Prepared By:

# Municipality Of Brockton

# Master Servicing Plan: Town of Walkerton

**GMBP File: 223075**

**April 2024 (Version 2)**

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| Master Servicing Plan (Version 2 DRAFT) February 13th, 2024 | | | | |
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# LIST OF ACRONYMS

| Acronym | Abbreviation Meaning |
|---|---|
| BCOP | Bruce County Official Plan |
| BOD | Biological Oxygen Demand |
| CCME | Canadian Council of Ministers of the Environment |
| Class EA | Class Environmental Assessment |
| CWA | Clean Water Act |
| EA | Environmental Assessment |
| EAA | Environmental Assessment Act |
| EIS | Environmental Impact Study |
| EPA | Environmental Protection Act |
| ERBP | East Ridge Business Park |
| ERU | Equivalent Residential Unit |
| ESA | Endangered Species Act |
| GMBP | GM BluePlan Engineering |
| HVA | Highly Vulnerable Aquifer |
| I&I | Infiltration and Inflow |
| IPZ | Intake Protection Zone |
| masl | meters above sea level |
| MCEA | Municipal Class Environmental Assessment |
| MDWL | Municipal Drinking Water System |
| MECP | Ministry of the Environment, Conservation and Parks |
| MNRF | Ministry of Natural Resources and Forestry |
| MSP | Master Servicing Plan |
| Municipality | Municipality of Brockton |
| OP | Official Plan |
| O.Reg. | Ontario Regulation |
| OWRA | Ontario Water Resources Act |
| Plan | Master Servicing Plan |
| PPS | Provincial Policy Statement |
| PPU | Population per Unit |
| PSW | Provincially Significant Wetland |
| ROW | Right-of-Way |
| R.S.O. | Revised Statutes of Ontario |
| SDWA | Safe Drinking Water Act |
| SGRA | Significant Groundwater Recharge Area |
| SVCA | Saugeen Valley Conservation Authority |
| STP | Sewage Treatment Plant |
| SWM | Stormwater Management |
| Town | Community of Walkerton |
| WHPA | Wellhead Protection Area |
| WNHS | Walkerton Natural Heritage System |
| WOP | Walkerton Official Plan |

**MASTER SERVICING PLAN: TOWN OF WALKERTON**

**MUNICIPALITY OF BROCKTON**

**APRIL 2024 (VERSION 2)**

**GMBP FILE: 223075**

# 1. INTRODUCTION

## 1.1 Study Objectives

The Municipality of Brockton (Municipality) is experiencing significant growth, particularly within the community of Walkerton (the Town). With recent land development pressure, the Municipality has identified a need to review the existing water, wastewater, and stormwater infrastructure systems and to clearly define the infrastructure requirements needed to support the Town's population and employment growth forecasts to the year 2046. To assist the Municipality with this review, GM BluePlan Engineering Limited (GMBP) was retained to complete a Master Servicing Plan (MSP or Plan) for the Town of Walkerton.

While Walkerton currently has sufficient infrastructure to support its community, with recent land development pressure the Municipality intends better to understand the condition and capacity of its existing infrastructure, in order appropriately to plan for future needs. Readily available and accessible public infrastructure is essential to the viability of communities, specifically in the case of development. Infrastructure planning, land use planning and infrastructure investment require close integration to ensure efficient, safe and economically achievable solutions to provide the required water, wastewater and stormwater servicing.

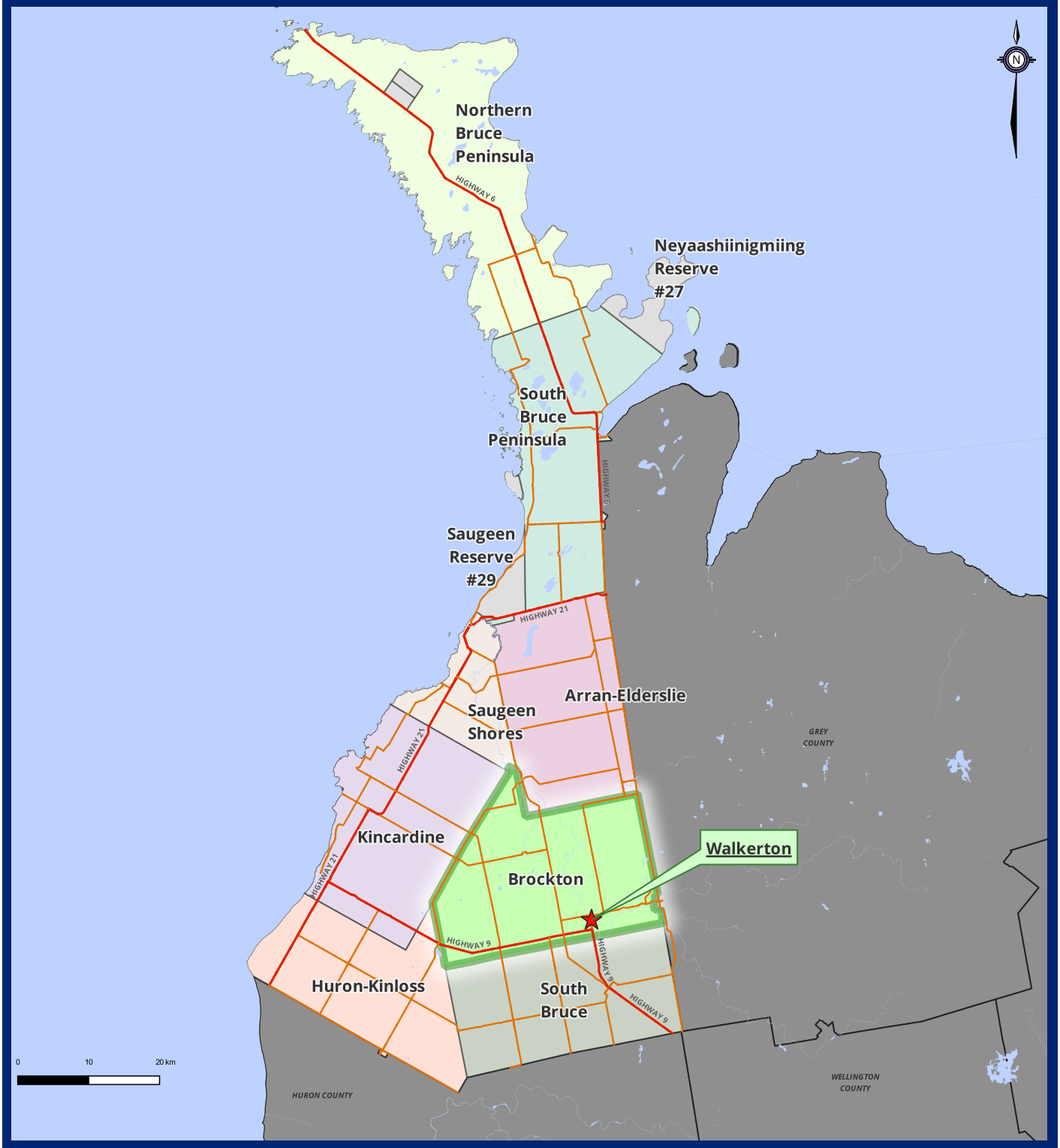
This Master Servicing Plan was being undertaken to identify a preferred strategy to support existing servicing needs and projected growth in Walkerton. As part of the planning for future needs the Plan focused on four main areas for potential growth on the outskirts of Walkerton identified by the Municipality. An integrated planning approach to accommodate the forecast population and employment growth to 2046, a planning horizon of greater than 20 years, ensures that servicing options are considered in conjunction with other planning processes to develop a unified long-term vision for Brockton. Development areas identified herein are considered for servicing purposes only. There is no definitive development at this time.

The Municipality of Brockton is a lower-tier municipality located in the southeast corner of Bruce County, where shown on **Figure 1-1**. The Bruce County Official Plan is currently undergoing review and updates. The four main areas for potential growth considered within this Plan would result in expansions of the urban boundary of Walkerton. As such, this Master Servicing Plan is also needed to support the expansion of the urban boundary of Walkerton to accommodate growth. The four potential development areas identified may be considered as expansions of the urban boundary in the short-term, with others considered as potential future expansion areas.

The Master Servicing Plan will be the foundation document and roadmap for implementing safe, reliable, and efficient water, wastewater, and stormwater services to support the Municipality's long-term needs. This Plan sets out to develop, evaluate, and select a preferred servicing strategy to support existing servicing needs and projected development within the community of Walkerton to the year 2046. This Master Plan includes the development of a long-term implementation plan for future servicing needs and improvements, including recommendations for cost-effective servicing strategies, policies, and capital projects.

# FIGURE 1-1
## Location Overview
Walkerton within Bruce County

November, 2023
223075
Projection EPSG:26917




Bruce County Municipal Boundaries
- Arran-Elderslie
- Brockton
- Huron-Kinloss
- Kincardine
- Northern Bruce Peninsula
- Saugeen Shores
- South Bruce
- South Bruce Peninsula
- Indian Reserve

Watercourse
Waterbody
Road Centrelines
- Provincial Highway
- County

## 1.2 Study Area

The Municipality of Brockton was formed in 1999 by the amalgamation of the former Township of Brant, Township of Greenock and the Town of Walkerton. The Municipality is bordered the by Municipality of South Bruce to the south, the Municipality of Kincardine to the west, and the Municipality of Arran-Elderslie to the north. To the east, the Municipality is bordered by the Town of Hanover and the Municipality of West Grey. Within the Municipality of Brockton, Walkerton is the largest community and is the only Primary Urban Community. Other communities include Elmwood, as the only Secondary Urban Community, seven (7) hamlet communities, and three (3) inland lakes communities. The community areas within Brockton are presented in **Figure 1-2**.

Walkerton, the focus of this study, is located along the banks of the Saugeen River at the junction of County Road 4 and Highway No.9 and is intersected by the Saugeen River. According to the 2021 Census, the Municipality had a population of 9,784 persons in 2021, with approximately 48% (4,724 persons) reported to reside in the Walkerton. Overall, the rural municipality covers a land area of approximately 565 $km^2$, with 3.9 $km^2$ encompassing the urban boundaries of the community of Walkerton.

It is anticipated that a large majority of the growth forecasted for Brockton will be within the community of Walkerton. This is consistent with the Bruce County Official Plan, which directs that growth should be focused within the Primary Urban Communities, where possible. At this time, no developments are known to be planned in any of the secondary urban communities, hamlets, or inland lakes communities.

## 1.3 Proposed Development Areas (Settlement Area Expansions)

With limited developable land remaining within the urban boundaries of Walkerton, the Municipality has identified four areas of potential development bordering on its settlement area boundary. Residential, commercial, or industrial development in these areas would require an expansion of the urban boundary to encompass the proposed development areas. Servicing options for these four areas was the primary focus of this Master Servicing Plan and included an evaluation and assessment of water, sanitary, and stormwater servicing needs and alternatives.

The four (4) areas considered and the existing approved and proposed settlement area expansions and potential future expansion areas are presented on **Figure 1-3** and described below:

**Area 1:** (Proposed expansion area = 79.5 hectares; Total Area = 80.5 ha)
Based on the Preliminary Planning Analysis (Monteith, 2023), it has been recommended that the County include a 78-hectare area within the Walkerton Settlement Area and designate the lands as 'Future Development'. This area includes several parcels to the east of Walkerton, south of Bruce Road 4 and west of Brant Sideroad 15. Within this Master Servicing Plan, Area 1 encompasses a total area of approximately 80.5 hectares, of which one hectare is currently within the existing settlement area boundary and an additional 1.5-hectare parcel (i.e., 36 Willow Street South) is currently the location of the Walkerton Gun Club, with the remaining 78 hectares already identified as a proposed expansion area. The 78-hectare area that lies outside of the existing settlement area was identified by the Municipality for inclusion in the settlement area expansion proposed to the County, however 79.5 hectares are considered for expansion herein.

**Area 2:** (Area 2A: Proposed expansion area = 9.6 hectares; Area 2B: Potential future expansion area = 14.9 hectares; Total Area = 42.8 hectares)
This area, located at the south side of Walkerton, is subdivided into two parcels with Area 2A situated to the south of Highway 9 and west of Geeson Ave and Area 2B situated further to the east, between Geeson Ave and Highway 9. The civic address for these properties is 201 Highway 9 and 1901 Highway 9, respectively. This proposed development area encompasses a total of approximately 42.8 hectares (i.e., Area 2A and 2B). It is noted that Area 2A is a 27.9-hectare property, of which 9.6 hectares lies outside of the existing settlement area boundary. Based on the Preliminary Planning Analysis (Monteith, 2023), it has been recommended that the County include these lands (i.e., 9.6-hectares) within the Walkerton Settlement Area and designate the lands as 'Future Development'.

**Area 3:** (Approved expansion area = 15.6 hectares)

This area abuts the East Ridge Business Park to the north and would be an expansion of the business area. Area 3 was included in a 2022 Ministerial Zoning Order (MZO) application, with the subject area identified as future business lands. This proposed development parcel encompasses an area of 15.6 hectares and will support employment and industrial uses. The Minister's Zoning Order (MZO) Application was submitted to the Ministry of Municipal Affairs and Housing under the Planning Act in the spring of 2022. The proposed MZO for Brockton was approved in November 2022.

**Area 4:** (Potential future expansion area = 56.5 hectares)

Located to the west of Walkerton and includes three parcels south of Bruce Road 2 and directly to the west of the Walker West subdivision. This proposed development area encompasses an area of approximately 56.5 hectares.

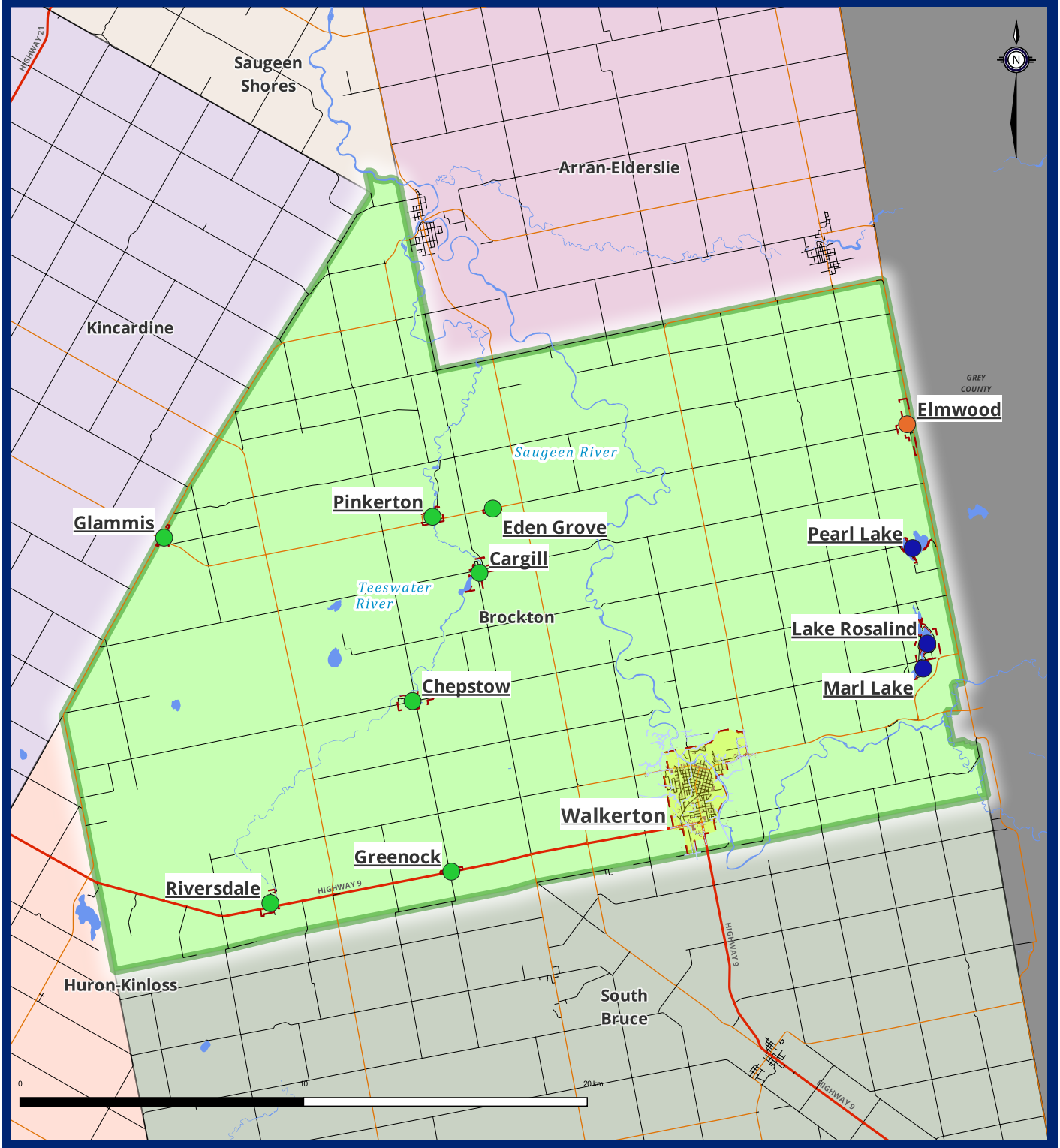
As part of these investigations, a review of the capacity of the water, wastewater, and stormwater systems was completed to determine if they were able to support the proposed expansion areas and to recommend infrastructure upgrades and improvements that may be necessary to provide adequate servicing.

# FIGURE 1-2
## Urban Areas
Within the Municipality of Brockton

Brockton
Come home to community

BluePlan Engineering

November, 2023
223075
Projection EPSG:26917




**Urban Area**
- Hamlet
- Inland Lakes
- Secondary Settlement

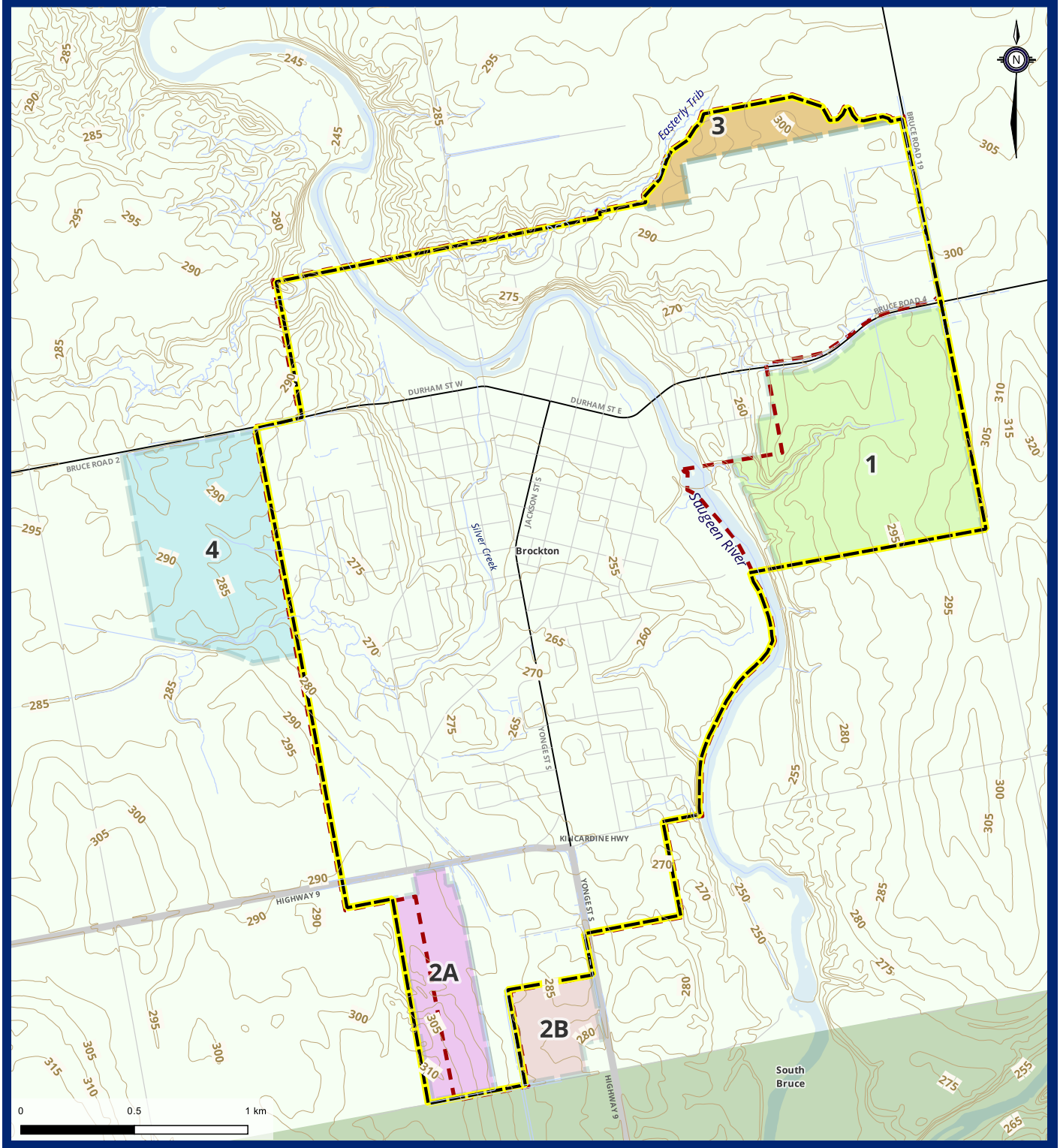
**Walkerton Official Plan**
- Walkerton (Primary Settlment Area)
- Other Urban Areas

**Bruce County Municipal Boundaries**
- Arran-Elderslie
- Brockton
- Huron-Kinloss
- Kincardine
- Saugeen Shores
- South Bruce
- Waterbody

**Road Centrelines**
- Provincial Highway
- County
- Municipal

# FIGURE 1-3
## Expansion of Walkerton Settlement Area Boundary
Approved, Proposed, and Potential Future Areas

November, 2023
223075
Projection EPSG:26917




Contour (5m)
Approved and Proposed Settlement Expansion Area

Future Development Areas
- 1 - Proposed Expansion Area
- 2A - Proposed Expansion Area
- 2B - Potential Future Expansion Area
- 3 - Approved Expansion Area
- 4 - Potential Future Expansion Area

Watercourse
Urban Area Boundary
Waterbody

Road Centrelines
- Provincial Highway
- County
- Municipal

## 1.4 Project Scope and Planning

The Municipality of Brockton, like many municipalities, needs to be confidently prepared to support proposed growth and development areas with a servicing plan based on a sound system-wide understanding and alternatives consideration. GMBP was retained by the Municipality to assist in the development of this Master Servicing Plan, with the goal of developing a long-term management plan that clearly outlines the short- and long-term system maintenance and upgrade needs. The Town has initiated this Master Plan, under the Municipal Class Environmental Assessment (EA) process, appropriately to plan various servicing needs within the Study Area in a comprehensive manner.

This Master Servicing Plan for water, wastewater and stormwater services comprehensively documents the development, evaluation, and selection of the preferred servicing strategies to meet the needs of the community. The development of the Plan was completed as an Approach 1 Master Plan satisfying Phases 1 and 2 of Class Environmental Assessment (EA). This will include providing sufficient documentation to identify the schedule of each proposed project in the Capital Plan. The key study objectives include the following:

- Review of existing and anticipated regulatory frameworks, as well as the Municipality's system wide level of service criteria; servicing policies and principles; and performance priorities which will then be utilized to identify system needs and evaluate recommendations for servicing upgrades.
- Review available data from the Municipality, including information compiled within their GIS database that includes servicing locations and details.
- Review available studies and associated recommendations, including the Water and Wastewater Reserve Capacity Analysis, within the context of updated growth projections and infrastructure priorities.
- Complete analysis of the Municipality's existing water, wastewater, and stormwater systems to assess the existing and projected capacity and performance.
- Develop a detailed system inventory and gap assessment to clearly identify the Municipality's existing water, wastewater, and stormwater infrastructure.
- Review the existing and future system demands and flows, including a review of the County of Bruce and the Municipality's Official Plans, and identifying the expected growth rates based on the approved and planned type, magnitude, and locations of growth.
- Complete a consultative review of system opportunities and constraints to identify potential servicing alternatives to address existing and long-term needs.
- Define any project specific Schedule B or C Municipal Class Environmental Assessment projects required to meet development goals and identify the approximate timing for these project planning processes.
- Recommend a prioritized list of capital projects for implementation.
- Develop of a comprehensive capital program, along with implementation triggers, to support the existing system needs and long-term growth.
- Facilitate the necessary public, stakeholder, agency and indigenous community consultation (through project notices, Public Information Centre, and meetings) to satisfy the Municipal Class EA Master Plan requirements.

The Master Servicing Plan will assist in planning individual projects consistent with a comprehensive infrastructure management strategy within the Town of Walkerton. This system wide approach provides for a strategic assessment of options better to address the needs of the Town's infrastructure planning and potential impacts/mitigation. Further, this plan identifies specific projects that can be implemented with suggested timelines.

## 1.5 Documentation Layout

The Master Servicing Plan includes a review of the existing conditions and develops a set of recommended solutions to existing and future infrastructure issues and needs, as identified. The documentation describes all required phases of the planning process. The Master Servicing Plan Report is organized into several sections, as follows:

**Section 1** **Introduction:**
Establishes the objectives and scope of the project. It defines the Study Area and provides a general overview of the broader area. A brief overview of the Master Plan documentation layout is also provided.

**Section 2** **Planning Context and Project Statement:**
This section describes the Class EA process and the specific requirements for the preparation of Master Plans. It also establishes the EA process for planning certain municipal projects, including water, sewage and stormwater projects and provides an overview of the assessment strategy.

**Section 3** **Problem and Opportunity Statement:**
Provides the development of the Problem and Opportunity Statement for the Walkerton Master Servicing Plan.

**Section 4** **Background:**
Provides an overview of the Study Area and details the related background studies.

**Section 5** **Policies and Regulations:**
Provides an overview of the legislative and policy planning context, and water, wastewater and stormwater servicing principles, policies, regulations, and guidelines.

**Section 6** **Inventory of the Environments:**
Provides an overview of the environments considered as part of the assessment of alternatives.

**Section 7** **Population and Development Projections**
Reviews historical and recent population data and trends and provides populations projections for the Municipality's committed and proposed developments.

**Section 8** **Water Master Servicing Plan:**
Focuses on the water system and provides the approach, methodologies, technical analyses, evaluation and selection of the preferred water servicing strategy. The process for selecting the preferred servicing strategy involved a review of baseline conditions, the identification of opportunities and constraints, and the development of a set of recommendations, including an implementation schedule.

**Section 9** **Wastewater Master Servicing Plan:**
Focuses on the wastewater system and provides the approach, methodologies, technical analyses, evaluation and selection of the preferred wastewater servicing strategy. The process for selecting the preferred servicing strategy involved a review of baseline conditions, the identification of opportunities and constraints, and the development of a set of recommendations, including an implementation schedule.

**Section 10** **Stormwater Master Servicing Plan:**
Focuses on the stormwater system and provides the approach, methodologies, technical analyses, evaluation and selection of the preferred stormwater management strategy. Outlines the stormwater policies, design criteria and level of service needed to be achieved by the stormwater system and includes a detailed evaluation and assessment of alternatives.

**Section 11** **Overview of Servicing Needs for Development Areas**
Provides a general overview and comparison of the servicing needs identified for each proposed development area. This includes the identification of the relative level of difficulty associated with ensuring that the provision for water, wastewater and stormwater management services can be delivered.

**Section 12** **Public Consultation and Next Steps**
Provides an overview of the public, agency, stakeholder and indigenous community consultation plan, a summary of the comments received and how they were addressed and identifies the next steps in the process.

**Section 13** **References**

# 2. PLANNING CONTEXT: MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENTS

This section describes the Municipal Class Environmental Assessment process and the specific requirements for the preparation of Master Plans.

## 2.1 Environmental Assessment Act (EAA)

Ontario's Environmental Assessment Act (EAA) was passed in 1975 and proclaimed in 1976. The EAA requires proponents to examine and document the environmental effects that could result from major projects or activities and their alternatives. Municipal undertakings became subject to the EAA in 1981.

The Act defines the environment broadly as:

a. Air, land or water.
b. Plant and animal life, including humans.
c. The social, economic and cultural conditions that influence the life of humans or a community.
d. Any building, structure, machine or other device or thing made by humans.
e. Any solid, liquid, gas odour, heat, sound, vibration or radiation resulting directly or indirectly from activities of humans.
f. Any part or combination of the foregoing and the interrelationships between any two or more of them.

The purpose of the EAA is the betterment of the people of the whole or any part of Ontario by providing for the protection, conservation and wise management of the environment in Ontario (RSO1990, c. 18, s.2).

### 2.1.1 Environmental Assessment Documentation

As set out on Section 5(3) of the EAA, an EA document must include a description of:

- The undertaking, the purpose of the undertaking, alternatives to the undertaking and alternative methods of carrying out the undertaking.
- The environment that will be affected or that might reasonably be expected to be affected, directly or indirectly, by the undertaking or alternatives to the undertaking.
- The effects that will be caused or that might reasonably be expected to be caused to the environment by the undertaking or alternatives to the undertaking.
- The actions necessary or that may reasonably be expected to be necessary to prevent, change, mitigate or remedy the effects upon or the effects that might reasonably be expected upon the environment by the undertaking or alternatives to the undertaking.
- An evaluation of the advantages and disadvantages to the environment of the undertaking, the alternative methods of carrying out the undertaking and the alternatives to the undertaking (RSO 1990, c. 18, s.2).

### 2.1.2 Principles of Environmental Planning

The EAA sets a framework for a systematic, rational and replicable environmental planning process that is based on five (5) key principles, as follows:

1. **Consultation with affected parties**
   Consultation with the public and government review agencies is an integral part of the planning process. Consultation allows the proponent to identify and address concerns cooperatively before final decisions are made. Consultation should begin as early as possible in the planning process.
2. **Consideration of a reasonable range of alternatives**
   Alternatives include functionally different solutions, "alternatives to" the proposed undertaking and "alternative methods" of implementing the preferred solution. The "do nothing" alternative must also be considered.

3. **Identification and consideration of the effects of each alternative on all aspects of the environment**
   These aspects include the natural, social, cultural, technical, and economic environments.
4. **Systematic evaluation of alternatives**
   The planning process includes a systematic evaluation of alternatives in terms of their advantages and disadvantages, to determine their net environmental effects. The evaluation shall increase in the level of detail as the study moves from the evaluation of "alternatives to" to the evaluation of "alternative methods".
5. **Clear and complete documentation to facilitate traceable decision making**
   The provision of clear and complete documentation of the planning process followed to allow "traceability" of decision-making with respect to the project. The planning process must be documented in such a way that it may be repeated with similar results.

## 2.2 MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENTS

Municipal infrastructure projects are subject to the Environmental Assessment Act (EAA). The Class Environmental Assessment (Class EA) is an approved self-assessment process under the EAA for a specific group or "class" of projects having predictable and mitigable impacts. Projects are considered approved subject to compliance with an approved Class EA process. The Municipal Class EA (MCEA - Municipal Engineers Association October 2000, as amended in 2007, 2011, 2015 and 2023) applies to municipal infrastructure projects including roads, water, wastewater and stormwater.

### 2.2.1 Main Elements of Class Environmental Assessments

The MCEA outlines a comprehensive planning process (illustrated in **Figure 2-1**) that provides a rational approach to consider the environmental and technical advantages and disadvantages of alternatives and their trade-offs in order to determine a *Preferred Solution (or set of Preferred Solutions)* to address an identified problem (or opportunity), as well as consultation with indigenous rights-holders, interested indigenous communities, agencies, directly affected stakeholders and the public throughout the process. The main elements of the MCEA planning process are incorporated in the following five phases:

**Phase 1** **Problem or Opportunity:**
Problem or opportunity definition and optional (discretionary) public consultation if deemed suitable.

**Phase 2** **Alternative Solutions:**
Identification and evaluation of alternative solutions to determine a *Preferred Solution*. Mandatory public and agency consultation is integral to this phase of the EA process.

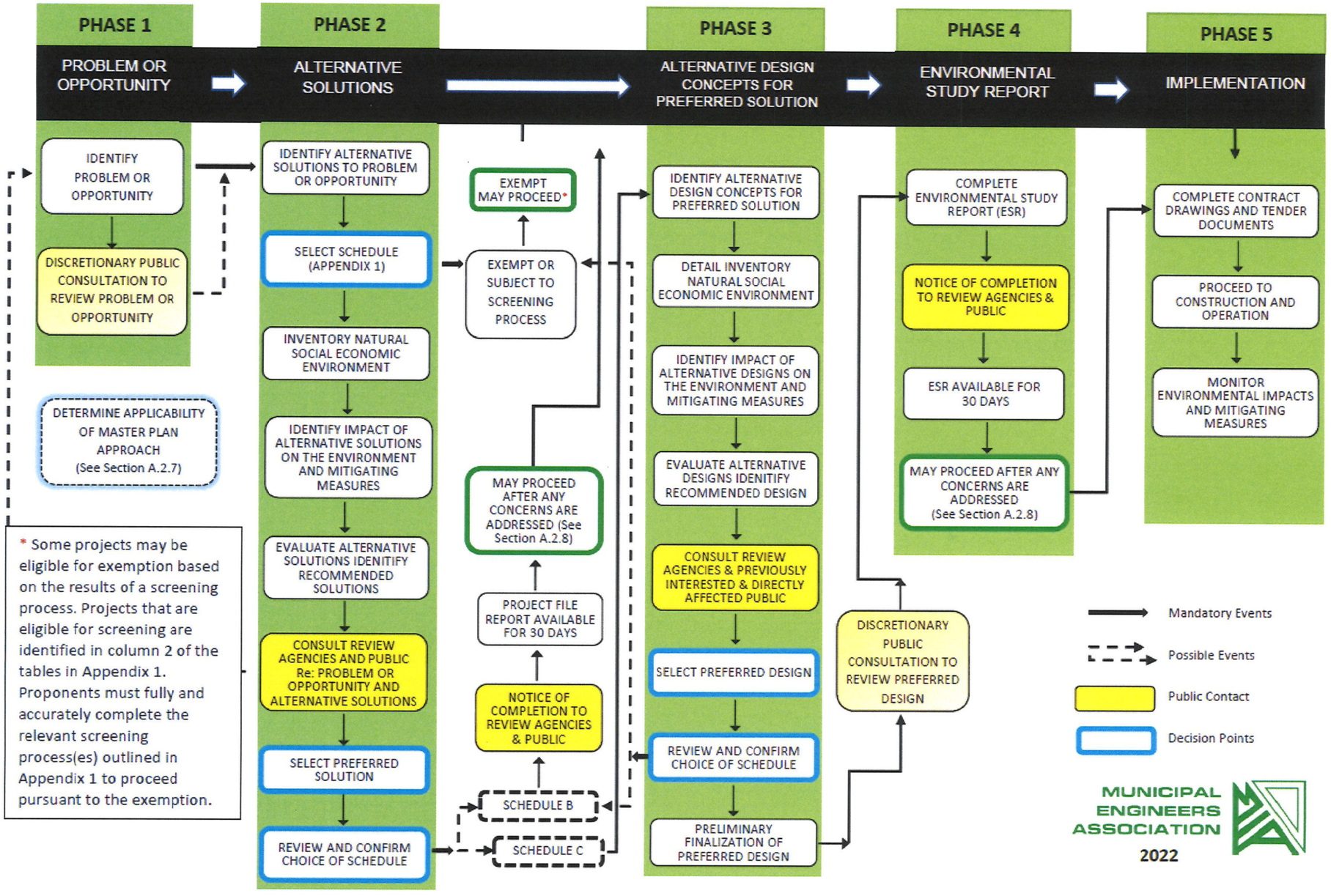
**Phase 3** **Alternative Design Concepts for Preferred Solution:**
Examination of alternative methods of implementation of the *Preferred Solution*. Mandatory public and agency consultation is integral to this phase of the EA process.

**Phase 4** **Environmental Study Report:**
Documentation of the Class EA process in the form of an Environmental Study Report (ESR). Mandatory public and agency consultation is integral to this phase of the EA process.

**Phase 5** **Implementation and Monitoring:**
Applies to all projects. Consultation is optional.

## EXHIBIT A.2. MUNICIPAL CLASS EA PLANNING AND DESIGN PROCESS

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




NOT TO SCALE
NOVEMBER 2023

EA PROCESS SCHEMATIC

MUNICIPALITY OF BROCKTON

Figure No. 2-1

BluePlan ENGINEERING

Specific project types are classified in terms of relative complexity. Master Plans are more general in nature, broad scoped and/or long-range plans that recognize the need to integrate infrastructure requirements for existing and future land uses with environmental assessment planning principles. As such, Master Plans address preliminary Phases 1 and 2 of the Municipal Class EA process, depicted on **Figure 2-1**. Each of the specific project schedules and Master Plans are discussed in the following Sections.

### 2.2.2 Project Specific Classifications

Specific projects subject to the Class EA process are classified into four "schedules" depending on the degree of expected impacts. The classification of the projects and activities in the approved class of undertakings provided in the Municipal Class EA is as follows:

**Exempt (formerly Schedule A/A+ projects):** Includes various maintenance, operation, rehabilitation, and other small projects that are limited in scale and have minimal adverse environmental effects. The proponent can proceed without further assessment and approval under the EAA, however should consider whether notice about the project should be given or consultation on the project should be carried out.

**Eligible for Screening to Exempt:** Projects may be eligible for exemption if they meet the conditional exemptions based on the results of a screening process. Screening processes may include the Archaeological Screening Process (ASP) and/or the Collector Road Screening Process. Completing the screening process is voluntary. In other words, proponents may choose to complete the applicable screening process to determine whether their project is eligible for exemption from the EAA or proceed with the applicable Schedule B or Schedule C process.

**Schedule B:** These projects are required to address Phases 1 and 2 of the Municipal Class EA process. Includes projects which have the potential for some adverse environmental effects. These projects generally include improvements to, and minor expansions of, existing facilities as well as new smaller scale projects. These projects are approved subject to a screening process which includes consulting with interested Indigenous Communities, stakeholders who may be directly affected and relevant review agencies, as well as consultation with Indigenous rights-holders.

**Schedule C:** These projects must satisfy all five phases of the EA process. Generally, includes the construction of new facilities and major expansions to existing facilities. These undertakings have the potential for greater environmental impacts and must proceed under the planning and documentation procedures outlined in the Municipal Class EA document.

**Figure 2-1** illustrates the MCEA planning and design process with phases required for each Schedule.

### 2.2.3 Schedule B and Schedule C Projects: Consultation and Documentation

For Schedule 'B' or 'C' projects, a *Notice of Study Commencement* is advertised and the *Preferred Solution* (and for Schedule 'C' projects, the *Preferred Design)* is developed through the process; to be confirmed by Council. The entire process is documented in a Schedule 'B' Project File, or Schedule 'C' Environmental Study Report, which is made available for public, agency and indigenous community review during a minimum 30-calendar day period following the issuance of the *Notice of Completion*.

For Schedule 'B' and 'C' projects, all comments and concerns raised by the public, stakeholders and/or agencies during the comment period, following advertisement of the *Notice of Completion*, are to be addressed directly to the proponent (i.e., the Municipality). However, if concerns are raised during the comment period that are specific to aboriginal or treaty rights, that cannot be resolved through discussions with the Municipality, then a Section 16 Order request to the Ministry of the Environment, Conservation and Parks (MECP) may be made. Within the Section 16 Order request, the Minister may be requested to refer the matter to mediation, impose additional project conditions, and/or request an elevated scope of study.

The decision whether or not a Section 16 Order is appropriate or necessary rests with the Minister of the MECP. If no Section 16 Order request is outstanding by the end of the 30-calendar day comment period, the project is

considered to have met the requirements of the Class EA, and the Municipality may proceed to design and construction.

### 2.2.4 General Project Classes

The EAA generally requires an environmental assessment of any major public undertaking in order to determine the ecological, cultural, technical, economic and social impacts of the project. The EAA also establishes a Class EA process for planning certain municipal projects, including water, sewage and stormwater projects. Projects planned under the MCEA for water, wastewater, and stormwater projects can generally be categorized as:

1. **New Systems:**
   - Refers to a project which may include a water source, treatment plant and/or distribution system.
   - A new sanitary sewage system may include a sanitary sewage collection system, flow equalization facilities, a treatment plant, biosolids management facilities and effluent outfall/discharge/disposal facilities, and storage facilities.
   - A new storm sewer system may include a stormwater collection system, treatment facility(ies), an outfall/discharge/re-use/disposal facility and storage facilities.
2. **System Expansion:**
   - Expansion of an existing water system or sanitary sewage system refers to the addition of new equipment or facilities or through improvements to operations and management activities to increase system capacity.
   - An expansion to an existing storm sewer system refers to the addition of sewers and new facilities or a change in management practices to an existing sewage system to increase system capacity.
3. **System Upgrade:**
   - Upgrading an existing water system or sanitary sewage system consists of additions or replacements to existing equipment or facilities or changes in management practices which are intended to achieve a high level or improved quality of system performance, while not increasing system capacity.
   - Upgrading of an existing storm sewer system consists of additions or replacements to existing sewers and facilities or implementation of practices which are intended to modify flow, volume and/or quality control.

In summary, for water and wastewater projects developed under the MCEA, the purpose of the EA process is to ensure that projects will be undertaken to address problems affecting the operation and efficiency of existing water systems, and/or to accommodate future growth of communities, and/or (i) to address water source contamination problems (water projects), (ii) to alleviate specific pollution problems (wastewater), or (iii) to alleviate flooding or specific pollution problems.

## 2.3 Master Plans

### 2.3.1 Definition

Municipalities recognize the benefits of comprehensive, long-range planning exercises that examine problems and solutions for an overall system of municipal services. The Municipal Class EA for Water, Wastewater and Stormwater Management Projects recognizes the importance of master plans as the basis for sound environmental planning. The Class EA defines master plans as:

> *"Long range plans which integrate infrastructure requirements for existing and future land use with environmental assessment planning principles. These plans examine an infrastructure system(s) or group of related projects in order to outline a framework for planning for subsequent projects and/or developments."*

Master plans have distinguishing features that set them apart from project-specific studies. They are broad in scope and focus on the analysis of a system for the purpose of outlining a framework for the provision of future works and developments. In addition, specific projects recommended in a master plan are part of a larger management system and are distributed geographically throughout the study area. As such, the implementation of specific projects may occur over an extended time frame.

### 2.3.2 Master Plan Approach

The MCEA process defines approaches for completing master plans within the context of the Class EA process. This Master Servicing Plan is intended to follow Approach #1 of the Master Planning process (Appendix 4, MCEA Manual, 2023), which involves the completion of a Master Plan document at the conclusion of Phases 1 and 2 of the EA process including the selection of a broad range of alternatives. The Master Servicing Plan is to be made available for public, agency and indigenous community comment prior to being approved by the Municipality. Approval from Council is sought following the minimum 30-day review period associated with the issuance of the *Notice of Master Plan*. Project Notices for this Master Plan are provided in **Appendix A**.

Upon the selection, by Municipal Council, of a *Preferred Master Servicing Plan* for the Municipality's water, wastewater and stormwater systems within the Study Area, individual projects may proceed under the appropriate EA Schedule, using the Master Plan as a basis. The intent of the Master Plan is to complete a broad level of assessment that identifies projects that may be exempt (or eligible for exemption) from the formal EA planning process and projects that may require more detailed project-specific investigations and greater detail in the evaluation of alternatives and design concepts to fulfill the requirements for the identified Schedule B and Schedule C projects.

It is noted that, as a Master Plan does not require approval under the EAA, only the individual projects identified within the Master Plan must fulfill the EA requirements. A description of the process for the individual Schedule B and Schedule C projects identified is provided in **Section 2.2** for reference purposes.

### 2.3.3 Master Servicing Plan: Assessment Approach

This Master Servicing Plan is the first of its kind in Walkerton and has incorporated information available to present a long-term municipal servicing strategy for the study area. The development, evaluation and selection of preferred servicing strategies generally involves:

- A review of baseline conditions across each of the water, wastewater and stormwater systems.
- A review of the Municipality's existing development commitments and estimated future growth.
- The identification of opportunities and constraints in the existing water, wastewater and stormwater systems.
- The assessment of infrastructure capacity required to service future growth using planning projections provided by the Municipality and recent Canada census data.
- The identification and evaluation of alternative servicing strategies for the water, wastewater and stormwater systems. This includes an implementation schedule based on the information available at this time.

Consistent with the intention of the Master Planning process, this Master Servicing Plan provides a comprehensive, long-range servicing strategy that integrates infrastructure requirements for existing and future land use with environmental assessment planning principles. These plans outline a framework for planning of future works and developments expected to occur over an extended time frame. In addition, recommendations presented within this Master Servicing Plan are accompanied by the classification of the EA Project Schedule associated with the recommended servicing strategies and a cost estimate.

# 3. PROBLEM/OPPORTUNITY STATEMENT

Phase I of the EA process involves the preparation of a problem/opportunity statement. The statement defines the principle starting point in the undertaking, specifically the Master Servicing Plan Class EA, and assists in defining the scope of the project with the intent to help guide the Municipality's decision-making process over the course of the planning horizon. The Problem and Opportunity statement developed for this Master Servicing Plan takes into consideration the following issues, opportunities, and constraints that have been identified as potentially impacting the municipal water, wastewater, and stormwater servicing systems:

| | |
|---|---|
| **Growth** | The Town is experiencing significant population and employment growth. It is anticipated that the Town will require additional lands to accommodate growth in the coming years. Several future development Areas 1, 2A, 2B, 3 and 4 are considered herein. Area 3, which was subject to a Master Servicing Plan completed in 2019, expands the Town's servicing area northwards from the East Ridge Business Park. |
| **Intensification** | Development infill and intensification in urban areas is recommended in the Bruce County Official Plan and was considered in the review of the Town's servicing needs. |
| **Facility Capacities** | The review of the existing water and wastewater infrastructure was completed to confirm capacities, operational flexibility, and operational status. Existing and future infrastructure condition and capacity needs, or surpluses, were considered in the development and review of alternatives within this Master Servicing Plan. |
| **Fire Flow Upgrades** | The Plan will confirm system fire flow targets and local system upgrade needs to meet existing and future fire flow needs. |
| **Stormwater** | Walkerton is located along the Saugeen River. Previous flood modelling has been completed for the community. A Stormwater Master Servicing Plan for Walkerton will need to be developed, including completing an inventory of existing infrastructure and delineating stormwater catchments. Recommendations for the management of stormwater in future developments was provided. |

**The Problem/Opportunity statement developed for this Master Servicing Plan is as follows:**

*In light of recent development pressures and future development being considered in the Walkerton area, specifically the proposed addition of four development areas previously identified by the Municipality as potential growth locations, the Municipality has identified a need appropriately to plan for future servicing upgrades and needs. To assist with this planning, a comprehensive Master Servicing Plan for water, wastewater and stormwater is being undertaken to identify the current capacity of the existing systems and to clearly define the infrastructure requirements needed to support the community of Walkerton's population and employment growth forecasts to the year 2046. The Master Servicing Plan is intended to be the foundation document and roadmap for implementing cost-effective, safe, reliable, and efficient servicing strategies required to support the Municipality's long-term development and growth.*

As part of the review, this Master Servicing Plan identifies capacity issues, aging infrastructure, and opportunities for infrastructure efficiencies and improvements. In addition, an infrastructure management plan that assists the Municipality by providing a clear strategy for the identification of system upgrades or program triggers for additional work, including an overview of the financial implications, is also developed thereby allowing the Municipality to manage and adjust the plan moving forward based on changing growth trends and/or management priorities. By doing so, the Municipality can help to support planned development, while maintaining or improving upon its existing service systems in a timely manner. In essence, the Master Servicing Plan is intended to support the Municipality by developing cost-effective servicing strategies and an implementation plan for service upgrades and needs.

**Official Plan Review (Bruce County and Walkerton):**

As part of the ongoing Official Plan review process, the Walkerton Official Plan and the Bruce County Official Plan will be updated. The four main development parcels identified herein, including approved (i.e., Area 3), proposed (i.e., Area 1 and Area 2A) and potential future development areas (reviewed as part of this Plan) would be (or are) expansions of the settlement area boundary of Walkerton. As required by the Bruce County Official Plan (Section 4.7.5.2), this Master Servicing Plan will simultaneously support the proposed expansions of the urban boundary of Walkerton required to accommodate growth.

Therefore, this Master Servicing Plan will support the official plan update process including updates to Walkerton's settlement area boundaries. It is noted that Area 3 was included in a 2022 Ministerial Zoning Order (MZO) application that was already approved in November 2022. Therefore, expansion of the Walkerton settlement area boundary has previously been approved for Area 3 (15.6 ha) and is currently proposed for Area 1 (78 hectares – revised to 79.5 hectares herein to include the Walkerton Gun Club property) and the westerly portion of Area 2A (9.6 hectares). Currently, Area 2B and Area 4 are considered as potential future expansion areas and are not part of the County's on-going Official Plan review.

# 4. BACKGROUND

## 4.1 Walkerton: Study Area Setting and Features

### 4.1.1 Description

In 1999 the Town of Walkerton amalgamated with the Townships of Brant and Greenock to form the Municipality of Brockton. The municipality has a varied land use system comprised largely of agricultural use. Walkerton is the only Primary Urban Settlement Area within the municipality. It is predominantly a residential centre that also functions as the regional service centre. The Town provides several facilities to local residents including health care services (i.e., hospital), schools, a community centre and an arena. Walkerton serves as a "county seat" (i.e., the administrative centre) for the County of Bruce. In addition to it being a centre for government administration, it has a diverse economy with that includes commercial businesses, manufacturing, numerous institutional services, and tourism.

As stated in the Official Plan for Walkerton, the Municipality recognizes that *'as an urban centre, Walkerton has a full complement of municipal services including water supply and sewage treatment systems. The ongoing maintenance and improvement of these facilities is required for continued community growth'.*

### 4.1.2 Land Use

The Bruce County Official Plan designates settlement areas by delineating settlement area boundaries. Within the community of Walkerton, approximately 435 ha of the 679 ha within the settlement area boundary has been developed. Commercial and industrial development is ongoing within the East Ridge Business Park (ERBP), and residential development is continuing in the west, south, and near the ERBP. **Table 4-1** provides a general overview of the areas and locations of zoning categories and ongoing development.

**Table 4-1: Areas of Development by Category within Walkerton**

| Area Categorizations | Area (ha) |
|---|---|
| Area within Walkerton Official Plan Settlement Area Boundaries | 679 |
| Environmental Protection and Open Space Lands (undevelopable) | 125 |
| East Ridge Business Park (ERBP) | 62 |
| Ongoing and Future Development Lands | 57 |
| Developed Land Area | 435 |

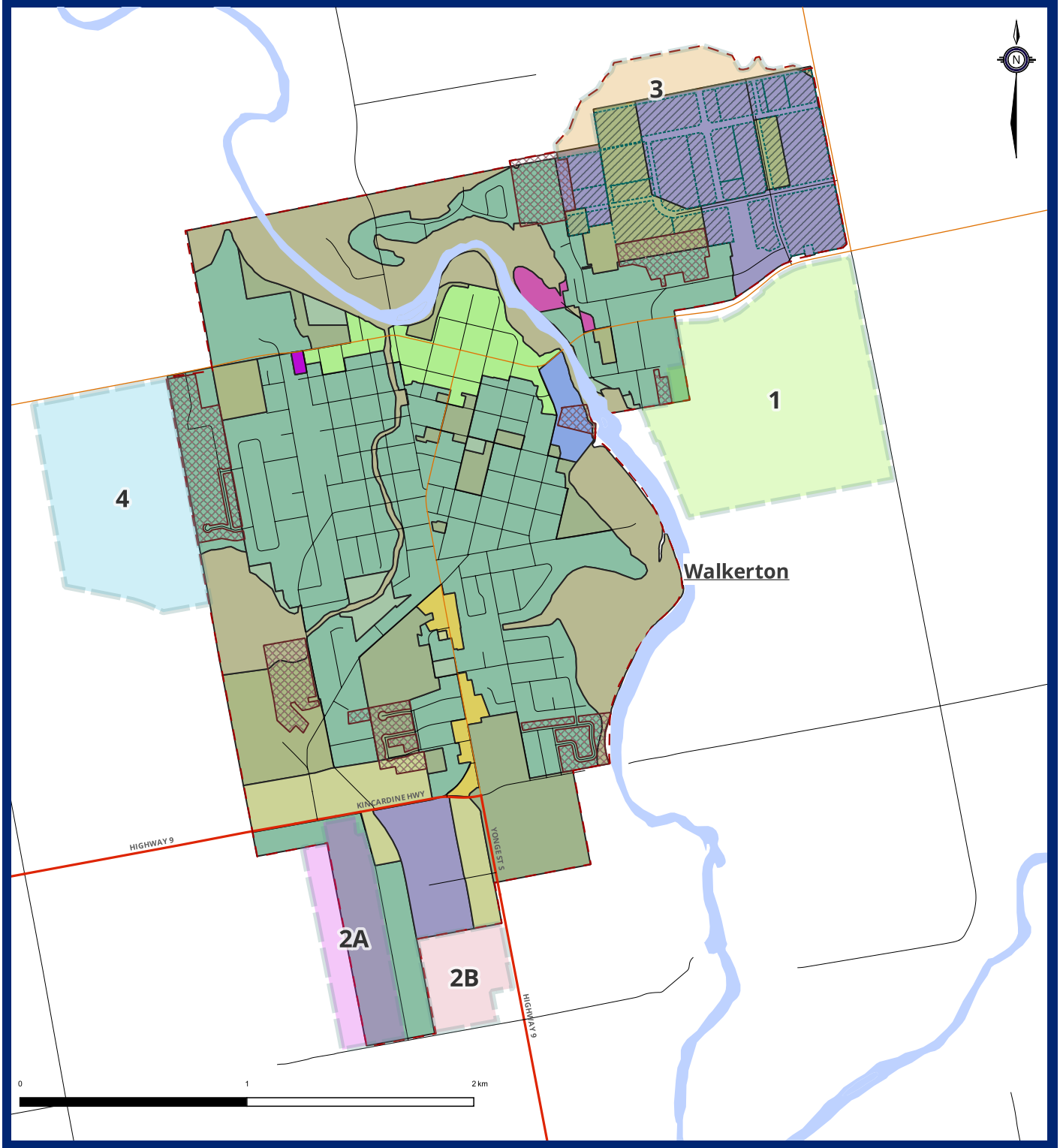
All land within the settlement area has received official plan land use designations, with some small areas receiving multiple designations. The official plan designations, presented on **Figure 4-1**, were overlaid on the parcel fabric to determine the number of parcels with each major designation, and the area associated with each parcel was used to estimate the total area associated with a land use designation(s). It is noted that the land area associated with the road allowances, as well as some areas designated as environmental protection and open space, were not included in the calculations used to determine the areas in **Table 4-2**. Therefore, the total area accounted for **Table 4-2** is less than the total area that falls within the settlement area boundary for Walkerton.

**Table 4-2: Total Parcel Area by Official Plan Designation**

| Property Categories | Designation Codes | Parcels (#) | Total Area (ha) |
|---|---|---|---|
| Business, Commercial, Industrial | BP1, BP2, CC, CCORE, HC, HW, SPA | 364 | 178 |
| Institutional | INSTIT | 127 | 50 |
| Residential, Future Development | RES, FD | 1,833 | 287 |

# FIGURE 4-1
## Land Use Designations and Development
Official Plan Designations and Development Areas within Walkerton

November, 2023
223075
Projection EPSG:26917




Future Residential Development
East Ridge Business Park
Urban Area Boundary

Future Development Areas
1
2A
2B
3
4

Official Plan Land Use Designations
BP1
BP2
CC
CCORE
EP
FD
FF
HC
HW
INSTIT
PLAN_BNDY
REC_OS
RES
SPA

Road Centrelines
Provincial Highway
County
Municipal
Waterbody

### 4.1.3 Geology and Physiography

The Town of Walkerton is located within the physiographic region known as the Horseshoe Moraines and is south of the region known as the Saugeen Clay Plain (Chapman and Putnam, 1984). The Horseshoe Moraines region is characterized by a series of moraines associated with a system of spillways having broad sand and gravel terraces and swampy floors. More specifically, in the Walkerton area the physiographic mapping indicates the area is characterized by a series of till moraines, spillways and drumlinized till plains. Available surficial overburden mapping (i.e., Grey and Bruce Groundwater Study, 2003) shows that the area is comprised of several different units. Within the southern portion of the Town, the overburden is reportedly comprised of a mix of stone poor carbonate-derived silty to sandy till, glaciofluvial deposits and coarse-textured glaciolacustrine deposits. This transitions to primarily older alluvial deposits along the westerly banks of the Saugeen River and fine textured glaciolacustrine-deposits, including silty to clayey till, to the northeast.

Soils in the Walkerton area are generally Harrison or Parkhill loams which area described as podzolic loams formed by calcareous till, with good drainage characteristics (Hoffman and Richards, 1954).

The Town of Walkerton is underlain by two distinct bedrock formations including a unit of thin-bedded dolostones and shales of the Salina formation within the eastern portion and limestone bedrock of the Bois Blanc formation to the west. Based on local Ministry of the Environment, Conservation and Parks (MECP) well records available for the Walkerton area, the overburden generally consists of silty clay till underlain by coarser sand and gravel deposits. The overburden thickness is highly variable, ranging from about 10 meters below ground surface in some areas to greater than 80 meters.

### 4.1.4 Saugeen River

The Municipality of Brockton is entirely within a watershed area that is under the planning authority of the Saugeen Valley Conservation Authority (SVCA). The Saugeen River meanders through Walkerton in a north-northwesterly direction towards its outlet at Lake Huron. The Saugeen River has a catchment area of approximately 4,675 $km^2$, about half of which is upstream of the Town.

The drainage area within the Saugeen Watershed primarily lies within Grey and Bruce Counties, and extends into the Counties of Huron, Dufferin and Wellington. SVCA's jurisdiction encompasses the Saugeen, Penetangore, and Pine Rivers as well as the Lake Huron shoreline and many wetlands. The Saugeen River alone drains an area of greater than 4,000 $km^2$. It originates in the Osprey Wetland Conservation Lands, located approximately 20 kilometres south of Flesherton. The Osprey Wetlands provide baseflow waters to the Saugeen, Beaver, Mad and Grand River systems.

The Saugeen River maintains a continuous flow of water throughout the year. It has several tributaries including the Mill Creek, the North Saugeen, the South Saugeen, the Teeswater River, Beatty Saugeen River, Camp Creek, Styx River and the Rocky Saugeen River. The topography of the headwater area is generally rough and rocky. Upstream of Walkerton, the Saugeen River flows in a glacial spillway associated with the Horseshoe Moraine. In Walkerton, the river veers north, through a river valley approximately 1 kilometer wide and 150 meters deep (Chapman and Putnam, 1984). From Walkerton, the Saugeen River continues north-northwest through Paisley then to Southampton where it discharges to Lake Huron.

## 4.2 RELATED STUDIES AND BACKGROUND INFORMATION

Although much information has been previously prepared, the Municipality has identified a need to consolidate and update available development and servicing information to assist with more fulsome decision making. This Plan will assist staff and Council by providing a more wholistic overview of the Town's infrastructure, providing the opportunity for informed decision making when reviewing development applications and planning capital projects.

The Walkerton Master Servicing Plan is the most recent in a line of long-term planning reports for the Municipality. Documents referred to within the Plan generally aim to align with the Municipality's vision of being *'a proud rural community strengthened by a balance of social equity, culture, environmental integrity, and progressive economic development'*. The available reports summarized below were considered, and the findings were integrated into parts of this Master Servicing Plan, where applicable.

**Building a Better Brockton: The Municipality of Brockton's Sustainable Strategic Plan, 2013**
The Municipality of Brockton developed its first Sustainable Strategies Plan in 2013. The Plan was intended to guide the Municipality over a 25-year period. *The Plan is centred on sustainability, defined as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland Commission, 1987). While sustainability has much to do with foresight and progressive thinking, it is also about striking a balance between culture, the economy, the environment, and society'*. The plan confirms Brockton's commitment to providing excellent drinking water from its water systems and recognizes the significance of the community's natural assets and the need to protect them for future generations.

**Brockton: Community Profile**
The Community Profile provides an overview of the Municipality of Brockton, including its communities, housing, services, recreation opportunities, demographics, businesses, etc. The Plan reiterates the Municipality's development potential, stating that several new subdivisions are underway, with new units including a mix of single-family homes, semis and apartments in prime locations in the Walkerton area. The report states the Town's population is expected to grow to 6,000 residents by 2026.

**Municipal Services Review: Final Report (Prepared by the Municipality of Brockton, February 2016)**
After fifteen years of adapting to changes associated with the amalgamation that occurred in 1999, the Municipality completed a review of its core services. This review included Drinking Water and Water Sanitation services. As concluded in the Report *'the detailed review of Brockton's municipal services reveals how integrated social, environmental and economic issues are within Brockton and that in order to maintain reasonable tax levels, Council, staff and the community need to remain open to innovative ways of partnering to ensure Brockton can maintain and grow their thriving community.*'

**2021-2025 Strategic Action Plan**
This Plan was approved in 2021 and has been implemented to provide a framework for achieving specific goals of the community to the end of 2025. These goals include direction for actions of the Municipality as it relates to future growth and development. The plan encourages greater variety in housing types, including semi-detached or townhouse units, as well as multi-residential buildings or senior-oriented accommodations in commercial areas within a short distance of services and amenities.

**Asset Management Plan – Municipality of Brockton. Prepared by psdcitywide, 2021.**
As part of the Infrastructure for Jobs and Prosperity Act, 2015, the Ontario government introduced O.Reg.588/17 – Asset Management Planning for Municipal Infrastructure. To satisfy the requirements of this regulation, an Asset Management Plan (AMP) in respect of the Municipality's core municipal infrastructure assets was prepared. The goal of the AMP was to deliver an adequate level of service in the most cost-effective manner. This involved the development and implementation of asset management strategies and long-term financial planning. The AMP reviewed several asset categories, including the storm sewer system, sanitary services and water services.

**Recreation Master Services and Facilities Plan. Municipality of Brockton. Prepared by thinc design in association with Mehak, Kelly & Associates and Oraclepoll Research Ltd. March 2023.**
This document provided an update to the Municipality of Brockton's 2011 Recreation and Leisure Services Master Plan. It aligned with, and built upon, the Municipality of Brockton's corporate Strategic Action Plan (2021-2025). The purpose of the plan was to guide the provision of recreation services, programs, open spaces and facilities for a ten-year period between 2023 and 2033.

Other reference documents and background reports, including studies relating to the water, wastewater and stormwater systems are available. These were used as reference material for the development of this Master Servicing Plan and generally included the following:

**Walkerton Infiltration-Inflow Study 2021-2022. Municipality of Brockton. Prepared by B.M. Ross and Associates Limited, April 10, 2023.**
An inflow and infiltration study for the former Town of Walkerton wastewater collection system (WWCS) was completed. The purposes of the study were to quantify the amount of inflow and infiltration entering the collection system and to identify the specific sources, where possible. This was part of an on-going program to identify and reduce extraneous flows in the system.

**The Corporation of the Municipality of Brockton By-Law (#2005-23)**
This By-Law restricts the use of municipal water supply by limiting the times permitted to water gardens or lawns.

**Walkerton Water Pollution Control Plant: Annual Summary Reports (2013-2022). Prepared by Veolia Water Canada.**
Prepared to satisfy the reporting requirements for ECA No.8051-BZKQCA.

**Walkerton Drinking Water System: Annual Summary Reports (2018-2022). Prepared by Veolia Water Canada.**
As part of the Drinking Water Quality Management System (DEQMS) an Infrastructure Review is required on an annual basis. These annual reports provide a summary of the water quality and quantity information submitted in accordance with Schedule 22 of Ontario Regulation 170/03.

**Memo: Municipality of Brockton – Wastewater System Financial Plan – 2016 to 2021. Prepared by B.M. Ross and Associates Limited, February 10, 2016.**
This memo provides the financial plan for the wastewater system in accordance with O.Reg.453/07. The plan includes a full cost analysis of the provision for wastewater services and a cost recovery plan, including a proposal for a series of revenue increases.

**Memo: Municipality of Brockton - Water Works Financial Plan – 2016 to 2021. Prepared by B.M. Ross and Associates Limited, January 22, 2016.**
This memo provides the financial plan for the water system in accordance with O.Reg.453/07. The plan includes a full cost analysis of the provision for water services and a cost recovery plan, including a proposal for a series of revenue increases.

**Municipal Class Environmental Assessment for Walker West Booster Pumping Station. Prepared by B.M. Ross and Associates Limited, February 24, 2020.**
An MCEA was completed for the Booster Pumping Station in Walkerton to address water serving needs at that time. The process was completed to address the identified 'insufficient available pressure to meet the needs of existing non-residential users and future residential growth in the northwestern area of Walkerton'. The report identified a new water booster pumping station at Bruce Road 2 as the preferred solution. The municipality subsequently proceeded with implementation and the booster pumping station now forms part of the Town's water system.

**Memo: Water and Wastewater Reserve Capacity Analysis. Prepared by B.M. Ross and Associates Limited, August 16, 2021.**
The purpose of the memo was to summarize an analysis of the reserve capacities of the water and wastewater system facilities in the Municipality of Brockton. The analysis included the water supply, water storage and wastewater treatment for the Town of Walkerton.

**Municipal Development and Servicing Guidelines: Municipality of Brockton. Prepared by B.M. Ross and Associates Limited, June 25, 2019.**
This document is intended to standardize the design of municipal servicing infrastructure for development within the Municipality. While the guidelines are primarily aimed at the expansion of residential development within the Municipality, developers, builders, and the public can use the document as a guide for developments created by consent, for individual site developments, or commercial and industrial areas.

**Master Plan for the East Ridge Business Park Servicing Expansion (Community of Walkerton). Prepared by B.M. Ross and Associates Limited, September 6, 2019.**
The purpose of this study was to outline how the remaining Business Park lands could be serviced with transportation, wastewater, water and stormwater management infrastructure and to identify strategies to coordinate construction with other municipal improvements. The outcome of the evaluation identified the following servicing strategies for the East Ridge Business Park:

i. Extend the municipal water services to the remainder of the business park.
ii. Extend the municipal sanitary sewer services to the remainder of the business park, with a low-pressure system directed east.
iii. Extend and add municipal stormwater servicing to the remainder of the business park.

**Walkerton Floodline Mapping: Final Report. Saugeen Valley Conservation Authority. Prepared by Greenland Consulting Engineers, Revised April 2009.**
Floodline mapping for the geographic community of Walkerton was updated. The review included the collection of aerial photography and topographic data, and involved updates to the hydrologic and hydraulic models for the three watercourses (i.e., Saugeen River, Silver Creek and the Easterly Tributary).

**Planning Justification Report - MZO Application. Report No. PLN2022-01. Prepared by Sonya Watson, CAO, Municipality of Brockton. March 8, 2022.**
This report supported submission of the Minister's Zoning Order (MZO) to the Ministry of Municipal Affairs and Housing for consideration to support the creation of more than 500 additional housing units and additional employment lands in the community of Walkerton. The application requested a rezoning of specific lands within the East Ridge Business Park (ERBP) to residential use as well as rezoning municipal lands to the north of the ERBP from agricultural to industrial uses. The residential lands proposed have the potential for more than 500 additional housing units, including the proposed hospice, residential care facility and apartment building complexes. This was subsequently approved in November 2022.

**Preliminary Planning Analysis in Support of a Request for the Expansion of the Settlement Area Boundary in the Municipality of Brockton. April 5, 2023.**
While the MZO addressed the more immediate development needs of the community, it was not sufficient to address the projected deficit of development lands in Walkerton over the long-term planning horizon. As part of the preliminary planning analysis, two areas adjacent to the primary settlement area of Walkerton were identified for inclusion in the proposed settlement area including Area 1 and the westerly portion of Area 2A. Together, both Expansion Areas comprise a total area of approximately 87.6 hectares. It is expected that the proposed expansion areas would potentially provide sufficient land to support the projected shortfall in residential and commercial land uses in the community and provide additional opportunity to accommodate future demands for institutional lands uses.

In addition, several smaller scale studies have been completed for specific areas or developments within the Town of Walkerton, as required components of residential development or capital works projects. Report references are presented in **Section 13**.

# 5. EXISTING POLICIES AND REGULATIONS

There are several policies, regulations and guidelines that are considered as part of infrastructure planning, including sewage, water and stormwater management services in the Town of Walkerton, as well as with the proposed improvements/recommendations. A summary of some policies and guidelines that are relevant to this Master Servicing Plan is provided in this Section. It is noted that policies and guidelines are typically revised (or updated) on a regular basis. Therefore, it is recommended that the most current documents be referenced during the planning, design, and construction phases for any given project.

## 5.1 Provincial Policy Statement (PPS, 2020)

The Provincial Policy Statement, which is issued under Section 3 of the Planning Act, provides policy direction on matters of provincial interest pertaining to land use planning and development. As a key element of Ontario's policy-led planning system, the PPS sets the policy foundation for regulating the development and use of land. The PPS supports appropriate development while protecting resources of provincial interest, public health and safety, and the quality of the natural and built environment.

Further, the lower tier governments are responsible for the implementation of the provincial policies through their Official Plan and planning related decisions. Therefore, all decisions affecting planning matters within the Municipality should be consistent with the PPS. As such, the policies of the PPS are complimented by the Bruce County Official Plan and Town of Walkerton's Official Plan.

The PPS provides Natural Hazard Policies (PPS Section 3.1) which guide the land use and development in areas where a risk to public health or property damage from flooding and/or erosion hazards are possible. In general, development is not permitted in hazard lands adjacent to rivers, streams and small inland lake systems which are impacted by flooding hazards and/or erosion hazards.

Section 1.6 of the PPS includes policy direction on infrastructure planning, including sewage, water and stormwater management services. Key policies considered relevant to this Plan are as follows:

1.6.1 Infrastructure and public service facilities shall be provided in an efficient manner that prepares for the impacts of a changing climate while accommodating projected needs. Planning for infrastructure and public service facilities shall be coordinated and integrated with land use planning and growth management so that they are:

a) Financially viable over their life cycle, which may be demonstrated through asset management planning.
b) Available to meet the current and projected needs.

1.6.3 Before consideration is given to developing new infrastructure the use of existing infrastructure should be optimized.

Sewage, water and stormwater policies are outlined in Section 1.6.6 of the PPS. Section 1.6.6.1 and 1.6.6.2 of the PPS outline planning requirements for sewage and water services. These sections state the following:

1.6.6.1 Planning for sewage and water services shall:

a) Accommodate forecasted growth in a manner that promotes the efficient use and optimization of existing:
    1. Municipal sewage services and municipal water services; and
    2. Private communal sewage services and private communal water services, where municipal sewage services and municipal water services are not available or feasible;
b) Ensure that these systems are provided in a manner that:

1. Can be sustained by the water resources upon which such services rely;
2. Prepares for the impacts of a changing climate;
3. Is feasible and financially viable over their lifecycle; and
4. Protects human health and safety, and the natural environment;

c) Promote water conservation and water use efficiency;
d) Integrate servicing and land use considerations at all stages of the planning process; and
e) Be in accordance with the servicing hierarchy outlined through policies 1.6.6.2, 1.6.6.3, 1.6.6.4, and 1.6.6.5. For clarity, where municipal sewage services and municipal water services are not available, planned or feasible, planning authorities have the ability to consider the use of the servicing options set out through the policies 1.6.6.3, 1.6.6.4, and 1.6.6.5 provided that the specified conditions are met.

1.6.6.2 Municipal sewage services and municipal water services are the preferred form of servicing for settlement areas to support protection of the environment and minimize potential risks to human health and safety. Within settlement areas with existing municipal sewage services and municipal water services, intensification and redevelopment shall be promoted wherever feasible to optimize the use of the services.

Section 1.6.6.7 of the PPS outlines planning requirements for stormwater and states the following:

1.6.6.7 Planning for stormwater management shall:

b) Be integrated with planning for sewage and water services and ensure that systems are optimized, feasible and financially viable over the long term;
c) Minimize, or, where possible, prevent increases in contaminant loads;
d) Minimize erosion and changes in water balance, and prepare for the impacts of a changing climate through the effective management of stormwater, including the use of green infrastructure;
e) Mitigate the risks to human health, safety, property and the environment;
f) Maximize the extent and function of vegetative and pervious surfaces; and
g) Promote stormwater management best practices, including stormwater attenuation and re-use, water conservation and efficiency, and low impact development.

## 5.2 Planning: Municipality of Brockton

Environmental planning balances ecological considerations with community development and economic demands. This requires developing both short and long-term strategies that will minimize environmental impacts associated with growth. In addition to the Sustainable Strategic Plan, the Bruce County Official Plan and the Walkerton Official Plan address Environmental Planning in Brockton.

### 5.2.1 County of Bruce Official Plan (BCOP)

As an upper tier government, Bruce County establishes land use planning policies in the Bruce County Official Plan (BCOP) 1999, updated 2010. The County is currently undergoing an Official Plan review. The purpose of the Bruce County Official Plan is to establish a policy framework to guide physical, social and economic development of the County, while protecting the natural environment. Each of the lower tier municipalities also have their own local Official Plans, however, the majority of these local plans only apply to the primary and, in some cases, secondary communities, not including all other lands within the municipality. Further, the local Official Plans (i.e., municipal level), including the policies and schedules, must conform to the provisions of the upper tier Official Plan (i.e., the County).

The Municipality of Brockton does not have a comprehensive local Official Plan that applies to its entire geographic area. In other words, the Municipality's Official Plan only applies to the lands in the Settlement Area of Walkerton. Therefore, as per Section 2.2.5 of the Bruce County Official Plan, the County Plan also functions as the local Official Plan for the Municipality, specifically for the areas outside of the Municipality's Primary Settlement Area Boundary (i.e., Walkerton).

**Servicing Plans**

BCOP Section 4.7.5.2 requires that multi-year sewage and water servicing plans be prepared in support of updates to local official plans. In addition, as per BCOP Section 4.7.5.3, a water and sewer servicing study would be needed to support major new developments, or an application to expand a settlement area boundary, on lands that were not in a previous servicing study. As discussed in **Section 7**, significant growth and development within Walkerton has led to the identification of four (4) approved, proposed, and future potential expansion areas to the urban boundary of Walkerton, where shown on **Figure 1-3**.

BCOP Section 4.7.5.8.7 identifies a Servicing Plan as a principal planning tool for water and sewage services, and one of the core components of planning for growth management and preparing official plan policy. Matters of consideration in the Servicing Plan include addressing how to service anticipated growth, the need for new services, and investigation of measures to resolve identified problems or limitations of the current services provided.

**Water, Wastewater and Stormwater Management**

Water and sewer planning provisions are detailed in Section 4.7.5 of the County Official Plan. With respect to water and sewer infrastructure, *'it is the intent of County Council that a hierarchy of water and sewage servicing systems be established in the County'*. The hierarchy generally includes a plan for the following:

- Eventual full municipal services in all Primary and Secondary Urban Communities.
- Combination of communal and private systems in the hamlet, rural recreational areas, inland lake areas, estate residential and travel trailer park, and commercial campground designations identified in the County Official Plan.
- Development in the remainder of the County will generally occur on the basis of individual water supply and septic systems.

Surface water management planning provisions are outlined in BCOP Section 4.13, which states the following:

.1 *In order to control flooding, ponding, erosion and sedimentation and to protect, as much as possible, water quality and aquatic habitat or other natural habitat which depend upon watercourses and other water bodies for their existence, surface water management plans (or stormwater management plans) shall be required for some forms of new development. Stormwater management techniques are constantly evolving as well as being dependent on the location. Thus, new development will comply with the stormwater management standards in general acceptance at the time a development application is made, through consultation with the appropriate Government agencies.*

.2 *Local Official Plans should implement specific surface water management policies.*

.3 *Surface water management plans shall be required for any new development consisting of more than five lots or for commercial or industrial developments with large amounts of impervious area.*

.4 *Such plans may be required for other developments, as determined by the local municipality in consultation with the appropriate Government agencies if the area has existing drainage problems or if runoff could significantly affect adjacent lands or water quality.*

### 5.2.2 Walkerton Community Official Plan

In 2001, the Municipality of Brockton adopted its first Official Plan for the Walkerton Community. The Walkerton Official Plan (OP) was reviewed and updated in 2009 and 2017. Key components of the Walkerton Official Plan are presented in this Section of the Master Servicing Plan.

