings Standpipe Replacement meeting on Wednesday April 26 2023

Thank you for the clarification. And your quick response

On Mon, Apr 17, 2023, 4:52 p.m. Tony Guerrera <tguerrera@greergalloway.com> wrote:

> Hello David,
>
> Scott may reply as well, but I can offer the following responses:
>
> Access to your home will be available at all times.
>
> There is no rock excavation/breaking taking place. Vibration will be minimal. We do not anticipate any structure damage.
>
> There will not be danger to the surrounding area during the tank installation. They actually install rings on the bottom of the structure, and jack it up as the go. They do not use a crane. They start with the roof, then add the top ring first. That gets built on the ground, then they jack that up an build the next ring. They are really only working at ground level. No need to vacate the home.
>
> Ultimately the existing tank will be cut down and removed. That process involves cutting pieces and folding them down inside the tank as they go, from the top down. That will require an engineered plan prior to undertaking any work.
>
> If you additional question please let us know.

Thank you

Tony

From: david myles [redacted]
Sent: Monday, April 17, 2023 4:27 PM
To: Scott.White@trenthills.ca
Cc: Tony Guerrera <tguerrera@greergalloway.com>
Subject: Hastings Standpipe Replacement meeting on Wednesday April 26 2023

I will be unable to attend this meeting, Here are some of my concerns about the construction.

will i be able to access my house off of Division st while work is proceeding

With the work being done will this have any effect on my foundation of my house

Hosting of matrrails by crane will there be any danger to personal and property due to equipment failure. will I have to vacate the property during construction.

After working in the construction industry for over 40 years, I have witnessed equipment and persal failure. the close porcimatry of the existing tower there no room for failure by any means

David Myles

[redacted]

[redacted]

Gabriel Goad

From: Scott White <Scott.White@trenthills.ca>
Sent: Tuesday, April 18, 2023 11:27 AM
To: Tony Guerrera; Jeanorth Sinnakandu
Subject: FW: Village of Hastings - Water Standpipe Replacement

FYI. I should have copied you on this inquiry response.

Scott White
General Manager of Infrastructure Renewal and Public Works Admin
Tel: 705-653-1900 x 244
Fax: 705-653-5203

Municipality of Trent Hills
66 Front Street South
P.O. Box 1030
Campbellford, ON K0L 1L0

www.trenthills.ca

From: Paul Falzon [redacted]
Sent: Monday, April 17, 2023 5:42 PM
To: Scott White <Scott.White@trenthills.ca>
Subject: Re: Village of Hastings - Water Standpipe Replacement

Thank you Scott for the info and your prompt response. Paul

On Mon, Apr 17, 2023, 1:51 PM Scott White, <Scott.White@trenthills.ca> wrote:

> Hi Paul,
>
> Thank you your inquiry.
>
> This project is included in the 2023 Water and Wastewater Budget. The estimated total cost of the project is $3.5 million. See excerpt from the 2023 Capital budget attached. The municipality applied for funding under the ICIP Green stream program for this project and was successful. We are eligible to receive a little over $1.9 million from the Federal and Provincial governments. The remaining funds for this project will come from reserves and/or borrowing. Funds generated or received from connection charges specifically related to development are placed in reserves. So yes, those developers or new construction would pay a portion of this project and any other project through those connections charges being placed into those reserve accounts. Current connection charges for water are approx. $4000 per single connection for a detached or semi-detached dwelling. There are other rates for apartments etc. The full budget document, Water and Wastewater Rate Study, as well as the connection charges by-law can be found on the Trent Hills website if you are interested.
>
> I hope the above has answered your question. If you have any further questions, please do not hesitate to contact me. Alternatively, I can be reached on my cell phone as well at 705-653-8569.
>
> Scott
>
> Scott White
> General Manager of Infrastructure Renewal and Public Works Admin
> Tel: 705-653-1900 x 244
> Fax: 705-653-5203

