Town of Erin – Urban Centre Water Servicing Class EA Addendum

Erin-Hillsburgh BPS and Hillsburgh Reservoir Site Alternatives

Prepared For:

Town of Erin

March 2025

CREATING QUALITY SOLUTIONS TOGETHER

TOWN OF ERIN – URBAN CENTRE WATER SERVICING CLASS EA ADDENDUM

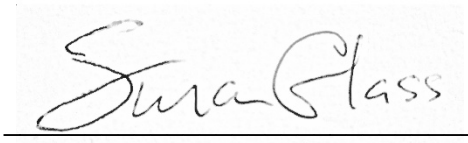
ERIN-HILLSBURGH BPS AND HILLSBURGH RESERVOIR SITE ALTERNATIVES

PROJECT NO. 123067

Prepared For:

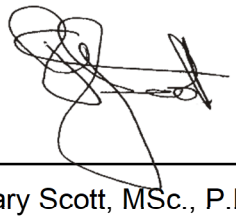
Town of Erin

By:



Simon Glass, P.Eng

Checked By:



Gary Scott, MSc., P.Eng

Ainley & Associates Ltd.
280 Pretty River Pkwy
Collingwood, ON L9Y 4J5
Tel: (705) 445-3451
E-mail: collingwood@ainleygroup.com

WWW.AINLEYGROUP.COM

DOCUMENT QUALITY REVIEW RECORD

Project Name: Erin Water Supply Program **Project No.:** 123067

Client: Town of Erin

Document Title: Erin Urban Centre Water Servicing EA Addendum, Erin-Hillsburgh BPS and Hillsburgh Reservoir Site Alternatives

Review Stage: Draft Submission

VERIFICATION & APPROVAL

Rev.	Prepared By (Name / Affiliation)	Date	Reviewed By (Name / Affiliation)	Date
A.	Simon Glass, P.Eng	Mar 5, 2025	Gary Scott, P.Eng	Mar 17, 2025
1.				
2.				

The above noted individuals have reviewed and commented on this document and are satisfied that the authors have addressed concerns raised.

Table of Contents

Table of Figures

List of Tables

Appendices

List of Abbreviations

AA - Archaeological Assessment

ADD - Average Day Demand

BHR - Built Heritage Resource

BPS - Booster Pumping Station

CHER - Cultural Heritage Evaluation Report

CHL - Cultural Heritage Landscape

CHR - Cultural Heritage Report

CVC - Credit Valley Conservation

EA - Environmental Assessment

ECT - Elora Cataract Trail

E-LPZ - Erin Lower Pressure Zone

E-MPZ - Erin Middle Pressure Zone

E-UPZ – Erin Upper Pressure Zone

EPA - Environmental Protection Act

ESA - Endangered Species Act

ESC - Erosion and Settlement Control

E-UPZ - Erin Upper Pressure Zone

GHG - Greenhouse Gas

H-LPZ - Hillsburgh Lower Pressure Zone

H-UPZ - Hillsburgh Upper Pressure Zone

HVAC - Heating, Ventilation and Air Conditioning

ID - Inner Diameter

mASL - Meters Above Sea Level

MCEA - Municipal Class Environmental Assessment

MDD - Maximum Day Demand

MECP - Ministry of the Environment, Conservation and Parks

ND - Nominal Diameter

NFPA - National Fire Protection Act

NHA - Natural Heritage Assessment

OPSS - Ontario Provincial Standards Specification

PHD - Peak Hourly Demand

PRV - Pressure Relief Valve

PVC - Polyvinyl Chloride

SAR - Species at Risk

SMP - Soil Management Plan

SSMP – Servicing and Settlement Master Plan

SWH - Significant Wildlife Habitat

TDH - Total Dynamic Head

UCWS - Urban Center Water Servicing

1 Introduction

In 2014, B.M. Ross completed the Servicing and Settlement Master Plan (SSMP) on behalf of the Town of Erin. The SSMP identified limitations in the Town's water supply and water storage systems which would need to be addressed to facilitate development.

In February 2020, Triton Engineering completed a Schedule "B" Water Class Environmental Assessment (2020 EA) to develop solutions to address water supply and storage deficiencies for both existing development and future growth scenarios to the year 2041 for the two urban centres of Hillsburgh and Erin Village. The preferred alternative identified through the 2020 EA involved the interconnection of the existing Erin and Hillsburgh water systems, the establishment of new production wells which could feed both communities in an integrated system, and the establishment of additional storage facilities in Erin and Hillsburgh.

In 2024, the Town of Erin retained Ainley Group (Ainley) to review and update the recommendations of the 2020 EA based on new information, including an up-to-date understanding of the proposed development within the urban boundary.

1.1 Project Update

Since the completion of the 2020 Class EA, development of the water system in Erin and Hillsburgh has continued, with several new facilities and watermains under construction to support development, as well as others that are still in the planning stage.

1.1.1 Additional Well Supply Capacity

Work has continued to complete additional supply for Erin, with the design of Well E9 on Wellington Road 23, identified during the 2020 Class EA. Construction and approvals are expected to be completed during 2025. Commissioning of the Well E9 will provide sufficient supply to meet the requirements of growth within the Erin water supply system, however, it does not provide for standby capacity with the largest well out of service.

During the 2020 Class EA a new well was identified for Hillsburgh, however, the MECP downrated the capacity of the proposed well. As a result, additional well capacity is required for Hillsburgh to meet the needs of planned growth.

Additional supplies will be needed to meet the approved growth requirements in both communities. It is proposed that these additional supplies will be the subject of a New Class EA to be initiated in 2025.

1.1.2 Erin Elevated Tank

The construction of a new 3,500 m^3 elevated tank has been completed and commissioned in support of development in Erin. The new elevated tank is located on Wellington Road 24 at the north end of Erin. The additional storage capacity is sufficient for the full build-out development of the Erin village community.

1.1.3 Development Planning

Development plans have progressed to define all development areas in accordance with the 2019 Wastewater Class EA allowing the water and wastewater systems to be planned with more accuracy.

Based on the approved development plan a more detailed assessment has been completed for the water supply system. Hydraulic modelling of the development plan has confirmed the need for facilities as identified in the 2020 Class EA and has also identified the need for:

- The requirement for an upper-pressure zone in Erin to be supplied from the lower pressure zone through a new booster pumping station
- The requirement for an expanded upper-pressure zone in Hillsburgh to be supplied from the lower pressure zone through a new booster pumping station

2 Necessity for Changes to the 2020 Class EA

Based on the updated planning in support of the Town's approved development plan and the work and the most recent evaluation of the water supply system requirements, the following issues need to be addressed within an addendum to the 2020 Class EA:

In order to facilitate the interconnection of the two distribution systems the need for an interconnecting watermain along the Elora Cataract Trail between the two communities and a booster pumping station was identified in the 2020 EA; however, a site was not recommended for the booster pumping station.

Additionally, the 2020 EA recommended that additional water storage for Hillsburgh in the form of an elevated tank should be established at the south end of Spruce Street servicing the lower pressure zone in Hillsburgh. The recommendation for the elevated tank was based on energy efficiency and reduced operational and maintenance costs.

The recommended location for the elevated tank was within a development area and in immediate proximity to an existing residential area.

The 2020 EA provided recommendations related to the capacity for water storage within Hillsburgh, however, it was also stated that "the Town should consider a longer growth period to ensure that the facility will be adequate for potential development beyond 2041."

As a result of the more detailed analysis of the water supply system requirements to meet the needs of defined and approved growth, it is considered necessary to amend the solution recommended in the 2020 EA and establish the following:

- Review and confirm the design basis for the Erin-Hillsburgh Booster Pumping Station (BPS) and the Hillsburgh water storage facility, including the need for BPSs in both communities to supply upper-pressure zones to supply approved growth;

- Review the site selection of the Hillsburgh water storage facility to reduce the aesthetic impact of an elevated tank on adjacent residences, and incorporate a solution that supplies a Hillsburgh upper-pressure zone (H-UPZ);
- Establish a site for the Erin-Hillsburgh Booster Pumping Station and incorporate a solution that supplies an Erin upper-pressure zone (E-UPZ).

3 Problem/ Opportunity Statement

This report follows from the SSMP and the 2020 EA and, as such, continues forward with the problem/opportunity statement that was originally established for the SSMP.

The 2020 Class EA supports the development of the Erin-Hillsburgh water supply system to the year 2041. This addendum further defines the necessary work to achieve this goal as follows:

- Establish a site for a booster pumping station to transfer water from Erin to Hillsburgh as implied within the 2020 Class EA through the construction of an interconnecting watermain;
- Give further consideration to the site of a water storage facility in Hillsburgh aimed at minimising the aesthetic impact of the facility on residential development;
- Establish a solution consistent with the Town's approved development plan and support the development of a water supply system that provides a complete solution for both communities.

The problem definition from the previous study work will be used in the re-evaluation of planning decisions that were made in the 2020 EA.

This addendum is being completed in accordance with the Municipal Class Environmental Assessment (2024).

4 Existing Conditions

4.1 Hillsburgh Growth and Projected Demand

The Town of Erin is a growing community with significant development pressure in both Erin and Hillsburgh. In accordance with the Wastewater Servicing Agreements with the Erin Developers, it is anticipated that 2,815 new residential units will be constructed in Erin and 1,650 new residential units will be constructed in Hillsburgh over the next 10 to 15 years. Based on the understanding of the existing urban boundary and limitations of the assimilative capacity of the West Credit River, the development projections to 2035 are considered to be a full-development scenario. The existing development and estimated projected development growth in Hillsburgh is summarised in Table 1 along with the associated average day demand, max day demand, and storage requirements.

Table 1 – Population Growth and Water Storage Requirements in Hillsburgh

Planning Period	Population	ADD (m^3/d)	MDD (m^3/d)	Storage Required (m^3)
2025	840	243.6	669.9	551
2030	3,500	1,015.0	2,030.0	1,692
2035	5,740	1,664.6	3,329.2	3,740

4.2 Existing Hillsburgh Distribution System Description

The Hillsburgh drinking water system consists of two communal wells drilled into an underlying bedrock aquifer, referred to as H2 and H3 respectively. Each well has an independent pumphouse and in-ground clearwell used primarily for disinfection.

The Hillsburgh distribution system is split into two pressure zones: an upper zone and a lower zone. The upper zone is supplied primarily from Well H2 and the lower zone is supplied primarily by Well H3. The distribution system utilizes a pressure relief valve (PRV) to allow excess pressure within the upper zone to be relieved down into the lower pressure zone. Water within the lower zone can be boosted to the upper zone through the Hillsburgh Booster Pumping Station, however, operation of the existing BPS frequently results in watermain breaks along Douglas Crescent; as such this BPS is not used with any regularity. A summary of the Hillsburgh water supply infrastructure is provided in Table 2.

Table 2 – Existing Supply and Storage in Hillsburgh

Well	Production Limit (m^3/d)	Clearwell Volume (m^3)
Hillsburgh Heights Well H2	655	545.5
Glendevon Well H3	982	245.0

5 Proposed Alternatives Hillsburgh Storage

5.1 Hillsburgh Water Storage Alternatives Physical/Technical Environment

Three storage alternatives were considered for Hillsburgh within the 2020 EA including an elevated tank, an in-ground reservoir with a booster pumping station, and a standpipe with a booster pumping station. Based on the re-evaluation of the study area and a more detailed analysis of planned growth, three new alternatives have been developed and are presented in detail in Sections 5.1.1 – 5.1.3. Figure 1 is a plan drawing of the three alternative sites considered.

Each of the alternatives presented was evaluated using an extended-period scenario hydraulic model. The basis of the hydraulic modelling was the development of a distribution system that can provide all locations within the community with a minimum

pressure of 140 kPa (20 psi) under the maximum day plus fire flow condition following the MECP Design Guideline recommendations. The details of the water model evaluation for the Hillsburgh water storage alternatives are provided in **Appendix A**. In following with the 2020 Class EA, the water storage facility will reside within the lower pressure zone and will have a maximum hydraulic grade of 485 m. All three alternatives will provide floating storage on the Hillsburgh lower pressure zone (H-LPZ) with all supplies including the Erin – Hillsburgh transmission main and all wells pumping into the H-LPZ. A booster pumping station will supply the H-UPZ from the storage facility for the new development and the existing small H-UPZ. Each storage alternative will also require distribution system upgrades in order to facilitate the required fire flows; the extent of distribution system upgrades required was included in the overall evaluation of each alternative.

5.1.1 Barbour Field - Elevated Storage (Storage Alternative 1)

The Barbour Field is accessible from 8 Line and is a large Town-owned site that presents several alternative locations for the establishment of an elevated tank. Figure 2 shows the potential location for the elevated tank at the Barbour Field site that would be shielded from residential development and allow the remaining space to be used for the development of planned additional recreation facilities.

The Barbour Field site is distant from the existing water distribution system, and as such will require an additional dedicated watermain to facilitate connection. New development will, in the future, bring local distribution watermains closer to the proposed location, however, the availability of water storage to provide fire protection will need to be in place prior to occupancy. As such, the construction and connection of dedicated connecting watermains to the site will need to precede development. In total approximately 2.5 km of watermain will be required to connect to the existing system and provide looping. An overall system upgrade map is provided in Figure 3.

Figure 1 – Alternative Site Locations for Water Storage

Figure 2 – Barbour Field, Water Tower Sites

Figure 3 - Overall Upgrades Required for the Elevated Storage Alternative

The Barbour Field is owned by the Town of Erin and the Town has plans for expansion of the recreational facilities at the site, however, sufficient area is available at the site for both uses and placement of the water tower on the site will not impact the planned use. The site is at a relatively high elevation in comparison to the surrounding area and the H-LPZ of the Hillsburgh distribution system, as such this location will reduce the necessary height of the water tower pedestal from that identified in the 2020 Class EA.