**LAND USE POLICIES AND DESIGNATIONS (Section 3)**

The Walkerton OP identifies the plan and policies for land development in the community of Walkerton. The Municipality's housing supply policy, as detailed in Section 3.1.4 of the Official Plan, is to maintain a three (3) year supply of serviceable draft approved and registered lots to accommodate residential demands. In addition, the Municipality shall maintain a ten (10) year supply of lands designated for residential development. The supply of developable land is under continuous review as developments occur with supply diminishing rapidly. As part of the ongoing Official Plan updating process, the Walkerton OP will also be updated. This Master Servicing Plan will support the official plan update process including updates to settlement area boundaries. In addition, it is understood that this Master Servicing Plan will also serve as a background document to support a Development Charges Study that the Municipality initiated in early 2024.

The Bruce County Official Plan designates the Town of Walkerton as a Primary Urban Community. Land uses within the Community of Walkerton should be developed in accordance with the subject land use designations, as presented in Schedule A of the Walkerton Official Plan. Land use designations are presented in **Figure 4-1**. Land use designations generally include the following:

- Residential
- Historic Walkerton
- Commercial
- Institutional and Community Facilities
- Business Park
- Recreation and Open Space
- Environmental Protection
- Residential Transition

**GENERAL COMMUNITY POLICIES: HERITAGE RESOURCES (Section 4.2)**

The Municipality recognizes the importance of cultural heritage resources. The historical character of the community comprises those features which are unique or representative of past human activities or events. These include built heritage features such as buildings, structures, monuments or remains of historical, cultural and/or architectural value, and cultural heritage features such as landscapes, vistas, sites and areas of archaeological and historic value and urban areas that are of historic and scenic interest. The goal of the policies set out in Section 4.2 of the Walkerton OP is *'to identify, protect, preserve and enhance Walkerton's built, landscape and archaeological heritage for its cultural, historic and economic value to the community'.* To assist the Municipality with this goal, Council has appointed a Heritage Committee to assist in the identification, promotion and protection of its heritage resources.

**GENERAL COMMUNITY POLICIES: ENVIRONMENT (Section 4.4)**

The Walkerton community's primary natural feature is the valley of the Saugeen River and its tributary, Silver Creek. The river valley has shaped the location of land uses as well as the topography and layout of the Municipality. Comments received during the public meetings for the Official Plan reflect a desire to protect the environment in numerous ways, including protecting and improving the features of the Saugeen River. Key policies, outlined in Section 4 of the Walkerton OP, relevant to this Master Servicing Plan include the following:

1. Improve the water quality of Silver Creek and the Saugeen River through wise land use practices and the efficient treatment of sewage and the management of storm water.
2. Water Quality and Quantity (Section 4.4.3.2):

a) The Municipality shall consider the potential impact a development may have on the quality and quantity of the Community's water resources. Such an assessment should not only involve the individual development but should also take into account the cumulative effects that such a development may create.
b) Development shall be assessed based on (i) protection, maintenance and enhancement of water resources; (ii) impact on the quality and quantity of surface and groundwater resources; and (iii) promotion of water conservation and the efficient use of water resources.

3. Water Conservation Policies (Section 4.4.4):
   a) The Municipality shall encourage water conservation by the residents, businesses and industry connected to the municipal water system. This may include the promotion of water conservation practices such as water meters, changes in daily habits and retrofits to plumbing fixtures.
   b) The Municipality shall promote a water conservation educational program to assist users in undertaking reasonable steps to reduce water consumption. Such a program may include the following:
      i. Research into water conservation products and techniques that are effective and available for households, businesses and industries.
      ii. Distribution of information on products and techniques to households.
      iii. Periodic presentations on water conservation so that residents can learn about water conservation techniques.

4. Natural Heritage System (Section 4.4.10)

   The Walkerton Natural Heritage System (WNHS) is comprised of natural features and areas linked together where feasible with natural corridors which are intended to provide connectivity and support natural processes which are necessary to maintain biological and geological diversity, natural functions and viable populations of indigenous species and ecosystems.

   The WNHS may include a variety of natural heritage features and areas including conservation areas, parks, rivers, streams, wetlands, fish habitat, woodlands, valleylands, habitat of endangered species and threatened species, significant wildlife habitat, and significant areas of natural and scientific interest, all of which are important for their environmental and social values as a legacy of the natural landscape of Walkerton. The key WNHS policies relevant to this Master Servicing Plan include the following:

   a) The Walkerton Natural Heritage System is shown on Schedule 'C'. The WNHS is not a Land Use designation, therefore the policies of the underlying land use designation shown on Schedule A 'Land Use Plan' i.e., Environmental Protection, Recreation & Open Space etc. remain in effect.
   c) The Municipality shall encourage the long-term protection of the Walkerton Natural Heritage System as shown on Schedule 'C' and it's associated ecological and hydrologic functions.
   d) Where Schedule C overlays lands that are subject to a development proposal under the Planning Act, the Municipality shall request the developer to mitigate any potential impacts on the WNHS through the use of unique development design or engineering, and/or the use of buffering. Where it is demonstrated that the impacts on the WNHS can be mitigated, the Municipality may request the applicant enhance the existing natural heritage feature(s) on the property, and/or request a monetary contribution to be used for the enhancement or protection of natural features elsewhere in Walkerton.
   e) Where Schedule C overlays lands that are subject to a development proposal under the Planning Act, the Municipality may require a developer to submit an Environmental Impact Study in order to determine if unidentified natural heritage features and areas exist on the remainder of the development lands. In accordance with the Provincial Policy Statement, the Municipality may apply the natural heritage protection policies of this Section to such identified features.

**MUNICIPAL SERVICES (Section 5)**

Municipal Servicing Policies are outlined in Section 5 of the Walkerton Official Plan. A brief description of the policies is provided herein, with more specific Official Plan policies detailed in **Section 8**, **Section 9** and **Section 10** of this report.

**Goals and Actions (Sections 5.1 and 5.2)**

The Official Plan states that the goal of the Municipal Services in Walkerton is to provide a full range of affordable municipal services to meet the economic, social and environmental needs of the community. The Municipality intents to maintain these services by:

a. Continuing the efficient use of municipal sewer, water and electrical services through the appropriate prioritization and upgrading of municipal service improvements.
b. Providing sufficient sewage treatment and water reserve capacity and adequate collection and distribution facilities to accommodate future growth.
c. Considering a wide range of options for paying for municipal services such as taxes, user fees, front ending, privatization, and prioritizing service delivery.
d. Ensuring new development incorporates best management practices for stormwater management.
e. Establishing a process whereby a commitment to sewage treatment and water supply capacity only occurs upon registration of Plans of Subdivision or Condominium agreement with the Municipality.

**Water Supply and Sewage Disposal Policies (Section 5.3)**

Although partial services may be permitted under certain circumstances, Section 5.3(c) states that *'full municipal water and sewage services are the preferred form of servicing. In areas serviced by full municipal sewage and water services, development will be permitted only if sufficient reserve water and sewage plant capacity will be available to accommodate the development, and other approved development'*. In addition, the Municipality will:

- Require development and redevelopment projects to demonstrate that surface water originating from the site is not entering the sanitary sewer system and is adequately treated for quantity and quality.
- Continue to upgrade sanitary sewer systems to reduce infiltration and extraneous flows from storm water.

**Stormwater Management Policies (Section 5.4)**

Stormwater management policies are outlined in Section 5.4 of the Official Plan. Similar to the Bruce County Official Plan, the submission of a stormwater management report which meets the quality and quantity requirements for the Municipality and the Saugeen Valley Conservation Authority is required for any new development proposals. It is further noted that, as per Section 5.4(f) the Municipality shall assume ownership and/or maintenance responsibilities for new stormwater management facilities and structures serving more than one property.

## 5.3 Ontario Regulation 588/17

In 2017, as part of the Infrastructure for Jobs and Prosperity Act (2015) the Ontario government passed O.Reg. 588/17 - Asset Management Planning for Municipal Infrastructure in 2017. This regulation included the requirement that an asset management plan covering each municipalities 'core' infrastructure such as roads, bridges and culverts, stormwater, water and wastewater assets be completed.

An asset management plan for core assets was prepared for the Municipality of Brockton by psdcitywide in 2021. According to the Asset Management Plan, *'along with creating better performing organizations, more livable and sustainable communities, the regulation is a key, mandated driver of asset management planning and reporting'*. It emphasized the review of current and proposed levels of service and the lifecycle costs incurred delivering them.

While the Asset Management Plan was completed for the entire Municipality, the majority of the sanitary, fire flow, water and stormwater services are limited to the settlement area of Walkerton.

## 5.4 Indigenous Communities: Duty to Consult

The Municipality of Brockton conducts its affairs on the territory of Saugeen Treaty 45½ (1836). The land on which the Town of Walkerton operates, subject of this Master Servicing Plan, is part of the traditional lands and treaty territory of the Saugeen Ojibway Nation. The Municipality acknowledges that the Municipality of Brockton is located on the traditional territory of the Anishinabek Nation, the People of the Three Fires known as Ojibway, Odawa, and Pottawatomi Nations. The Municipality further recognizes the Chippewas of Saugeen and the Chippewas of Nawash, now known as the Saugeen Ojibway Nation, as the traditional keepers of this land. The Municipality further acknowledges the traditional harvesting territory of the Métis Nation of Ontario, Region 7 and the Historic Saugeen Métis. This acknowledgement reminds us of our responsibilities to our relationships and the ancestral lands in which we live, and how we can each, in our own way, move forward in the spirit of reconciliation and collaboration.

The overall intent of the Master Servicing Plan, subject of this report, is to complete a broad level of assessment that identifies projects that are exempt (or eligible for exemption) from the EAA and projects that will require more detailed project-specific investigations to fulfill the requirements for Schedule B or Schedule C projects. Consistent with the intentions of this Master Plan process, there is no imminent project to review but a series of recommended projects, which may require more detailed project specific study in the future. As such, archaeological assessments were not completed as part of this Study.

Portions of the Study Area drain to the Saugeen River watershed or its various stream corridors, which flows to the north-northwest towards Lake Huron. Consultation is required to ensure that rights will be accommodated and any potential impacts to SON's rights, noting harvesting rights and commercial fisheries, can be properly mitigated.

The Municipality of Brockton recognizes the requirement for consultation with, and benefit of participation by, Indigenous Communities alongside the MCEA process. The Saugeen Ojibway Nation and other interested Indigenous Communities will be consulted about the Master Servicing Plan, as well as identified Environmental Assessment processes at such a time that the projects proceed, and any background studies and/or subsequent permitting, approval, and licensing requirements.

## 5.5 Federal and Provincial Legislation

The Municipality of Brockton, as all cities and municipalities in Ontario, must operate within the administrative, legislative and financial framework established by senior levels of government. The federal and provincial governments have enacted several Acts of legislation to address various issues related to water and the environment. Some of these Acts are summarized in the following sections. Further to these Acts, the Province also issues regulations, policies, guidelines and information bulletins intended further to clarify applications under the Acts.

A general overview of the key federal and provincial directives considered in this Master Planning process is provided in this Section. The services to which each regulation generally applies is indicated by the following:

1. Water (♦)
2. Sewage Works (▼)
3. Stormwater (►)
4. Planning (✸)
5. Species at Risk (♣)

### 5.5.1 Planning Reform Act [✸]

The Planning Act establishes the rules for land use planning in Ontario. It describes how land uses may be controlled in communities. Changes to the planning system were introduced in 2006 by the Planning and Conservation Land Statute Law Amendment Act (Bill 51). Key changes are as follows:

- Municipalities must now update their Official Plan every five years, followed by an update of the accompanying zoning by-law within three years after the new Official Plan is in effect.
- There are more opportunities for public input before local decisions are made.
- Municipalities have enhanced ability to plan for a range and mix of housing types and densities.
- Municipalities have additional ability to have the final say on whether designated employment lands can be changed to other uses.

### 5.5.2 Environmental Protection Act (EPA) [♦▼►]

The Environmental Protection Act (EPA) is Canada's primary environmental regulatory statute and provides for the protection and conservation of the natural environment. It establishes the federal authority to regulate a broad range of environmental concern, ranging from pollution control to environmental emergencies. The legislation contains numerous general provisions that may be used to protect surface water and groundwater against contamination. In addition to enacting water-related regulations (i.e., sewage systems, marina facilities, deep well disposal, etc.), the EPA has been used to enact regulations for limiting discharges into waterways from different industrial sectors. In essence, the legislation prohibits discharge of any contaminants into the environment that cause, or are likely to cause, adverse effects.

### 5.5.3 Water Opportunities and Conservation Act [♦▼►]

The Ontario Government passed the Water Opportunities and Conservation Act in 2010. The purposes of the Act are as follows:

- To foster innovative water, wastewater and stormwater technologies, services and practices in the private and public sector.
- To create opportunities for economic development and clean-technology jobs in Ontario.
- To conserve and sustain water resources for present and future generations.

To further the purposes of the Act, the Minister of the Environment, Conservation and Parks (MECP) may establish aspirational targets with respect to the conservation of water and other matters.

The Act requires certain municipalities, persons and entities to prepare, approve and submit to the MECP municipal water sustainability plans for municipal water services, municipal wastewater services and municipal stormwater services under their jurisdiction. The Minister may establish performance indicators and targets for these services. The Act also authorizes creation of regulations requiring public agencies to prepare water conservation plans, achieve water conservation targets, and consider technologies, services and practices that promote the efficient use of water and reduce negative impacts on Ontario's water resources.

### 5.5.4 Ontario Water Resources Act (OWRA) [♦▼]

The Ontario Water Resources Act (OWRA) is administered by the MECP and focuses on both groundwater and surface water quantity and quality throughout the province. According the OWRA, *'the purpose of the Act is to provide for the conservation, protection and management of Ontario's waters and for their efficient and sustainable use, in order to promote Ontario's long-term environmental, social, and economic well-being'*.

The OWRA applies to sewage works and water takings. It requires that an approval to use, operate, establish, alter, extend or replace new or existing municipal sewage works be obtained and, with respect to sewage

disposal, prohibits the discharge of polluting materials that may impair water quality. In addition, Permits to Take Water (PTTWs) are required to be obtained for water takings of greater than 50,000 liters of water per day from groundwater or surface water resources. With respect to water supply, the OWRA also regulates well construction, operation, and abandonment in addition to the approval, construction and operation of "water works". Water works is defined as '*any works for the collection, production, treatment, storage, supply and distribution of water, or any part of such works, but does not include plumbing to which the Building Code Act (1992) applies'*.

Regarding stormwater management, regulations under the OWRA exempt minor watermain, sewer or stormwater management projects from OWRA approval requirements (O.Reg.525/98). The MECP has prepared a Stormwater Management Planning and Design Manual (2003) to provide technical and procedural guidance in the planning, design and review of stormwater management sewage works approvals under Section 53 of the OWRA. A brief synopsis of the Stormwater Management Planning and Design Manual is provided in **Section 5.5.12** of this Master Servicing Plan.

### 5.5.5 Sustainable Water and Wastewater Systems Improvement and Maintenance Act [♦ ▼]

The Sustainable Water and Wastewater Systems Improvement and Maintenance Act (Bill 13, 2010) repealed the Sustainable Water and Sewage Systems Act, 2002. The purposes of this Act are:

a. To ensure that public ownership of water services and wastewater services is maintained.
b. To promote full-cost recovery and full-cost accounting of water services and wastewater services.
c. To encourage an increase in scale and capacity in the provision of water services and wastewater services to minimize costs to the public.
d. To improve transparency in the provision of water services and wastewater services to the public through the establishment of publicly owned corporations.
e. To create an independent economic regulator with the expertise and authority to administer this Act.

Key points of this act include the following:

- Establishment of the Ontario Water Board as an agent of the Crown and outline of the Board's objectives, powers and duties which relate to the regulation of water services and wastewater services.
- Outline of the responsibilities of municipalities or groups of municipalities that are designated as regulated entities by regulation.
- Regulated entities must prepare business plans for the provision of water services or wastewater services. The plan must contain, among other things, an assessment of the full cost of providing water services or wastewater services to the public and a description of how the regulated entity intends to pay this full cost.

### 5.5.6 Safe Drinking Water Act [♦]

The Safe Drinking Water Act (SDWA) was adopted in 2002 (and last amended in 2021). It applies to water systems and requires that a municipal drinking water license and drinking water works permit be obtained to establish, operate and alter or extend a municipal residential drinking water system.

The Act provides for the protection of human health and prevention of drinking water hazards through the control and regulation of drinking water systems and drinking water testing. As stated in the SDWA, the purpose is to:

i. Recognize that the people of Ontario are entitled to expect their drinking water to be safe; and
ii. Provide for the protection of human health and the prevention of drinking water health hazards through the control and regulation of drinking water systems and drinking water testing.

According to the SDWA, all municipal drinking water systems must get approval from the MECP in order to operate. The Act also requires that water systems operators complete training and get certified to ensure that

provincial safe drinking water handling standards are met. In addition, it provides a framework for water quality testing using accredited and licensed laboratories prior to distributing it to the public.

### 5.5.7 Clean Water Act, 2006 [♦]

The Clean Water Act (CWA) was adopted in 2006. The purpose of the CWA is to protect existing and future sources of municipal drinking water, at the source. The Act requires the development of a watershed-based Source Protection Plan, as well as the following:

- That local communities assess existing and potential threats to their water, and that they set out and implement the actions needed to reduce or eliminate these threats.
- Empowers communities to take action to prevent threats from becoming significant.
- Public participation on every local source protection plan – the planning process for source protection is open to anyone in the community.
- That all plans and actions be based on sound science.

**Source Protection Plans**

Source protection plans set out the local approach to protecting sources of drinking water in a source protection area. Where a prescribed activity poses a risk to drinking water, policies in the local source protection plan may impact how that activity is undertaken. For example, to manage risks associated various activities (i.e., road salt, fuel tanks, septic systems, pesticides, etc.), communities may manage the land use to prohibit, restrict or better manage/monitor an activity. There are four types of vulnerable areas under the CWA that have been delineated in source protection areas, including the following:

**Wellhead Protection Areas (WHPAs):** Is the surface and underground area surrounding a water well or well field that reflects a zone in an aquifer where groundwater is flowing. It is the area through which contaminants are reasonably likely to move so as to eventually reach the water well (or wells). The level of risk to the groundwater quality associated with an activity is set in relation to the time it takes to flow horizontally to the well in years (i.e., 2-year, 5-year and 25-year) and the time available for operators to access and mitigate potential contamination (i.e., WHPA-A = 100m radius around the well).

**Surface Water Intake Protection Zones (IPZs):** Some communities and municipalities obtain their drinking water from intakes found in rivers, streams and lakes. IPZs are assigned a vulnerability score from 0.8 to 10 and are established to ensure that potential spills do not reach an intake.

**Highly Vulnerable Aquifers (HVAs):** The vertical flow of groundwater combined with the horizontal flow is used to calculate a vulnerability score for different areas within the WHPAs. A score between 2 and 10 is applied, with 10 being representative of a significant drinking water threat.

**Significant Groundwater Recharge Areas (SGRAs):** Recharge areas are locations that have appropriate characteristics to facilitate the infiltration of precipitation and surface water run-off to the water table. A recharge area is considered 'significant' when the rate of recharge, relative to the source protection area as a whole, is 15% higher than average.

In addition, portions of the vulnerable areas may include Events-Based Areas (EBAs). EBAs are determined by modelling and other forms of analysis of spills that could cause an exceedance at an intake. This area allows potential drinking water threats to be identified for surface water intakes. The study area is located within the Saugeen Valley Source Protection Area and falls under the Saugeen-Grey Sauble-Northern Bruce Peninsula Source Protection Plan. Source Water Protection is discussed further in **Section 6.1.3** of this Plan.

### 5.5.8 Canada-wide Strategy for the Management of Municipal Wastewater Effluent [▼]

The Canada-wide Strategy for the Management of Municipal Wastewater Effluent was developed by the Canadian Council of Ministers of the Environment (CCME) in 2009. The Strategy sets out a framework to manage discharges from the more than 3,500 wastewater facilities in Canada. It requires that all facilities achieve minimum National Performance Standards and develop and manage site-specific Effluent Discharge Objectives (EDOs). The Strategy requires that overflow frequencies for sanitary sewers not increase due to development or redevelopment. The same applies for combined sewers unless overflows occur as part of an approved combined sewer overflow (CSO) management plan. Neither should occur during dry weather, except during spring thaw and emergencies. Source control of pollutants is recommended, and monitoring and reporting of effluent quality is required.

### 5.5.9 CCME Wastewater Systems Effluent Regulations [▼]

The CCME Wastewater System Effluent Regulations were adopted in 2012. These Regulations are the primary instrument that Environment Canada is using to implement the CCME Canada-wide Strategy for the Management of Municipal Wastewater Effluent. The regulations apply to any wastewater system that has a capacity to deposit a daily volume of effluent of 10 cubic meters or more from its final discharge point. The effluent from the applicable wastewater systems must be compared against “national effluent quality standards”, which are as follows:

- Average carbonaceous biochemical oxygen demand (CBOD) in the effluent of ≤25 mg/L.
- Average concentration of suspended solids in the effluent of ≤25 mg/L.
- Average concentration of total residual chlorine in the effluent of ≤0.02 mg/L, if chlorine, or one of its compounds, was used in the treatment of wastewater.
- Maximum concentration of un-ionized ammonia in the effluent ≤1.25 mg/L.

### 5.5.10 Ministry of the Environment Procedure F-5-1 [▼]

MECP Procedure F-5-1 outlines the treatment requirements for municipal and private sewage treatment works discharging to surface waters. Effluent requirements are established on a case-by-case basis considering the characteristics of the receiving water body. All sewage treatment works are to provide secondary treatment or equivalent as the “normal” level of treatment, unless individual receiving water assessment studies indicate the need for higher levels of treatment. Existing works not complying with the guideline are required to upgrade as soon as possible.

The procedure stipulates effluent design objectives for biochemical oxygen demand (BOD), suspended solids, total phosphorus and ammonia and provides guidelines for BOD and suspended solids. Sewage treatment works designed according to the guidelines should be able to meet the objectives on an average annual basis and not exceed the guidelines.

### 5.5.11 Saugeen Valley Conservation Authority (SVCA) [►]

The Saugeen Valley Conservation Authority (SVCA) is the only conservation authority with governance in Walkerton. The SVCA is a community-based environmental agency which owns and manages 4,375km$^2$ of land, primarily in Grey and Bruce Counties, and is dedicated to protecting, restoring, and managing the natural resources of the Saugeen watershed.

The principal mandate of the SVCA is *‘to prevent loss of life, property damage and social disruption from flood and erosion processes and the conservation of local ecosystems’*. Accordingly, environmental planning and regulations are reportedly the two most effective measures in providing and maintaining a well-balanced healthy watershed. Their role is to ensure that the natural environment and natural hazards are respected, protected, avoided and/or accommodated. This is achieved through the Conservation Authorities *'Development Interference with Wetlands and Alteration to Shorelines and Watercourses Regulation'* (Ontario Regulation

169/06) where specific regulated areas are mapped and where SVCA consultation and permitting is required prior to any development. If the Conservation Authority is satisfied that the proposed work will address their mandate, the Conservation Authority will issue a permit for that development.

Regulation 169/06 requires that a permit be obtained from the Authority when undertaking any of the following:

- straightening, changing, diverting, or interfering in any way with the existing channel of a river, creek, stream, or watercourse or interfering in any way with a wetland.
- development adjacent, or close to, the shoreline of Lake Huron, inland lakes, in river or stream valleys, hazardous lands, wetlands, or lands adjacent to wetlands.

The intent of the permit process is to ensure that development and interference do not impact the control of flooding, erosion, dynamic beaches, pollution, or the conservation of land. More specifically the intent of the regulation is to ensure that these activities do not worsen existing erosion or flooding hazards, that new hazards are not created, and that new development is not at risk. In addition, the regulation helps to maintain the natural features and ecological functions of river and stream valleys, shorelines, watercourses, and wetlands.

Development as defined by the Conservation Act means:

- The construction, reconstruction, erection or placing of a building or structure of any kind.
- Any change to a building or structure that would have the effect of altering the use or potential use of the building or structure, increasing the size of the building or structure or increasing the number of dwelling units in the building or structure.
- Site grading.
- The temporary or permanent placing, dumping or removal of any material, originating on the site or elsewhere.

The lands to which the regulation (i.e., SVCA Screening Areas) apply, specifically within the four proposed development areas, are shown on **Figure 5-1**. In general, for any proposed project in or near river or stream valleys, the Lake Huron shoreline, the shore of an inland lake, a watercourse or a wetland, the SVCA must be contacted prior to commencing work to determine if a permit is required.

**Environmental Planning and Regulations Policies Manual (SVCA, 2017)**

The SVCA has prepared an Environmental Planning and Regulations Policies Manual (approved May 16, 2017, and amended October 16, 2018). As stated in the manual, *'the Manual outlines the SVCA's environmental planning and regulation policy platform. It articulates the approach the SVCA will use to review and evaluate planning and development applications submitted for approval under the Planning Act, and it defines the parameters and criteria against which SVCA administers its regulatory responsibilities under Ontario Regulation 169/06, as amended'*.

Section 5.5 of the Manual outlines stormwater management practices and states the following:

> *'Stormwater management (SWM) plans are required to meet the standards and criteria set out in the Stormwater Management Planning and Design Manual, Ministry of the Environment, March 2003, as may be revised, in addition to requirements/recommendations of any relevant watershed or subwatershed study. Stormwater management facilities normally require a permit under Ontario Regulation 169/06 as part of approval of their outlet to a watercourse.'*

### 5.5.12 Stormwater Management Planning and Design Manual (MOE, 2003) [►]

The Stormwater Management Planning and Design Manual (Ministry of the Environment, 2003) provides technical and procedural guidance for the planning, design, and review of stormwater management practices for conveyance of flow, stormwater management and stormwater quality control. It presents an integrated approach to stormwater management that can be applied at the individual lot level, those which form part of the conveyance system, and controls that may serve multiple lots but are only suitable for small drainage areas (i.e., less than 2 hectares).

The manual is to be utilized as a tool for understanding the performance requirements of stormwater management projects. The Manual provides general information on:

- Overview of the impacts of urbanization
- Overview of the integrated planning for stormwater management
- Environmental design criteria
- Design considerations for conveyance and end of pipe measures
- Approaches for managing infill development
- Operation, Maintenance and Monitoring considerations
- Capital and operational cost estimates

The manual provides practical guidance for lot level and conveyance controls and their suitability for mitigating the impacts of urban development and end-of-pipe control. Lot level and conveyance controls are required to maintain the groundwater and baseflow characteristics to the greatest extent possible. End-of-pipe controls, which receive water from a conveyance system and discharge to a receiving water body, are usually required for flood and erosion control and water quality improvement. Although end-of-pipe controls are typically used to service numerous lots or whole subdivisions, lot level and conveyance controls can reduce the size and end-of-pipe facilities required.

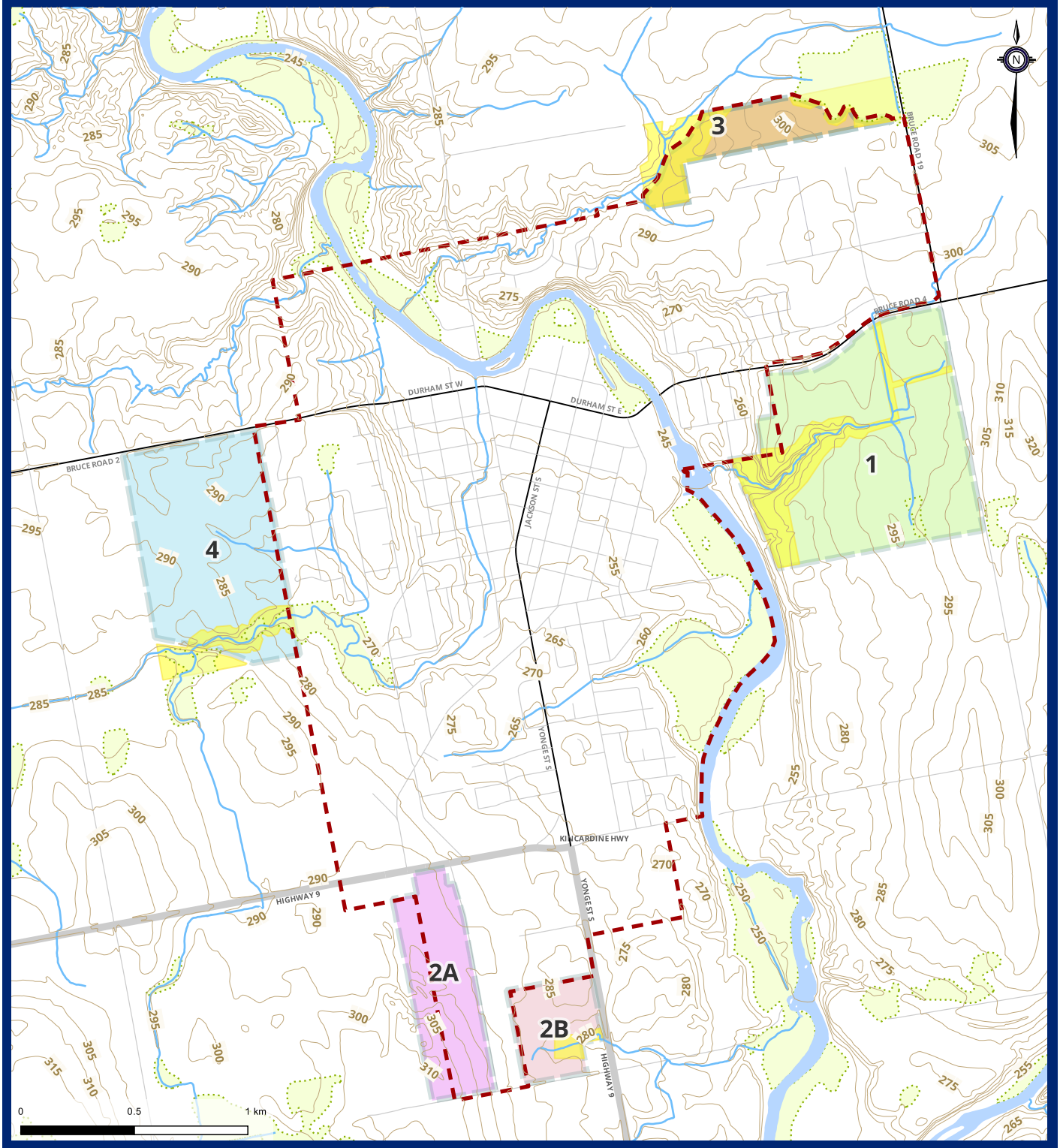
Storm sewer systems, stormwater management facilities and stormwater control facilities each require Environmental Compliance Approval (ECA) from the MECP. These approvals should be maintained, and conditions addressed, as required.

Brockton
Come home to community

# FIGURE 5-1
## Approximate SVCA Screening Areas
Within the Proposed Future Development Areas

BluePlan ENGINEERING

January, 2024
223075
Projection EPSG:26917




Contour (5m)
Approximate SVCA Screening Area
Unevaluated Wetland

Future Development Areas
1
2A
2B
3
4

Watercourse
Urban Area Boundary
Waterbody

Road Centrelines
Provincial Highway
County
Municipal

### 5.5.13 Species at Risk (SAR) [♣]

Ontario Regulation 230/08, the Endangered Species Act, 2007 (ESA), is intended to promote the recovery of species that are at risk. It provides protection to species that are listed as endangered, threatened, or extirpated and their habitats. Habitat protection including, but not limited to, breeding, rearing, and feeding sites, has been identified as being essential to the survival or recovery of wildlife species. Avoiding impacts to species at risk and their habitat is an integral part of protection and recovery.

Subsection 9(1)(a) of the ESA states that *'no person shall kill, harm, capture or take a living member of a species that is listed on the Species at Risk in Ontario List as an extirpated, endangered or threatened species'*. In addition, subsection 10(1)(a) of the ESA states that *'no person shall damage or destroy the habitat of (a) a species that is listed on the Species at Risk in Ontario List as an endangered or threatened species; or (b) a species that is listed in the Species at Risk in Ontario List as an extirpated species, if the species is prescribed by the regulations…'*.

An authorization or permit between the proponent and the Ministry of the Environment, Conservation and Parks (MECP) would be required to authorize activities that would otherwise be prohibited by subsection 9(1) and 10(1) of the ESA. The need for additional investigations and/or site-specific mitigation strategies would be assessed and developed at the planning and design stage for a given project, as appropriate.

### 5.5.14 Department of Fisheries and Oceans Canada (DFO) [♣]

The fish and fish habitat within Lake Huron and the Saugeen River and some of its tributaries are protected under the Federal Fisheries Act (1985, as amended). The Department of Fisheries and Oceans (DFO) administers provisions to protect habitat which address threats to fish from habitat loss/degradation and changes to natural flow regimes. The Fish and Habitat Protection Program aims to conserve existing fish and fish habitat, protect these resources against future impacts and restore fish habitat, where possible. The DFO ensures compliance for development projects taking place in and around fish habitat under the Fisheries Act and the Species at Risk Act (SARA).

### 5.5.15 Federal Fisheries Act [♣]

In 2019 the provisions of the Fisheries Act were updated to include protections for fish and fish habitat in the form of standards, codes of practices and guidelines for projects near water. Section 35(1) of the Fisheries Act states that *'no person shall carry out any work, undertaking or activity that results in the harmful alteration, disruption or destruction of fish habitat.* Fish habitat means *'water frequented by fish and any other areas on which fish depend directly or indirectly to carry out their life processes, including spawning grounds and nursery, rearing, food supply and migration areas'*.

Where a project alternative may have impacts to fish or fish habitat, it is recommended that the proponent consult with the DFO to determine whether a federal review is triggered and/or a DFO letter of authorization would be required.

In general, waterbodies that do not require DFO review include, but may not be limited to, artificial waterbodies that are not connected to a waterbody that contains fish at any time during any given year, such as private ponds, commercial ponds, stormwater management facilities, irrigation ponds or channels, agricultural drains and drainage ditches, roadside drainage ditches, quarries and aggregate pits. Therefore, with respect to this Master Servicing Plan, stormwater management projects that may be exempt from DFO review would include the following:

Culverts:

a. Maintenance: Where flooding, increased sediment and fish stranding can be prevented, or mitigated.
b. Repairs: Assuming existing conditions, below the high water mark, is maintained (i.e., same footprint and no new fill).
c. Replacement or Removal: Exempt subject to the following provisions
    i. No channel re-alignment, narrowing or fill added below the high water mark.
    ii. Provides for fish passage (i.e., no obstruction during timing windows).
    iii. Work can be completed in isolation of flowing water.

Stormwater and Wastewater Management:

a. New stormwater management facility.
b. Outfalls (Construction, Repair and Removal): Assuming no increase in footprint or addition of fill below the high water mark.
c. Drainage Channels (Construction and Clean-out): Assuming work is completed under dry or frozen conditions and that clean-out has occurred in the past 10 years.

Projects that may require DFO review would include the installation of a new culvert or bridge, specifically a new or replacement structure that may encroach into the watercourse or, in the case of replacement, further into the watercourse than the existing structure (i.e., an increase in the footprint below the high water mark).

### 5.5.16 Species at Risk Act (SARA) [♣]

The Fish and Fish Habitat Protection Policy Statement explains the fish and fish habitat protection provisions of the Fisheries Act and outlines how the DFO will implement these provisions. If an aquatic species at risk or its critical habitat are also affected by the project, the authorization will also act as a Species at Risk Act (SARA) permit and will contain terms and conditions to minimize impacts on the species and its critical habitat.

The DFO has prepared aquatic species at risk maps and provides an online mapping tool to determine where at-risk populations occur in Canada and where their critical habitat is located. A map showing the general area where species at risk have been identified is provided in **Appendix B**. Based on the information provided, there are a total of four species at risk identified at various locations within the Town, including one threatened species (i.e., the Silver Shiner) and three species of concern including the Northern Brook Lamprey, the Northern Sunfish, and Rainbow Mussels.

# 6. INVENTORY OF ENVIRONMENTS

The EA Study process includes the preparation of an inventory of environments. The inventory establishes the criteria against which alternative solutions for each specific project (or component servicing plan) can be assessed. Using these criteria, alternative solutions to specific problems or opportunities are considered and assessed within this Master Servicing Plan, and a recommended servicing strategy is provided.

With recent development pressures, the Municipality has identified a need to balance the growth and development pressures with existing servicing needs, level of service, budgets, regulatory requirements, and protection of the environment. The following section describes the infrastructure planning considerations specifically with respect to the natural, cultural, social, technical, and economic environments. This is to ensure that the preservation and management of natural and cultural heritage resources continues to play an important role in the evolution of the community.

## 6.1 Natural Environment

The natural environment generally describes the potential impacts of the alternatives on the natural environment, proximity to existing natural features and designations including, but not limited to, floodplains, valleylands, conservation authority regulation limits, source protection areas, vegetation, woodlands, wildlife, aquatic resources, and fisheries. It typically highlights requirements for major environmental crossings, development through environmentally designated areas, and requirements for mitigative action.

### 6.1.1 Walkerton Official Plan

The Walkerton Official Plan includes a set of policies to protect lands that have inherent environmental hazards such as flood susceptibility, erosion susceptibility, instability and other physical conditions which pose a risk to occupants of loss of life, property damage and social disruption. In addition, the Saugeen River, its tributaries, the floodway and treed valley slopes contain locally significant natural features, including fish and wildlife habitat and vegetation communities.

The Municipality's goals are two-fold:

i. To protect and preserve lands having inherent physical and environmental constraints to development, in order to avoid potential danger to life or property from the use of such lands.
ii. To protect and preserve lands which contain locally significant natural features, including fish and wildlife habitat and vegetation communities.

Land use development must be in accordance with land use designations. The Environmental Protection designation is generally divided into three sub-classifications including the floodplain consisting of the floodway and flood fringe, and the valleylands. As shown in **Figure 4-1**, these lands are designated as Environmental Protection (EP) areas in Schedule A of the Walkerton OP. Development is carefully controlled in these areas to ensure that the various significant features are protected. Significant natural features in the Town include:

**Floodplains:** The Saugeen River floodplain includes all lands susceptible to flooding during a Hurricane Hazel Flood Event Standard (formerly called the Regional Storm Flood) as shown on the floodline mapping (SVCA, 2009). Generally, the floodplain consists of a floodway and a flood fringe. The Walkerton OP applies an Environmental Protection designation along the floodway portion of the Saugeen River and Silver Creek and recognizes constraints to development within the flood fringe of the Saugeen River and Silver Creek. An Environmental Impact Study (EIS) is required to support new development proposals within the Environmental Protection designation. Development or redevelopment may be permitted in the flood fringe constraint areas for both the Saugeen River and Silver Creek provided that sufficient flood proofing measures and/or flood damage reduction measures are incorporated into the building/structure to the satisfaction and approval of the SVCA (Walkerton OP

Section 3.7.7.1(d) and 3.7.7.2). It is noted that Sections 4.7.1 and 4.7.2 of the SVCA's Environmental Planning and Regulations Policies Manual (October 2018) will likely apply to some projects.

**Valleylands:** Valleylands are defined as the slopes that are predominantly in a natural state and the relatively level land measured 30 metres (98.4 feet) back from the top of these valley slopes. Development which may have a significant impact on valleylands may require the preparation of an Environmental Impact Study, by the proponent, to ensure that lands are not negatively impacted by the proposed development.

### 6.1.2 Regulatory Requirements

As discussed in **Section 5.5.11** of this Master Servicing Plan, the watercourse system within the Study Area is regulated by the Saugeen Valley Conservation Authority (SVCA) under Ontario Regulation 169/06: Regulation and Development, Interference with Wetlands and Alterations to Shorelines and Watercourses. Under this regulation a permit (or permits) will be required from the SVCA prior to undertaking any alterations or development within the SVCA regulated areas. As noted in comments from the SVCA dated January 10, 2024, site-specific inspections may need to be completed to confirm hazards in the development areas. Based on a desktop review completed by the SVCA, the following regulated areas were identified:

Area 1: A tributary of the Saugeen River and its associated floodplain, are the hazards anticipated at proposed Area 1.

Area 2A: There do not appear to be any hazards at proposed Area 2A. SVCA does not appear to regulate area in proposed Area 2A.

Area 2B: A tributary of the Saugeen River and its associated floodplain, are the hazards anticipated at proposed Area 2B.

Area 3: A tributary of the Saugeen River and its associated floodplain, in addition to unevaluated wetland, are the anticipated hazards present at proposed Area 3.

Area 4: Silver Creek and its associated floodplain, slope hazard(s), and unevaluated wetland, are the hazards anticipated at proposed Area 4.

Further, depending on the location and nature of the proposed works, approvals may also be required from the Department of Fisheries and Oceans Canada (DFO). A DFO letter of authorization is required for any project alternative that may result in a permanent alteration to fish habitat. The Ontario Ministry of Natural Resources and Forestry (MNRF) and/or the MECP may also need to be consulted.

### 6.1.3 Source Water Protection

Recent amendments to the EA process require proponents to consider whether the project is located within a Source Water Protection Vulnerable Area and, if so, to document whether any project activities are a prescribed drinking water threat. As part of the EA process, this project was reviewed with respect to the requirements under the Clean Water Act, 2006. The Clean Water Act was described in **Section 5.5.7** of this Master Servicing Plan.

The study area is located within the Saugeen Valley Source Protection Area and falls under the Saugeen-Grey Sauble-Northern Bruce Peninsula Source Protection Plan. Based on the Saugeen, Grey Sauble and Northern Bruce Peninsula Source Protection Vulnerable Areas Mapping Application and a review of the Source Water Protection Area, there are no Source Protection Areas within the urban boundary of Walkerton.

However, as the project includes a servicing plan for water, the Source Protection Area associated with the Walkerton Drinking Water System should be recognized. Walkerton currently has two production wells located three kilometers west of Walkerton at the corner of Bruce Road 2 and Bruce Road 3. The aquifer for these wells

is noted to be the transition zone between the Dunkeld and Elma Tills. According to the site-specific information provided in the Source Protection Report, *'the geology of the shared Wellhead Protection Area (WHPA) for Walkerton is variable. Geologic cross-sections of the area indicate a continuously changing series of overburden layers within the WHPA. Sand and gravel layers dominate and relatively thin layers of silt, clay and till are imbedded in between'*. A WHPA area, with vulnerability scores becoming greater at locations approaching the production wells, approximately 200 to 250 meters wide extending about 3 kilometres to the south-southeast has been identified for this drinking water source. Relevant Drinking Water Source Protection Mapping is included in **Appendix B**.

Projects occurring within the Source Protection Area, or projects that could impact the delineation of the Source Protection Area, should consider whether Source Water Protection could be an issue, and the SVCA Risk Management Office should be consulted, as appropriate. For projects that fall within or may impact the Source Water Protection Area, consultation with the SVCA Risk Management Office should be completed as part of the planning process (via the Risk Management Official at rmo@greysauble.on.ca).

It is noted that any new sources of water takings would be subject to the Safe Drinking Water Act. The SDWA applies to water systems and requires that a municipal drinking water license and drinking water works permit be obtained to establish, operate, and alter or extend a municipal residential drinking water system.

### 6.1.4 Climate Change

The natural environment also includes potential impacts of the project on Climate Change, and of Climate Change on the project. Documented effects associated with the more severe weather events attributed to climate change include, but are not limited to, increases in the frequency and severity of precipitation events, flooding, storm surge, wave action and sea level rise.

**Water**

The existing water supply relies on groundwater as a source of drinking water. These supplies may be at risk of potential impacts to groundwater quantity and quality under some conditions (i.e., drought). When it comes to drinking water from groundwater sources, impacts of the water takings on climate change can be reduced by implementing water and energy conservation measures. The implementation of conservation measures can help reduce the energy required to treat and distribute drinking water to the community, thereby reducing greenhouse gases in our atmosphere. It will also help with water quantity and quality problems and help keep costs down to treat the communities drinking water supply.

**Wastewater:**

Wastewater systems may be vulnerable to extreme precipitation events. System failure can occur when a stormwater system is receiving significant volumes during a storm event, potentially resulting in the release of untreated, or insufficiently treated, wastewater into the natural environment to avoid overwhelming the system. The increased frequency may result in more frequent discharges.

Adaptations may include temporary or permanent structural changes within the collection system and treatment plant, as well as changing practices and procedures to better prepare for storms. Several adaptation strategies have been recognized to help build resiliency to storms, including extra fuel onsite, adding generators, improving system components, extra staff on call, training, improved communication, and adding capacity. With respect to wastewater, specific regulations and guidelines have not yet been established. However, it is recommended that the Municipality strive to implement changes to improve system resiliency to climate change prior to system failures, rather than in response to system failure (Kirchhoff and Watson, 2019).

Increased inflow and infiltration into the sewer system associated with intense rainfall events has the potential to increase the amount of infiltration and inflow into sanitary and combined sewers. Potential system modifications

to reduce those impacts include infiltration reduction measures, additional collection system capacity, offline storage, or additional peak wet weather treatment capacity (Website -EPA: Climate Impacts on Water Utilities).

For wastewater treatment plants that fall within the 100-year flood elevation, municipalities may consider the provision for a berm to ensure that the facility is itself protected. However, as shown in **Figure 10-1**, the treatment facility for the community of Walkerton is located beyond the 100-year and Regional Storm (Hazel) floodline.

**Stormwater**

The most probable impact of climate change relevant to stormwater drainage infrastructure is an increase in the frequency and/or intensity of heavy rainfall events, which can increase stormwater runoff and overwhelm the design capacity of the exiting stormwater management systems. This can lead to backups that cause localized flooding or exacerbate existing, or introduce new, negative environmental impacts.

Provided that individual drainage projects intend to address and improve upon existing drainage issues, provisions for improvements to the drainage system may simultaneously address the effects of climate change on the project, such as the deficiency in local capacity due to the effects of climate change, namely increased flows. However, it is difficult to predict the overall effects of climate change on the existing and proposed drainage infrastructure.

Impacts from climate change on existing systems may be potentially mitigated by retrofitting existing systems, as opportunities permit. In addition, the potential implications of climate change may be addressed, in part, by encouraging the use of low impact development (LID) strategies to manage stormwater both for new developments (i.e., lot-level) and in the planning and design of new infrastructure. LID is described as an approach to managing stormwater by first treating run-off (i.e., precipitation) at its source, more as a resource to be managed and protected rather than a waste. In essence, LID can use small, simple design techniques and landscape features that filter, infiltrate, store, evaporate, and detain rainwater and runoffs. These are discussed in more detail in **Section 10** of this Master Servicing Plan.

**Climate Change Policy:**

Currently, there is no definitive direction from the Federal or Provincial Governments regarding the practical application of climate change considerations in municipal infrastructure design. In recognition of climate change, planning, design, and construction of municipal infrastructure systems may consider the potential for an increase in the intensity, frequency, and duration of rainfall events. As such, the Municipality could consider changes to policy for infrastructure system planning and design, but it should be noted that the interpreted level of service of existing systems may be reduced, and that new systems may be relatively over-sized at greater cost. We recommend that, until a definition of climate change impacts is more clearly quantified, any change in policy be carefully considered. It is recommended that the Municipality stay abreast of the Provincial and Federal direction related to infrastructure planning and design criteria which may eventually provide additional direction on how to quantify the effects of climate change.

## 6.2 Cultural Environment

### 6.2.1 Archaeological Assessment

The Ministry of Tourism, Culture and Sport (MTCS) administers the 2011 Standards and Guidelines for Consultant Archaeologists (S&G). As outlined in Section 1.3.1 of the S&G, the criteria that are indicative of archaeological potential generally include, but are not limited to, the following:

- Water sources (primary, secondary and features indicating past water sources)
- Accessible or inaccessible shoreline (e.g., high bluffs, swamp or marsh fields by the edge of a lake, etc.)
- Elevated topography and/or distinctive land formations (e.g., eskers, drumlins, plateaux, waterfalls, rock outcrops)
- Early historic transportation routes
- Proximity to early settlements

Further, the S&G states that *'most land use planning and development legislation in Ontario identifies the conservation of archaeological resources as a matter of Provincial interest. When a proposed development is likely to impact archaeological resources (has "archaeological potential"), the development proponent must ensure that the provincial interest is satisfied'*.

The MTCS has developed a checklist to aid in evaluating whether a property or project area may contain archaeological potential. The assessment area must include the main project area and all areas expected to be disturbed by construction activities (i.e., storage, staging and working areas and temporary roads and detours). It is recommended that the *'Criteria for Evaluating Archaeological Potential'* checklist, be completed as part of projects where the extensive ground disturbance is anticipated.

The County is in the process of completing an "Archaeological Master Plan" (AMP). A "Cultural Action Plan" was completed in September 2021. A database with thematic mapping layers categorizing and displaying areas of archaeological potential within the County is being developed as part of this initiative. The AMP will include a strategy to identify areas where known archaeological sites are present, areas where there is potential for archaeological resources to be present and archaeologically sensitive areas, such as the specific locations of sensitive cultural remains. Once adopted, the AMP may potentially eliminate and replace the MTCS "Criteria for Evaluating Archaeological Potential: A Checklist for the Non-Specialist". As part of the planning and design process for a given project, it is recommended that these Plans be used as a reference.

### 6.2.2 Built Heritage Resource and Cultural Landscape Assessment

Section 2(d) of the Planning Act necessitates *'the conservation of features of significant architectural, cultural, historical, archeological or scientific interest'*. In Ontario, the conservation of the inheritance of historically and architecturally significant properties is primarily a municipal matter. The Ontario Heritage Act (OHA) provides a framework within which municipalities can ensure the conservation of properties of cultural heritage value or interest.

The Municipality of Brockton recognizes the importance of conservation and provides cultural heritage policies in its Official Plan, as discussed in **Section 5.2.2** of this Master Servicing Plan.

The Ministry of Citizenship and Multiculturalism (MCM; formerly the MTCS) developed a checklist to aid in evaluating whether a property or project area is a recognized heritage property or may be of cultural heritage value. The assessment area must include the main project area and all areas expected to be disturbed by construction activities (i.e., storage, staging and working areas and temporary roads and detours). It is recommended that the *'Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes'* checklist, be completed, as needed.

## 6.3 Social Environment

The social environment includes the interests of directly and indirectly affected public members (i.e., residents of Walkerton) in the usage of land and of built facilities. The following summarizes a general inventory of the social environment:

- The Official Plan generally outlines where and how land development may occur within the municipality.
- Quality of life for residents (i.e., aesthetic impacts, level of service improvements)
- Potential impacts to private property, such as potential flooding, erosion, access limitations and/or implications on land use.
- Land acquisition and/or municipal easements to accommodate municipal servicing infrastructure.
- Management and minimization of construction impacts: Considers any potential noise, dust, vibrations, and traffic disruptions to residents and businesses during and following construction.

## 6.4 Economic Environment and Costing Methodology

### 6.4.1 Economic Factors

The economic environment generally includes the capital costs associated with construction, professional fees, and application fees. Long-term costs associated with the operation and maintenance are also considered. Other project related costs, such as land acquisition, utility relocation (i.e., hydro poles) and legal costs, are not usually included. As part of the preliminary recommendations outlined herein, the relative project costs, operation and maintenance costs, and cost-sharing opportunities should be considered. In summary, the economic environment typically highlights the following:

- Describes the capital cost relative to other options.
- Considers construction costs for new infrastructure and for upgrades to existing system.
- Highlights major projects that differ from other options that significantly contribute to the capital costs.
- Describes large up-front costs required for phasing of growth.
- Comments on post-construction impacts such as operation and maintenance costs and requirements and compares to other options.
- Considers potential land acquisition needs.

Infrastructure planning and design is based on a level-of-service approach. In general, providing for a higher level of service will affect a higher relative construction cost for infrastructure projects. Such cost-benefit analysis should also be considered carefully.

### 6.4.2 Operation and Maintenance Costs

Operation and maintenance costs were qualitatively considered during the evaluation of servicing alternatives. The development of alternatives will strive to reduce operations and maintenance costs wherever possible. For example, the ongoing operation and maintenance costs of a pumping station or storage facility will have a larger financial impact on a servicing strategy than one that does not include one. Therefore, where possible, gravity solutions are preferred when compared to pumping stations, as operations and maintenance costs are notably lower for gravity fed systems.

### 6.4.3 Final Project Costs

Required improvements and/or upgrades to the existing water, wastewater, and stormwater systems required to manage the community's future servicing needs will have capital costs associated with planning, design, and construction. This Master Servicing Plan will include the calculation of capital costs for the projects proposed. These should be considered as preliminary Class D cost estimates.

The cost estimates provided herein generally include a 30% allowance for design, administration, planning, and engineering fees, and contingencies. Land costs, legal costs, permit fees and costs for additional background studies (i.e., environmental impact study, geotechnical investigation, environmental assessment etc.) are not included in the capital cost estimates.

It is noted that cost estimates provided herein were prepared with limited details and are based on probable conditions affecting the project(s). Therefore, they are intended to reflect the approximate magnitude of the project costs. A more detailed assessment of overall project costs would be evaluated during the design development phases, as appropriate.

Consideration should be given to implementing improvement options as part of future renewal projects to reduce costs. For example, in areas where road reconstruction, watermains, sewer pipes and/or stormwater management systems (i.e., trunk sewer systems) are also needed, the works should be planned and constructed concurrently with the installation of the other project efforts, where possible. Further, project funding may be reviewed by the Municipality, as opportunities permit.

## 6.5 Technical Environment

The technical environment includes consideration of design standards and constructability. Maintenance and asset ownership may also be considered. The following generally summarizes an inventory of the technical environment, where applicable:

1. Describes overall technical advantages and disadvantages to an option related to:
   - Capacity requirements and level of service
   - Alignments that can maximize a service area
   - Utilization of existing infrastructure
   - Constructability
2. Minimizes and manages construction risk (e.g., construction in limited areas, crossings, protection of utilities, trees, or structures)
3. Meets existing and future servicing needs.
4. Operational complexity (efficacy of design)
5. Supports phased expansion of the system:
   - Staged growth and maximizing the use of existing or planned infrastructure
   - Incremental extensions of infrastructure as growth progresses
6. Resiliency to climate change
7. Project Timing

# 7. POPULATION PROJECTIONS AND RESERVE CAPACITIES

## 7.1 Population Growth Review

### 7.1.1 Historical Framework: Underestimations

The Official Plan originally adopted by the Municipality incorporated population estimates that were based upon the population projections supplied in the Bruce County Housing Study (March 2005). The Housing Study suggested that *'due to continued aging and loss of agricultural employment, further declines are expected'*. Based on the assumptions made in the 2005 study, a net decline in population of 931 persons was estimated for Brockton for the period between 2001 and 2026. Based on a reported population of 9,658 for Brockton in 2001, the projected population for the year 2026 was estimated to be 8,697 persons at that time.

The projections were revised in conjunction with the Bruce County Official Plan update (June 2010) which included population projections for the lower-tier municipalities. These projections were based on a Housing Study completed by SHS Consulting in February 2009 to support the County of Bruce Census Update. Provided that the Municipality had a net decrease (-2.3% growth) between the Census years of 2001 and 2011, it was estimated that Brockton's population would *'grow at a slow rate or remain stable as a result of the aging of the population and slower growth of agricultural employment'* (BCOP Section 4.4.2.4). The BCOP (Section 4.4.2 and 4.4.4) and Walkerton OP (2017) contained population growth projections and household projections. These projections, as well as the actual reported populations based on Census data, are presented in **Table 7-1**.

**TABLE 7-1: Population and Household Projections and Census Counts (2011 to 2021)**

| YEAR | Brockton | | | Walkerton | | |
|---|---|---|---|---|---|---|
| | 2011 | 2016 | 2021 | 2011 | 2016 | 2021 |
| **Population** | | | | | | |
| Projected Population (February 2009) | 9,087 | 8,905 | 8,727 | | | |
| Census Population | 9,432 | 9,461 | 9,784 | 4,403 | 4,537 | 4,724 |
| Population Change (%) | | 0.3 | 3.4 | | 3.0 | 4.1 |
| Difference (Projected vs Actual) | 345 | 556 | 1,057 | | | |
| Walkerton Population (% of Municipal Total) | | | | 46.7 | 48.0 | 48.3 |
| **Households** | | | | | | |
| Household Projection (February 2009) | 3,656 | 3,619 | 3,582 | | | |
| Households (Census) | 3,821 | 3,941 | 4,032 | | 1,921 | 1,984 |
| Difference (Projected vs Actual) | 165 | 322 | 450 | | | |

Note: Households refers to private dwellings occupied by usual residents.

The updated population and growth analysis prepared for the BCOP updates in 2010 indicated that Brockton experienced greater growth than originally predicted. This translates to growth of greater than 1,000 persons and 450 households over the ten-year period between 2011 to 2021. The population of Brockton in 2021 is estimated to be 12% higher than previous predictions. Population growth is expected to continue over the planning horizon for this Plan (i.e., between present and the year 2046), as supported by the updated forecasts for residential growth prepared for Bruce County by Watson and Associates Economists Ltd. and cited in the County's 2021 Development Charges Background Study.

### 7.1.2 Updated Population Forecasts

As summarized in the Brockton Recreation Master Plan, the County's Development Charges Background Study estimates that the Municipality of Brockton will accommodate 16% of the share of Bruce County's housing growth between 2021 and 2036. This is equivalent to approximately 1,000 new housing units. According to Development Charges Background Study, the new housing units will primarily be accommodated in the urban community of the Town of Walkerton, which is projected to grow from 5,000 to nearly 6,000 residents by 2026. A detailed analysis of Brockton's forecasted growth was provided in a Discussion Paper entitled *'Plan the Bruce: Good Growth'* (September 2022). The Residential Growth Forecast Summary for the Municipality of Brockton is provided in **Table 7-2.**

**TABLE 7-2: Population, Housing and Employment Forecast Summary (Brockton)**

| Year | | Population (Including Census undercount)[2] | Total Households | N.F.P.O.W. [3] | Total Employment (Including N.F.P.O.W.) |
|---|---|---|---|---|---|
| Historical | *Mid-2016* | 9,700 | 3,810 | 590 | 4,420 |
| Forecast | *Mid-2021* | 10,000 | 3,950 | 620 | 4,670 |
| | *Mid-2026* | 10,700 | 4,270 | 680 | 5,030 |
| | *Mid-2031* | 11,500 | 4,640 | 730 | 5,350 |
| | *Mid-2036* | 12,200 | 4,970 | 770 | 5,650 |
| | *Mid-2041* | 12,800 | 5,280 | 810 | 5,910 |
| | *Mid-2046* | 13,200 | 5,520 | 830 | 6,090 |
| Incremental | **Mid-2016 to Mid-2021** | 300 | 140 | 30 | 250 |
| | **Mid-2016 to Mid-2026** | 1,000 | 460 | 90 | 610 |
| | **Mid-2016 to Mid-2036** | 2,500 | 1,160 | 180 | 1,230 |
| | **Mid-2016 to Mid-2046** | 3,500 | 1,710 | 240 | 1,670 |

Notes:

1. Source: Forecast by Watson and Associates Economists Ltd., 2021, based on 2016 Canadian Census.
2. Census undercount estimated at approximately 2.7%.
3. Statistic Canada defines no fixed place of work (N.F.P.O.W.) employees as 'persons who do not go from home to the same workplace location at the beginning of each shift'.

Based on the forecasted growth projections presented in **Table 7-2**, it was estimated that between 2016 and 2021 Brockton's population increased by 300 people. Compared to the Census data for the year 2016 and 2021, the forecasted population growth was similar to the actual reported growth of 323 persons (**Table 7-1**). It is further estimated that between 2021 and 2026 Brockton will experience an additional population increase of 700 persons. Significantly, in the 10-year period between 2026 and 2036, Brockton is expected to grow by 1,500 persons.

The Bruce County Official Plan directs that growth should be focused within the Primary Urban Communities, where possible. No developments are known to be planned in any of the secondary, hamlet, or inland lakes communities. Therefore, to be conservative in our analysis of land use demand in Walkerton, it was assumed that all of the projected population growth will occur within the community of Walkerton. Walkerton's population in 2021 was reported to be 4,724 persons. Assuming the forecasted growth for the 2021 to 2046 period of 3,200 persons will occur in Walkerton, the population of this community would be estimated to be 7,924 persons in 2046. This is equivalent to a population increase of about 3% per year over a 25-year period.

## 7.2 Reserve Capacity Analysis Review

Brockton completed a Water and Wastewater Reserve Capacity Analysis (RCA) in 2021. The RCA investigated the capacity of the water supply, water storage, and wastewater treatment compared to the estimated 2020 population. The analysis concluded that the existing system capacities were sufficient for existing and committed customers. It is noted that the Reserve Capacity Analysis did not consider additional intensification policies such as through the creation of additional units per lot, which is now permitted.

To ensure consistency between the background studies is maintained (i.e., methods and assumptions), a similar analysis has been completed to inform this Master Servicing Plan, albeit in the context of the ability (or inability) of the existing capacity to service the current development commitments (as updated), future (or remaining) development opportunities within the Town, and the four development areas identified by the Municipality, where shown on **Figure 1-3**. The following discussion includes an overview of the methodology and assumptions applied to the reserve capacity analysis completed by B.M. Ross in 2021 and provides updates to the committed development estimates.

### 7.2.1 Existing Population and Water and Wastewater System Users

For the purposes of the RCA, the 2020 population was developed from the 2016 census and projections were based on Building Permit data (i.e., the committed development) for the intervening years. Based on the information available at that time (i.e., in 2021, prior to the release of the 2021 Census data), the population for Walkerton was estimated to be 4,821 persons. This is approximately 100 persons greater than the reported 2021 Census population of 4,724. In addition, the 2021 RCA identified that, as of the end of 2020, Walkerton had 2,234 billing customers consuming water or producing wastewater.

### 7.2.2 Definition of an Equivalent Residential Unit (ERU)

The analysis of reserve capacity requires the quantification of servicing requirements for existing development commitments, remaining development potential within the community, and future growth. The analysis uses a standardized Equivalent Residential Unit (ERU) to estimate future water demands and wastewater flows. An ERU is defined as the unit flow design value for a single detached residential unit. Design values for other types of residential development are proportioned to single detached units based on expected per person occupancies (PPU).

In essence, this means the following:

i. Wastewater: A volume of wastewater which incurs the same costs from operations and maintenance as the average volume of domestic waste discharged from an average residential dwelling unit in the treatment works service area; or
ii. Water: A volume of water utilized by an average single family residential dwelling unit.

With respect to employment lands, the MECP Design Guidelines for Drinking-Water Systems notes in Section 8.4.2 that when determining fire flow allowance for commercial or industrial areas, the industrial and commercial land use areas should be considered to have an equivalent population density to the surrounding residential lands. The Municipality's current density requirement for new developments is 15 Equivalent Residential Units (ERU's) per hectare, therefore, in this MSP report, planned and future employment lands and future residential lands were considered to also have 15 ERU's per hectare.

An ERU is assumed to have the same demand as the average service unit or billing customer. For calculation purposes, the values presented in **Table 7-3** were applied to the reserve capacity analyses completed to support this Master Servicing Plan.

**TABLE 7-3: Equivalent Residential Unit Designation**

| Land Use | Population per Unit | ERUs |
|---|---|---|
| Residential (Housing Type) | | |
| Single detached | 2.53 PPU | **1.0** |
| Duplexes, Semi-attached, and Townhouses | 2.0 PPU | **0.80** |
| Multi-family | 1.59 PPU | **0.63** |
| Apartments | 1.75 PPU | **0.70** |
| Hotels (per unit) | 0.63 PPU | **0.25** |
| Residential Care Facility | 1.0 PPU | **0.40** |
| Commercial and Industrial (Planned and Future) and Future Residential | | |
| Employment Lands (ERU's per Hectare) | | **15** |
| Commercial/Industrial Space | | **0.86 ERUs per *2,000 ft$^2$** |

Note: * For each 2,000 ft$^2$ of gross floor area

## 7.3 Future Development Potential

### 7.3.1 Estimated Development Commitments (B.M. Ross, 2021)

Development commitments can either be vacant serviced lots in existing developed areas or approved draft plans or lots of record. The RCA (2021) identified eight development commitments for a total of 861 ERUs. In addition, several other developments were known to be in the proposal stages of the development application process at the time, with an additional 228 ERUs (or 250 units). For the purposes of the RCA completed by B.M. Ross in 2021, the total commitments were calculated to be 1,089 ERUs for planned developments in Walkerton. The data is detailed in **Table 7-4**.

At the time of the Study, at the assumed average of 2.5 people per ERU, the 861 ERUs were projected to support a population growth of 2,152 for committed developments, and the additional 228 ERUs were projected to further support 570 persons. Compared to the forecast population of 2,200 persons between 2021 and 2036 (**Table 7-2**), the committed developments were forecast to support Walkerton's population growth to 2036 at that time. Including the developments that were in the early planning stages, population growth would have been supported to about 2041.

### 7.3.2 Development Commitment: Updated Projections (2023)

The status of the Municipality's development commitments was reviewed to update the projected population growth estimates to account for recent approvals and construction, and to provide a better understanding of the potential growth associated with the future development pressures in Walkerton. An updated summary of the development application and construction status, including estimated commitments, is provided in **Table 7-4**. The development areas are presented on **Figure 7-1**. Both the 2021 RCA and current development projections are snapshots in time, and final constructed numbers could vary.

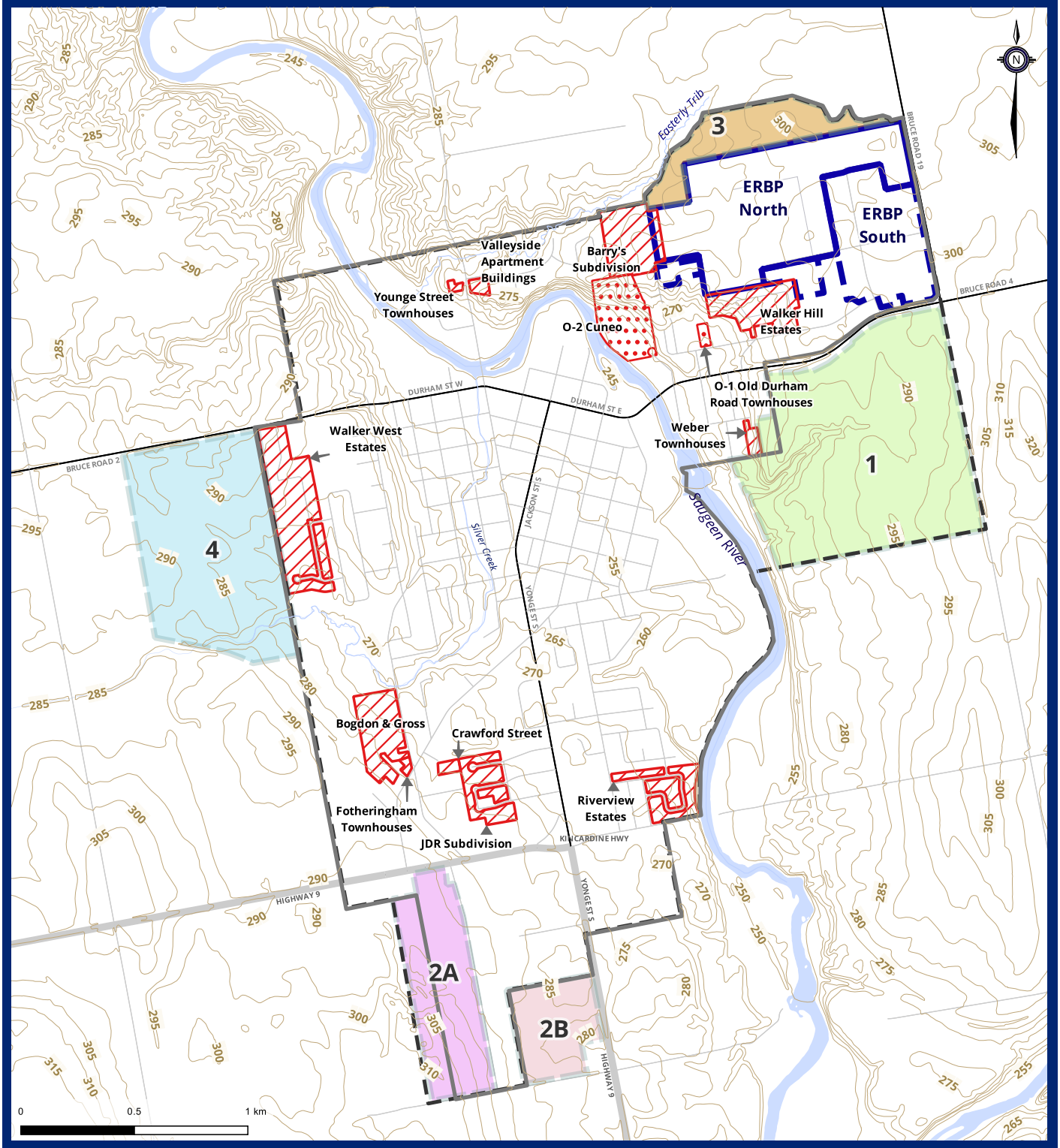
It is noted that compared to the 2021 RCA, the total number of ERUs considered by the eight developments that were approved (or seeking approval) at that time, has decreased from 861 ERUs to 718 ERUs. This occurred because during the application process, several proposed developments were reduced in terms of their planned number of ERUs.

# FIGURE 7-1
# Development Areas within Walkerton

Brockton
Come home to community

BluePlan ENGINEERING

January, 2024
223075
Projection EPSG:26917




Contour (5m)

ERBP Zones
- North
- South

Development Area
Potential Future Development Area

Future Development Areas
- 1
- 2A
- 2B
- 3
- 4

Watercourse

Road Centrelines
- Provincial Highway
- County
- Municipal

Waterbody
Potential Future Boundary
Walkerton Urban Area Boundary

Between 2020 and early 2023, a total of 315 units were constructed. This is estimated to support an equivalent to 282 ERUs, or approximately 713 persons. In consideration of the development applications identified (i.e., approved, in progress, or pending), approximately 821 ERUs remain available for construction. However, while it is recognized that an estimated 471 ERU's are still awaiting approval (i.e., the application is in progress or pending), as of early 2023, the total remaining 821 ERUs are considered to be 'committed' for the purpose of the capacity assessments completed herein. These commitments do not include those associated with vacant serviced lots, discussed in **Section 7.4**.

**TABLE 7-4: Development Application Status and Estimated Commitments**

| | ESTIMATED COMMITMENTS | | | | | Units Completed since 2020 | TOTAL BASED ON PROJECT STATUS | |
|---|---|---|---|---|---|---|---|---|
| | RCA (2021) | | Dev'p Update (2023) | | | | | |
| | Units | ERUs | Units | ERUs | Persons | | ERUs | Population |
| **Construction Completed since RCA Study** | | | | | | | | |
| Crawford Street | 18 | 18 | 18 | 14 | 36 | 18 | (188) | (473) |
| Riverview Estates | 64 | 64 | 115 | 105 | 263 | 115 | | |
| JDR Subdivision | 89 | 89 | 75 | 69 | 174 | 75 | | |
| **Approved Developments: Construction Ongoing** | | | | | | | | |
| Walker West Estates | 216 | 216 | 218 | 187 | 470 | 107 | (94) 152 | (240) 379 |
| WT Land LP: South Apartment* | ---- | ---- | 60 | 42 | 105 | - | | |
| Fotherington Townhouses* | ---- | ---- | 9 | 7 | 18 | - | | |
| 14 Creighton Road | ---- | ---- | Ind. | 2.6 | 6 | - | | |
| 20 Creighton Road | ---- | ---- | Ind. | 7.7 | 20 | - | | |
| **Approved Developments: Construction Pending** | | | | | | | | |
| Weber Townhouses | 10 | 7 | 10 | 8 | 20 | 0 | 198 | 496 |
| Walker Hill Estates | 81 | 81 | 80 | 70 | 176 | 0 | | |
| Valleyside Apartment* | ---- | ---- | 30 | 21 | 53 | 0 | | |
| WT Land LP: North Apartment* | ---- | ---- | 120 | 84 | 210 | 0 | | |
| Yonge St. Townhouses* | ---- | ---- | 9 | 7 | 18 | 0 | | |
| 10 Eastridge Road (Hotel Exp.) | ---- | ---- | Com. | 7.5 | 19 | 0 | | |
| **Applications in Progress** | | | | | | | | |
| Barry's Subdivision | 136 | 136 | 135 | 111 | 278 | 0 | 421 | 1058 |
| Bogden & Gross | 250 | 250 | 206 | 154 | 386 | 0 | | |
| Seawaves: Hilltop Meadows* | ---- | ---- | 227 | 117 | 294 | 0 | | |
| 32/36 Creighton Road | ---- | ---- | Ind/Com | 6.9 | 17 | 0 | | |
| Legend Landscapes | ---- | ---- | Ind. | 3.4 | 8.7 | 0 | | |
| 2 Ontario Rd (Hotel/Gas/Rest.) | ---- | ---- | Com. | 29 | 74 | 0 | | |
| **Applications Pending** | | | | | | | | |
| Cuneo Subdivision | ---- | ---- | 35 | 35 | 89 | 0 | 50 | 127 |
| Old Durham Road Townhouses | ---- | ---- | 15 | 15 | 38 | 0 | | |
| **TOTAL (RCA, 2021)** | 864 | 861 | (-7) | (-143) | ---- | ---- | ---- | ---- |
| Unidentified Dev'p (RCA 2021) | 250 | 228 | ---- | ---- | ---- | ---- | ---- | ---- |
| **TOTAL** | **1,114** | **1,089** | **1,362** | **1,103** | **2,773** | **315** | **821** | **2,060** |

Notes:
1. * Denotes development (Dev'p) applications that were not identified by name in the 2021 RCA.
2. (192) ERUs and populations shown in brackets denotes development completed between 2020/2021 and early 2023.
3. Ind. = Industrial; Com. = Commercial
4. Developments highlighted in Blue were those identified in the 2021 RCA.

Provided that the construction of the 315 units occurred over a period of approximately three years, the rate of unit development is approximately 105 units (or about 95 ERUs) annually, supporting a population growth rate of about 240 persons per year. Comparatively, a growth rate of 700 persons was forecast for the 5-year period between 2021 and 2026 in the Development Charges Background Study for Bruce County (**Table 7-2**). The estimated population growth of 713 persons over the three-year period between 2020 and 2023 suggests that population growth is currently occurring faster than projected, at least in the short-term.

Assuming approvals are successful, and that the construction rate remains similar to that experienced over the last three years, the construction of the units within the developments initially considered in the RCA (2021) and the other potential development areas identified within Walkerton, where shown on **Figure 7-1**, could potentially be completed in the next 8 to 9 years (i.e., by the end of 2031).

## 7.4 Potential Development: Remaining Vacant Serviced Lands within the ERBP

As part of the review of future servicing needs for the community of Walkerton, an assessment of the potential development areas within the existing settlement area boundary, specifically the East Ridge Business Park was completed. Future development opportunities associated with these vacant serviced lots are also considered to be development commitments herein.

The East Ridge Business Park was established in 2000, at the eastern edge of Walkerton, where shown in **Figure 7-1**. It encompasses 75 hectares (185 acres). Initially, the eastern portion of the ERBP was serviced by municipal sewer and water systems with services not extending to the west and north of the intersection of Ontario Road and Eastridge Road within the Business Park lands. To address the future servicing needs for the remainder of the 49 hectare area within the ERBP that was not developed (**Figure 7-2**: ERBP North), a Servicing Master Plan for the ERBP was competed by B.M.Ross in September 2015. Since that time, water and wastewater services have been extended to much of the area planned within the Servicing Master Plan for the ERBP (2015) and property parcels are in various stages of development.

To account for the potential development within the ERBP lands where water and wastewater services already exist, or have been previously planned, a review of the remaining development potential for the lands within business park, including a review of the development status and capacity needs (e.g., population forecasts), was completed using the assumptions presented in **Table 7-3**. A summary of the population forecasts for the ERBP is presented in **Table 7-5**.