Municipality of Trent Hills
66 Front Street South
P.O. Box 1030
Campbellford, ON K0L 1L0

www.trenthills.ca

From: Paul Falzon [redacted]
Sent: Monday, April 17, 2023 11:44 AM
To: Scott White <Scott.White@trenthills.ca>
Subject: Re: Village of Hastings - Water Standpipe Replacement

Dear sir, as a resident of Hastings, I would like to know if the cost of this project has been accounted for in the last budget and whether the builders of the new upcoming and ongoing development stages are contributing to the cost of this project above the amounts being covered by the residents of Hastings.

Thank you.

Paul Falzon

Hastings

On Wed, Mar 29, 2023 at 9:28 PM Patricia Falzon <[redacted]> wrote:

> **March 27, 2023**
>
> Notice of Public Information Centre - Hastings Standpipe Replacement

Hastings Standpipe Replacement – Class Environmental Assessment

The Municipality of Trent Hills is currently planning upgrades to the drinking water system for the Village of Hastings. The Municipality has identified that the current standpipe serving the community requires substantial refurbishment and no longer meets the needs of the drinking water system for both storage volume and meeting the required minimum pressures. The current standpipe is located at Victoria Street N and Division Street E in Hastings, Trent Hills, ON.

The project is being carried out with the requirements for a Schedule 'B' project under the terms of the Municipal Class Environmental Assessment (Class EA) process, which is approved under the Environmental Assessment Act. As part of the Class EA process for reviewing the standpipe replacement, public comment during the evaluation of alternative solutions will be requested.

The Municipality is conducting a public information center on **Wednesday, April 26, 2023 from 5:00 pm to 7:00 pm**. This will be held at the **Hastings Civic Centre**, located at **6 Albert Street, Hastings, Ontario**. We are interested in hearing any comments or concerns that you may have about this project. A public database of comments will be maintained and, except for personal information, included in the study documentation that will be made available for public review.

Parties interested in providing input or that wish to obtain additional information at this stage of the study are asked to submit comments in writing to:

Scott White
General Manager of Infrastructure Renewal and Public Works Admin
Municipality of Trent Hills
66 Front Street South Box 1030
Campbellford, ON K0L 1L0
T: 705-653-1900 x 244
F: 705-653-5203
Scott.White@trenthills.ca

Tony Guerrera, P.Eng.
The Greer Galloway Group Inc.
1620 Wallbridge Loyalist Road
Belleville, ON K8N 4Z5
T: (613) 966-3068
F: (613) 966-3087
tguerrera@greergalloway.com

Read this news update on our website

APPENDIX J: Notice of Completion

Municipality of Trent Hills

NOTICE OF STUDY COMPLETION

Hastings Standpipe Replacement – Class Environmental Assessment

The Municipality of Trent Hills has completed a Municipal Class Environmental Assessment (EA) study to determine the preferred solution to address the deficiencies in water storage and system pressure in the drinking water system in Hastings. The municipality intends to construct a new replacement water storage facility at the existing standpipe site and to remove the existing standpipe located at Victoria Street N and Division Street E in Hastings, Trent Hills, ON.

This study was carried out in accordance with the requirements for a Schedule "B" Municipal Class Environmental Assessment. The planning and decision-making process which includes consultation with public, first nations, and review agencies, assessment of environmental impacts of alternative solutions, and identification of the preferred solution has been completed. The project report is available for viewing on-line on the Municipality website.

The 30-day public review period will commence on **June 6, 2023**. For more information or to provide comments please email one of the following project contacts by July 7, 2023:

Scott White
General Manager of Infrastructure Renewal
And Public Works Admin
Municipality of Trent Hills
66 Front Street South P.O. Box 1030
Campbellford, ON K0L 1L0
T: 705-653-1900 x 244
F: 705-653-5203
Email: Scott.White@trenthills.ca

Tony Guerrera,
The Greer Galloway Group Inc.
1620 Wallbridge Loyalist Road,
Belleville, ON K8N 4Z5
T: (613) 966-3068
F: (613) 966-3087
Email: tguerrera@greergalloway.com

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. Additionally, 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 provided in the Notice of Completion. Further, the proponent may not proceed after this time if:

- a Section 16 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.