The water tower elevation will be insufficient to provide direct service for planned development in the H-UPZ; a booster pumping station will be required with sufficient capacity to provide minimum pressures in a maximum day demand plus fire flow scenario. The existing Hillsburgh booster station is not sufficient to serve the H-UPZ and a new BPS will be required. Replacement of the existing BPS at the water tower location is possible given the extent of available space however a long transmission main would be required to connect the BPS discharge to the H-UPZ. Replacement of the existing H-UPZ BPS will likely require the new BPS to be closer to the H-UPZ.

Water towers, by their nature, are not modular or expandable. As such, the capacity of the water tower will need to take into consideration the full build-out development within Hillsburgh without the opportunity for phasing.

5.1.1.1 Technical Advantages/Disadvantages Summary

Table 3 provides a summary of the technical advantages and disadvantages of the Barbor Field Elevated Storage alternative.

Table 3 – Water Tower Advantages and Disadvantages

Advantages	Disadvantages
• Town owned property • Simple/ passive operation for lower pressure zone • Opportunity for revenue generation from the installation of communications antennae • Community focal point/ landmark • No pumping required for the lower pressure zone	• Distant from the existing distribution system • Distant from likely potential future water sources • Combining storage and H-UPZ BPS at this location would be operationally inefficient requiring additional site for H-UPZ BPS • Cannot be staged to match build-out of local development • Aesthetic impact on community and wider rural area • Elevated tanks cast shadows over the surrounding area

Advantages	Disadvantages
	• Costly periodic maintenance requiring tank to be fully off-line for cleaning, inspection and re-coating. • Requires watermain upgrades through existing and planned residential areas

5.1.2 5952 Trafalgar Road - In-Ground Reservoir (Storage Alternative 2)

Elevations north of Hillsburgh provide the opportunity for an in-ground storage tank. A site has been identified at 5952 Trafalgar Road just to the north of the community. The site is a large privately owned agricultural property accessible from Trafalgar Road. The site lies at the highest point along Trafalgar Road at an elevation of 483 mASL and presents a unique opportunity for the establishment of an in-ground floating reservoir to maintain lower zone pressures in Hillsburgh. Figure 4 shows the potential location for the buried reservoir.

The site is 400m north of the northern extent of the existing lower pressure zone distribution system, and as such will require an additional dedicated watermain to facilitate connection. The construction and connection of dedicated connecting watermains to the site will need to precede development. An overall system upgrade map is provided in Figure 5. In comparison to Storage Alternative 1, the site is much closer to the H-UPZ.

The site is privately owned by a resident who has expressed interest in parcelling off a portion of the lot for placement of Town infrastructure provided the placement does not create unnecessary challenges for continued agricultural use for the remainder of the property.

The reservoir elevation will be insufficient to provide direct service for the H-UPZ; a booster pumping station will be required with sufficient capacity to provide minimum pressures in a maximum day demand plus fire flow scenario. A new BPS at this location is both possible given the extent of available space and logical given the proximity to the H-UPZ. Overall, this alternative would permit a more compact combined facility.

The construction of an in-ground reservoir can be modular and allows for smaller initial capacities which can be expanded in the future as needed.

Figure 4 – 5952 Trafalgar Road, In-Ground Reservoir Site

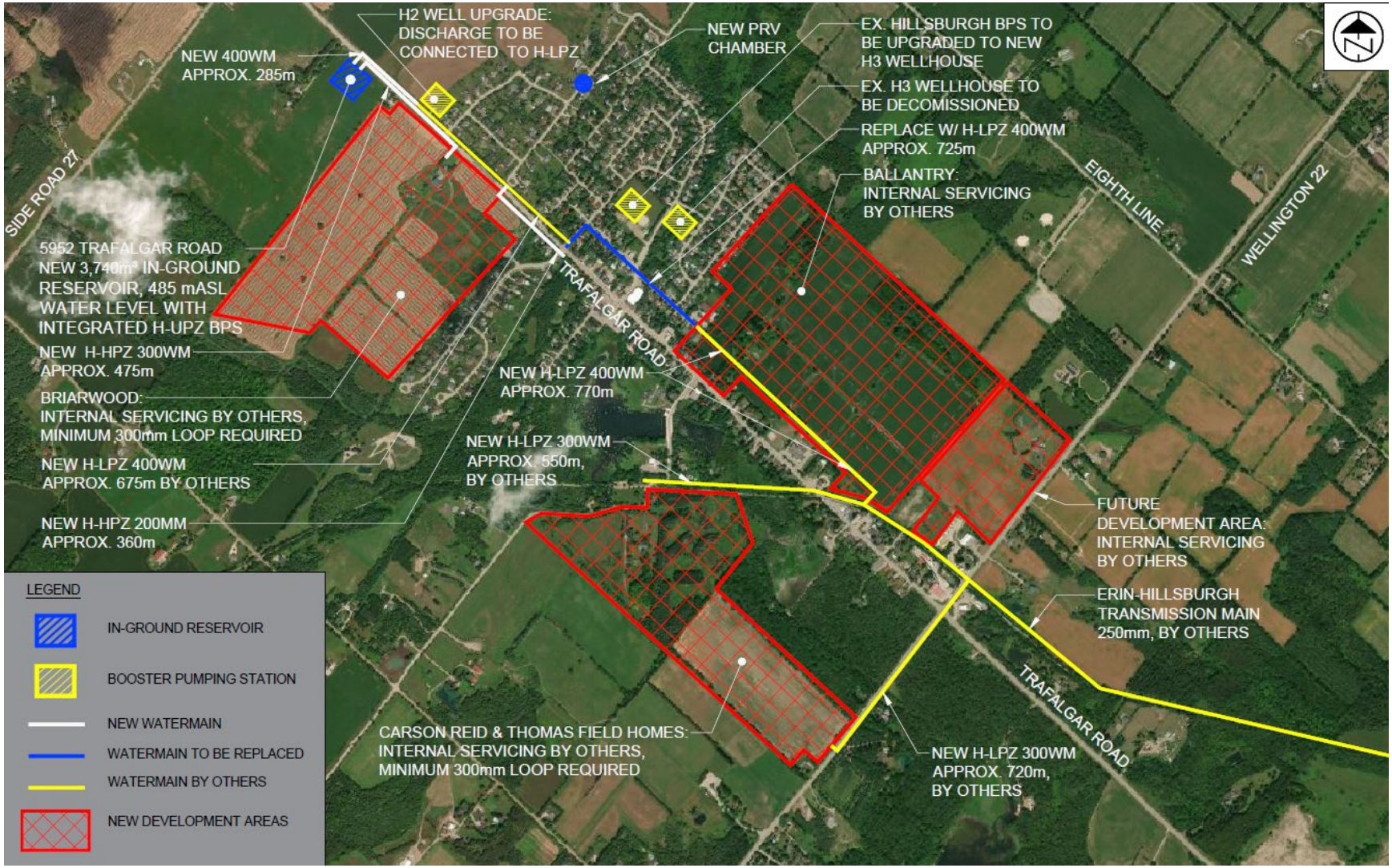


Figure 5 – Overall Upgrades Required for the In-Ground Reservoir Alternative

5.1.2.1 Technical Advantages/Disadvantages

Table 4 provides a summary of the technical advantages and disadvantages of the in-ground storage alternative.

Table 4 - In-Ground Reservoir Advantages and Disadvantages

Advantages	Disadvantages
• Simple/ passive operation for lower pressure zone • Modular design potential • Multi storage-cell design allows for partial shutdowns for maintenance • Relatively close to the lower pressure zone and within the upper pressure zone distribution system • Closer to potential future water sources • No pumping required for the lower pressure zone • Upper zone BPS can be integrated into the reservoir design • Minimal aesthetic impact	• Site purchase required • Requires watermain upgrades through existing developed residential area

5.1.3 5916 Trafalgar Road - Above-Ground Steel Tank (Storage Alternative 3)

A site has been identified at 5916 Trafalgar Road close to the northern boundary of Hillsburgh and within a development area accessible from Trafalgar Road. The site lies at a relatively high point along Trafalgar Road at an elevation of 478 mASL; as such, this site is not high enough for a floating in-ground reservoir, however, an above-ground steel tank with a top water elevation of 485 mASL, or 7 m above the existing grade, would be able to provide sufficient pressures for the H-LPZ. Figure 6 shows a potential location for the above-ground steel tank in a location which does not interfere with development plans for the site; site elevations decline to the south and the west and would not provide the same opportunity.

The site is close to the H-LPZ and would require minimal additional watermain to facilitate connection. The construction and connection of dedicated connecting watermains to the site will need to precede development. An overall system upgrade map is provided in Figure 7. The site is also located within the H-UPZ and would also require minimal connection mains for the existing and planned upper zone area.

Figure 6 – 5916 Trafalgar Road, Above-Ground Steel Tank Site

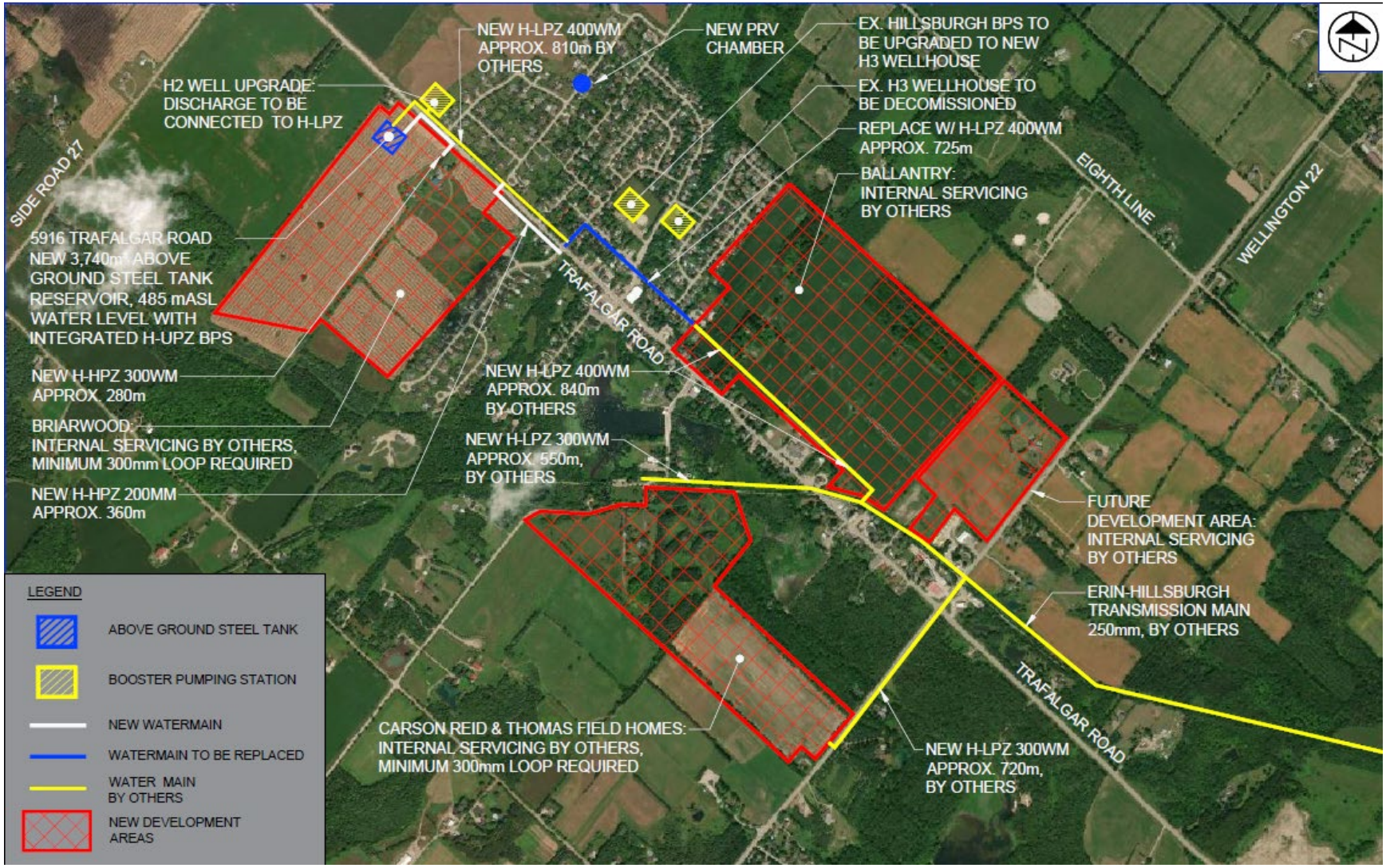


Figure 7 - Overall Upgrades Required for the Above-Ground Steel Tank Alternative

The site is presently under development as a low-density residential development. The potential site selected is within an area that has been reserved for future development. The developer has indicated he is willing to transfer ownership of a site to the Town.

The above-ground steel tank elevation will float on the H-LPZ with a top water elevation of 485 mASL and will require a BPS to supply the H-UPZ. Construction of a new BPS at this location is both possible given the extent of available space and logical given the proximity to the H-UPZ. The H-UPZ BPS would be housed in a building adjacent to the steel tank.

Steel tank structures are not modular or expandable. As such, the capacity of the steel tank will need to take into consideration the full build-out development within Hillsburgh without the opportunity for phasing. Alternatively, multiple smaller tanks could be used, however this would create a significant escalation in capital costs.

5.1.3.1 Advantages/Disadvantages

Table 5 provides a summary of the technical advantages and disadvantages of the 5916 Trafalgar Road above-ground steel tank alternative.