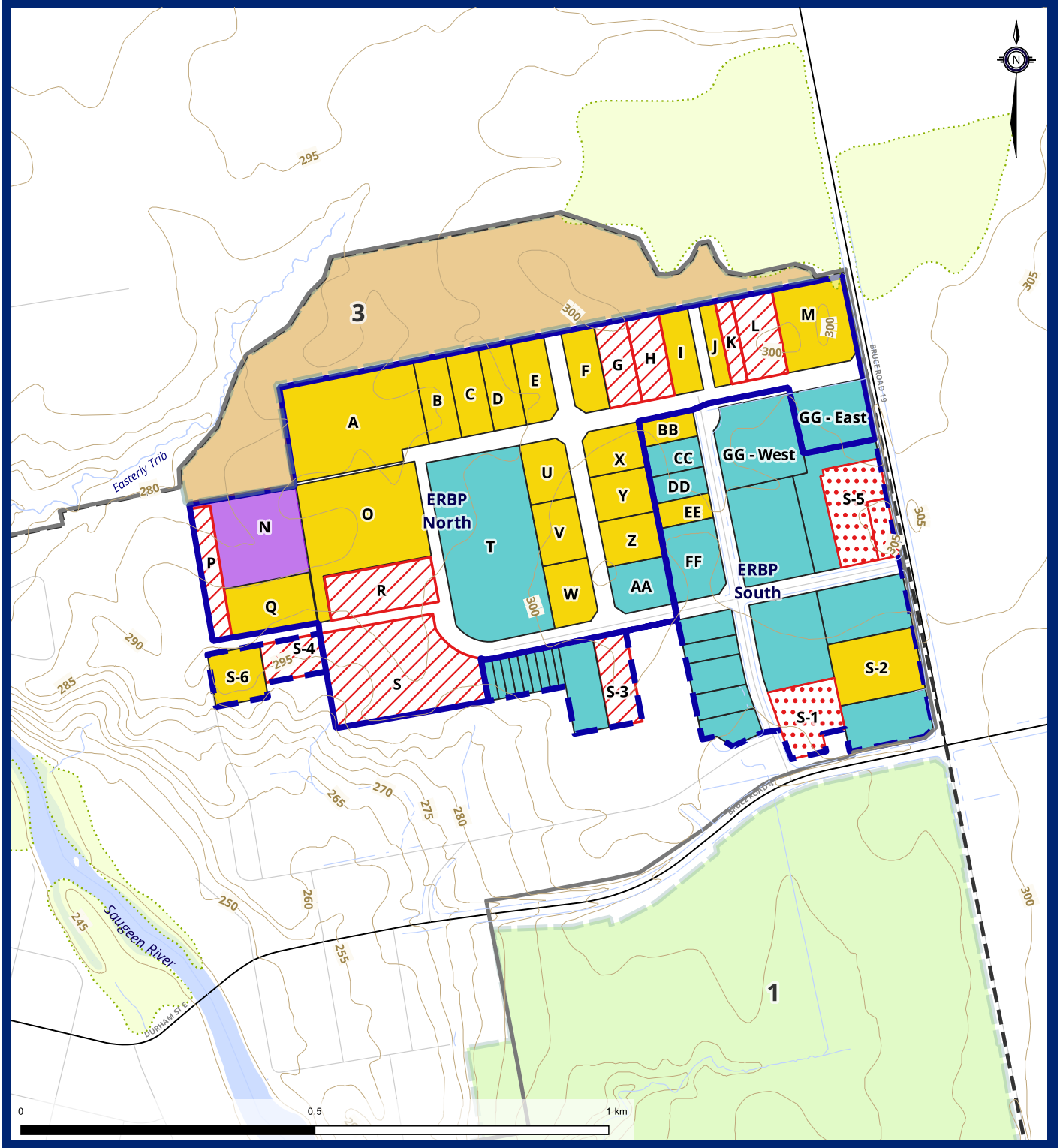
Based on the review of the development status of the ERBP lands, the ERBP has the potential to accommodate an estimated 325 ERUs, or the equivalent of an additional 821 persons. Therefore, at the Town's estimated growth rate of 95 ERUs per year, it is estimated that the remainder of the development lands within the East Ridge Business Park will provide the Town with an additional ±3 years of development capacity. Assuming approvals are successful, and that the construction rate remains similar to that experienced over the last three years, the ERBP and other development areas within the Town of Walkerton (presented in **Section 7.3**), combined, could potentially provide the Town with sufficient development capacity for about 12 years, or to the year 2035.

# FIGURE 7-2
# East Ridge Business Park
Development Status

Brockton
Come home to community

BluePlan Engineering

January, 2024
223075
Projection EPSG:26917




Contour (5m)
Unevaluated Wetland

ERBP Zones
North
South

Future Development Areas
1
3

ERBP Parcel Development Status
Developed Land
Development Planned
Future Development Opportunity
Hotel
Storm Water Management Pond

Watercourse

Road Centrelines
Provincial Highway
County
Municipal

Waterbody
Urban Area Boundary
Potential Future Boundary

Document Path: W:\OwenSound\Owen Sound\223-2023\223075 RFP - Municipal Servicing Master Plan - Mun. of Brockton\Drawings\GIS\223075 - Mapping for MSP Report.qgz

## TABLE 7-5: Other Development Areas within the Town of Walkerton - Population Forecast and Servicing Needs

| Lot Reference ID | General Location | Lot Description (Civic Address or Lot/Conc.) | Status: Development Application and Construction | | | | | Other | | Property Area (ha) | | ERU Designation and ERU per Equivalent Residential Unit | | | | | | | | | | As per Table 7-4 in Master Plan | | | Other Potential Development within the ERBP (Vacant Serviced Lands) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Future Development Opportunity | Application In Progress | Approved Construction Pending | Approved Construction Ongoing | Developed | Accounted (Table 7-4) | MZO Application | | | Single Detached 1.0 / Unit | | Duplex / Townhouse 0.80 / Unit | | Hotels 0.25 / Room | | Long Term Care Facility 0.40 per Unit | | Comm. & Ind. Space 0.86 / 2000 ft$^2$ | | Employment Lands 15 / hectare | | As per MSP | | | ERU's | Population Equivalent |
| | | | | | | | | | | | | Units | ERUs | Units | ERUs | Rooms | ERUs | Units | ERUs | ft$^2$ | ERUs | ha | ERUs | Units | ERUs | Persons | | |
| **East Ridge Business Park (North): Area Identified in the Master Plan for the ERBP Servicing Expansion (BM Ross, September 2019)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A | ERBP North | Creighton Road (Westerly Section) | X | | | | | | | * | 3.76 | | | | | | | | | | | 3.76 | 56.4 | | | | 56.4 | 142.7 |
| B | ERBP North | | X | | | | | | | * | 0.81 | | | | | | | | | | | 0.81 | 12.2 | | | | 12.2 | 30.7 |
| C | ERBP North | | X | | | | | | | * | 0.81 | | | | | | | | | | | 0.81 | 12.2 | | | | 12.2 | 30.7 |
| D | ERBP North | | X | | | | | | | * | 0.81 | | | | | | | | | | | 0.81 | 12.2 | | | | 12.2 | 30.7 |
| E | ERBP North | | X | | | | | | | * | 0.81 | | | | | | | | | | | 0.81 | 12.2 | | | | 12.2 | 30.7 |
| F | ERBP North | | X | | | | | | | * | 0.81 | | | | | | | | | | | 0.81 | 12.2 | | | | 12.2 | 30.7 |
| G | ERBP North | 36 Creighton Road | | X | | | | Added | | m | 0.81 | | | | | | | | | 15,500 | 6.88 | | | Ind. | 6.9 | 17.4 | ---- | ---- |
| H | ERBP North | 32 Creighton Road | | X | | | | Added | | m | 0.81 | | | | | | | | | | | | | | | | | |
| I | ERBP North | 28 Creighton Road | X | | | | | | | m | 0.69 | | | | | | | | | | | 0.69 | 10.4 | | | | 10.4 | 26.2 |
| J | ERBP North | 24 Creighton Road | X | | | | | | | m | 0.45 | | | | | | | | | | | 0.45 | 6.8 | | | | 6.8 | 17.1 |
| K | ERBP North | 20 Creighton Road | | | | X | | Added | | m | 0.41 | | | | | | | | | 16,081 | 7.74 | | | Ind. | 7.7 | 19.6 | ---- | ---- |
| L | ERBP North | 14 Creigthon Road | | | | X | | Added | | m | 0.95 | | | | | | | | | 4,862 | 2.58 | | | Ind. | 2.6 | 6.5 | ---- | ---- |
| M | ERBP North | 8 Creighton Road | X | | | | | | | m | 2.09 | | | | | | | | | | | 2.09 | 31.4 | | | | 31.4 | 79.3 |
| N | ERBP North | Municipal Stormwater Pond | N/A | | | | | | X | * | 2.25 | | | | | | | | | | | | | | | | N/A | N/A |
| O | ERBP North | Future Municipal Arena Complex | X | | | | | | X | * | 3.51 | | | | | | | | | ±45,000 | 19.78 | | | | | | 19.8 | 50.0 |
| P | ERBP North | Townhouse Development (Part of Barry's Sub.) | | X | | | | Yes | (2) | ± | 0.72 | | | | | | | | | | | | | Part of Larger Parcel | | | ---- | ---- |
| Q | ERBP North | Proposed Hospice | X | | | | | | (3) | * | 1.26 | | | | | | | | | | | 1.26 | 18.9 | | | | 18.9 | 47.8 |
| R | ERBP North | 92 Eastridge Road (WT Land North) | | | X | | | Yes | (4) | m | 1.21 | | | | | | | | | | | | | 120 | 84 | 210 | ---- | ---- |
| S | ERBP North | Hilltop Meadows (Includes 71 Unit LTC Facility) | | X | | | | Updated | (6) | m | 3.85 | 15 | 15 | 44 | 35.2 | | | 168 | 67.2 | | | | | 227 | 117 | 294 | ---- | ---- |
| T | ERBP North | Soccer Complex | | | | | X | | | * | 5.12 | | | | | | | | | | | | | | | | N/A | N/A |
| U | ERBP North | East of (adjacent to) Soccer Complex | X | | | | | | | * | 0.79 | | | | | | | | | | | 0.79 | 11.9 | | | | 11.9 | 30.0 |
| V | ERBP North | East of (adjacent to) Soccer Complex | X | | | | | | | * | 0.82 | | | | | | | | | | | 0.82 | 12.3 | | | | 12.3 | 31.1 |
| W | ERBP North | East of (adjacent to) Soccer Complex | X | | | | | | | * | 0.82 | | | | | | | | | | | 0.82 | 12.3 | | | | 12.3 | 31.1 |
| X | ERBP North | East of Soccer Complex Parking (across the proposed road) | X | | | | | | | * | 0.77 | | | | | | | | | | | 0.77 | 11.55 | | | | 11.6 | 29.2 |
| Y | ERBP North | | X | | | | | | | * | 0.79 | | | | | | | | | | | 0.79 | 11.85 | | | | 11.9 | 30.0 |
| Z | ERBP North | | X | | | | | | | * | 0.79 | | | | | | | | | | | 0.79 | 11.85 | | | | 11.9 | 30.0 |
| AA | ERBP North | 38 Eastridge Road | | | | | X | | | m | 0.82 | | | | | | | | | 3,400 | 1.72 | | | | | | Dev'ped | Dev'ped |
| BB | ERBP North | Adjacent to (north of) 53 Ontario Road | X | | | | | | | m | 0.42 | | | | | | | | | | | 0.42 | 6.3 | | | | 6.3 | 15.9 |
| CC | ERBP North | 53 Ontario Road | | | | | X | | | m | 0.50 | | | | | | | | | 3,400 | 1.72 | | | | | | Dev'ped | Dev'ped |
| DD | ERBP North | 45 Ontario Road | | | | | X | | | m | 0.43 | | | | | | | | | 5,600 | 2.58 | | | | | | Dev'ped | Dev'ped |
| EE | ERBP North | 35 Ontario Road | X | | | | | | | m | 0.40 | | | | | | | | | | | 0.4 | 6.0 | | | | 6.0 | 15.2 |
| FF | ERBP North | 30 Eastridge Road | | | | | X | | | m | 1.21 | | | | | | | | | 10,100 | 5.16 | | | | | | Dev'ped | Dev'ped |
| GG-East | ERBP North | 17 Creighton Rd and 50 Ontario Rd (including HH - ROW parcel) | | | | | X | | | m | 1.32 | | | | | | | | | | | | | | | | Dev'ped | Dev'ped |
| **OTHER POTENTIAL DEVELOPMENT WITHIN WALKERTON - ERBP NORTH: TOTAL (ERUs) = 288.3** | | | | | | | | | | | | | | | | | | | | | | | | | | **TOTAL (Persons) = 729.3** | | |
| **East Ridge Business Park (South): Area within the ERBP, not including that identified in the Master Plan for the ERBP Servicing Expansion (BM Ross, September 2019)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GG-West | ERBP South | 17 Creighton Rd and 50 Ontario Rd | | | | | X | | | m | 2.13 | | | | | | | | | | | | | | | | Dev'ped | Dev'ped |
| S-1 | ERBP South | 2 Ontario Road (Phase 1 & 2) | | X | X | | | Added | | m | 1.32 | | | | | 107 | 26.75 | | | 5,900 | 2.58 | | | Comm. | 29 | 74 | ---- | ---- |
| S-2 | ERBP South | Adjacent to (South of) Bruce Road 25 | X | | | | | | | m | 1.61 | | | | | | | | | | | 1.61 | 24.15 | | | | 24.15 | 61.1 |
| S-3 | ERBP South | Legend Landscapes | | X | | | | Added | | m | 0.96 | | | | | | | | | 7,150 | 3.44 | | | Ind. | 3.4 | 8.7 | ---- | ---- |
| S-4 | ERBP South | 101 Eastridge Road (WT Land South) | | | | X | | Yes | (5) | m | 0.66 | | | | | | | | | | | | | 60 | 42 | 105 | ---- | ---- |
| S-5 | ERBP South | 10 Eastridge Rd: Best Western Addition | | | X | | | Added | | m | 1.72 | | | | | 30 | 7.5 | | | | | | | Comm. | 7.5 | 19 | ---- | ---- |
| S-6 | ERBP South | 32 Cummingham Road (Institutional) | X | | | | | | X | m | 0.81 | | | | | | | | | | | 0.81 | 12.15 | | | | 12.15 | 30.7 |
| **OTHER POTENTIAL DEVELOPMENT WITHIN WALKERTON - ERBP SOUTH:TOTAL (ERUs) = 36.3** | | | | | | | | | | | | | | | | | | | | | | | | | | **TOTAL (Persons) = 91.8** | | |
| **Application Pending: Other Potential Development Areas identified within Walkerton** | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| O-1 | Other | Cuneo Subdivision | X | | | | | Added | | | | 35 | 35 | | | | | | | | | | | 35 | 35 | 89 | ---- | ---- |
| O-2 | Other | Old Durham Road Townhouses | X | | | | | Added | | | | 15 | 15 | | | | | | | | | | | 15 | 15 | 38 | ---- | ---- |
| **ERBP TOTAL (ERUs) = 325** | | | | | | | | | | | | | | | | | | | | | | | | | | **TOTAL (Persons) = 821** | | |

**Notes**

1. Property Area Reference: * = GIS Mapping for ERBP provided to GM BluePlan by the Municipality; **m** = Bruce County GIS online mapping application; ± = Estimated.
2. A building footprint of 45,000 m$^2$ was estimated for the future arena complex (Lot Reference ID = O).
3. Population Equivalents: ---- = Accounted for in Table 7-4 of the MSP; N/A = Not applicable - development not proposed (e.g., stormwater pond).
4. A population equivalent of 2.53 persons per ERU was assumed.
5. Lot Reference ID's are identified on Figure 7-1 and Figure 7-2.
6. Lot parcels AA through FF: Development status and building footprints based on aerial imagery.

## 7.5 Population Forecasts: Proposed Development Areas

With limited developable land remaining within the urban boundaries of the community of Walkerton, the Municipality has identified four potential development areas bordering on the urban boundary, where shown on **Figure 1-3**. Servicing needs and options for these four areas is a primary focus of this Master Servicing Plan. As part of these investigations, a review of the capacity of the water and sanitary systems was completed to determine if, in addition to the committed development (presented in **Table 7-4** and **Table 7-5**), the existing infrastructure is able to support the approved, proposed, and potential future expansion areas. Where insufficient capacity is identified, alternatives may need to be reviewed.

Details pertaining to the proposed development areas, including potential land use, area, and population estimates, are provided in **Table 7-6**. The estimate of the population that may be supported in each of the proposed development areas is used to aid in the assessment of service design requirements, such as the reserve capacity that may be required to service each of the development areas. The following assumptions were used in the determination of the population and ERU estimates:

i. Based on the Municipality's current density requirement, 15 Equivalent Residential Units (ERU) per hectare of developable land was assumed.
ii. There is an equivalent of 2.53 persons per ERU.
iii. The total developable land area for Area 1 was based on the Preliminary Planning Analysis (Monteith, 2023). In consideration of the area that was not encompassed within the Area 1 proposed for settlement area expansion, the one hectare of land that lies within the existing settlement area boundary was assumed to be developable. The 1.5-hectare parcel (i.e., 36 Willow Street South) was assumed to be developed lands as this is currently the site of the Walkerton Gun Club.
iv. For Areas 2, 3 and 4, portions of the land may be undevelopable due to SVCA regulatory setbacks or other natural features. To account for this, 50% of the SVCA regulated lands within a given development area were assumed to be incapable of supporting development.
v. Rural developed lands were removed from the developable area as these can already be considered to be developed and consist of larger residential lots.

**TABLE 7-6: Proposed Future Development Area – Population Forecast and Servicing Needs**

| | Units | Area 1 | Area 2A&2B | Area 3 | Area 4 | Combined |
|---|---|---|---|---|---|---|
| Development Type: Residential | ---- | X | X | ---- | X | X |
| Development Type: Employment | ---- | X | ---- | X | ---- | X |
| Area | ha | 80.5 | 42.8 | 15.6 | 56.5 | 193.9 |
| SVCA Regulated Area (Est.) | ha | 11.7 | 2 | 6 | 4.8 | 24.5 |
| Rural Lands Developed | ha | 15.2 | 0 | 0 | 0.59 | 14.3 |
| Developable Area | ha | 53.6 | 41.8 | 12.6 | 53.5 | 161.5 |
| Elevation Range | masl | 253 to 293 | 278 to 315 | 278 to 296 | 272 to 292 | |
| Equivalent Residential Units | ERU | 804 | 627 | 189 | 803 | 2,423 |
| Population Equivalent | Persons | 2,034 | 1,586 | 478 | 2,031 | 6,129 |

Although Area 3 and a portion of Area 1 are proposed to be designated as employment lands, the population identified in **Table 7-6** is considered an Equivalent Population for the purpose of estimating servicing needs. Even when considering that a portion of Area 1 is proposed to be employment lands, the population growth estimates suggest that the proposed development areas will likely more than double Walkerton's current population of approximately 5,000 persons. Therefore, it is reasonable to expect that all services will need capacity upgrades at some point as development progresses within these four proposed development areas.

## 7.6 Systems Overview

The following Sections of this Master Servicing Plan include the Master Servicing Plans for drinking water, sanitary, and stormwater servicing systems in Walkerton. Areas of local growth will need to be connected to the local servicing systems, and the systems will need to have sufficient overall capacity to support the expected growth. One of the major questions to address was to identify the timing requirements for capacity increases.

The ultimate design load for the drinking water and sanitary systems includes consideration for the current population, the committed development (i.e., development applications and vacant serviced lots), as well as the population equivalents for the four development areas. The servicing requirements are calculated based on standard design criteria for water and sanitary services. These design criteria are conservative usage assumptions to ensure adequate capacity exists and/or, at such a time that additional capacity is necessitated, adequate capacity is built into the system design.

# 8. WATER MASTER SERVICING PLAN

## 8.1 Walkerton Official Plan

The Municipality's goal is to provide a full range of affordable municipal services to meet the economic, social and environmental needs of the community. Water supply and sewage disposal policies are specified in Section 5.3 of the Official Plan. Policies relevant to the municipal water services include the following:

> *The Walkerton Water Treatment System (WTS) has a capacity of 7,500m$^3$/day and the current average use is around 2,300m$^3$/day (2016 data). The WTS has sufficient capacity to handle the projected increase in population to 2026.*

## 8.2 Drinking Water System Overview

### 8.2.1 Source and Treatment

Similar to many communities throughout Ontario, the Town of Walkerton obtains its drinking water supply from groundwater wells, in which water is drawn from an aquifer where the water fills cracks in the bedrock or from the spaces between grains of sand and gravel (i.e., an overburden aquifer). The Walkerton Drinking Water System has two production wells: Walkerton Well No.7 and Well No.9. The wells are located at 1244 Bruce Road 3 approximately 3 kilometres to the west of Walkerton, at the corner of Bruce Road 2 and Bruce Road 3, where shown on **Figure 8-1**.

According to the Source Protection Information Sheet for the Walkerton Water System, Walkerton Well No.7 is a flowing artesian well, cased to a depth of 13.7 meters with a total depth of about 76.2 meters and is located within the pumphouse. Walkerton Well No.9 is cased to a depth of 47 meters with a total depth of about 79.3 meters. Well No. 7 is fitted with a line shaft pump and Well No.9 with a submersible pump, with both wells having a rated pump capacity at 56.8 L/s at 66 meters head, resulting in a total pumping capacity of 9,815 m$^3$/day. The Permit to Take Water (PTTW) limits the combined daily water taking from both wells to 7,140 m$^3$/day (7,139,520 L/day).

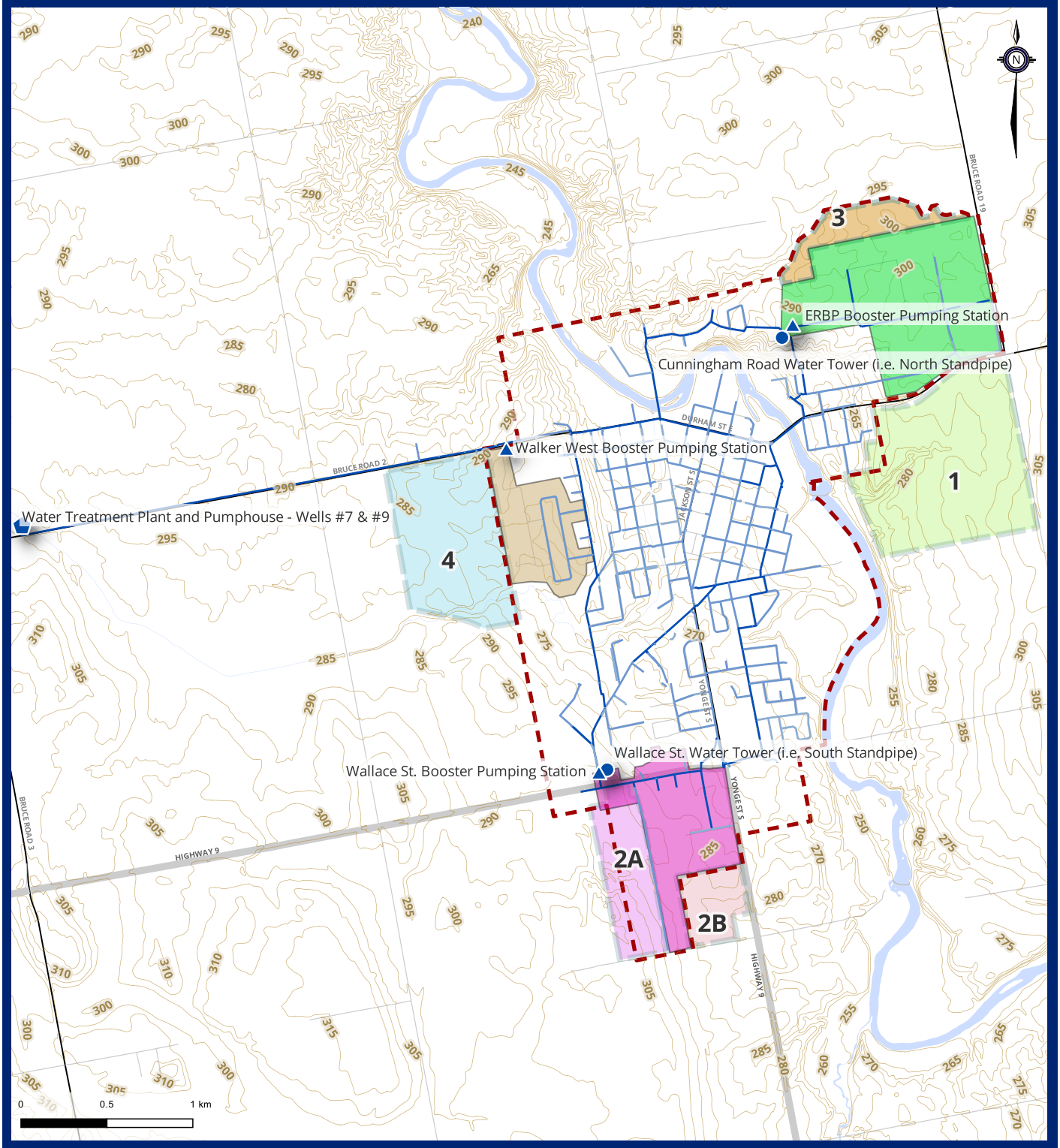
In addition to the two groundwater wells, the Walkerton Drinking Water System includes a water treatment facility that has been in service since 2004. Water flows through a UV disinfection unit for primary disinfection followed by chlorination for secondary disinfection using NSF Certified chlorine gas. The water is supplied to the community along Bruce Road 2 by a trunk main (250mmø to 300mmø). The 250mmø portion of the trunk main was constructed in 2014, and the 300mmø was constructed in 2023. The water treatment plant has a rate capacity of 7,139 m$^3$/day.

# FIGURE 8-1
## Drinking Water System Overview
Walkerton

Brockton
Come home to community

BluePlan ENGINEERING

January, 2024
223075
Projection EPSG:26917




**Drinking Water Facilities**
- Booster Station
- Pumphouse
- Standpipe
- Contour (5m)

**Water Main**
- < 200 mm
- 200 mm - 300 mm

**Pressure Zones**
- Principal Zone
- Northeast Zone
- South Zone
- West Zone

**Future Development Areas**
- 1
- 2A
- 2B
- 3
- 4

**Road Centrelines**
- Provincial Highway
- County
- Municipal
- Urban Area Boundary
- Waterbody

Document Path: W:\OwenSound\Owen Sound\223-2023\223075 RFP - Municipal Servicing Master Plan - Mun. of Brockton\Drawings\GIS\223075 - Mapping for MSP Report.qgz

### 8.2.2 Water Distribution System: Storage and Pressure

As shown in **Figure 8-1**, the water distribution system generally consists of three (3) booster pumping stations, two (2) standpipes and approximately 49 km of distribution water mains and 3 km of trunk water main. In addition, there are greater than 250 fire hydrants distributed throughout the community.

**Distribution System**

Currently, Walkerton has approximately 52 km of water mains. Based on the information available through the Municipality's GIS database, a general summary of the age of the water mains is provided in **Table 8-1**. It is noted that the water main installation dates for the period prior to 1989 did not specify a year, therefore it is interpreted that the mains identified in the database as having been installed in '1980' were actually installed earlier than the year 1989. Based on this assumption, it is estimated that 25 km of the water mains were installed during the period before 1989 (i.e., are greater than 35 years old). Typically, mains have a useful life around 50-80 years based on material. With a significant proportion of the conveyance network estimated to have been built greater than 35 years ago, it is estimated that more than half of Walkerton's mains, valves and hydrants may begin to reach the end of their useful life in the next 15 to 30 years.

**TABLE 8-1: Summary of Water Main Installation Dates**

| Installation Date | Water Main (kilometers) |
|---|---|
| Unknown | 3.75 |
| Prior to 1989 | 25.4 |
| 1990 to 1999 | 5.1 |
| 2000 to 2009 | 14.6 |
| 2010 to 2019 | 2.3 |
| 2020 to 2023 | 0.7 |
| **Total** | **51.9** |

**Pressure Zones:**

As shown in **Figure 8-1**, the water distribution system in Walkerton has four (4) pressure zones. The principal downtown pressure zone is in the area primarily to the west of the Saugeen River. The remaining three pressure zones service areas on the east hill (Northeast Zone) and to the west of the Saugeen River (i.e., the South and West Zone). These three pressure zones are equipped with booster stations to maintain adequate pressure to these lands at higher elevation. All three booster stations also have standby diesel generators to maintain pressure in these elevated areas during emergency situations. Booster stations include the following:

1. East Ridge Business Park booster station has four pumps with various pumping rates available starting from 0 to 6 litres per second (L/s) up to 126 to 250 L/s. This booster station boosts the water pressure from the North Standpipe to the properties to the east within the Northeast pressure zone.
2. The Wallace Street booster station has three pumps, two rated at 6.5 L/s and one pump rated at 78 L/s. This station boosts the water pressure for the residential and business area located to the south and west of Highway 9 (i.e., the South pressure zone).
3. The Walker West Booster Pumping Station was built in 2021 in the northwest corner of Walkerton, directly south of Bruce Road 2. It includes three normal demand pumps and two high demand pumps and supplies increased pressure for residences to the west of Thomas Street. No additional floating storage is provided for the West pressure zone.

**Standpipes:**

Standpipes provide fire and emergency water storage for both the principal pressure zone as well as the zone into which pressure is boosted, including the following:

1. The North Standpipe (i.e., Cunningham Tower) is situated proximal to the East Ridge Business Park, east of the Saugeen River, and has a total effective volume of 3,380 $m^3$. This standpipe has been in service since 1969. Coating repairs on the interior and exterior surfaces have been recently completed (i.e., in the last three years).
2. The South Standpipe is located on Wallace Street has a total effective volume of 1,486 $m^3$. This standpipe has been in service since 1954. Coating repairs on the interior and exterior surfaces have been recently completed (i.e., in the last three years).

Both standpipes float on the principal pressure zone and operate at similar elevations. The South Standpipe and North Standpipe have base elevations of approximately 290 masl and 294 masl, respectively.

**Check Valve Systems:**

Separation between the pressure zones can be maintained by closed valves which allow no flow, check valves which allow one-way flow, or pressure-reducing valves which allow two-way flow and are designed to reduce water pressure across the valve. The Municipality commonly uses check valves across pressure zone boundaries and has occasionally used closed valves at some locations. Compared to pressure-reducing valves, check valves are mechanically simpler and less likely to have maintenance challenges. Check valves are usually set up to allow flow from lower pressure zones to higher pressure zones in emergency situations, but most of the time do not allow flow, which can result in dead ends in the drinking water system, reducing the chlorine disinfection locally and reducing the flow paths through the system. If insufficient flow paths are available, parts of the system could be vulnerable to low water supply in case of a watermain break or other incident. In comparison, closed valves limit the system hydraulic paths more than check valves, in addition to the potential to cause damage to other parts of the system if they are inadvertently opened. While there are potential challenges associated with check valve and closed valve systems, under existing conditions including ongoing maintenance of the system, the Municipality has not experienced such issues.

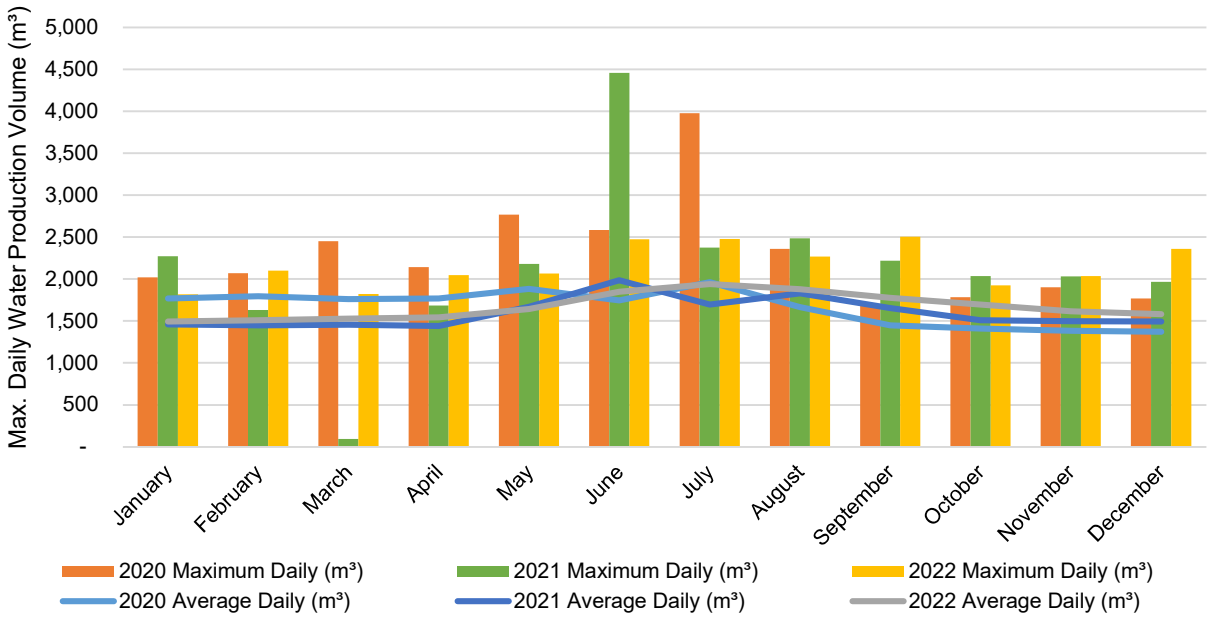
### 8.2.3 System Oversight

As of the end of 2022, the Walkerton distribution system has approximately 2,368 service connections, which serviced its current residents and businesses. Veolia Water has been retained by the Municipality to aid in the oversight of the Town's Drinking Water Quality Management System. Summary reports for the Walkerton Drinking Water System, prepared annually in accordance with O.Reg.170/03, as amended, have been used to inform the development of the Water Master Servicing Plan.

## 8.3 Current Water Demands

A graph of the average daily and maximum daily drinking water volumes produced for the period between 2020 and 2022 is provided as **Figure 8-2**. While the average daily water usage reported for each year remained relatively consistent, in the range of 1,600 $m^3$ and 1,800 $m^3$, with average daily usage for each month remaining below 2,000 $m^3$ (as depicted by the trend lines), a significantly higher peak day demand was reported in 2020 and 2021, during one of the summer months. As the capacity of the water supply system production wells and water treatment plant must be sufficient to provide water as customers require it, the historical maximum day demand is typically used to forecast future demands with growth.

**FIGURE 8-2: Walkerton Drinking Water Usage 2020 to 2022**




A summary of the drinking water usage for the five-year period between 2018 and 2022, with comparison to the water supply system capacity, is detailed in **Table 8-2**. In addition, consistent with the RCA (2021), on the basis that the existing per customer flow plus 10% is the flow per ERU, the maximum daily unit flow (per ERU) for Walkerton is presented for the years 2020 to 2022. It is noted that the number of connections (customers) to the water and sanitary systems was reported to be 2,234 in 2020 and 2,368 in 2022. Assuming that the number of new connections was equivalent in 2021 and 2022, the estimated number of connections in 2021 was 2,300. It is noted that, for the purpose of calculating the unit flow, the number of connections for 2018 and 2019 was assumed to be similar to 2020.

**Table 8-2: Water Production Volume and Demand (2018-2022)**

| | 2018 | 2019 | 2020 | 2021 | 2022 | 5-Year Average |
|---|---|---|---|---|---|---|
| PTTW Maximum Daily Allowable Water Taking and Daily Rate (per MDWL) = 7,140 m³/day | | | | | | |
| **Average Daily Takings (m³)** | 1,700 | 1,780 | 1,664 | 1,595 | 1,671 | **1,682** |
| **% of Allowable Takings** | 24% | 25% | 23% | 22% | 23% | **24%** |
| **Maximum Day Demand (m³)** | 3,105 | 3,005 | 3,977 | 4,458 | 2,504 | **3,410** |
| **% of Allowable Takings** | 43% | 42% | 56% | 62% | 35% | **48%** |
| **Maximum Day Demand Rev. (m³)** | 3,105 | 3,005 | 2,895 | 2,486 | 2,504 | **2,799** |
| **% of Allowable Takings** | 43% | 42% | 41% | 35% | 35% | **39%** |
| **Connections (Customers)** | 2,234 | 2,234 | 2,234 | 2,300 | 2,368 | **2300** |
| **Maximum Daily Unit Flow (m³/day per ERU)** | **1.5** | **1.5** | **1.4** | **1.2** | **1.2** | **1.3** |
| **Annual Total (m³)** | 620,419 | 649,747 | 598,221 | 582,398 | 608,773 | **611,912** |

Note: The Maximum Day Demand Revised (Rev.) accounts for outliers in the daily production volume data. In 2020, two outliers were removed. These were associated with a large water main break on George Street and refilling of the North Standpipe after it had been offline for an inspection. In 2021 the maximum day demand of 4,458 m³ was associated with a water main break at the Durham Street crossing, which was initially difficult to locate and isolate.

For the purpose of the water reserve capacity assessments completed herein, and as per the Design Guidelines for Drinking Water Systems (2008), statistical outliers may be reviewed prior to selecting a value. Consistent with this guideline, outliers were identified for the years 2020 and 2021 and were linked to extraneous events, such as water main breaks and the filling of a water tower. As such, the maximum day demand values were 'revised', as presented in **Table 8-2**.

The maximum day demand is the average usage on the maximum day. The Walkerton maximum day demand volumes ranged significantly during the 5-year period, with daily production volumes reported between about 2,500 $m^3$ and 3,100 $m^3$, and up to 4500 $m^3$ when outliers are considered. Overall, as shown in **Figure 8-2,** the daily flows are generally higher during the summer months. It is expected that watering of lawns, filling pools, and/or other intensive demands typically associated with the summer months leads to the higher reported usage.

Consistent with the RCA (2020), the flow per ERU was calculated using the existing customer flow (i.e., maximum day demand) plus 10%. Using this assumption, the maximum daily unit flow for the period between 2018 and 2022 was estimated to be in the range of 1.2 $m^3$/day to 1.5 $m^3$/day per ERU. To be conservative, the highest maximum daily flow unit of 1.5 $m^3$/day per ERU has been used to forecast current and future water demands within this Master Servicing Plan.

As per the Municipal Drinking Water Licence, the rated capacity (and allowable takings) of the water treatment plant is 7,140 $m^3$. The typical water usage patterns in comparison to the allowable takings suggests that under average daily takings, the water treatment plant is operating at around 24% of its capacity. However, as the water treatment plant is only considered to have sufficient capacity when it can meet the reported maximum day demand, the maximum day demand is the more relevant indicator of the reserve capacity for the water treatment plant. Using the maximum day demand as a basis, the water treatment plant is approaching approximately 45% of its capacity **(Table 8-2)**.

## 8.4 Design Criteria

### 8.4.1 Water Supply

A guiding principle for the design criteria is to ensure that demand projections are accurately predicted with an appropriate level of safety and risk management. This overall principle also ensures that infrastructure has sufficient capacity to meet the growing needs of the community and does not impede the approved/planned growth.

Design criteria were reviewed as part of this Master Servicing Plan to ensure water demands are accurate and will support sizing and timing of future infrastructure such as pipes and facilities. The development of design criteria utilized historical billing data in combination with Ontario Ministry of Environment, Conservation and Parks (MECP) Design Standards and Guidelines. Level of service and water policies were discussed and established at the outset of the project.

**Table 8-3** summarizes the water design criteria utilized at a Master Servicing Planning level for both new development areas and existing service areas. As shown, some components of the relevant design criteria are based on population.

**TABLE 8-3: Water Demand Design Criteria**

| Scenario | Average Day Demand | Maximum Day Factor [1] | Peak Hour Factor [1] |
|---|---|---|---|
| For communities of with populations between 3,001 and 10,000 persons | | | |
| **EXISTING Residential / Employment** | 450 Litres/person/day | 2.0 | 3.0 |
| For communities of with populations between 10,001 and 25,000 persons | | | |
| **FUTURE Residential / Employment** | 450 Litres/person/day | 1.9 | 2.85 |

Note: [1] *Based on MECP peaking criteria.*

### 8.4.2 Water Storage

Water storage capacity needs were based on the MECP storage requirement criteria, as outlined in the *'Design Guidelines for Drinking Water Systems (Chapter 8)'* (Published in 2008). These guidelines recommend that the total water storage available within a facility (i.e., standpipe) provide storage for flow equalization, fire flows and emergencies. The guidelines recommend that the total storage volume be equal to the sum of the following:

- The fire flow: As shown in **Table 8-4** fire flow rates and durations are linked to the population served.
- Equalization Storage: This component is equal to 25% of the maximum daily demand (i.e., one quarter of 3,105 $m^3$).
- Emergency Storage: This component is calculated as 25% of the combined equalization and fire flows.

**Table 8-4: Fire Flow Design Criteria**

| Equivalent Population | Suggested Fire Flow (L/s) | Duration (hours) | Storage Volume ($m^3$) |
|---|---|---|---|
| 500 to 1000 | 38 | 2 | 274 |
| 1000 | 64 | 2 | 461 |
| 1,500 | 79 | 2 | 569 |
| 2,000 | 95 | 2 | 684 |
| 3,000 | 110 | 2 | 792 |
| 4,000 | 125 | 2 | 900 |
| 5,000 | 144 | 2 | 1,037 |
| 6,000 | 159 | 3 | 1,717 |
| 10,000 | 189 | 3 | 2,041 |
| 13,000 | 220 | 3 | 2,376 |
| 17,000 | 250 | 4 | 3,600 |

## 8.5 Development Planning

### 8.5.1 Water Supply Capacity Needs

The Master Servicing Plan for drinking water is being completed for the growing community of Walkerton to ensure that all services, including drinking water, will continue to be adequately delivered. As development continues to occur, new residents and businesses will need to be connected to the local servicing systems, and the systems will need to have sufficient overall capacity to support their needs.

Combined, the proposed development areas have the potential to significantly increase the demand for water services. The ultimate capacity needs for the drinking water system, presented in **Table 8-5**, include consideration for the current population, the committed development (including vacant serviced lands), as well as the population equivalents for the four potential development areas. To review the servicing load, the number of ERUs calculated for each area is compared to the uncommitted capacity for each of water supply and water storage. In addition, the maximum day demand for each proposed area is calculated based on standard design criteria for water services presented in **Section 8.4.1**. These design criteria are conservative usage assumptions to ensure adequate capacity exists and/or, at such a time that additional capacity is necessitated, adequate capacity is built into the system design.

It is noted that two estimates for the number of ERUs that may be supported by the uncommitted capacity are presented. The results suggest that the estimates that are based on the design criteria (i.e., the MECP peaking criteria) are about 35% lower than the estimates using the ERUs as a basis. This confirms that the use of the MECP peaking criteria (maximum day factor) for calculating the maximum day demand for the proposed development areas is the most conservative approach.

**TABLE 8-5: Water - Existing Reserve Capacity and Estimated Capacity Needs**

| | **Capacity** | **Estimated Reserve Capacity (Remaining)** | | **Population Equivalent** | |
|---|---|---|---|---|---|
| | ($m^3$/day) | m3/day | % | ERU | Persons |
| **Supply and Treatment Capacity** | **7,140** | | | | |
| Maximum Day Demand | 3,105 | 4,035 | 57% | ---- | ---- |
| Committed Reserve (as of 2023) | 1,232 | 2,804 | 39% | 821 | 2,060 |
| Committed Reserve (ERBP Vacant) | 488 | 2,316 | 32% | 325 | 821 |
| **Uncommitted Reserve** | | | | | |
| ERUs (Based on 1.5 $m^3$ per ERU) | 2,316 (32% of Plant Capacity) | | | 1,544 | 3,906 |
| ERUs (Based on MECP Criteria) | | | | 1,017 | 2,573 |
| **Proposed Development Areas** | **Maximum Day Demand** | **Uncommitted Reserve 'Remaining'** | | | |
| Area 1 | 1,831 | 485 | 7% | 804 | 2,034 |
| Area 2A & 2B | 1,427 | 889 | 12% | 627 | 1,586 |
| Area 3 | 430 | 1,886 | 26% | 189 | 478 |
| Area 4 | 1,828 | 488 | 7% | 803 | 2,031 |
| Total | 5,516 | (3,200) | OVER | 2,423 | 6,129 |

Notes:
1. Population equivalents estimated based on ERUs are assumed to be the equivalent of 2.53 persons per ERU.
2. MECP peaking criteria based on 450 L/person, a maximum day factor of 2, and 2.53 people per ERU.

Based on the information available, there is sufficient capacity to support the committed developments that are currently approved (or seeking approval) and the remaining vacant serviced lands in the ERBP. In consideration of the capacity required to support the committed developments, there is a remaining (or uncommitted) reserve capacity of 2,316 $m^3$/day (i.e., in the range of about 1,000 to 1,550 ERUs) to support a portion of the potential development areas. Overall, it is projected that the uncommitted reserve capacity of the water system (i.e., supply and treatment) will provide sufficient capacity for almost half of the 2,423 ERUs required to provide water services to all four development areas. As shown in **Table 8-5**, while the uncommitted reserve capacity will be able to support some development, opportunities for additional water capacity will need to be explored to fully support the infrastructure needs in these four development areas.

As discussed in **Section 7**, the current rate of unit development is approximately 95 ERUs annually. Assuming the outstanding approvals are successful, and the construction rate remains similar to that experienced over the last three years, the construction of the units within the committed developments could potentially be completed in the next 12 years (i.e., by early 2035). In addition, the uncommitted reserve of 2,316 $m^3$ will support the additional development of an estimated 1,017 ERUs, providing for approximately 10 to 11 years of additional water capacity. Therefore, based on the information available at this time, it is estimated that the existing water system will provide sufficient capacity for development within a portion of the proposed development areas to about 2045. The timeline projection is highly dependent on the rate of development, which is variable.

### 8.5.2 Water Storage

Water storage capacity needs are based on the MECP storage requirement criteria, as outlined in the *'Design Guidelines for Drinking Water Systems (Chapter 8)*'. These guidelines recommend that the total water storage available within a facility provide storage for flow equalization, fire flows and emergencies. As previously presented, the guidelines recommend that the total storage volume be equal to the sum of the following:

- The fire flow: As shown in **Table 8-4** fire flow rates and durations are linked to the population served.
- Equalization Storage: This component is equal to 25% of the maximum daily demand.
- Emergency Storage: This component is calculated as 25% of the combined equalization and fire flows.

Walkerton has two water storage facilities that provide water storage capacity to the entire system, including the north and south standpipes, with a combined effective water storage capacity of 4,866 $m^3$. **Table 8-6** summarizes the storage required for the individual required storage components. As the fire flow storage is directly linked to the population served, the storage demands were presented in a similar manner, with capacities based on the population.

**TABLE 8-6: Effective Water Storage Requirements**

| Scenario | | Volume Storage Requirements (m3) | | | |
|---|---|---|---|---|---|
| | Population | Fire | Equalization | Emergency | Total |
| **Effective Water Storage (North and South Standpipe) = 4,866 $m^3$** | | | | | |
| **Existing** | 4,724 | 1,037 | 776 | 453 | 2,267 |
| **Existing and Committed** | 8,080 | 2,041 | 1,206 | 812 | 4,059 |
| **Proposed Development** | | | | | |
| | 9,000 | 2,041 | 1,413 | 864 | 4,318 |
| Area 1 (2,034 persons) | **10,000** | **2,041** | **1,638** | **920** | **4,599** |
| Area 2A & 2B (1,586 persons) | **10,100** | **2,376** | **1,661** | **1,009** | **5,046** |
| Area 3 (478 persons) | 11,000 | 2,376 | 1,852 | 1,057 | 5,285 |
| Area 4 (2,031 persons) | 12,000 | 2,376 | 2,066 | 1,110 | 5,552 |
| Total (Areas 1 to 4) = 6,129 | 13,000 | 2,376 | 2,279 | 1,164 | 5,819 |
| Total (Walkerton) = ±14,200 | 14,000 | 3,600 | 2,493 | 1,523 | 7,616 |
| | 15,000 | 3,600 | 2,707 | 1,577 | 7,883 |

Based on the population and the volume storage requirement estimates, there is sufficient water storage to accommodate the development commitments within the community of Walkerton, with the calculated storage requirement estimated to be approximately 83% of the available storage volume (i.e., 4,059 $m^3$ of the effective water storage of 4,866 $m^3$).

It is anticipated that the committed development in the Town will accommodate the Town's growth to the year 2035, at which time approximately 800 $m^3$ of uncommitted storage capacity within the storage facilities will remain. As shown in **Table 8-6**, this is equivalent to the provision of water storage to approximately an additional 1,920 persons, or about 760 ERUs. Therefore, it is projected that the uncommitted storage capacity will provide sufficient capacity for about 30% of the four development areas (i.e., approved, proposed and future potential).

Based on recent development rate of 95 ERUs annually, the existing storage facilities are expected to provide for approximately 8 years of additional water storage capacity. Therefore, based on the information available at this time, it is estimated that the existing water storage facilities will provide sufficient capacity for development within a portion of the proposed development areas to about 2043. It is noted that the timeline projection is highly dependent on the rate of development, which is variable.

## 8.6 Water System Strategy

### 8.6.1 Recommendations and Implementation Plan

The Municipality of Brockton, like many municipalities, needs to be confidently prepared to support proposed growth and development areas with a servicing plan based on a sound system-wide understanding and alternatives consideration. The Master Water Servicing Plan develops a long-term management plan that outlines the short- and long-term system maintenance and upgrade needs.

This Master Water Servicing Plan has incorporated information available to present a long-term municipal servicing strategy for the community of Walkerton. The process for developing, evaluating and selecting the preferred servicing strategy involves a review of baseline conditions, the identification of opportunities and constraints, and the development of a set of recommendations, including an implementation schedule based on the information available at this time. Critical to this assessment was the review of the existing capacity and future capacity needs based on the Municipality's existing development commitments and estimated future growth.

A summary of the recommendations, including the identification of alternatives solutions for the water supply, treatment, and storage systems is provided in **Table 8-7**. In addition, recommendations presented within this Master Servicing Plan are accompanied by a cost estimate and classification of the EA Project Schedule associated with the recommendation. It is noted that the evaluation and assessment of the Alternatives presented herein, in other words the commencement of the EA process, will need to be implemented at such a time that additional supply, storage and/or treatment plant capacity is needed (i.e., the Schedule B or C EA process).

This Plan specifically considers future development in the Walkerton area, including the addition four development areas previously identified by the Municipality as potential growth locations. The review and assessment of the community's existing water system shows that the development areas (approved, proposed and potential future) can be supported by the Municipality's existing infrastructure.

## TABLE 8-7: Summary of Recommendations and Implementation Plan for Water Services

| Population | | Water Supply and Treatment Plant | | Storage System | | General Recommendations |
|---|---|---|---|---|---|---|
| ERUs | Persons | YEAR | Recommendations | YEAR | Recommendations | |
| **Committed Development (Approved, Application in Progress or ERBP Vacant Serviced Land)** | | | | | | |
| 1,146 | 2,881 | 2023 | There is sufficient supply and treatment capacity to support the committed developments that are currently approved (or seeking approval) and the remaining vacant serviced lands in the ERBP. | 2023 | 1. There is sufficient storage for development commitments. The storage requirement for existing and commited developments is estimated to be approximately 83% of the available storage volume.<br>2. * Wallace Street standpipe condition assessment is recommended as part of the water pressure and storage review for Area 2.<br>**EA Schedule = Exempt or Schedule B** | 1. To ensure Walkerton's water services continue to provide an acceptable level of service, it is recommended that the average condition of all assets be monitored (AMP, 2021).<br><br>2. In accordance with O.Reg170/03, the Municipality should continue to complete the annual reporting requirements for the water treatment system.<br><br>3. Monitor reserve capacity.<br><br>4. The Design Guidelines for Drinking Water Systems encourage the review of water takings data, particularly prior to the selection of a value for the determination of the maximum day demand, which is a critical component for the planning and design of water systems. Therefore, it is recommended that as part of the annual reviews completed, the Municipality compare the actual water demand data to occurrences in the town that may potentially have had a significant impact on the systems demand. In this manner, outliers can be identified.<br><br>5. By-Law #2005-23 was established to regulate water distribution. To help alleviate days where excessive demand is experienced, it is recommended that educational programs be implemented and enforcement potentially be increased.<br><br>6. PTTW Renewal (2025): Required to support existing water takings. |
| | | 2024 | | 2024 | | |
| | | 2025 | | 2025* | | |
| | | 2026 | | 2026* | | |
| | | 2027 | | 2027* | | |
| | | 2028 | | 2028* | | |
| | | 2029 | | 2029 | | |
| | | 2030 | | 2030 | | |
| | | 2031 | | 2031 | | |
| | | 2032 | | 2032 | | |
| | | 2033 | | 2033 | | |
| | | 2034 | | 2034 | | |
| **Development Areas (Approved, Proposed and Potential Future)** | | | | | | |
| 95 | 240 | 2035 | The uncommitted reserve of 2,316 $m^3$ will support the additional development of an estimated 1,017 ERUs. It is generally recommended that the plant and facility planning process be intiated when 80% of the capacity is being used or about 10 years (based on maximum day demand). | 2035 | 1. The uncommitted storage will provide capacity for ±30% of the development areas, or ±8 years of capacity.<br>2. The standpipes have been in service since 1969 (N) and 1954 (S). Assuming a useful life of 80 years, replacement of the south standidpipe may be required. A capacity expansion should be considered at the time that aging infrastructure requires replacement. | |
| 190 | 480 | 2036 | | 2036 | | |
| 285 | 720 | 2037 | | 2037 | | |
| 380 | 960 | 2038 | | 2038 | | |
| 475 | 1,200 | 2039 | | 2039 | | |
| 570 | 1,440 | 2040 | | 2040 | | |
| 665 | 1,680 | 2041 | | 2041 | | |
| 760 | 1,920 | 2042 | | 2042 | | |
| 855 | 2,160 | 2043 | | 2043 | The replacement or expansion of the existing water storage facilities may be required. Alternatives may include:<br>a. New water storage facility<br>b. Expansion of, or upgrades to, existing water storage<br>c. Reductions in water demand<br>d. Limit community growth<br>e. Do Nothing<br><br>**EA Schedule = Exempt or Schedule B**<br>**Cost Estimate (Storage) = $2M to $3M**<br><br>Note: Storage facilities are best located at high elevation locations to ensure sufficient pressure and storage is maintained. | |
| 950 | 2,400 | 2044 | | 2044 | | |
| 1,045 | 2,640 | 2045 | Alternative Solutions may include:<br>a. New supply and treatment systems<br>b. Expansion of, or upgrades to, existing supply and treatment systems<br>c. Add a secondary water supply and treatment system<br>d. Obtain water from another source<br>e. Limit community growth<br>f. Do Nothing<br><br>**EA Schedule = Schedule B or C**<br>**Cost Est. (Supply) = $1.5M to $4.0M**<br>**Cost Est. (Treatment) = $4M to $10M** | 2045 | | |
| 1,140 | 2,880 | 2046 | | 2046 | | |
| 1,235 | 3,120 | 2047 | | 2047 | | |
| 1,330 | 3,360 | 2048 | | 2048 | | |
| 1,425 | 3,600 | 2049 | | 2049 | | |
| 1,520 | 3,840 | 2050 | | 2050 | | |
| 1,615 | 4,080 | 2051 | | 2051 | | |
| 1,710 | 4,320 | 2052 | | 2052 | | |
| 1,805 | 4,560 | 2053 | | 2053 | | |
| 1,900 | 4,800 | 2054 | | 2054 | | |
| *1,995* | 5,040 | 2055 | | 2055 | | |
| *2,090* | 5,280 | 2056 | | 2056 | | |
| *2,185* | 5,520 | 2057 | | 2057 | | |
| *2,280* | 5,760 | 2058 | | 2058 | | |
| *2,375* | 6,000 | 2059 | | 2059 | | |
| *2,470* | 6,240 | 2060 | | 2060 | | |

Notes: **Green** = Sufficient Capacity; **Orange** = Initiate Planning and Complete Implementation; **Blue** = Alternative Water Source/Storage Required

# FIGURE 8-3
## Drinking Water System Proposed Servicing Alternatives
Walkerton

Brockton
Come home to community

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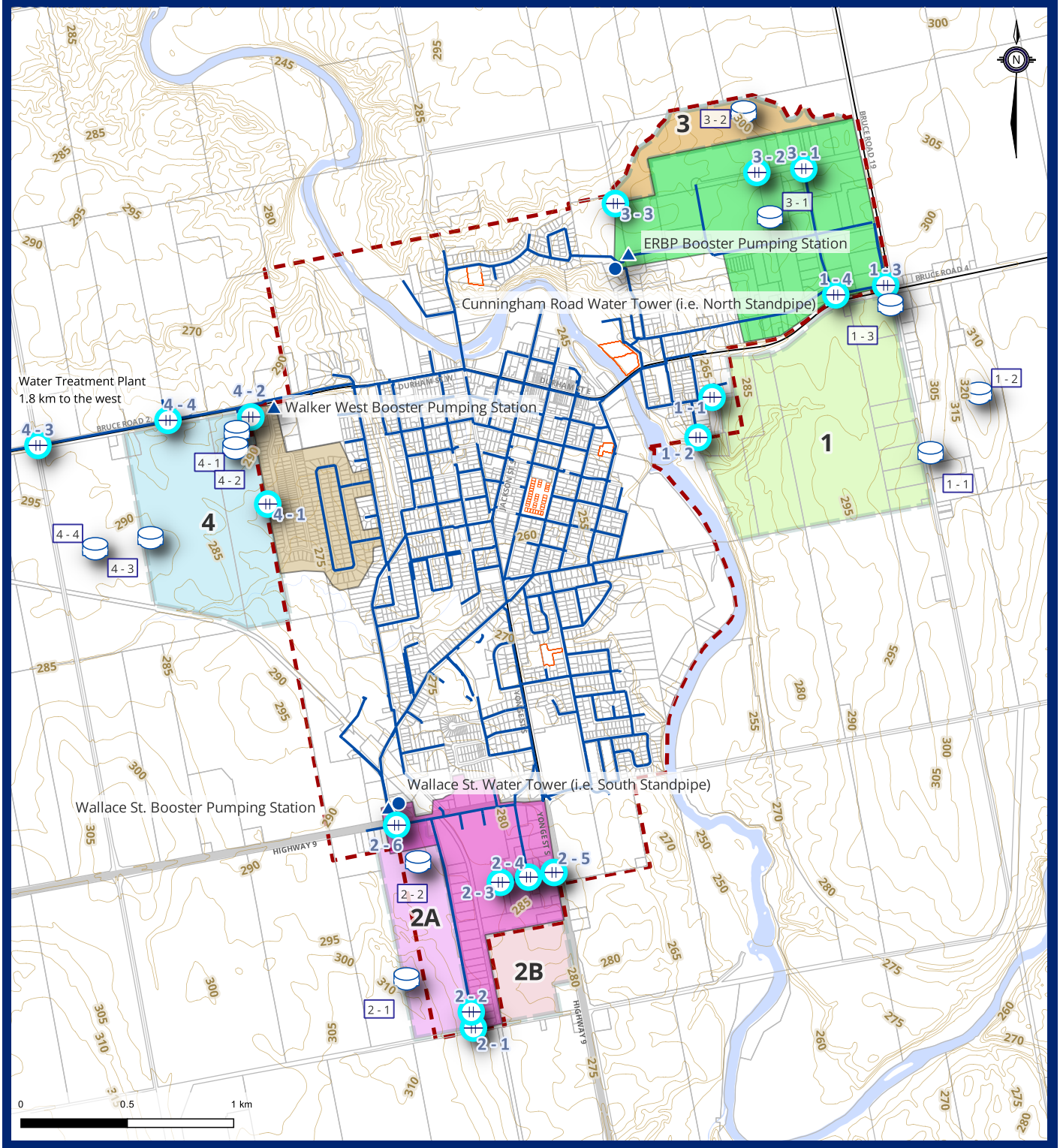
January, 2024
223075
Projection EPSG:26917




Alternative Connection Points
Alternative Storage Locations
Drinking Water Facilities
Booster Station
Pumphouse
Standpipe
Water Main
Contour (5m)
Pressure Zone
Principal Zone
Northeast Zone
South Zone
West Zone
Assessment Parcels
Assessment Parcel
Condominium Unit
Future Development Areas
1
2A
2B
3
4
Road Centrelines
Provincial Highway
County
Municipal
Urban Area Boundary
Waterbody

Document Path: W:\OwenSound\Owen Sound\223-2023\223075 RFP - Municipal Servicing Master Plan - Mun. of Brockton\Drawings\GIS\223075 - Mapping for MSP Report.qgz

### 8.6.2 General Recommendations

**Tracking of Maximum Day Demand**

The Design Guidelines for Drinking Water Systems encourage the review of water takings data, particularly prior to the selection of a value for the determination of the maximum day demand, which is a critical component for the planning and design of water systems. Therefore, as noted in **Table 8-7** it is recommended that as part of the annual reviews completed, the Municipality compare the actual water demand data to occurrences in the Town that may potentially have had a significant impact on the systems demand. Using this tool, at such a time that upgraded capacity is being considered, specifically the need for an additional water source or water treatment, the data can be reviewed and compared against needs for excessive demand (e.g., excessive water demands that occurred as a result of a major trunk main break, and erroneous metering or recording, etc.) before selecting a value and statistical outliers can be eliminated.

**Education and Enforcement of By-Law #2005-23**

By-Law #2005-23 was established to regulate water distribution. It is expected that watering of lawns, filling pools, and/or other intensive demands typically associated with the summer months leads to greater overall water usage during the summer. As system capacity is based on the maximum day demand volume, the use of water associated with summer activities could potentially have an impact on this design value. Educating the public about the benefits of sharing the water resources by limiting water use for the purpose of watering gardens or lawns and enforcing the By-Law may help alleviate the days where increased demand is experienced.

**Complete a Reserve Capacity Analysis (2027-2028)**

Once educational programs relating to summer water usage, increased enforcement of By-Law #2005-23 and/or the tracking of Maximum Day Demand have been implemented for several years, it is recommended that a review the impact of the Municipality's water usage reduction efforts be completed. This could be part of a Reserve Capacity Analysis. Summer peak will inform the impact of policy changes and winter takings could inform the impact of the additional development. It is estimated that the policy change could result in a decrease in peak takings in the range of 10% to 25%.

### 8.6.3 Water Servicing: Proposed Development Areas

This Plan considers future development in the Walkerton area, including the four development areas previously identified as potential growth locations. As part of the completion of the site design for site servicing, grading, and stormwater management, it was important to identify any development constraints and restrictions related to the broader system. This ensured that the provision for water services supplied to new developments in the community could effectively tie into Walkerton's existing system(s).

Based on a preliminary review of the servicing information available, potential service connections and servicing constraints for each proposed development area, including an overview of some general area specific considerations are provided below. Potential service connection locations, based on a desktop review of site conditions, are included in **Figure 8-3**.

**Area 1: Development Area Constraints and Potential Servicing Connections**

| | |
|---|---|
| **Fire Flows: Water Pressure and Storage** | Under existing conditions, the East Ridge Business Park (ERBP) Booster Station has sufficient pumping capacity to provide fire flow rates to Area 1. More specifically, the ERBP Booster Station has four pumps including a pump that can supply water at the rate of 126 to 250 L/s, which itself can supply sufficient fire flow for a community of 4,000 to 13,000 persons. Further, as the ERBP Booster Station is located adjacent to the East Ridge (Cunningham) Water Tower, the existing water tower will likely be able to provide a sufficient volume of water in case of a fire. However, although the EBRP Booster Station and Cunningham water tower can likely supply the fire flows needed for Area 1, more storage in the overall system may be required (depending on the sequence of development). |
| **Water Supply and Treatment Capacity** | The available capacity within Walkerton's water supply and treatment facility is sufficient to support development within Area 1. Additional supply and treatment ultimately will be needed to support all future approved development areas. The order and timing of development within the community will determine if additional supply and treatment capacity will be needed when development proceeds in Area 1. A phased approach to development in this area could be considered. |
| **Water Storage Capacity** | The total available storage capacity of Walkerton's entire system is likely sufficient to support development within Area 1. Should development of this entire area be pursued, planning for additional storage would need to be initiated. Additional storage ultimately will be needed to support all future approved development areas. The order and timing of development within the community will determine if additional storage capacity will be needed when development proceeds in Area 1. A phased approach to development in this area could be considered.<br>Under existing conditions there is insufficient water storage capacity within the Northeast Pressure Zone to support development within the entirety of Area 1. With respect to storage and pressure, it is estimated that storage for the easterly portion of development within Area 1 may be provided by the North Standpipe (i.e., Cunningham Tower) and EBRP booster station. Based on the relatively low elevation of the westerly portion of Area 1 relative to the surrounding area, it is recommended that the westerly portion of Area 1 be included in the principal pressure zone. Fire flow protection for the lower elevation lands would still be provided by the existing water storage facilities. However, should the westerly portion of Area 1 be added to the principal pressure zone, fire flow protection would be provided by storage in both standpipes and would not be dependent on any booster stations. |
| **Water Connection** | Connection 1-1: Most likely connection point at the end of Orange Street<br>Connection 1-2: Possibly an alternate connection point for westerly or southerly developments<br>Connection 1-3 or 1-4, located across Bruce Road 4, will be required to supply sufficient pressure to the easterly half of Area 1 which is at a higher elevation. This will result in an expansion of the Northeast pressure zone to the eastern half of Area 1. Pressure reducing valves may be required to separate the pressure zones.<br>With the desire to ultimately loop services through the development area, the alternatives for connection points are (at least one of Connection 1-1 & 1-2) & (at least one of Connection 1-3 & 1-4). |

**Area 2A and 2B: Development Area Constraints and Potential Servicing Connections**

| | |
|---|---|
| **Fire Flows: Water Pressure and Storage** | New or Upgraded Water Tower and Booster Pumping Station:<br>This area is in the South Pressure Zone and is characterized by relatively high elevation lands. As such, this area will require additional pressure, which the existing Wallace Street pumping station is unlikely to be able to sufficiently provide. Therefore, the residential development proposed for this area will likely require pumping station expansion or upgrade and/or a new water tower. Based on the age of the existing Wallace Street water tower, it is recommended that as part of the planning for this development the condition of the existing facilities be assessed and based on the findings, the additional pressure and storage capacity required be sought either via planning for a new or expanded storage system. Based on a preliminary review, possible new water tower and booster station locations are depicted on **Figure 8-3** (i.e., Water Storage Location 2-1 and 2-2).<br>Consistent with the requirement for additional storage capacity, where additional storage is needed to support development, it is recommended that the water storage needs of the community as a whole be reviewed at such a time development planning is initiated. The installation of a new storage facility may be subject to a Schedule B EA process or may be Exempt from the EA process. Exemption would be subject to the results of the Archaeological Screening Process (ASP) and assumes the facilities can be constructed within municipally owned lands. |
| **Water Supply and Treatment Capacity** | The available capacity within Walkerton's water supply and treatment facility is sufficient to support development within Area 2A and 2B. Additional supply and treatment ultimately will be needed to support all future approved development areas. The order and timing of development within the community will determine if additional supply and treatment capacity will be needed when development proceeds in Area 2A or 2B. A phased approach to development in this area could be considered. |
| **Water Storage Capacity** | The total available storage capacity of Walkerton's entire system is sufficient to support development within Area 2A and 2B. Additional storage ultimately will be needed to support all future approved development areas. The order and timing of development within the community will determine if additional storage capacity will be needed when development proceeds in Area 2A or 2B. A phased approach to development in this area could be considered. |
| **Water Connection** | For Area 2A, connection points could be considered along Geeson Avenue and along Highway 9 to create a loop through the development area. Specific locations would be dependent on the road configuration within the development area.<br>For Area 2B, connection could be achieved at the southern end of Geeson Avenue by extending a main along Carrick-Brant East. A loop could then be created by connecting somewhere along Industrial Road, either along the MTO Highway 9, via the Rail Trail corridor, or some other easement through the existing industrial lands. However, this may be difficult to achieve. |

**Review of Wallace Street Standpipe Storage and Area 2 Water Storage and Pressure:**

In addition to the water storage and pressure needs for potential development in Area 2A, within the 20-year planning period Walkerton is likely to need additional water storage due to population growth as well as replacement of aging infrastructure. Construction of a new water tower within Area 2A could address all three of these water storage-related needs.

Additional storage for the community as a whole will be needed as the population approaches 10,000 people. Although development and growth is expected to be directed primarily to Area 1 and Area 3, neither Area 1 nor Area 3 have ideal locations for additional storage and are already adequately serviced by the Cunningham Road Standpipe and Booster Station. Overall, the Walkerton community is projected to need additional water storage prior to Area 1 and Area 3 being fully developed. Standpipes have estimated useful lives of approximately 80 years, which for the Wallace Street Standpipe would occur in about 2034. The standpipe is understood to be in relatively good condition and may be able to remain in service for an additional decade or longer. Finally, the existing Wallace Street Standpipe is constructed on lands with an elevation around 290.5 masl, whereas the Cunningham Road Standpipe is constructed on lands with an elevation around 294 masl. Lands within Area 2A have elevations ranging between approximately 288 masl and 315 masl, which provide several alternatives for construction of a new standpipe (i.e., elevation and location). Lands within Area 2A may be preferable for constructing a larger replacement of the Wallace Street standpipe. This would be subject to review during the planning phase for this project.

There are several considerations for determining the timing of next steps within the planning process. The three major factors identified are the condition and estimated end of service life for the Wallace Street standpipe, the rate of growth within Walkerton, and developer interest in Area 2A. It should be noted that the planning, design, and construction of a new standpipe would be expected to require at least three years to complete.

**Condition Assessment (2025-2028):**

It is recommended that a condition assessment of the Wallace Street standpipe and booster station be completed. This assessment would (i) provide an estimate of the end of service life of the standpipe; (ii) recommend a maintenance program; and (iii) detail existing components of the booster station. The assessment could then be used to inform technical components and timing needs for upgrades, which would be reviewed in a Class EA study focused on the South Pressure Zone. Further, the assessment would help ensure ongoing required maintenance is carried out to extend the service life of the asset.

**South Water Storage and Pressure Zone Study (2025-2030):**

A Municipal Class EA focusing on the South Pressure Zone, the Wallace Street Standpipe, the existing booster station, and the potential for a new standpipe in Area 2A may be advanced at any time. This would be required to support development within this area, with planning and implementation taking several years to complete. The purpose of the study would be to review existing water storage and pressure capacities at the Wallace Street Standpipe, the south booster station, and in the South Pressure Zone and make recommendations for supporting development, growth, and infrastructure renewal. Several alternatives for location, sizing, and additional components of the water system required for supplying pressure should be considered in this process. Alternatives could include, but not be limited to:

- Standpipe to remain at the Wallace St. location with replacement and capacity upgrades (as required), capacity upgrades for the booster station to supply fire flows, and a larger pressure zone with higher elevations.
- New standpipe location at an elevation matching the Cunningham Road standpipe in Area 2A with additional storage capacity, pressure reducing valves to main pressure zone required, and upgrades to booster station to supply a larger pressure zone with higher elevations.
- Standpipe at the Wallace Street location with replacement (as required), new standpipe location on highest elevation lands within Area 2A supplying additional capacity and fire flows. Booster station upgrades may be required and pressure reducing valves to main pressure zone may be needed.

For additional confidence in estimating the water pressure under alternative scenarios, the development and completion of water modelling for the area could be carried out to support this study. A water model would require a complete GIS dataset in the area and potentially some localized hydrant pressures and flow rates for calibration.

The Class EA process should also consider the sizing for a replacement standpipe that would be reasonable given an 80-year useful life. The expansion of the existing standpipe and booster station at its existing location would likely be screened as exempt, whereas a new water storage facility or booster station at a new location may be subject to a Schedule B process, as identified in the Municipal Class Environmental Assessment document (March 2023).

**Area 3: Development Area Constraints and Potential Servicing Connections**

| | |
|---|---|
| **Fire Flows: Water Pressure and Storage** | This Area is entirely in the Northeast pressure zone with the ERBP booster station expected to be able to supply sufficient pressure and, under existing conditions, there is sufficient water storage capacity within the Cunningham water tower. In consideration of the pump that can supply water at the rate of 126 to 250 L/s, the ERBP Booster Station has sufficient pumping capacity to provide fire flow rates to Area 3. However, it is noted that although the EBRP Booster Station and Cunningham water tower can supply the fire flows needed, should development within Area 1 precede development in Area 3 more storage in the overall system may be required (depending on the sequence of development). At such a time that additional water storage is needed in the overall system, the higher elevation of Area 3 relative to the surrounding lands may be advantageous to the construction of a new (or additional) water storage facility. Alternatively, water storage facility locations may be considered more holistically (i.e., community-wide) and may not be necessary specifically within Area 3.<br>Based on the topographic contours, the highest elevation lands within Area 3 greater than 300 masl, a potential water storage location is identified as 3-2 in **Figure 8-3**. Higher elevation lands slightly greater than 305 masl were also noted within the ERBP, with a potential water storage location identified as 3-1 in **Figure 8-3**. As location 3-1 is more centrally located, it may provide a preferable location for a water storage facility.<br>Consistent with the requirement for additional storage capacity, where additional storage is needed to support development, it is recommended that the water storage needs of the community as a whole be reviewed at such a time development planning is initiated. The installation of a new storage facility may be subject to a Schedule B EA process or may be Exempt from the EA process. Exemption would be subject to the results of the Archaeological Screening Process (ASP) and assuming the facilities can be constructed within municipally owned lands. |
| **Water Supply and Treatment Capacity** | The available capacity within Walkerton's water supply and treatment facility is sufficient to support development within Area 3. Additional supply and treatment ultimately will be needed to support all future approved development areas. The order and timing of development within the community will determine if additional supply and treatment capacity will be needed when development proceeds in Area 3. A phased approach to development in this area could be considered. |
| **Water Storage Capacity** | The total available storage capacity of Walkerton's entire system is sufficient to support development within Area 3. Additional storage ultimately will be needed to support all future approved development areas. The order and timing of development within the community will determine if additional storage capacity will be needed when development proceeds in Area 2A or 2B. A phased approach to development in this area could be considered. |
| **Water Connection** | Potential connection points for water services have not been built yet, therefore this area is not currently available for development. However, upon completion of development within the East Ridge Business Park (Phase 3), connection points will be more readily available.<br>Connections may be possible along Ontario Road and future development Road D and/or the future Cunningham Road extension. |

**Area 4: Development Area Constraints and Potential Servicing Connections**

| | |
|---|---|
| **Fire Flows: Water Pressure and Storage** | Pressure (Facility Upgrade): This area is within moderately high elevation lands but is generally gently sloping. The proposed residential development for this area will require sufficient pressure to support the provision for water supply. The Walker West pumping station was sized to support the existing community. Additional development beyond the settlement area boundary was not considered. Therefore, development within Area 4 would likely require upgrades to the pumping station in order to supply sufficient pressure.<br>Water Storage (New Facility): Water storage is not currently available within the West Pressure Zone. As such, this area will require sufficient pressure and fire flows, which the existing pumping station is unlikely to be able to sufficiently provide. It is anticipated that potential residential development proposed for this area would likely require upgrades to the pumping station and a new water tower.<br>Potential Storage Locations: The topographic contours across Area 4 are characterized by a shallow crosswise "saddle" with high points to the northeast and centrally to the west. Potential storage locations 4-1 and 4-2 are in the northeast portion at an elevation of approximately 292 masl. Potential storage locations 4-3 and 4-4 are located to the west at elevations of 292 masl and 294 masl, respectively.<br>Consistent with the requirement for additional storage capacity, where additional storage is needed to support development, it is recommended that the water storage needs of the community as a whole be reviewed at such a time development planning is initiated. The installation of a new storage facility may be subject to a Schedule B EA process or may be Exempt from the EA process. Exemption would be subject to the results of the Archaeological Screening Process (ASP) and assumes the facilities can be constructed within municipally owned lands. |
| **Water Supply and Treatment Capacity** | The available capacity within Walkerton's water supply and treatment facility is sufficient to support development within Area 4. Additional supply and treatment ultimately will be needed to support all future approved development areas. The order and timing of development within the community will determine if additional supply and treatment capacity will be needed when development proceeds in Area 4. A phased approach to development in this area could be considered. |
| **Water Storage Capacity** | The total available storage capacity of Walkerton's entire system is likely sufficient to support development within Area 4. Should development of this entire area be pursued, planning for additional storage would need to be initiated. Additional storage ultimately will be needed to support all future approved development areas. The order and timing of development within the community will determine if additional storage capacity will be needed when development proceeds in Area 4. A phased approach to development in this area could be considered. |
| **Water Connection** | Connections are best achieved at Devinwood Drive and along Bruce Road 4 to the Walker West Pumping Station.<br>Connections directly to the trunk main along Bruce Road 4 could be possible but include higher risk as the trunk main is critical infrastructure, and more difficult to manage the pressure zone.<br>Future looping along Sideroad 5 is possible in the long-term plan for the continued westward expansion, as a stub has been left to connect to at Sideroad 5. |

Overall, the decision to proceed with development in each proposed area may be dependent on private developers, and it will be important for the Municipality and developers to reference to the Master Servicing Plan to provide a planning framework for each of their services as development proceeds. It is recognized that the preferred servicing strategies have the opportunity for further enhancement and optimization as further details regarding the development areas present themselves.