Members of the public must ensure that concerns are 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, Section 16 Order requests on those matters should be addressed in writing to:

Minister, Ministry of the 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

For more information on requests for orders under Section 16 of the Environmental Assessment Act visit: https://www.ontario.ca/page/class-environmental-assessments-section-16-order.

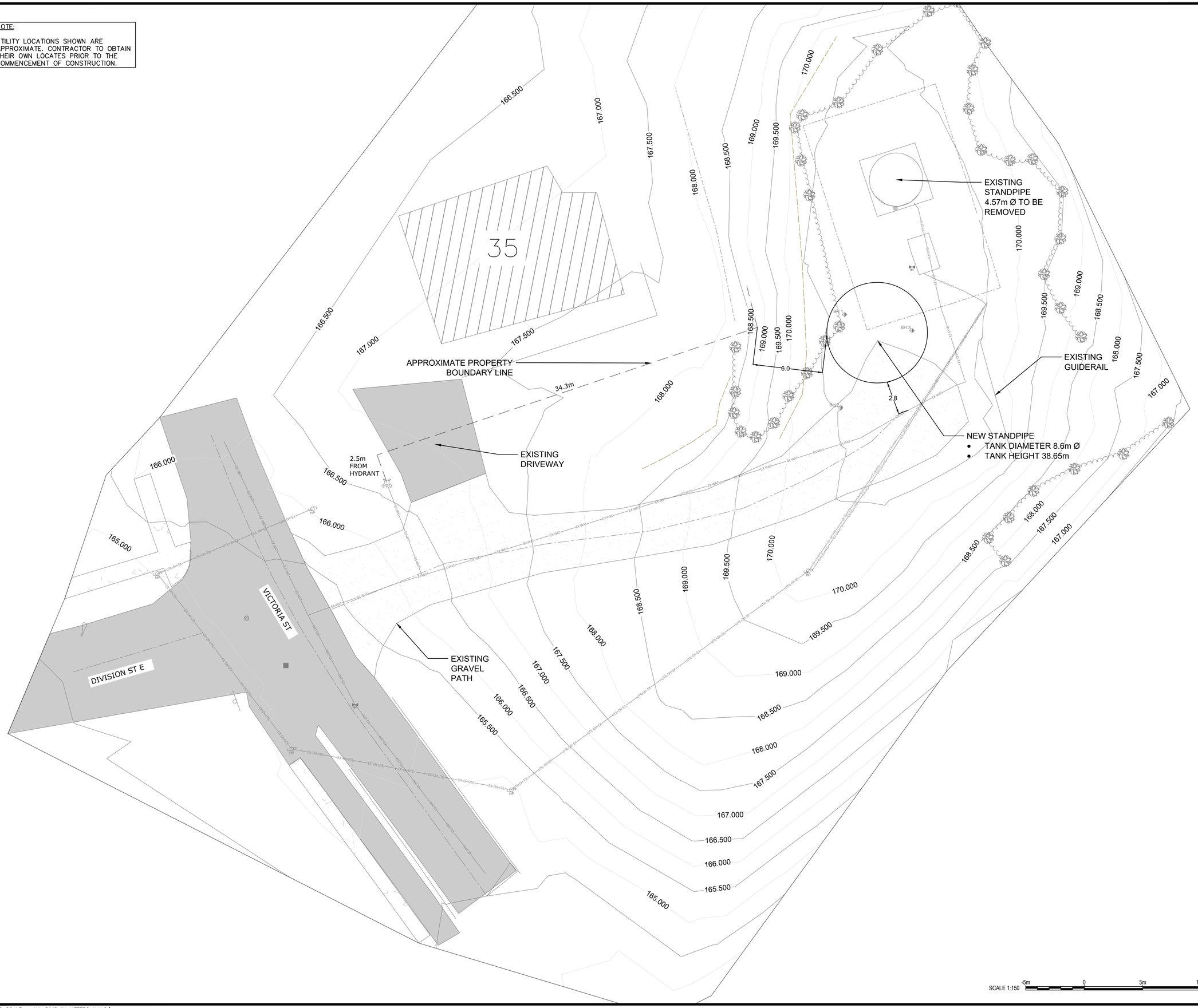
This notice issued June 6, 2023.