Table 5 - Above-Ground Steel Tank Advantages and Disadvantages

Advantages	Disadvantages
• Simple/ passive operation for lower pressure zone • Upper zone would be adjacent BPS building • Closer to the existing lower and upper pressure zones. • Relatively close to future water sources • No pumping required for the lower pressure zone • Lowest capital cost • Modular design potential	• Site purchase required from developer • Less aesthetically pleasing, with impact to development and Trafalgar Road however possibly partially hidden from view by earthworks • Periodic maintenance requiring tank to be fully off-line for cleaning, and inspection. • Upper zone BPS will require a separate stand alone building as it cannot be integrated into tank facility • Requires watermain upgrades through existing developed residential area

5.2 Hillsburgh Water Storage Alternatives Economic Evaluation

Table 6 provides a conceptual capital cost estimate for the water storage solutions using the following assumptions:

- Costing of common equipment and construction materials has been based on Ainley's past project experience.
- Structural and Architectural cost estimate is based on Ainley's past experience with similar scope projects as Geotechnical and Hydrogeological investigation is not available at this time.
- 12% of Divisions 2 – 16 has been carried as Division 1 costs, (varies from 8%-15%) which is typical for contracts Tendered in Ontario.
- A 30% Construction contingency is carried out at the conceptual stage.
- No contaminated soils have been assumed.
- Costs for hydro, Gas, Bell or Rogers are not included. These costs are unforeseen at this moment and are likely to be similar for all alternatives.
- Provisional items (additional quantities of material that may be required during construction) are not included in the estimate.

Table 6 - Preliminary Construction Cost Estimates Hillsburgh Water Storage

	Alternative 1: Barbour Field, Water Tower	Alternative 2: 5952 Trafalgar Road, In-Ground Reservoir	Alternative 3: 5916 Trafalgar Road, Above-Ground Steel Tank
Storage	$ 10,500,000	$ 8,700,000	$ 6,400,000
Watermain	$ 7,600,000	$ 6,800,000	$ 6,100,000
BPS	$ 4,500,000	$ 2,000,000	$ 3,000,000
Total	**$22,600,000**	**$17,500,000**	**$15,500,000**

5.3 Hillsburgh Water Storage Alternatives Climate Change Impacts

The MECP document entitled "Considering Climate Change in the Environmental Process" (2017) provides guidance relating to the Ministry's expectations for considering climate change during the environmental assessment process.

As per the MECP guidance document referenced below, two considerations were taken into account during the evaluation of preferred alternative solutions. The considerations are as follows:

- Impacts on Climate Change: Project's expected production of greenhouse gas (GHG) emissions and impacts on carbon sinks. Larger infrastructure construction

scale and higher operations and maintenance requirements will result in higher GHG emissions.

- Climate Change Adaptation: Resilience or vulnerability of the undertaking to ensure long-term and reliable access to safe water during changing climatic conditions. The major drives to consider are the ability to protect water supplies from contamination and to readily carry out repairs and maintenance of systems.

All alternatives are considered to have the same level of resilience during climatic events as climate change adaptation strategies will be considered during the design stage. All alternatives provide the same level of fire protection and their settings are similar with respect to fire risk. Provisions to deal with snow and ice events can also be mitigated at each site. Sensitive instruments can also be well protected at each alternative site. All three alternatives will be designed as critical infrastructure facilities increasing their resilience to climate events. The potential impacts on climate change identified for each water storage alternative are summarized as follows:

Storage Alternative 1: 5808 Eighth Line Potential Elevated Water Tower Site

- The site is distant from both the existing distribution system and potential water sources, which requires the construction of longer transmission watermains compared with Alternative 2 and 3. In addition, the water tower is not modular or expandable and needs to be designed for full build-out capacity at the initial stage. Above-ground tanks are more susceptible to the effects of weather including freezing and heat events. Water may require additional heating (hot water) during the winter months though less during the summer. Alternative 1 is expected to have the most impact on climate change factors from the lifetime perspective.
- The anticipated life of the elevated tank may be 50 - 60 years, considerably less than a buried concrete tank.
- Longer pumping distance from the site to the upper zone, resulting in higher long-term energy use and higher GHG emissions.
- The tank will require recoating likely 2 – 3 times during its lifetime increasing overall energy use.

Storage Alternative 2: 5952 Trafalgar Road Potential Reservoir Site

- The site is close to both the existing distribution system and potential water sources, which required much shorter additional watermains than Alternative 1. The construction of the reservoir can be staged according to the development timeline and the BPS design can be integrated into the structure for a more efficient design.
- Due to the buried/protective nature of the reservoir design, the potential climate change impacts are expected to be considerably less than for the other two Alternatives.

- Water temperature can be maintained close to the groundwater source temperature during storage and distribution to consumers.
- The expected life of the buried reservoir is likely above 80 years with one structural refurbishment.
- Less GHG emissions are expected for Alternative 2, as the pumping distance is shorter.

Storage Alternative 3: 5916 Trafalgar Road Potential Steel Tank Site

- The site is closer to the existing distribution system than Alternative 2 and is relatively closer to the potential water sources, which requires the shortest additional watermains connection. As with Alternative 1, above-ground steel tanks are more susceptible to the effects of weather including freezing and heat events. Water may require additional heating (hot water) during the winter months though less during the summer. The steel tank structures are not modular or expandable, but the construction can be staged with the use of multiple smaller steel tanks. The impacts are comparable with Alternative 1.
- The anticipated life of an above-ground steel tank may be 50 -60 years, considerably less than a buried concrete tank.
- The least GHG emissions are expected for Alternative 3, as the pumping distance is the shortest.
- The tank will require recoating likely 2 – 3 times during its lifetime increasing overall energy use.

5.4 Hillsburgh Water Storage Alternatives Natural Environmental Impacts

5.4.1 Natural Heritage Assessment Report

A Preliminary Natural Heritage Assessment (NHA) was prepared which evaluated the areas surrounding the proposed locations for the new Hillsburgh water storage. The full NHA report can be found in **Appendix C**.

Storage Alternative 1: The evaluation of the 5808 Eighth Line site (water tower alternative) identified that the site is within the settlement area of the Greenbelt Plan and has a significant woodland area in the adjacent site. Neighbouring hedgerows have a potential for bat habitat. Consultation with the MECP Is recommended to evaluate the potential bat habitat. The preliminary recommendation is to provide a 15m buffer from the hedgerow.

Storage Alternative 2: The evaluation of the 5952 Trafalgar Road site (in-ground reservoir alternative) identified that the site is within the protected countryside areas of the Greenbelt Plan, and that the hedgerows along the existing driveway have potential for species at risk (SAR) bat habitat. The preliminary recommendation for the site is to provide a 15m buffer from the hedgerow. Consultation with the MECP is recommended to confirm the buffer distance required.

Storage Alternative 3: The evaluation of the 5916 Trafalgar Road site (above-ground steel tank alternative) identified that the site is within the settlement area of the Greenbelt Plan, and that the site contains potential habitat for Grasshopper Sparrow, Eastern Meadowlark, and Bobolink. However, the site is under construction there are plans to clear the grasslands under the existing approval.

5.5 Hillsburgh Water Storage Alternatives Cultural and Social Impacts

5.5.1 Cultural Heritage Report

A Cultural Heritage Report (CHR) was prepared to evaluate the areas surrounding the proposed locations for the new Hillsburgh water storage facility. The full CHR can be found in **Appendix D**. The CHR identified a total of one built heritage resource (BHR) and one potential cultural heritage landscape (CHR) within the areas surrounding the storage locations considered in the study.

Storage Alternative 1: There are no BHR or CHLs at the 5808 Eighth Line site or in the surrounding area.

Storage Alternative 2: A potential CHL is located within the 5952 Trafalgar Road site; the site has potential physical and design value as a representative example of an intact late nineteenth/early twentieth-century farmscape. The potential CHL heritage attributes include the farmhouse, barn/outbuilding, mature trees, windbreaks, long driveway, and agricultural fields. This property is not currently recognized as having cultural heritage status within the Municipal Register, however further investigation is recommended through the completion of a Cultural Heritage Evaluation Report (CHER). Construction at this site is outside recommended the 50m vibration buffer from the farmhouse, and the location on the north side of the driveway avoids obstruction of existing sightlines to key features of the site.

Storage Alternative 3: A BHR is located within the 5916 Trafalgar Road site, within close proximity to the evaluated location for the above-ground steel tank alternative. The BHR at 5916 Trafalgar Road is a one-and-a-half-story gothic revival farmhouse which can be seen on the topographic mapping from 1937; the building is a known BHR and is listed in the Municipal Heritage Register. Construction at this site would be within the recommended 50m vibration buffer.

5.5.2 Stage 1 Archeological Assessment

A Stage 1 Archeological Assessment (Stage 1 AA) was prepared to evaluate the areas surrounding the proposed locations for the new Hillsburgh water storage. The full Stage 1 AA can be found in **Appendix E**. The key findings of the Stage 1 AA are summarised as follows:

Storage Alternative 1: 5808 Eighth Line Potential Elevated Water Tower Site meets the following criteria indicative of archaeological potential:

- Previously identified archaeological sites within one kilometre (AkHa-35);
- Well-drained soils (Hillsburgh sandy loam);

- A portion of the site has been cleared of archeological potential due to deep and pervasive disturbance, removing any archeological potential.

Storage Alternative 2: 5952 Trafalgar Road Potential Reservoir Site meets the following criteria indicative of archaeological potential:

- Well-drained soils (Hillsburgh fine sandy loam);
- Early settlements within 100 metres (homesteads); and
- Early historic transportation routes within 100 metres (Trafalgar Road).

Storage Alternative 3: DA 7 (5916 Trafalgar Road) Reservoir Site had been cleared of further archeological concern in a previous evaluation of the site.

6 Proposed Alternatives Erin-Hillsburgh Booster Pump Station

6.1 Erin-Hillsburgh BPS Alternatives Physical/Technical Evaluation

Through the 2020 Class EA, the need for a BPS to transmit water from Erin to Hillsburgh was identified, however, a site location was not selected. Since the completion of the EA, an interconnecting watermain has been designed and will be constructed along the Elora Cataract Trail (ECT). The transmission main will terminate at the intersection of the ECT with Sideroad 17 in Erin and at the intersection of the ECT with Trafalgar Road in Hillsburgh. In total, the transmission main will be approximately 4,080m long 250mm ND PVC pipe.

There exists an elevation differential of 38m between the community of Erin and the community of Hillsburgh. Hillsburgh has a broad elevation range from the north to the south end, with elevations as high as 480 mASL at the north end, and down to 425 mASL at the south end. The large range of elevation within Hillsburgh necessitates that the distribution system is split into an upper and lower distribution zone; the new BPS will pump into the lower distribution zone to a hydraulic grade of 485 mASL.

New development within Erin will also require a creation of an upper-pressure zone (E-UPZ) with a hydraulic grade of 481 mASL. Hydraulic analysis conducted on supply alternatives for this E-UPZ has concluded that there would be significant benefits to a combined BPS with the Hillsburgh transmission main. The technical evaluation which follows is completed on the basis of a combined use for the Erin-Hillsburgh BPS. The details of the water model evaluation of the Erin-Hillsburgh BPS are provided in **Appendix B**.

Provided the significant static head and the long transmission main common to each BPS site alternative, the main differentiators between the site alternatives on a cost basis will be the length of additional watermain required. A total of five (5) potential sites for the Erin-Hillsburgh BPS were identified and evaluated. Figure 8 is an overall map showing the locations of all the sites in consideration.

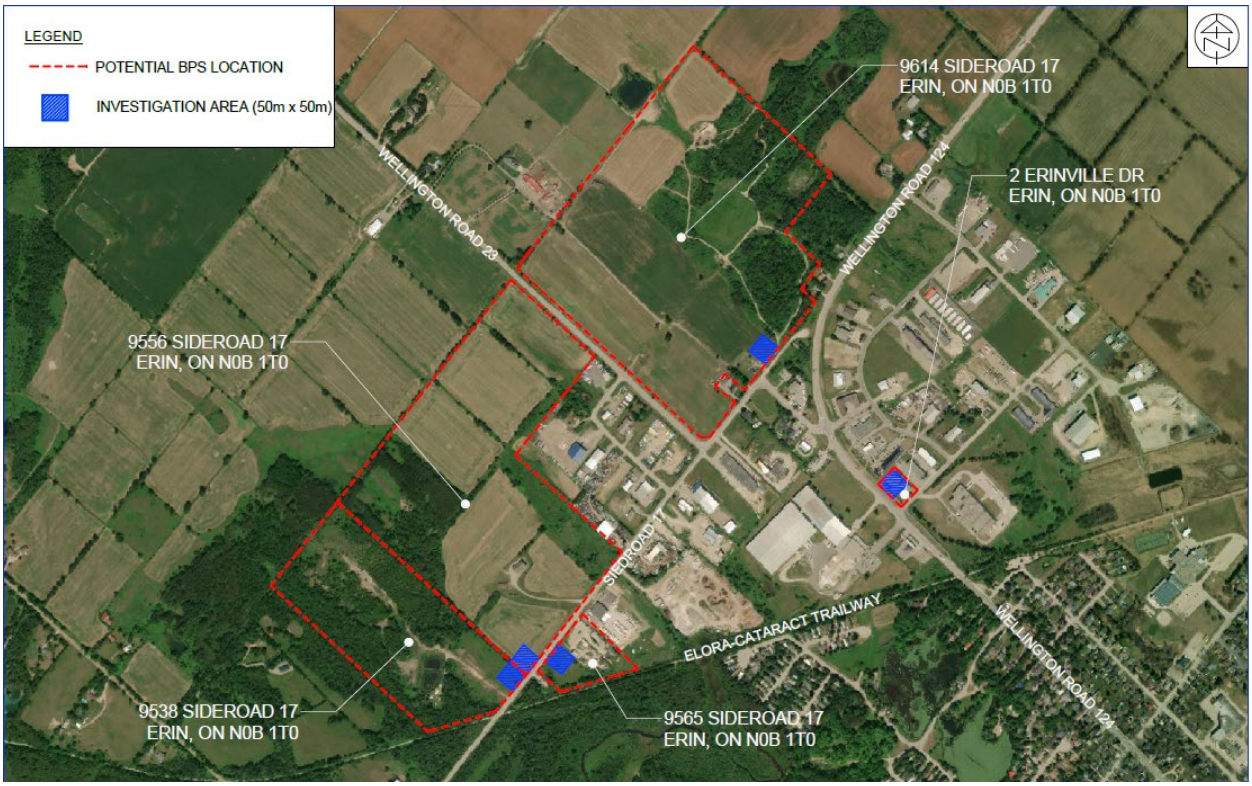


Figure 8 – Potential Erin-Hillsburgh BPS Sites

6.1.1 2 Erinville Drive – BPS Site Alternative 1

Figure 9 shows a potential location for the BPS at the Town's existing fire station, from here forward referred to as BPS Site Alternative 1.