# 9. WASTEWATER MASTER SERVICING PLAN

## 9.1 Walkerton Official Plan

The Municipality's goal is to provide a full range of affordable municipal services to meet the economic, social, and environmental needs of the community. Sewage disposal policies are specified in Section 5.3 of the WOP. Policies relevant to the municipal wastewater services include the following:

> *The Walkerton Sewage Treatment Plant (STP) has a capacity of 7,550m³/day and the current average is around 2,500m³/day (2016 data). The STP has sufficient capacity to handle the projected increase in population to 2026.*

## 9.2 Sanitary System Overview

### 9.2.1 Sanitary System Components

The Walkerton Water Pollution Control Plant (WPCP) was built in 1967. The treatment plant is located in the northwest corner of the community, north of Bruce Road 2 and to the west of the Saugeen River. The plant outlets treated water to the Saugeen River. The WPCP is a conventional activated sludge process with a rated capacity of 7,560 $m^3$ per day and a peak capacity of 18,160 $m^3$ per day. An overview of sanitary system is presented in **Figure 9-1** and is comprised of the following components:

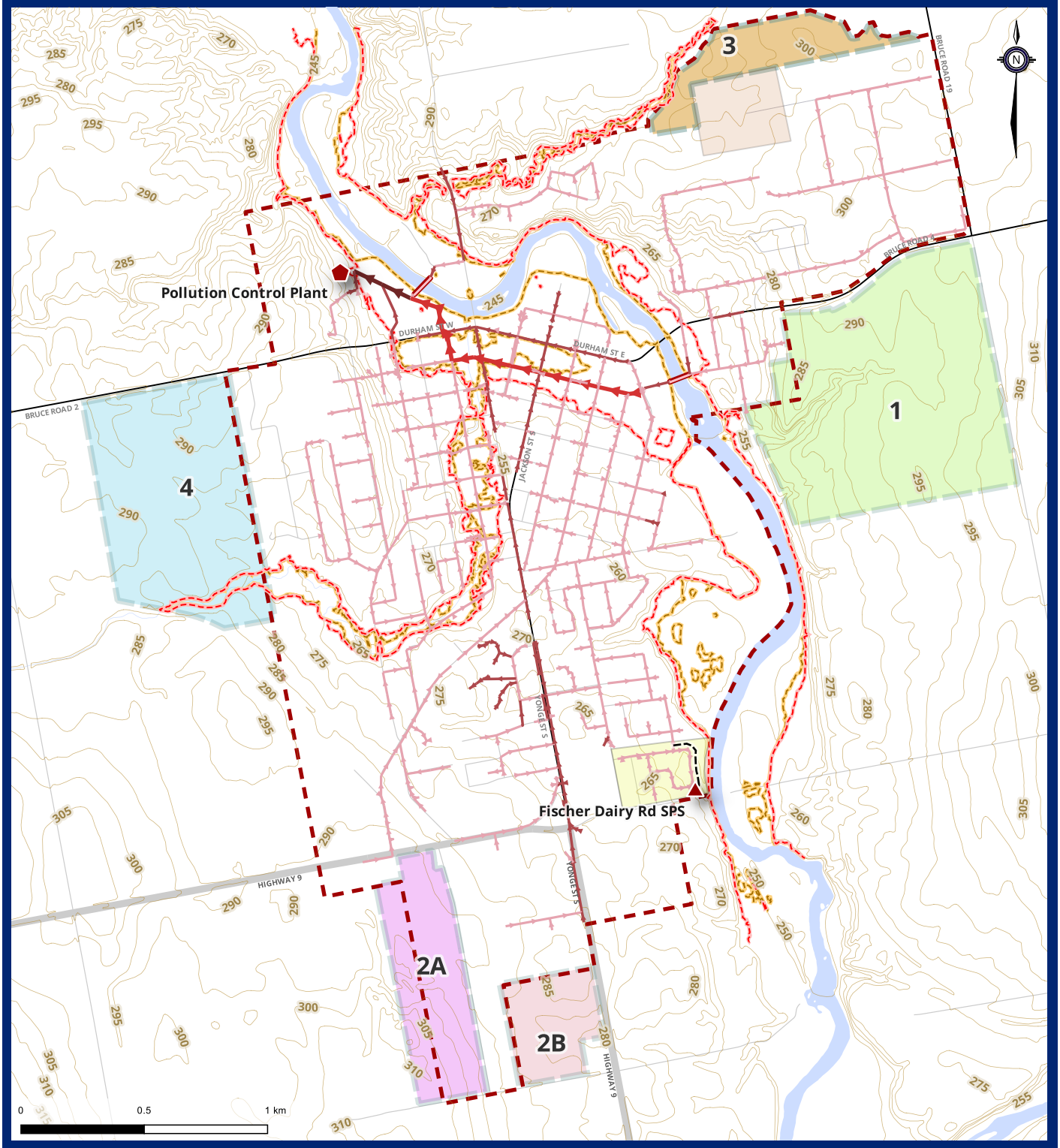
1. The Walkerton Pollution Control Plant
2. Collection System: This consists of approximately 43 km of gravity sewers flowing to a sewage pumping facility. In addition, there are two twinned siphons crossing the Saugeen River, constructed in 1972.
3. One Sanitary Booster Station: The sanitary booster pumping station services the small Riverview Estates subdivision in the southeast area of the community. The "Fischer Dairy Sanitary Pumping Station (SPS)" in Riverview Estates has a capacity of 2.7 L/s and came into service in 2018.
4. Sewage Pumping Facility: Equipped with 3 pumps with variable speed drives. This system provides the following:
    - Screening and grit removal with 3 primary clarifiers, four aeration cells and four secondary clarifiers.
    - Phosphorus removal, enhanced by the addition of ferric chloride.
    - Ultraviolet disinfection treatment.
5. Storage: The facility has two stage anaerobic digestion and additional sludge storage to ensure favorable conditions for land application. These are referred to as the Primary and Secondary Digesters.
6. Gas Generator: A bio-gas/natural gas generator provides stand-by power to the entire facility.
7. Planned Work: A portion of the future development areas in the East Ridge Business Park is proposed to be serviced by a low-pressure grinder pump system.

# FIGURE 9-1
## Wastewater System Overview
Walkerton

Brockton
Come home to community

BluePlan ENGINEERING

January, 2024
223075
Projection EPSG:26917




Waste Water Facilities
- Lift Station
- Treatment Plant
- Siphon
- Trunk Main and Critical Asset
- Trunk Main and not Critical Asset
- Gravity Main and Critical Asset
- Gravity Main
- Force Main
- 100yr Floodline
- Regional Storm Hazel Floodline

Contour (5m)

Catchments
- Fisher Dairy SPS
- ERBP Proposed Low Pressure System
- Urban Area Boundary

Road Centrelines
- Provincial Highway
- County
- Municipal

Future Development Areas
- 1
- 2A
- 2B
- 3
- 4
- Waterbody

Document Path: W:\OwenSound\Owen Sound\223-2023\223075 RFP - Municipal Servicing Master Plan - Mun. of Brockton\Drawings\GIS\223075 - Mapping for MSP Report.qgz

**Gravity Mains**

Currently, Walkerton has approximately 43 km of gravity sewers ranging in size between 100mmø and 750mmø. Based on the information available through the Municipality's GIS database, a general summary of the age of the sanitary lines is provided in **Table 9-1**. The information available suggests that some of the gravity mains were installed as early as 1967, with an estimated 2.5 km of the gravity mains installed greater than 55 years ago. The gravity main installation dates for the period between 1970 and 1989 did not specify a specific year, therefore it is interpreted that the mains identified in the database as having been installed in '1980' were actually installed sometime between 1970 and 1989. Based on this assumption, it is estimated that 24 km of the gravity mains were installed during the period between 1970 and 1989. Typically, gravity mains have a useful life around 50-80 years based on material. With a significant proportion of the conveyance network estimated to have been built in the range of 35 to 55 years ago, it is estimated that more than half of Walkerton's mains and manholes may reach the end of their useful life in the next 15 to 30 years. It is noted that both siphon crossings of the Saugeen River were constructed in 1972, suggesting that a significant proportion of the sanitary system may have been constructed around that time.

**TABLE 9-1: Summary of Gravity Main Installation Dates**

| Installation Date | Gravity Main (kilometers) |
|---|---|
| Unknown | 2.5 |
| 1967 to 1970 | 0.02 |
| 1970 to 1989 | 23.7 |
| 1990 to 1999 | 4.3 |
| 2000 to 2009 | 9.0 |
| 2010 to 2019 | 2.7 |
| 2020 to 2023 | 0.8 |
| **Total** | **43.0** |

**Siphons**

The capacity of each of the two siphons crossing the Saugeen River was reviewed based on as-constructed drawings and estimating the condition and loads on the siphons. Both siphons were constructed in 1972. The north siphon crosses from Hannah Street on the north of the Saugeen River to connect with the main trunk near the WPCP. The Hannah Street siphon has a 150mmø pipe and a 250mmø pipe. The east siphon crosses from Orange Street on the east of the Saugeen River and connects to the trunk main on Scott Street. The Orange Street siphon has a 150mmø pipe and a 300mmø pipe. Flow monitoring at the downstream (outlet) of each siphon was completed as part of the Inflow and Infiltration Study (I&I Study) completed by BM Ross (April 2023). This I&I study noted that the Hannah Street siphon had a catchment area of 19 ha, and the Orange Street siphon had a catchment area of 75 ha.

Desktop calculations estimate that the capacity of the 150mmø diameter pipe is approximately 10 L/s for the Hannah Street Siphon and 9 L/s for the Orange Street Siphon. Comparatively, the measured average daily flow in the siphons were 0.67 L/s in the Hannah Street Siphon and 1.54 L/s in the Orange Street Siphon. These estimated capacities were calculated assuming no additional head pressure except for the inlet and outlet head differences and included entrance and exit losses. Additional head would apply more pressure and increase the flow through the siphon. The calculations are provided in **Appendix C**.

### 9.2.2 System Oversight

As of the end of 2022, the Walkerton collection system has approximately 2,368 service connections, which service its current residents and businesses. Veolia Water has been retained by the Municipality to aid in the oversight of Walkerton's Water Pollution Control Plant. Summary reports for the plant, prepared annually in accordance with the Environmental Compliance Approval requirements for the plant, have been used to inform the development of the Wastewater Master Servicing Plan.

## 9.3 Sanitary System Demands

### 9.3.1 Current Wastewater Flows

A summary of the wastewater flows for the three-year period between 2020 and 2022, with comparison to the wastewater treatment plant capacity, is detailed in **Table 9-2**. In general, plant usage is currently approaching approximately 45% to 50% of the approved capacity for average daily flows and maximum peak capacity. In addition, consistent with the RCA (2021), the existing demand for capacity presented in the table is considered to be the annual average wastewater flow. For customer demand projections, a customer is considered to be equivalent to an ERU which, to account for non-residential growth, the flow has been increased by 10% per customer. As shown in **Table 9-2**, this results in a unit flow of 1.6 $m^3$/day for future customers (i.e., per ERU).

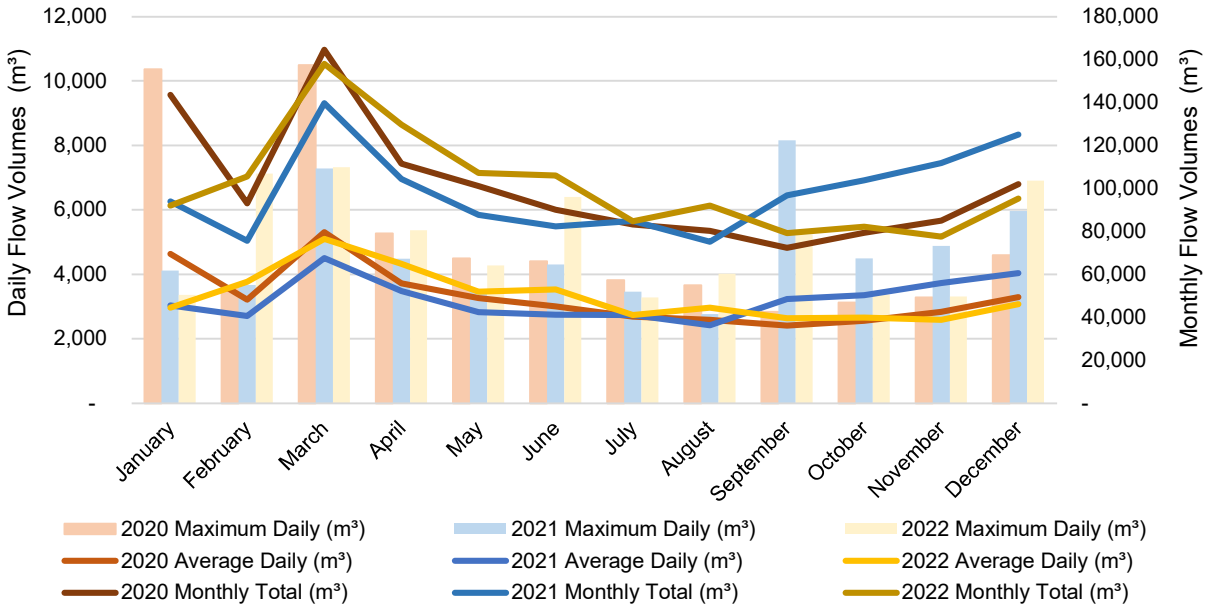
**TABLE 9-2: Wastewater Flows (2020-2022)**

| | 2020 | 2021 | 2022 | 3-Year Average |
|---|---|---|---|---|
| **Plant Capacity (Annual Average Daily Flow) = 7,560 $m^3$/day** | | | | |
| **Annual Average Flow ($m^3$)** | 3,290 | 3,231 | 3,315 | **3,279** |
| **% of Plant Capacity** | 44% | 43% | 44% | **43%** |
| **Maximum Peak Capacity = 18,160 $m^3$/day** | | | | |
| **Peak Flow Capacity ($m^3$)** | 10,492 | 8,158 | 7,323 | **8,658** |
| **% of Peak Capacity** | 58% | 45% | 40% | **48%** |
| **Connections (Customers)** | 2,234 | 2,300 | 2,368 | **----** |
| **Maximum Daily Unit Flow ($m^3$/day per ERU)** | 1.62 | 1.55 | 1.54 | **1.57** |
| **Annual Total ($m^3$)** | 1,205,646 | 1,180,796 | 1,208,850 | **1,198,431** |

Total annual wastewater flows reported for the Wastewater Treatment Plant have consistently been about double the annual treated water flow volumes reported for the Walkerton Drinking Water System. The average yearly volume of wastewater is approximately 1,200,000 $m^3$, whereas the yearly volume of drinking water produced is consistently in the range of 600,000 $m^3$. It is typically expected that some of the treated water flows will be lost to the environment through lawn watering, hydrant flushing, water main breaks, street cleaning, pool filling, or other water usages that generally do not discharge to the sanitary sewer collection system. Therefore, based on the bulk flow rates, it is probable that greater than 50% of the flows directed to the wastewater treatment plant have entered the sanitary system through infiltration or inflow.

A graph of the average daily, maximum daily, and total monthly wastewater flow volumes received at the plant during the period between 2020 and 2022 is provided as **Figure 9-2**. The full dataset is provided in **Appendix C**. As shown on the graph, the inflow and infiltration rates appear to be seasonally variable, generally showing spring and fall peaks with lower summer flows. The increased wastewater flow rates generally coincide with the wetter months of the year, specifically when higher groundwater tables are typically present and/or precipitation rates are greater (i.e., in the spring and fall). The significant differences between 'dry period' flows and 'wet period' flows have consistently been noted in the summary reports prepared by Veolia. Although this type of system behavior is not unusual for older collection systems, the Municipality retained B.M. Ross to complete an Infiltration-Inflow Study (April 2023) for Walkerton's wastewater collection system. A copy of this Report is enclosed in **Appendix D** and the results of these investigations are summarized herein.

**Figure 9-2: Walkerton WPCP Flows 2020-2022**




### 9.3.2 Findings of Infiltration-Inflow (I&I) Study (B.M. Ross, 2023)

An investigation and review of the inflow from surface water and infiltration from groundwater into the sanitary sewer systems was completed to quantify the amount of inflow and infiltration entering the community's sanitary system and to identify the specific sources, where possible. Sewage flows managed by the wastewater treatment plant are made up of three components, as follows:

**True Sewage Flow:** This is the sanitary waste component of the True Sewage Flow that is not directly or indirectly related to precipitation or groundwater.

**Infiltration (from Groundwater):** This is groundwater that enters a sanitary system from below the ground surface through cracked pipes, unsealed pipe joints, unsealed maintenance hole (MH) precast joints, cracked MHs and/or defective lateral connections. Infiltration may change with season, period of wet weather and changes in the water table elevation. However, infiltration is generally consistent and adds a relatively consistent degree of base flow to the True Sewage Flow.

**Inflow (from Rainfall):** This is water that enters a sanitary sewer system as a direct result of precipitation/high runoff events. Inflow flow responses peak quickly in response high surface water runoff events and subside soon after. Inflow includes water which enters a sanitary system at the ground surface through MHs, cleanouts, backed up overflow pipes, and/or illegal or unauthorized catch basin or roof drain connections. Cresting conditions on the Saugeen River may inundate sanitary sewer infrastructure, causing large inflow responses.

The flow monitoring occurred between October 2021 and January 2022. Therefore, the inflow and infiltration rates found in the I&I Study may represent a period of relatively high inflow and infiltration. Estimates of true sewage flow were based on dry weather flows. The flow monitoring analysis found that, in general, infiltration rates were significantly higher than inflow. Although the report did not directly estimate I&I percentages, Table 4.1 in the report can be used to calculate that between 77% and 84% of water reaching the WPCP was from I&I during the study period.

The report concluded that *'inflow (directly related to precipitation) is not significant. Infiltration (groundwater) is directly related to the water table but significantly greater than typical design guideline values. Sections of the collection system contributing infiltration have been identified and warrant further investigations. Infiltration in general is largely dispersed throughout the system'*.

The report generally recommended continued efforts to locate and address, to the extent feasible, contributing locations and to address infiltration through repair. An on-going investigation and maintenance program can both (i) prevent conditions from worsening and (ii) reduce infiltration and preserve hydraulic capacity. As part of these efforts, CCTV inspections, starting in the primary areas of concern, were recommended to occur in the spring or fall when inflow and infiltration rates are expected to be greatest.

## 9.4 Design Criteria: Wastewater

A guiding principle of design criteria is to ensure that the flow projections are adequately predicted with an appropriate factor of safety and risk management. This overall principle also ensures that infrastructure has sufficient capacity to meet the growing needs of the community and does not impede the approved/planned growth.

The design criteria were reviewed as part of this Master Servicing Plan to ensure wastewater flows are accurate and will support sizing and timing of future infrastructure such as pipes and facilities. **Table 9-3** summarizes the wastewater design criteria utilized as part of this Master Servicing Plan for both new development areas and existing service areas.

**Table 9-3: Wastewater Design Criteria**

| Scenario | Average Day Flow | Peaking Factor | Wet Weather Infiltration Rate |
|---|---|---|---|
| Existing Residential / Employment | 450 L/person/day | Harmon (min. 2.0, max. 4.0) | 0.69 L/s/ha |
| Future Residential / Employment | 450 L/person/day | Harmon (min. 2.0, max. 4.0) | 0.28 L/s/ha |

The peaking factor is used to forecast the maximum/peaking flows for any new proposed design capacity. The above average and maximum/peak flows are highly impacted by inflow and infiltration and by wet weather events. Design criteria under the MECP's Consolidated Linear Infrastructure (CLI) Environmental Compliance Approval (ECA) program will apply a peak inflow and infiltration allowance of up to 0.28 L/s/ha for sizing newly constructed sewer pipe. Older, pre-existing pipes are assumed to allow an infiltration rate of up to 0.69 L/s/ha.

## 9.5 Development Planning: Sanitary System Capacity Needs

### 9.5.1 Average Daily Flows

The Master Servicing Plan for wastewater is being completed for the growing community of Walkerton to ensure that all services, including sanitary services, will continue to be adequately delivered. The existing wastewater treatment plant is a conventional activated sludge process with a rated capacity of 7,560 $m^3$ per day and a peak capacity of 18,160 $m^3$ per day. As development continues to occur, new residents and businesses will need to be connected to the local servicing systems, and the systems will need to have sufficient overall capacity to support their needs.

Combined, the proposed development areas have the potential to significantly increase the demand for wastewater services. The ultimate capacity needs for the sanitary system, presented in **Table 9-4**, includes consideration for the current population, the committed development, as well as the population equivalents for the four development areas. To review the servicing load specific to the plants rated capacity of 7,560 $m^3$/day, the number of ERUs calculated for each area is compared to the uncommitted plant capacity for wastewater. In addition, the average daily flow forecast for each proposed area is calculated based on the unit flow for wastewater of 1.6 $m^3$/day per ERU, as presented in **Section 9.3**.

**TABLE 9-4: Wastewater - Existing Reserve Capacity and Estimated Capacity Needs (Based on Average Daily Flows)**

| | Capacity | Estimated Reserve Capacity (Remaining) | | Population Equivalent | |
|---|---|---|---|---|---|
| | ($m^3$/day) | m3/day | % | ERU | Persons |
| **Total Plant Capacity** | **7,560** | | | | |
| Average Daily Flow | 3,279 | 4,281 | 57% | ---- | ---- |
| Committed Reserve (as of 2023) | 1,314 | 2,967 | 39% | 821 | 2,060 |
| Committed Reserve (ERBP Vacant) | 520 | 2,447 | 32% | 325 | 821 |
| **Uncommitted Reserve** | | | | | |
| ERUs (Based on 1.6 $m^3$ per ERU) | 2,447 (32%) | | | 1,530 | 3,870 |
| **Proposed Development Areas** | **Average Daily Flow** | **Uncommitted Reserve 'Remaining'** | | | |
| Area 1 | 1,286 | 1,161 | 15% | 804 | 2,034 |
| Area 2A & 2B | 1,003 | 1,444 | 19% | 627 | 1,586 |
| Area 3 | 302 | 2,145 | 28% | 189 | 478 |
| Area 4 | 1,285 | 1,163 | 15% | 803 | 2,031 |
| Total | 3,877 | (1,429) | OVER | 2,423 | 6,129 |

Notes:
1. Population equivalents estimated based on ERUs are assumed to be the equivalent of 2.53 persons per ERU.
2. (44) brackets denote capacities that fall below the Total Plant Capacity.

Based on the information available, there is sufficient capacity to support the committed developments that are currently approved (or seeking approval) and the remaining vacant serviced lands in the ERBP. In consideration of the capacity required to support the committed development, there is a remaining (or uncommitted) reserve capacity of 2,447 $m^3$/day (i.e., or 1,530 ERUs) to support a portion of the proposed development areas. Overall, it is projected that the uncommitted reserve capacity at the water treatment plant will provide sufficient capacity for approximately 65% of the 2,423 ERUs estimated for the proposed development areas. As shown in **Table 9-4**, while the uncommitted reserve capacity will be able to support the majority of the proposed development, opportunities for additional wastewater capacity will need to be explored to fully support the infrastructure needs in the four development areas identified. It is noted that there is sufficient capacity to service Walkerton to the year 2046 (the planning horizon for this MSP).

As discussed in **Section 7**, the current rate of unit development is approximately 95 ERUs annually. Assuming the outstanding approvals are successful, and the construction rate remains similar to that experienced over the last three years, the construction of the units within the committed developments could potentially be completed in the next 12 years (i.e., by early 2035). In addition, the uncommitted reserve of 2,447 $m^3$ will support the additional development of an estimated 1,530 ERUs, providing for an additional 16 years of wastewater treatment capacity based on the annual average flows. Therefore, based on the information available at this time, it is estimated that the rated capacity of the existing wastewater treatment plant could potentially provide sufficient capacity for development within a portion of the proposed development areas to about the year 2050. However, it is noted that the timeline projection is highly dependent on the rate of development, which is variable.

### 9.5.2 Wastewater Maximum Day Flows

In addition to the review of the potential adequacy of the rated capacity of the wastewater treatment plant to accommodate future growth in the community of Walkerton, the peak capacity of 18,160 $m^3$ per day must also be considered. This component is highly influenced by inflow and infiltration.

Details about the proposed development areas, including potential land use, area, population, and service design requirements, are provided in **Table 9-5**. The summary table includes estimates of the reserve capacity for wastewater maximum day flows that would be required to service each of the development areas individually. The infiltration rates were based on the Infiltration and Inflow (I&I) Study (April 2023) which determined an average I&I rate of 0.082 L/s/ha across the entire wastewater system. As such, the Maximum Day Flow was estimated by multiplying the Average Day True Sewage Flow by the Harmon Factor and adding the infiltration rate. Similar to the water usage, daily wastewater flows (i.e., average day true sewage flow) are assumed to be 450 litres per capita. It is noted that these design criteria are conservative usage assumptions to ensure adequate capacity exists and/or, at such a time that additional capacity is necessitated, adequate capacity is built into the system design.

**TABLE 9-5: Proposed Future Development Area – Population Forecast and Servicing Needs**

| | Units | Area 1 | Area 2A&2B | Area 3 | Area 4 | Combined |
|---|---|---|---|---|---|---|
| Developable Area | ha | 53.6 | 41.8 | 12.6 | 53.5 | 161.5 |
| Equivalent Residential Units | ERU | 804 | 627 | 189 | 803 | 2,423 |
| Population Equivalent | Persons | 2,034 | 1,586 | 478 | 2,031 | 6,129 |
| Harmon Factor | | 2.95 | 2.97 | 3.02 | 2.95 | 2.80 |
| Wastewater Infiltration | $m^3$/day | 380 | 296 | 89 | 379 | 1,144 |
| Wastewater: Average Day True Sewage Flow | $m^3$/day | 915 | 714 | 215 | 914 | 2,758 |
| Wastewater Average Day Flow Including Infiltration | $m^3$/day | 1,295 | 1,010 | 304 | 1,293 | 3,902 |
| **Maximum Peak Capacity = 18,160 $m^3$/day** | | | | | | |
| Peak Capacity (2021-2023) | $m^3$/day | 8,658 $m^3$/day (48%) | | | | |
| *Peak Capacity Remaining (2023)* | *$m^3$/day* | *9,502 $m^3$/day (52%)* | | | | |
| Committed Reserve (Est.) | $m^3$/day | 4,490 $m^3$/day | | | | |
| Uncommitted Reserve | $m^3$/day | 5,012 $m^3$/day (37%) | | | | |
| Wastewater Maximum Day Flow | $m^3$/day | 3,079 | 2,415 | 739 | 3,074 | 8,871 |
| Remaining Capacity | $m^3$/day | 1,933 | 2,597 | 4,273 | 1,938 | (3,859) |
| | (%) | 11% | 14% | 24% | 11% | OVER |

Based on the information available, in consideration of the maximum peak capacity for the wastewater treatment plant, there is sufficient capacity to support the committed developments. In consideration of the capacity required to support the committed development, there is a remaining (or uncommitted) reserve capacity of approximately 5,000 $m^3$/day to support a portion of the development areas identified. Overall, it is projected that the uncommitted reserve capacity at the water treatment plant will provide sufficient wastewater capacity for approximately 55% (or an estimated 1,370 ERUs) of the proposed development areas.

As discussed in **Section 7**, the current rate of unit development is approximately 95 ERUs annually. Assuming the outstanding approvals are successful, and the construction rate remains similar to that experienced over the last three years, the construction of the units within the committed developments could potentially be completed in the next 12 years (i.e., early 2035). In addition, the uncommitted reserve of 5,200 $m^3$ will support the additional development of an estimated 1,370 ERUs, providing for approximately 15 years of capacity based on the maximum peak capacity. Therefore, it is estimated that the maximum peak capacity for the wastewater treatment plant could potentially provide sufficient capacity for development within a portion of the proposed development areas to about the year 2050. However, it is noted that the timeline projection is highly dependent on the rate of development, which is variable.

As shown in **Table 9-5**, while the uncommitted reserve capacity will be able to support some development, opportunities for additional wastewater peak capacity will need to be explored to fully support the infrastructure needs in the four development areas identified. However, there is sufficient capacity to service Walkerton to the year 2046 (the planning horizon for this MSP).

As the maximum peak capacity is highly influenced by inflow and infiltration, the Municipality may benefit from exploring opportunities to improve the efficacy of the collection infrastructure, such as gravity mains, manholes, etc. While some inflow and infiltration into the collection system is expected, reducing inflow and infiltration may lead to cost savings through reducing the flow requiring conveyance and treatment. High inflow and infiltration rates may also be an indicator that some mains and structures are nearing the end of their useful life and infrastructure renewal may be required. Rather than expand existing treatment processes to support inflow and infiltration, generally it is more economical to reduce inflow and infiltration, to preserve existing capacity.

## 9.6 Wastewater System Strategy

### 9.6.1 Recommendations and Implementation Plan

The Municipality of Brockton, like many municipalities, needs to be confidently prepared to support proposed growth and development areas with a servicing plan based on a sound system-wide understanding and alternatives consideration. The Master Wastewater Servicing Plan develops a long-term management plan that outlines the short- and long-term system maintenance and upgrade needs.

This Master Wastewater Servicing Plan has incorporated information available to present a long-term municipal servicing strategy for the community of Walkerton. The process for developing, evaluating, and selecting the preferred servicing strategy involves a review of baseline conditions, the identification of opportunities and constraints, and the development of a set of recommendations, including an implementation schedule based on the information available at this time. Critical to this assessment was the review of the existing and future capacity needs based on the Municipality's existing development commitments and estimated future growth.

A summary of the recommendations, including the identification of alternatives solutions for the wastewater treatment plant and the system, is provided in **Table 9-6**. In addition, recommendations presented within this Master Servicing Plan are accompanied by a cost estimate and classification of the EA Project Schedule associated with the recommendation. It is noted that the evaluation and assessment of the Alternatives presented herein, in other words the commencement of the EA process, will need to be implemented at such a time that additional treatment plant capacity is needed (i.e., the Schedule B or C EA process).

This Plan specifically considers future development in the Walkerton area, including the four development areas previously identified by the Municipality as potential growth locations. The review and assessment of the community's existing wastewater system shows that development in the community can be supported by Walkerton's existing infrastructure to the year 2046.

### 9.6.2 General Recommendations

**Upgrades to the sewage collection system:**

Within the Walkerton Water Pollution Control Plant Summary Report (2022, Veolia), it was noted that there are significant differences between the 'dry period' flows and 'wet period' flows. While this is not unusual for older collection systems, it was recommended that upgrades of the sewage collection system should continue to occur. The basis for this recommendation is to decrease infiltration, which would decrease costs and risks of operational by-passes during extreme wet periods.

## TABLE 9-6: Summary of Recommendations and Implementation Plan for Wastewater Services

| Development Status | Population | | YEAR | Wastewater Treatment Plant | General Recommendations |
|---|---|---|---|---|---|
| | ERUs | Persons | | | |
| **Committed Development (Approved, Application in Progress or ERBP Vacant Serviced Land)** | 1,146 | 2,881 | 2023 | Plant usage is currently approaching approximately 45% to 50% of the approved capacity for average daily flows and maximum peak capacity. There is sufficient capacity to support the committed developments. | 1. To ensure Walkerton's wastewater services continue to provide an acceptable level of service, it is recommended that the condition of all assets be monitored (AMP, 2021).<br><br>2. It is recommended that the Municipality continue to complete the annual reporting requirements for the wastewater treatment plant.<br><br>3. The Infiltration-Inflow Study (B.M.Ross, 2023) generally recommended continued efforts to locate and address, to the extent feasible, contributing infiltration locations and to address infiltration through repair. An on-going investigation and maintenance program can both (i) prevent conditions from worsening and (ii) reduce infiltration and preserve hydraulic capacity. As part of these efforts, CCTV inspections, starting in the primary areas of concern, were recommended to occur in the spring or fall when inflow and infiltration rates are expected to be greatest.<br><br>4. Monitor flow rates, particularly after infiltration and inflow mitigation measures are implemented. This can be used to review system the condition and/or the success (or otherwise) of flow reduction programs. |
| | | | 2024 | | |
| | | | 2025 | | |
| | | | 2026 | | |
| | | | 2027 | The Municipality has an aging Treatment Plant. Currently, the Municipality completes regular maintenance on the system, and replaces or repairs system components, as needed (as outlined in the Veolia Annual Reports). Therefore, it is recommended that the Municipality continue its existing maintenance program. The Municipality could also consider completing a condition assessment of the Treatment Plant and sewage pumps to verify the condition of these assets and to better understand the system needs. Ongoing maintenance activities are Exempt from the EA process. | |
| | | | 2028 | | |
| | | | 2029 | | |
| | | | 2030 | | |
| | | | 2031 | | |
| | | | 2032 | | |
| | | | 2033 | | |
| | | | 2034 | | |
| **Development Areas (Approved, Proposed and Potential Future)** | 95 | 240 | 2035 | | |
| | 190 | 480 | 2036 | | |
| | 285 | 720 | 2037 | | |
| | 380 | 960 | 2038 | | |
| | 475 | 1,200 | 2039 | | |
| | 570 | 1,440 | 2040 | It is projected that the uncommitted reserve capacity at the water treatment plant will provide sufficient capacity for approximately 55% of the development within the development areas identified. Based on the average annual flows and the maximum peak capacity for the wastewater treatment plant, the plant could provide sufficient capacity for development within a portion of the proposed development areas to about the year 2050. In general, it is recommended that the plant and facility planning process be intiated when 80% of the capacity is being used. However, planning and implementation of system upgrades or improvements may be required sooner, based on the age of the infrastructure and on the success of addressing the noted high infiltration rates within the collection system. | |
| | 665 | 1,680 | 2041 | | |
| | 760 | 1,920 | 2042 | | |
| | 855 | 2,160 | 2043 | | |
| | 950 | 2,400 | 2044 | | |
| | 1,045 | 2,640 | 2045 | | |
| | 1,140 | 2,880 | 2046 | | |
| | 1,235 | 3,120 | 2047 | | |
| | 1,330 | 3,360 | 2048 | | |
| | 1,425 | 3,600 | 2049 | | |
| | 1,520 | 3,840 | 2050 | | |
| | 1,615 | 4,080 | 2051 | At such a time that an increase in the sewage treatment plant capacity is needed, Alternative Solutions may include:<br>a. New sewage treatment plant<br>b. Expansion of, or upgrades to, existing sewage treatment plant<br>c. Reduce sewage flows to maintain capacity within existing sewage treatment plant<br>d. Limit community growth<br>e. Do Nothing<br>**EA Schedule = Schedule B or C; Cost Estimate = $25M to $30M** | |
| | 1,710 | 4,320 | 2052 | | |
| | 1,805 | 4,560 | 2053 | | |
| | 1,900 | 4,800 | 2054 | | |
| | 1,995 | 5,040 | 2055 | | |
| | 2,090 | 5,280 | 2056 | | |
| | 2,185 | 5,520 | 2057 | | |
| | 2,280 | 5,760 | 2058 | | |
| | 2,375 | 6,000 | 2059 | | |
| | *2,470* | 6,240 | 2060 | | |

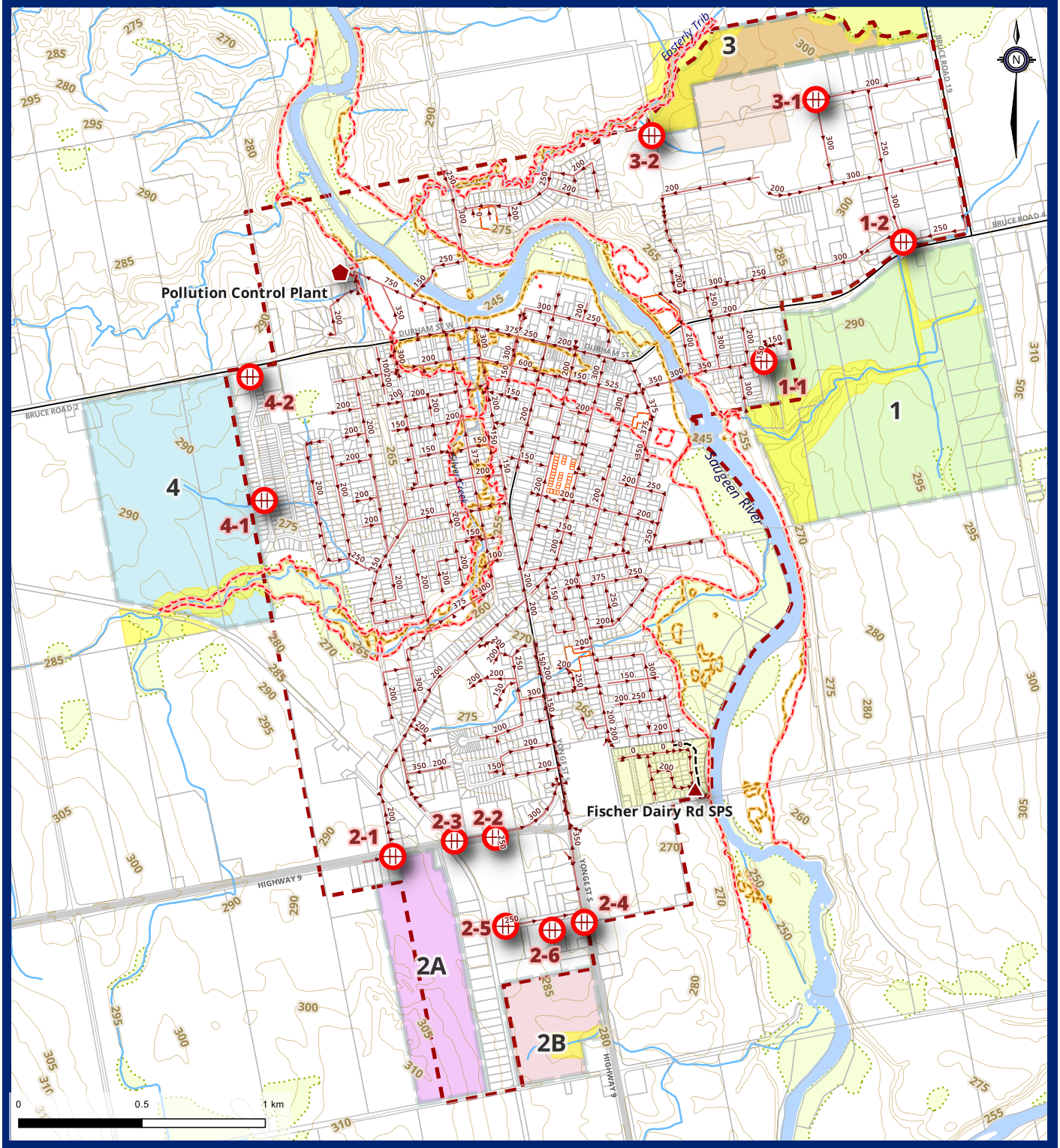
Notes: **Green** = Sufficient Capacity; **Orange** = Initiate Planning and Complete Implementation; **Blue** = Alternative Water Source/Storage Required

# FIGURE 9-3
## Wastewater System Details
Potential Development Area Connection Points to Wastewater System

Brockton
Come home to community

BluePlan ENGINEERING

January, 2024
223075
Projection EPSG:26917




Potential Connection Point
Waste Water Facilities
- Lift Station
- Treatment Plant
- Gravity Main
- Force Main

- 100yr Floodline
- Regional Storm
- Hazel Floodline

Contour (5m)
Assessment Parcels
- Assessment Parcel
- Condominium Unit

Catchments
- Fisher Dairy SPS
- ERBP Proposed Low Pressure System
- Unevaluated Wetland
- SVCA Regulated Area

- Watercourse

Road Centrelines
- Provincial Highway
- County
- Municipal
- Urban Area Boundary

Future Development Areas
- 1
- 2A
- 2B
- 3
- 4
- Waterbody

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### 9.6.3 Wastewater Servicing: Proposed Development Areas

This Plan considers future development in the Walkerton area, specifically within the four development areas previously identified as potential growth locations. As part of the completion of the site design for servicing, grading, and stormwater management, it was important to identify any constraints and restrictions related to the broader system. This ensures that the provision for wastewater services supplied to new developments in the community can effectively tie into Walkerton's existing system(s).

Based on a preliminary review of the servicing information available, potential service connections and constraints for each proposed development area, including an overview of some general area specific considerations are provided below. Potential service connection locations, based on a desktop review of site conditions, are included in **Figure 9-3**.

**Area 1: Development Area Constraints and Potential Servicing Connections**

| | |
|---|---|
| **Treatment Plant Capacity** | The available capacity within Walkerton's wastewater treatment plant is sufficient to support development within Area 1. However, it is noted that with the rated and peak capacity limited to supporting an estimated 55% of the proposed development within the four development areas, the need for capacity upgrades will ultimately be dependent upon the order in which development occurs. |
| **Sanitary Conveyance** | The existing two siphons have significant capacity remaining, with existing daily flows estimated to be at only 10% to 20% of their capacity.<br>As Area 1 can connect to the trunk main that goes directly to the Orange Street siphon, capacity issues between Area 1 and the siphon are not anticipated. The alternative connection point crossing Bruce Road 4 could be available for developments in the northeast corner of Area 1 if development is planned to occur in this area prior to development in the westerly lowland portion. The lowest lying lands occur in the southwest corner of Area 1, and although it is likely that these lands can be connected to existing gravity mains to the Orange Street connection, a sanitary pumping station may be required to service these lower areas. Overall, it is recommended that the development plan for the entire Area 1 aim to drain by gravity, as practicable. |
| **Sanitary Connection Points** | Connect to Orange Street (1-1): Connect downgradient, this would be most direct route to siphon and would avoid any other pipe capacity constrictions concerns.<br>Connect along Bruce Road 4 (1-2): It is understood that sewers are quite deep along Bruce Road 4 and Old Durham Road and could potentially provide capacity to service the eastern half of Area 1, allowing development to proceed more locally. |

**Area 2A and 2B: Development Area Constraints and Potential Servicing Connections**

| | |
|---|---|
| **Treatment Plant Capacity** | The available capacity within Walkerton's wastewater treatment plant is sufficient to support development within Area 2A and 2B. However, it is noted that with the rated and peak capacity limited to supporting an estimated 55% of the proposed development within the four development areas, the need for capacity upgrades will ultimately be dependent upon the order in which development occurs. |
| **Sanitary Conveyance** | Although Area 2B is at the lowest elevation in the southeastern corner of Walkerton, depending on connection point depths it may still be possible to service the entire area via gravity mains.<br>Trunk Extension: Currently, this area is not close to any existing trunk mains. Therefore, the existing sanitary main network would need to be extended to Areas 2A and 2B. Based on the information available, capacity issues have not been identified. However, it is recommended that as part of development planning the existing sanitary design sheets be reviewed to ensure that there is sufficient capacity downstream. |
| **Sanitary Connection Points** | Connect to Wallace Street (200mmø)<br>Connect to south side of Highway 9 east of Rail Trail (250mmø)<br>Connect to north side of Highway 9 at Rail Trail (300mmø crossing Highway 9)<br>Connect along Industrial Road (250mmø) with easements either to Rail Trail or through properties.<br>Connect along Highway 9 (300mmø) |

**Area 3: Development Area Constraints and Potential Servicing Connections**

| | |
|---|---|
| **Treatment Plant Capacity** | The available capacity within Walkerton's wastewater treatment plant is sufficient to support development within Area 3. However, it is noted that with the rated and peak capacity limited to supporting an estimated 55% of the proposed development within the four development areas, the need for capacity upgrades will ultimately be dependent upon the order in which development occurs. |
| **Sanitary Conveyance** | Within the ERBP, potential connection points for sanitary services have not been fully built yet. It is expected the majority of the ERBP will be developed prior to development being pursued within the approved expansion lands. Therefore, as development progresses within the East Ridge Business Park (Phase 3), connection points will be more readily available.<br>A connection via Future Road D gravity main may be feasible. This is already constructed. It is noted that a portion of ERBP is planned to use low-pressure grinder pumps to pump wastewater to Future Road D. Similar provisions may also be necessary in Area 3 if this option is considered. |
| **Sanitary Connection Points** | A connection point may be feasible at future Road D gravity main (i.e., Figure 10-3 Location 3-1).<br>Based on a preliminary review, and comments from the Municipality, the connection to future Cunningham Road extension may not be feasible. |

**Area 4: Development Area Constraints and Potential Servicing Connections**

| | |
|---|---|
| **Treatment Plant Capacity** | The available capacity within Walkerton's wastewater treatment plant is sufficient to support development within Area 4. However, it is noted that with the rated and peak capacity limited to supporting an estimated 55% of the proposed development within the four development areas, the need for capacity upgrades will ultimately be dependent upon the order in which development occurs. |
| **Sanitary Conveyance** | Trunk Extension: Currently, this area is not close to any existing trunk mains. Therefore, the existing sanitary main network would need to be extended to Area 4. Based on the information available, capacity issues have not been identified. However, it is recommended that as part of development planning the existing sanitary design sheets be reviewed to ensure that there is sufficient capacity downstream.<br>Although it may be an alternative to connect to Devinwood Road along Bruce Road 4 (**Figure 9-3**: Potential Connection Point 4-2), this route is at a higher elevation, and ultimately routes back along Devinwood Road. Therefore, potential connection point 4-1 may be preferable. |
| **Sanitary Connection Points** | Connect to Devinwood Road (4-1)<br>Connect along Bruce Road 2 (4-2) |

**Lower Pressure Sewer Systems:**

When a proposed development area is situated at a lower grade than the sewer line to which it is planned to be tied into, sewage may need to be pumped uphill to be connected to the gravity sewer line. This can be achieved by either installing a grinder pump or by the more traditional lift station approach. While low-pressure grinder pump systems are used in Walkerton, odour and maintenance issues have been reported. Should wastewater need to be moved from a lower to higher elevation to support development, it is recommended that the options be reviewed at the development planning stage.

**Master Wastewater Servicing Plan:**

Overall, the decision to proceed with development in each proposed area may be dependent on private developers, and it will be important for the Municipality and developers to reference to the master servicing plan to provide a planning framework for each of their services as development proceeds. It is recognized that the preferred servicing strategies have the opportunity for further enhancement and optimization as further details regarding the development areas present themselves.

# 10. STORMWATER MASTER SERVICING PLAN

## 10.1 Regulatory Framework

Watershed planning integrates environmental and land use planning. Criteria for the protection of water quantity, water quality, habitat and biota are established to help achieve the goals set for the watershed. Strategies to mitigate the effects of urbanization on the hydrologic cycle are developed to meet protection criteria.

A combination of lot level, conveyance and end-of-pipe stormwater management practices are usually required to meet the multiple objectives of stormwater management: maintaining the hydrologic cycle, protection of water quality and preventing increased erosion and flooding.

In the province of Ontario, stormwater management operates within a multi-jurisdictional environment where multiple provincial and federal legislations and accompanying administrative structures and agencies govern and manage Ontario waters. For any given project, there can be several different federal, provincial and/or municipal regulations, policies and/or bylaws that may need to be considered. A summary of the key regulations and policies governing stormwater management objectives within Walkerton was provided in **Section 5** of this Master Servicing Plan. Additional regulation and policy information is also provided in this **Section 10** of the Master Servicing Plan.

Drainage and stormwater management are regulated by the SVCA via development permits and/or the MECP through an ECA process. Further, site specific restrictions and considerations may further influence stormwater management requirements. Land development planning processes, such as Plan of Subdivision and Site Plan Approvals, permit the Town to ensure potential drainage impacts due to land development are identified and adequately addressed. In general, it is recommended that stormwater management in the Municipality aim to follow the following general principles:

- Maintain the natural hydrologic cycle
- Prevent an increase in risk of flooding
- Prevent undesirable stream erosion
- Protect water quality

### 10.1.1 Saugeen Valley Conservation Authority

The Saugeen Valley Conservation Authority (SVCA) is mandated under the Conservation Authorities Act to provide technical advisory services and planning advice to the municipalities in Bruce County, including Brockton, by reviewing development applications submitted under the Planning Act. Saugeen Conservation is specifically involved in reviewing natural hazards for planning applications in Ontario, under Section 3.1 of the Provincial Policy Statement. Municipalities and Counties must send certain planning applications to Saugeen Conservation, including land divisions, zoning changes, and plans for subdivisions. While Saugeen Conservation gives recommendations on natural hazards, it's the local municipality or county that makes the final decision on Planning Act applications.

As noted in Section 5.5 of the SVCA's Policy Manual, stormwater management plans are required to meet the standards and criteria set out in the Stormwater Management Planning and Design Manual, Ministry of Environment, Conservation and Parks (MECP), March 2003, in addition to requirements/recommendations of any relevant watershed or subwatershed study. Within the MECP Stormwater Management Planning and Design Manual, it is noted in Section 3.5.2 that the timing of detained runoff peaks in the lower or middle portion of a watershed may result in the coincidence of peaks. In developments where the outlet is the Saugeen River, it is possible that detention of stormwater may result in peak flow time coinciding with peak flood level timing.

### 10.1.2 Walkerton Official Plan

The Municipality's goal is to provide a full range of affordable municipal services to meet the economic, social and environmental needs of the community. Stormwater Management Policies are outlined in Section 5.4 of the Official Plan. Policies relevant to the municipal stormwater services include the following:

a. The Municipality shall require at source best management practices and techniques to maintain storm water quality and quantity. This shall assist in controlling flooding, ponding, erosion, and sedimentation and enhance the water quality and fish habitat of Silver Creek and the Saugeen River.

b. Development proposals shall be accompanied by a stormwater management report which meets the quality and quantity requirements of the Municipality of Brockton, and the Saugeen Valley Conservation Authority.

c. Where appropriate, new development shall incorporate the major-minor system concept and:
   i. The stormwater management system shall be designed to control run-off from the site to redevelopment levels, and where necessary, shall require detention or storage facilities to control discharge rates. Where feasible, detention must be provided onsite.
   ii. The minor system shall accommodate run-off from more frequent storms up to the design capacity of the existing receiving system and, where necessary, shall require detention or storage facilities. New collection systems shall be designed in accordance with the Municipality's municipal servicing standards.
   iii. Wherever possible natural infiltration of stormwater shall be encouraged, provided that areas of standing water are minimized.

d. Natural drainage systems used in the design of new subdivisions and major water courses should be left, in their natural state, including existing vegetative buffers. Channelization shall be discouraged. Detention and retention facilities may be permitted in open space areas to ensure controlled run-off to receiving streams and maximum natural infiltration.

e. Any modification to an existing natural water course shall preserve floodplain storage capacity and shall require approval from the Saugeen Valley Conservation Authority.

f. The Municipality shall assume ownership and/or maintenance responsibilities for new stormwater management facilities and structures serving more than one property. The Municipality may require the developer to provide an up-front cash payment to offset on-going maintenance costs of stormwater management facilities.

### 10.1.3 Drainage Considerations: Common Law

The Ministry of Agriculture and Food prepared a Factsheet, which outlines Common Law Aspects of Water (1993). Some of the issues of interest are summarized in the following paragraphs. These should not be construed as legal advice but are considered to provide general context.

A watercourse is defined generally as a stream of water, which flows along a defined channel, with bed and banks, for a sufficient time to give it substantial existence. This may include intermittent streams that dry up periodically. Watercourses within the Study Area may be subject to Riparian Rights. These rights include the right to drain lands that abut the watercourse into the natural stream, with ditches and drains, even though it results in an increase in the volume or rate of flow. Riparian property owners are entitled to receive water flowing in its natural state (both quantity and quality) and, thereto, are required to accept the natural state of flowing water, even if flooding conditions occur. A riparian owner cannot sell or assign the right to drain to a natural watercourse.

Surface water not flowing in a natural watercourse (sheet flow) has no right of drainage. An owner of lower land may, at his or her own choice, either allow the water from higher land to flow over it, or by dams or banks keep such water off his or her property. No owner has the right to collect such surface water by ditches or drains and discharge it on lands of another. He or she has the responsibility to take this water to a sufficient outlet (i.e., a natural watercourse or a drain constructed under The Drainage Act). For a municipality this means that, once water is collected in ditches or storm sewers, they cannot simply discharge it onto another property and should take responsibility to ensure the water is taken to a sufficient outlet.

## 10.2 Stormwater Management System Overview

### 10.2.1 Watershed

Walkerton is located within the Saugeen watershed, which encompasses a total area of 4,675 km. The Saugeen River is the ultimate outlet for all stormwater in the community of Walkerton. Sub-catchments include Silver Creek on the west side of the Saugeen River and the Easterly Tributary in the northeast portion of the community. Significant flood-protection berms exist along the riverbanks throughout the community.

### 10.2.2 Existing Stormwater Management System

Drainage is generally defined as the ability to convey water along a path of travel to a suitable outlet, whether by natural systems, or constructed channels or pipes. Stormwater management generally refers to constructed facilities designed to control the quantity and/or quality of drainage, either to offset potential impacts as a result of development or to reduce the size of downstream drainage infrastructure.

Drainage within the community of Walkerton outlets primarily to the Saugeen River. For the purposes of evaluating the general drainage patterns in the community, GM BluePlan completed a desktop analysis of the stormwater catchments. Based on the preliminary review, Walkerton was subdivided into 11 stormwater catchment areas, some of which extend beyond the settlement area boundary. These are presented on **Figure 10-1. Table 10-1** identifies the stormwater catchments delineated and summarizes the general characteristics of each stormwater catchment area.

**TABLE 10-1: Summary and General Description of Stormwater Catchment Areas - Walkerton**

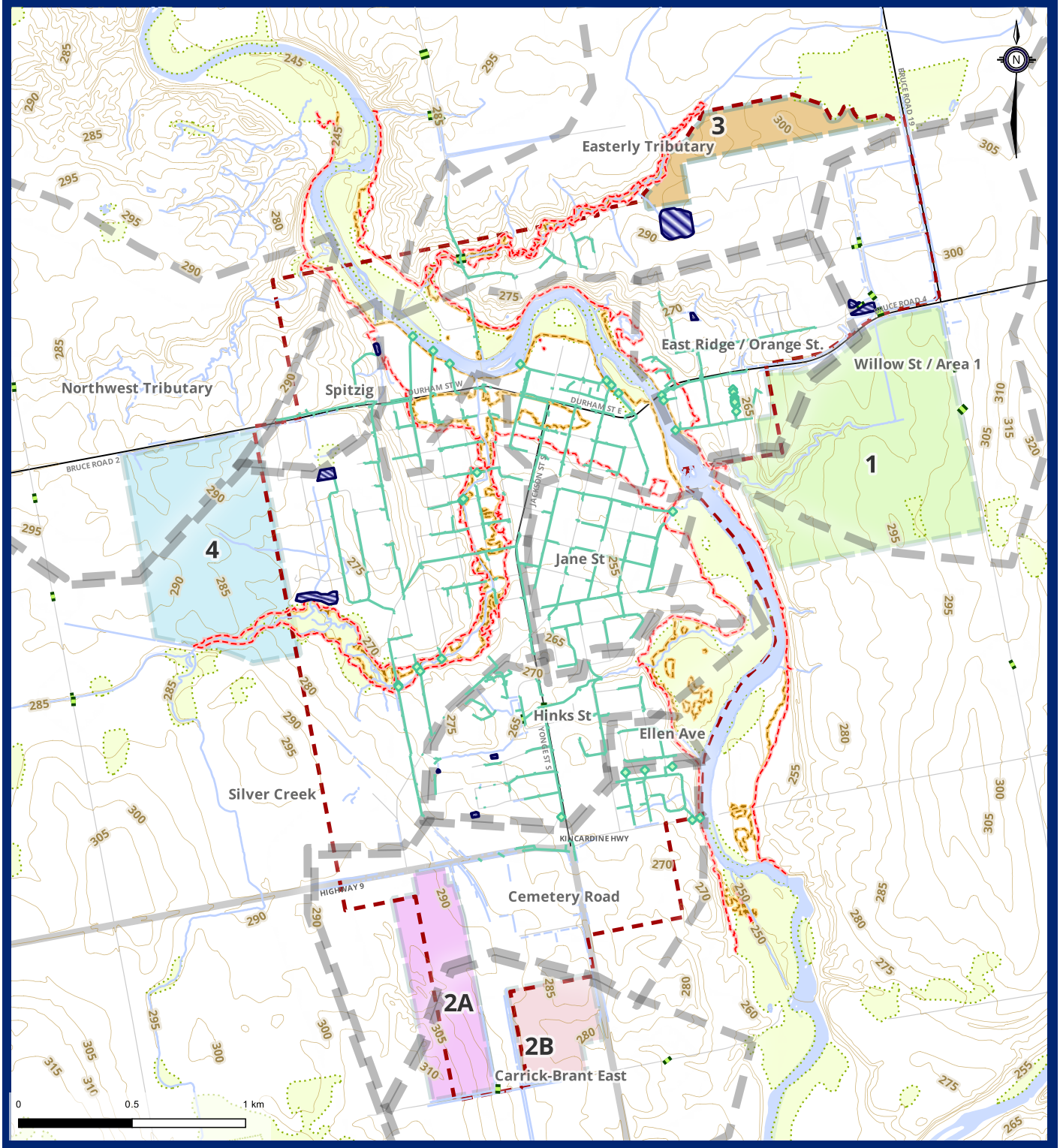
| | Catchment Name | General Location | Area (ha) | Outlet | |
|---|---|---|---|---|---|
| | | | | Water body | Type |
| 1 | Northwest Tributary | Primarily Rural | 835 | Saugeen River | Natural Watercourse |
| 2 | Spitzig/WPCP | Primarily Urban | 24 | Saugeen River | Natural Watercourse |
| 3 | Silver Creek | Urban and Rural | 4,073 | Saugeen River | Natural Watercourse |
| 4 | Cemetery Road | Urban and Rural | 131 | Saugeen River | 1,200mmø |
| 5 | Carrick-Brant East | Urban and Rural | 123 | Saugeen River | Natural Watercourse |
| 6 | Ellen Ave | Urban: Entirely within settlement area | 7 | Saugeen River | 450mmø |
| 7 | Hinks Street | Urban: Entirely within settlement area | 67 | Saugeen River | Natural Watercourse |
| 8 | Jane / Robinson Street | Urban: Entirely within settlement area | 45 | Saugeen River | 900mmø, 900mmø, 600mmø & 250mmø |
| 9 | Easterly Tributary | Urban and Rural | 314 | Saugeen River | Natural Watercourse |
| 10 | East Ridge / Orange St. | Primarily Urban | 66 | Saugeen River | 1,200mmø |
| 11 | Willow Street | Urban and Rural | 171 | Saugeen River | Natural Watercourse |

# FIGURE 10-1
## Stormwater System Overview
Walkerton

Brockton
Come home to community

BluePlan ENGINEERING

January, 2024
223075
Projection EPSG:26917




Discharge Point
Gravity Main
Culvert
100yr Floodline
Regional Storm Hazel Floodline
Contour (5m)

Open Drainage or Watercourse
SWM Ponds
Unevaluated Wetland
Stormwater Catchments

Future Development Areas
1
2A
2B
3
4

Road Centrelines
Provincial Highway
County
Municipal
Urban Area Boundary
Waterbody

Document Path: W:\OwenSound\Owen Sound\223-2023\223075 RFP - Municipal Servicing Master Plan - Mun. of Brockton\Drawings\GIS\223075 - Mapping for MSP Report.qgz

### 10.2.3 Collection System

The majority of the Walkerton stormwater conveyance system consists of traditional sewer systems, where surface water runoff is directed to and collected by the storm sewer system. Also forming part of storm conveyance system are localized areas serviced by ditches and culverts. With the exception of the existing areas serviced by stormwater management ponds, the majority of the runoff flows are conveyed directly to the system outlets without peak flow attenuation.

**Storm Sewer System:**

Currently, Walkerton has approximately 33 km of storm mains. Based on the information available through the Municipality's GIS database, a general summary of the age of the storm mains is provided in **Table 10-2**. It is noted that the storm main installation dates for the period prior to 1989 did not specify a specific year, therefore it is interpreted that the mains identified in the database as having been installed in '1980' were actually installed prior to 1989. Based on this assumption, it is estimated that 18 km of the storm mains were installed during the period before 1989 (i.e., are greater than 35 years old). Typically, storm mains have a useful life of about 50 to 80 years depending on the material. With a significant proportion of the conveyance network estimated to have been built greater than 35 years ago, it is estimated that more than half of Walkerton's storm sewers may begin to reach the end of their useful life in the next 15 years to 30 years.

**TABLE 10-2: Summary of Storm Sewer Installation Dates**

| Installation Date | Gravity Main (kilometers) |
|---|---|
| Unknown | 0.64 |
| Prior to 1989 | 17.2 |
| 1990 to 1999 | 3.4 |
| 2000 to 2009 | 7.2 |
| 2010 to 2019 | 2.2 |
| 2020 to 2023 | 2.7 |
| **Total** | **33.3** |

In addition to the 33 km of storm mains, the community has an estimated 474 culverts, 17 outfalls, 105 manholes and greater than 900 catch basins. Based on communications with Municipal staff, several of the outfalls have been replaced in recent years.

**Stormwater Management Ponds:**

As shown in **Table 10-3**, the Municipality currently owns and maintains ten constructed Stormwater Management (SWM) facilities within Walkerton. These ponds are generally understood to provide quantity and quality control from a specified area within the subject stormwater catchment (i.e., subdivisions, business parks, etc.) and are constructed to provide for peak flow attenuation, reducing the potential for downstream flooding issues within the drainage system.

The Cunningham (or ERBP) stormwater management pond is currently under construction. It is managed by the Municipality and provides stormwater management to the majority of the properties in the ERBP. This pond outlets to the Easterly Tributary.

Future developments could proceed with either individual stormwater management facilities for each subdivision, or combined facilities to service several subdivisions or lots.

**TABLE 10-3: Existing Walkerton Stormwater Management Ponds**

| Facility (Pond) Name | Location | Stormwater Catchment | Approximate Size ($m^2$) |
|---|---|---|---|
| **East of the Saugeen River** | | | |
| Cunningham | East Ridge Business Park | Easterly Tributary | 16,480 |
| Old Durham Road South | East Ridge Business Park | East Ridge / Orange Street | 2,879 |
| Old Durham Road North | East Ridge Business Park | Willow Street | 922 |
| Rotary Park | Walker Hill | Willow Street | 619 |
| **West of the Saugeen River and North of Silver Creek** | | | |
| Spitzig | Spitzig Subdivision | Spitzig/WPCP | 822 |
| Westwood | Walker West Subdivision | Silver Creek Catchment | 3,151 |
| Devinwood | Walker West Subdivision | Silver Creek Catchment | 6,605 |
| **West of the Saugeen River and South of Silver Creek** | | | |
| Crawford | Crawford Subdivision | Hinks Street | 129 |
| Second Street | JDR Subdivision | Hinks Street | 397 |
| Fourth Street | JDR Subdivision | Hinks Street | 601 |

## 10.3 Design Criteria

### 10.3.1 General Principles

A guiding principle of stormwater design criteria is to ensure the system is designed with an appropriate factor of safety and risk management. This overall principle also ensures that stormwater infrastructure has sufficient capacity to meet the approved needs of the community with appropriate consideration for longer term needs as to not impede approved/planned growth.

Storm sewer systems are typically designed as a 'minor system' intended to convey the 1:5-year design flows. Overland flow routes, such as watercourses, road surfaces, and open channels, are commonly considered to be a 'major system' and are typically designed to convey the 1:100-year design or Hazel Flood Event (formerly referred to as the Regional flood flow). Flooding of existing buildings and/or adjacent properties should be eliminated, where feasible. The drainage infrastructure must provide sufficient capacity for the continued conveyance of the Hazel Flood flow downstream to an appropriate outlet. The design criteria were reviewed as part of this Master Servicing Plan to ensure stormwater flows within the proposed development areas may be adequately accommodated.

### 10.3.2 Municipal Policies and Guidelines

**Minor Drainage System**

Based on the Official Plan and the Municipal Development and Servicing Guidelines (2019), the design criteria require that minor (i.e., local) stormwater systems be designed to convey the 5-year storm. As stated in the Servicing Guideline, *'quantity control is expected to restrict post-development runoff flows to pre-development flows between the 5-year and 100-year storm events'*.

A general summary of the design criteria and capacity planning for minor stormwater conveyance infrastructure can be summarized as follows:

- Storm sewers are to be provided for the whole of the development.
- Conveyance of the 5-year storm within the local storm sewers, without surcharging.
- Conveyance of the 10-year storm within trunk facilities.

- Runoff from the minor system be accommodated up to the design capacity of the existing system. Where necessary, detention or storage facilities may be required to control discharge rates. Where feasible, detention must be provided on-site.
- The inclusion of sediment and erosion control measures as permanent measures.
- Connection of the storm sewers to the municipal storm sewer (where feasible) or discharge to a natural watercourse as approved by the Municipality, the SVCA and/or the MECP.

**Major Drainage System**

The major drainage system is responsible for managing flows exceeding the capacity of the minor system. The Walkerton major drainage system is to provide sufficient capacity within public ownership or control to prevent flooding of private property. The Municipality's design criteria includes that the major system and overland flow routes be designed to convey the 100-year and/or the Hazel Flood event.

### 10.3.3 Stormwater Detention and Water Quality

In general, stormwater management systems can be considered to either control flows or allow drainage to flow in an 'uncontrolled' system. In an un-controlled drainage system, the peak of runoff generally occurs only for a relatively short duration. In a controlled drainage system (i.e., a stormwater management pond) a volume of the runoff water is temporarily held back and released at a *'lower than peak rate'*, but for an extended period. A longer discharge duration may adversely affect erodible soils, which may need additional consideration.

Where stormwater detention facilities are required, these should be designed in compliance with MECP design criteria, to meet the following:

- Water quality management targets as outlined in the MECP design criteria should be achieved for all new development; and,
- Provide peak flow management such that post-development peak flow rates match pre-development peak flow rates for all flow up to and including the 100-year flow for all new development within the Saugeen watershed.

Water quality management targets can also be achieved through separated water quality facilities.

### 10.3.4 Outlet Design, End-of Pipe Controls

The end-of-pipe stormwater management practices (or 'outlet' controls) are intended to manage the impacts from stormwater flows which may remain after lot-level and conveyance control measures have been applied. End-of-pipe controls can be described as practices that reduce discharge volumes, required for flood and erosion control, and/or practices that treat stormwater at the outlet of a drainage system, prior to being discharged to a receiving water body. These controls, which are implemented to manage the run-off from the larger drainage area, can be structural. End-of-pipe control options could include wet ponds, wetlands, dry ponds, filters, infiltration basins or oil-grit separators.

### 10.3.5 SVCA Floodlines

The 100-year and Regulatory Flood Standard (Hazel) floodlines for the Silver Creek tributary include significant portions of the dense urban core. A Two-Zone Policy for the Silver Creek floodplain, as well as the Flood Fringe Floodway policy, both require buildings to be floodproofed. As further noted in SVCA Comments (January 10, 2024), *'development shall be floodproofed to the regulatory floodplain elevation. The Silver Creek Policy Area in Walkerton according to SVCA Motion E86-48 applies as Two-Zone policy with one important notation the floodway is considered to be 20 feet from the bank of Silver Creek and the rest of the floodplain area is considered flood fringe. Please consider that updated floodplain mapping may be available for Walkerton, prior to or during project implementation'*.

### 10.3.6 Design Storm and Intensity-Duration-Frequency Curves

Flows considered for design purposes generally are calculated as the peak of runoff, from a contributing area with certain characteristics, due to a rainfall event with a statistical reoccurrence frequency, based on recorded rainfall data. Road crossing culverts are typically designed to convey the peak runoff from a 1:5 to a 1:25-year return rainfall event (5-year to 25-year design flow). Storm sewer systems are typically designed to convey, with no surcharge, the peak runoff from a 1:5-year return rainfall event (5-year design flow). These storm sewer systems may convey more than the 5-year design flow under surcharged conditions. Overland flow routes designed to convey surplus runoff from the 100-year design flow generally convey flows in excess of the drainage system capacity.

The Environment Canada short duration rainfall intensity-duration-frequency (IDF) curve data from the Mount Forest weather station is typically used to generate the design storm data in the Municipality of Brockton. The coefficients, based on storm duration, are listed in **Table 10-4**. It is noted that the Regulatory Flood Event Standard is Hurricane Hazel. The Saugeen Valley Conservation Authority considers this historic rainfall event for flood line mapping purposes.

**TABLE 10-4: IDF Curve Information (Return Period Rainfall)**

| | Total Rainfall Amounts (mm) | | | | | |
|---|---|---|---|---|---|---|
| Duration | 2-year | 5-year | 10-year | 25-year | 50-year | 100-year |
| 1-hour | 25.1 | 33.4 | 38.8 | 45.7 | 50.9 | 56.0 |
| 2-hour | 30.4 | 39.9 | 46.3 | 54.3 | 60.2 | 66.1 |
| 6-hour | 39.8 | 55.1 | 65.3 | 78.1 | 87.6 | 97.1 |
| 12-hour | 44.6 | 60.8 | 71.6 | 85.2 | 95.3 | 105.3 |
| 24-hour | 50.6 | 68.3 | 80.1 | 95.0 | 106.0 | 117.0 |

Some components of the existing drainage infrastructure may be reaching the end of their service life. In consideration of historic design practices which often used a 2-year return storm design criteria (rather than the 5-year storm), historic rainfall data trends which show a general increase, and current climate change models which suggest an increased frequency and intensity of significant rainfall events, some of the aging storm sewers may be undersized. Therefore, it is recommended that increasing the conveyance capacity of the local storm sewers be considered as part of future stormwater management projects.

### 10.3.7 Evolution of Stormwater Management Approaches

It is noted that many of the drainage systems now in place were designed and constructed based on the provincial guidance available at the time and historical rainfall IDF data, which are provided by the province. In general, stormwater management practices have evolved from the use of storm sewers alone (i.e., pre-1970's) to the added use of stormwater management ponds (as part of either the conveyance or end-of-pipe control), then eventually to also include urban stormwater best management practices (BMPs) where the water quality, in addition to the water quantity, was considered. Currently, stormwater management approaches have evolved to also include consideration for the preservation of the water balance as close to the source as possible, and to include provisions for the treatment of stormwater flows.

While it is recognized that the older drainage systems may provide for limited water quality treatment as part of the conveyance and end-of-pipe controls, it should be understood these systems will be replaced as needed, or as opportunities permit. The replacement of existing infrastructure for the sole purpose of ensuring that all systems are designed to evolving design standards would be an onerous undertaking for the Municipality and would have significant economic implications.

However, consistent with the more recent approaches for stormwater management, the design of new infrastructure and/or infrastructure upgrades and repairs may consider specific techniques for surface water detention and subsequent conveyance controls, including provisions for water quality treatment. It is recommended that these be evaluated as part of the planning and design process for any given project.

## 10.4 Stormwater Management: Proposed Development Areas

### 10.4.1 Characteristics of Proposed Development Areas

Local stormwater management strategies would be expected for each of the four proposed development areas. As shown in **Table 10-5**, each development area has different receiving systems, although they all ultimately outlet to the Saugeen River.

**TABLE 10-5: Existing Stormwater Drainage Characteristics of the Proposed Development Areas**

| Area | Stormwater Catchment | Development Area (ha) | Existing Drainage and Receiving Waters | Lands |
|---|---|---|---|---|
| **1** | East Ridge<br>Willow Street<br>Other (Southwest Corner) | 80.5 | The majority of this area drains via an unidentified watercourse directly to the Saugeen River. | Residential and Employment |
| **2A** | Cemetery Road<br>Carrick Brant East | 42.8 | This area generally drains along road allowances and through culverts to the Saugeen River. | Residential |
| **2B** | Carrick-Brant East | | This area generally drains along road allowances and through culverts to the Saugeen River. | Residential |
| **3** | Easterly Tributary | 15.6 | Drains to the Easterly Tributary | Employment |
| **4** | Northwest Tributary<br>Silver Creek | 56.5 | The northern portion of this area generally drains via overland flow to the Northwest Tributary.<br>The area that falls within the Silver Creek catchment drains to Silver Creek | Residential |

Stormwater management is typically done at the lot level for employment lands, and at the subdivision level for residential lands. The alternative is multi-lot public stormwater management facilities, which could reduce or eliminate the need for lot-level controls.

### 10.4.2 Infill Development: Best Management Practices

Urban spaces are constantly growing and evolving. Infill development, reconstruction projects, and greenfield developments are a key part of this process and are an important way to reclaim vacant, unused, abandoned, or contaminated land and transform it into a part of the community. However, it is important to recognize that while an individual development may not have a significant impact on the community, the development of several sites can result in a cumulative effect and exaggerate existing, or create new, drainage related issues. Ultimately the cumulative effect of development may result in higher peak stormwater flows, increased erosion, and greater contaminant loading.

Peak flow control and water quality can often be addressed at the site level. As such, consistent with the Official Plan, it is recommended that the Municipality continue to require a stormwater management study (or plan) for any new residential development consisting of more than five lots, or for commercial or industrial developments with large impervious areas. Further, for new development or reconstruction projects, the Municipality may consider the requirement for a stormwater management plan for projects where the new development is expected to significantly increase the impervious area relative to the ‘existing’ condition.

As part of the completion of the site design for site servicing, grading, and stormwater management, it will be important to identify any constraints and restrictions related to the broader system. This will ensure that stormwater management plans prepared for new development in the community effectively tie into the Community's existing system(s). The process of infill and intensification may also apply the use of best management practices (i.e., Low Impact Development alternatives) to ensure that the existing conditions and constraints are considered, and that new development is effectively integrated into the community. Stormwater best management practices for infill development are outlined in the *'Stormwater Management Planning and Design Manual'* (Ministry of Environment and Energy PIBS 4329e, March 2003), which may be referenced in conjunction with the '*Low Impact Development Stormwater Management Guidance Manual'* (Draft, January 2022).

### 10.4.3 Low Impact Development

The province recently developed a Draft LID Stormwater Management Guidance Manual (April 20, 2017, revised January 2022). In addition, the manual references several LID resource documents that have been developed by the Toronto Region Conservation Authority (TRCA) Sustainable Technology Evaluation Program (STEP) and by the Credit Valley Conservation Authority. These reference documents are reportedly considered suitable for use in Ontario and are available online. As these alternatives may be considered in the planning and design for any given project, as appropriate, a brief overview of the guidance manual and LID and green infrastructure alternatives is provided below.

The LID guidance manual (Draft, 2022) is intended to complement the Stormwater Management and Design Manual (2003). These guidance documents were developed to 'meet the multiple objectives of stormwater management on a broader-scale', as it is expected that a combination of source, conveyance and end-of-pipe controls will be required (i.e., a treatment train approach). The LID guidance manual presents the most recent approaches and techniques used in stormwater management, including the principles of Green Infrastructure and LID. LID is described as an approach to managing stormwater by first treating run-off (i.e., precipitation) at its source, more as a resource to be managed and protected rather than a waste. In essence, LID uses small, simple design techniques and landscape features that filter, infiltrate, store, evaporate, and detain rainwater and runoff.