Under the *Freedom of Information and Protection of Privacy Act* and the *Environmental Assessment Act*, unless otherwise stated in the submission, any personal information such as name, address, telephone number and property location included in a submission will become part of the public records files for this project and will be released, if requested, to any person.

APPENDIX K: Site Plan Drawing

NOTE:

UTILITY LOCATIONS SHOWN ARE APPROXIMATE. CONTRACTOR TO OBTAIN THEIR OWN LOCATES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.



SCALE 1:150 -5m 0 5m 10m

GREER GALLOWAY
CONSULTING ENGINEERS
PETERBOROUGH
BELLEVILLE
KINGSTON
1620 WALLBRIDGE LOYALIST ROAD
BELLEVILLE, ONTARIO, K8N 4Z5
PHONE: 613-966-3068
FAX: 613-966-3087

NOTES:

1. ALL WORK SHALL BE IN ACCORDANCE WITH RELEVANT CODES AND GUIDELINES.
2. ALL DRAWINGS AND ADDENDA ARE TO BE READ AS, AND IN CONJUNCTION WITH THE SPECIFICATIONS.
3. ALL EQUIPMENT SHALL BE INSTALLED AS SPECIFIED OR APPROVED EQUIVALENT.
4. CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH WORK AND BE RESPONSIBLE FOR SAME.
5. CONTRACTOR MUST REPORT ANY DISCREPANCIES TO ENGINEER FOR RESOLUTION BEFORE COMMENCING THE WORK.
6. ANY CHANGES MUST BE APPROVED BY THE ENGINEER.

A / B — A DETAIL NO. / B DRAWING NO. – WHERE DETAILED

LEGAL SURVEY SOURCE:
N/A

UTILITY LOCATE SOURCE:
N/A

GEOTECHNICAL SOURCE:
N/A

CONTROL POINTS/BENCHMARKS:
FIRE HYDRANT
ELEVATION – 167.532m
NORTH – 4910928.3100m
EAST – 264061.4428m

REVISION	DESCRIPTION	DATE
01	–	YY/MM/DD

NORTH

STAMP

PROJECT
TREATED WATER STORAGE TOWER

DIVISION STREET EAST
VILLAGE OF HASTINGS

MUNICIPALITY OF TRENT HILLS

DRAWING TITLE
EXISITING CONDITIONS

SITE PLAN

DESIGNED BY: J. SINNAKANDU

DRAWN BY: B. CRUZ-FUENTES

REVIEWED BY: T. GUERRERA

APPROVED BY: T. GUERRERA

PROJECT DATE: 2023/02/21 (YYYY/MM/DD)

PROJECT #: 22-3-7765

DRAWING #: SP1

DRAWING SCALE (ISO A1)
HOR: 1 : 150
VER: N/A

BORDER SIZE: ISO A1 (841mm x 594mm) DATE PLOTTED: 2019 / 03 / 20 @ 10:33 AM PLOT SCALE: 1:1 FILE PATH: P:\Belleville Project\7000\2237765 – Hastings Water Storage Upgrades\Drawings\Working\22-3-7765 Working.dwg CAD PLOTTER: Bernardo Cruz-Fuentes

(METRIC SCALE – ALL DIMS IN METERS U.N.O.)