This site is situated on Town-owned land and as such, will have no associated land acquisition costs. The site is already developed and therefore carries no environmental implications. However, the site is furthest away from the transmission main and the E-UPZ and would require the installation of approximately 2.9 kilometres of new supply watermain to facilitate connection. The new watermain would need to be constructed along Wellington Road 124 disrupting traffic along a major thoroughfare for the Town.

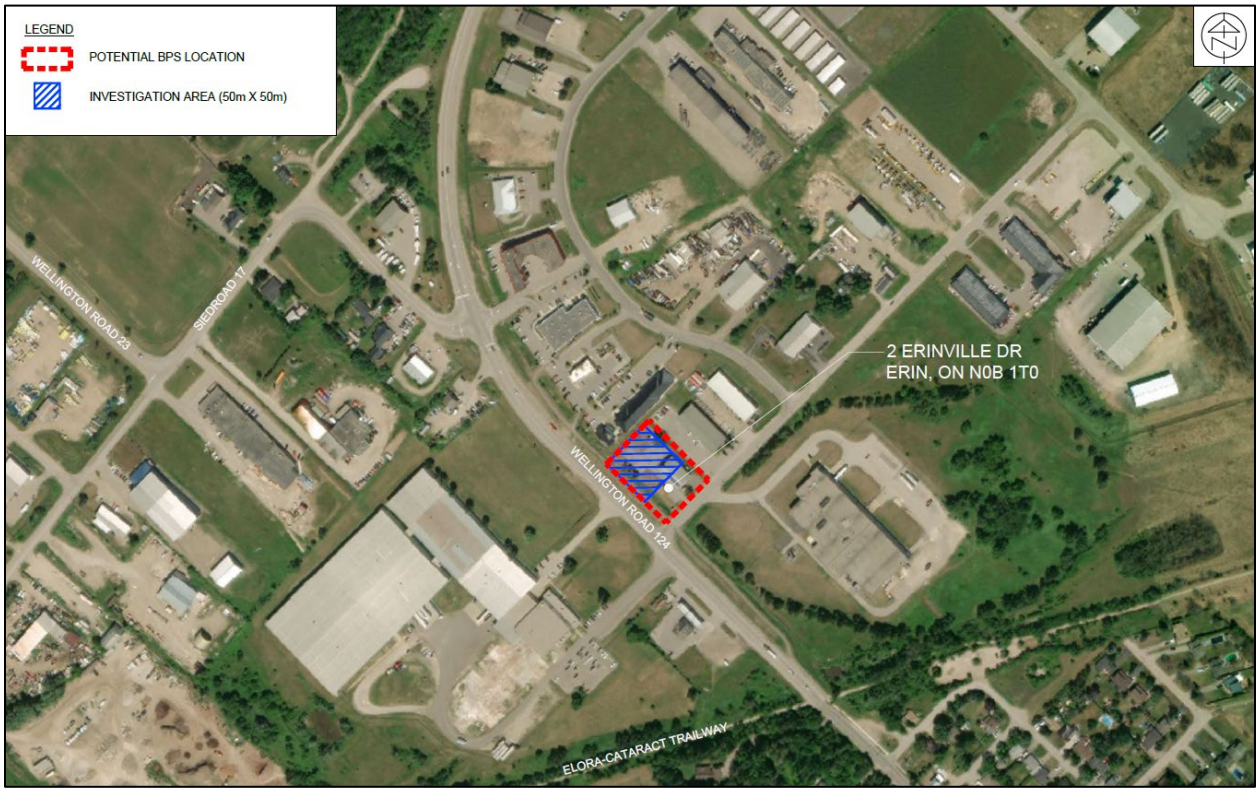


Figure 9 – BPS Site Alternative 1

6.1.1.1 Advantages/Disadvantages

Table 57 provides a summary of the technical advantages and disadvantages of BPS Site Alternative 1.

Table 7 – BPS Site Alternative 1 Advantages and Disadvantages

Advantages	Disadvantages
• Town owned parcel	• Longest watermain connection required for connection to the ECT and the E-UPZ • Constrained site which may require design trade offs to fit required equipment • Disruptive construction required along Wellington 124 • Disruptive to businesses along Sideroad 17

6.1.2 9614 Sideroad 17 – BPS Site Alternative 2

Figure 10 shows a potential location for the BPS at 9614 Sideroad 17, from here forward referred to as BPS Site Alternative 2.

This site is situated on privately owned land with a prime agricultural land use designation. The land owner has expressed interest in working with the Town and provided direction on the proposed site location. The site is cleared and currently used for agricultural purposes. However, the site is the second furthest away from the transmission main and would require the installation of approximately 2.5 kilometers of new supply watermain to facilitate connection. This alternative will require construction along Sideroad 17 which will be disruptive to the industrial operations along this corridor and to residents along Wellington 23.

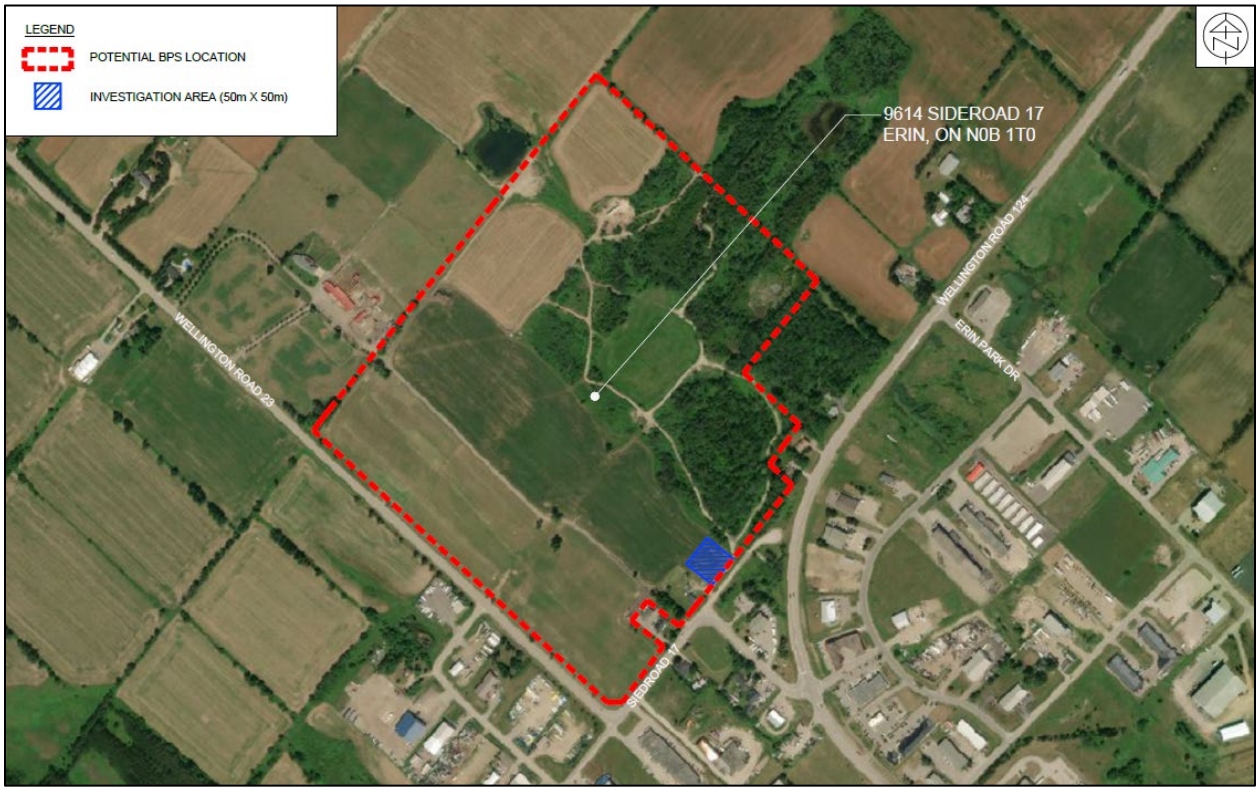


Figure 10 – BPS Site Alternative 2

6.1.2.1 Advantages/Disadvantages

Table 8 provides a summary of the technical advantages and disadvantages of BPS Site Alternative 2.

Table 8 – BPS Site Alternative 2 Advantages and Disadvantages

Advantages	Disadvantages
• Cooperative property owner • Abundant site space for combined Erin-Hillsburgh and E-UPZ BPS • Greenfield development	• Long watermain connection required for connection to the ECT and the E-UPZ • Disruptive to businesses along Sideroad 17

6.1.3 9565 Sideroad 17 – BPS Site Alternative 3

Figure 11 shows a potential location for the BPS at 9565 Sideroad 17, from here forward referred to as BPS Site Alternative 3.

This site is situated on privately owned land with an industrial land use designation. The land owner has expressed interest in working with the Town and provided direction on the proposed site location. This site is approximately 200 m from the Hillsburgh transmission main, is relatively close to the E-UPZ, and as such requires minimal watermain construction. In total, approximately 1,600 m of additional watermain would be required. The site currently has an industrial use however an unused space is available and provides sufficient space for a new BPS.

Figure 11 – BPS Site Alternative 3

6.1.3.1 Advantages/Disadvantages

Table 9 provides a summary of the technical advantages and disadvantages of BPS Site Alternative 3.

Table 9 - BPS Site Alternative 3 Advantages and Disadvantages

Advantages	Disadvantages
• Cooperative site owner • Sufficient site space for combined Erin-Hillsburgh and E-UPZ BPS • Limited disruption to local traffic or business • Adjacent to E7 Wellhouse	• Property purchase required

6.1.4 9556 Sideroad 17 – BPS Site Alternative 4

Figure 12 shows a potential location for the BPS at 9556 Sideroad 17, from here forward referred to as BPS Site Alternative 4.

This site is situated on privately owned land with a prime agricultural land use designation. The site is cleared and currently used for agricultural purposes. This site is between 200-400 m from the transmission main depending on the location selected along Sideroad 17 and is relatively close to the E-UPZ however, the site owner could not be contacted to discuss the preferred location. In total, approximately 1,600 – 1,800 m of additional watermain would be required. Regardless of location along the property frontage minimal disruption to local traffic and business would be anticipated.

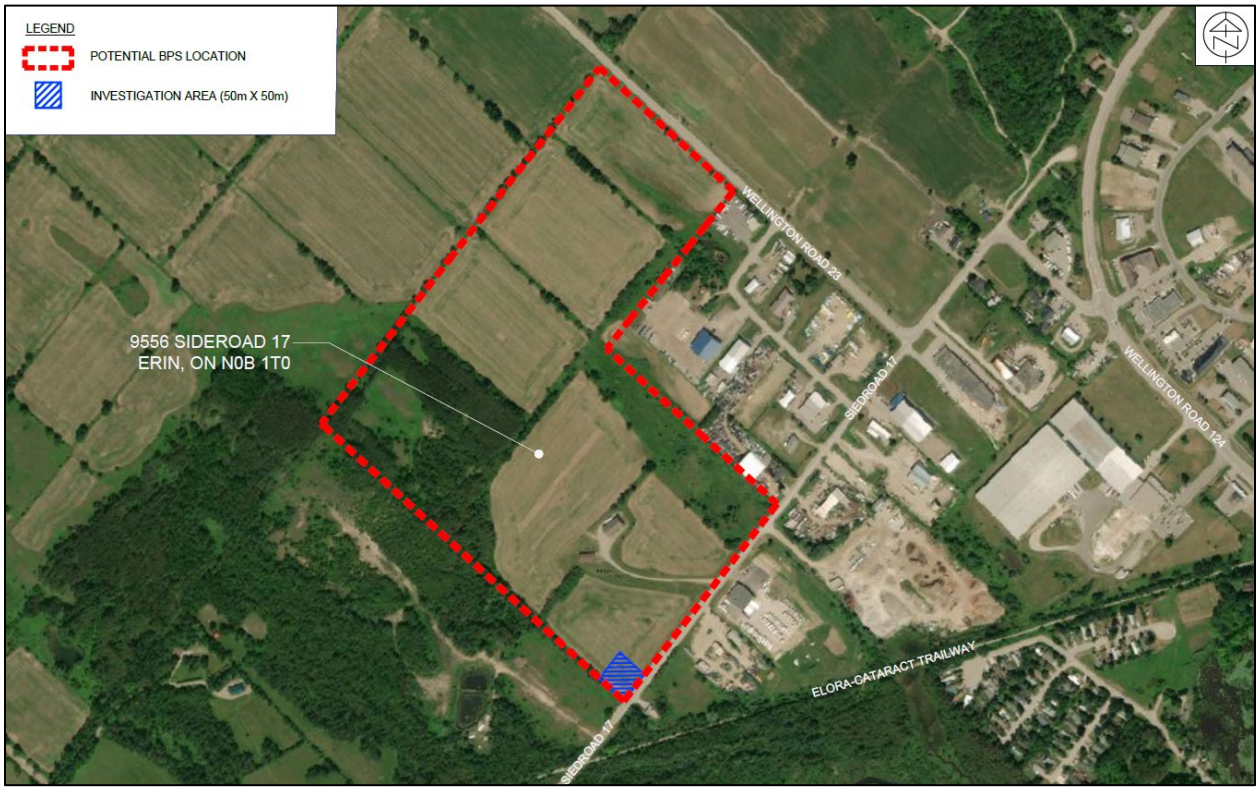


Figure 12 – BPS Site Alternative 4

6.1.4.1 Advantages/Disadvantages

Table 510 provides a summary of the technical advantages and disadvantages of BPS Site Alternative 4.

Table 10 - BPS Site Alternative 4 Advantages and Disadvantages

Advantages	Disadvantages
• Abundant site space for combined Erin-Hillsburgh and E-UPZ BPS • Limited disruption to local traffic or business • Adjacent to E7 Wellhouse	• Unknown site owner • Property purchase required

6.1.5 9538 Sideroad 17 – BPS Site Alternative 5

Figure 13 shows a potential location for the BPS at 9538 Sideroad 17, from here forward referred to as BPS Site Alternative 5.