In general, the definition of low impact development, as adapted from the United States Environmental Protection Agency (US EPA, 2007), is as follows:

> *'Low impact development (LID) is a stormwater management strategy that seeks to mitigate the impacts of increased runoff as close to the source as possible. LID comprises of a set of site design strategies that minimize runoff and disturbance, small scale structural practices that mimic natural or predevelopment hydrology through the process of infiltration, evapotranspiration, harvesting, filtration and detention of stormwater. These practices can effectively remove nutrients, pathogens and metals from runoff, and they reduce the volume and intensity of stormwater flows'.*

By implementing LID principles and practices, low run off events may be managed in a way that reduces the impact of built areas and promotes the natural movement of water within an ecosystem or watershed. Applied on a broad scale, LID can maintain or restore a watershed's hydrologic and ecological functions. Some of the most commonly adopted stormwater LID practices include the following:

**Lot-Level (Developments: Stormwater Management Planning)**

1. **Site Design Considerations:**
   These are LID strategies that can be incorporated by reducing or eliminating the impervious surface area, such as reduced street width, incorporation of alternative cul-de-sac design options, reduced building footprints and reduced parking footprints.
2. **Municipal Zoning Regulations:**
   Municipal zoning regulations for setbacks and frontages have been found to influence the production of stormwater runoff.
3. **Rainwater Collection:**
   Rainwater harvesting can be used to collect rainfall in a storage tank for future use.
4. **Green Roofs:**
   In addition to providing greenspace, green roofs (or rooftop gardens) help improve water quality, water balance and peak flow control.
5. **Downspout Disconnection:**
   This involves directing flows to a pervious area and prevents stormwater from either directly entering the storm sewer system or indirectly entering the storm sewer system via an impervious surface (i.e., driveway).
6. **Infiltration Trenches, Soakways and Chambers:**
   These are generally areas that create a void space underground to receive runoff from the on-site impervious surfaces and allow it to infiltrate into the ground.
7. **Bioretention:**
   This practice provides stormwater filtration and infiltration areas designed to capture small storm events.
8. **Permeable Pavement:**
   This is an alternative to the conventional impervious pavement. It allows stormwater to drain through and infiltrate into the underlying native soils (where practicable) or into a stone reservoir.

**Conveyance Control (Municipality: Drainage Planning)**

1. **Enhanced Grass Swales:**
   Enhanced grass swales offer an alternative to the simpler grass channels (or ditches) that have traditionally been used for stormwater conveyance. These vegetated open conveyance channels generally incorporate design features such as modified geometry and check dams that promote that attenuation of runoff and improve the contaminant removal capabilities.
2. **Dry Swale (also known as infiltration swales or bio-swales):**
   This alternative is similar to an enhanced grass swale. However, it incorporates an engineered filter media bed and an optional perforated pipe drain or bioretention cell.
3. **Perforated Pipe Systems:**
   Perforated pipe systems can be used as an alternative to the conventional storm sewer pipe systems where the topography, water table depth and run-off quality conditions are suitable. These are essentially long infiltration trenches that are designed for both conveyance and infiltration of stormwater run-off.

The viability of LID and infiltration-type facilities is highly dependent on the ability of the soil to receive infiltration. Within the four development areas, the majority of the soil is Harriston Loam, with Parkhill loam, Teeswater Silt Loam, and Waterloo Sandy Loam found in some areas. These soils are generally classified as hydrologic groups BC, BC, B, and A respectively. B group soils may allow moderate amounts of infiltration, whereas A group soils have higher infiltration potential generally. The Waterloo Sandy Loam in the southern half of Area 2A may allow more LID and infiltration techniques for stormwater management.

It is noted that these infiltration systems, while beneficial in draining low volume runoff events, are not usually suitable to address higher volume runoff events. A volume of storage is needed when the rate of infiltration is less than the rate of runoff. The scale and cost of storage increases significantly as the level of service increases. Typically, these infiltration systems are designed to accommodate high frequency, low volume runoff events. Downstream infrastructure should continue to be planned and designed for less frequent, higher intensity runoff events.

## 10.5 Stormwater Alternatives

Generally, the alternatives to be considered include identifying alternatives to monitor and address system-wide issues and opportunities, as well as the selection of alternatives specific to servicing each proposed development area. With respect to the Stormwater Master Servicing Plan, the plan includes consideration for the community's drainage system, as well as recommendations for stormwater management planning intended specifically to mitigate the effects of increased runoff due to development so that runoff appropriately may be managed by the drainage system. This Plan specifically considers future development in the Walkerton area, including the four development areas previously identified by the Municipality as potential growth locations.

As part of the Master Planning process numerous alternative solutions were considered to ensure that the system can support the demands of existing and future development. Alternative Concepts and Strategies determined to be relevant to this project include the following:

**Concept 1: Do Nothing**

The Do Nothing alternative is required for evaluation under the Class EA process. It essentially identifies the existing conditions and helps to define the extent of the problem. In this case the "Do Nothing" alternative cannot be applied to the development areas.

**Concept 2: Limit Community Growth**

The Limiting Community Growth concept does not meet Official Plan policies and does not conform with the project statement. As such, it has also been screened out as a viable concept.

**Concept 3: Low Impact Development**

A. Policy and management measures consist of implementing non-structural requirements on existing and/or new properties with the aim of reducing stormwater runoff and improving runoff water quality. These measures can be both mandatory, voluntary, and/or incentivized. These measures alone are not expected to address all the identified management objectives but form part of a larger management strategy.
B. Low Impact Development (LID) consists of the use of a decentralized management approach to runoff management. This can include the use of non-structural modifications (or retrofits) to new and existing sites such as downspout and sump pump disconnections, amended soils, reduced development footprints, or structural features such as green roofs, soak away pits or rain gardens. The use of LID can meet all or part of the identified management objectives.

While each of these concepts on their own may not satisfy all growth and capacity constraints within the system, they have been combined to generate the Servicing Strategies

**Strategy 1: Do Nothing or Implement LID Policy and Management**

- Voluntary onsite management incentive program including roof leader disconnection, rain barrel and rain garden programs.
- Conveyance upgrades, as required, to ensure downstream system has sufficient capacity to accommodate existing and projected stormwater flows.
- Water quality controls provided by onsite management incentive program.

**Strategy 2: Individual Lot Level Stormwater Management with Onsite Impact Development**

This alternative would require the use of individual lot level services to provide stormwater quality and quantity control for future development in residential subdivisions and employment lands.

- Onsite surface runoff management facilities for new development, where post-development peak flow matches pre-development peak flow, such as ponds, swales, etc.
- Develop artificial/constructed wetlands to improve quality of stormwater discharges.
- Ensure approvals for new developments require incorporation of urban surface run-off control measures (i.e., on-site stormwater retention), minimization of impervious areas, lot grading, etc.
- Voluntary onsite management incentive program including rain barrel and rain garden programs.
- Conveyance upgrades, as required, to ensure downstream system has sufficient capacity to accommodate existing and projected stormwater flows.
- *Water quality controls provided (or enhanced) by onsite LID facilities.*

The preferred servicing strategy was developed and evaluated to both existing Level of Service objectives and to satisfy growth. As the Do Nothing Alternative does not address the problem statement, the preliminary preferred stormwater management strategy for Walkerton is as follows:

The primary servicing needs for each proposed development area can generally be summarized as the management of infill growth through onsite controls to improve runoff water quality and quantity via the management of total peak flows to the existing stormwater system. Increased runoff from intensification growth areas will be managed using onsite stormwater management facilities to ensure post-development peak flow matches pre-development peak flow. General water quality improvements will be achieved through the use of constructed wetlands (or other water quality improvement provisions) and/or encouragement of the use of LID measures to improve runoff water quality. As part of the preferred management strategy, new stormwater outlets will need to be identified and appropriate approvals sought.

### 10.5.1 Stormwater Management Strategy (Lot Level)

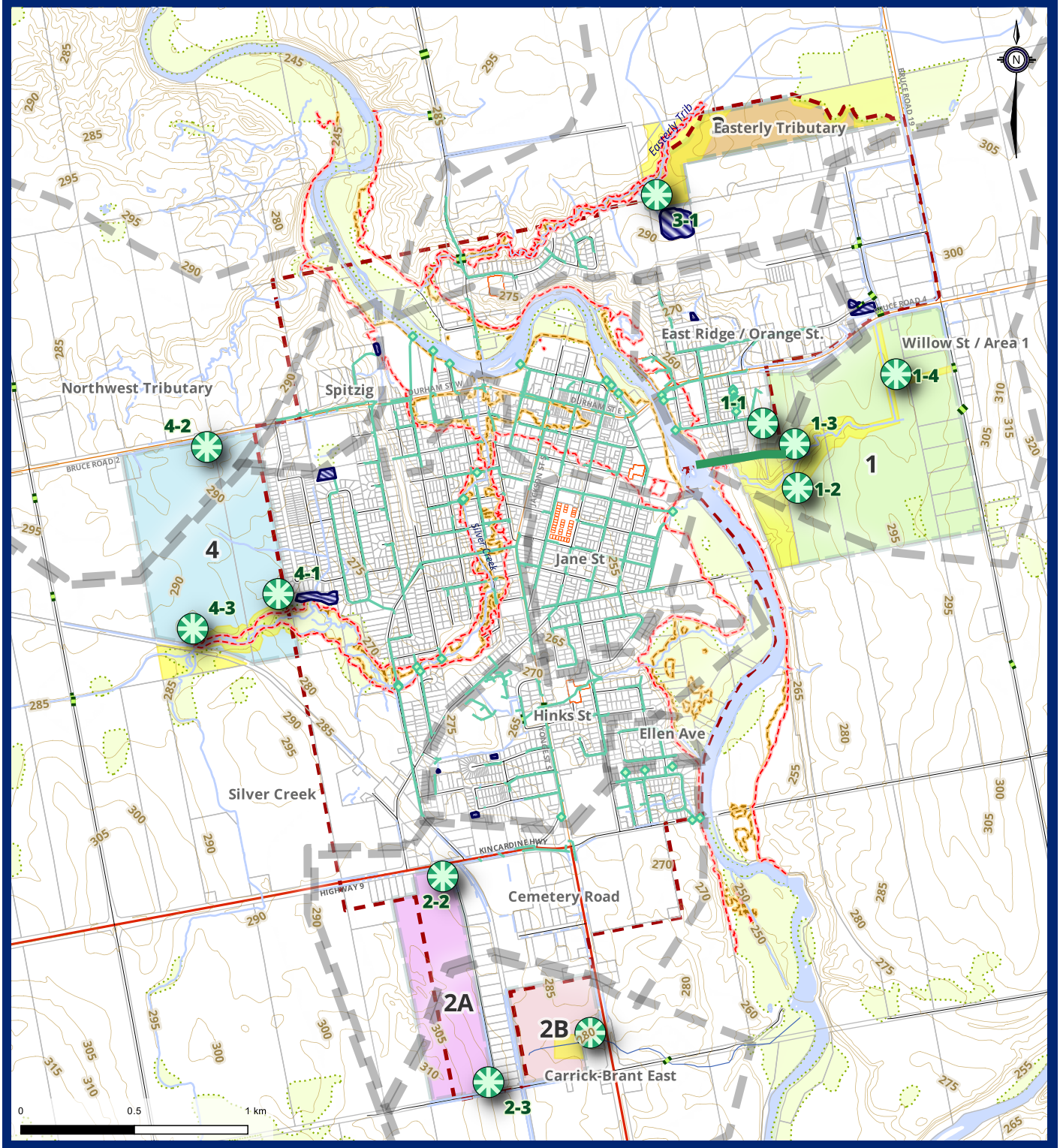
In contrast to the review of future water and wastewater capacity needs and constraints completed to support the proposed development areas, stormwater management can be primarily addressed at the site level. More specifically, stormwater management is typically done at the lot level for employment lands, and at the subdivision level for residential lands. The alternative is multi-lot public stormwater management facilities, which could reduce or eliminate the need for lot-level controls.

In consideration of the lot level approach and the preliminary preferred stormwater management strategy, it is recommended that the Municipality continue to require a stormwater management study (or plan) for any new residential development consisting of more than five lots, or for commercial or industrial developments. New development will generally be required to (i) manage water quality management from all new development sites, (ii) manage peak flow; and (iii) ensure the downstream system has sufficient capacity to accommodate existing and projected stormwater flows.

As part of the completion of the site design for site servicing, grading, and stormwater management, it will be important to identify any constraints and restrictions related to the broader system. This will ensure that stormwater management plans prepared for new development in the community effectively tie into the Community's existing system(s).

# FIGURE 10-2
## Stormwater System Proposed Servicing Alternatives
Potential Stormwater Management Locations in the Development Areas

January, 2024
223075
Projection EPSG:26917




Potential SWM Facility
Discharge Point
Potential SWM Trunk Outlet
Gravity Main
Culvert
100yr Floodline

Regional Storm Hazel Floodline
Contour (5m)
Open Drainage or Watercourse
SWM Ponds
Stormwater Catchments
Unevaluated Wetland

Future Development Areas
1
2A
2B
3
4

Road Centrelines
Provincial Highway
County
Municipal
Urban Area Boundary
Waterbody

Document Path: W:\OwenSound\Owen Sound\223-2023\223075 RFP - Municipal Servicing Master Plan - Mun. of Brockton\Drawings\GIS\223075 - Mapping for MSP Report.qgz

Drainage and stormwater management are typically regulated by the SVCA via development permits and/or the MECP through an ECA process. Further, site specific restrictions and considerations may further influence stormwater management requirements. Land development planning processes, such as Plans of Subdivision and Site Plan Approvals, permit the Town to ensure potential drainage impacts due to land development are identified and adequately addressed. Potential impacts of stormwater management within each area, including an overview of the stormwater management considerations is provided below. Potential stormwater management pond locations, based on a desktop review of site conditions, are included in **Figure 10-2**. As part of any stormwater management strategy for proposed developments, the maintenance of existing flows in existing watercourse(s) and water quality and erosion control would be required.

**Area 1:**

Overall, this area outlets directly to the Saugeen River. However, the existing watercourse(s) subdivide the development area. Therefore, if quantity control is required for the development area, or part thereof, multiple stormwater management facilities may be required. One alternative identified considers the development a direct outlet (trunk main) to the Saugeen River to prevent peak flow coincidence and reduce overall peak in the Saugeen River.

Mixed Land Use Designations (Clear Vision Recommended):

It is proposed that this 80.5-hectare area support both residential and business development. Compared to the other development areas, Area 1 covers a large land area and will support a relatively large proportion the proposed development (i.e., greater than 30%). Stormwater management planning in this area could be completed using a wholistic approach, or lot specific (i.e., separate management facilities within residential subdivision parcels and business parcels). A local stormwater management plan, driven by cooperation between the Municipality and the developer(s), could be pursued to streamline, simplify, and co-ordinate stormwater management, OR an ad-hoc stormwater management system could be applied, within which stormwater management provisions would be implemented in Phases, as development progresses. It is recommended that a clear vision for the stormwater management plan for this area be established at the onset of any proposed development within these residential and employment lands.

**Area 2:**

Based on a preliminary review, Area 2A primarily drains to the northeast and east along Highway 9, with a portion of this area draining to the southeast to Carrick-Brant East and towards Area 2B. Area 2B drains to the southeast across Highway 9 towards the Saugeen River. Alternatives may consider separate stormwater management facilities for Area 2A and Area 2B.

**Area 3:**

This area abuts the East Ridge Business Park to the north and would support the expansion of the business area. Area 3 was included in a Ministerial Zoning Order (MZO) application which was approved in November 2022. The subject area encompasses 15.6 hectares and was identified as future business park lands. Stormwater management could be achieved via the construction of a stormwater management pond, possibly at the southwest corner of the proposed development area, proximal to the SWM pond under construction, draining to the Easterly Tributary. If new outlet to the Easterly tributary is proposed, approvals from the SVCA would need to be sought.

**Area 4:**

Area 4 is located to the west of Walkerton, adjacent to the Walker West subdivision. The northern portion of this area generally drains via overland flow to the Northwest Tributary. The area that falls within the Silver Creek catchment drains to Silver Creek. Alternatives may consider one stormwater management facility capable of managing flows from the entire development area. However, separate stormwater management facilities may be required for each lot, subdivision and/or catchment.

Overall, the decision to proceed with development in each proposed area may be dependent on private developers, and it will be important for the Municipality and developers to reference this Master Servicing Plan to provide a planning framework for each of their services as development proceeds. It is recognized that the preferred servicing strategies have the opportunity for further enhancement and optimization as further details regarding the development areas present themselves.

### 10.5.2 Drainage Planning (Stormwater Management System and Facilities)

The community of Walkerton has a complex system for surface water drainage which includes overland sheet flow, natural water courses, ditches, culverts and storm sewers. The management of municipal infrastructure assets, such as Walkerton's stormwater management system, via long-term planning and on-going monitoring and maintenance, is critical to system performance and efficiency.

**Routine Inspection, Maintenance and General Operations**

Lack of maintenance can be one of the main reasons for poor system performance. During the first two years of operation, inspections after significant storms will ensure the system is functioning properly. After this, routine system inspections are usually done to identify maintenance needs. In general, inspection and maintenance of ditches, culverts, stormwater management facilities, storm sewers, and outlets/outfalls throughout the community should be completed on an annual, bi-annual, or as-needed basis. Although the inspection and maintenance frequency may be variable, depending on the volume and intensity of flows received within a given system and the age of the infrastructure, it is recommended that a schedule be established to ensure that the inspections, clean-outs, and mitigation of potential hazards identified are completed, as required to ensure the proper function of the system.

For stormwater management facilities, these should be maintained in accordance with their respective ECA approval, and/or pre-established schedule. With respect to culvert maintenance and clean-out, it is noted that if greater than 10 years has lapsed since the last maintenance was completed, the works may be subject to DFO review.

Clearing obstructions (i.e., blockages from inlets and outlets), completing repairs, and removing debris, sediment and unhealthy vegetation are routine maintenance activities that are typically required. In addition, consideration should be given to potential seasonal challenges, such as frozen ground conditions and snow blockages of surface infrastructure. It is noted that water quality improvement within a stormwater management facility is often based primarily on settling of sediment. Therefore, at some point, accumulated material will need to be removed. It is anticipated that system maintenance will ensure that peak flows continue to be attenuated, erosion and flooding potential will be reduced, and impacts to water quality will be minimized.

These recommendations pertaining to general system operations and maintenance will ensure that the stormwater management systems continue to adequately manage runoff. Ultimately, the implementation of a successful maintenance program, combined with drainage improvements as required (or as opportunities permit), will help to minimize the ongoing maintenance costs associated with these systems.

**Asset Management Program Development:**

The Municipality completed an Asset Management Plan (AMP) in 2021. As noted in the AMP, an asset management program is a dynamic document and should be updated regularly to inform long-term planning. Therefore, it is recommended that the Municipality update its Asset Management Plan regularly to evaluate non-structural culvert conditions and to support planning for repair and replacement work. The typical lifespan for corrugated steel culverts is 30 years and as such, the Asset Management Plan notes that much of this infrastructure has exceeded its estimated service life. It is recommended that where assets are identified to be in 'poor' condition based on an *'age-based'* condition assessment, a *'field based'* condition assessment be completed to verify the actual (observed) condition. With planning, replacement work can be completed in

conjunction with road works. Ensuring culverts are in good condition can improve drainage and provide a higher level of service and safety to the community's residents.

**Storm Sewer Sizing: Future Needs**

Based on the Asset Management Plan prepared for the Municipality, some components of the existing drainage infrastructure are reaching the end of their service lives. In consideration of previous design practices, historic rainfall data trends, which show a general increasing trend, and current climate change models, which suggest an increased frequency and intensity of significant rainfall events, some of the aging storm sewers and associated infrastructure may be undersized by current standards. Therefore, it is recommended that the capacity of replacement storm sewer systems be appropriately designed to support the desired levels of service for future stormwater management and road reconstruction projects.

# 11. DEVELOPMENT AREA OVERVIEW

## 11.1 Development Area Constraints and Comparison of Infrastructure Needs

The Master Servicing Plan is intended to be the foundation document and roadmap for implementing safe, reliable and efficient water, wastewater, and stormwater services to support the Municipality's long-term vision. This Master Servicing Plan provides general servicing strategies and an overview of the long-term implementation plan to support the Town's infrastructure needs.

To assist Municipal staff in reviewing various development scenarios and as new development proposals are presented, this Master Servicing Plan is intended to provide insight into potential constraints, such as system capacity needs based on the existing available capacity as well as the projected population growth (**Table 8-7** and **Table 9-6**), fire flow pressure and storage requirements, and availability (or otherwise) of existing infrastructure. To facilitate the ongoing review of development scenarios, a general overview of the development area constraints and relative level of difficulty associated with project implementation in each proposed development area is provided as **Table 11-1**. A general summary is provided below.

### AREA 1

Water System: There is sufficient fire flow, water storage, water supply, and water treatment capacity to service this area.

Wastewater System: There is sufficient capacity for wastewater conveyance and treatment to service this area.

Stormwater System: Stormwater may be coordinated in the Secondary Plan or addressed by lot-level controls.

### AREA 2A & 2B

Water System:

- There is sufficient water storage, water supply, and water treatment capacity to service this area.
- There is insufficient fire flow to service this area. Further, while it is estimated that there is sufficient fire flow and storage to service Walkerton to the year 2043, the Wallace Street standpipe may reach the end of its service life prior to this time at which point it is recommended that additional capacity for the Town be reviewed as part of a Municipal Class EA process. A Class EA process focusing on the South Pressure Zone, the Wallace Street Standpipe, the existing booster station, and the potential for a new standpipe in Area 2A may be advanced at any time. The inclusion of Area 2A within the settlement area boundary at this time would provide the opportunity for the Town to consider, in more detail, the construction of a water tower in this Area at such a time that planning is initiated. Further, the Town could start pursuing funding for this project, as opportunities permit.

Wastewater System: There is sufficient capacity for wastewater conveyance and treatment. However, wastewater trunk extension may be required to service this area.

Stormwater System: Municipally-owned stormwater management facilities are recommended prior to conveyance within the receiving drainage system.

### AREA 3

Water System: There is sufficient fire flow, water storage, water supply, and water treatment capacity to service this area.

Wastewater System: There is sufficient capacity for wastewater conveyance and treatment to service this area.

Stormwater System: Either municipally owned stormwater management facility or on-site stormwater management facilities prior to conveyance to the receiving system.

### AREA 4

Water System: There is insufficient fire flow. However, there is sufficient water storage, water supply, and water treatment capacity to service this area.

Wastewater System: There is sufficient capacity for wastewater conveyance and treatment. However, wastewater trunk extension may be required to service this area.

Stormwater System: Municipally owned stormwater management facilities are recommended prior to conveyance within the receiving drainage system.

From the perspective of servicing and capital costs, Area 1 and Area 3 would support development without significant additional infrastructure improvements or upgrades. Areas 2A and 2B, and Area 4 would likely require additional fire flow (pressure and storage) as well as trunk main extensions. As such, when compared to Area 1 and Area 3, from a development and servicing perspective, planning for development in these areas would be more complex and would likely require a longer overall planning horizon (i.e., 3 to 4 years) to complete the required background studies, EA process, and installation of infrastructure required to support future development.

## 11.2 Servicing Needs: Timeline

This Master Servicing Plan for drinking water, sanitary, and stormwater servicing systems in Walkerton recognizes that areas of local growth will need to be connected to the local servicing systems, and the systems will need to have sufficient overall capacity to support the expected growth, with one of the major questions being to identify the timing requirements for capacity increases.

**Figure 11-1** provides a summary of the servicing needs for the Town, including a representation of the capacity of the existing water supply and treatment facility, wastewater treatment facility and fire flow relative to the Town's anticipated population growth, as forecast to the year 2046 (and beyond). Population forecasts assume a development rate of approximately 240 persons per year (or 95 ERUs annually). Within the timeline, the estimated equivalent populations that will be supported within each development area is also depicted for reference purposes. It is noted that the need for capacity upgrades is ultimately dependent on the order and timing of development within the community. A phased approach to development within the approved development areas could be considered.

## 11.3 Development Charges

The Development Charges Act was enacted by the province of Ontario in 1989 and was significantly revised in 1997. The Act sets out the process by which municipalities can create development charge by-laws. A development charges background study, including forecast population growth estimates and a review of increased infrastructure needs required to support development, must be completed to support a Development Charges By-Law.

In consideration of the forecast population growth and development within the community, the Municipality has approved the completion of a Development Charges Background Study. This study was initiated in early 2024. This Master Servicing Plan may serve as a background report to help inform the study.

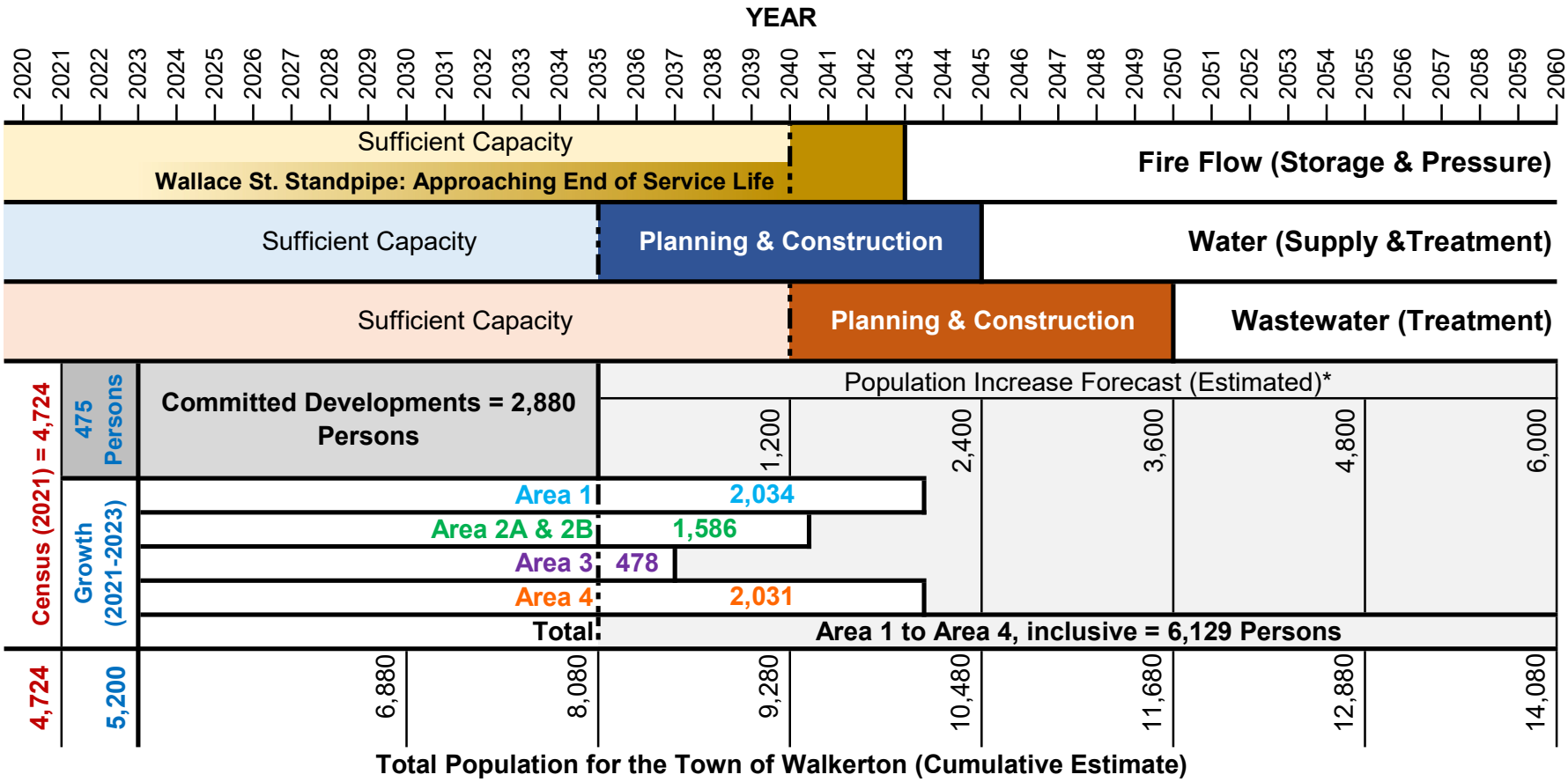
Development charges are one-time fees charged by lower and/or upper tier municipalities on residential and non-residential development to help pay for a portion of growth-related capital costs. The fees are intended to offset the capital cost associated with the required municipal services (i.e., recreation centres, libraries, parks, etc.) and infrastructure needs for new development necessary to support population growth. Development charges ensure that growth related costs are not borne also by existing user groups and are not solely dependent upon Municipal taxes and/or water, wastewater and/or stormwater rates. The establishment of development charges will be critical to providing the financial support for the needed infrastructure upgrades required to support future planned development in the community of Walkerton.

**TABLE 11-1**
**SUMMARY OF DEVELOPMENT AREA CONSTRAINTS AND COMPARISION OF RELATIVE LEVEL OF DIFFICULTY**

| | AREA 1 | AREA 2A & 2B | AREA 3 | AREA 4 | COMBINED |
|---|---|---|---|---|---|
| **Population Equivalent** | | | | | |
| ERUs | 804 | 627 | 189 | 803 | 2,423 |
| Population (Persons) | 2,034 | 1,586 | 478 | 2,031 | 6,129 |
| **General Characteristics** | | | | | |
| Development Area Size | 80.5 hectares | 42.8 hectares | 15.6 hectares | 56.5 hectares | 193.9 hectares |
| Developable Area (Estimated) | 53.6 hectares | 41.8 hectares | 12.6 hectares | 53.5 hectares | 161.5 hectares |
| Type of Development | Residential & Employment | Residential | Employment | Residential | Residential & Employment |
| Settlement Area Status | Proposed Expansion Area | 2A: Proposed (9.6 ha)<br>2B: Potential Future | Approved Expansion Area | Potential Future Expansion Area | Approved, Proposed and Potential Future |
| Development Phasing Recommended | Yes | Yes | No | Yes | ---- |
| **Water Services** | | | | | |
| Fireflow Pressure | Sufficient | Insufficient | Sufficient | Insufficient | Insufficient |
| Fireflow Storage (locally) | Sufficient | Insufficient | Sufficient | Insufficient | Insufficient |
| Water Storage (System-Wide) | **Storage Available for Approximately 1,920 persons** | | | | |
| Storage Needs (% Servicable) | 94% | 121% | 402% | 95% | OVER |
| Storage System Needs | Capacity Likely Sufficient | Capacity Sufficient | Capacity Sufficient | Capacity Likely Sufficient | Upgrade Capacity |
| Water Supply and Treatment (System-Wide) | **Uncommitted Reserve = 2,316 $m^3$** | | | | |
| Maximum Day Demand ($m^3$/day) | 1,831 | 1,427 | 430 | 1,828 | 5,516 |
| Water Supply and Treatment Needs | 126% | 162% | 539% | 127% | OVER |
| | Capacity Sufficient | Capacity Sufficient | Capacity Sufficient | Capacity Sufficient | Upgrade Capacity |
| **Stormwater** | | | | | |
| Stormwater Management | Net Neutral: to be addressed at the Lot Level (by Developer) | | | | |
| **Wastewater Services** | | | | | |
| **Treatment Plant (Rated Capacity)** | **Rated Capacity Remaining = 2,447 $m^3$** | | | | |
| Average Daily Flow ($m^3$/day) | 1,286 | 1,003 | 302 | 1,285 | 3,887 |
| Wastewater Needs (% of Available Daily Flow) | 190% | 244% | 810% | 190% | OVER |
| Wastewater Needs (based on Rated Capacity) | Capacity Sufficient | Capacity Sufficient | Capacity Sufficient | Capacity Sufficient | Upgrade Capacity |
| Treatment Plant (Peak Capacity) | **Peak Capacity Remaining = 5,012 $m^3$** | | | | |
| Maximum Day Flow ($m^3$/day) | 3,079 | 2,415 | 739 | 3,074 | 8,871 |
| Wastewater Needs (% of Max. Day Flow) | 163% | 208% | 678% | 163% | OVER |
| Wastewater Needs (based on Peak Capacity) | Capacity Sufficient | Capacity Sufficient | Capacity Sufficient | Capacity Sufficient | Upgrade Capacity |
| Trunk Connection | Available | Extension | Available[4] | Extension | |
| **General** | | | | | |
| **Relative Level of Difficulty** | Easy to Moderate | Moderate | Easiest | Most Complex | ---- |
| **Capital Cost** | $2M to $3M | $2M to $4M | Negligible | $2M to $4M | ---- |

**Notes:**
1. Capital costs do not include costs to upgrade the capacity for water supply and treatment and/or the wastewater treatment facility.
2. *Estimated cost for the localized provision for fireflow pressure and storage is $2M to $3M. This could also be provided more wholistically for the entire system at a greater cost at the time of implementation for a specified development.
3. The cost to extend a trunk sewer system is estimated to be $1M for the purpose of comparing the relative costs. This would be subject to further review.
4. May require grinder pumps or lift station(s).
5. Area 2 and Area 4 fireflow and pressure systems work independently from eachother.
6. Information used to develop this summary table is presented in more detail in Section 7 through Section 10 of the Master Servicing Plan.

**FIGURE 11-1: Area Comparison and Servicing Timeline Summary**




Notes:

1. *Population projected based on a rate of approximately 240 persons per year (or 95 Equivalent Residential Units annually)
2. Based on a population growth rate of 713 persons during the 3-year period between 2020 and 2023, it is estimated that the population increased by approximately 475 persons between the 2021 census and 2023.

# 12. PUBLIC CONSULTATION AND NEXT STEPS

## 12.1 Role of Consultation in the Master Plan Process

Consultation early in and throughout the process is a key feature of environmental assessment planning. Public consultation is an important component of the master planning process, allowing the Municipality to inform the public about the study and to obtain input from potentially interested and affected parties during the study process. The main goals and objectives of the public consultation process were as follows:

- To present clear and concise information to stakeholders at key stages of the study process;
- To solicit community, regulatory and Town staff input; and,
- To meet Municipal Class EA consultation requirements.

It is noted that while the Master Plan addresses the servicing needs and justification at a broad level, more detailed studies for each of the projects identified in the Master Plan will need to be completed as part of the planning and design process, as necessary. Further, this Master Servicing Plan is intended sufficiently to document the investigations, assessments and consultations recommended to support project planning, specifically for projects that are exempt from the EAA (formerly Schedule A and Schedule A+ projects). More detailed project-specific investigations and additional consultation will be necessary to satisfy the requirements for specific Schedule B and Schedule C projects, where identified.

As the Master Servicing Plan is intended to address the first two phases of the EA process (for Master Plan Approach No.1, the Phase 1 and Phase 2 EA process is preliminary), the consultation process has two mandatory points of contact: the Notice of Study Commencement and Public Information Centre (PIC No.1) and the Notice of Master Plan. Following the Notice of Master Plan and the circulation of the updated Master Servicing Plan, the report was finalized and presented to Municipal Council for approval on April 9th, 2024. A copy of the presentation is provided in **Appendix G**.

## 12.2 Communication and Consultation Plan

An important component at the outset of the public consultation process is to develop a Communication and Consultation Plan. The main objective of the plan is to encourage two-way communication with the community, regulatory agencies, stakeholders, and Municipal staff. More specifically, the plan was designed as follows:

- To build on past communication protocols and consultation plans from previous Class EA and municipal planning initiatives, to ensure consistency and continuity.
- To ensure the general public, Councillors, stakeholders, external agencies (including federal and provincial) and special interest groups have an opportunity to participate in the study process.
- To ensure that information is provided to interested and affected stakeholders as soon as reasonably possible.
- To make contact with external agencies to obtain legislative or regulatory approvals, or to collect pertinent technical information.

A contact list was compiled of relevant and interested parties, including agencies, local area municipalities and interested members of the community. This list was updated throughout the study and used for mailing and e-mailing, where applicable. Project notices and consultation records are enclosed in **Appendix A.** Full documentation of the comments received as part of the communication efforts are enclosed in **Appendix E**.

## 12.3 Indigenous Communities: Duty to Consult

The Municipality acknowledges that the land on which the Municipality of Brockton operates is part of the traditional lands and treaty territory of the Saugeen Ojibway Nation. The Municipality also acknowledges the Territory of the Anishinabek Nation: The People of the Three Fires known as Ojibway, Odawa, and Pottawatomi Nations and further give thanks to the Chippewas of Saugeen, and the Chippewas of Nawash, known collectively as the Saugeen Ojibway Nation, as the traditional keepers of this land.

It is recognized that consultation with SON is separate and distinct from engaging with the public and stakeholders. The Municipality of Brockton understands the requirement for consultation with, and the benefit of participation by, Indigenous Communities alongside the MCEA process. To ensure the Municipality's obligation to consult with the Saugeen Ojibway Nation is met, the Municipality provided correspondence via letter mail and email on November 30th, 2023, and February 13th, 2024, in conjunction with project notifications to the public, stakeholders, and agencies. These consultation efforts were intended to provide SON an opportunity review the Master Servicing Plan to provide any input, questions, or concerns regarding potential impacts to Aboriginal rights or title or any other interests with regard to the Plan. Consultation correspondence is included in **Appendix A**.

## 12.4 Study Communication and Public Engagement

### 12.4.1 Notice of Study Commencement and Virtual Public Information Centre (PIC No.1)

The Notice of Study Commencement was published and distributed on November 30th, 2023, with a joint Notice of Public Information Centre (PIC No.1). The Notice of Commencement informed the public of the initiation of the study, the overall goals of the Master Servicing Plan, the Class EA process and provided the details for the date, time, and location for PIC No.1. In addition, the Notice invited interested persons to review the first Draft of the Master Servicing Plan (i.e., Version 1) and provided the opportunity to be added to a mailing list for future Master Servicing Plan consultations.

PIC No.1 was held as follows:

Tuesday December 12th, 2023, from 6:00 pm to 7:00 pm at the Bruce County Council Chambers located at 30 Park Street in Walkerton. The public were also invited to attend the subsequent presentation to Council at 7pm.

A copy of the Notice is provided in **Appendix A** and a copy of the presentation materials provided at PIC No.1 are enclosed in **Appendix F.** The Notice was advertised in the Walkerton Herald Times and the Hanover Post on November 30th and December 7th, 2023.

### 12.4.2 Notice of Master Plan

As previously noted, this Master Plan process is intended to follow Approach #1 (Appendix 4, MCEA Manual 2023), which involves the completion of a Master Plan document at the conclusion of preliminary Phases 1 and 2 of the EA process. As per the process for Approach #1, the Master Servicing Plan, updated to reflect comments received following the issuance of the *Notice of Study Commencement*, is to be made available for comment in conjunction with the issuance of the *Notice of Master Plan*. The updated Master Servicing Plan presented the additional review and development of the alternative water, wastewater, and stormwater servicing concepts and strategies developed and evaluated as part of the process.

Comments received during the comment period, enclosed and addressed in **Appendix E**, have been incorporated into the Master Servicing Plan, as appropriate. Upon the subsequent approval, by Council, of the *Preferred Master Servicing Plan* for water, wastewater and stormwater management systems within the Study

Area, individual projects may proceed under the appropriate EA Schedule, using the Master Servicing Plan as a basis.

A *Notice of Master Plan* was published and distributed on February 13th, 2024. The Notice informed the public of the progression and further development of the study, included a summary of comments received as part of the first mandatory point of contact (i.e., during the first comment period) and presented updates to the Master Plan, including the incorporation of comments into the Master Plan, and a re-assessment of alternatives, where necessary. In addition, the Notice invited interested persons to review the revised Draft of the Master Servicing Plan (i.e., Version 2) which was posted on the Municipality's project website.

A copy of the Notice is provided in **Appendix A.** The Notice was advertised in the Walkerton Herald Times and the Hanover Post on February 15th and February 22nd, 2024.

## 12.5 Next Steps

### 12.5.1 Master Servicing Plan for the Town of Walkerton

The Master Servicing Plan was approved by Council in April 2024. The Master Plan will be maintained on the Municipality of Brockton website for reference purposes. Individual projects may proceed through project specific planning processes. The Master Servicing Plan should be reviewed and updated every 5-years.

### 12.5.2 Project Planning: Consultation and Approvals

As recognized in the MCEA Manual (March 2023) the EAA, including the MCEA process, is focused on general planning decisions associated with the development of a project. While consultation with various agencies is completed as part of the consultation process, providing the opportunity for comment, the MCEA process does not directly address these requirements. For projects planned under the MCEA, approvals can only be issued after the process has been formally completed (i.e., after the comment period outlined in the Notice of Completion).

Water, wastewater and stormwater facilities typically involve relatively complex systems and, as such, engineering details and decisions require a more thorough analysis than can be completed within the framework of the Class EA process. Depending on the nature of the proposed works, approvals may be required from the local municipality, the Saugeen Valley Conservation Authority, the Department of Fisheries and Oceans Canada (DFO), the Ontario Ministry of Natural Resources and Forestry (MNRF) and/or the Ministry of the Environment, Conservation and Parks (MECP). In addition, depending on the alternative selected and the nature of the proposed works, natural heritage studies (i.e., Environmental Impact Studies, Natural Heritage Assessments), archaeological assessments and/or cultural heritage assessments may be required. Therefore, it is recommended that required approvals be sought, and the potential need for natural heritage assessments, archaeological and/or cultural heritage assessments be reviewed, in conjunction with the design development phase for a given project, as appropriate.

The Municipality should continue to carefully consider the balance between often conflicting interests in infrastructure planning, application, and cost. Under the MCEA process, it is recommended that municipalities consider whether consultation regarding an infrastructure project should be carried out. Mandatory consultation is required for more complex Schedule B and Schedule C projects. The Municipality has committed to engage the public during the planning of municipal infrastructure projects. The level of consultation deemed appropriate by the Municipality should be evaluated on a project-specific basis. As would be expected, the scale of the project and anticipated magnitude of impacts (i.e., social, environmental, etc.) may be reflected in the public consultation efforts completed.

Indigenous Communities are to be consulted regarding any proposals to utilize lands under their land claims. Consultation with Indigenous rights-holders and engagement with interested Indigenous Communities will form part of any MCEA Schedule B or Schedule C process.

### 12.5.3 Master Plan Review Schedule

As outlined in the MCEA Manual (2023), it is recommended that the Master Plan be reviewed every five-years to determine whether there is a need for a detailed formal review and/or updating. Potential changes which may trigger the need for a detailed review include:

- Major changes to original assumptions
- Major changes to components of the Master Plan
- Significant new environmental effects
- Major changes in proposed timing of projects within the Master Plan

The primary objectives of this review would be to provide an update to the capacity constraints and updated estimates for future capacity needs and timing for required implementation of system upgrades, such as background studies and project planning. Further, where mitigation measures have involved programs aimed at reducing the usage (i.e., the system demands), a review of the program success (i.e., I&I reduction, limitation on summer water usage, etc.) could be completed.

Within the updated Master Servicing Plan, water system pressure modelling could be considered if, at that time, the required data has been fully developed in GIS format, such as diameters of mains, locations of relevant valves, elevations of storage, and booster station and storage system logic and details. Completing a full pressure model would enhance future planning for where additional water pressure and storage facilities should be located, as well as highlighting any areas with low pressures.

# 13. REFERENCES

Bruce County Housing Study – Final Report. March 2005. Social Housing Strategists (SHS).

County of Bruce Housing Study. March 2005. SHS Consulting. County of Bruce Census Update (Housing Study). February 2009. SHS Consulting.

Chapman, L.J. and Putnam. 1984. The Physiography of Southern Ontario. Third Edition. Ontario Geological Survey. Special Volume 2. Toronto: Ontario Ministry of Natural Resources.

Grey and Bruce Groundwater Study – Final Report. July 2023. Prepared by Waterloo Hydrogeologic, Inc.

Hoffman, D.W., and N.R. Richards. 1954. Soil Survey of Bruce County, Report No.16 of the Ontario Soil Survey. Experimental Farms Service, Canada Department of Agriculture and the Ontario Agriculture College, Guelph, Ontario.

Kirchhoff, C.J. and P.L. Watson. 2019. *Are Wastewater Systems Adapting to Climate Change*. Journal of the American Water Resources Association 1-12. https://doi.org/10.1111/1752-1688.12748

Plan the Bruce: Good Growth (Interim Report). Prepared by Watson & Associates Economists Ltd. (March 2021).

Plan the Bruce: Good Growth (Discussion Paper). Prepared by Watson & Associates Economists Ltd. (September 2022).

Preliminary Planning Analysis in Support of a Request for the Expansion of the Walkerton Settlement Area Boundary in the Municipality of Brockton. April 5, 2023. Prepared by Monteith Brown Planning Consultants.

Walkerton Floodline Mapping – Saugeen Valley Conservation Authority. Final Report. Revised April 2009. Prepared by Greenland Consulting Engineers.

**WEBSITES**

Nottawasaga Valley Conservation Authority:
https://www.nvca.on.ca/conservation-areas/osprey-wetlands/

Saugeen Valley Conservation Authority:
https://www.saugeenconservation.ca/en/about-us/about-us.aspx

Climate Change Connection:
https://climatechangeconnection.org/impacts/health-impacts/drinking-water/

EPA – Climate Impacts on Water Quality (Climate Change Adaptation Resource Centre):
https://www.epa.gov/arc-x/climate-impacts-water-utilities#storms

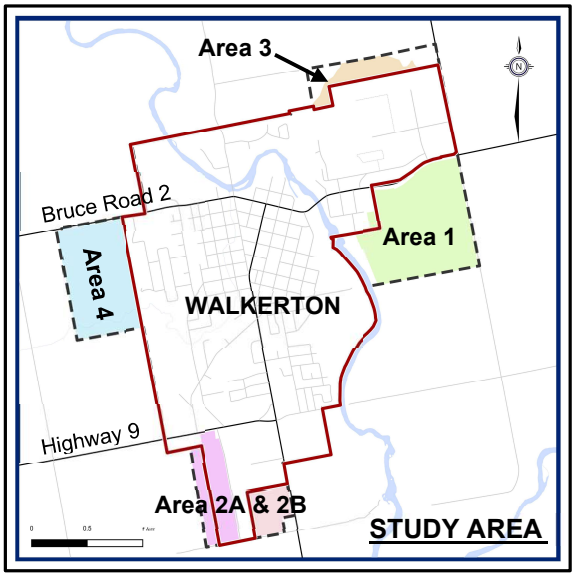
# APPENDIX A:
# CONSULTATION

# MASTER SERVICING PLAN
# MUNICIPALITY OF BROCKTON
# NOTICE OF STUDY COMMENCEMENT AND PUBLIC INFORMATION CENTRE (PIC No.1)

The Municipality of Brockton is undertaking a Water, Wastewater, and Stormwater Master Servicing Plan (MSP) for the community of Walkerton to establish a preferred servicing strategy that meets existing needs and supports projected growth and expansion of the community's urban boundary. The study area is defined as Walkerton's current settlement area boundary and includes an additional four (4) development areas identified by the Municipality as potential growth locations (i.e., proposed boundary expansion lands).

A key driver of the MSP is to establish a plan that maintains, or improves upon, the existing levels of service. The objective of the MSP study is to develop a comprehensive plan that will incorporate all facets of management, expansion, and funding of the water, wastewater, and stormwater systems for the entire community, including the expansion of Walkerton's urban boundary, to the year 2046 and beyond.

The Master Plan is being completed in accordance with Phase 1 and Phase 2 of the Municipal Class Environmental Assessment (EA) and is intended to follow Approach #1 of the Master Planning process, which involves the completion of a Master Plan document. The Master Servicing Plan should then be reviewed and updated every 5 years.




**Master Servicing Plan Report:**
A Master Servicing Plan (Version 1) Report has been prepared to document the planning and decision-making process undertaken, to date, for this MSP. The intent of the MSP is to complete a broad level of assessment that identifies projects that are exempt (or eligible for exemption) from the Environmental Assessment Act and can be used as support for projects that require more detailed project-specific investigations to fulfill the requirements for Schedule B or Schedule C projects. A copy of the draft report has been posted on the Municipality's project website where project information will be made available as the study progresses. In addition, a copy of the Master Servicing Plan has been made available at the Municipal office for viewing purposes.

**Public Consultation:**
Public consultation provides interested persons an opportunity to review the project, share information and provide comments related to the project. This first public information centre (PIC No.1) is being held to present and receive feedback on the recommendations. The Project Team welcomes your input. PIC No.1 is planned to be held as follows:

**Date:** Tuesday December 12th, 2023
**Time:** 6 pm to 7 pm (Public open house followed by a presentation to Council at 7 pm)
**Location:** Bruce County Council Chambers
30 Park Street, Walkerton, ON

**Comments:**
Public involvement is a key component of this project planning. We are seeking input on Walkerton's growth options under consideration and input from the public on issues and ideas relating to the community's existing water, wastewater and stormwater systems. Interested persons are encouraged to provide written comments to the Project Team by **January 8th, 2024**. To submit comments, request to be added to the project mailing list to receive future project notifications, or if you require further information or accommodations, please contact one of the Project Team members listed below. With the exception of personal information, all comments will become part of the public record.

Municipality of Brockton
Nicholas Schnurr, C.E.T., rcsi
Director of Operations
100 Scott Street, P.O. Box 68
Walkerton, ON N0G 2V0
nschnurr@brockton.ca
Tel: 519-881-2223 Ext.134

GM BluePlan Engineering Limited
Jen Swiger, P.Eng.
Project Engineer and GIS Specialist
1260-2nd Avenue East, Unit 1
Owen Sound, ON N4K 2J3
jen.swiger@gmblueplan.ca
Tel: 519-376-1805

This Notice is advertised in the Walkerton Herald-Times and the Hanover Post and is also posted on the Municipality's project website, where additional information is provided.

This Notice first issued on November 30th, 2023.

# MASTER SERVICING PLAN
# MUNICIPALITY OF BROCKTON
# NOTICE OF MASTER PLAN

The Municipality of Brockton is undertaking a Water, Wastewater, and Stormwater Master Servicing Plan (MSP) for the community of Walkerton to establish a preferred servicing strategy that meets existing needs and supports projected growth and expansion of the community's urban boundary. The study area is defined as Walkerton's current settlement area boundary and includes an additional four (4) development areas identified by the Municipality as potential locations for future growth.


A key driver of the MSP is to establish a plan that maintains, or improves upon, the existing levels of service. The objective of the MSP study is to develop a comprehensive plan that will incorporate all facets of management, expansion, and funding of the water, wastewater, and stormwater systems for the entire community, including the expansion of Walkerton's urban boundary, to the year 2046 and beyond.

**The Process:**
The study was undertaken in accordance with Master Planning process Approach #1 as set out in the Municipal Engineer Association Class Environmental Assessment (March 2023). This approach involved the preparation of a Master Plan document at the conclusion of Phase 1 and 2 of the Class Environmental Assessment process. The Master Servicing Plan should then be reviewed and updated every 5 years.

**Master Servicing Plan Report:**
A Master Servicing Plan (Version 2-Draft) report has been prepared to document the planning and decision-making process undertaken, to date, for this MSP. The intent of the MSP is to complete a broad level of assessment that identifies projects that are exempt (or eligible for exemption) from the Environmental Assessment Act and can be used as support for projects that require more detailed project-specific investigations to fulfill the requirements for Schedule B or Schedule C projects.

**Public Consultation:**
Public consultation provides interested persons an opportunity to review the project, share information and provide comments related to the project. A public information centre (PIC No.1) for this project was held on December 12th, 2023. As part of the consultation efforts, the Master Servicing Plan (Version 1) was circulated for review and comment. The updated Master Servicing Plan (Version 2 – Draft) will be made available for public review starting February 13th, 2024.

A copy of the Master Servicing Plan, updated to address comments received, has been posted on the Municipality's project website where project information will be made available as the study progresses (https://buildyourbrockton.ca/waterwastewatermasterplan). In addition, a copy of the Master Servicing Plan has been made available at the Municipal office for viewing purposes.

**Comments:**
Public involvement is a key component of this project planning. We are seeking input on Walkerton's growth options under consideration and input from the public on issues and ideas relating to the community's existing water, wastewater and stormwater systems. Interested persons are encouraged to provide written comments to the Project Team by **March 15th, 2024**. To submit comments or if you require further information or accommodations, please contact one of the Project Team members listed below. The Master Servicing Plan will then be presented to Municipal Council for approval (or otherwise). With the exception of personal information, all comments will become part of the public record.


Municipality of Brockton
Nicholas Schnurr, C.E.T., rcsi
Director of Operations
100 Scott Street, P.O. Box 68
Walkerton, ON N0G 2V0
nschnurr@brockton.ca
Tel: 519-881-2223 Ext.134

GM BluePlan Engineering Limited
Jen Swiger, P.Eng.
Project Engineer and GIS Specialist
1260-2nd Avenue East, Unit 1
Owen Sound, ON N4K 2J3
jen.swiger@gmblueplan.ca
Tel: 519-376-1805


This Notice is advertised in the Walkerton Herald-Times and the Hanover Post and is also posted on the Municipality's project website, where additional information is provided.

This Notice first issued on February 13th, 2024.

# CIRCULATION LIST
# AGENCIES AND INDIGENOUS COMMUNITIES
# MASTER SERVICING PLAN
# TOWN OF WALKERTON - MUNICIPALITY OF BROCKTON

| AGENCY | | CONTACT INFORMATION | ADDRESS | INFORMATION SENT | | | | | | | | | | | COMMENTS/RESPONSE RECEIVED (DESCRIPTION) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | DATE SENT or RECEIVED | VIA | | | DOCUMENT | | | | | | | |
| | | | | | E-mail | Mail | Phone | Notice of Project Commencement | Master Plan (V1) (November 2023) | Master Plan (V2-Draft) (February 2024) | Notice of Master Plan | Master Plan (FINAL) | Other | | |
| **MUNICIPAL AGENCIES** | | | | | | | | | | | | | | | |
| **County of Bruce** | Contact | Jack Van Dorp, Manager of Land Use Planning | County of Bruce | 30-Nov-23 | S | | | X | X | | | | | | |
| | | Planning and Development Department | Walkerton Administration Centre | 13-Feb-24 | S | | | | | X | X | | | | |
| | Telephone | (226) 909-5575 | 30 Park Street | | | | | | | | | | | | |
| | E-mail | jvandorp@brucecounty.on.ca | Walkerton, ON N0G 2V0 | | | | | | | | | | | | |
| | Contact | Monica Walker-Bolton | | | | | | | | | | | | | |
| | E-mail | mwalkerbolton@brucecounty.on.ca | | | | | | | | | | | | | |
| | Contact | Adam Stanley, Director | | 8-Jan-24 | R | | | | | | | | X | Comments | |
| | | Transportation and Environmental Services | | | | | | | | | | | | | |
| | Telephone | (519) 881-2400 | | | | | | | | | | | | | |
| | E-mail | astanley@brucecounty.on.ca | | | | | | | | | | | | | |
| | Contact | Ryan Errington | | | | | | | | | | | | | |
| | E-mail | rerrington@brucecounty.on.ca | | | | | | | | | | | | | |
| **Municipality of Brockton** | Contact | Nicholas Schnurr, Director of Operations | Municipality of Brockton | 30-Nov-23 | S | | | X | X | | | | | | |
| | | Director of Operations | 100 Scott Street, P.O. Box 68 | 13-Feb-24 | S | | | | | X | X | | | | |
| | Telephone | (519) 881-2223 (Ext. 134) | Walkerton, ON N0G 2V0 | | | | | | | | | | | | |
| | E-mail | nschnurr@brockton.ca | | | | | | | | | | | | | |
| | Contact | Sonya Watson | | | | | | | | | | | | | |
| | | Chief Administrative Officer | | | | | | | | | | | | | |
| | Telephone | (519) 881-2223 Ext. 126 | | | | | | | | | | | | | |
| | E-mail | s.watson@brockton.ca | | | | | | | | | | | | | |
| **Saugeen Valley Conservation Authority (SVCA)** | Contact | Erik Downing | Saugeen Conservation | 30-Nov-23 | S | | | X | X | | | | | | |
| | | Manager, Environmental Planning & Reg. | 1078 Bruce Road 12 | 14-Dec-23 | R | | | | | | | | | | Acknowledgement of NoC - Comments pending |
| | Telephone | (519) 364-1255 (Ext. 241) | P.O. Box 150 | 9-Jan-24 | S | | | | | | | | | | Response from GMBP |
| | Fax | (519) 367-3041 | Formosa, ON N0G 1W0 | 10-Jan-24 | R | | | | | | | | | | SVCA Comments |
| | E-mail | e.downing@svca.on.ca | | 13-Feb-24 | S | | | | | X | X | | | | |
| | Contact | Madeline McFadden, SVCA Regulations Officer | | 12-Mar-24 | R | | | | | | | | | | SVCA Comments |
| | E-mail | m.mcfadden@svca.on.ca | | | | | | | | | | | | | |
| | Phone | (519) 373-4849 | | | | | | | | | | | | | |
| | Contact | Elise MacLeod, SVCA Water Resources Manager | | | | | | | | | | | | | |
| | E-mail | e.macleod@svca.on.ca | | | | | | | | | | | | | |
| | Phone | (519) 377-3694 | | | | | | | | | | | | | |
| **Source Water Protection** | Contact | Carl Seider, Risk Management Official | Drinking Water Source Protection | 30-Nov-23 | S | | | X | X | | | | | | |
| | Telephone | (519) 470-3000 (ext.201) | c/o Grey Sauble Conservation Authority | 13-Feb-24 | S | | | | | X | X | | | | |
| | Fax | (519) 470-3005 | R.R.#4; 237897 Inglis Falls Road | | | | | | | | | | | | |
| | E-mail | c.seider@waterprotection.ca | Owen Sound, ON N4K 5N6 | | | | | | | | | | | | |
| | Email | rmo@greysauble.on.ca | | | | | | | | | | | | | |
| | E-mail | mail@waterprotection.ca | | | | | | | | | | | | | |

# CIRCULATION LIST
# AGENCIES AND INDIGENOUS COMMUNITIES
# MASTER SERVICING PLAN
# TOWN OF WALKERTON - MUNICIPALITY OF BROCKTON

| AGENCY | CONTACT INFORMATION | | ADDRESS | INFORMATION SENT | | | | | | | | | | | COMMENTS/RESPONSE RECEIVED (DESCRIPTION) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | DATE SENT or RECEIVED | VIA | | | DOCUMENT | | | | | | | |
| | | | | | E-mail | Mail | Phone | Notice of Project Commencement | Master Plan (V1) (November 2023) | Master Plan (V2-Draft) (February 2024) | Notice of Master Plan | Master Plan (FINAL) | Other | | |
| **PROVINCIAL AGENCIES** | | | | | | | | | | | | | | | |
| **Ministry of the Environment, Conservation and Parks Owen Sound Area Office** | Contact | John Ritchie | MECP | 30-Nov-23 | S | | | X | X | | | | | | |
| | | Owen Sound District Manager | Owen Sound Area Office | 13-Feb-24 | S | | | | | X | X | | | | |
| | Telephone | (519) 377-1058 | 101 17th Street East, 3rd Floor | | | | | | | | | | | | |
| | Fax | (519) 371-2905 | Owen Sound, ON N4K 0A5 | | | | | | | | | | | | |
| | E-mail | john.s.ritchie@ontario.ca | | | | | | | | | | | | | |
| | Contact | Scott Gass | | | | | | | | | | | | | |
| | | Supervisor (Acting) | | | | | | | | | | | | | |
| | Telephone | (519) 377-1058 | | | | | | | | | | | | | |
| | Fax | (519) 373-9853 | | | | | | | | | | | | | |
| | E-mail | scott.gass@ontario.ca | | | | | | | | | | | | | |
| **Ministry of the Environment, Conservation and Parks Southwestern Region** | Contact | Mark Badali, Senior Project Evaluator | MECP - Environental Assessment Branch | 30-Nov-23 | S | | | X | X | | | | | | Project Information Form included. |
| | | Environmental Assessment Program Support | Project Review | 28-Dec-23 | R | | | | | | | | X | | Acknowledgement of Notice of Commencement |
| | | | 8th Flr, 135 St Clair Ave W | 13-Feb-24 | S | | | | | X | X | | | | Project Information Form included |
| | Telephone | (416) 457-2155 | Toronto, ON M4V 1P5 | | | | | | | | | | | | |
| | Email | mark.badali1@ontario.ca | | | | | | | | | | | | | |
| | Contact | MECP Southwest Region | MECP - Southwest Region | | | | | | | | | | | | Project Information Form included. |
| | Telephone | (519) 873-5000 | Technical Support Section | | | | | | | | | | | | |
| | Fax | (519) 873-5020 | 733 Exeter Road | | | | | | | | | | | | |
| | Email | eanotification.swregion@ontario.ca | London, ON N6E 1L3 | | | | | | | | | | | | |
| **Ministry of the Environment, Conservation and Parks Environmental Assessment and Approvals Branch** | Contact | Director | MECP | NMP Only | | | | | | | | | | | NMP = Notice of Master Plan Only |
| | Telephone | (416) 314-7288 | Environmental Approvals Branch | 13-Feb-24 | S | | | | | X | X | | | | |
| | Fax | (416) 314-8452 | 135 St.Clair Ave W, 1st Floor | 4-Mar-24 | R | | | | | | | | | | Acknowledgement of receipt |
| | E-mail | EAASIBgen@ontario.ca | Toronto, ON M4V 1P5 | | | | | | | | | | | | |
| | | mea.notices.eaab@ontario.ca | | | | | | | | | | | | | |
| **Ministry of the Environment, Conservation and Parks Land and Water Division Species at Risk Branch** | Contact | Susan Ecclestone (Director) | MECP - Land and Water Division | 30-Nov-23 | S | | | X | X | | | | | | Project Information Form included. |
| | | Species at Risk Branch | Species at Risk Branch | 13-Feb-24 | S | | | | | X | X | | | | |
| | | | Foster Bldg. 14th Floor | | | | | | | | | | | | |
| | Telephone | (416) 274-8864 | 40 St. Clair Ave W | | | | | | | | | | | | |
| | Email | SAROntario@ontario.ca | Toronto, ON M4V 1M2 | | | | | | | | | | | | |
| **Ministry of Natural Resources and Forestry** | Contact | Ken Mott, District Planner | Ministry on Natural Resources and Forestry | 30-Nov-23 | S | | | X | X | | | | | | Services Grey, Bruce, Simcoe and Dufferin |
| | Telephone | (705) 725-7546 | Midhurst District | 7-Dec-23 | R | | | | | | | | X | | Comments - indicated that there is no need to issue subsequent notices to MNRF. Once MNRF interests and/or permits are identified, consultation with the MNRF is recommended. |
| | Fax | (705) 725-7584 | 2284 Nursery Road | 14-Feb-24 | R | | | | | | | | | | |
| | E-mail | ken.mott@ontario.ca | Midhurst, ON L9X 1N8 | | | | | | | | | | | | |
| | New email | SR.planning@ontario.ca | | | | | | | | | | | | | |
| **FEDERAL AGENCIES** | | | | | | | | | | | | | | | |
| **Environment and Climate Change Canada** | Contact | Environmental Assessment Coordinator | Environment and Climate Change Canada | 30-Nov-23 | S | | | X | X | | | | | | |
| | Telephone | (416) 739-4734 | Ontario Region | 13-Feb-24 | S | | | | | X | X | | | | |
| | Fax | (416) 739-4776 | 4905 Dufferin Street | | | | | | | | | | | | |
| | E-mail | ec.ecoactionon.ec@canada.ca | Toronto, Ontario M3H 5T4 | | | | | | | | | | | | |

# CIRCULATION LIST
# AGENCIES AND INDIGENOUS COMMUNITIES
# MASTER SERVICING PLAN
# TOWN OF WALKERTON - MUNICIPALITY OF BROCKTON

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | DATE SENT or RECEIVED | VIA | | | DOCUMENT | | | | | | | |
| | | | | | E-mail | Mail | Phone | Notice of Project Commencement | Master Plan (V1) (November 2023) | Master Plan (V2-Draft) (February 2024) | Notice of Master Plan | Master Plan (FINAL) | Other | | |
| **INDIGENOUS COMMUNITIES** | | | | | | | | | | | | | | | |
| **Historic Saugeen Metis** | Contact | Archie Indoe (President) | Historic Saugeen Metis | 30-Nov-23 | S | S | | X | X | | | | | | |
| | | Georgia McLay (Consultation Coordinator) | 204 High Street | 13-Feb-24 | S | S | | | | X | X | | | | |
| | Telephone | (519) 483-4000 | P.O. Box 1492 | 21-Feb-24 | R | | | | | | | | | | |
| | Email | hsmlrcc@bmts.com | Southampton, ON N0H 2L0 | | | | | | | | | | | | |
| **Saugeen First Nation** | Contact | Conrad Ritchie (Chief) | Saugeen First Nation | 30-Nov-23 | S | S | | X | X | | | | | | |
| | Telephone | (800) 680-0744 | Chippewas of Saugeen First Nation No.29 | 13-Feb-24 | S | S | | | | X | X | | | | |
| | Fax | (519) 797-2978 | 6493 Highway 21, R.R.#1 | | | | | | | | | | | | |
| | E-mail | conrad.ritchie@saugeen.org | Southampton, ON N0H 2L0 | | | | | | | | | | | | |
| | E-mail | sfn@saugeen.org | | | | | | | | | | | | | |
| **Metis Nation of Ontario (MNO) Great Lakes Metis Council** | Contact | Office Coordinator | MNO Great Lakes Metis Council | 30-Nov-23 | S | S | | X | X | | | | | | |
| | | | 1198 2nd Avenue East | 13-Feb-24 | S | S | | | | X | X | | | | |
| | Telephone | (226) 256-8469 | Owen Sound, ON N4K 2H9 | | | | | | | | | | | | |
| | E-mail | GLMC@metisnation.org | | | | | | | | | | | | | |
| **Metis Nation of Ontario (MNO)** | Contact | James Wagar | Metis Nation of Ontario | 30-Nov-23 | S | | | X | X | | | | | | Hard copy notification letters no longer being received |
| | | Consultation Assessment Coordinator | | 13-Feb-24 | S | | | | | X | X | | | | |
| | Telephone | (519) 370-0435 | | | | | | | | | | | | | |
| | E-mail | jamesw@metisnation.org | | | | | | | | | | | | | |
| | E-mail | consultations@metisnation.org | | | | | | | | | | | | | |
| **Saugeen Ojibway Nation Environmental Office** | | Saugeen Ojibway Nation, Environmental Office | Saugeen Ojibway Nation | 30-Nov-23 | S | S | | X | X | | | | | | |
| | Telephone | (519) 534-5507 | Environment Office | 13-Feb-24 | S | S | | | | X | X | | | | |
| | Contact | Charlene Leonard | 10129 Highway 6 | | | | | | | | | | | | |
| | E-mail | manager.ri@saugeenojibwaynation.ca | Georgian Bluffs, ON N0H 2T0 | | | | | | | | | | | | |
| | Contact | Karen Heisler | | | | | | | | | | | | | |
| | E-mail | associate.ri@saugeenojibwaynation.ca | | | | | | | | | | | | | |
| | Contact | Amber Debassige | | | | | | | | | | | | | |
| | E-mail | execassist.ri@saugeenojibwaynation.ca | | | | | | | | | | | | | |
| **Chippewas of Nawash Unceded First Nation** | Contact | Chief Gregory Nadjiwon | Chippewas of Nawash Unceded First Nation | 30-Nov-23 | S | S | | X | X | | | | | | |
| | Telephone | (519) 534-1689 | Administration Building | 13-Feb-24 | S | S | | | | X | X | | | | |
| | E-mail | chiefsdesk@nawash.ca | #135 Lakeshore Blvd. | | | | | | | | | | | | |
| | Contact | Michael Earl, Senior Administrative Officer | Neyaashiinigmiing, ON N0H 2T0 | | | | | | | | | | | | |
| | E-mail | sao@nawash.ca | | | | | | | | | | | | | |
| | Contact | Diana Ross, Tribal Secretary | | | | | | | | | | | | | |
| | E-mail | executiveassistant@nawash.ca | | | | | | | | | | | | | |

November 30th, 2023

Chippewas of Nawash Unceded First Nation
Administration Building
135 Lakeshore Boulevard
Neyaashiinigmiing, ON N0H 2T0

Attention: Chief Gregory Nadjiwon

**RE: Walkerton Master Servicing Plan: Notice of Study Commencement and Public Information Centre No.1**

I am writing to let you know that the Municipality of Brockton (the Municipality) is undertaking a Water, Wastewater and Stormwater Master Serving Plan for the community of Walkerton to establish a preferred servicing strategy that meets existing needs and supports projected growth and expansion of the community's urban boundary. The study area is defined as Walkerton's current settlement area boundary and includes four (4) additional development areas identified by the Municipality as potential growth locations (i.e., proposed boundary expansion lands). The study area is shown on the attached Notice.

The Municipality acknowledges that the land on which the Municipality of Brockton operates is part of the traditional lands and treaty territory of the Saugeen Ojibway Nation. The Municipality also acknowledges the Territory of the Anishinabek Nation: The People of the Three Fires known as Ojibway, Odawa, and Pottawatomi Nations and further give thanks to the Chippewas of Saugeen, and the Chippewas of Nawash, known collectively as the Saugeen Ojibway Nation, as the traditional keepers of this land.

Portions of the Study Area drain to the Saugeen River watershed or its various stream corridors which then drain to Lake Huron. This project relates to the protected aboriginal rights of Saugeen Ojibway Nation in that it is linked to the Lake. This correspondence initiates consultation with you to enable the project and subsequent projects to carry forward and to ensure your treaty rights will be recognized and accommodated. Any potential impacts to SON's rights, noting harvesting rights and commercial fisheries, can be identified, and appropriately mitigated.

At this time, impacts to treaty rights are not documented, and we seek your input in order to review and address these rights through the proposed

servicing strategy. A key driver of the Master Servicing Plan is to establish a plan that maintains, or improves upon, the existing levels of service. The objective of the study is to develop a comprehensive plan that will incorporate all facets of management, expansion, and funding of the water, wastewater, and stormwater systems for the entire community, including the expansion of Walkerton's urban boundary, to the year 2046 and beyond.

The Walkerton Master Servicing Plan is being prepared following Phases 1 and 2 of the Municipal Class Environmental Assessment (Class EA) as outlined in the Municipal Class Environmental Assessment Manual prepared by the Municipal Engineers Association (2023). The overall intent of the Plan is to complete a broad level of assessment that identifies projects that are exempt (or eligible for exemption) from the Environmental Assessment Act and can be used as support for projects that require more detailed project-specific investigations to fulfill the requirements for Schedule B or Schedule C projects. As with any Master Plan, there is no imminent project to review but a series of recommended projects, which may require more detailed project specific study in the future. The Saugeen Ojibway Nation will continue to be consulted about the identified Environmental Assessment processes at such a time that such projects proceed, as well as any subsequent permitting, approval, and licensing requirements.

A copy of the Master Servicing Plan (Version 1) is posted on the Municipality's Project Website www.buildyourbrockton.ca/waterwastewatermasterplan. If you wish for paper copies, please let us know and they will be provided.

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If you require additional information or wish to meet to discuss the project, please contact the undersigned. by telephone at (519)881-2223 (Extension 134) or by e-mail at nschnurr@brockton.ca. Additional contact information, including that of the lead consultant contact is provided below.


Municipality of Brockton
Nicholas Schnurr, C.E.T., rcsi
Director of Operations
100 Scott Street, P.O. Box 68
Walkerton, ON N0G 2V0
nschnurr@brockton.ca
Tel: 519-881-2223 Ext.134

GM BluePlan Engineering Limited
Jen Swiger, P.Eng.
Project Engineer and GIS Specialist
1260-2nd Avenue East, Unit 1
Owen Sound, ON N4K 2J3
jen.swiger@gmblueplan.ca
Tel: 519-376-1805


I would appreciate if you could confirm your review of the project information by **January 8th, 2024**. If it is not possible to respond within this timeframe, please contact me to establish a mutually agreed upon timeframe. We will continue to provide updates as this project progresses.

I would like to thank you in advance for your consideration to this request and look forward to hearing from you.

Yours truly,

N. Schnurr

Nicholas Schnurr
Director of Operations
Municipality of Brockton

Encl.
Notice of Study Commencement and Public Information Centre (PIC No.1)

cc: Jen Swiger, P.Eng., Project Engineer, GM BluePlan Engineering
Andrea Nelson, M.Sc., Environmental Planner, GM BluePlan Engineering

November 30th, 2023

Saugeen First Nation
Chippewas of Saugeen First Nation No.29
6493 Highway 21
RR#1 Southampton, ON  N0H 2L0

Attention: Chief Conrad Ritchie

**RE: Walkerton Master Servicing Plan: Notice of Study Commencement and Public Information Centre No.1**

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Yours truly,

N. Schnurr

Nicholas Schnurr
Director of Operations
Municipality of Brockton

Encl.
Notice of Study Commencement and Public Information Centre (PIC No.1)

cc: Jen Swiger, P.Eng., Project Engineer, GM BluePlan Engineering
Andrea Nelson, M.Sc., Environmental Planner, GM BluePlan Engineering

November 30th, 2023

Great Lakes Métis Council
1198 2nd Ave E
Owen Sound, ON  N4K 2H9

Attention:  Office Coordinator

**RE: Walkerton Master Servicing Plan: Notice of Study Commencement and Public Information Centre No.1**

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Director of Operations
Municipality of Brockton

Encl.
Notice of Study Commencement and Public Information Centre (PIC No.1)

cc: Jen Swiger, P.Eng., Project Engineer, GM BluePlan Engineering
Andrea Nelson, M.Sc., Environmental Planner, GM BluePlan Engineering

November 30th, 2023

Historic Saugeen Métis
204 High Street
P.O. Box 1492
Southampton, ON  N0H 2L0

Attention:  Georgia McLay, Coordinator, Lands, Waters & Consultation

**RE: Walkerton Master Servicing Plan: Notice of Study Commencement and Public Information Centre No.1**

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Encl.
Notice of Study Commencement and Public Information Centre (PIC No.1)

cc: Jen Swiger, P.Eng., Project Engineer, GM BluePlan Engineering
Andrea Nelson, M.Sc., Environmental Planner, GM BluePlan Engineering

November 30th, 2023

Métis Nation of Ontario
consultations@metisnation.org

Attention: James Wagar, Consultation Assessment Coordinator

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Notice of Study Commencement and Public Information Centre (PIC No.1)

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Andrea Nelson, M.Sc., Environmental Planner, GM BluePlan Engineering

November 30th, 2023

Charlene Leonard
Saugeen Ojibway Nation, Environment Office
10129 Highway 6
Georgian Bluffs, ON  N0H 2T0

Attention: Charlene Leonard

**RE: Walkerton Master Servicing Plan: Notice of Study Commencement and Public Information Centre No.1**

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Notice of Study Commencement and Public Information Centre (PIC No.1)

cc: Jen Swiger, P.Eng., Project Engineer, GM BluePlan Engineering
Andrea Nelson, M.Sc., Environmental Planner, GM BluePlan Engineering

February 13th, 2024

Chief Gregory Nadjiwon
Chippewas of Nawash Unceded First Nation
Administration Building
135 Lakeshore Boulevard
Neyaashiinigmiing, ON N0H 2T0

Attention: Chief Gregory Nadjiwon

**RE: Walkerton Master Servicing Plan**
**Notice of Master Plan**

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A copy of the Master Servicing Plan (Version 2 - Draft) is posted on the Municipality's Project Website (https://buildyourbrockton.ca/waterwastewatermasterplan). If you wish for paper copies, please let us know and they will be provided.

The Municipality of Brockton commenced the project in the 2023, with a Notice of Study Commencement issued on December 1, 2023. A public open house was held on December 12th, 2023. As part of ongoing public and stakeholder engagement and consultation with agencies and indigenous rights holders, the Notice of Master Plan is being circulated. A copy of the Notice is enclosed. It is recognized that consultation with SON is separate and distinct from engaging with the public, stakeholders, and agencies.

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Project Engineer and GIS Specialist
1260-2nd Avenue East, Unit 1
Owen Sound, ON N4K 2J3
jen.swiger@gmblueplan.ca
Tel: 519-376-1805


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Yours truly,

Nicholas Schnurr
Director of Operations
Municipality of Brockton

Encl.
Notice of Master Plan

cc: Jen Swiger, P.Eng., Project Engineer, GM BluePlan Engineering
Andrea Nelson, M.Sc., Environmental Planner, GM BluePlan Engineering

February 13th, 2024

Chief Conrad Ritchie
Saugeen First Nation
Chippewas of Saugeen First Nation N. 29
6493 Highway 21
RR#1 Southampton, ON N0H 2L0

Attention: Chief Conrad Ritchie

**RE: Walkerton Master Servicing Plan**
**Notice of Master Plan**

I am writing to let you know that the Municipality of Brockton (the Municipality) is undertaking a Water, Wastewater and Stormwater Master Serving Plan for the community of Walkerton to establish a preferred servicing strategy that meets existing needs and supports projected growth and expansion of the community's urban boundary. The study area is defined as Walkerton's current settlement area boundary and includes an additional four (4) development areas identified by the Municipality as potential locations for future growth. The study area is shown on the attached Notice.