This site is situated on privately owned land with a prime agricultural land use designation. The land owner has expressed interest in working with the Town and provided direction on the proposed site location. This site is approximately 100 m from

the transmission main and is closest to the E-UPZ of all the alternatives, and as such requires the shortest watermain construction. In total, approximately 1,500 m of additional watermain would be required. The site is cleared and is currently unused but maintained by the property owner.

Figure 13 – BPS Site Alternative 5

6.1.5.1 Advantages/Disadvantages

Table 511 provides a summary of the technical advantages and disadvantages of BPS Site Alternative 5.

Table 11 - BPS Site Alternative 5 Advantages and Disadvantages

Advantages	Disadvantages
• Cooperative site owner • Sufficient site space for combined Erin-Hillsburgh and E-UPZ BPS • Limited disruption to local traffic or business • Adjacent to E7 Wellhouse	• Property purchase required

6.2 Erin-Hillsburgh BPS Alternatives Economic Evaluation

Table 12 provides a conceptual capital cost estimate for the alternative BPS sites using the following assumptions:

- Costing of common equipment and construction materials has been based on Ainley's past project experience.
- Structural and Architectural cost estimate is based on Ainley's past experience with similar scope projects as Geotechnical and Hydrogeological investigation is not available at this time.
- 12% of Divisions 2 – 16 has been carried as Division 1 costs, (varies from 8%-15%) which is typical for contracts Tendered in Ontario.
- A 30% Construction contingency is carried out at the conceptual stage.
- No contaminated soils have been assumed.
- Costs for hydro, Gas, Bell or Rogers are not included. These costs are unforeseen at this moment and will be paid by the Owner directly.
- Provisional items (additional quantities of material that may be required during construction) are not included in the estimate.

Table 12 - Preliminary Construction Cost Estimates BPS Alternatives

Alternative	BPS	Watermain
Alternative Site 1	$ 5,700,000	$ 4,350,000
Alternative Site 2	$ 5,700,000	$ 2,750,000
Alternative Site 3	$ 5,700,000	$ 1,760,000
Alternative Site 4	$ 5,700,000	$ 1,870,000
Alternative Site 5	$ 5,700,000	$ 1,650,000

6.3 Erin-Hillsburgh BPS Alternatives Climate Change Impacts

Alternatives include the construction of a pumphouse and watermains. All alternatives are considered to have the same level of resilience during climatic events as climate change adaptation strategies will be considered during the design stage. All alternatives provide the same level of protection and their settings are similar with respect to fire, snow and ice risk. Provisions to deal with snow and ice events can also be mitigated at each site. Sensitive instruments can also be well protected at each alternative site. All alternatives will be designed as critical infrastructure facilities increasing their resilience to climate events. Energy use in water pumping stations almost entirely results from pumping energy. While high-efficiency pumps will be specified it is necessary to design

this critical infrastructure for continuous, reliable service. GHG emissions will be mitigated through the construction of high-efficiency pumps, lighting and heating/cooling devices. As mentioned in Section 5.3, the potential impacts on climate change identified for each BPS site alternative are listed as follows:

BPS Site Alternative 1: 2 Erinville Drive

- Alternative 1 requires the longest watermain connection to facilitate connection, resulting in higher GHG emissions during construction.
- The site is located on a Town-owned parcel but is constrained and design trade-offs may be required to fit required equipment, resulting in potential construction complexity and higher climate change impacts.
- The site is developed and no potential climate change impact is expected for future development.

BPS Site Alternative 2: 9614 Sideroad 17

- Alternative 2 requires a relatively long watermain connection to facilitate connection and high GHG emissions are expected during construction.
- The site is currently used for agricultural purposes. Considering agriculture has the potential merits to carbon sinks, construction of BPS on Alternative Site 2 would have negative impacts on climate change.

BPS Site Alternative 3: 9565 Sideroad 17

- Alternative 3 requires a shorter watermain connection than Alternative 1 and 2, and less GHG emissions are expected during construction.
- The site has an industrial use designation however an unused space is available and provides sufficient space for a new BPS. No potential climate change impact is expected for further development.

BPS Site Alternative 4: 9556 Sideroad 17

- The watermain connection distance for Alternative 4 is comparable with Alternative 3, with similar climate change impacts expected during construction.
- The site is currently used for agricultural purposes. Construction of BPS on Alternative Site 4 would have negative impacts on climate change.

BPS Site Alternative 5: 9538 Sideroad 17

- Alternative 5 is the closest to the upper zone distribution system and requires the shortest watermain construction, with the least GHG emissions expected.
- The site has a prime agricultural land use designation but is currently unused. No potential climate change impact is expected for further development.

6.4 Erin-Hillsburgh BPS Alternatives Natural Environment

6.4.1 Preliminary Natural Heritage Assessment

A Preliminary Natural Heritage Assessment (NHA) was prepared which evaluated the areas surrounding the proposed locations for the new Erin-Hillsburgh Booster Pumping Station (BPS). The full NHA report can be found in **Appendix B**.

BPS Site Alternative 1:

- The site location is within the Settlement Area of the Greenbelt plan;
- The site does not require additional site investigations due to the urban location and disturbed conditions.

BPS Site Alternative 2:

- The site location is within the Protected Countryside area of the Greenbelt plan;
- The site contains potential habitat for the Eastern Wood-Peewee;
- The site is within the required setbacks of the adjacent woodland;
- The preliminary recommendation is to shift the site footprint within the same property to a minimum distance of 30m from the woodland.

BPS Site Alternative 3:

- The site location is within the Protected Countryside area of the Greenbelt plan;
- The site contains potential habitat for the Eastern Wood-Peewee, Midland Painted Turtle, Snapping Turtle and also provides potential wintering habitat for Deer;
- The site borders the required setbacks of a wetlands area and adjacent woodland;
- The southern portion of the property, which is under consideration, is within CVC-regulated area;
- The preliminary recommendation is to complete additional consultation with the MECP and a field study of the site to confirm site conditions.

BPS Site Alternative 4:

- The site location is within the Protected Countryside area of the Greenbelt plan;
- The site contains potential habitat for the Midland Painted Turtle and Snapping Turtle;
- The preliminary recommendation is to shift the site footprint under consideration to a minimum of 15m from the hedgerow.

BPS Site Alternative 5:

- The site location is within the Protected Countryside area of the Greenbelt plan;

- The site contains potential habitat for the Eastern Wood-Peewee, Midland Painted Turtle, Snapping Turtle and also provides potential wintering habitat for Deer;
- The majority of the property is within CVC-regulated area;
- The preliminary recommendation is to shift the site footprint under consideration to a minimum of 15m from the hedgerow.

6.5 Erin-Hillsburgh BPS Alternatives Cultural and Social Environment

A Cultural Heritage Report (CHR) was prepared, which evaluated the areas surrounding the proposed locations for the new Erin-Hillsburgh Booster Pumping Station (BPS). The full CHR can be found in **Appendix B**. The CHR identified a total of one built heritage resource (BHR) within the areas surrounding the BPS locations considered in the study.

BPS Site Alternative 1:

- There are no BHR or CHLs at the 2 Erinville Drive site or in the surrounding area;
- This site alternative is situated in close proximity to Main Street which is the primary thoroughfare of the community;
- Connection of a new BPS at this location would require construction along Main Street from Erinville Drive to Shamrock Road, causing a short-term disruption to traffic;
- Connection of this site to the future connection point at Sideroad 17 and the Elora Cataract Trail will require a dedicated transmission main along Sideroad 17. Given the existing infrastructure along Sideroad 17, the dedicated transmission main would need to be within the centre of a traffic lane, and would require a reduction of the road to a single lane of traffic throughout construction;
- This location would be visible from Main Street however the building architecture could be planned to integrate with the surrounding industrial buildings;
- The site would be shared with the fire station and would take up space that could be used for training exercises for Fire Department staff or staff parking.

BPS Site Alternative 2:

- A potential BHR was identified on the north side of Sideroad 17, east of Shamrock Road. The potential BHR is a one-and-a-half-storey residence with an irregular, cross-gable roof, wood cladding, and stone chimney. Potential heritage attributes include the residence's height, massing, fenestration, irregular gable roof, and a stone chimney. The building has potential physical and design value as an early twentieth-century residence and can be seen in the 1937 topographic mapping;
- Construction at this site would be within the 50m vibration buffer for the potential BHR;

- This site is off the main thoroughfare, however, connection of this site to the future connection point at Sideroad 17 and the Elora Cataract Trail will require a dedicated transmission main along Sideroad 17;
- Given the existing infrastructure along Sideroad 17, the dedicated transmission main would need to be within the centre of a traffic lane and would require a reduction of the road to a single lane of traffic throughout construction.

BPS Site Alternative 3:

- There are no BHR or CHLs at the 9565 Sideroad 17 or in the surrounding area;
- This site is within an industrial area and away from the main thoroughfare;
- The site is in close proximity to the future connection point at Sideroad 17 and the Elora Cataract Trail, which would present very minimal traffic impact.

BPS Site Alternative 4:

- There are no BHR or CHLs at the 9556 Sideroad 17 site or in the surrounding area;
- This site is within an industrial area and away from the main thoroughfare;
- The site is in close proximity to the future connection point at Sideroad 17 and the Elora Cataract Trail, as such would present very minimal traffic impact.

BPS Site Alternative 5:

- There are no BHR or CHLs at the 9538 Sideroad 17 site or in the surrounding area;
- This site is within an industrial area and away from the main thoroughfare;
- The site is in close proximity to the future connection point at Sideroad 17 and the Elora Cataract Trail, as such would present very minimal traffic impact.

6.5.1 Stage 1 Archeological Assessment

A Stage 1 Archeological Assessment (Stage 1 AA) was prepared, which evaluated the areas surrounding the proposed locations for the new Erin-Hillsburgh Booster Pumping Station (BPS). The full Stage 1 AA can be found in **Appendix E**. The key findings of the Stage 1 AA are summarised as follows:

9516 Sideroad 17 Booster Pumping Station meets the following criteria indicative of archaeological potential:

- Water sources within 300 metres: primary, secondary, or past water source (Credit River Erin Branch);
- Well-drained soils (Hillsburgh fine sandy loam);
- Early settlements within 100 metres (homesteads); and
- Early historic transportation routes within 100 metres (Sideroad 17, Credit Valley Railway)

9538 Sideroad 17 Booster Pumping Station and 9565 Sideroad 17 Booster Pumping Station meet the following criteria indicative of archaeological potential:

- Water sources within 300 metres: primary, secondary, or past water source (Credit River Erin Branch);
- Well-drained soils (Hillsburgh fine sandy loam); and
- Early historic transportation routes within 100 metres (Sideroad 17, Credit Valley Railway)

9556 Sideroad 17 Booster Pumping Station meets the following criteria indicative of archaeological potential:

- Water sources within 300 metres: primary, secondary, or past water source (Credit River Erin Branch); and
- Early historic transportation routes within 100 metres (Sideroad 17, Credit Valley Railway)

9614 Sideroad 17 Booster Pumping Station meets the following criteria indicative of archaeological potential:

- Well-drained soils (Guelph loam);
- Early settlements within 100 metres (homesteads); and
- Early historic transportation routes within 100 metres (Sideroad 17)

2 Erinville Drive Booster Pumping Station meets the following criteria indicative of archaeological potential:

- Well-drained soils (Caledon fine sandy loam); and
- Early historic transportation routes within 100 metres (Main Street)

7 Phase 2 – Detailed Evaluation of Alternative Solutions

7.1 Detailed Evaluation Criteria

Each alternative was evaluated against the environmental criteria outlined below:

- **Physical/Technical Environment:** Suitability of Elevation and Topography, Geotechnical Suitability, Hydrogeological Suitability, Hydraulics
- **Natural Environment:** Proximity to Key Natural Heritage Features or Regulated Areas, Terrestrial Vegetation/Wildlife (Including SAR), Surface Water and Fisheries
- **Cultural and Social Environment:** Archaeological Resources, Cultural Heritage Resources, Aesthetics (Noise, Odour, Visibility), Impacts to Property Owners, Climate Change/Air Quality and Impacts to Adjacent Properties
- **Economic Environment:** Capital Costs and Operating and Maintenance Costs.

7.2 Evaluation Scoring System

A Harvey Ball scoring system was used and implemented using the scoring system defined in Table 13. Each of the alternatives were evaluated based on their potential impact on the study area environment with “Low Impact” as the most preferable result and “High Impact” as the least preferable result.

Table 13 - Scoring System

Rating	Natural Environment	Socio-Cultural	Technical	Economics
● Most Preferred	Low Impact	Low Impact	High Technical Merit	Low Cost
◕ Moderately to Highly Preferred	Low to Moderate Impact	Low to Moderate Impact	Moderate to High Technical Merit	Low to Moderate Cost
◑ Moderately Preferred	Moderate Impact	Moderate Impact	Moderate Technical Merit	Moderate Cost
◔ Less Preferred	Moderate to High Impact	Moderate to High Impact	Low to Moderate Technical Merit	Moderate to High Cost
○ Least Preferred	High Impact	High Impact	Low Technical Merit	High Cost

The evaluation scoring for each alternative is presented in Tables 14 and 15 to provide a simplified, visual comparison.