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Portions of the Study Area drain to the Saugeen River watershed or its various stream corridors which then drain to Lake Huron. This project relates to the protected aboriginal rights of Saugeen Ojibway Nation in that it is linked to the Lake. This correspondence initiates consultation with you to enable the project and subsequent projects to carry forward and to ensure your treaty rights will be recognized and accommodated. Any potential impacts to SON's rights, noting harvesting rights and commercial fisheries, can be identified, and appropriately mitigated.

At this time, impacts to treaty rights are not documented. However, we seek your input in order to review and address treaty rights through the proposed servicing strategy. A key driver of the Master Servicing Plan is to establish a plan that maintains, or improves upon, the existing levels of service. The objective of the study is to develop a comprehensive plan that will incorporate all facets of management, expansion, and funding of the water, wastewater, and stormwater systems for the entire community, including the expansion of Walkerton's urban boundary, to the year 2046 and beyond.

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Municipality of Brockton

Encl.
Notice of Master Plan

cc: Jen Swiger, P.Eng., Project Engineer, GM BluePlan Engineering
Andrea Nelson, M.Sc., Environmental Planner, GM BluePlan Engineering

February 13th, 2024

Charlene Leonard
Saugeen Ojibway Nation, Environment Office
10129 Highway 6
Georgian Bluffs, ON  N0H 2T0

Attention: Charlene Leonard

**RE: Walkerton Master Servicing Plan**
**Notice of Master Plan**

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Municipality of Brockton

Encl.
Notice of Master Plan

cc: Jen Swiger, P.Eng., Project Engineer, GM BluePlan Engineering
Andrea Nelson, M.Sc., Environmental Planner, GM BluePlan Engineering

February 13, 2024

Historic Saugeen Métis
204 High Street
P.O. Box 1492
Southampton, ON N0H 2L0

Attention: Georgia McLay, Coordinator, Lands, Waters & Consultation

**RE: Walkerton Master Servicing Plan**
**Notice of Master Plan**

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Notice of Master Plan

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Andrea Nelson, M.Sc., Environmental Planner, GM BluePlan Engineering

February 13, 2024

Metis Nation of Ontario

Attention: James Wagar

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Andrea Nelson, M.Sc., Environmental Planner, GM BluePlan Engineering

February 13, 2024

Great Lakes Metis Council
1198 2nd Ave E
Owen Sound, ON N4K 2H9

Attention: Office Coordinator

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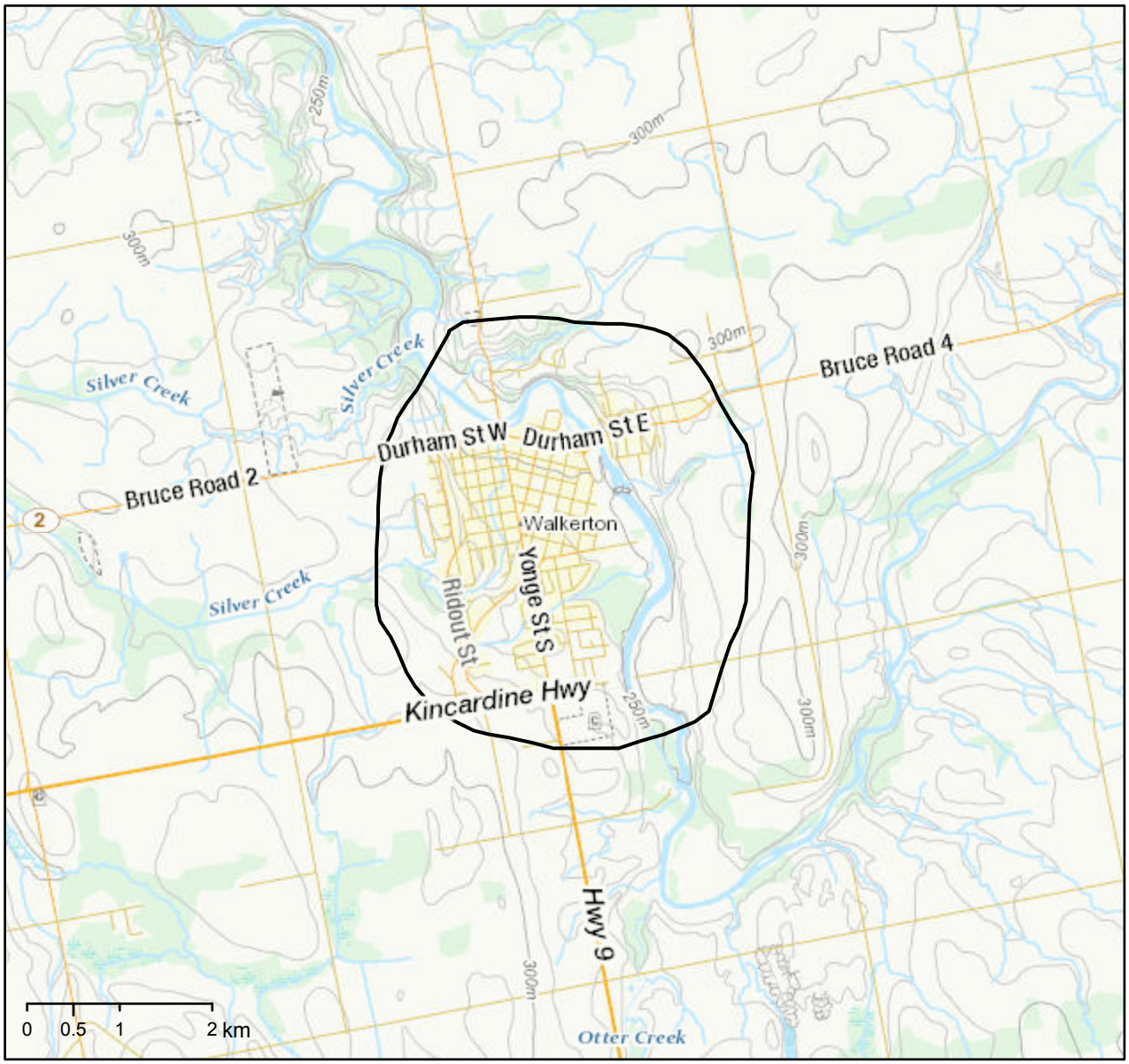
# APPENDIX B:
# MAPPING (DFO AND SPA)

Fisheries and Oceans Canada | Pêches et Océans Canada

# Aquatic Species at Risk Report

Canada





One or more aquatic species listed under the Species at Risk Act are found (or potentially found) within the coloured areas.

- Critical Habitat
- Extirpated, Endangered, or Threatened
- Special Concern

**How to use this information:**

1. The map and species list are intended to provide a general overview of aquatic species at risk and their critical habitat that may occur within the mapped area.

2. To assess your project go to: www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html

If you encounter an aquatic species at risk in an area that is not currently mapped, please notify your regional Fisheries Protection Program office to ensure that you are compliant with the Species at Risk Act.
The official source of information for species at risk is the Species at Risk Public Registry www.sararegistry.gc.ca

To protect fish and fish habitat, including aquatic species at risk, their residences, and their critical habitat, efforts should be made to avoid, mitigate and/or offset harm. Following the measures to avoid harm will help you comply with the Fisheries Act and the Species at Risk Act.

## Critical habitat for these species is found within the outlined area

Critical habitat is identified in recovery strategies or action plans for species listed under Schedule 1 of the Species at Risk Act as extirpated, endangered or threatened.

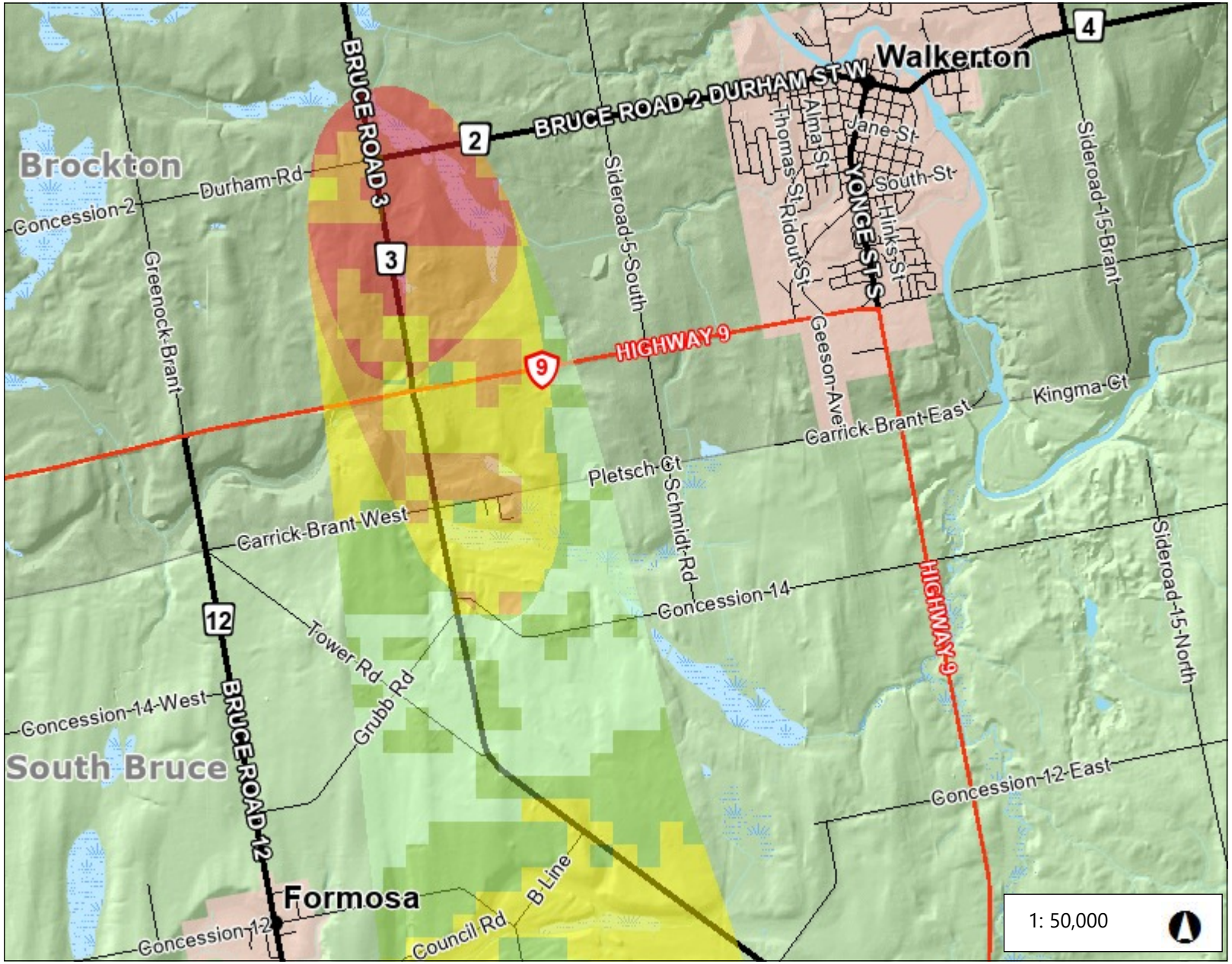
| Name | Where Found | Species Status |
|---|---|---|
| | No critical habitat | |

## Species found (or potentially found) within the outlined area

| Name | Where Found | Species Status |
|---|---|---|
| Northern Brook Lamprey - Great Lakes - Upper St. Lawrence | Saugeen River (Rivière) | Special Concern |
| Northern Sunfish - Great Lakes - Upper St. Lawrence | Saugeen River (Rivière) | Special Concern |
| Rainbow | Saugeen River (Rivière) | Special Concern |
| Silver Shiner | Saugeen River (Rivière) | Threatened |

# County of Bruce

Bruce County




## Legend

- Vulnerability Scores
  - Level 2
  - Level 4
  - Level 6
  - Level 8
  - Level 10
- Provincial Highway
- County Road
  - County Road
  - Bridge reconstruction
- Body of Water
- Evaluated Wetland
- Wetland
- Body of Water
- Stream
- Built-up area
- Adjacent Counties
- Lake Huron and Georgian Bay

## Notes

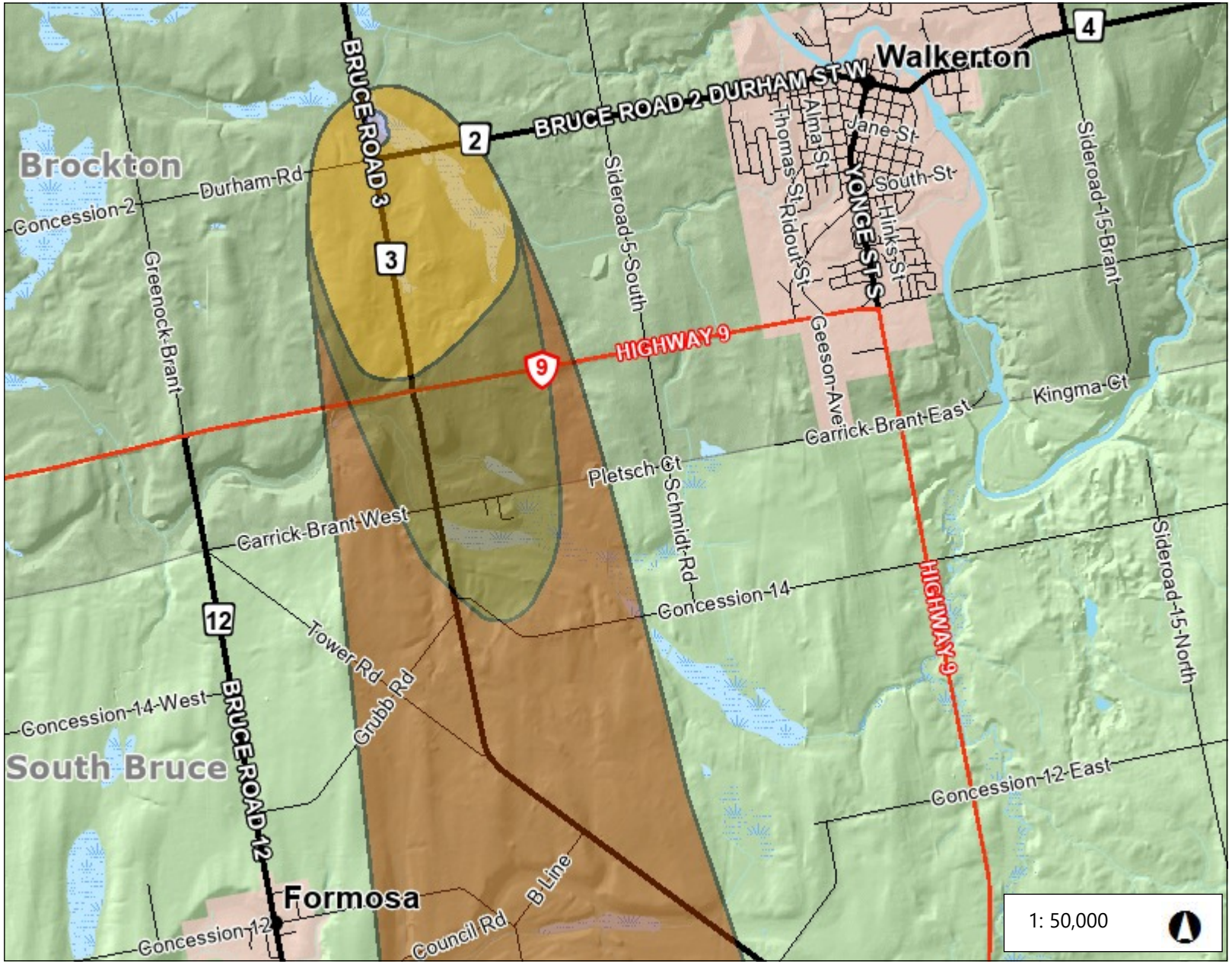
Source Water Protection WHPA

2.5 0 1.27 2.5 Kilometers

NAD_1983_UTM_Zone_17N

# County of Bruce

Bruce County




## Legend

- Intake Protection Zone
  - 4 - 5.9
  - 6 - 7.9
  - 8 - 9.9
  - 10
- Wellhead Protection Area Boundaries
  - Zone A - 100m Buffer
  - Zone B - 2 yr ToT
  - Zone C - 10 yr ToT
  - Zone D - 25 yr ToT
- Provincial Highway
- County Road
  - County Road
  - Bridge reconstruction
- Body of Water
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- Wetland
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## Notes

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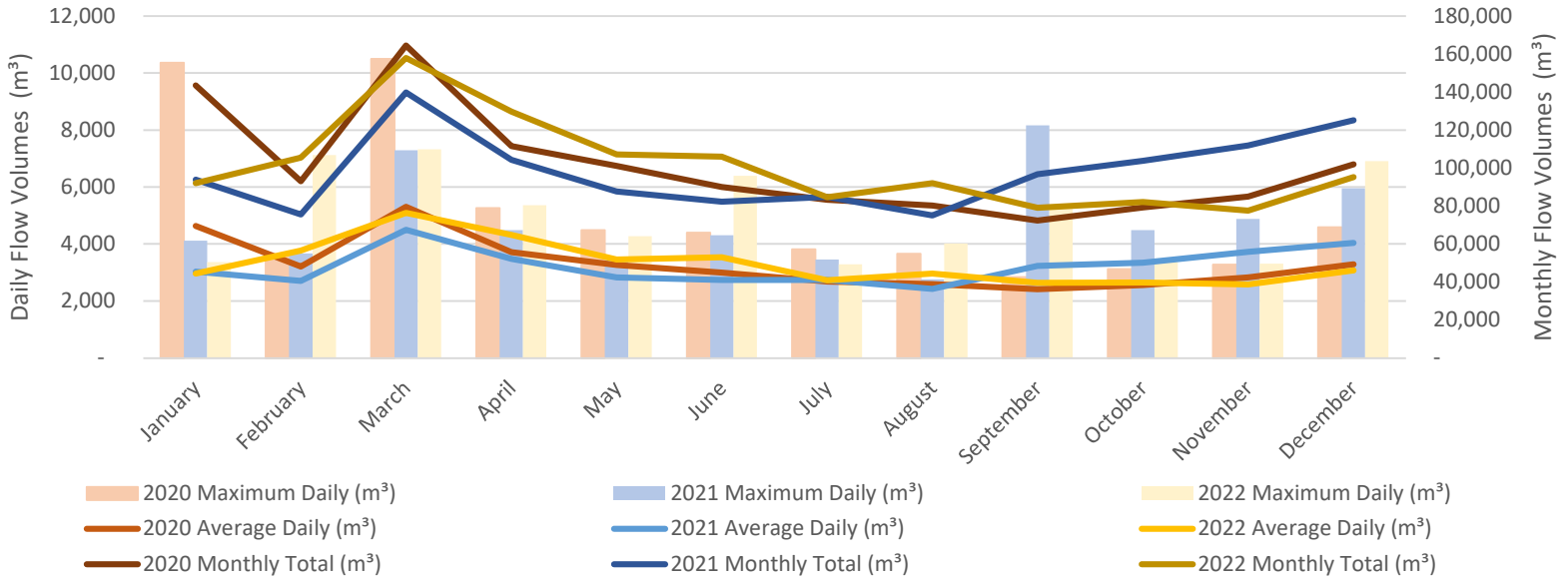
NAD_1983_UTM_Zone_17N

# APPENDIX C:
# TECHNICAL INFORMATION

Appendix A Table 1 : Monthly Walkerton Water Pollution Control Plant Records for 2020 - 2022

| | 2020 Average Daily ($m^3$) | 2020 Maximum Daily ($m^3$) | 2020 Monthly Total ($m^3$) | 2021 Average Daily ($m^3$) | 2021 Maximum Daily ($m^3$) | 2021 Monthly Total ($m^3$) | 2022 Average Daily ($m^3$) | 2022 Maximum Daily ($m^3$) | 2022 Monthly Total ($m^3$) |
|---|---|---|---|---|---|---|---|---|---|
| January | 4,629 | 10,358 | 143,501 | 3,027 | 4,116 | 93,836 | 2,967 | 3,362 | 91,966 |
| February | 3,206 | 3,608 | 92,985 | 2,701 | 3,670 | 75,628 | 3,768 | 7,124 | 105,490 |
| March | 5,309 | 10,492 | 164,594 | 4,509 | 7,284 | 139,778 | 5,098 | 7,323 | 158,040 |
| April | 3,716 | 5,262 | 111,484 | 3,475 | 4,484 | 104,254 | 4,320 | 5,362 | 129,596 |
| May | 3,260 | 4,489 | 101,060 | 2,827 | 3,446 | 87,634 | 3,455 | 4,271 | 107,118 |
| June | 3,001 | 4,401 | 90,027 | 2,742 | 4,308 | 82,250 | 3,531 | 6,395 | 105,944 |
| July | 2,685 | 3,817 | 83,225 | 2,735 | 3,454 | 84,788 | 2,732 | 3,283 | 84,692 |
| August | 2,589 | 3,656 | 80,257 | 2,425 | 2,766 | 75,184 | 2,967 | 4,019 | 91,976 |
| September | 2,414 | 2,837 | 72,431 | 3,227 | 8,158 | 96,802 | 2,637 | 5,241 | 79,103 |
| October | 2,556 | 3,122 | 79,230 | 3,347 | 4,492 | 103,772 | 2,650 | 3,370 | 82,160 |
| November | 2,832 | 3,282 | 84,974 | 3,726 | 4,878 | 111,788 | 2,586 | 3,310 | 77,585 |
| December | 3,286 | 4,588 | 101,878 | 4,035 | 5,960 | 125,082 | 3,070 | 6,908 | 95,180 |
| **All Months** | **3,290** | **10,492** | **1,205,646** | **3,231** | **8,158** | **1,180,796** | **3,315** | **7,323** | **1,208,850** |

Figure 5: Walkerton WPCP Flows 2020-2022



Appendix A Table 2: Monthly Walkerton Water Production Records for 2020 - 2022

| | 2020 Average Daily ($m^3$) | 2020 Maximum Daily ($m^3$) | 2020 Monthly Total ($m^3$) | 2021 Average Daily ($m^3$) | 2021 Maximum Daily ($m^3$) | 2021 Monthly Total ($m^3$) | 2022 Average Daily ($m^3$) | 2022 Maximum Daily ($m^3$) | 2022 Monthly Total ($m^3$) |
|---|---|---|---|---|---|---|---|---|---|
| January | 1,768 | 2,018 | 54,814 | 1,460 | 2,273 | 45,255 | 1,496 | 1,817 | 46,381 |
| February | 1,794 | 2,068 | 52,018 | 1,448 | 1,632 | 40,531 | 1,510 | 2,100 | 42,267 |
| March | 1,759 | 2,450 | 54,543 | 1,455 | 1,950 | 45,101 | 1,527 | 1,823 | 47,332 |
| April | 1,770 | 2,141 | 53,094 | 1,442 | 1,686 | 43,248 | 1,545 | 2,045 | 46,343 |
| May | 1,884 | 2,768 | 56,532 | 1,668 | 2,181 | 51,704 | 1,641 | 2,064 | 50,877 |
| June | 1,747 | 2,586 | 50,668 | 1,986 | 4,458 | 59,584 | 1,849 | 2,473 | 55,458 |
| July | 1,965 | 3,977 | 60,907 | 1,697 | 2,376 | 52,599 | 1,942 | 2,477 | 60,190 |
| August | 1,667 | 2,358 | 50,013 | 1,829 | 2,486 | 56,697 | 1,880 | 2,269 | 58,291 |
| September | 1,448 | 1,691 | 41,979 | 1,653 | 2,218 | 49,599 | 1,775 | 2,504 | 53,245 |
| October | 1,411 | 1,782 | 42,333 | 1,510 | 2,034 | 46,821 | 1,695 | 1,926 | 52,552 |
| November | 1,384 | 1,903 | 40,138 | 1,498 | 2,032 | 44,942 | 1,614 | 2,035 | 48,430 |
| December | 1,373 | 1,767 | 41,182 | 1,494 | 1,965 | 46,317 | 1,580 | 2,359 | 47,407 |
| **All Months** | **1,664** | **3,977** | **598,221** | **1,595** | **4,458** | **582,398** | **1,671** | **2,504** | **608,773** |

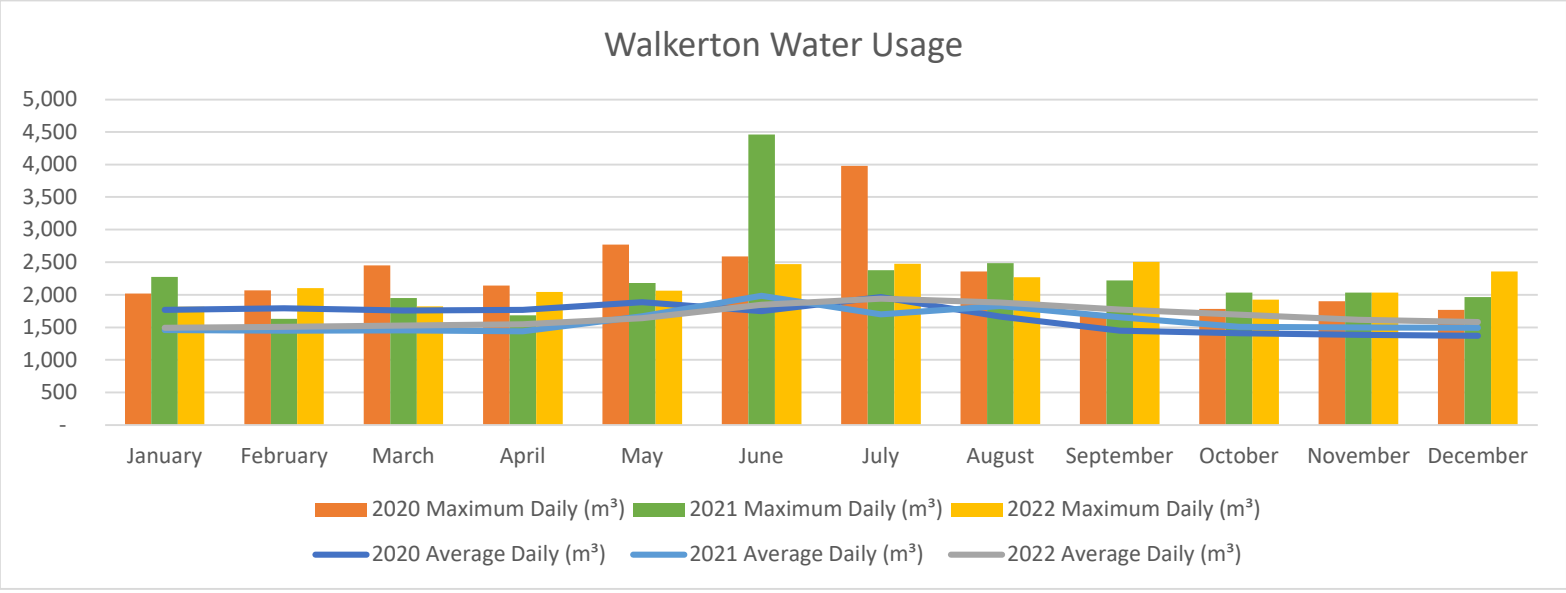


Table 1: Physical Siphon Data

| | | Diameter (inches) | Diameter (m) | Length (ft) | Length (m) | Pipe inlet invert (ft) | Pipe outlet invert (ft) | Pipe inlet MASL | Pipe outlet MASL | Invert Difference |
|---|---|---|---|---|---|---|---|---|---|---|
| Siphon 1 (North) | Pipe 1 | 10 | 0.254 | 294 | 89.6 | 795.96 | 792.7 | 242.61 | 241.61 | 1 |
| | Pipe 2 | 6 | 0.152 | 294 | 89.6 | 795.96 | 792.7 | 242.61 | 241.61 | 1 |
| Siphon 2 (South) | Pipe 1 | 12 | 0.305 | 294 | 89.6 | 804.95 | 802.29 | 245.35 | 244.54 | 0.81 |
| | Pipe 2 | 6 | 0.152 | 294 | 89.6 | 804.95 | 802.29 | 245.35 | 244.54 | 0.81 |

Table 2: Calculating Flow (Q) using Hazen-Williams Equation

| | | Assumed additional starting head or losses, m | Assumed high C value for pipe friction | Assumed low C value for pipe friction | Calculated Q assuming good pipe condition (m3/s) | Calculated Q assuming poor pipe condition (m3/s) |
|---|---|---|---|---|---|---|
| Siphon 1 (North) | Pipe 1 | -0.031 | 100 | 60 | 0.066 | 0.039 |
| | Pipe 2 | -0.016 | 100 | 60 | 0.017 | 0.010 |
| Siphon 2 (South) | Pipe 1 | -0.031 | 100 | 60 | 0.094 | 0.057 |
| | Pipe 2 | -0.013 | 100 | 60 | 0.015 | 0.009 |

Table 3: Calculating additional entrance and exit losses

| | | Diameter (m) | A = pi*(d/2)^2 | Calculated Q assuming good pipe condition (m3/s) | Calculated Q assuming poor pipe condition (m3/s) | Velocity V - Good pipe condition | Velocity V - Poor pipe condition | Entrance Loss Factor Ke - MTO Drainage Management Manual Design Chart 2.08 | H - Good pipe condition, assume entrance and exit have the same losses | H - Poor pipe condition, assume entrance and exit have the same losses |
|---|---|---|---|---|---|---|---|---|---|---|
| Siphon 1 (North) | Pipe 1 | 0.254 | 0.051 | 0.066 | 0.039 | 1.295 | 0.777 | 0.5 | 0.086 | 0.031 |
| | Pipe 2 | 0.152 | 0.018 | 0.017 | 0.010 | 0.943 | 0.566 | 0.5 | 0.045 | 0.016 |
| Siphon 2 (South) | Pipe 1 | 0.305 | 0.073 | 0.094 | 0.057 | 1.293 | 0.776 | 0.5 | 0.085 | 0.031 |
| | Pipe 2 | 0.152 | 0.018 | 0.015 | 0.009 | 0.841 | 0.505 | 0.5 | 0.036 | 0.013 |

Table 4: Comparison to Observed Flows

| Observed average flow during I&I Study | | | Calculated Q assuming poor pipe condition (m3/s) | Percent small pipe capacity used |
|---|---|---|---|---|
| | L/s | m3/s | | |
| Siphon 1 (North) | 0.67 | 0.00067 | 0.010 | 7% |
| Siphon 2 (South) | 1.54 | 0.00154 | 0.009 | 17% |
| WPCP | 46.06 | 0.04606 | | |

# APPENDIX D:
# INFILTRATION AND INFLOW STUDY (B.M. ROSS, 2023)

# MUNICIPALITY OF BROCKTON

# WALKERTON INFILTRATION-INFLOW STUDY
# 2021-2022

BMROSS
engineering better communities

# MUNICIPALITY OF BROCKTON

# WALKERTON INFILTRATION-INFLOW STUDY 2021-2022

April 10, 2023

B. M. ROSS AND ASSOCIATES LIMITED
Engineers and Planners
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File No. 21282

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File No. 21282

# MUNICIPALITY OF BROCKTON
# WALKERTON INFILTRATION-INFLOW STUDY
# 2021-2022

## 1.0 INTRODUCTION

BMROSS was retained by the Municipality of Brockton to complete an inflow and infiltration (I-I) study for the former Town of Walkerton (Walkerton) wastewater collection system (WWCS).

The purposes of the study are:

- To quantify the amount of I-I entering the collection system.
- To identify specific sources of I-I, where possible.

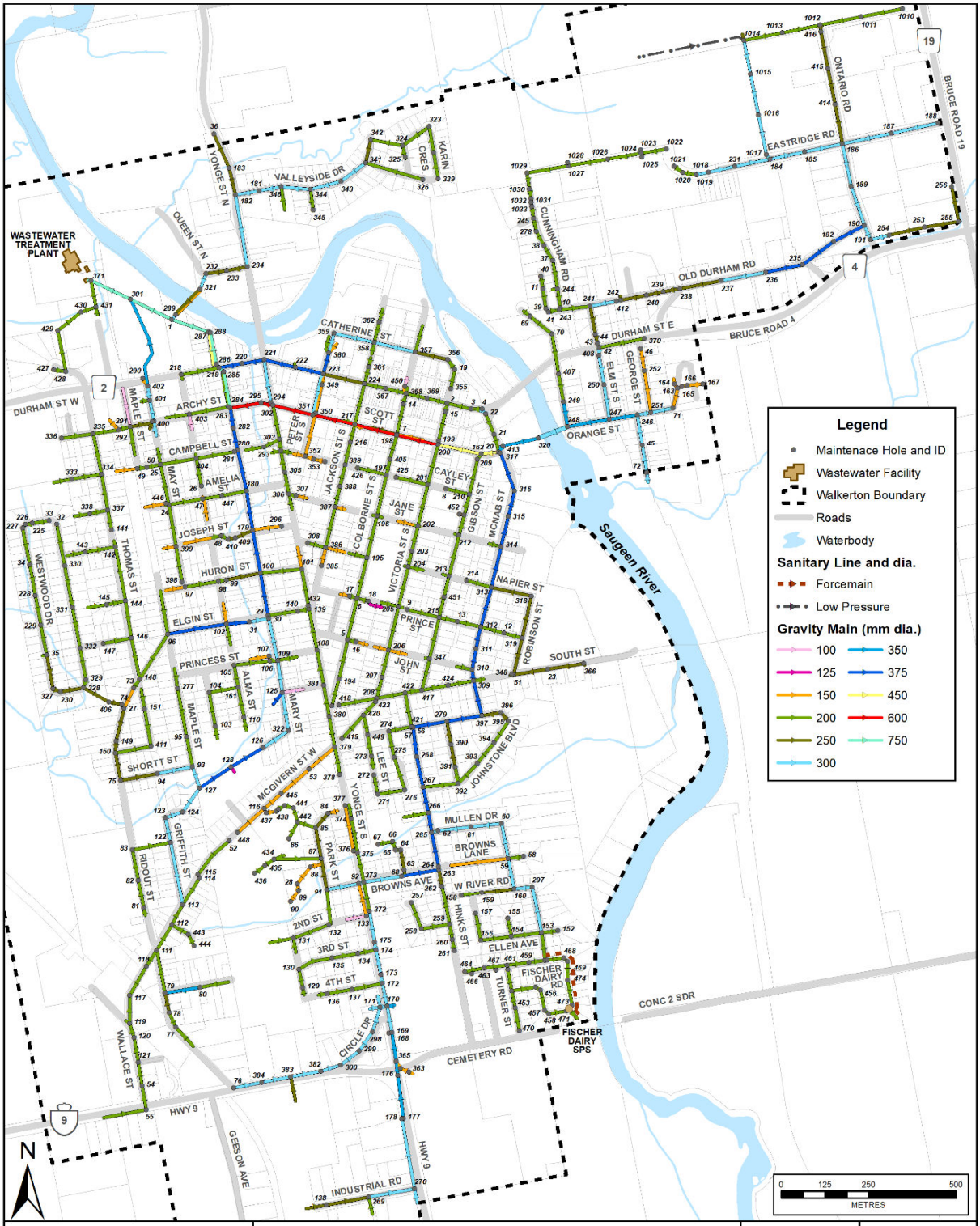
As part of an on-going program to identify and reduce extraneous flows (infiltration and inflow) in the Walkerton sewer collection system, in-sewer flow meters and a rain gauge were installed and monitored from October to November 2021 and December 2021 to January 2022. The main objective of the flow monitoring program was data acquisition at eleven flow monitoring locations along with corresponding rainfall data for a duration of three months, with one location repeated between monitoring cycles.

The report includes a description of various desktop and field studies, as well as the methods used to complete those tasks. The report concludes with the findings of the infiltration and inflow (I-I) study and recommendations for further investigation and reduction of I-I.

## 2.0 DESCRIPTION OF SYSTEM

Walkerton is a community of approximately 4,820 people located in the Municipality of Brockton, in Bruce Country. The Walkerton Water Pollution Control Plant (WPCP) is a conventional activated sludge process with an annual average rated capacity of 7,560 $m^3$ per day and a peak capacity of 18,160 $m^3$ per day. The Walkerton WWCS consists of approximately 40 km of gravity sewers flowing to a sewage pumping station (SPS) located immediately upstream of the WPCP. One additional, small SPS (Fischer Dairy SPS) is located at the southeast part of the community. Figure 1 illustrates the collection system and the location of the treatment and pumping infrastructure.

**Figure 1 – Wastewater Infrastructure – Community of Walkerton**



# 3.0 METHODOLOGY

## 3.1 Meters and Rain Gauge

The Municipality retained BMROSS for project management and data interpretation of the monitoring program and retained SCG Flowmetrix Technical Services Inc. (Flowmetrix) to install and maintain the meters. The flow monitoring was completed in two rounds. In each round, the flow meters were installed at five locations for a period of approximately six weeks. In addition to the five locations monitored throughout the collection system, flows at the WPCP inlet were also monitored. A rain gauge was also installed and maintained to collect rainfall data for this study. Figures 2 and 3 show the location of the meters for each round of flow monitoring. The rain gauge was located at the SPS for both rounds. A rain day or wet day is any day where a precipitation of 5 mm or more was recorded. Total rainfall for the monitoring period is the sum of all precipitation, including days where less than 5 mm of precipitation is recorded.

BMROSS provided nine site locations for assessment by Flowmetrix prior to the installation of the flow monitoring equipment. The sites were chosen to develop an understanding of the flows originating in defined areas of Walkerton. The installations for round 1 and 2 were completed on October 20, 2021 and December 2, 2021, respectively. One monitor remained at the WPCP for both rounds.

The flow monitors installed were area-velocity flow monitors that consisted of data acquisition sensors (mounted at the invert of the pipe) and a battery-powered microcomputer.

Each flow meter was synchronized to Eastern Standard Time and programmed to collect depth and velocity data at 15-minute intervals and transmit the data via a cellular network at 12-hour intervals to the Remote Data Acquisition (RDA) application. This allowed for reviewing of the data in near real-time. Graphical trends were available for review and comparison.

Daily averages of the sewer flow data and daily totals for precipitation are included in Appendix A. Five-minute averages are also available.

The 15-minute average flow data and the precipitation information were used to identify the following:

- Daily average, minimum and maximum flows.
- Estimated true sewage flows (i.e., 0 L/s I-I).
- The influence of a precipitation event.

## 3.2 Sewage Flow Components

### 3.2.1 Definitions

The Total Sewage Flow received at the WPCP is made up of the following individual components:

Total Sewage Flow = True Sewage Flow + Infiltration + Inflow

Definitions for the above are as follows:

- **True Sewage Flow (TSF)** is the sanitary waste component of the Total Sewage Flow that is not related directly or indirectly to precipitation or groundwater. For this study, TSF was calculated as the difference between the average flow rate from 5:00 am until midnight and the average flow rate from midnight until 5:00 am over the entire monitoring period; assuming there would be little or no sewage flow in the early morning hours of each day.

- **Infiltration** is ground water which enters a sanitary system from below the ground surface through cracked pipes, unsealed pipe joints, unsealed maintenance hole (MH) precast joints, cracked MHs, and defective lateral connections. Infiltration changes with season, periods of wet weather, and changes in the water table elevation.

- **Inflow** is water which enters a sanitary system at the ground surface through MH covers, cleanouts, defective MH grade adjustment rings, and illegal or unauthorized catch basin or roof drain connections. It also includes water which enters a sanitary system as a direct result of rainfall events. Inflow increases quickly in response to rainfall events and subsides soon after.

**Figure 2 – Round 1 Monitoring Locations**

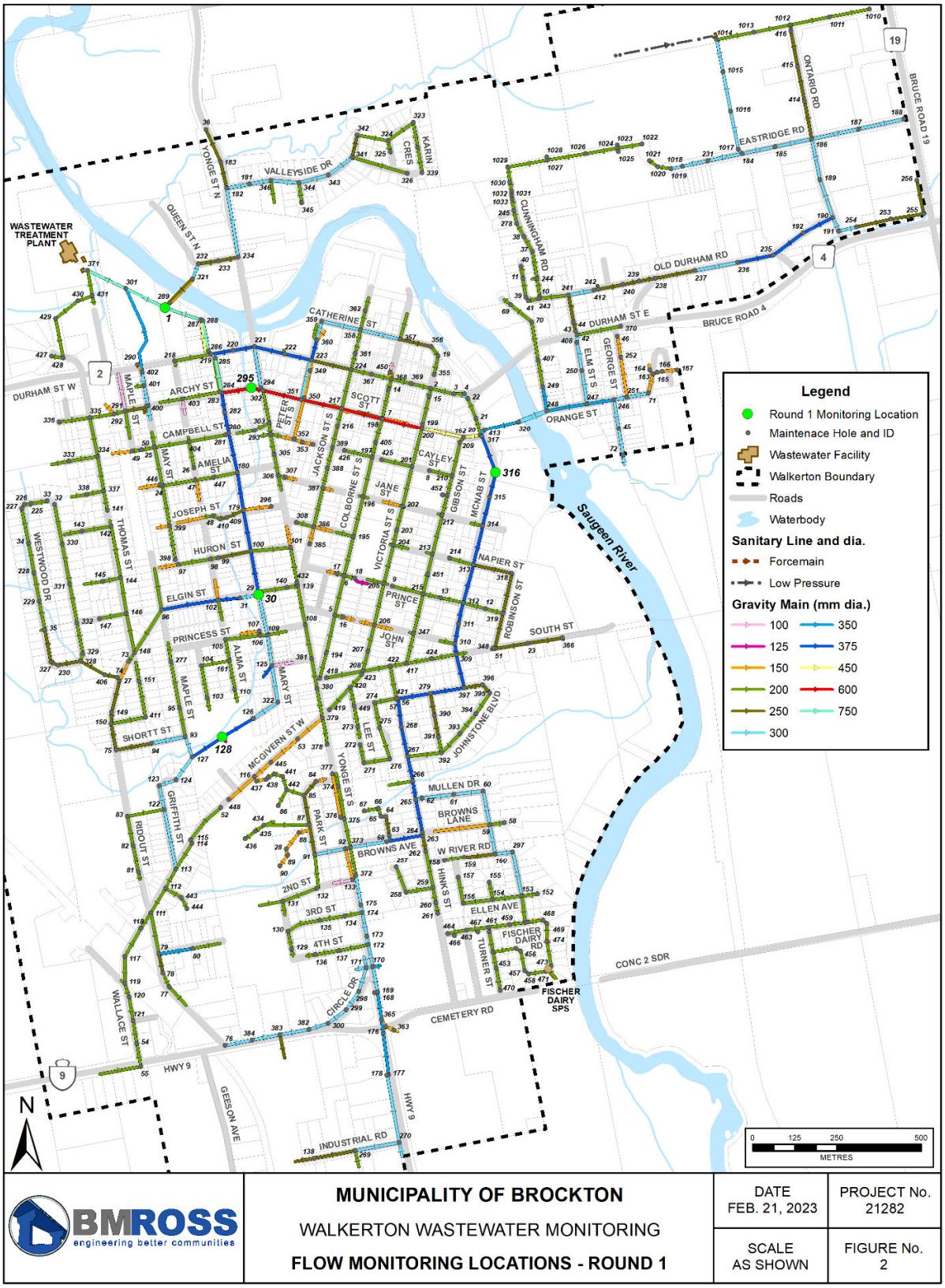
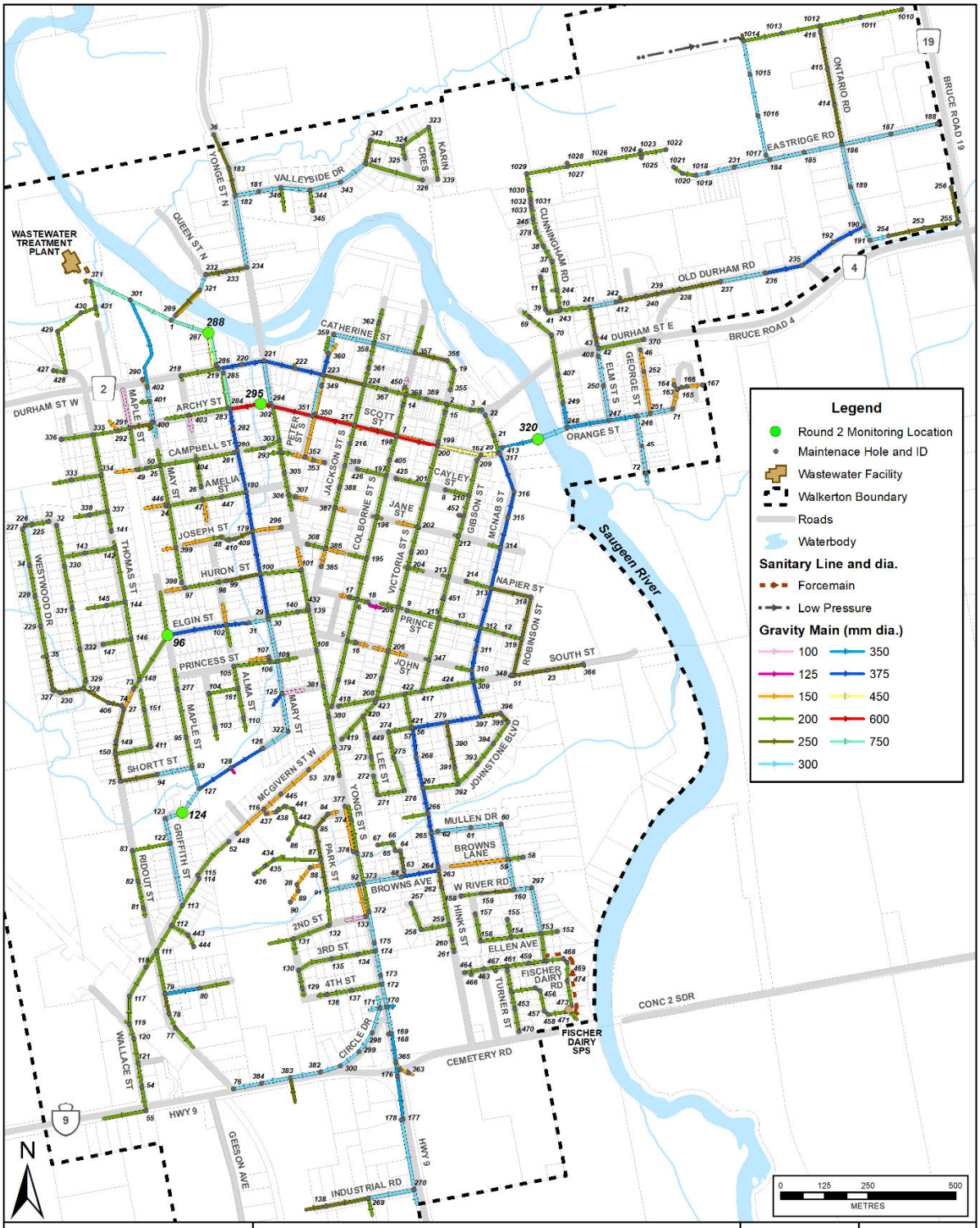


**Figure 3 – Round 2 Monitoring Locations**



### 3.2.2 Drainage Areas

To establish unit flows (i.e. L/s • ha), the drainage areas (DAs) upstream of each meter location were determined. Figures 4 and 5 shows the DAs for each location for each round of flow monitoring.

### 3.2.3 True Sewage Flows – Unit Value

Separate values were calculated for each monitor location, summarized in Table 3.1.

**Table 3.1 - True Sewage Flow Values**

| Location | TSF (L/s•ha) |
|---|---|
| **Round 1** | |
| MH 295 | 0.0211 |
| MH 1 | 0.0105 |
| MH 128 | 0.0329 |
| MH 30 | 0.0380 |
| MH 316 | 0.0263 |
| WPCP | 0.0215 |
| **Round 2** | |
| MH 295 | 0.0194 |
| MH 288 | 0.6659 |
| MH 124 | 0.0127 |
| MH 96 | 0.0815 |
| MH 320 | 0.0041 |
| WPCP | 0.0198 |
| Minimum | 0.0041 |
| Maximum | 0.6659 |
| Average | 0.0795 |
| Median | 0.0213 |

MH 295 was monitored in both Round 1 and Round 2. Raw flow data for the WPCP was also obtained and compared to the monitoring locations. TSF values can be affected by the density of connected properties in a drainage area or even a single property with a greater wastewater discharge.

## 4.0 RESULTS FOR SEWER FLOW MONITORING

### 4.1 Description of the Program

As described in Section 3.1, nine sewer flow monitors were installed over the monitoring period. Four monitors were moved once resulting in two “rounds” of data collection. One monitor remained in place for both monitoring rounds. Generally, in each successive round the monitors were moved further away from the SPS and thus were measuring the flows from progressively smaller drainage areas. Some areas of interest were provided by the operators.

It is noted that MH 288 was originally selected with the intention to monitor flow through a 750 mm diameter sanitary sewer representing a catchment area of 390 ha, which is the majority of the community system. Following receipt of the monitoring data, it was observed that the flow values were unrealistically low at this monitor, and a review of additional historical records indicate the presence of a second sanitary sewer connected to MH 288; a 450 mm diameter sewer servicing only Queen Street north of Durham Street was the sewer actually monitored.

**Figure 4 – Round 1 Drainage Areas**

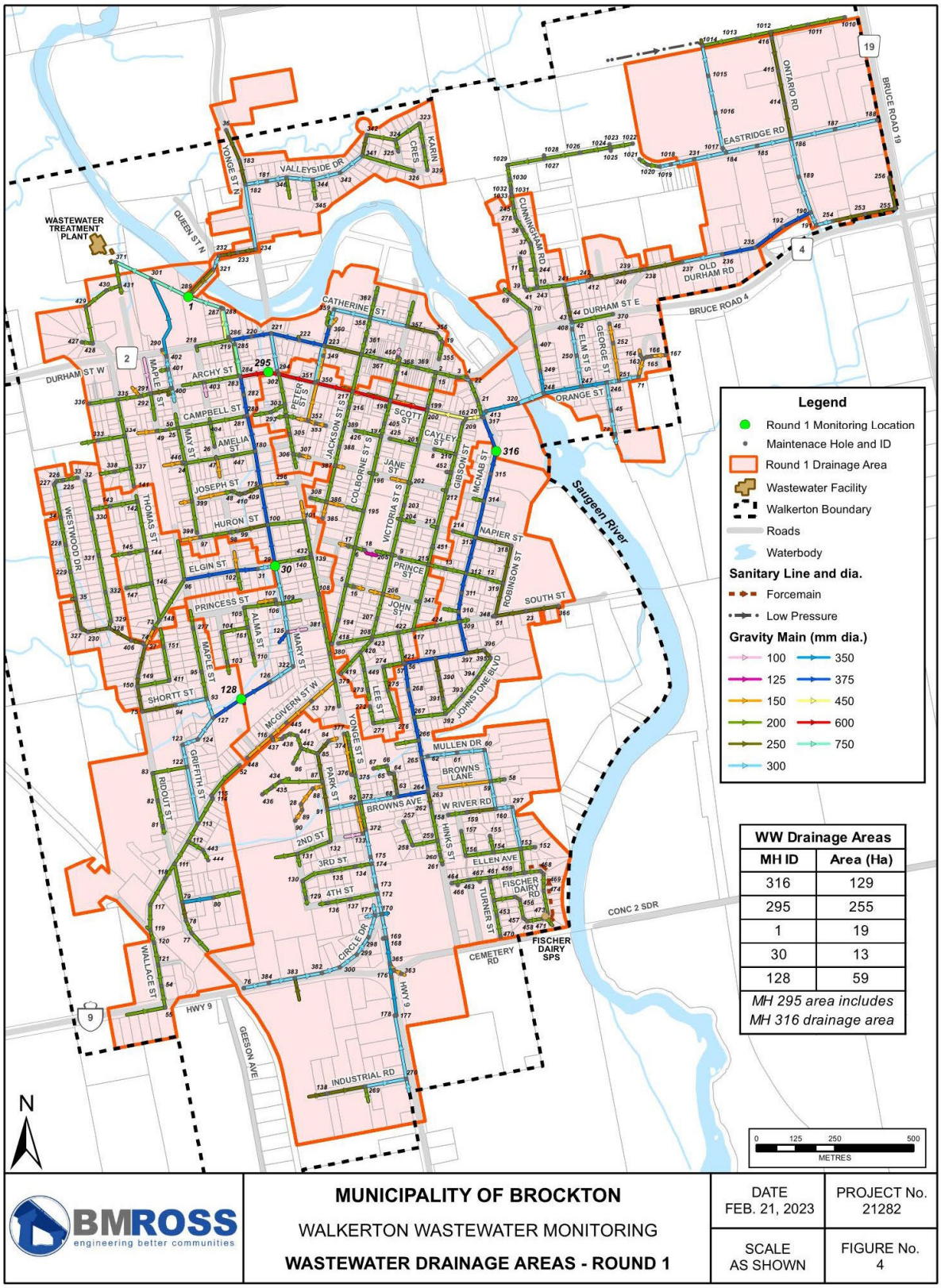
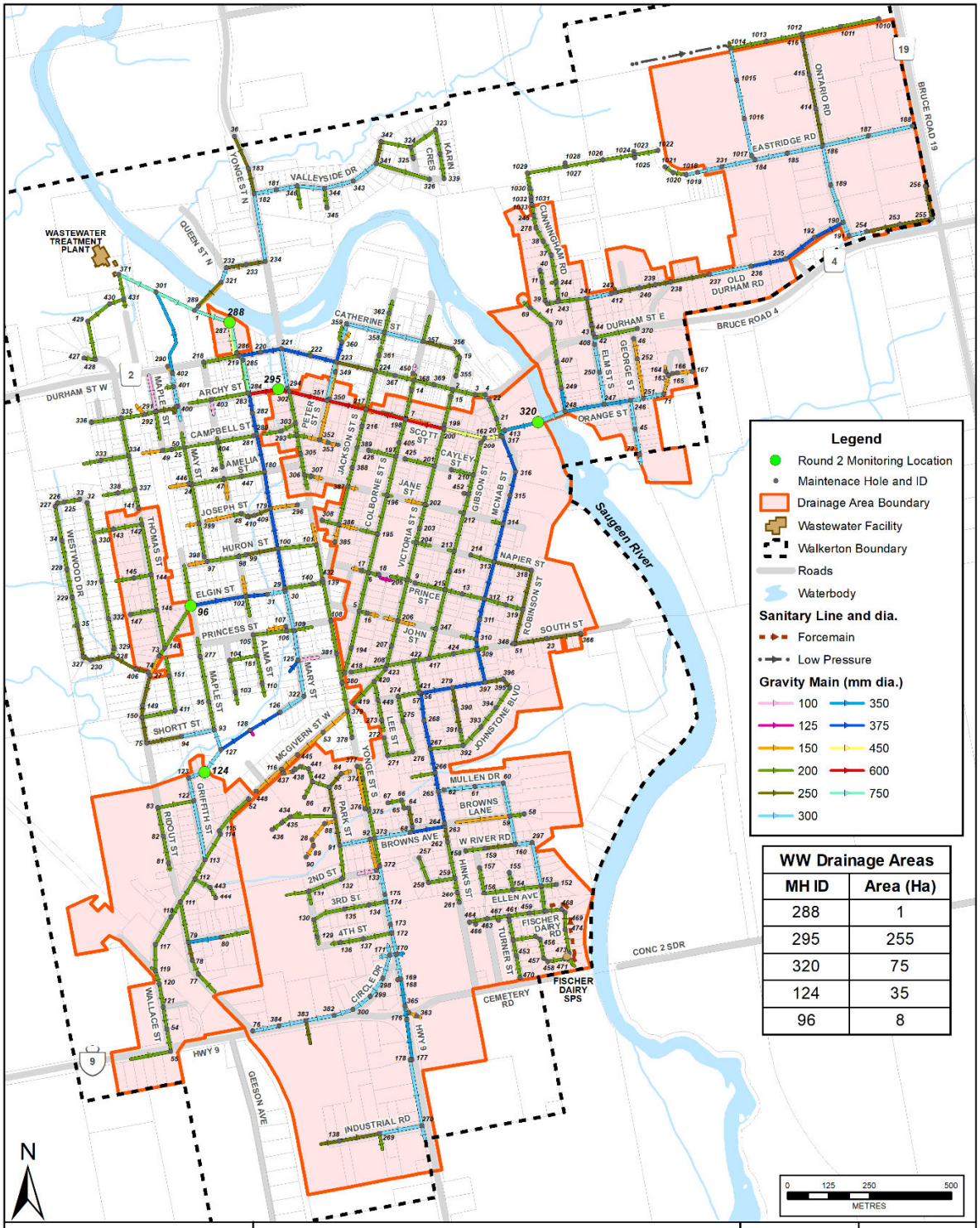


**Figure 5 – Round 2 Drainage Areas**



## 4.2 Results

### 4.2.1 General

In Round 1, two of the monitors were placed relatively close upstream to the SPS and other areas were selected based on areas of concern provided by the WPCP operators. For Round 2 the flow monitors were moved to locations further upstream within the collection system with the goal of isolating I–I locations, with the exception of MH 295 which was monitored in both Round 1 and 2.

General findings over the full monitoring period, excluding monitored values from **MH 288**, include:

- Total flows per hectare ranged from 0.021 L/s·ha to 0.234 L/s·ha, with an average of 0.098 L/s·ha.
- The amount of precipitation varied over the monitoring rounds, with the greatest amount of precipitation occurring in Round 1.
- Inflow values ranged from 0 L/s·ha to 0.034 L/s·ha, with three locations not showing any inflow and four locations showing only slight inflow.
- Infiltration values ranged from 0.015 L/s to 0.149 L/s with the greatest infiltration occurring in the **MH 96** drainage areas. The remaining locations had similar amounts of infiltration.
- As previously mentioned, a 450 mm sewer connected to MH288, which services a small area of the community, was monitored. Within the same structure is a 750 mm sewer which was intended to be monitored to provide flow data for a large proportion of the community.

The following sections describe the results and conclusions for each round of monitoring by location. The drainage areas are presented in Figures 2 and 3.

### 4.2.2 Round 1

Round 1 of monitoring took place from October 20 to November 30, 2021 (42 days). There were 14 rain days and the greatest single rain event was 17 mm. Total precipitation during Round 1 was 144 mm.

Flows were measured simultaneously at five locations (**MH 295, MH 1, MH 128, MH 30, and MH 316**) with a combined developed drainage area of 346 ha.

**MH 295** is located near the intersection of Archy Street and Yonge Street North and receives sewage from a drainage area of 255 ha, which includes the drainage area for **MH 316**. There was next to no response to Wet Weather (WW)/Dry Weather (DW), with a WW/DW ratio of 1.04 and minimal inflow of 0.003 L/s·ha. A ratio of 1.0 would indicate no wet weather response. However, the average flow was almost four times the TSF, and the infiltration was calculated to be 0.060 L/s·ha.

**MH 1** is located adjacent to the WPCP north of the Saugeen River and receives sewage from a drainage area of 19 ha. Average flows at this location were significantly greater than the TSF. The WW/DW response was minimal indicating limited inflow (0.001 L/s per ha). Infiltration was calculated as 0.024 L/s·ha.

**MH 128** receives flows from the southwest portion of Walkerton, with a drainage area of 59 ha. Average flows were in the order of four times the estimated TSF, but essentially did not change during wet weather. The conclusion is that there is infiltration of 0.099 L/s·ha, but little or no inflow. Further investigation of this drainage area is recommended.

**MH 30** is located at the intersection of Elgin Street and Mary Street and receives sewage from a drainage area of 13 ha. Average flows were significantly greater than the estimated TSF, but no response to wet weather was evident. The conclusion is that there is infiltration (0.060 L/s·ha), but little or no inflow. Further investigation of this drainage area is recommended.

**MH 316** is located on McNab Street and receives sewage from a drainage area of 129 ha. Average flows at this location were significantly greater than the TSF. The lack of WW/DW response indicated no inflow at this location. Infiltration was calculated as 0.040 L/s·ha.

### 4.2.3 Round 2

Round 2 took place from December 2, 2021 to January 12, 2022 (42 days). There were six rain days and the single greatest event was 15 mm. Total precipitation during Round 2 was 81 mm.

Flows were measured simultaneously at five locations (**MH 295, MH 288, MH 124, MH 96, and MH 320**) with a combined developed drainage area of 374 ha.

**MH 295** was also monitored in Round 1. Similarly, there was no inflow evident at this location. Infiltration was slightly greater in Round 2 at 0.084 L/s·ha. Further investigation of this drainage area is recommended.

**MH 288** is located north of Durham Street West on Mary Street with a drainage area of 1 ha. Average flows during the monitoring period were approximately five times the estimated TSF. Response to wet weather was noticeable, with inflow at 0.609 L/s·ha. Infiltration was also significant at this location at 2.551 L/s·ha. On a per unit area basis, these values are high. As previously mentioned, MH288 was selected with the intention of monitoring flow through a 750 mm diameter sewer with a catchment area of 390 ha, representing most of the community. However, the monitor was installed in a 450 mm diameter sewer connected to MH288, resulting in a significantly smaller catchment area. Despite an actual drainage area that is very small, the average flow of 3.3 L/s observed here is 7% of the 46 L/s observed at the WPCP. Further investigation is recommended.

**MH 124** is located Parkview Court with a drainage area of 35 ha. Measured sewage flows were more than nine times the TSF and there was a slight response to wet weather. The estimated inflow is 0.034 L/s·ha and infiltration is 0.098 L/s·ha. Further investigation of this drainage area is recommended.

**MH 96** is located on the intersection of Elgin Street and Maple Street. The drainage area is 8 ha. Measured sewage flows were almost three times the TSF and there was a slight response to wet weather (WWF/DWF ratio was 1.10). The estimated inflow is 0.024 L/s·ha and infiltration is 0.149 L/s·ha. Further investigation of this drainage area is recommended.

**MH 320** is located on Orange Street and receives sewage flow from north of the Saugeen River. The drainage area is 75 ha. Measured sewage flows were more than five times the TSF and there was a slight response to wet weather (WWF/DWF ratio was 1.52). The estimated inflow is 0.010 L/s per ha and infiltration is 0.015 L/s per ha.

### 4.2.4 Water Pollution Control Plant Flows

The SPS is located directly upstream of the Walkerton WPCP and is equipped with a flow meter. Fifteen-minute data was obtained for the duration of the monitoring period, analyzed, and compared with the sewer flow monitoring data. The total drainage area is 430 ha. Average flows for the full community over both monitoring rounds was 0.105 L/s·ha. In Round 1, inflow was minor at 0.002 L/s·ha and more significant in Round 2 at 0.018 L/s·ha. Infiltration was similar in both rounds at 0.081 L/s·ha and 0.085 L/s·ha. For the whole community of Walkerton, it can be concluded that infiltration is more significant than inflow and there is very little wet weather response.

### 4.2.5 Summary

Table 4.1 provides a summary of the individual monitor results. Both infiltration and inflow values are calculated based on the calculated TSF for each drainage area and observed flows on rain and non-rain days. The results are color coded indicating the degree of I-I issue identified.

Based on monitoring over approximately three months at eleven different locations, we note there is an obvious extraneous flow issue in the drainage areas of **MH 128**, **MH 30**, **MH 295**, **MH 124,** and **MH 96**. There is a significant overlap in the drainage areas of concern. To phase investigations, we would recommend investigating the drainage areas of **MH 30** and **MH 128** first, which also include the **MH 96** and **MH 124** drainage areas. Infiltration was evident at all monitoring locations to varying degrees. Very little inflow was identified during the monitoring period. However, higher precipitation events than those experienced during this program could create larger inflow values.

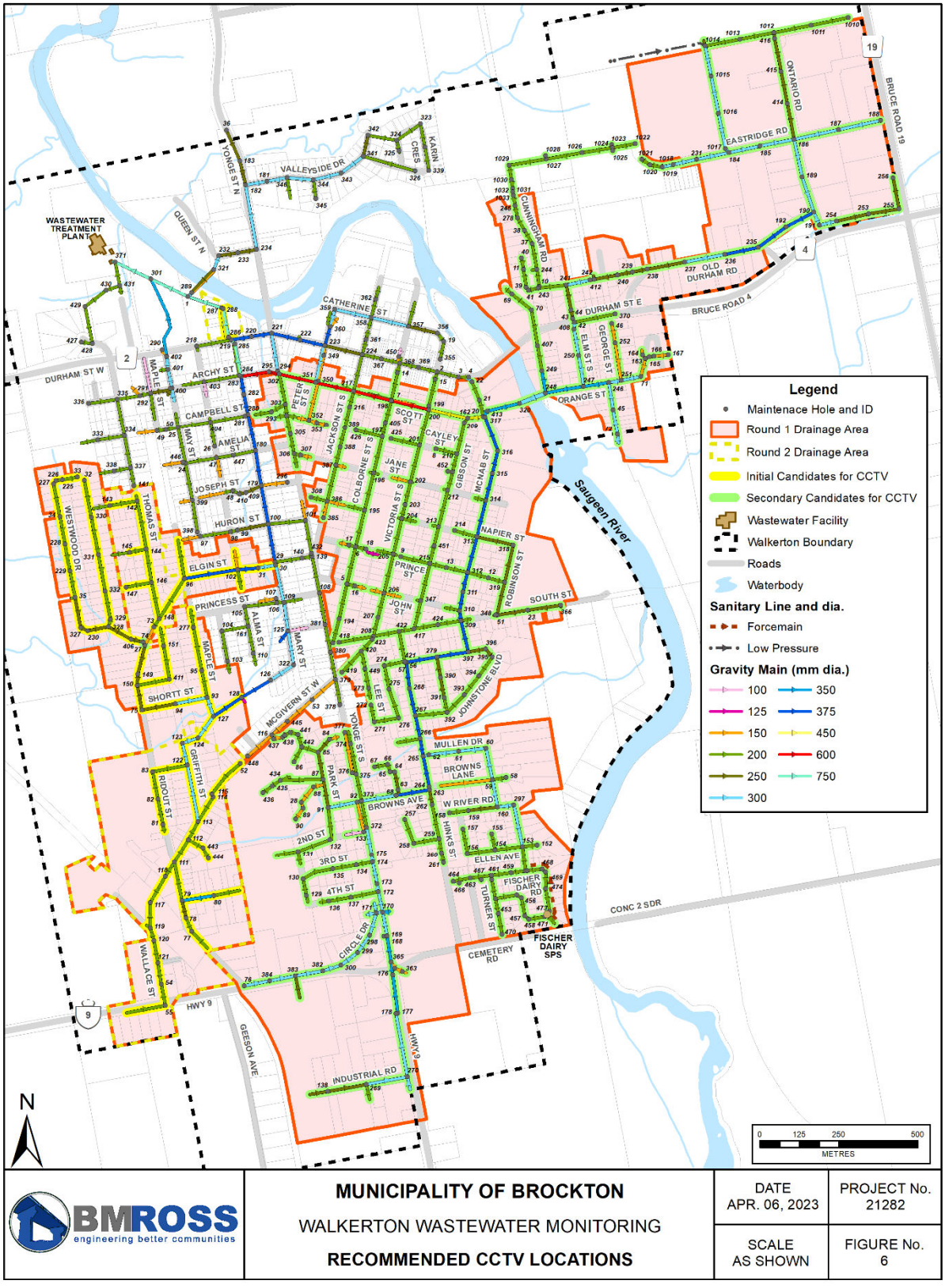
Figure 6 identifies the two areas of initial concern for I-I in the Walkerton WWCS. Further investigations would be required to identify the specific issues contributing to the high flows. Figure 6 also provides primary and secondary candidate locations for CCTV investigations and/or MH investigations. The primary area consists of 6 km of pipe and the secondary area is 26 km.

**Table 4.1 - I-I Calculations**

| MH ID | Area (ha) | Overall Average Daily Flow During Monitoring Period (L/s) | Average Flow (L/s ha) | Average Dry Flow (L/s ha) | Average Wet Flow (L/s ha) | Factor (WWF/DWF) | True Sewage Flow (L/s ha) | Infiltration (L/s ha) | Inflow (L/s ha) | Total I-I (L/s ha) |
|---|---|---|---|---|---|---|---|---|---|---|
| MH 295 | 255 | 20.91 | 0.082 | 0.081 | 0.084 | 1.04 | 0.021 | 0.060 | 0.003 | 0.063 |
| MH 1 | 19 | 0.67 | 0.035 | 0.035 | 0.036 | 1.04 | 0.011 | 0.024 | 0.001 | 0.026 |
| MH 128 | 59 | 7.73 | 0.131 | 0.132 | 0.130 | 0.99 | 0.033 | 0.099 | 0.000 | 0.099 |
| MH 30 | 13 | 1.28 | 0.099 | 0.098 | 0.100 | 1.01 | 0.038 | 0.060 | 0.001 | 0.062 |
| MH 316 | 129 | 8.38 | 0.065 | 0.066 | 0.063 | 0.95 | 0.026 | 0.040 | 0.000 | 0.040 |
| WPCP | 430 | 44.32 | 0.103 | 0.103 | 0.104 | 1.02 | 0.021 | 0.081 | 0.002 | 0.083 |
| MH 295 | 255 | 21.47 | 0.084 | 0.103 | 0.100 | 0.96 | 0.019 | 0.084 | 0.000 | 0.084 |
| MH 288 | 1 | 3.30 | 3.304 | 3.217 | 3.826 | 1.19 | 0.666 | 2.551 | 0.609 | 3.160 |
| MH 124 | 35 | 4.03 | 0.115 | 0.110 | 0.144 | 1.31 | 0.013 | 0.098 | 0.034 | 0.132 |
| MH 96 | 8 | 1.87 | 0.234 | 0.231 | 0.255 | 1.10 | 0.081 | 0.149 | 0.024 | 0.174 |
| MH 320 | 75 | 1.54 | 0.021 | 0.019 | 0.029 | 1.52 | 0.004 | 0.015 | 0.010 | 0.025 |
| WPCP | 430 | 46.06 | 0.107 | 0.104 | 0.123 | 1.18 | 0.020 | 0.085 | 0.018 | 0.103 |

Darker shading indicates greater inflow and/or infiltration observed.

**Figure 6 – Recommended CCTV Locations**



### 4.2.6 Comparison to Expected Values

Sanitary sewers are typically constructed below the natural water table and some leakage is always expected. Observed conditions in Walkerton have been compared to available standards.

OPSS – Municipal 410

OPSS 410 is the Ontario Provincial Standard for construction of new sanitary sewers. It provides a leakage allowance for new sewers prior to the construction and connection of private service laterals. The infiltration value derived from OPSS 410 would be considered the "ideal" condition.

The Allowable leakage from OPSS 410 is calculated using the following formula:

Allowable leakage = 0.075 L/mm dia. per 100m per hour

Applying this formula to the collection system results in the following technically allowable leakage:

For Walkerton - 190 $m^3$/day

It is important to note that this value is calculated by excluding service lateral lengths.

MOE Design Guidelines 1985 Edition

Appendix A of the 1985 Edition of the MOE (now MECP) Guidelines for sanitary sewer design provides recommendations for extraneous flow allowance for sewer design. It is understood that Guideline values would apply to older sewers with connected services. The Guidelines provide the following suggested values for design average I-I for WWTPs and SPSs.

- 90 L/d per capita
- 0.043 L/s per ha

Applying these values to the estimated serviced populations and existing service areas results in the following for expected I-I conditions for Walkerton:

For Walkerton - 434 $m^3$/day to 1,598 $m^3$/day

MECP CLI ECA Criteria

Design criteria under the MECP's new Consolidated Linear Infrastructure (CLI) Environmental Compliance Approval (ECA) program will apply a peak I-I allowance of up to 0.28 L/s/ha for sizing sewer pipe.

Applying this value to the Walkerton area would yield a peak I-I value of:

430 ha x 0.28 L/s/ha = 120.4 L/s
= 10,403 $m^3$/d

Assuming a peaking factor of 4x, the average I-I value for Walkerton would be 2,601 $m^3$/d.

Comparison to Observed Conditions

Table 4.2 compares observed conditions in 2021/2022 to the available standards. The unaccounted for volume was calculated from the actual water and wastewater volumes and is considered to be actual wastewater volume less 90% of the water well pumpage, assuming that 90% of the pumped water reaches the wastewater treatment plant. The average I-I observed during the monitoring period was calculated as the average I-I per hectare applied to the total drainage of the community. However, it should be noted that the calculations for the average I-I observed excluded the I-I result for **MH 288**, as it does not represent a realistic value and therefore will not contribute to an accurate observed I-I.

**Table 4.2 - Actual I-I vs Expected I-I ($m^3$/day)**

| WWCS | Observed in Monitoring Period | OPSS 410 | 1985 MOE Guideline | MECP CLI ECA Criteria |
|---|---|---|---|---|
| Walkerton | 3,034 [2.] | 190 | 434 – 1,598 | 2,601 [1.] |

Note: 1. Assuming a peak factor of 4x.
Note: 2. Value excludes results from MH 288.

Table 4.1 indicates that average unit I-I values are in the order of 0.390 L/s per ha, but this value is significantly affected by the small **MH 288** catchment area. If **MH 288** results are disregarded, the average unit I-I value becomes 0.082 L/s per ha. Both values are greater than the 1985 Design Guideline average value of 0.043 L/s per ha. Assuming a peaking factor of 4x, the average value of 0.082 L/s per ha would be 0.33 L/s per ha, relatively close to the CLI ECA criteria of 0.28 L/s per ha. Most of the flow metering took place in what would be considered the wetter periods of the year but did not necessarily capture a true peak wet weather event.

From Table 4.2 we can conclude that, annual average I-I is greater than would be allowed for brand new sewers, former design values, and slightly greater than current CLI ECA Criteria. The unaccounted-for volume of the system, based on a 2020 annual report, was about 55% of total wastewater flows. A summary of these calculations is provided in Appendix B.

## 5.0 SUMMARY AND CONCLUSIONS

### 5.1 Summary

#### 5.1.1 Study Goals

The goals of this study were to quantify the amount of extraneous flow known as infiltration and inflow in the Walkerton wastewater collection system, identify specific sources where feasible, and provide potential action items.

#### 5.1.2 Methods

A comprehensive in-sewer flow metering program was conducted from October 2021 to January 2022 within the system. The measured sewer flows were used to identify I-I quantities and possible problem areas.

#### 5.1.3 Results

A comparison to MOE Design Guidelines (1985) established that the existing annual average I-I flows are greater than expected extraneous values for older systems. A comparison to current CLI ECA Criteria demonstrates that average extraneous values are similar to what would be suggested, using typical peaking factors.

In-sewer flow monitoring at multiple locations over a period of three months established the following.

1. There are obvious extraneous flow issues evident in the drainage areas of **MH 128**, **MH 30**, **MH 295**, **MH 124** and **MH 96**.

2. Infiltration appears to be more significant than inflow, with many monitoring locations showing little to no wet weather response. Aside from **MH 288,** maximum inflow was observed at **MH 124** in Round 2 at 0.03 L/s per ha. Aside from **MH 288**, maximum infiltration was observed at **MH 96** in Round 2 as 0.15 L/s per ha, an order of magnitude greater than the observed inflow.

3. **MH 288** was monitored at an incorrect pipe location and observed results are abnormal for a significantly small catchment area. Further investigation is recommended.

Figure 6 indicates recommended CCTV locations in areas where significant I-I was observed.

### 5.2 Conclusions

Inflow (directly related to precipitation) is not significant. Infiltration (groundwater) is directly related to the water table but significantly greater than typical design guideline values. Sections of the collection system contributing infiltration have been identified and warrant further investigations. Infiltration in general is largely dispersed throughout the system. In our opinion achieving significant reductions will be challenging.

## 6.0 RECOMMENDATIONS

### 6.1 General

Even though we have concluded infiltration reduction will be challenging, we strongly recommend on-going efforts to locate and address, to the extent feasible, contributing locations. It is expected that the WWCS will deteriorate as it ages. An on-going program of investigation and maintenance will prevent conditions from worsening. In this regard, we have set out the below recommendations for on-going efforts.

### 6.2 CCTV Inspections

We recommend CCTV inspections in the areas identified on Figure 6 as areas of concern, starting with the primary area. Further investigations could be done in the secondary area as needed. Inspections should occur in the spring or fall when I-I is most likely to be present.

All of which is respectfully submitted.

B. M. ROSS AND ASSOCIATES LIMITED


Per _____
Lyndsey Simard, EIT

Per _____
Andrew Garland, P. Eng.

:es

# APPENDIX A

## Sewer Flow Data
## Daily Average

21282
January 28, 2022
Walkerton Flow Monitoring

Data Export - Daily Averages

| Round 1 Timestamp | Flow (L/s) MH 295 | Flow (L/s) MH 1 | Flow (L/s) MH 128 | Flow (L/s) MH 30 | Flow (L/s) MH 316 | Flow (L/s) WPCP | Rain Gauge Rainfall (mm) | Corrected Rainfall (mm) |
|---|---|---|---|---|---|---|---|---|
| 2021-10-20 | 19.90 | 0.49 | 6.11 | 1.05 | 7.53 | 42.90 | 0.20 | 0.00 |
| 2021-10-21 | 21.48 | 0.50 | 6.73 | 1.21 | 8.13 | 53.19 | 11.11 | 11.11 |
| 2021-10-22 | 21.01 | 0.48 | | 1.22 | 9.66 | 43.35 | 0.00 | 0.00 |
| 2021-10-23 | 19.63 | 0.42 | | 1.15 | 9.53 | 41.05 | 0.20 | 0.00 |
| 2021-10-24 | 19.67 | 0.47 | | 1.23 | 10.01 | 40.01 | 0.20 | 0.00 |
| 2021-10-25 | 22.86 | 0.57 | 6.66 | 1.28 | 11.42 | 45.73 | 15.28 | 15.28 |
| 2021-10-26 | 24.53 | 0.60 | 6.76 | 1.39 | 12.77 | 49.42 | 0.60 | 0.00 |
| 2021-10-27 | 21.25 | 0.66 | 7.59 | 1.27 | 9.72 | 45.96 | 0.00 | 0.00 |
| 2021-10-28 | 20.14 | 0.65 | 7.24 | 1.29 | 9.74 | 47.26 | 0.00 | 0.00 |
| 2021-10-29 | 19.31 | 0.66 | 7.98 | 1.22 | 9.92 | 42.35 | 0.40 | 0.00 |
| 2021-10-30 | 19.66 | 0.66 | 7.88 | 1.22 | 10.18 | 41.38 | 1.59 | 0.00 |
| 2021-10-31 | 19.28 | 0.56 | 6.92 | 1.16 | 9.89 | 40.17 | 2.78 | 0.00 |
| 2021-11-01 | 18.68 | 0.46 | 6.83 | 1.10 | 8.56 | 40.15 | 0.40 | 0.00 |
| 2021-11-02 | 19.40 | 0.50 | 6.91 | 1.18 | 7.69 | 39.88 | 6.35 | 6.35 |
| 2021-11-03 | 20.26 | 0.46 | 5.84 | 1.17 | 7.75 | 40.88 | 6.95 | 6.95 |
| 2021-11-04 | 19.65 | 0.43 | 8.11 | 1.19 | 7.57 | 47.78 | 0.99 | 0.00 |
| 2021-11-05 | 19.35 | 0.38 | 7.68 | 1.17 | 7.75 | 39.24 | 0.20 | 0.00 |
| 2021-11-06 | 18.93 | 0.48 | 7.63 | 1.17 | 7.59 | 38.91 | 0.00 | 0.00 |
| 2021-11-07 | 18.82 | 0.47 | 7.91 | 1.20 | 7.68 | 38.40 | 0.00 | 0.00 |
| 2021-11-08 | 17.95 | 0.41 | 7.40 | 1.06 | 7.63 | 36.83 | 0.00 | 0.00 |
| 2021-11-09 | 17.28 | 0.35 | 7.34 | 0.78 | 7.43 | 35.39 | 0.00 | 0.00 |
| 2021-11-10 | 17.19 | 0.31 | 7.06 | 0.97 | 7.61 | 35.59 | 0.00 | 0.00 |
| 2021-11-11 | 18.17 | 0.35 | 7.10 | 1.00 | 8.04 | 41.54 | 6.15 | 6.15 |
| 2021-11-12 | 19.86 | 0.38 | 7.22 | 1.12 | 8.05 | 38.18 | 5.56 | 5.56 |
| 2021-11-13 | 19.26 | 0.52 | 6.73 | 1.18 | 7.38 | 37.17 | 7.74 | 7.74 |
| 2021-11-14 | 22.70 | 0.65 | 7.86 | 1.25 | 7.56 | 42.58 | 5.75 | 5.75 |
| 2021-11-15 | 21.52 | 0.48 | 7.38 | 1.17 | 7.75 | 42.12 | 3.57 | 0.00 |
| 2021-11-16 | 21.30 | 0.57 | 7.78 | 1.25 | 7.76 | 42.93 | 9.33 | 9.33 |
| 2021-11-17 | 23.83 | 1.00 | 8.98 | 1.41 | 8.25 | 46.82 | 17.26 | 17.26 |
| 2021-11-18 | 27.34 | 1.22 | 9.69 | 1.74 | 8.18 | 58.98 | 0.99 | 0.00 |
| 2021-11-19 | 24.88 | 1.03 | 8.62 | 1.56 | 8.22 | 51.12 | 7.34 | 7.34 |
| 2021-11-20 | 23.63 | 1.24 | 9.02 | 1.59 | 7.64 | 51.35 | 0.79 | 0.00 |
| 2021-11-21 | 23.41 | 1.19 | 10.04 | 1.58 | 7.82 | 51.44 | 5.16 | 5.16 |
| 2021-11-22 | 23.17 | 1.05 | 9.05 | 1.57 | 8.00 | 48.60 | 1.79 | 0.00 |
| 2021-11-23 | 21.28 | 0.97 | 8.97 | 1.43 | 7.78 | 49.09 | 7.34 | 7.34 |
| 2021-11-24 | 21.99 | 0.81 | 9.04 | 1.53 | 7.99 | 49.24 | 0.60 | 0.00 |
| 2021-11-25 | 22.90 | 1.09 | 9.38 | 1.58 | 7.72 | 56.78 | 2.78 | 0.00 |
| 2021-11-26 | 22.35 | 1.18 | 8.54 | 1.53 | 7.62 | 47.08 | 0.20 | 0.00 |
| 2021-11-27 | 21.78 | 1.16 | 8.20 | 1.53 | 7.59 | 46.13 | 2.98 | 0.00 |
| 2021-11-28 | 21.46 | 0.92 | 7.80 | 1.49 | 7.54 | 46.30 | 5.16 | 5.16 |
| 2021-11-29 | 20.63 | 0.73 | 6.61 | 1.31 | 7.68 | 43.10 | 2.38 | 0.00 |
| 2021-11-30 | 20.59 | 0.68 | 7.03 | 1.34 | 7.83 | 45.09 | 4.17 | 0.00 |

21282
January 26, 2022
Walkerton Flow Monitoring

Data Export - Daily Averages

| Round 2 Timestamp | Flow (L/s) MH 295 | Flow (L/s) MH 288 | Flow (L/s) MH 124 | Flow (L/s) MH 96 | Flow (L/s) MH 320 | Flow (L/s) WPCP | Rain Gauge Rainfall (mm) | Corrected Rainfall (mm) |
|---|---|---|---|---|---|---|---|---|
| 2021-12-02 | 23.74 | 4.42 | 4.81 | 1.60 | 2.29 | 52.27 | 7.14 | 7.14 |
| 2021-12-03 | 23.09 | 4.49 | 4.55 | 1.49 | 1.91 | 45.76 | 0.00 | 0.00 |
| 2021-12-04 | 21.84 | 4.46 | 4.47 | 1.51 | 1.81 | 45.32 | 0.00 | 0.00 |
| 2021-12-05 | 21.93 | 4.00 | 4.37 | 1.41 | 1.68 | 44.82 | 0.40 | 0.00 |
| 2021-12-06 | 28.42 | 4.18 | 5.61 | 1.75 | 2.29 | 56.66 | 14.88 | 14.88 |
| 2021-12-07 | 24.53 | 4.53 | 5.22 | 1.67 | 1.55 | 51.55 | 0.00 | 0.00 |
| 2021-12-08 | 23.05 | 4.51 | 4.84 | 1.20 | 1.42 | 48.74 | 0.00 | 0.00 |
| 2021-12-09 | 22.17 | 4.33 | 4.53 | 1.57 | 1.41 | 49.41 | 0.00 | 0.00 |
| 2021-12-10 | 22.18 | 4.34 | 4.44 | 1.68 | 1.56 | 48.16 | 9.92 | 9.92 |
| 2021-12-11 | 35.51 | 5.57 | 8.02 | 3.12 | 3.80 | 73.48 | 14.88 | 14.88 |
| 2021-12-12 | 29.51 | 6.13 | 7.00 | 3.08 | 2.54 | 63.23 | 0.79 | 0.00 |
| 2021-12-13 | 26.69 | 7.03 | 6.05 | 2.68 | 1.65 | 59.90 | 0.00 | 0.00 |
| 2021-12-14 | 24.66 | 6.91 | 5.57 | 2.32 | 1.59 | 56.50 | 0.00 | 0.00 |
| 2021-12-15 | 23.56 | 5.01 | 5.08 | 2.21 | 1.73 | 57.75 | 0.20 | 0.00 |
| 2021-12-16 | 22.71 | 5.19 | 4.62 | 2.23 | 1.54 | 51.67 | 0.40 | 0.00 |
| 2021-12-17 | 21.68 | 4.40 | 4.33 | 1.37 | 1.57 | 46.10 | 0.00 | 0.00 |
| 2021-12-18 | 20.74 | 4.65 | 4.22 | 1.86 | 1.42 | 44.05 | 0.00 | 0.00 |
| 2021-12-19 | 20.75 | 3.72 | 3.88 | 1.97 | 1.53 | 42.93 | 3.37 | 0.00 |
| 2021-12-20 | 20.40 | 2.63 | 3.64 | 2.13 | 1.63 | 43.08 | 1.59 | 0.00 |
| 2021-12-21 | 20.24 | 2.47 | 3.56 | 1.87 | 1.43 | 43.13 | 0.00 | 0.00 |
| 2021-12-22 | 19.76 | 2.50 | 3.41 | 1.52 | 1.47 | 51.73 | 0.60 | 0.00 |
| 2021-12-23 | 19.54 | 2.17 | 3.23 | 1.95 | 1.46 | 40.12 | 0.00 | 0.00 |
| 2021-12-24 | 19.99 | 2.14 | 3.34 | 1.86 | 1.49 | 40.39 | 8.53 | 8.53 |
| 2021-12-25 | 22.70 | 2.31 | 4.12 | 2.24 | 1.67 | 46.07 | 6.35 | 6.35 |
| 2021-12-26 | 21.81 | 2.52 | 4.05 | 1.47 | 1.46 | 44.97 | 0.00 | 0.00 |
| 2021-12-27 | 21.16 | 2.54 | 4.06 | 2.26 | 1.37 | 44.99 | 0.00 | 0.00 |
| 2021-12-28 | 20.61 | 2.29 | 3.67 | 2.51 | 1.40 | 43.96 | 0.79 | 0.00 |
| 2021-12-29 | 19.52 | 2.26 | 3.61 | 2.45 | 1.33 | 48.35 | 0.40 | 0.00 |
| 2021-12-30 | 19.64 | 2.27 | 3.41 | 2.06 | 1.34 | 40.67 | 0.00 | 0.00 |
| 2021-12-31 | 19.03 | 2.50 | 3.25 | 2.03 | 1.30 | 40.56 | 1.39 | 0.00 |
| 2022-01-01 | 19.22 | 2.17 | 3.22 | 2.07 | 1.32 | 40.01 | 0.99 | 0.00 |
| 2022-01-02 | 19.40 | 2.00 | 3.15 | 1.61 | 1.30 | 39.90 | 0.00 | 0.00 |
| 2022-01-03 | 18.71 | 1.80 | 3.11 | 1.59 | 1.30 | 38.75 | 0.00 | 0.00 |
| 2022-01-04 | 18.89 | 1.75 | 3.01 | 2.00 | 1.26 | 38.21 | 1.79 | 0.00 |
| 2022-01-05 | 18.47 | 1.87 | 3.00 | 1.35 | 1.21 | 46.15 | 1.98 | 0.00 |
| 2022-01-06 | 18.35 | 1.77 | 2.81 | 0.93 | 1.15 | 45.14 | 2.98 | 0.00 |
| 2022-01-07 | 17.97 | 1.83 | 2.70 | 2.02 | 1.15 | 37.33 | 0.00 | 0.00 |
| 2022-01-08 | 18.34 | 1.75 | 2.80 | 1.85 | 1.11 | 34.42 | 1.39 | 0.00 |
| 2022-01-09 | 18.10 | 1.74 | 2.79 | 1.71 | 1.12 | 37.15 | 0.40 | 0.00 |
| 2022-01-10 | 17.96 | 1.77 | 2.68 | 1.32 | 1.10 | 37.38 | 0.00 | 0.00 |
| 2022-01-11 | 17.84 | 2.01 | 2.53 | 1.66 | 1.05 | 36.46 | 0.00 | 0.00 |
| 2022-01-12 | 17.43 | 1.81 | 2.62 | 1.58 | 0.99 | 37.30 | 0.00 | 0.00 |

# APPENDIX B

## Allowable Inflow &
## Infiltration Calculations

21282
April 6, 2023

Appendix B - Allowable Inflow & Infiltration Calculations

OPSS – Municipal 410

OPSS 410 is the Ontario Provincial Standard for construction of new sanitary sewers. It provides a leakage allowance for new sewers prior to the construction and connection of private service laterals. The infiltration value derived from OPSS 410 would be considered the "ideal" condition.

The Allowable leakage from OPSS 410 is calculated using the following formula:

Allowable leakage = 0.075 L/mm dia. per 100m per hour

Applying this formula to the collection system result in the following allowable leakage:

| Diameter | Length (m) | Allowable Leakage (L/h) | |
|---|---|---|---|
| 100 | 300 | 22.5 | |
| 125 | 62 | 5.8 | |
| 150 | 3,168 | 356.4 | |
| 200 | 22,033 | 3,305.0 | |
| 250 | 4,076 | 764.3 | |
| 300 | 6,964 | 1,566.9 | |
| 350 | 1,044 | 274.1 | |
| 375 | 3,284 | 923.6 | |
| 450 | 176 | 59.4 | |
| 600 | 610 | 274.5 | |
| 750 | 635 | 357.2 | |
| | **Total** | **7,909.6** | **L/h** |
| | | **190** | **$m^3/d$** |

MOE Design Guidelines 1985 Edition

Appendix A of the 1985 Edition of the MOE (now MECP) Guidelines for sanitary sewer design provides recommendations for extraneous flow allowance for sewer design. It is understood that Guideline values would apply to older sewers with connected services. The Guidelines provide the following suggested values for design average I-I for WWTPs and SPSs.

90 L/d per capita
0.043 L/s per ha

Applying these values to the estimated serviced populations and existing service areas results in the following for expected I-I conditions.

For Walkerton,

| | | | |
|---|---|---|---|
| Population | | 4,820 | |
| Total drainage | | 430 | ha |
| Allowable extraneous flow | | | |
| By population: | | 433,800 | L/day |
| | = | 434 | $m^3/day$ |
| By area: | | 18 | L/s |
| | = | 1,598 | $m^3/day$ |

MECP CLI ECA Criteria

Design criteria under the MECP's new Consolidated Linear Infrastructure (CLI) Environmental Compliance Approval (ECA) program will apply a peak I-I allowance of up to 0.28 L/s/ha for sizing sewer pipe.
Applying this value to the Walkerton area would yield a peak I-I value of:

| | | |
|---|---|---|
| 430 ha x 0.28 L/s/ha | = | 120.4 L/s |
| | = | 10,403 $m^3$/day |

Assuming a peaking factor of 4x, the average I-I value for Walkerton would be 2,601 $m^3$/day

Comparison to Water Supply

| | | | |
|---|---|---|---|
| Water Pumpage | 598,221 | $m^3$ | From 2020 Annual Report |
| 90% of Water Pumpage[1] | 538,399 | $m^3$ | |
| | 1,475 | $m^3$/day | |
| Wastewater Flow | 1,205,646 | $m^3$ | From 2020 Annual Report |
| | 3,303 | $m^3$/day | |
| Unaccounted Volume[2] | 667,247 | $m^3$ | |
| | 1828 | $m^3$/day | |
| % Unaccounted volume = I-I | 55.3% | | |

Notes:
1. It is assumed that 90% of water demand becomes sewage.
2. Unaccounted volume is wastewater flow less 90% of water demand.

Based on Flow Meter Observations

| Location (MH) | TSF (L/s per ha) | Drainage Area (ha) | Calculated Flow (L/s) | Average I-I (L/s per ha) | |
|---|---|---|---|---|---|
| MH 1 | 0.0105 | 19 | 0.20 | 0.0257 | |
| MH 128 | 0.0329 | 59 | 1.94 | 0.0989 | |
| MH 30 | 0.0380 | 13 | 0.49 | 0.0616 | |
| MH 316 | 0.0263 | 129 | 3.39 | 0.0398 | |
| WPCP | 0.0206 | 430 | 8.86 | 0.1051 | (Average of Round 1 and 2) |
| MH 295 | 0.0203 | 255 | 5.17 | 0.0735 | (Average of Round 1 and 2) |
| MH 288 | 0.6659 | 1 | 0.67 | 3.1601 | |
| MH 124 | 0.0127 | 35 | 0.44 | 0.1318 | |
| MH 96 | 0.0815 | 8 | 0.65 | 0.1735 | |
| MH 320 | 0.0041 | 75 | 0.31 | 0.0250 | |
| Average (without MH288) | | | 2.384 | 0.082 | |
| Average (with MH288) | | | 2.21 | 0.390 | |

Total Drainage Area for system = 430 ha

| | | | |
|---|---|---|---|
| Average observed I-I = 0.068 x 460 = | 35.1 | L/s | (Excluding MH 288) |
| | 3,034 | $m^3$/day | |

# APPENDIX E:
# PUBLIC AND AGENCY COMMENTS

| No. | Identifying Details | COMMENTS (recorded sic erat scriptum) | GENERAL RESPONSE |
|---|---|---|---|
| 1. | January 5, 2024 Lake Rosalind and Marl Lake Association | As noted in a memo to the public, Brockton is seeking input on Walkerton's growth options under consideration specifically on issues and ideas related to the community's existing water, wastewater and stormwater systems. A key driver of the MSP is to establish a plan that maintains, or improves upon, the existing levels of service.<br><br>The Marl Lake and Lake Rosalind Associations fully support the expansion of Walkerton's urban boundary and want to emphasize how important it is to develop a comprehensive plan that will incorporate all facets of management, expansion, and funding of the water, wastewater, and stormwater systems for the entire community.<br><br>As identified in the draft Brockton Master Servicing Plan, Walkerton is the largest community and is the only Primary Urban Community. Other communities include Elmwood, as the only Secondary Urban Community, seven (7) hamlet communities, and three (3) inland lakes communities.<br><br>It is important to note that the Lake Rosalind & Marl Lake communities comprise the **2nd largest** urban community in Brockton with 250 homes/cottages and makes up approximately 20% of Brockton's tax base.<br><br>Our lake communities do not receive the many tax benefits offered to other communities such as sidewalks, streetlights, community centres, playgrounds or parks. We consider our lake water as our critical recreation source and also as a drinking water source for the residents using shore wells, sand points or as a direct water supply. There is a municipal well serviced by Brockton that supplies some of the residents on the west side of Lake Rosalind. It is also noted there are 2 wells on the border of Marl Lake that tie into the line running from Ruhl Lake that supplies the municipality of Hanover but there are currently no lake residents tied into this supply.<br><br>The Lake Associations work alongside a Water Quality Committee that looks after testing, researching best water protection strategies, procurement of materials for protection, and communicating best water protection strategies to the residents. Along with securing water quality the Associations work diligently through their Board of Directors to ensure lake safety by establishing safe mapping, purchasing and installing buoys to support the boat direction and hazards, maintaining the boat ramp, signing and so on. Over and above these responsibilities, both Lake Associations look after maintaining entrances, grass cutting/trimming, insurance, legal support, and taxes for the boat ramp area and ownership of the bottom on the lake.<br><br>The Association is funded through annual fees paid by residents who also pay taxes to Brockton. The last few years the municipality has supported the water | Although comments relate to water and wastewater servicing concerns within the Municipality of Brockton, they are specific to the Lake Rosalind and Marl Lake community. Review of the water and wastewater management systems in this area was beyond the scope of this Master Servicing Plan. |

| No. | Identifying Details | COMMENTS (recorded sic erat scriptum) | GENERAL RESPONSE |
|---|---|---|---|
| | | testing by awarding up to $2000 annually for this initiative and this has been greatly appreciated.<br><br>That being said, the bottom line is that our residents work diligently to protect our water source using personal resources and receive very little in tax incentives.<br><br>It was disappointing when the Clean Water Source Protection Committee working with the Water Quality Committee presented to Brockton Council in 2023 requesting their support in expanding the Source Water Protection Zone around the lake. In response to this request, Council asked our Lake representatives if residents have the money to pay for the expansion as it was noted that Council does not have money for extended mandatory septic inspection in their budget. The presentation to Brockton council noted the results from a research project highlighting indications of human feces in our lake water. Despite the frequent reminders to Brockton of the outdated septic systems on our lake and the research to back up our statements, there has been no assistance from Brockton to remediate these concerns.<br><br>The positive outcome of requested public consultation is the opportunity to review the project, share information and provide comments related to the project and, therefore, the Lake Associations did not want to miss the invited opportunity to provide feedback.<br><br>In conclusion, our viewpoint is that funding for remediation and attention to source water protection is critical at the outset of the budget process related to the Master Servicing Plan rather than any attempt at fixing problems later at a much greater health and financial expense.<br><br>Included below are some of the acts that appear relevant to our discussion:<br>▪ Water Opportunities and Conservation Act<br>▪ Ontario Water Resources Act<br>▪ Sustainable Water and Wastewater Systems Improvement and Maintenance Act<br>▪ Safe Drinking Water Act<br>▪ Clean Water Act | |
| 2. | January 5, 2024 A.B. | I agree with everything noted on the letter, as per our many discussions at our board meetings, aside from the $2000 assistance provided by Brockton for water testing, they do very little for our taxes to help with anything.<br><br>Considering the amount of tax revenue they receive from our communities, we should be able to expect assistance in regards to septic tanks monitoring and/or maintenance servicing proof or replacement of old systems requirements. We | Although comments relate to water and wastewater servicing concerns within the Municipality of Brockton, they are specific to the Lake Rosalind and Marl Lake community. Review of the water and wastewater management systems in this area was beyond the scope of this Master Servicing Plan. |

| No. | Identifying Details | COMMENTS (recorded sic erat scriptum) | GENERAL RESPONSE |
|---|---|---|---|
| | | get no subsidies for sidewalks or parks and recreation dollars. Our lake IS our park and we should receive some subsidy to maintain it, it shouldn't be left all up to the residents.<br><br>As the old saying goes " the squeaky wheel", maybe we need to start squeaking a little louder to the municipality. | |
| 3. | Dec. 14, 2023 Tatham Engineering | As discussed, please forward me copies of the display boards as well as the presentation slides from the council meeting.<br><br>I've spoken to our client the owners of 75 Ridout and they have advised they intend to advance this development in early 2024. I'll continue to provide you with updates as they become available. In the meantime, I've attached some previous correspondence with the municipality, County and Conservation Authority for your reference (I was dealing with Sonya Watson CAO, Gregg Furtney former Operations Director, John Strader Operations Staff, Coreena Smith County Planner and Brandi Walter SVCA).<br><br>Thanks Nicholas. Look forward to getting this development moving and working with you and your team. Take care. | **Response from GMBP: December 14, 2023**<br><br>As requested, display boards and copies of the presentation slides were provided. |
| 4. | Dec. 11, 2023 Veolia | Thank you for considering and incorporating many of the comments Veolia had in the latest version of the Master Servicing Plan. In reviewing I noticed that one of our comments may have been slightly misunderstood.<br><br>The new version says: "The water is supplied to the community along Bruce Road 2 by a trunk main (250mmø to 300mmø). The trunk main was constructed in 2003 and a large portion was replaced in 2014."<br><br>It would be more accurate to say: The water is supplied to the community along Bruce Road 2 by a trunk main (250mmø to 300mmø). The 250mmø portion of the trunk main was constructed in 2014, and the 300mmø was constructed in 2023.<br><br>You may want to word it better/differently, but I think my comment may have been misunderstood. The new report shows 2003, and 2014 construction of the trunk main, when it actually took place in 2014 and 2023.<br><br>While this is not likely too important in the grand scheme of things, it should likely be corrected for the final version. | **Response from GMBP: December 11, 2023**<br><br>Thank you so much for taking the time to review the report and letting us know of any discrepancies. We will ensure that this is corrected when we update the Master Servicing Plan following the comment period. |
| 5. | Dec 7, 2023 MNRF | General comments were received outlining information to help guide the proponent in identifying and assessing natural features and resources as required by applicable policies and legislation, as well as engaging with the Ministry for advice as needed. | As the Master Servicing Plan (i) provides general servicing strategies and an overview of the long-term implementation plan to support the Town's infrastructure needs and (ii) specific projects (i.e., proposed works) requiring MNRF review |

| No. | Identifying Details | COMMENTS (recorded sic erat scriptum) | GENERAL RESPONSE |
|---|---|---|---|
| | | It was also stated that *'after reviewing the information provided, if you have not identified any of MNRF's interests stated, there is no need to circulate any subsequent notices to our office'*.<br><br>MNRF correspondence is enclosed. | and approval are NOT part of the document, further consultation with the MNRF is not necessary at this time. |
| 6A. | Dec. 14, 2023 SVCA | **Comments: December 14, 2023**<br><br>My name is Madeline McFadden, and I am a Regulations Officer at Saugeen Valley Conservation Authority. Thank you for the opportunity to review and comment on the Water, Wastewater and Stormwater Master Servicing Plan proposal, for Walkerton.<br><br>It appears that the proposed works are located within the SVCA's Regulated Area and a permit will be required from SVCA before works may commence. I may need to arrange for a site visit, so that I can inspect the area of the proposed works. This would help me determine whether the proposal meets SVCA's policies and regulations for approval, and under what conditions a permit can be issued. I will continue my review of the proposal and reach out with any questions and/or comments.<br><br>SVCA staff cannot guaranteed that written comments will be submitted to the Project Team by January 8th, 2024.<br><br>Please let me know if you have any questions at this time. | **Response from GMBP: January 9, 2024**<br><br>Thank you for your comments regarding the Master Servicing Plan for the Town of Walkerton.<br><br>It is noted that the Master Servicing Plan is intended to be the foundation document and roadmap for implementing safe, reliable and efficient water, wastewater, and stormwater services to support the Municipality's long-term vision. The Plan provides general servicing strategies and an overview of the long-term implementation plan to support the Town's infrastructure needs. Specific projects (i.e., proposed works) requiring SVCA review and approval are not part of the Master Servicing Plan document.<br><br>As discussed in the Master Servicing Plan, water, wastewater and stormwater facilities typically involve relatively complex systems and, as such, engineering details and decisions require a more thorough analysis than can be completed within the framework of the Class EA process. Within the Master Servicing Plan, it is recognized that depending on the nature of the proposed works, approvals may be required from the local municipality, the Saugeen Valley Conservation Authority (SVCA), the Department of Fisheries and Oceans Canada (DFO), the Ontario Ministry of Natural Resources and Forestry (MNRF) and/or the Ministry of the Environment, Conservation and Parks (MECP). In addition, depending on the alternative selected and the nature of the proposed works, natural heritage studies (i.e., Environmental Impact Studies, Natural Heritage Assessments), archaeological assessments and/or cultural heritage assessments may be required. Therefore, within the Plan it is recommended that required approvals be sought, and the potential need for natural heritage assessments, archaeological and/or cultural heritage assessments be reviewed, in conjunction with the design development phase for a given project, as appropriate.<br><br>While SVCA consultation and permit requirements are recognized throughout the report, the SVCA mandate and |

| No. | Identifying Details | COMMENTS (recorded sic erat scriptum) | GENERAL RESPONSE |
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| | | | regulatory framework are specifically addressed in the Master Servicing Plan, as follows:<br><br>Section 5.5.11 provides an overview of Ontario Regulation 169/06: Regulation and Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Figure 5-1 identifies the lands to which the regulations (i.e., SVCA Screening Areas) apply, specifically within the four proposed development areas.<br><br>We will continue to provide updates as the project progresses. |
| 6B | Jan. 10, 2024 SVCA | **Comments: January 10, 2024**<br><br>Thank you for the opportunity to review and comment on the Municipality of Brockton - Master Servicing Plan: Town of Walkerton, prepared by GM BluePlan, dated November 30. 2023. At a high level, the Plan sets out to develop, evaluate, and select a preferred servicing strategy to support existing servicing needs and projected development within the community of Walkerton to the year 2046. SVCA can provide you with a complete list of permit application requirements upon receipt of a specific development proposal(s). A permit will be required from SVCA should development be proposed within SVCA's Regulated Area.<br><br>**Development Within SVCA's Regulated Area**<br><br>Ontario Regulation 169/06, as amended means that you must get a permit before beginning any work in a regulated area. Examples of work that require a permit are:<br>▪ Construction, reconstruction or placing a structure of any kind<br>▪ Change to a structure that increases size, units, or use<br>▪ Site grading<br>▪ Temporary or permanent placing, dumping or removal of any material, from the site or elsewhere<br><br>A permit is also needed for any change to rivers, creeks, streams, or watercourses, shorelines, or wetlands.<br><br>**One-Zone Floodplain**<br><br>Section 4.7.1 of the SVCA's Environmental Planning and Regulations Policies Manual (October 2018), will likely apply to the project(s). In accordance with section 4.7.1-2, only public infrastructure (including but not limited to roads, sanitary sewars, utilities, water supply wells, well houses, and pipelines), public parks and recreational infrastructure, conservation and restoration projects, minor accessory structures and landscaping, replacement of existing buildings | **Development Within SVCA's Regulated Area**<br>Section 5.5.11 provides an overview of Ontario Regulation 169/06: Regulation and Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Figure 5-1 identifies the lands to which the regulations (i.e., SVCA Screening Areas) apply, specifically within the four proposed development areas.<br><br>**Floodplains**<br>Reference to Section 4.7.1 and 4.7.2 of the SVCA's Environmental Planning and Regulations Policies Manual (October 2018), and its potential applicability to some projects, was made in Section 6.1.1 of the Master Servicing Plan.<br><br>**Site Inspections**<br>SVCA regulated areas within each of the development areas, based on the SVCA's desktop review, were referenced in Section 6.1.2 of the Master Servicing Plan.<br><br>**Water, Wastewater and Stormwater MSP Specific Comments**<br>Noted<br><br>**Revisions to Master Servicing Plan V1 Document**<br>Recommended revisions to the MSP were made.<br><br>**Fisheries and Oceans Canada Approval**<br>Noted |

| No. | Identifying Details | COMMENTS (recorded sic erat scriptum) | GENERAL RESPONSE |
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| | | and septic systems, minor fill placement and grading and driveway/parking lot construction, is permitted within a one-zone floodplain subject to the activity being approved through a satisfactory EA process and/or if it has been demonstrated to the satisfaction of the SVCA that the control of flooding, erosion, pollution, or the conservation of land will not be negatively affected. Section 4.7.1.1 states that all development proposed within the flood hazard limit must be floodproofed.<br><br>**Two-Zone Floodplain**<br><br>Section 4.7.2 of the SVCA's Environmental Planning and Regulations Policies Manual (October 2018), will likely apply to the project(s). In accordance with section 4.7.2-2 of the SVCA's Environmental Planning and Regulations Policies Manual (October 2018), only public infrastructure; public parks and recreational infrastructure; stream bank, slope and valley stabilization work to protect existing development; and conservation and restoration projects, is permitted within a two-zone floodplain subject to the activity being approved through a satisfactory EA process and/or if it has been demonstrated to the satisfaction of the SVCA that the control of flooding, erosion, pollution, or the conservation of land will not be negatively affected.<br><br>**Wetland**<br><br>Wetland is mapped to be present at Areas 3 and 4. In accordance with section 4.13-1 of the SVCA's Environmental Planning and Regulations Policies Manual (October 2018), only public infrastructure, public parks and recreational infrastructure, and conservation and restoration projects, is permitted within a wetland subject to the activity being approved through a satisfactory EA process and/or if it has been demonstrated to the satisfaction of the SVCA that the control of flooding, erosion, pollution, or the conservation of land will not be negatively affected, and the interference on the natural features and hydrologic and ecological functions of the wetland has been deemed acceptable/satisfactory to the SVCA. Section 4.13-2 states that in general, the following are not permitted within wetlands: development and interference; ponds and drains; and stormwater management facilities. Section 4.13-3 states, notwithstanding the sections referenced above, only public infrastructure (including but not limited to roads, sanitary sewars, utilities, water supply wells, well houses, and pipelines), public parks and recreational infrastructure, conservation and restoration projects, and any buildings or structures, will be permitted within areas 30 metres of the boundary of a wetland, if the interference on the hydrologic functions of the wetland has been deemed acceptable by the SVCA.<br><br>When considering implementation schedules/project timelines, please note that SVCA's in-water works timing window is from June 15th to September 15th. | **Drinking Water Source Protection**<br>Noted |

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| | | **Site Inspections**<br><br>A site-specific inspection(s) will need to be completed to confirm the hazards, listed below, present at Areas 1, 2a, 2b, 3, and 4. Based on a desktop review of SVCA's mapping:<br><br><u>Area 1: Proposed Expansion Area</u><br><br>A tributary of the Saugeen River and its associated floodplain, are the hazards anticipated at proposed Area 1.<br><br><u>Area 2a: Proposed Expansion Area</u><br><br>There do not appear to be any hazards at proposed Area 2a; SVCA does not appear to regulate area in proposed Area 2a.<br><br><u>Area 2b: Potential Future Expansion Area</u><br><br>A tributary of the Saugeen River and its associated floodplain, are the hazards anticipated at proposed Area 2b.<br><br><u>Area 3: Approved Expansion Area</u><br><br>A tributary of the Saugeen River and its associated floodplain, in addition to unevaluated wetland, are the anticipated hazards present at proposed Area 3.<br><br><u>Area 4: Potential Future Expansion Area</u><br><br>Silver Creek and its associated floodplain, slope hazard(s), and unevaluated wetland, are the hazards anticipated at proposed Area 4.<br><br>To conduct the site inspections, landowner permission will be required to enter properties not owned by the Municipality of Brockton.<br><br>**8. Water Master Servicing Plan Specific Comments**<br><br>▪ Alternative storage locations are proposed in Areas 1, 2a, 3, and 4. Alternative storage locations would not be permissible in areas identified as wetlands. If proposed, SVCA would have an interest in reviewing a new or additional water storage facilities.<br>▪ If proposed, SVCA would have an interest in reviewing connection points.<br>▪ A pumping station, booster station and water tower may be required in Areas 2a and 2b. Upgrades to the pumping station and a new water tower may be required in Area 4. If proposed, SVCA would have an interest in reviewing pumping stations, booster stations and water towers.<br><br>**9. Wastewater Master Servicing Plan Specific Comments** | |

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| | | If proposed, SVCA would have an interest in reviewing connection points and extensions.<br><br>**10. Stormwater Master Servicing Plan Specific Comments**<br><br>▪ Change to rivers, creeks, streams, or watercourses, shorelines, or wetlands, such as new stormwater outlets, will require review and a permit from SVCA.<br>▪ A watercourse, as defined in the Conservation Authorities Act, "means an identifiable depression in the ground in which a flow of water regularly or continuously occurs."<br>▪ If proposed, SVCA would have an interest in reviewing stormwater management ponds, facilities, and outlets.<br>▪ Stormwater infrastructure and storage shall be located outside hazards.<br>▪ Temporary and permanent ESC measures, at proposed outlets, will be required.<br><br>**Revisions to Master Servicing Plan V1 Document**<br><br>(PDF Page 99) – "10.3.5 SVCA Floodlines - The 100-year and Regulatory Flood Standard (Hazel) floodlines for the Silver Creek tributary include significant portions of the dense urban core. A Two-Zone Policy for the Silver Creek floodplain, as well as the Flood Fringe Floodway policy, both require buildings to be floodproofed to the 50-year flood elevation."<br><br>*Development shall be floodproofed to the regulatory floodplain elevation. The Silver Creek Policy Area in Walkerton according to SVCA Motion E86-48 applies as Two-Zone policy with one important notation the floodway is considered to be 20 feet from the bank of Silver Creek and the rest of the floodplain area is considered flood fringe. Please consider that updated floodplain mapping may be available for Walkerton, prior to or during project implementation.*<br><br>(PDF Page 4 & 78+) – "9. Waterwater Master Servicing Plan"<br><br>"Wastewater Master Servicing Plan"<br><br>(PDF Page. 92) – "The SVCA provides planning advisory services in the areas of natural hazard planning, natural heritage conservation, and the adequacy of stormwater management plans from the perspective of the SVCA."<br><br>Saugeen Conservation is involved in reviewing natural hazards for planning applications in Ontario, under Section 3.1 of the Provincial Policy Statement. Municipalities and counties must send certain planning applications to Saugeen Conservation, including land divisions, zoning changes, and plans for subdivisions. While Saugeen Conservation gives recommendations on natural | |

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| | | hazards, it's the local municipality or county that makes the final decision on Planning Act applications.<br><br>**Fisheries and Oceans Canada Approval**<br><br>A Department of Fisheries and Oceans (DFO) review may be required. To confirm you may contact the DFO.<br><br>**Drinking Water Source Protection**<br><br>SVCA staff have screened Areas 1, 2a, 2b, 3 and 4, to determine the applicability of the Saugeen, Grey Sauble, Northern Bruce Peninsula Source Protection Plan, prepared under the Clean Water Act, 2006. Please contact rmo@greysauble.on.ca directly for more information on the Source Protection Plan policies that may affect the Master Servicing Plan.<br><br>SVCA's 2024 fee schedule, Application to Alter a Regulated Area, Application to Alter a Watercourse, and SVCA Regulations Information Sheet, are attached.<br><br>SVCA looks forward to receiving additional information related to the Municipality of Brockton - Master Servicing Plan: Town of Walkerton, as it becomes available. | |
| 7. | Jan. 8, 2024<br>County of Bruce | The Transportation and Environmental Services department received a notice regarding the Master Servicing Plan in the Municipality of Brockton and the following comments are listed below.<br><br>▪ The County would prefer to provide input on the proposed infrastructure improvements within Bruce County's Jurisdiction/Right of Way. (Example: Watermain, Sanitary Sewer/ Forcemain, Stormwater)<br>▪ The County would prefer to be notified if any traffic studies have been completed or are planned to be included in the Master Servicing Plan.<br>▪ The County would prefer to have further communication as the Master Servicing Plan Progresses. | The Municipality will provide the County with the opportunity to provide input on any proposed infrastructure improvements with the County's rights-of-way.<br><br>No traffic studies were completed, or are planned to be completed, as part of this Master Servicing Plan.<br><br>The County will continue to receive information related to the Municipality of Brockton - Master Servicing Plan: Town of Walkerton, as it becomes available. |
| 8. | Dec. 28, 2023<br>MECP | The MECP offered the following comments for consideration:<br><br>1. The MECP requested confirmation that the Indigenous Communities were notified of the master planning process and asked to provide their input.<br><br>2. That the MSP address climate change adaptation and mitigation in both the master planning exercise and any subsequent project specific EAs that will be undertaken. The Ministry has released a guidance document to support proponents in including climate change in environmental assessments. | 1. Noted. Consistent with the requirements of the EA process, continued notification and consultation will be provided through the remainder of the EA process.<br><br>2. Climate change is addressed in Section 6.1.4 of the MSP. In addition, the Ministry's guidance document, 'Consideration of Climate Change in Environmental Assessment in Ontario' (October 2017) is included as a reference in Appendix E. |

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| | | 3. How the master planning exercise and subsequent project specific EAs will address source water protection (SWP).<br><br>4. Species at Risk considerations can sometimes be addressed at the master planning stage and lead to efficiencies should authorizations/permits be required for the implementation of specific projects. You are encouraged to contact the MECP Species at Risk Branch. An MECP SAR document was included with the comments. | 3. SWP considerations are addressed in Section 5.5.7 and Section 6.1.3 of the MSP. However, it is expected that projects occurring within a Source Protection Area consider whether SWP could be an issue, and the SVCA Risk Management Office be consulted, as appropriate. The Risk Management Official (rmo@greysauble.on.ca), should be contacted if the Plan falls within or may impact the Source Water Protection Area.<br><br>4. SAR considerations are discussed in Section 5 of the MSP. In addition, the Ministry's guidance document, 'Client's Guide to Preliminary Screening for Species at Risk' (DRAFT - May 2019) is included as a reference in Appendix E. |
| 9. | Feb. 13, 2024<br>Lake Rosalind Property Owners Association | Thanks for sending the information related to the Master Servicing Plan. The call for input by March 15th is noted, however, I am hoping that our previous written correspondence dated January 5th, 2024 (attached below) will be considered as you move forward in building your plan with attention to public comments.<br><br>Please advise if you require anything further from our Association at this time. | Comments previously provided are documented in Comment No.1 within this comment summary. |
| 10. | Feb. 14, 2024<br>MNRF | Please note that I have a new position and I'd ask that all MNRF correspondence be sent to SR.planning@ontario.ca | Noted |
| 11. | Feb. 21, 2024<br>HSM | The Historic Saugeen Métis (HSM) Lands, Waters and Consultation Department has reviewed the second draft of the Brockton Master Servicing Plan. HSM has no objections and is satisfied with this draft.<br><br>Thank you for the opportunity to review the most recent draft. | Noted |
| 12. | March 4, 2024<br>MECP<br>EA Branch | Thank you for sending the Notice of Master Plan. I can confirm it was received. | Noted |
| 13. | March 12, 2024<br>SVCA | Thank you for the opportunity to review and comment on the Municipality of Brockton - Master Servicing Plan: Town of Walkerton (Version 2 - Draft), prepared by GM BluePlan, dated February 13, 2024. At a high level, the Plan sets out to develop, evaluate, and select a preferred servicing strategy to support existing servicing needs and projected development within the | |

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| | | community of Walkerton to the year 2046. SVCA can provide you with a complete list of permit application requirements upon receipt of a specific development proposal(s). A permit will be required from SVCA should development be proposed within SVCA's Regulated Area.<br><br>I appreciate you including SVCA's comments regarding Version 1 of the Plan, submitted on December 14, 2023, and January 10, 2024 *(attached), a part of Version 2 of the Plan. Please find comments regarding Version 2 of the Plan, below:<br><br><u>Page 42</u><br>SVCA anticipates changes to the Regulation and Act, on April 1, 2024. However, these changes are not anticipated to impact SVCA's involvement and review of the Plan.<br><br><u>Page 49</u><br>"Projects occurring within the Source Protection Area, or projects that could impact the delineation of the Source Protection Area, should consider whether Source Water Protection could be an issue, and the SVCA Risk Management Office should be consulted, as appropriate. It is recommended that for projects that fall within or may impact the Source Water Protection Area, consultation with the SVCA Risk Management Office be completed as part of the planning process."<br>REVISION - Carl Seider - Risk Management Official (rmo@greysauble.on.ca), should be contacted if the Plan falls within or may impact the Source Water Protection Area.<br><br><u>Page 97</u><br>"10.1.1. The SVCA provides planning advisory services in the areas of natural hazard planning, natural heritage conservation, and the adequacy of stormwater management plans from the perspective of the SVCA."<br>REVISION - SVCA no longer comments on natural heritage. Saugeen Conservation is involved in reviewing natural hazards for planning applications in Ontario, under Section 3.1 of the Provincial Policy Statement. Municipalities and counties must send certain planning applications to Saugeen Conservation, including land divisions, zoning changes, and plans for subdivisions. While Saugeen Conservation gives recommendations on natural hazards, it's the local municipality or county that makes the final decision on Planning Act applications.<br><br><u>Page 126</u><br>Please add myself: Madeline McFadden, SVCA - Regulations Officer, m.mcfadden@svca.on.ca, and 519-373-4849, to the Circulation List. | Page 42 – Noted<br><br>Page 49 – Contact information for the Risk Management Official noted.<br><br>Page 97 – Revised to reflect that the SVCA no longer comments on natural heritage.<br><br>Page 126 – As requested, added to list of contacts. |

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| | | Elise MacLeod - SVCA's Water Resources Manager (e.macleod@svca.on.ca/519-377-3694), may have an interest in the Plan. Please include Elise MacLeod a part of future circulations.<br><br><u>Page 198</u><br>Brandi Walters accepted a one-year secondment at Conservation Ontario. In the interim, Tathum Engineering should alternatively contact Mike Oberle – SVCA's Planning Coordinator, Acting (m.oberle@svca.on.ca/519-373-4175), with any questions or comments related to the 75 Ridout development.<br><br><u>Page 205</u><br>REVISION - Carl Seider - Risk Management Official (rmo@greysauble.on.ca), should be contacted if the Plan falls within or may impact the Source Water Protection Area.<br><br>SVCA looks forward to receiving additional information related to the Municipality of Brockton - Master Servicing Plan: Town of Walkerton, as it becomes available. | Page 198 – Tatham Engineering was made aware of this contact information via email on March 19th, 2024.<br><br>Page 205 – Contact information updated |

**January 5, 2024**

**Lake Rosalind and Marl Lake Associations comments re: Brockton Master Servicing Plan (MSP)**

As noted in a memo to the public, Brockton is seeking input on Walkerton's growth options under consideration specifically on issues and ideas related to the community's existing water, wastewater and stormwater systems. A key driver of the MSP is to establish a plan that maintains, or improves upon, the existing levels of service.

The Marl Lake and Lake Rosalind Associations fully support the expansion of Walkerton's urban boundary and want to emphasize how important it is to develop a comprehensive plan that will incorporate all facets of management, expansion, and funding of the water, wastewater, and stormwater systems for the entire community,

As identified in the draft Brockton Master Servicing Plan, Walkerton is the largest community and is the only Primary Urban Community. Other communities include Elmwood, as the only Secondary Urban Community, seven (7) hamlet communities, and three (3) inland lakes communities.

It is important to note that the Lake Rosalind & Marl Lake communities comprise the **2nd largest** urban community in Brockton with 250 homes/cottages and makes up approximately 20% of Brockton's tax base.

Our lake communities do not receive the many tax benefits offered to other communities such as sidewalks, streetlights, community centres, playgrounds or parks. We consider our lake water as our critical recreation source and also as a drinking water source for the residents using shore wells, sand points or as a direct water supply. There is a municipal well serviced by Brockton that supplies some of the residents on the west side of Lake Rosalind. It is also noted there are 2 wells on the border of Marl Lake that tie into the line running from Ruhl Lake that supplies the municipality of Hanover but there are currently no lake residents tied into this supply.

The Lake Associations work alongside a Water Quality Committee that looks after testing, researching best water protection strategies, procurement of materials for protection, and communicating best water protection strategies to the residents. Along with securing water quality the Associations work diligently through their Board of Directors to ensure lake safety by establishing safe mapping, purchasing and installing buoys to support the boat direction and hazards, maintaining the boat ramp, signing and so on. Over and above these responsibilities, both Lake Associations look after maintaining entrances, grass cutting/trimming, insurance, legal support, and taxes for the boat ramp area and ownership of the bottom on the lake.

The Association is funded through annual fees paid by residents who also pay taxes to Brockton. The last few years the municipality has supported the water testing by awarding up to $2000 annually for this initiative and this has been greatly appreciated.

That being said, the bottom line is that our residents work diligently to protect our water source using personal resources and receive very little in tax incentives.

It was disappointing when the Clean Water Source Protection Committee working with the Water Quality Committee presented to Brockton Council in 2023 requesting their support in expanding the Source Water Protection Zone around the lake. In response to this request, Council asked our Lake representatives if residents have the money to pay for the expansion as it was noted that Council does not have money for extended mandatory septic inspection in their budget. The presentation to Brockton council noted the results from a research project highlighting indications of human feces in our lake water. Despite the frequent reminders to Brockton of the outdated septic systems on our lake and the research to back up our statements, there has been no assistance from Brockton to remediate these concerns.

The positive outcome of requested public consultation is the opportunity to review the project, share information and provide comments related to the project and, therefore, the Lake Associations did not want to miss the invited opportunity to provide feedback.

In conclusion, our viewpoint is that funding for remediation and attention to source water protection is critical at the outset of the budget process related to the Master Servicing Plan rather than any attempt at fixing problems later at a much greater health and financial expense.

John Stadtlander

President

Lake Rosalind Property Owners Association

Rick Kalte

President

Included below are some of the acts that appear relevant to our discussion:

5.5.3 Water Opportunities and Conservation Act [♦▼►]

The Act also authorizes creation of regulations requiring public agencies to prepare water conservation plans, achieve water conservation targets, and consider technologies, services and practices that promote the efficient use of water and reduce negative impacts on Ontario’s water resources.

5.5.4 Ontario Water Resources Act (OWRA) [♦ ▼]

The Ontario Water Resources Act is administered by the MECP and focuses on both groundwater and surface water quantity and quality throughout the province. According the OWRA, 'the purpose of the Act is to provide for the conservation, protection and management of Ontario's waters and for their efficient and sustainable use, in order to promote Ontario's long-term environmental, social, and economic well-being'.

5.5.5 Sustainable Water and Wastewater Systems Improvement and Maintenance Act [♦ ▼]

The Sustainable Water and Wastewater Systems Improvement and Maintenance Act (Bill 13, 2010) repealed the Sustainable Water and Sewage Systems Act, 2002. The purposes of this Act are: a. To ensure that public ownership of water services and wastewater services is maintained. b. To promote full-cost recovery and full-cost accounting of water services and wastewater services. c. To encourage an increase in scale and capacity in the provision of water services and wastewater services to minimize costs to the public. d. To improve transparency in the provision of water services and wastewater services to the public through the establishment of publicly owned corporations. e. To create an independent economic regulator with the expertise and authority to administer this Act

5.5.6 Safe Drinking Water Act [♦]

The Safe Drinking Water Act (SDWA) was adopted in 2002 (and last amended in 2021). It applies to water systems and requires that a municipal drinking water license and drinking water works permit be obtained to establish, operate and alter or extend a municipal residential drinking water system. The Act provides for the protection of human health and prevention of drinking water hazards through the control and regulation of drinking water systems and drinking water testing. As stated in the SDWA, the purpose is to: i. Recognize that the people of Ontario are entitled to expect their drinking water to be safe; and ii. Provide for the protection of human health and the prevention of drinking water health hazards through the control and regulation of drinking water systems and drinking water testing.

5.5.7 Clean Water Act, 2006 [♦]

The Clean Water Act (CWA)was adopted in 2006. The purpose of the CWA is to protect existing and future sources of municipal drinking water, at the source. The Act requires the development of a watershed-based Source Protection Plan, as well as the following: ♣ That local communities assess existing and potential threats to their water, and that they set out and implement the actions needed to reduce or eliminate these threats. ♣ Empowers communities to take action to prevent threats from becoming significant. ♣ Public participation on every local source protection plan – the planning process for source protection is open to anyone in the community. ♣ That all plans and actions be based on sound science.

Surface Water Intake Protection Zones (IPZs): Some communities and municipalities obtain their drinking water from intakes found in rivers, streams and lakes. IPZs are assigned a vulnerability score from 0.8 to 10 and are established to ensure that potential spills do not reach an intake.

## Drea Nelson - GM BluePlan

**Subject:** FW: [EXT] RE: Brockton Master Servicing Plan

**From:** [redacted]
**Sent:** Friday, January 05, 2024 12:44 PM
**To:** [redacted]
**Subject:** [EXT] RE: Brockton Master Servicing Plan

**EXTERNAL EMAIL**

Happy New Year to everyone!

I agree with everything noted on the letter, as per our many discussions at our board meetings,
aside from the $2000 assistance provided by Brockton for water testing, they do very little for our taxes to help with anything.

Considering the amount of tax revenue they receive from our communities, we should be able to expect assistance in regards to septic tanks monitoring and/or maintenance servicing proof or replacement of old systems requirements. We get no subsidies for sidewalks or parks and recreation dollars. Our lake IS our park and we should receive some subsidy to maintain it, it shouldn't be left all up to the residents.

As the old saying goes " the squeaky wheel " , maybe we need to start squeaking a little louder to the municipality.

Thanks
[redacted]

## Drea Nelson - GM BluePlan

**Subject:** FW: Brockton/Walkerton lands
**Attachments:** 223075 Easels-Poster Board (posters 1 to 6).pdf; 223075 - Master Servicing Plan Walkerton - Presentation.pdf

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**From:** Jen Swiger - GM BluePlan
**Sent:** Thursday, December 14, 2023 4:45 PM
**To:** Kevin Sansom <ksansom@tathameng.com>
**Cc:** Nicholas Schnurr <nschnurr@brockton.ca>; Drea Nelson - GM BluePlan <Drea.Nelson@gmblueplan.ca>
**Subject:** RE: Brockton/Walkerton lands

Hi Kevin,

It was nice to meet you.

Please find attached copies of the PIC poster boards, and the slides in the presentation to council.

Note that these documents are also available on the project website. Water/Wastewater Master Plan | Build Your Brockton

Finally, a recording of the council meeting from December 12th, including the presentation to council on the Master Servicing Plan, can be found at this link: pub-brockton.escribemeetings.com/Players/ISIStandAlonePlayer.aspx?ClientId=brockton&FileName=lite_encoder_CM_2023-12-12-07-00.mp4 (A quick summary of highlights of the council meeting found here: Council Highlights - December 12, 2023 - Municipality of Brockton)

Thanks,
Jen

**Jen Swiger, P.Eng.**
Project Engineer & GIS Specialist

**GM BluePlan Engineering Limited**
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t: 519.376.1805 ext. ext. 2231 | c: 519.373.6084
jen.swiger@gmblueplan.ca | www.gmblueplan.ca

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**From:** Kevin Sansom <ksansom@tathameng.com>
**Sent:** Thursday, December 14, 2023 10:29 AM
**To:** Nicholas Schnurr <nschnurr@brockton.ca>
**Cc:** Jen Swiger - GM BluePlan <Jen.Swiger@gmblueplan.ca>
**Subject:** RE: Brockton/Walkerton lands

Hello Nicholas and Jen. Nice meeting you the other night.

## Drea Nelson - GM BluePlan

**Subject:** FW: 223075 Walkerton Servicing Plan - Version 1 for Posting on Project Website

**From:** Gowan, Scott <scott.gowan@veolia.com>
**Sent:** Monday, December 11, 2023 10:06 AM
**To:** Drea Nelson - GM BluePlan <Drea.Nelson@gmblueplan.ca>
**Cc:** Nicholas Schnurr <nschnurr@brockton.ca>
**Subject:** Re: 223075 Walkerton Servicing Plan - Version 1 for Posting on Project Website

Good Morning Andrea,

Thank you for considering and incorporating many of the comments Veolia had in the latest version of the Master Servicing Plan. In reviewing I noticed that one of our comments may have been slightly misunderstood.

The new version says: *"The water is supplied to the community along Bruce Road 2 by a trunk main (250mmø to 300mmø). The trunk main was constructed in 2003 and a large portion was replaced in 2014."*

It would be more accurate to say: *The water is supplied to the community along Bruce Road 2 by a trunk main (250mmø to 300mmø). The 250mmø portion of the trunk main was constructed in 2014, and the 300mmø was constructed in 2023.*

You may want to word it better/differently, but I think my comment may have been misunderstood. The new report shows 2003, and 2014 construction of the trunk main, when it actually took place in 2014 and 2023. While this is not likely too important in the grand scheme of things, it should likely be corrected for the final version.

Regards,

**Scott Gowan**
*Project Manager*
*Municipal Business*
***VEOLIA NORTH AMERICA***

tel

+1 519-881-1474

Box 220, 130 Wallace St / Walkerton, ON N0G 2V0
**scott.gowan@veolia.com**

**Ministry of Natural Resources and Forestry**

Land Use Planning and Strategic Issues Section
Southern Region

Regional Operations Division
300 Water Street
Peterborough, ON K9J 3C7

**Ministère des Richesses naturelleset des Forêts**

Section de l'aménagement du territoire et des questions stratégiques
Région du Sud

Division des opérations régionales
300, rue Water
Peterborough (ON) K9J 3C7

Ontario

December 7, 2023

Nicholas Schnurr
Director of Operations, Municipality of Brockton
100 Scott Street, P.O. Box 68
Walkerton, ON N0G 2V0
nschnurr@brockton.ca

**SUBJECT: Notice of Study Commencement and Public Information Centre No. 1**

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The Ministry of Natural Resources and Forestry (MNRF) received the Notice of Commencement and Public Information Centre No. 1 on November 30, 2023. Thank you for circulating this to our office. Please note that we have not completed a screening of natural heritage or other resource values for the project at this time. This response, however, does provide information to guide you in identifying and assessing natural features and resources as required by applicable policies and legislation, as well as engaging with the Ministry for advice as needed.

Please also note that it is the proponent's responsibility to be aware of, and comply with, all relevant federal or provincial legislation, municipal by-laws or other agency approvals.

## Natural Heritage

MNRF's natural heritage and natural resources GIS data layers can be obtained through the Ministry's Land Information Ontario (LIO) website. You may also view natural heritage information online (e.g., Provincially Significant Wetlands, ANSI's, woodlands, etc.) using the Make a Map: Natural Heritage Areas tool.

We recommend that you use the above-noted sources of information during the review of your project proposal.

## Natural Hazards

A series of natural hazard technical guides developed by MNRF are available to support municipalities and conservation authorities implement the natural hazard policies in the Provincial Policy Statement (PPS). For example, standards to address flood risks and the potential impacts and costs from riverine flooding are addressed in the *Technical Guide River and Stream Systems: Flooding Hazard Limit (2002)*. We recommend that you consider these technical guides as you assess specific improvement projects that can be undertaken to reduce the risk of flooding.

## Petroleum Wells & Oil, Gas and Salt Resources Act

There may be petroleum wells within the proposed project area. Please consult the Ontario Oil, Gas and Salt Resources Library website (www.ogsrlibrary.com) for the best-known data on any wells recorded by MNRF. Please reference the 'Definitions and Terminology Guide' listed in the

publications on the library website to better understand the well information available. Any oil and gas wells in your project area are regulated by the *Oil, Has and Salt Resource Act*, and the supporting regulations and operating standards. If any unanticipated wells are encountered during development of the project, or if the proponent has questions regarding petroleum operations, the proponent should contact the Petroleum Operations Section at POSRecords@ontario.ca or 519-873-4634.

**Fish and Wildlife Conservation Act**

Please note, that should the project require:

- The relocation of fish outside of the work area, a Licence to Collect Fish for Scientific Purposes under the *Fish and Wildlife Conservation Act* will be required.
- The relocation of wildlife outside of the work area (including amphibians, reptiles, and small mammals), a Wildlife Collector's Authorization under the *Fish and Wildlife Conservation Act* will be required.

**Public Lands Act & Lakes and Rivers Improvement Act**

Some Project may be subject to the provisions of the *Public Lands Act* or *Lakes and River Improvement Act*. Please review the information on MNRF's web pages provided below regarding when an approval is, or is not, required. Please note, *Lakes and Rivers Improvement Act* approval from the Ministry is not required for certain activities within the area of jurisdiction of a Conservation Authority. Please see the *Lakes and Rivers Improvement Act* administrative guide for more information and contact your local Conservation Authority where unsure if work is subject to regulation under the *Conservation Authorities Act*.

- For more information about the *Public Lands Act*: https://www.ontario.ca/page/crown-land-work-permits
- For more information about the *Lakes and Rivers Improvement Act*: https://www.ontario.ca/page/lakes-and-rivers-improvement-act-administrative-guide

After reviewing the information provided, if you have not identified any of MNRF's interests stated above, there is no need to circulate any subsequent notices to our office. If you have identified any of MNRF's interests and/or may require permit(s) or further technical advice, please direct your specific questions to the undersigned.

If you have any questions or concerns, please feel free to contact me.

Best Regards,

Jody Marks
Regional Planner
Land Use Planning and Strategic Issues Section – Southern Region
Ministry of Natural Resources and Forestry

## Drea Nelson - GM BluePlan

**From:** Madeline McFadden <m.mcfadden@svca.on.ca>
**Sent:** Wednesday, January 10, 2024 10:29 AM
**To:** Drea Nelson - GM BluePlan
**Cc:** Nicholas Schnurr; John Slocombe - GM BluePlan; Jen Swiger - GM BluePlan
**Subject:** [EXT] RE: SVCA Pre-Consultation: Water, Wastewater and Stormwater Master Servicing Plan/WALK
**Attachments:** SVCA Fee Schedule 2024.pdf; SVCA Application to Alter a Regulated Area.pdf; SVCA Application to Alter a Watercourse.pdf; 2023_SVCA Regulations Information Sheet.pdf

**EXTERNAL EMAIL**

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Hi Andrea,

Thank you for the opportunity to review and comment on *the Municipality of Brockton - Master Servicing Plan: Town of Walkerton*, prepared by GM BluePlan, dated November 30. 2023. At a high level, the *Plan* sets out to develop, evaluate, and select a preferred servicing strategy to support existing servicing needs and projected development within the community of Walkerton to the year 2046. SVCA can provide you with a complete list of permit application requirements upon receipt of a specific development proposal(s). A permit will be required from SVCA should development be proposed within SVCA's Regulated Area.

**Development Within SVCA's Regulated Area**

Ontario Regulation 169/06, as amended means that you must get a permit before beginning any work in a regulated area. Examples of work that require a permit are:

- Construction, reconstruction or placing a structure of any kind
- Change to a structure that increases size, units, or use
- Site grading
- Temporary or permanent placing, dumping or removal of any material, from the site or elsewhere

A permit is also needed for any change to rivers, creeks, streams, or watercourses, shorelines, or wetlands.

***One-Zone Floodplain***

Section 4.7.1 of the *SVCA's Environmental Planning and Regulations Policies Manual* (October 2018), will likely apply to the project(s). In accordance with section 4.7.1-2, only public infrastructure (including but not limited to roads, sanitary sewars, utilities, water supply wells, well houses, and pipelines), public parks and recreational infrastructure, conservation and restoration projects, minor accessory structures and landscaping, replacement of existing buildings and septic systems, minor fill placement and grading and driveway/parking lot construction, is permitted within a one-zone floodplain subject to the activity being approved through a satisfactory EA process and/or if it has been demonstrated to the satisfaction of the SVCA that the control of flooding, erosion, pollution, or the conservation of land will not be negatively affected. Section 4.7.1.1 states that all development proposed within the flood hazard limit must be floodproofed.

***Two-Zone Floodplain***

Section 4.7.2 of the *SVCA's Environmental Planning and Regulations Policies Manual* (October 2018), will likely apply to the project(s). In accordance with section 4.7.2-2 of the *SVCA's Environmental Planning and Regulations Policies Manual* (October 2018), only public infrastructure; public parks and recreational infrastructure; stream bank, slope and valley stabilization work to protect existing development; and conservation and restoration projects, is permitted within a two-

zone floodplain subject to the activity being approved through a satisfactory EA process and/or if it has been demonstrated to the satisfaction of the SVCA that the control of flooding, erosion, pollution, or the conservation of land will not be negatively affected.

***Wetland***

Wetland is mapped to be present at Areas 3 and 4.

In accordance with section 4.13-1 of the *SVCA's Environmental Planning and Regulations Policies Manual* (October 2018), only public infrastructure, public parks and recreational infrastructure, and conservation and restoration projects, is permitted within a wetland subject to the activity being approved through a satisfactory EA process and/or if it has been demonstrated to the satisfaction of the SVCA that the control of flooding, erosion, pollution, or the conservation of land will not be negatively affected, and the interference on the natural features and hydrologic and ecological functions of the wetland has been deemed acceptable/satisfactory to the SVCA. Section 4.13-2 states that in general, the following are not permitted within wetlands: development and interference; ponds and drains; and stormwater management facilities. Section 4.13-3 states, notwithstanding the sections referenced above, only public infrastructure (including but not limited to roads, sanitary sewars, utilities, water supply wells, well houses, and pipelines), public parks and recreational infrastructure, conservation and restoration projects, and any buildings or structures, will be permitted within areas 30 metres of the boundary of a wetland, if the interference on the hydrologic functions of the wetland has been deemed acceptable by the SVCA.

When considering implementation schedules/project timelines, please note that SVCA's in-water works timing window is from June 15th to September 15th.

**Site Inspections**

A site-specific inspection(s) will need to be completed to confirm the hazards, listed below, present at Areas 1, 2a, 2b, 3, and 4. Based on a desktop review of SVCA's mapping:

- Area 1: Proposed Expansion Area
    - A tributary of the Saugeen River and it's associated floodplain, are the hazards anticipated at proposed Area 1.
- Area 2a: Proposed Expansion Area
    - There do not appear to be any hazards at proposed Area 2a; SVCA does not appear to regulate area in proposed Area 2a.
- Area 2b: Potential Future Expansion Area
    - A tributary of the Saugeen River and it's associated floodplain, are the hazards anticipated at proposed Area 2b.
- Area 3: Approved Expansion Area
    - A tributary of the Saugeen River and it's associated floodplain, in addition to unevaluated wetland, are the anticipated hazards present at proposed Area 3.
- Area 4: Potential Future Expansion Area
    - Silver Creek and it's associated floodplain, slope hazard(s), and unevaluated wetland, are the hazards anticipated at proposed Area 4.

To conduct the site inspections, landowner permission will be required to enter properties not owned by the Municipality of Brockton.

**8. Water Master Servicing Plan Specific Comments**

- Alternative storage locations are proposed in Areas 1, 2a, 3, and 4. Alternative storage locations would not be permissible in areas identified as wetlands. If proposed, SVCA would have an interest in reviewing a new or additional water storage facilities.
- If proposed, SVCA would have an interest in reviewing connection points.

- A pumping station, booster station and water tower may be required in Areas 2a and 2b. Upgrades to the pumping station and a new water tower may be required in Area 4. If proposed, SVCA would have an interest in reviewing pumping stations, booster stations and water towers.

**9. Wastewater Master Servicing Plan Specific Comments**

- If proposed, SVCA would have an interest in reviewing connection points and extensions.

**10. Stormwater Master Servicing Plan Specific Comments**

- Change to rivers, creeks, streams, or watercourses, shorelines, or wetlands, such as new stormwater outlets, will require review and a permit from SVCA.
- A watercourse, as defined in the Conservation Authorities Act, "*means an identifiable depression in the ground in which a flow of water regularly or continuously occurs*."
- If proposed, SVCA would have an interest in reviewing stormwater management ponds, facilities, and outlets.
- Stormwater infrastructure and storage shall be located outside hazards.
- Temporary and permanent ESC measures, at proposed outlets, will be required.

**Revisions to Master Servicing Plan V1 Document**

- (PDF Page 99) – "10.3.5 SVCA Floodlines - The 100-year and Regulatory Flood Standard (Hazel) floodlines for the Silver Creek tributary include significant portions of the dense urban core. A Two-Zone Policy for the Silver Creek floodplain, as well as the Flood Fringe Floodway policy, both require buildings to be floodproofed to the 50-year flood elevation."
    - *Development shall be floodproofed to the regulatory floodplain elevation. The Silver Creek Policy Area in Walkerton according to SVCA Motion E86-48 applies as Two-Zone policy with one important notation the floodway is considered to be 20 feet from the bank of Silver Creek and the rest of the floodplain area is considered flood fringe. Please consider that updated floodplain mapping may be available for Walkerton, prior to or during project implementation.*
- (PDF Page 4 & 78+) – "9. Waterwater Master Servicing Plan"
    - "*Wastewater Master Servicing Plan*"
- (PDF Page. 92) – "The SVCA provides planning advisory services in the areas of natural hazard planning, natural heritage conservation, and the adequacy of stormwater management plans from the perspective of the SVCA."
    - *Saugeen Conservation is involved in reviewing natural hazards for planning applications in Ontario, under Section 3.1 of the Provincial Policy Statement. Municipalities and counties must send certain planning applications to Saugeen Conservation, including land divisions, zoning changes, and plans for subdivisions. While Saugeen Conservation gives recommendations on natural hazards, it's the local municipality or county that makes the final decision on Planning Act applications.*

**Fisheries and Oceans Canada Approval**

A Department of Fisheries and Oceans (DFO) review may be required. To confirm you may contact the DFO.

**Drinking Water Source Protection**

SVCA staff have screened Areas 1, 2a, 2b, 3 and 4, to determine the applicability of the Saugeen, Grey Sauble, Northern Bruce Peninsula Source Protection Plan, prepared under the *Clean Water Act, 2006*. Please contact rmo@greysauble.on.ca directly for more information on the Source Protection Plan policies that may affect the *Master Servicing Plan*.

SVCA's 2024 fee schedule, Application to Alter a Regulated Area, Application to Alter a Watercourse, and SVCA Regulations Information Sheet, are attached.

SVCA looks forward to receiving additional information related to the *Municipality of Brockton - Master Servicing Plan: Town of Walkerton*, as it becomes available.

Regards,

**Madeline McFadden**, Regulations Officer
1078 Bruce Rd 12, PO Box 150
Formosa, ON NOG 1W0
Cell: 519-373-4849
Email: m.mcfadden@svca.on.ca
www.saugeenconservation.ca

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**From:** Drea Nelson - GM BluePlan <Drea.Nelson@gmblueplan.ca>
**Sent:** Tuesday, January 9, 2024 3:06 PM
**To:** Madeline McFadden <m.mcfadden@svca.on.ca>
**Cc:** Nicholas Schnurr <nschnurr@brockton.ca>; John Slocombe - GM BluePlan <John.Slocombe@gmblueplan.ca>; Jen Swiger - GM BluePlan <Jen.Swiger@gmblueplan.ca>
**Subject:** RE: SVCA Pre-Consultation: Water, Wastewater and Stormwater Master Servicing Plan/WALK



Madeline,

Thank you for your comments regarding the Master Servicing Plan for the Town of Walkerton.

It is noted that the Master Servicing Plan is intended to be the foundation document and roadmap for implementing safe, reliable and efficient water, wastewater, and stormwater services to support the Municipality's long-term vision. The Plan provides general servicing strategies and an overview of the long-term implementation plan to support the Town's infrastructure needs. Specific projects (i.e., proposed works) requiring SVCA review and approval are not part of the Master Servicing Plan document.

As discussed in the Master Servicing Plan, water, wastewater and stormwater facilities typically involve relatively complex systems and, as such, engineering details and decisions require a more thorough analysis than can be completed within the framework of the Class EA process. Within the Master Servicing Plan, it is recognized that depending on the nature of the proposed works, approvals may be required from the local municipality, the Saugeen Valley Conservation Authority (SVCA), the Department of Fisheries and Oceans Canada (DFO), the Ontario Ministry of Natural Resources and Forestry (MNRF) and/or the Ministry of the Environment, Conservation and Parks (MECP). In addition, depending on the alternative selected and the nature of the proposed works, natural heritage studies (i.e., Environmental Impact Studies, Natural Heritage Assessments), archaeological assessments and/or cultural heritage assessments may be required. Therefore, within the Plan it is recommended that required approvals be sought, and the potential need for natural heritage assessments, archaeological and/or cultural heritage assessments be reviewed, in conjunction with the design development phase for a given project, as appropriate.

While SVCA consultation and permit requirements are recognized throughout the report, the SVCA mandate and regulatory framework are specifically addressed in the Master Servicing Plan, as follows:

- Section 5.5.11 provides an overview of Ontario Regulation 169/06: Regulation and Development, Interference with Wetlands and Alterations to Shorelines and Watercourses
- Figure 5-1 identifies the lands to which the regulations (i.e., SVCA Screening Areas) apply, specifically within the four proposed development areas.

We will continue to provide updates as the project progresses.

Kind Regards,
Andrea

**Andrea Nelson, M.Sc.**
Senior Hydrogeologist

**GM BluePlan Engineering Limited**
1260-2nd Avenue East | Owen Sound ON N4K 2J3
t: 519.376.1805 ext. 2219 | c: 519.372.4678
andrea.nelson@gmblueplan.ca | www.gmblueplan.ca

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**From:** Madeline McFadden <m.mcfadden@svca.on.ca>
**Sent:** Thursday, December 14, 2023 4:52 PM
**To:** Jen Swiger - GM BluePlan <Jen.Swiger@gmblueplan.ca>
**Cc:** Nicholas Schnurr <nschnurr@brockton.ca>
**Subject:** SVCA Pre-Consultation: Water, Wastewater and Stormwater Master Servicing Plan/WALK

Hi Jen,

My name is Madeline McFadden, and I am a Regulations Officer at Saugeen Valley Conservation Authority. Thank you for the opportunity to review and comment on the Water, Wastewater and Stormwater Master Servicing Plan proposal, for Walkerton.

It appears that the proposed works are located within the SVCA's Regulated Area and a permit will be required from SVCA before works may commence. I may need to arrange for a site visit, so that I can inspect the area of the proposed works. This would help me determine whether the proposal meets SVCA's policies and regulations for approval, and under what conditions a permit can be issued. I will continue my review of the proposal and reach out with any questions and/or comments.

*SVCA staff cannot guaranteed that written comments will be submitted to the Project Team by January 8th, 2024.*

Please let me know if you have any questions at this time.

Regards,

**Madeline McFadden**, Regulations Officer
1078 Bruce Rd 12, PO Box 150
Formosa, ON NOG 1W0
Cell: 519-373-4849
Email: m.mcfadden@svca.on.ca
www.saugeenconservation.ca

1078 Bruce Road 12 | P.O. Box 150 | Formosa ON
Canada | N0G 1W0 | 519-364-1255
www.saugeenconservation.ca
publicinfo@svca.on.ca

# Environmental Planning and Regulations Department

The Environmental Planning and Regulations Department of Saugeen Valley Conservation Authority (SVCA) looks at and approves projects that are in certain natural areas or close to them. This is done to keep people and property safe, prevent dangerous situations due to natural hazards, and protect the local ecosystem. SVCA does this by managing its own Regulation under the *Conservation Authorities Act*, playing a part in the review of applications under the *Planning Act*, and giving feedback on other matters as a commenting agency.

## SVCA's Regulation

If you are planning to do any work within or near a watercourse, shoreline, wetland, valley land, erosion prone areas, or floodplain, you may need a permit from SVCA. Saugeen Conservation administers Ontario Regulation 169/06, also known as SVCA's Development, Interference with Wetlands, and Alterations to Shorelines and Watercourses Regulation. This regulation requires a landowner to gain permission from SVCA before starting a project in one of these regulated areas, and to follow the terms laid out in any permit received.

Features considered to be regulated by SVCA include (but are not limited to):

- hazardous lands (lands unsafe for development due to flooding, erosion, dynamic beaches, or unstable soils or bedrock);
- rivers and inland lakes;
- wetlands and the areas around them;
- shorelines; and
- valleys and steep slopes.

These features and the lands next to them, ranging from 15 meters to 120 meters away, are considered regulated areas.

A permit would likely be required if the following activities were part of a project proposed in a regulated area:

- construction, reconstruction, or placing a building or structure of any kind;
- any change to a building or structure that alters the use or potential use;
- increasing the size or number of dwelling units of a building or structure;
- site grading;
- temporarily or permanently placing, dumping, or removing of any material, originating on the site or elsewhere; and/or
- straightening, diverting, or changing a river, creek, stream, drain, or wetland in any way.

### Is Your Property Regulated?

You can see if your property is in SVCA's areas of interest by looking at our online mapping. When you open the map, you should see two areas: one is called SVCA Approximate Regulated Area, which is yellow, and the other is called SVCA Approximate Screening Area, which is teal. If your proposal falls within either of these areas of interest, permission may be needed to move ahead with your project.

It is important to note that SVCA's online mapping is just a tool, and there may be regulated areas on your property that are not shown on the mapping.

Use SVCA's online mapping tool:

www.saugeenconservation.ca/map

### Unauthorized activities / Enforcement

Unauthorized activities done in an SVCA regulated area without obtaining SVCA permission or activities that do not follow the terms outlined in an SVCA permit, could be considered a violation of Ontario Regulation 169/06. A violation will not be considered resolved until all parts of the violation are fixed to the satisfaction of SVCA. If a violation is not resolved, SVCA may take the matter to court through legal action.

## Environmental Planning

Saugeen Conservation is involved in reviewing natural hazards for planning applications in Ontario, under Section 3.1 of the Provincial Policy Statement. Municipalities and counties must send certain planning applications to Saugeen Conservation, including land divisions, zoning changes, and plans for subdivisions. While Saugeen Conservation gives recommendations on natural hazards, it's the local municipality or county that makes the final decision on *Planning Act* applications.