7.3 Evaluation of Hillsburgh Water Storage Alternatives

Table 14 – Evaluation Matrix for Hillsburgh Water Storage Alternatives

EVALUATION CRITERIA	Alternative 1 Elevated Tank	Alternative 2 In-Ground Reservoir	Alternative 3 Above-Ground Steel Tank	DESCRIPTION OF IMPACTS
Technical Environment	◔	●	◕	Alternatives 2 and 3 both provide essentially identical hydraulic solutions for the future Hillsburgh water supply system and require minimal additional water distribution system upgrades in comparison to Alternative 1. Situating the water storage at the north end of the community allows for passive supply to the lower hydraulic zone from the storage and provides an opportunity for a centralized location for pumping into the upper-pressure zone. Alternative 2 allows for the design of modular storage which could be built out in a coordinated fashion with development, or simply built with internal cell divisions to allow the amount of water storage to be flexible to suit development requirements. Alternative 3 provides a similar opportunity by separating storage into two/three storage tanks however this reduces the capital cost advantage of steel tank storage. Alternative 1 requires the construction of long transmission watermains from the existing system to the proposed location. In contrast to Alternative 2 and Alternative 3, this alternative does not allow for the integration of all upper zone pumping into a centralized location at the same site. Pumping from the Barbour Field location to the upper zone would require a long and dedicated transmission main; as such, a new upper zone booster station would be required at a new location. Alternatively, the existing Hillsburgh Booster Station could be upgraded however the transmission main from the water tower would need to be upsized significantly to prevent pressure drops during fire-flow pumping scenarios.
Natural Environment	◕	◕	◑	Alternative 1 is adjacent to a woodland area and requires a 15m buffer area from an adjacent hedgerow, however the site is already disturbed. Alternative 2 is adjacent to a hedgerow and requires a 15m buffer area. The site is existing agricultural land. Alternative 3 is adjacent to a grassland area with potential SAR bird habitat.
Cultural and Social Environment	◕	◕	◑	Alternative 1 is within a sports complex and situated away from the main urban centre of the community. The water tower elevation will be significant but the visual impact will be limited due to the location. Alternative 2 is situated on a property which has been identified to have potential as a CHR. The visual impact of in-ground storage is mitigated by ground cover and can be located on the property where existing sightlines to the key aspects of the property will not be impacted. There is minimal potential for damage to the CHR farmhouse as the proposed location exceeds to 50m vibration buffer. Alternative 3 is situated directly behind a property which is a known BHR. The visual impact of an above-ground steel tank can be partially mitigated by a berm/hedgerow but due to the height of the tank needed, there will be visual impacts. Additionally, the proximity of the proposed location to the BHR will require construction within the 50m vibration buffer.
Economic Environment	○	◕	●	Alternative 1 is dominated by Alternative 2 and Alternative 3 from a capital cost perspective with the greatest cost difference related to the extent of distribution system upgrades required to facilitate the alternative. Long-term operational costs of Alternative 1 are also anticipated to be greater for Alternative 1 due to the expense of cleaning/ re-painting of elevated storage and a lack of opportunity for infrastructure consolidation which Alternative 2 and Alternative 3 provide.
				TOTAL SCORE
Overall Score	◔	●	◕	The preferred Alternative is “Alternative 2 In-Ground Reservoir”. Overall, Alternative 2 and Alternative 3 provide similar benefits from an operational perspective and with respect to the upgrade requirements for the existing distribution system and both allow for the centralization of pumping to the H-UPZ. Alternative 2 is preferred due to the reduced aesthetic impacts on the community and the flexibility of design. The use of several smaller steel tanks for Alternative 3 to mimic the cellular design options for Alternative 2 will significantly reduce the cost advantages of Alternative 3. Scalability of storage volume will reduce operational challenges as development proceeds towards the build-out condition.

7.4 Evaluation of Erin-Hillsburgh BPS Alternatives

Table 15 – Evaluation Matrix for Erin-Hillsburgh BPS Site Alternatives

EVALUATION CRITERIA	BPS Site Alternative 1	BPS Site Alternative 2	BPS Site Alternative 3	BPS Site Alternative 4	BPS Site Alternative 5	DESCRIPTION OF IMPACTS
Technical Environment	○	◔	●	●	●	Site Alternatives 3, 4, and 5 all provide close proximity to the Elora Cataract Trail and the proposed transmission watermain along this corridor from Erin to Hillsburgh. Additionally, these sites are well situated in relation to the future development area in the west end of Erin which provides an opportunity for future infrastructure consolidation. The lower Hillsburgh distribution zone and the west-end development in Erin will have similar hydraulic grades and can be run as a single hydraulic zone in the future and supported by a BPS at this location.
Natural Environment	●	◕	◑	◕	◕	Site 1 is within a previously developed parcel and within the urban area, no impacts to the natural environment are anticipated. Site 2 is within a 30m woodland buffer zone. Site 3 is within a 30m setback requirement for a provincially significant wetlands area and for a woodlands area buffer zone. Site 4 is within a CVC-regulated area and adjacent to a hedgerow. Site 5 is within a CVC-regulated area and adjacent to a hedgerow.
Cultural and Social Environment	◔	◑	●	◑	●	Site 1 shares a site with the Town's Fire Department taking up space which could be used for training activities or parking for Fire Department staff; in addition, the site is situated off the main thoroughfare of the community and would be highly visible. This site will require the construction of a transmission watermain along Main Street which will be disruptive to local residents. Site 2 is adjacent to a potential BHR; further, the NHA Report recommends a relocation of the site footprint which is in conflict with the expressed desires of the property owner. Avoids construction within Main Street. Site 3 is located within an industrial area away from Main Street and any CHR or BHR. The site owner is open to the intended use of the site and is willing to negotiate a property sale. Avoids construction within Main Street. Site 4 is located within an industrial area away from Main Street and any CHR or BHR. The site owner did not respond to any contact attempts throughout the study and is assumed to be uninterested in negotiating a sale. Avoids construction within Main Street. Site 5 is located within an industrial area away from Main Street and any CHR or BHR. The site owner is open to the intended use for the site and is willing to negotiate a property sale. Avoids construction within Main Street.
Economic Environment	○	◑	●	●	●	Site 1 requires the longest transmission watermain construction, requires construction within a high traffic corridor, and does not provide any opportunity for future infrastructure consolidation. Site 2 requires the second longest transmission watermain construction and does not provide any opportunity for future infrastructure consolidation; however, this site does not require construction within a high-traffic corridor. Site 3 requires a short transmission watermain, does not require construction within a high-traffic corridor, and would provide an opportunity for consolidation of future infrastructure. Site 4 requires a short transmission watermain, does not require construction within a high-traffic corridor, and would provide an opportunity for consolidation of future infrastructure. Site 5 requires a short transmission watermain, does not require construction within a high-traffic corridor, and would provide an opportunity for consolidation of future infrastructure.
						TOTAL SCORE
Overall Score	◔	◑	◕	◕	●	Preferred Alternative is a new BPS on either 9538 Sideroad 17 or 9565 Sideroad 17. These sites were selected primarily due to the proximity to the future transmission main along the Elora Cataract Trail and to the future E-UPZ. Both sites offer sufficient space to establish a combined booster station for the Erin-Hillsburgh pumping requirements and pumping to the E-UPZ. Both sites have similar and manageable environmental impacts and minimal social and cultural impacts.

8 Public and Stakeholder Consultation

The Erin Urban Centres Water Servicing EA Addendum included an active public consultation program that sought the comments and concerns of the public and other stakeholders. Responses to comments and concerns were provided throughout the project via a number of means, including emails, phone calls, and direct mail-outs to the stakeholders on the project contact list. In addition, project information was posted on the Town's project website and notices were released on the Town's social media.

A summary of all comments received and responses provided can be found in **Table 16**. A study contact list and a complete consultation record can be found in **Appendix F**. The contact information for all public member comments has been removed.

8.1 Notice of Addendum

A Notice of Addendum was posted on the Town of Erin Public Works Project website for public review on June XX, 2025. The notice was also posted on the Town of Erin's social media.

Emails were issued to all stakeholders identified in the 2020 UCWS EA, including updated contacts for relevant review agencies as well as Indigenous communities and nations on June XX, 2025 providing notification of the Addendum to the project and direction on how to engage with the project team. A copy of the Notice of Addendum is included in **Appendix F**.

Door knocker mail-outs including the Notice of Addendum and a brief cover letter were distributed to residences within a 200m radius of the subject sites evaluated in the study.

8.2 Notice of Filing of Addendum

A Notice of Filing of Addendum was posted on the Town of Erin Public Works Project website for public review on June XX, 2025. The notice was also posted on the Town of Erin's social media.

Emails were issued to all stakeholders identified in the 2020 UCWS EA, including updated contacts for relevant review agencies and public stakeholders who responded to the Notice of Addendum, on June XX, 2025. The notice provided direction to the stakeholders on how to obtain a digital copy of the Addendum Report and how to access a physical copy of the report. A copy of the Notice of Filing of Addendum is included in **Appendix F**.

Door knocker mail-outs including the Notice of Filing of Addendum and a brief cover letter were distributed to residences within a 200m radius of the subject sites evaluated in the study.

9 Indigenous Communities Consultation

Indigenous community consultation was undertaken to ensure effective engagement and communication with those potentially interested in the project. The following Indigenous communities were provided with a copy of all project notices and will also receive the Notice of Filing of Addendum:

- Haudenosaunee Confederacy
- Mississauga of the New Credit First Nation
- Six Nations of the Grand River Territory

Engagement with the Indigenous communities was completed through the following two initiatives:

- **Email Notifications:** Each potentially affected Indigenous community on the project contact list was emailed notices to keep them informed of the project's progress and methods for providing input and meeting with the project team, if desired.
- **Follow-up Contacts:** In addition to email notifications, communities were contacted through follow-up emails and phone calls to provide an opportunity for follow-up.

To initiate the engagement with these Indigenous communities, a Request to Consult was emailed to each community along with a copy of the Notice of Addendum. A copy of the following project notices was emailed out to each of the Indigenous communities:

- Notice of Addendum was emailed on June XX, 2025, with a link to the Addendum Report - Issued for Public Comment.
- Notice of Filing of Addendum, with a link to the Final Addendum Report, will be emailed on June XX, 2025.

Project-specific information was provided through the additional studies being made available to each community. The following studies were either sent by email or a link was provided where the documents could be accessed:

- **Draft Stage 1 Archaeological Assessment (**May 1 2023) – this report was on August 29, 2023.
- **Draft Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment** (April 2023 (updated December 2023) – this report was emailed to the communities on December 12, 2023.
- **Natural Environment Report** – this report was emailed to the communities on August 8, 2024.

For the Notice of Addendum, emails were issued Indigenous communities and nations on June XX, 2025 providing notification of the Addendum to the project and direction on

how to engage with the project team. A copy of the Notice of Addendum is included in **Appendix F**.

For the Notice of Filing of Addendum, emails were issued Indigenous communities and nations on June XX, 2025. The notice provided direction to the stakeholders on how to obtain a digital copy of the Addendum Report and how to access a physical copy of the report. A copy of the Notice of Filing of Addendum is included in **Appendix F**.

Table 16 – Comment Summary Table

NO.	RESPONDENT INFORMATION	COMMENTS RECEIVED	DRAFT RESPONSE / ACTION REQUIRED
AGENCY COMMENTS			
Notice of Addendum – DATE			
1.			
2.			
3.			
Notice of Filing of Addendum - DATE			
1.			
2.			
3.			
INDIGENOUS NATION COMMENTS			
Notice of Addendum – DATE			
1.			
2.			
3.			
Draft Stage 1 Archaeological Assessment Report, Cultural Heritage Assessment, Natural Environment Report			
1.			
2.			
3.			
Notice of Filing of Addendum – DATE			
LOCAL ORGANIZATIONS			

NO.	RESPONDENT INFORMATION	COMMENTS RECEIVED	DRAFT RESPONSE / ACTION REQUIRED
Notice of Addendum – June 8, 2023			
1.			
2.			
Notice of Filing of Addendum – July 31, 2024			
1.			
UTILITIES			
Notice of Addendum – June 8, 2023			
1.			
3.			
Notice of Filing of Addendum – July 31, 2024			
1.			
2.			
Notice of Completion – DATE			
PUBLIC COMMENTS			
Notice of Study Commencement – June 8, 2023			
1.			
2.			
Notice of Filing of Addendum – July 31, 2024			
1.			
2.			

10 Preliminary Concepts for Recommended Alternatives

10.1 Description of the Overall Hillsburgh Storage Preferred Solution

The preferred solution includes the following components and is shown graphically in Figure 14:

- An in-ground reservoir to be established at 5952 Trafalgar Road with a top hydraulic grade of 485 mASL;
    - The reservoir is to be hydraulicly located within the H-LPZ and capable of passively providing 200 L/s fire flow for a 3-hour duration to the lower pressure zone;
    - The reservoir is to have multiple storage cells and appurtenances to allow for independent operation/ shut-down of each cell;
    - New wells can be directly connected to the facility for improved system operation.
- The H-UPZ is to be operated as a closed zone with domestic supply and fire flow delivered from a centralised BPS integrated into the reservoir;
    - Integrated BPS to provide:
        - 200 L/s fire flow at 25 m TDH and;
        - 8.9 L/s MDD at 27 m TDH;
    - Chlorine monitoring and re-chlorination system;
    - Stand-by power diesel generator;
- Upgrades are required to the Hillsburgh distribution system in order to maintain pressures within acceptable ranges and for fire flow capacity to new development areas;
    - New 400mm watermain (H-LPZ), 770m in length, through the Ballantry Development area from the ECT to the south end of Spruce Street.
    - Upgrade Spruce Street watermain (H-LPZ) to 400mm from the south end to Church Street, and along Church Street to Trafalgar Road, a total 650m in length.
    - New 400mm watermain (H-LPZ), 960m in length, along Trafalgar Road from Upper Canada Drive to the new reservoir.
    - New 200mm watermain (H-HPZ), 360m in length, along Trafalgar Road from Upper Canada Drive to Barbour Drive.
    - New 300mm watermain (H-HPZ), 475m in length, along Trafalgar Road, from the new integrated BPS to Howe Street and Briarwood Development.
    - New PRV chamber on Barbour Drive for modification of the H-UPZ/ H-LPZ boundary.

- New line stop valve on Baker Street for modification of the H-UPZ/ H-LPZ boundary.

10.2 Description of the Overall Erin-Hillsburgh BPS Preferred Solution

The preferred solution includes the following components and is shown graphically in Figure 16:

- A booster pumping station is to be established at 9538 Sideroad 17 or 9565 Sideroad 17;
- Integration of the H-LPZ and the E-UPZ into a single pressure zone;
- Integration of E-UPZ into the distribution area for the Erin-Hillsburgh BPS;
- Valving and control as required to allow both passive operation of the Elora Cataract Trail transmission main for water transfer from Hillsburgh to Erin and active operation of the transmission main for water transfer from Erin to Hillsburgh;
- BPS to provide transfer capacity of 32 L/s at 46 m TDH;
- BPS to provide the following for the E-UPZ:
  - 200 L/s Fire Flow at 68 m TDH,
  - 1.97 L/s ADD at 29 m TDH,
  - 3.75 L/s MDD at 29.5 m TDH,
  - 5.92 L/s PHD at 30 m TDH;
- Upgrade of the existing watermain along Sideroad 17 from Wellington 23 to the new BPS to 300 mm ID;
- Extension of a 300 mm ID transmission watermain to the E-UPZ.
- Extension of the existing 250 mm watermain on Sideroad 17 from 8th Line to the future “Street C” of the proposed Coscorp subdivision.
- Addition of a new PRV chamber within the Coscorp development area to support new homes within the Coscorp development; PRV to allow water transfer from the E-UPZ to the E-MPZ.
- Addition of a new PRV chamber on 8th Line to support new homes within the Empire development; PRV to allow water transfer from the E-UPZ to the E-MPZ.
- Addition of a Line Stop to separate the E-UPZ and E-MPZ at the intersection of 8th Line and Erin Heights Drive to maintain pressures within the Mattamy development.

10.3 Hillsburgh Storage Recommended Layout

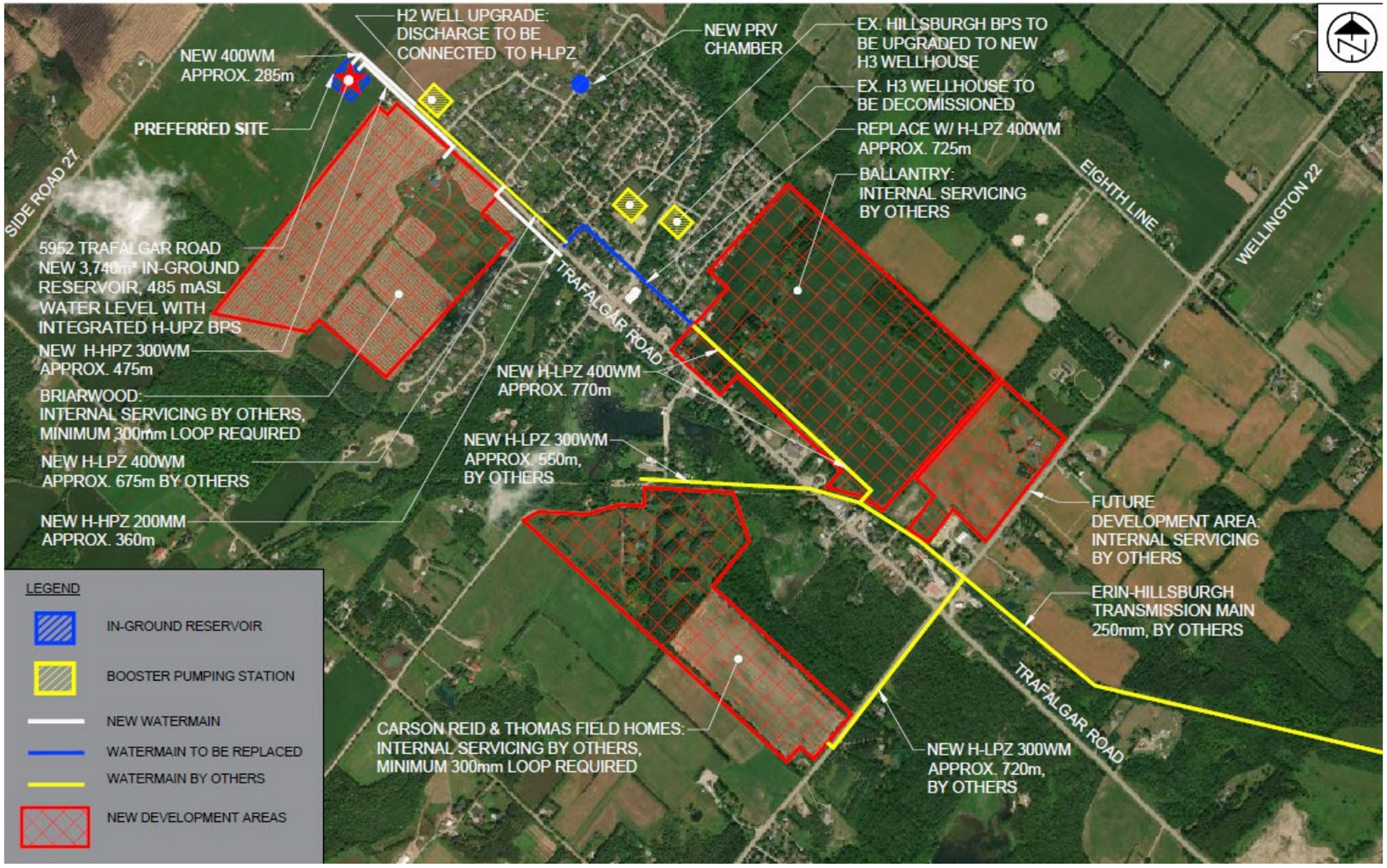


Figure 14 – Overall Upgrades Required for the In-Ground Reservoir

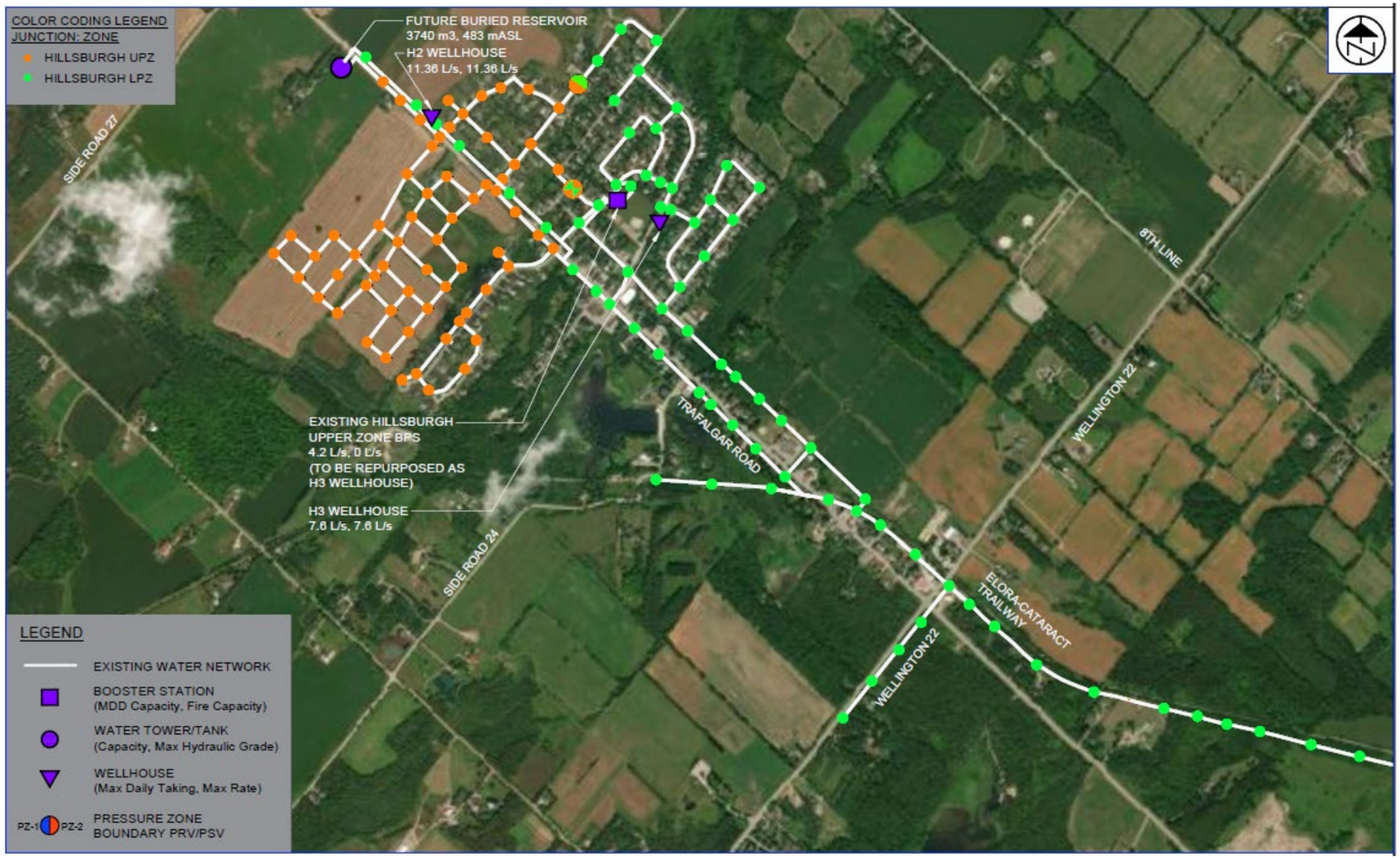


Figure 15 – Hillsburgh Distribution System Ultimate Arrangement

10.4 Erin-Hillsburgh BPS Recommended Layout

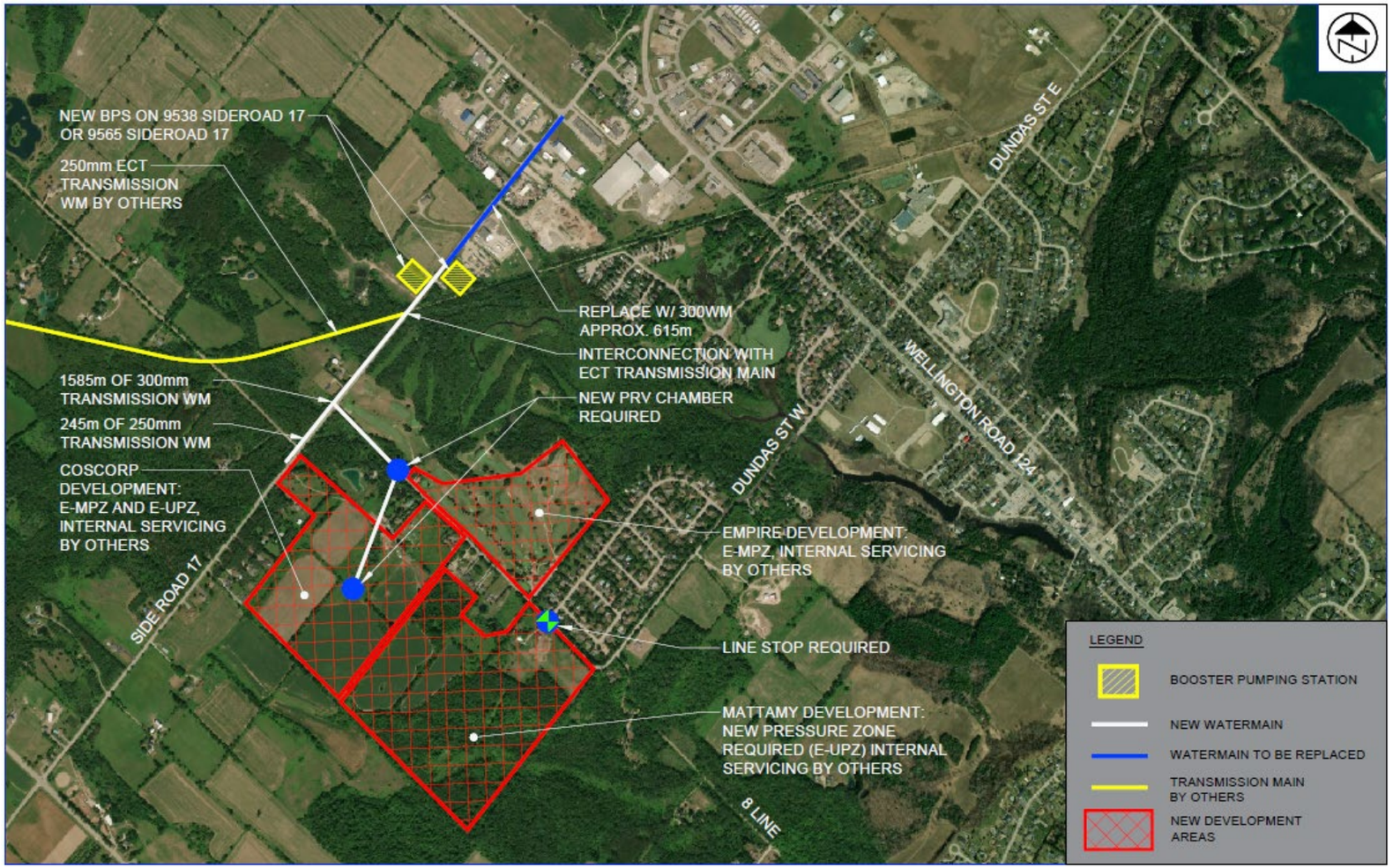


Figure 16 – Overall Upgrade Requirements for the combined Erin-Hillsburgh/ E-UPZ BPS

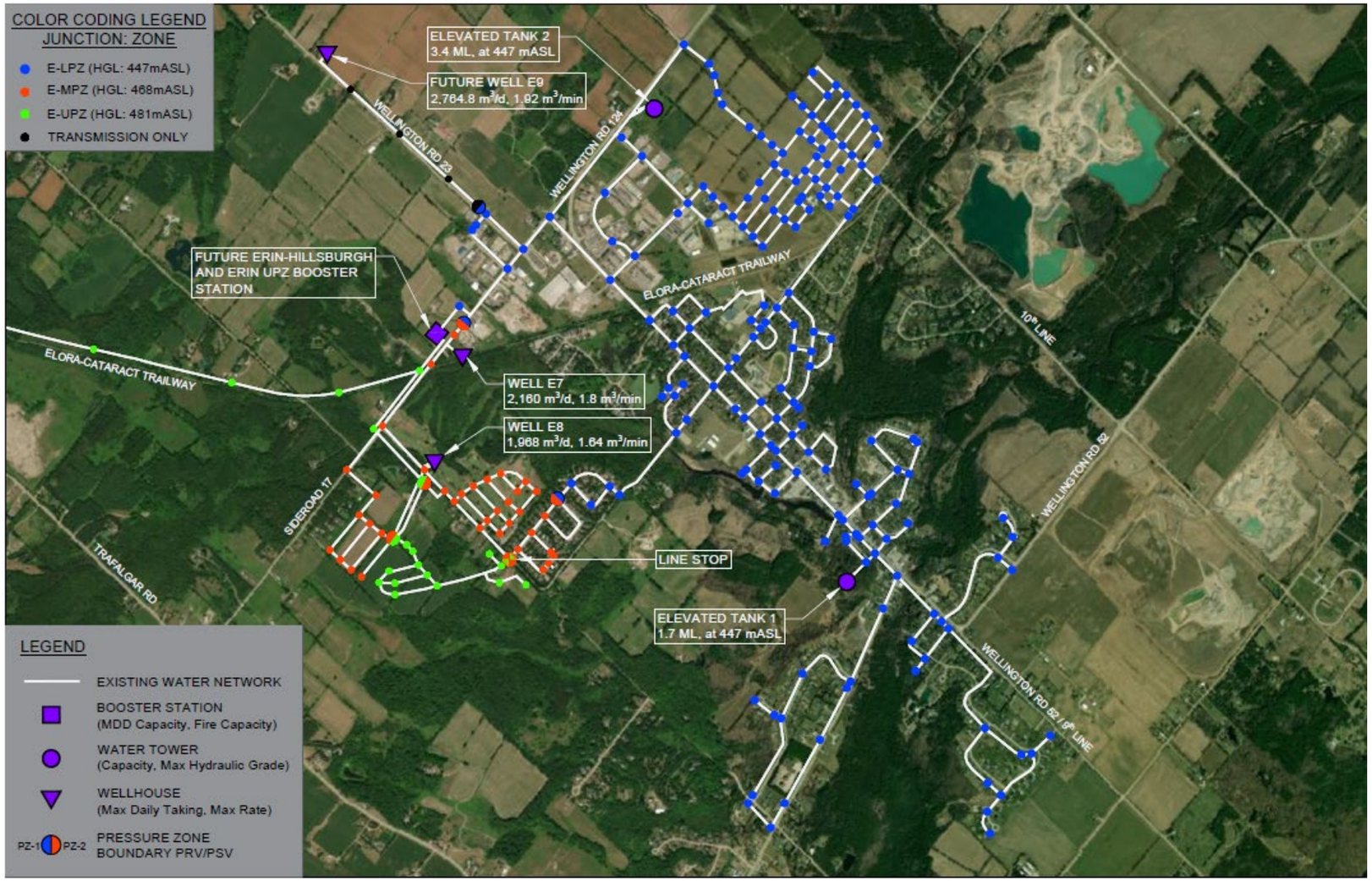


Figure 17 – Erin Distribution System Ultimate Arrangement

10.5 Land Requirements and Additional Investigations

Additional field investigations will be completed to support the development of conceptual design, as follows:

- Topographic Survey
- Subsurface Utility Engineering Investigation
- Geotechnical Investigation
- Hydrogeological Investigation
- Excess Soils Management Plan
- Arborist Report
- Stage 2 Archeological Assessment
- Transient Analysis

10.6 Implementation Timeline

The Town of Erin is planning the following schedule for implementation for both the new Erin-Hillsburgh BPS and the Hillsburgh water storage:

- Class Environmental Assessment: Addendum to the 2020 UCWS Class EA to be issued for a 30-day public review period in July 2025;
- Property Acquisition and Detailed Design: The Town of Erin will negotiate the purchase of property (Storage Alternative 2 and BPS Alternative Site 5) with the property owners in June 2025;
- The detailed design will be initiated once the property purchase has been completed;
- With design initiation in mid 2025, tendering is anticipated in early 2026;
- Construction: Construction will be initiated in spring 2026 and is anticipated to be 1 to 1.5 years in duration for the BPS and 1.5 to 2 years in duration for the reservoir.

11 Mitigation

Table 17 – Mitigation Measures and Monitoring Activities

Impact Type	Mitigation During Design/ Construction	Mitigation Post Construction/ for Long-term Operation
Specific Erosion and Sediment Control Measures	▪ Develop and implement an Erosion and Sediment Control (ESC) Plan for construction ▪ Sediment traps will be used for storm runoff during construction. ▪ Silt fencing to be installed along the perimeters of the construction site.	▪ Include stormwater collection on-site to minimize erosion. ▪ Keep records of on-site spill events and mitigation measures taken.
Air Quality and Noise	▪ Construction activities will be restricted to workday hours to prevent evening and weekend noise. ▪ Non-chloride dust suppressants will be required for fugitive dust prevention.	▪ Operating equipment will be contained in a manner that minimizes external sound. ▪ Noise attenuation measures will be implemented, if necessary, based on the acoustic evaluation results during the design phase. ▪ Generators will be specified to meet all air quality requirements and will only be operated as needed for equipment testing and in the event of a power failure.
Excess Materials Management	▪ A Soil Management Plan (SMP) will be prepared by a Qualified Professional, as defined in O.Reg. 182/06 for managing soil materials on-site (includes excavation, location of stockpiles, reuse and off-site disposal). ▪ Management of excess soil will be completed in accordance with the MECP's "Management of Excess Soil – A Guide for Best Management Practices" (2016).	▪ Not Applicable

Impact Type	Mitigation During Design/ Construction	Mitigation Post Construction/ for Long-term Operation
	▪ Should any contaminated soils be found, the Town will 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.	
Vegetation and Woodlands	▪ Prepare an Arborist Report to: o Delineate the extent of vegetation removals; o Define removals/ pruning implementation strategy; o Establish compensation requirements; o Define Tree Protection Zones and Tree Protection Plan. ▪ Vegetation clearing should be conducted outside of the core breeding bird period (April 1 to August 31) ▪ Construction hoarding is to be installed prior to the commencement of construction activities to prevent pedestrian access. ▪ Tree removal will be undertaken in accordance with the municipal tree protection bylaw. ▪ A qualified Environmental Inspector is required throughout the construction period to ensure that protection measures are implemented, maintained and enforced.	▪ The success of replacement/compensation vegetation will be monitored for two years. The success of less than 80% of plantings will require further follow-up planting and monitoring for an additional two years until an 80% success rate has been achieved. ▪ An arborist shall review all trees adjacent to the work zone prior to opening the road for use by the general public. Branches and trunks damaged during the construction period that may cause damage or injury must be mitigated.
Wetlands	▪ Construction within and adjacent to any wetland features should be avoided and minimized where possible. ▪ A geotechnical assessment will be completed to determine dewatering needs.	

Impact Type	Mitigation During Design/ Construction	Mitigation Post Construction/ for Long-term Operation
	▪ Erosion and Sediment Control (ESC) shall be inspected regularly to ensure damage is repaired in a timely manner and that additional risk to wildlife is minimized. ▪ Fencing shall be inspected regularly for the duration of construction. ▪ An Environmental Inspector will visit the site and approve any dewatering within 120 m of natural features. The dewatering plan will require that the filter bag is checked regularly and is working appropriately and no sediment is entering significant features or water courses. ▪ Develop a Wetland Mitigation Strategy for compensation based on the total wetland removal area, identifying measures for sediment and salt interception for adjacent wetlands.	
Groundwater and Surface Water	▪ An Erosion and Sediment Control (ESC) Plan will be developed during the design phase, and adhered to throughout construction. The ESC will conform to industry best management practices and recognized standard specifications, such as the Ontario Provincial Standards Specification (OPSS). ▪ Any in-water work, if required, will be conducted in isolation of flowing water. ▪ Wet weather restrictions shall be applied during site preparation and excavation. ▪ Any hazardous materials used for construction will be handled in accordance with appropriate regulations.	▪ The Town is required to comply with the Ontario Water Resources Act, R.S.O. 1990, c. O.40 with respect to the quality of water discharging into natural receivers.
Species at Risk (SAR)	▪ Detailed site surveys may be required during detailed design, prior to project construction, to confirm the presence of significant wildlife habitat (SWH).	▪ Not applicable.

Impact Type	Mitigation During Design/ Construction	Mitigation Post Construction/ for Long-term Operation
	▪ Installation of construction hoarding is recommended along the perimeter, prior to construction works commencing, to prevent any wildlife from attempting to access the construction zone during construction works. ▪ Fencing shall be installed at the beginning of April or earlier. ▪ Fencing shall be inspected regularly to ensure damage is repaired in a timely manner and that additional risk to wildlife is minimized. ▪ A Biologist shall be on-site during construction works in the event that wildlife is trapped within the construction zone and requires removal and relocation to land outside of the construction zone. ▪ An Avian Biologist may be required on-site as needed should a nesting migratory bird (or SAR bird protected under ESA, 2007) be identified within or adjacent to the construction site. ▪ Removal of candidate roost trees may require appropriate compensation during the appropriate timing windows, including the installation of bat house(s) to compensate for loss of habitat.	
Climate Change	▪ Design all facilities as critical infrastructure components to mitigate the effects of weather events on the water supply system. ▪ Design the system to provide fire protection for the community including water storage and pumping facilities resulting from climate-related increased fire risk. ▪ Design to protect all critical instruments and communications devices at risk from climate-related weather events.	▪ Maintain equipment in good working order to maintain efficiency.

Impact Type	Mitigation During Design/ Construction	Mitigation Post Construction/ for Long-term Operation
	▪ Design facilities to mitigate the risk from climate-related events resulting from increased wind and precipitation including tornado strength winds, rainfall, snow and ice. ▪ Utilize rating systems targeting reduction in energy usage and meeting climate change targets to improve energy efficiency during design for all pumping, lighting, heating and cooling systems. ▪ Minimise greenhouse gas emissions from diesel-fueled construction equipment. ▪ Construction specifications will include requirements to minimize impacts due to extreme weather events during construction. ▪ Heating, Ventilation, and Air Conditioning (HVAC) design shall refer to National Fire Protection Association (NFPA) 820 and MECP guidelines, which allows for lower ventilation rates during winter months which results in lower electricity consumption.	
Archaeological Resources	▪ A Stage 2 Archeological Assessment shall be conducted to identify any potential archeological resources; the recommendations of the assessment shall be carried out.	
Built Heritage and Cultural Landscapes	▪ No built heritage resources have been identified in the area surrounding the proposed works.	▪ The architectural features of the new BPS and reservoir will be designed to be compatible with the surrounding development.
Utilities and Servicing	▪ Conduct a comprehensive utility survey to identify existing underground utilities and potential conflicts that may arise during construction.	▪ No long-term impacts to existing utilities once the pumping station is constructed.

Impact Type	Mitigation During Design/ Construction	Mitigation Post Construction/ for Long-term Operation
Property Impacts, Traffic Management	▪ Stage work to avoid full shut-down of Trafalgar Road or Sideroad 17 ▪ Local residents and businesses are to be made aware timing and duration of partial closures of Reach Street ahead of construction. ▪ Construction shall utilize measures to minimize impacts to local traffic to the extent feasible and to maintain access during construction.	▪ No impacts to existing access routes once BPS and reservoir are constructed. ▪ Property acquisition is required and discussions with the affected property owners will continue.
Cost	▪ Explore potential grants or funding opportunities to offset capital and operational costs, including energy efficiency programs.	▪ Establish a financial management plan that includes regular assessments of operational costs, including maintenance activities and energy use, to ensure budget adherence.

12 Summary

The Town of Erin has undertaken an Addendum to the 2020 Urban Centre Water Servicing Municipal Class Environmental Assessment (MCEA). This study was conducted in accordance with the Municipal Class Environmental Assessment document (as amended in 2024). The Addendum incorporates new information, including an up-to-date understanding of proposed development within the urban boundary and associated water system requirements.

Alternative sites for the Hillsburgh water storage facility and the Erin-Hillsburgh Booster Pumping Station (BPS) were evaluated as part of the MCEA Phase 2 – Detailed Evaluation process. The alternatives were rated based on four criteria: technical environment, natural environment, cultural and social environment, and economic environment.

The Preferred Alternative for the Hillsburgh water storage facility is “Alternative 2 In-Ground Reservoir” to be established at 5952 Trafalgar Road. Overall, Alternative 2 and Alternative 3 provide similar benefits from an operational perspective with respect to the upgrade requirements for the existing distribution system and both allow for centralization of pumping to the H-UPZ. Alternative 2 is preferred due to the reduced aesthetic impacts on the community and the flexibility of design. The use of several smaller steel tanks for Alternative 3 to mimic the cellular design options for Alternative 2 will significantly reduce the cost advantages of Alternative 3. Scalability of storage volume will reduce operational challenges as development proceeds towards the build-out condition.

The Preferred Alternative for the Erin-Hillsburgh BPS site is Alternative 3 or Alternative 5, with the new BPS to be established at 9538 Sideroad 17 or 9565 Sideroad 17. The two sites for the Erin-Hillsburgh BPS were selected primarily due to the proximity to the future transmission main along the Elora Cataract Trail and to the future E-UPZ. Both sites offer sufficient space to establish a combined booster station for the Erin-Hillsburgh pumping requirements and pumping to the E-UPZ. Both sites have similar and manageable environmental impacts and minimal social and cultural impacts.

Appendix A

Hillsburgh Storage Alternatives TM

Appendix B

Erin-Hillsburgh Booster Pumping Station and West Erin Developments TM

Appendix C

Preliminary Natural Heritage Assessment

Appendix D
Cultural Heritage Report

Appendix E

Stage 1 Archeological Assessment

Appendix F
Public Consultation Records