### Pre-Consultation

When planning your project, it is important to consult with your local municipality or county and SVCA early in the process. Doing so can help you save both time and money. When a project must follow the rules of both the *Planning Act* and SVCA's Regulation, it is important to have an early discussion, called pre-consultation, with both groups.

SVCA strongly recommends you first get approval from your municipality or county for your *Planning Act* application before applying for your permit from SVCA. The *Planning Act* natural hazard policies may be more limiting than SVCA's policies made under Ontario Regulation 169/06. By doing this, you can help make sure your project goes more smoothly.

## Where Do You Start?

To find out if SVCA has interest in your proposal, you may reach out to our Resources Information Technician. Email: planning@svca.on.ca or call 519-364-1255 ext. 243. You could also fill out and submit a Planning Inquiry Form on our website.

To submit an inquiry form, or for more information, please visit:
www.saugeenconservation.ca/plan

This handout is a summary only. For the full text of the Regulation and related information, reference should be made to Ontario Regulation 169/06, as amended and *the Conservation Authorities Act, R.S.O 1990, Chap. C.27, Section 28*.

Date revised: June 13th, 2023.

# SVCA Watershed Map


This handout is a summary only. For the full text of the Regulation and related information, reference should be made to Ontario Regulation 169/06, as amended and *the Conservation Authorities Act, R.S.O 1990, Chap. C.27, Section 28*.

Date revised: June 13th, 2023.

**County of Bruce Transportation & Environmental Services Department**
30 Park Street, P.O. Box 398, Walkerton, ON N0G 2V0
(519) 881-2400 Fax (519)507-3030

**brucecounty.on.ca**

January 8, 2024

Nicholas Schnurr
Director of Operations
Municipality of Brockton

Re: Municipality of Brockton - Master Servicing Plan Comments

The Transportation and Environmental Services department received a notice regarding the Master Servicing Plan in the Municipality of Brockton and the following comments are listed below.

- The County would prefer to provide input on the proposed infrastructure improvements within Bruce County's Jurisdiction/Right of Way. (Example: Watermain, Sanitary Sewer/ Forcemain, Stormwater)
- The County would prefer to be notified if any traffic studies have been completed or are planned to be included in the Master Servicing Plan.
- The County would prefer to have further communication as the Master Servicing Plan Progresses.

Regards,

Ryan Errington,
Engineering Manager, Transportation & Environmental Services

**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 28, 2023

Nicholas Schnurr
Director of Operations
Municipality of Brockton
nschnurr@brockton.ca

BY EMAIL ONLY

Re: **Master Servicing Plan**
**Municipality of Brockton**
**Municipal Class Environmental Assessment, Master Plan (Phases 1-2)**
**Acknowledgement of Notice of Commencement**

Dear Nicholas Schnurr,

This letter is in response to the Notice of Commencement for the above noted Master Plan. The Ministry of the Environment, Conservation and Parks (MECP) acknowledges that the Municipality of Brockton (proponent) has indicated that the study is following the approved environmental planning process for a Master Plan following Phases 1-2 (Approach #1) under the Municipal Class Environmental Assessment (Class EA).

The **updated (August 2022)** attached "Areas of Interest" document provides guidance regarding the ministry's interests with respect to the Class EA process. Please address all areas of interest in the EA documentation at an appropriate level for the EA study. Proponents who address all the applicable areas of interest can minimize potential delays to the project schedule. **Further information is provided at the end of the Areas of Interest document relating to recent changes to the Environmental Assessment Act through Bill 197, Covid-19 Economic Recovery Act 2020.**

The Crown has a legal duty to consult Aboriginal communities when it has knowledge, real or constructive, of the existence or potential existence of an Aboriginal or treaty right and contemplates conduct that may adversely impact that right. Before authorizing the projects identified in this Master Plan, 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 Master Plan projects 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 projects**, 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 Master Plan projects:

- Saugeen First Nation and the Chippewas of Nawash Unceded First Nation - these communities work together on consultation issues and are known collectively as the Saugeen Ojibway Nation. They have requested notices be sent to the Saugeen Ojibway Nation Environment Office with a copy to the Chief and Council of Saugeen First Nation and Chippewas of Nawash Unceded First Nation.

- Métis Nation of Ontario- Lands and Resources Dept, Region 7
    - MNO Georgian Bay Métis Council (please cc Métis Nation of Ontario (MNO) Lands, Resources and Consultations Branch)

Steps that the proponent may need to take in relation to Aboriginal consultation for the proposed projects 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 after 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 projects 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 based on impacts to Aboriginal or treaty rights

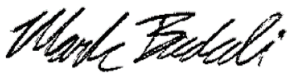
The MECP will then assess the extent of any Crown duty to consult for the circumstances and will consider whether additional steps should be taken, including what role you will be asked to play should additional steps and activities be required.

---

**Please ensure a copy of the final notice is sent to the ministry's Southwestern Region EA notification email account (eanotification.swregion@ontario.ca).**

Should you or any members of your project team have any questions regarding the material above, please contact me at mark.badali1@ontario.ca.

Sincerely,



Mark Badali
Senior Project Evaluator
Environmental Assessment Program Support, Environmental Assessment Branch

Cc: John Ritchie, Manager, Owen Sound District Office, MECP
Jen Swiger, Project Engineer and GIS Specialist, GM BluePlan Engineering Limited
Andrea Nelson, Senior Hydrogeologist and Environmental Planner, GM BluePlan Engineering Limited

Enclosed: Areas of Interest

Attached: Client's Guide to Preliminary Screening for Species at Risk

A Proponent's Introduction to the Delegation of Procedural Aspects of Consultation with Aboriginal Communities

**AREAS OF INTEREST (v. August 2022)**

*It is suggested that you check off each section after you have considered / addressed it.*

**Planning and Policy**

- Applicable plans and policies should be identified in the report, and the proponent should describe how the proposed Master Plan projects adhere to the relevant policies in these plans.
    - Projects located in MECP Central, Eastern or West Central Region may be subject to **A Place to Grow: Growth Plan for the Greater Golden Horseshoe (2020)**.
    - Projects located in MECP Central or Eastern Region may be subject to the **Oak Ridges Moraine Conservation Plan (2017)** or the **Lake Simcoe Protection Plan (2014)**.
    - Projects located in MECP Central, Southwest or West Central Region may be subject to the **Niagara Escarpment Plan (2017)**.
    - Projects located in MECP Central, Eastern, Southwest or West Central Region may be subject to the **Greenbelt Plan (2017)**.
    - Projects located in MECP Northern Region may be subject to the **Growth Plan for Northern Ontario (2011).**

- 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 sdvhould describe how the proposed projects are 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 these Master Plan projects are occurring within a vulnerable area, proponents can use Source Protection Information Atlas, which is an online mapping tool available to the public. 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 these Master Plan projects, 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 these projects if not already advised.**

- If a quantitative Air Quality Impact Assessment is not required for a 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, for projects located in Central Region you may consider the provisions of the Rouge Park Management Plan if applicable.

**Species at Risk**

- The Ministry of the Environment, Conservation and Parks has now assumed responsibility of Ontario's Species at Risk program. Information, standards, guidelines, reference materials and technical resources to assist you are found at https://www.ontario.ca/page/species-risk.

- The Client's Guide to Preliminary Screening for Species at Risk (Draft May 2019) has been attached to the covering email for your reference and use. Please review this document for next steps.

- For any questions related to subsequent permit requirements, please contact SAROntario@ontario.ca.

**Surface Water**

- The report must include enough information to demonstrate that there will be no negative impacts on the natural features or ecological functions of any watercourses within the study area. Measures should be included in the planning and design process to ensure that any impacts to watercourses from construction or operational activities (e.g. spills, erosion, pollution) are mitigated as part of the proposed undertaking.

- Additional stormwater runoff from new pavement can impact receiving watercourses and flood conditions. Quality and quantity control measures to treat stormwater runoff should be considered for all new impervious areas and, where possible, existing surfaces. The ministry's Stormwater Management Planning and Design Manual (2003) should be referenced in the report and utilized when designing stormwater control methods. **A Stormwater Management Plan should be prepared as part of the Class EA process** that includes:

    - Strategies to address potential water quantity and erosion impacts related to stormwater draining into streams or other sensitive environmental features, and to ensure that adequate (enhanced) water quality is maintained
    - Watershed information, drainage conditions, and other relevant background information
    - Future drainage conditions, stormwater management options, information on erosion and sediment control during construction, and other details of the proposed works
    - Information on maintenance and monitoring commitments.

- Ontario Regulation 60/08 under the *Ontario Water Resources Act* (OWRA) applies to the Lake Simcoe Basin, which encompasses Lake Simcoe and the lands from which surface water drains into Lake Simcoe. If the proposed sewage treatment plant is listed in Table 1 of the regulation, the report should describe how the proposed Master Plan projects 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 Master Plan projects involve 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 Master Plan projects.

- 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 Master Plan projects. 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 Master Plan 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**

- 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).**

- 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 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.

The public can request a higher level of assessment on any of the Schedule B or Schedule C projects identified in the Master Plan 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(s) 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(s).

Therefore, the proponent cannot proceed with the Master Plan projects 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(s).

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 of the Environment, Conservation and Parks
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

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).

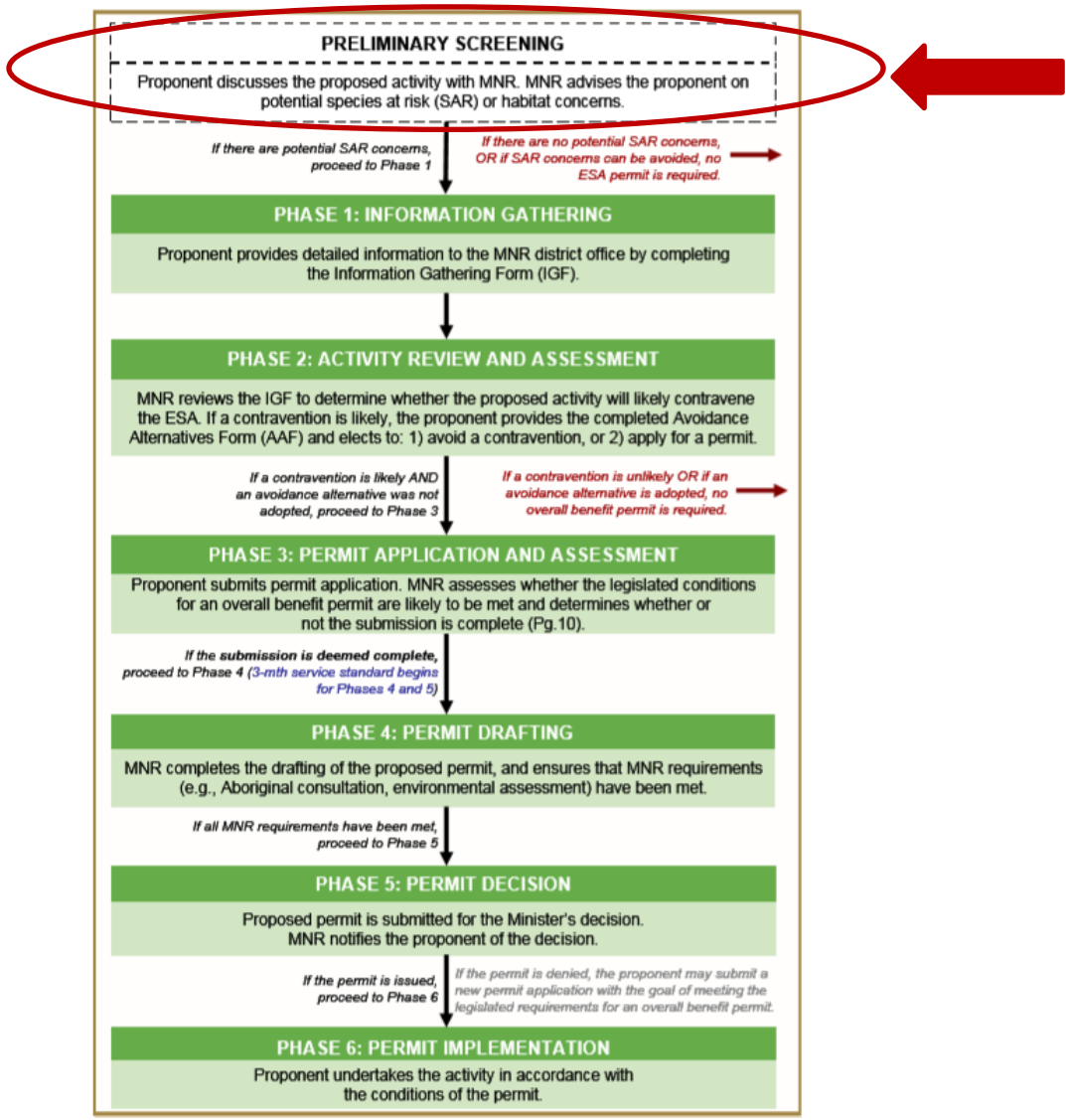
**To provide the most efficient service, clients should initiate species at risk screenings and seek information from all applicable information sources identified in this guide, at a minimum, prior to contacting Government of Ontario ministry offices for further information or advice.**

### 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):_____

  _____

## Drea Nelson - GM BluePlan

**Subject:** FW: [EXT] FW: 223075 Notice of Master Plan: Master Servicing Plan (Version 2-Draft) - Town of Walkerton (Municipality of Brockton)

**From:** Mott, Ken (OMAFRA) <ken.mott@ontario.ca>
**Sent:** Wednesday, February 14, 2024 12:37 PM
**To:** Southern Region Planning Inbox (MNRF) <sr.planning@ontario.ca>
**Cc:** Drea Nelson - GM BluePlan <Drea.Nelson@gmblueplan.ca>
**Subject:** [EXT] FW: 223075 Notice of Master Plan: Master Servicing Plan (Version 2-Draft) - Town of Walkerton (Municipality of Brockton)

EXTERNAL EMAIL

Hi Drea,
Please note that I have a new position and I'd ask that all MNRF correspondence be sent to SR.planning@ontario.ca

Thanks for your attention to this
Ken

_____
Ken Mott
Rural Planner - Land Use Policy and Stewardship
OMAFRA
Ken.mott@ontario.ca
(613) 290-9112
Our working hours may be different. Please do not feel you need to reply outside your normal working hours.

-----Original Message-----
From: Drea Nelson - GM BluePlan <Drea.Nelson@gmblueplan.ca>
Sent: February 13, 2024 3:07 PM
To: Nicholas Schnurr <nschnurr@brockton.ca>
Cc: Jen Swiger - GM BluePlan <Jen.Swiger@gmblueplan.ca>
Subject: 223075 Notice of Master Plan: Master Servicing Plan (Version 2-Draft) - Town of Walkerton (Municipality of Brockton)

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Good Afternoon,

The Municipality of Brockton is continuing to advance a Water, Wastewater, and Stormwater Master Servicing Plan for the community of Walkerton to establish a preferred servicing strategy that meets existing needs and supports projected growth and expansion of the community's urban boundary. The Master Servicing Plan is being prepared following Phases 1 and 2 of the Municipal Class Environmental Assessment (Class EA) as outlined in the Municipal Class Environmental Assessment Manual prepared by the Municipal Engineers Association (2023). The Master Plan is intended to follow Approach #1 of the Master Planning process (Appendix 4, MCEA Manual 2023), which involves the completion of a Master Plan document. The overall intent of the Plan is to complete a broad level of assessment that identifies projects that are exempt (or eligible for exemption) from the Environmental Assessment Act and can be used as support

## Drea Nelson - GM BluePlan

**Subject:** FW: [EXT] Master Servicing Plan (Version 2-Draft) - Town of Walkerton (Municipality of Brockton)

**From:** Coordinator LRC HSM <hsmlrcc@bmts.com>
**Sent:** Wednesday, February 21, 2024 11:23 AM
**To:** nschnurr@brockton.ca; Jen Swiger - GM BluePlan <Jen.Swiger@gmblueplan.ca>
**Subject:** [EXT] Master Servicing Plan (Version 2-Draft) - Town of Walkerton (Municipality of Brockton)

**EXTERNAL EMAIL**

**Town of Walkerton Projects**

**RE: Master Servicing Plan Draft 2**

The Historic Saugeen Métis (HSM) Lands, Waters and Consultation Department has reviewed the second draft of the Brockton Master Servicing Plan. HSM has no objections and is satisfied with this draft.

Thank you for the opportunity to review the most recent draft.

Regards,

Georgia McLay

Coordinator, Lands, Waters & Consultation
Historic Saugeen Métis
204 High Street
Southampton, ON
saugeenmetis.com
519.483.4000

## Drea Nelson - GM BluePlan

**Subject:** FW: [EXT] RE: 223075 Municipality of Brockton; Notice of Master Plan; Master Servicing Plan (Version 2-Draft) - Town of Walkerton (Municipality of Brockton)

**From:** Macki, Monika (MECP) <monika.macki@ontario.ca>
**Sent:** Monday, March 04, 2024 11:13 AM
**To:** Drea Nelson - GM BluePlan <Drea.Nelson@gmblueplan.ca>
**Cc:** Nicholas Schnurr <nschnurr@brockton.ca>; Jen Swiger - GM BluePlan <Jen.Swiger@gmblueplan.ca>
**Subject:** [EXT] RE: 223075 Municipality of Brockton; Notice of Master Plan; Master Servicing Plan (Version 2-Draft) - Town of Walkerton (Municipality of Brockton)

**EXTERNAL EMAIL**

Thank you for sending the Notice of Master Plan. I can confirm it was received.

Thank you,

**Monika Macki**
Environmental Resource Planner/Assessment Coordinator
Environmental Assessment Branch
Ministry of the Environment, Conservation and Parks
monika.macki@ontario.ca

**From:** Drea Nelson - GM BluePlan <Drea.Nelson@gmblueplan.ca>
**Sent:** Tuesday, February 13, 2024 3:05 PM
**To:** Badali, Mark (He/Him) (MECP) <Mark.Badali1@ontario.ca>; EA Notices to SWRegion (MECP) <eanotification.swregion@ontario.ca>; Environmental Permissions (MECP) <enviropermissions@ontario.ca>; MEA Notices to Director EAAB (MECP) <MEANOTICESEAAB@ontario.ca>; Species at Risk (MECP) <SAROntario@ontario.ca>
**Cc:** Nicholas Schnurr <nschnurr@brockton.ca>; Jen Swiger - GM BluePlan <Jen.Swiger@gmblueplan.ca>
**Subject:** 223075 Municipality of Brockton; Notice of Master Plan; Master Servicing Plan (Version 2-Draft) - Town of Walkerton (Municipality of Brockton)

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Good Afternoon,

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The Municipality initiated the project in 2023, with a Notice of Project Commencement issued on November 30th, 2023. A Public Information Centre (PIC No.1) for this project was held on December 12th, 2023. The Master Servicing Plan (Version 2-Draft), updated to address comments received, is available for review and can be accessed/saved by clicking on the link below. This link will be valid for 20 days. The *Notice of Master Plan* is attached.
https://sendafile.gmblueplan.ca/uploads/02-12-24_211740_Walkerton_Master_Servicing_Plan_(V2_Draft_-_February_13__2024).pdf

Alternatively, the Municipality of Brockton also has the Master Servicing Plan (Version 2-Draft) posted on a project website where project information will be made available as the study progresses.
https://buildyourbrockton.ca/waterwastewatermasterplan

With the circulation of the *Notice of Master Plan* and associated documentation, the public, stakeholders, agencies and Indigenous Communities are invited to provide comments for incorporation into the Plan. We request that you provide comments by **March 15th, 2024**. The Master Servicing Plan will subsequently be presented to Council for approval (or otherwise).

If you have any questions or comments regarding this project, please contact Nicholas Schnurr, Director of Operations, Municipality of Brockton and/or Jen Swiger at GM BluePlan Engineering. Contact information is provided in the attached Notice.

Best Regards,
Andrea Nelson

**Andrea Nelson, M.Sc.**
Project Manager & Environmental Assessment Planner

**GM BluePlan Engineering Limited**
1260-2nd Avenue East | Owen Sound ON N4K 2J3
t: 519.376.1805 ext. 2219 | c: 519.372.4678
andrea.nelson@gmblueplan.ca | www.gmblueplan.ca

## Drea Nelson - GM BluePlan

**From:** Madeline McFadden <m.mcfadden@svca.on.ca>
**Sent:** Tuesday, March 12, 2024 1:26 PM
**To:** Drea Nelson - GM BluePlan
**Cc:** Nicholas Schnurr; Jen Swiger - GM BluePlan; John Slocombe - GM BluePlan; Elise MacLeod; Michael Oberle
**Subject:** [EXT] RE: 223075 Notice of Master Plan: Master Servicing Plan (Version 2-Draft) - Town of Walkerton (Municipality of Brockton)
**Attachments:** SVCA Pre-Consultation: Water, Wastewater and Stormwater Master Servicing Plan/WALK; RE: SVCA Pre-Consultation: Water, Wastewater and Stormwater Master Servicing Plan/WALK

**EXTERNAL EMAIL**

---

Hi Andrea,

Thank you for the opportunity to review and comment on *the Municipality of Brockton - Master Servicing Plan: Town of Walkerton (Version 2 - Draft)*, prepared by GM BluePlan, dated February 13, 2024. At a high level, the *Plan* sets out to develop, evaluate, and select a preferred servicing strategy to support existing servicing needs and projected development within the community of Walkerton to the year 2046. SVCA can provide you with a complete list of permit application requirements upon receipt of a specific development proposal(s). A permit will be required from SVCA should development be proposed within SVCA's Regulated Area.

I appreciate you including SVCA's comments regarding Version 1 of the *Plan,* submitted on December 14, 2023, and January 10, 2024 *(attached), a part of Version 2 of the *Plan*. Please find comments regarding Version 2 of the *Plan*, below:

- Page 42
    - SVCA anticipates changes to the Regulation and Act, on April 1, 2024. However, these changes are not anticipated to impact SVCA's involvement and review of the *Plan*.
- Page 49 – "*Projects occurring within the Source Protection Area, or projects that could impact the delineation of the Source Protection Area, should consider whether Source Water Protection could be an issue, and the SVCA Risk Management Office should be consulted, as appropriate. It is recommended that for projects that fall within or may impact the Source Water Protection Area, consultation with the SVCA Risk Management Office be completed as part of the planning process.*"
    - REVISION - Carl Seider - Risk Management Official (rmo@greysauble.on.ca), should be contacted if the *Plan* falls within or may impact the Source Water Protection Area.
- Page 97 – "*10.1.1. The SVCA provides planning advisory services in the areas of natural hazard planning, natural heritage conservation, and the adequacy of stormwater management plans from the perspective of the SVCA.*"
    - REVISION - SVCA no longer comments on natural heritage. Saugeen Conservation is involved in reviewing natural hazards for planning applications in Ontario, under Section 3.1 of the Provincial Policy Statement. Municipalities and counties must send certain planning applications to Saugeen Conservation, including land divisions, zoning changes, and plans for subdivisions. While Saugeen Conservation gives recommendations on natural hazards, it's the local municipality or county that makes the final decision on Planning Act applications.
- Page 126

    - Please add myself: Madeline McFadden, SVCA - Regulations Officer, m.mcfadden@svca.on.ca, and 519-373-4849, to the Circulation List.
    - Elise MacLeod - SVCA's Water Resources Manager (e.macleod@svca.on.ca/519-377-3694), may have an interest in the *Plan*. Please include Elise MacLeod a part of future circulations.
- Page 198
    - Brandi Walters accepted a one-year secondment at Conservation Ontario. In the interim, Tathum Engineering should alternatively contact Mike Oberle – SVCA's Planning Coordinator, Acting (m.oberle@svca.on.ca/519-373-4175), with any questions or comments related to the 75 Ridout development.
- Page 205
    - REVISION - Carl Seider - Risk Management Official (rmo@greysauble.on.ca), should be contacted if the *Plan* falls within or may impact the Source Water Protection Area.

SVCA looks forward to receiving additional information related to the *Municipality of Brockton - Master Servicing Plan: Town of Walkerton*, as it becomes available.

Regards,

**Madeline McFadden**
*Regulations Officer*
Saugeen Valley Conservation Authority
1078 Bruce Road 12, PO Box 150, Formosa ON N0G 1W0
519-373-4849
m.mcfadden@svca.on.ca
www.saugeenconservation.ca

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**From:** Drea Nelson - GM BluePlan <Drea.Nelson@gmblueplan.ca>
**Sent:** Tuesday, February 13, 2024 3:07 PM
**To:** Nicholas Schnurr <nschnurr@brockton.ca>
**Cc:** Jen Swiger - GM BluePlan <Jen.Swiger@gmblueplan.ca>
**Subject:** 223075 Notice of Master Plan: Master Servicing Plan (Version 2-Draft) - Town of Walkerton (Municipality of Brockton)



Good Afternoon,

The Municipality of Brockton is continuing to advance a Water, Wastewater, and Stormwater Master Servicing Plan for the community of Walkerton to establish a preferred servicing strategy that meets existing needs and supports projected growth and expansion of the community's urban boundary. The Master Servicing Plan is being prepared following Phases 1 and 2 of the Municipal Class Environmental Assessment (Class EA) as outlined in the Municipal Class Environmental Assessment Manual prepared by the Municipal Engineers Association (2023). The Master Plan is intended to follow Approach #1 of the Master Planning process (Appendix 4, MCEA Manual 2023), which involves the completion of a Master

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If you have any questions or comments regarding this project, please contact Nicholas Schnurr, Director of Operations, Municipality of Brockton and/or Jen Swiger at GM BluePlan Engineering. Contact information is provided in the attached Notice.

Best Regards,
Andrea Nelson

**Andrea Nelson, M.Sc.**
Project Manager & Environmental Assessment Planner

**GM BluePlan Engineering Limited**
1260-2nd Avenue East | Owen Sound ON N4K 2J3
t: 519.376.1805 ext. 2219 | c: 519.372.4678
andrea.nelson@gmblueplan.ca | www.gmblueplan.ca

# APPENDIX F:
# PUBLIC INFORMATION CENTRE NO.1 – PRESENTATION MATERIALS

# Master Servicing Plan for the Town of Walkerton

## Public Information Centre
## Presentation to Council

Tuesday December 12, 2023

Brockton
Come home to community

BluePlan ENGINEERING

Why are we here?

# Public Information Centre (PIC)

## Key Dates

### December 12, 2023

PIC materials posted to project webpage:
https://buildyourbrockton.ca/waterwastewatermasterplan

### December 12 to January 8, 2024

If you have any questions or wish to provide your input, please speak with one of the project team members, and/or contact the Project Manager at nschnurr@brockton.ca

### Mid-February 2024

The Master Servicing Plan, updated to reflect comments and new information received, will be made available for review and comment.

## Public Information Centre (PIC) Objectives

**Present the study area and objectives.**

**Present the environmental assessment process.**

**Present environmental and technical background relevant to the development of servicing alternatives.**

**Receive feedback on the study process and servicing opportunities and constraints.**

What is this study about?

# Background and Study Purpose

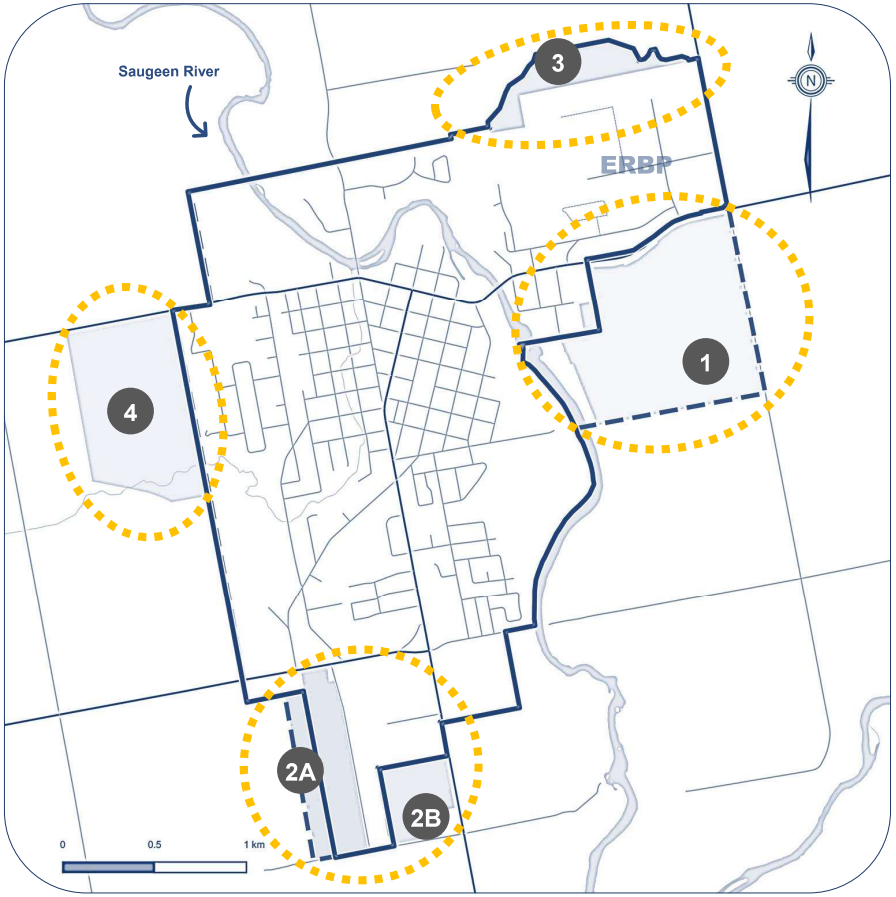

The Municipality of Brockton has initiated the **Master Servicing Plan** to develop and evaluate water, wastewater, and stormwater servicing strategies through the Class EA process to meet forecast population and employment growth for the Town of Walkerton.

## Project Objectives

1. Assess and evaluate the existing infrastructure system conditions to determine the feasibility of servicing additional development areas.
2. Develop a management plan that outlines the short-term and long-term system maintenance and upgrade (i.e., capacity) needs.
3. Identify the infrastructure requirements needed to support Walkerton's population and employment forecasts to the year 2046.

Why is this study being conducted?

# Managing and Servicing Future Growth




## Planning for Future Servicing Upgrades and Needs

**Growth Pressures**

**Limited Land Supply**

**Additional Potential Development Areas**

### Problem and Opportunity Statement

To undertake a comprehensive Master Servicing Plan for water, wastewater and stormwater to identify the current capacity of the existing systems and to clearly define the infrastructure requirements needed to support the community of Walkerton's population and employment growth forecasts to the year 2046.

The Master Servicing Plan is intended to be the foundation document and roadmap for implementing cost-effective, safe, reliable, and efficient servicing strategies required to support the Municipality's long-term development and growth.

How is this study being conducted?

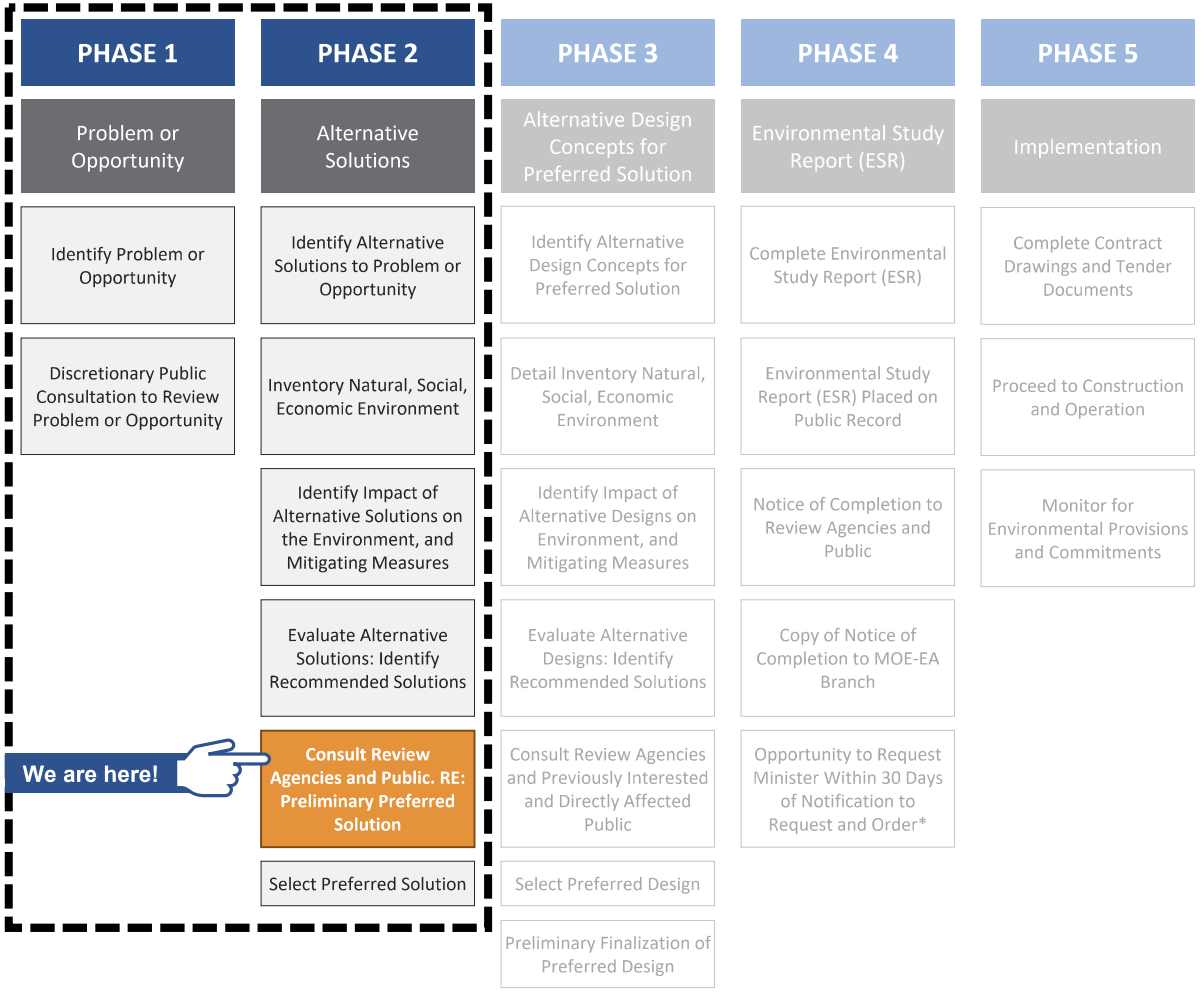
# Municipal Class Environmental Assessment Process

The Municipal Class Environmental Assessment (MCEA) process is a decision-making process that all Ontario municipalities follow for rehabilitating and building new public infrastructure.

The **Brockton Municipal Servicing Master Plan** is following the Class Environment Assessment (EA) process for Master Plans and will satisfy Phases 1 and 2 of the Class EA process (October 2000, as amended in 2007, 2011, 2015, and 2023).

**Phase 1** of the MCEA process focuses on the development of a problem / opportunity statement to be addressed by the project.

**Phase 2** will evaluate alternatives and present the recommended servicing solution for water, wastewater and stormwater infrastructure and the proposed capital program. **This is where we are now.**



What is being considered?

# Key Issues and Considerations

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**Can the option be technically constructed?**

**Is there already existing infrastructure nearby?**


**What options have higher operations and maintenance costs?**

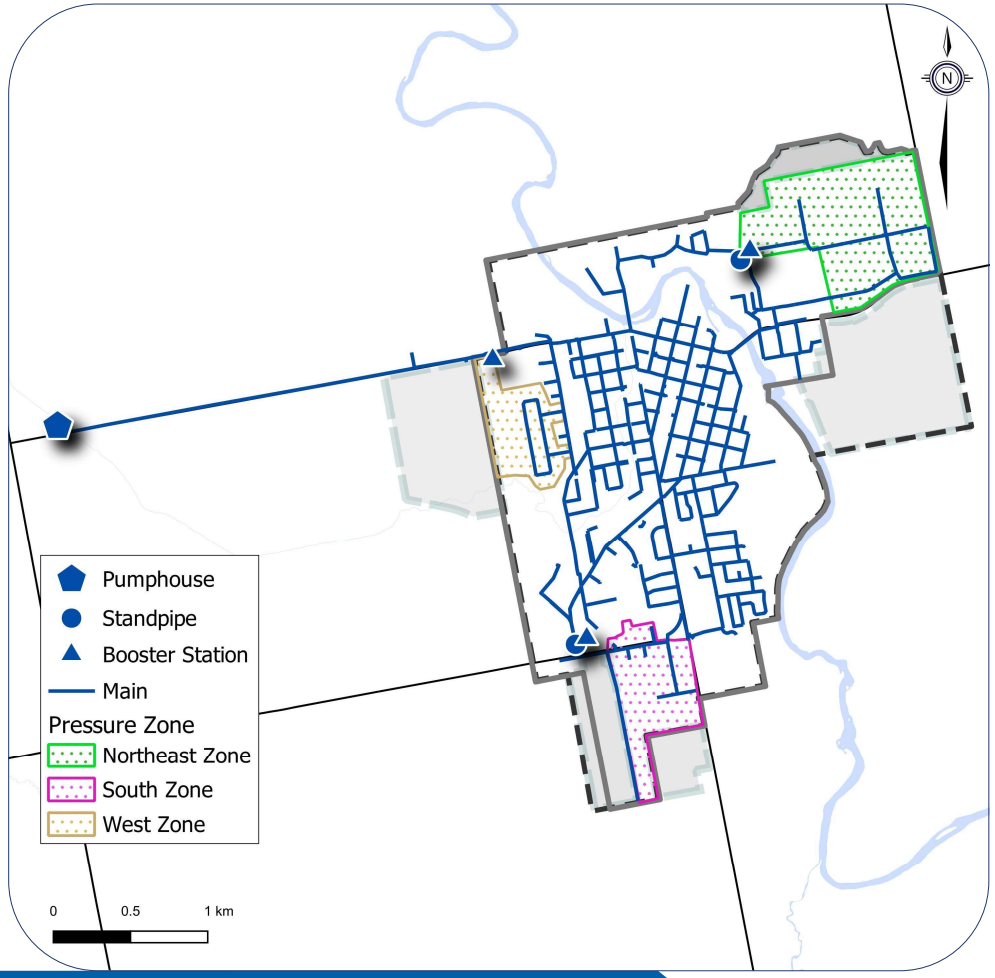
**Who pays for growth - related capital costs?**


**Are there sensitive environmental features to consider or avoid?**

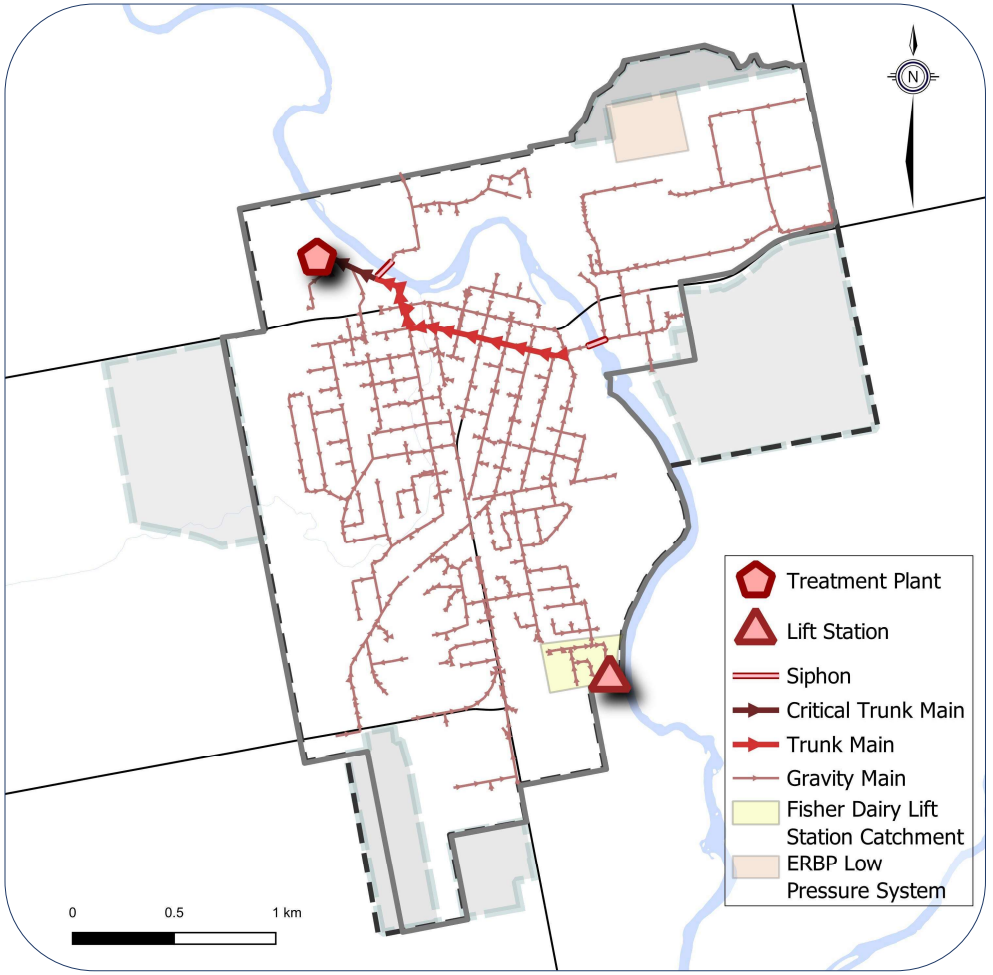

**Are there sensitive archaeologically or culturally significant features to consider or avoid?**

# Existing Infrastructure System Evaluation

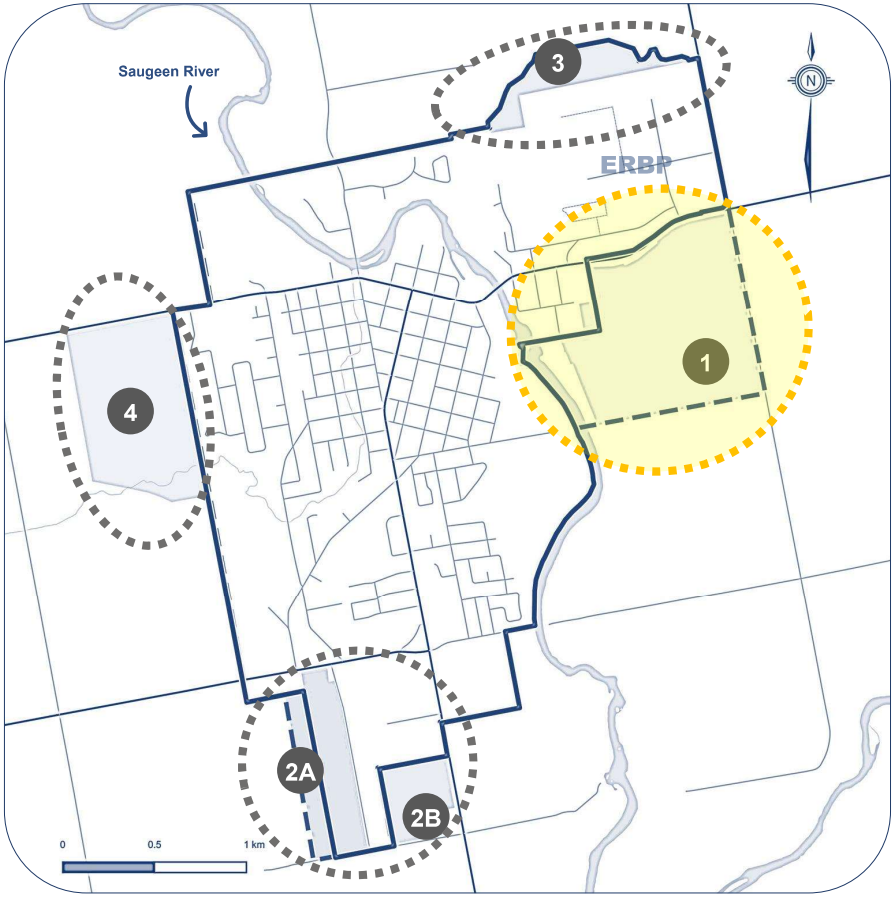
## Water System




## Wastewater System



# Existing Infrastructure System Evaluation




## Area 1

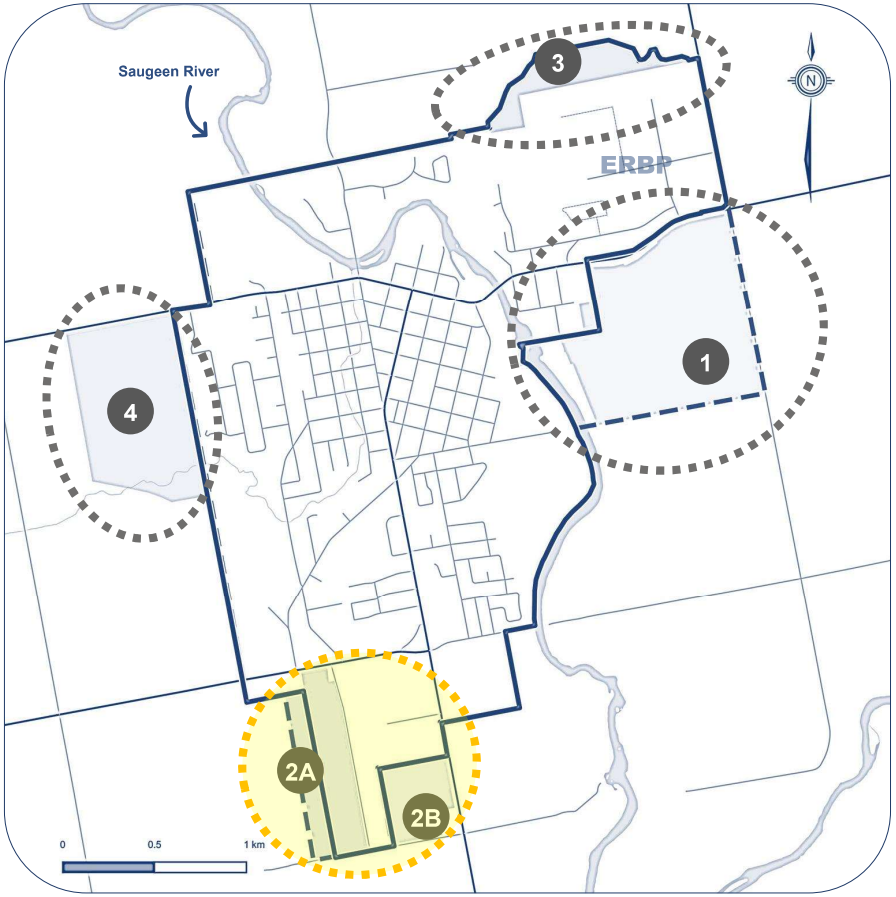
**Population:** 2,000 Persons (Estimated)
**Estimated Development Area:** 53.6 hectares
**Type of Development:** Residential and Employment
**Status:** Proposed Expansion Area
**Development Phasing Recommended**

**System Evaluation**

- Water System: There is sufficient fire flow, water storage, water supply, and water treatment capacity to service this area.
- Wastewater System: There is sufficient capacity for wastewater conveyance and treatment to service this area.
- Stormwater System: Stormwater may be coordinated in the Secondary Plan or addressed by lot-level controls.

**Difficulty to Service:** Easy to Moderate
**Capital Cost:** $2M to $3M

# Existing Infrastructure System Evaluation




## Area 2A and 2B

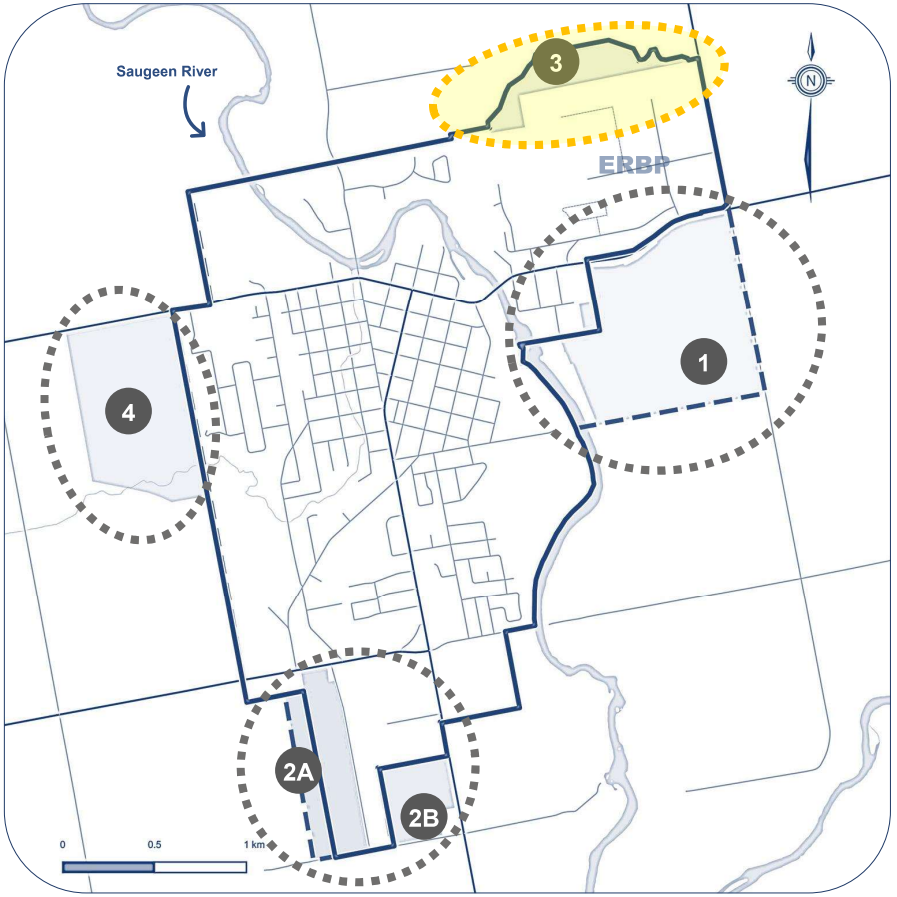
**Population:** 1,600 Persons (Estimated)
**Estimated Development Area:** 41.8 hectares
**Type of Development:** Residential
**Status:** 2A Proposed Expansion Area ; 2B - Potential Future Expansion Area
**Development Phasing Recommended**

**System Evaluation**

- Water System: There is insufficient fire flow in areas 2A and 2B. However, there is sufficient water storage, water supply, and water treatment capacity to service areas 2A and 2B.
- Wastewater System: There is sufficient capacity for wastewater conveyance and treatment. However, wastewater trunk extension may be required to service this area.
- Stormwater System: Municipally-owned stormwater management facilities prior to conveyance within the receiving drainage system.

**Difficulty to Service: Most Complex**
**Capital Cost:** $2M to $4M

# Existing Infrastructure System Evaluation




## Area 3

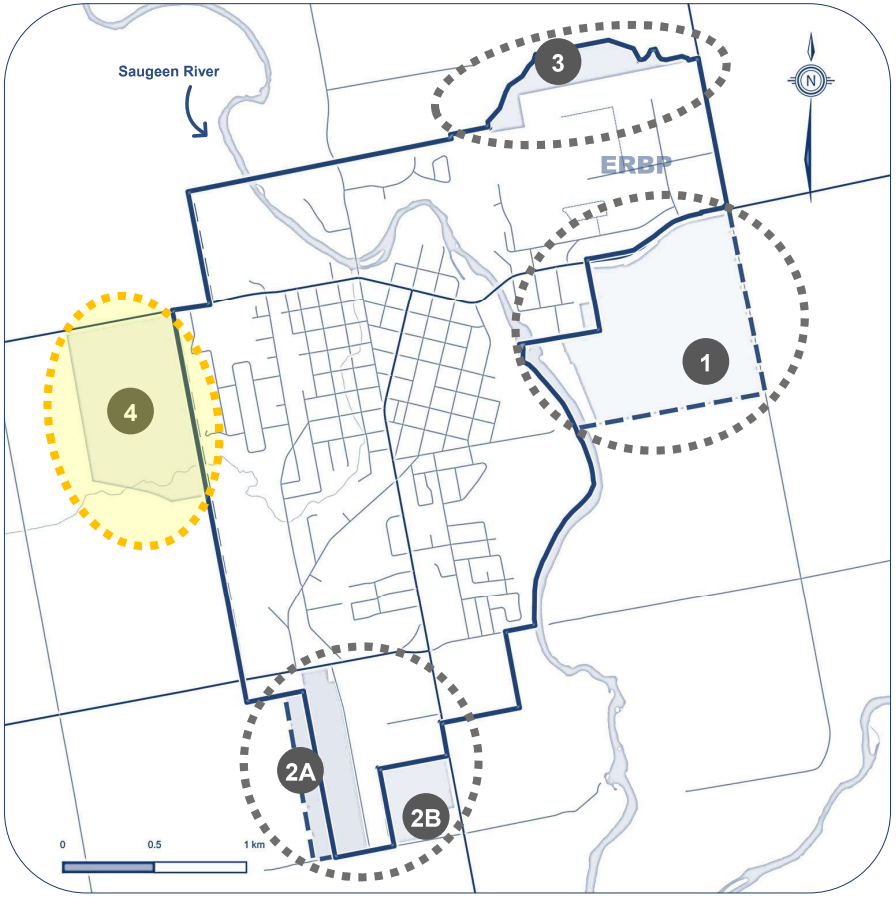
**Population:** 500 Persons (Estimated)
**Estimated Development Area:** 12.6 hectares
**Type of Development:** Employment
**Status:** Approved Expansion Area
**Single Development Phase Recommended**

**System Evaluation**

- Water System: There is sufficient fire flow, water storage, water supply, and water treatment capacity to service this area.
- Wastewater System: There is sufficient capacity for wastewater conveyance and treatment to service this area.
- Stormwater System: Either municipally-owned stormwater management facility or on-site stormwater management facilities prior to conveyance to the receiving system.

**Difficulty to Service:** Easiest
**Capital Cost:** Negligible

# Existing Infrastructure System Evaluations




## Area 4

**Population:** 2,000 Persons (Estimated)
**Estimated Development Area:** 53.5 hectares
**Type of Development:** Residential
**Status:** Potential Future Expansion Area
**Development Phasing Recommended**

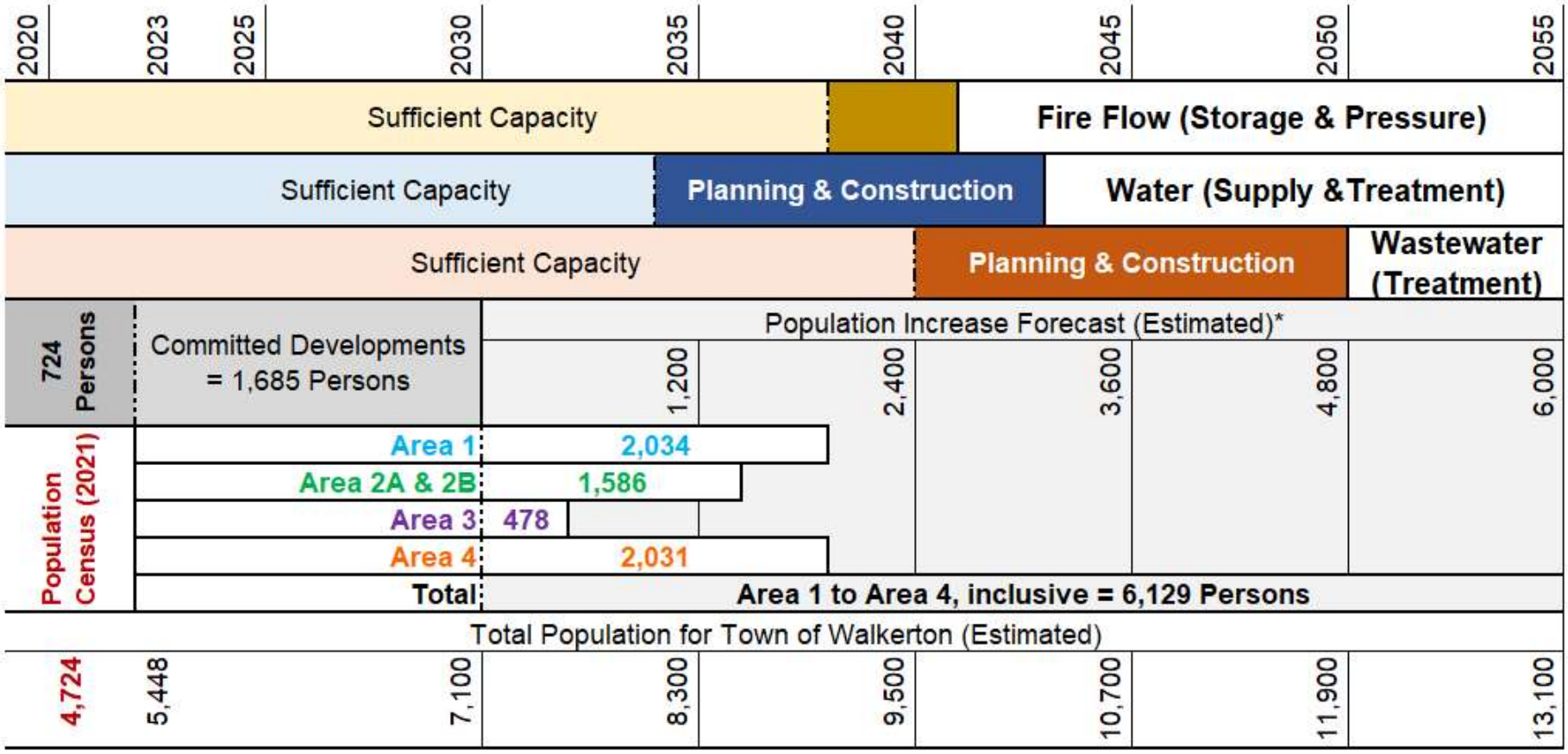
**System Evaluation**

- Water System: There is insufficient fire flow. However, there is sufficient water storage, water supply, and water treatment capacity to service this area.
- Wastewater System: There is sufficient capacity for wastewater conveyance and treatment. However, wastewater trunk extension may be required to service this area.
- Stormwater System: Municipally-owned stormwater management facilities prior to conveyance within the receiving drainage system.

**Difficulty to Service: Most Complex**
**Capital Cost:** $2M to $4M

What are the servicing needs?

# Comparison and Timeline




*Population projected based on a development rate of approximately 240 persons per year (or 95 Equivalent Residential Units annually)

## Recommendations

- Consider recommendations provided in the Infiltration and Inflow Study (B.M. Ross, April 2023) including continued efforts to locate contributing locations and CCTV investigations
- Educational Program on Water Usage
- Master Servicing Plan update every 5 years (next one recommended for 2029)
- South Pressure Zone: Storage and Pressure Study: Prior to development in Area 2A & 2B
- Financial Considerations: Equitable division of costs for expansion of facilities (e.g., a Development Charges Background Study)

Thank you!

# Stay Engaged!

## What are we doing next?

- Receive comments until **January 8, 2024**.
- Following the comment period, the project team will update the Master Servicing Plan to incorporate new information and comments received
- Circulate Notice of Master Plan and post updated Master Servicing Plan for review for a period of 30 days
- Finalize Master Servicing Plan and Present to Council

**Please provide comments by January 8, 2024**

**Nicholas Schnurr, C.E.T., rcsi**
Director of Operations, Municipality of Brockton
100 Scott Street
Walkerton, ON N0G 2V0
519-881-2223 ext. 134
nschnurr@brockton.ca

**Jen Swiger, P.Eng.**
Project Engineer, GM BluePlan Engineering
1260-2nd avenue East, Unit 1
Owen Sound, ON N4K 2J3
519-376-1805
jen.swiger@gmblueplan.ca

Please note that information related to this study will be collected in accordance with the *Freedom of Information and Protection of Privacy Act*. All comments received will become part of the public record and may be included in the study documentation prepared for public review.

If you need any accommodations to provide comments and/or feedback for this study, please contact the Project Manager.

# WALKERTON
# MASTER SERVICING PLAN

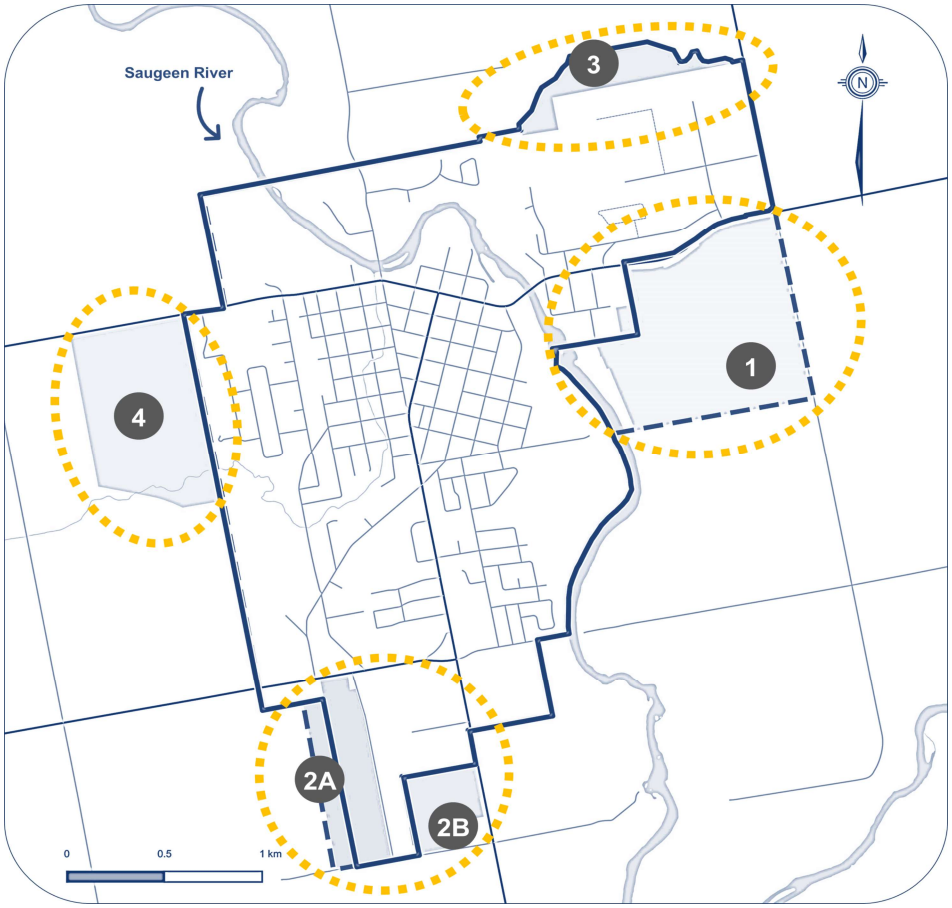
## Problem and Opportunity Statement:

In light of recent development pressures and future development opportunities, specifically the proposed addition of four development areas identified as potential growth locations, the Municipality has identified a need appropriately to plan for future servicing upgrades and needs.

A comprehensive Master Servicing Plan for water, wastewater and stormwater is being undertaken to identify the current capacity of the existing systems and to clearly define the infrastructure requirements needed to support the community of Walkerton's population and employment growth forecasts to the year 2046.

The Master Servicing Plan is intended to be the foundation document and roadmap for implementing cost-effective, safe, reliable, and efficient servicing strategies required to support the Town's long-term development and growth.

## POTENTIAL DEVELOPMENT AREAS

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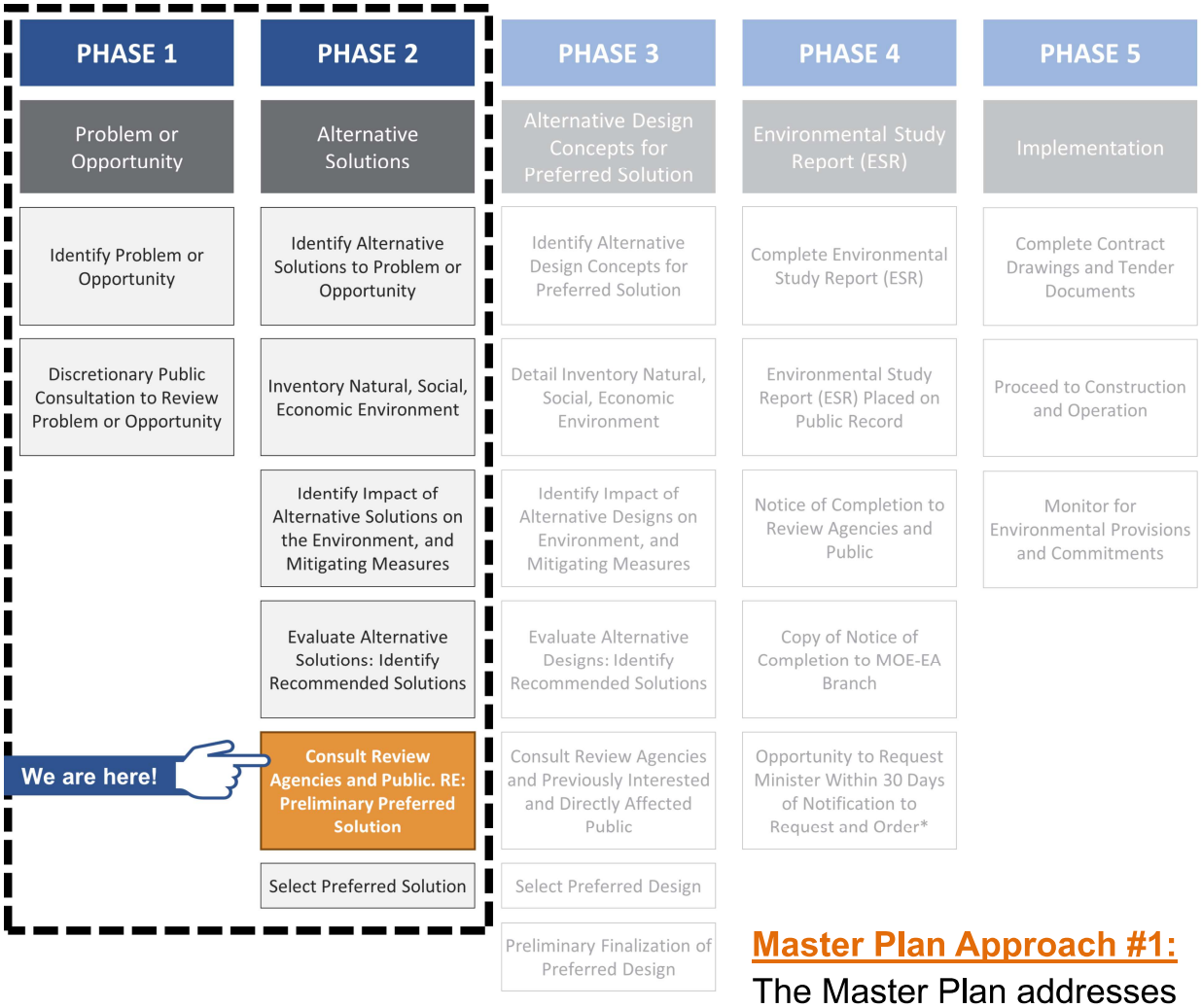
# MUNICIPAL CLASS EA PROCESS




**Master Plan Approach #1:**

The Master Plan addresses Phases 1 and 2 of the EA Process

## Study Purpose:

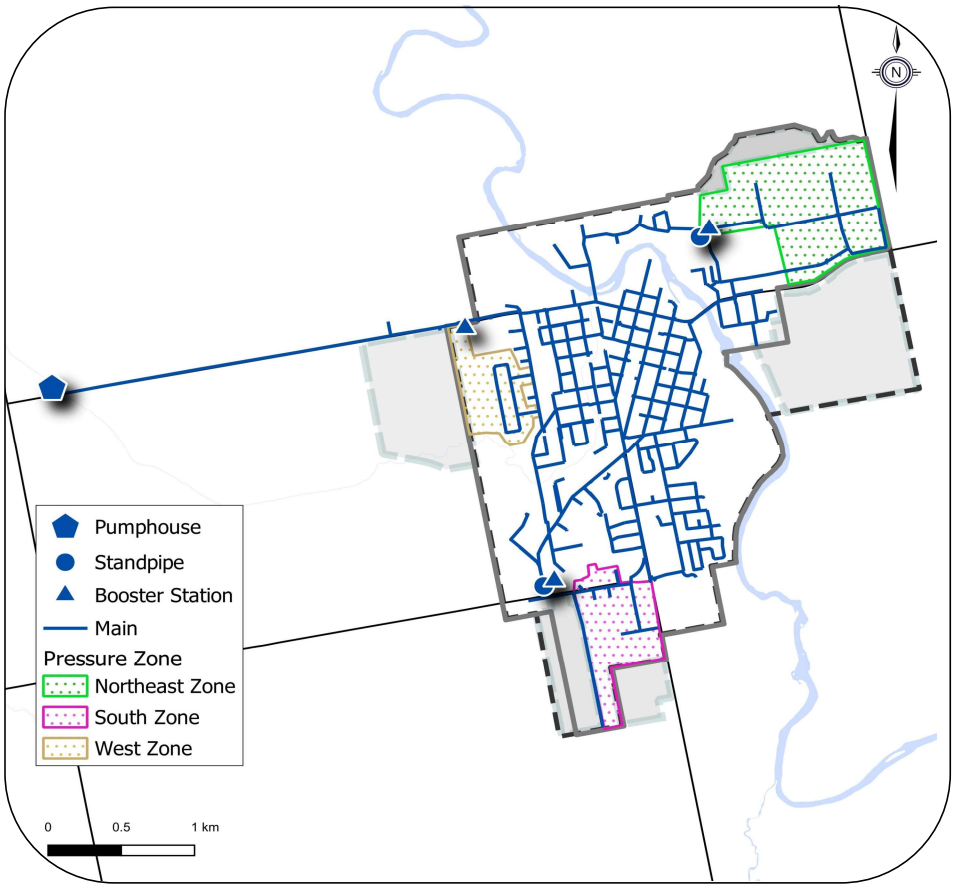
To develop and evaluate water, wastewater, and stormwater servicing strategies required to meet Walkerton's forecast population and employment growth.

## Objectives:

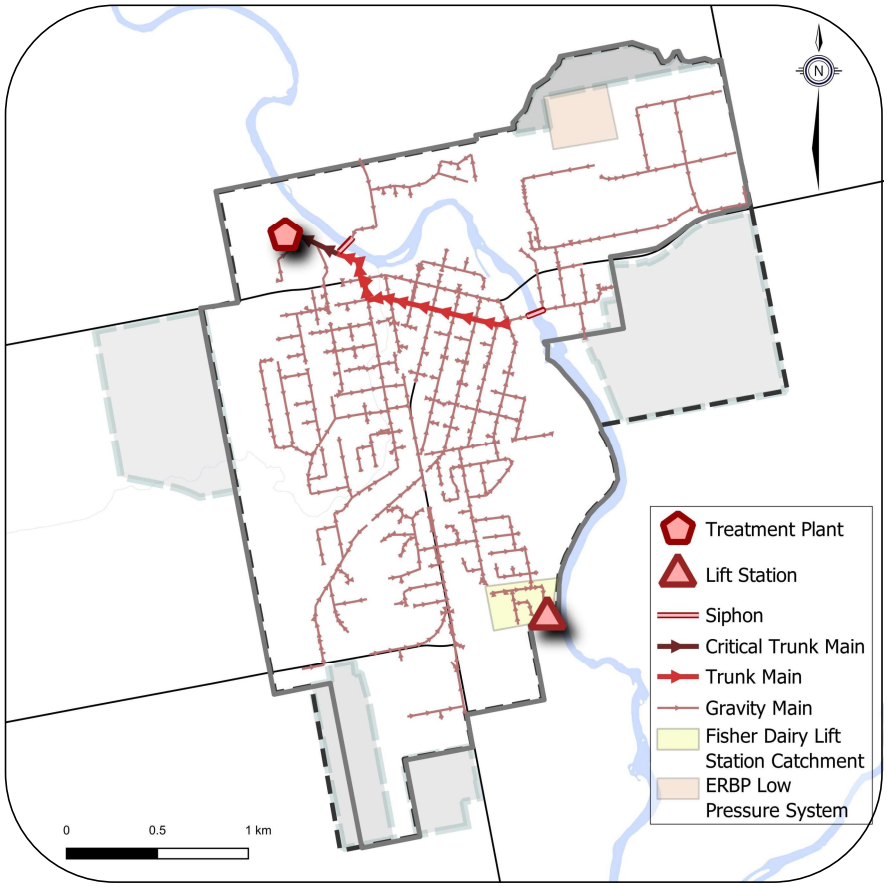
1. Assess and evaluate the existing infrastructure system conditions and capacity to determine the feasibility of servicing additional development areas.
2. Develop a management plan that outlines the short-term and long-term system maintenance and upgrade (i.e., capacity) needs.
3. Identify the infrastructure requirements needed to support Walkerton's population and employment forecasts to the year 2046.

# EXISTING SERVICES

## Water System




## Wastewater System

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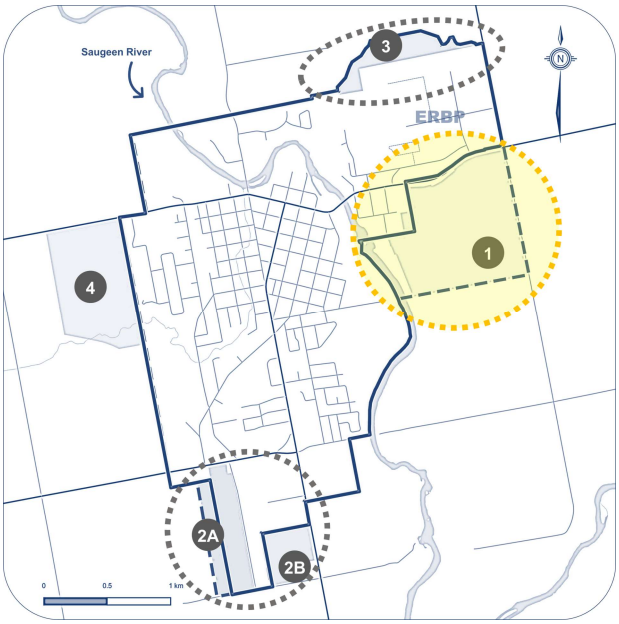
# SYSTEMS EVALUATION

## AREA 1

**Proposed Expansion Area**
**Residential and Business Lands**




**Population Forecast = 2,034**
**Developable Area = 53.6 hectares**

**Water System:** There is sufficient fire flow, water storage, water supply, and water treatment capacity to service this area.

**Wastewater System:** There is sufficient capacity for wastewater conveyance and treatment to service this area.

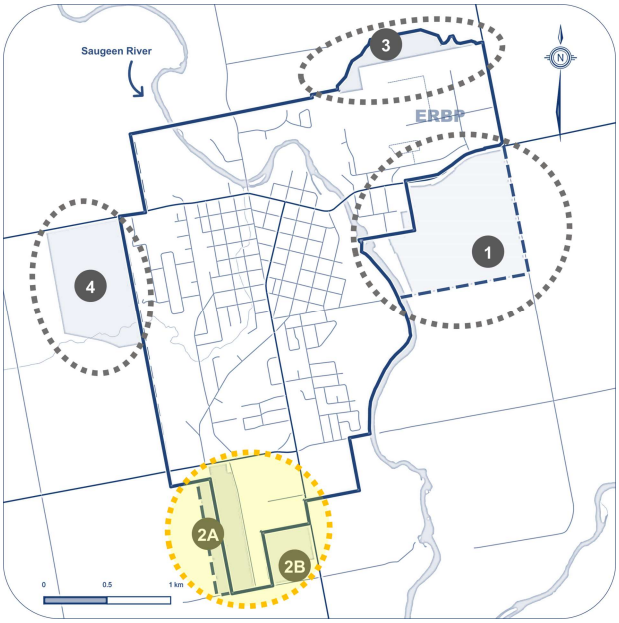
**Stormwater System:** May be coordinated in the Secondary Plan or addressed by lot-level controls.

- Development Phasing Recommended -

**Level of Difficulty: Easy to Moderate**

## AREA 2A & 2B

**2A: Proposed Expansion Area**
**2B: Potential Future Expansion Area**
**Residential Lands**




**Population Forecast = 1,586**
**Developable Area = 41.8 hectares**

**Water System:** There is insufficient fire flow. However, there is sufficient water storage, supply, and treatment capacity. Recommendation: Complete a Storage and Pressure Study (South Pressure Zone).

**Wastewater System:** There is sufficient capacity for wastewater conveyance and treatment. However, wastewater trunk extension may be required.

**Stormwater System:** Municipally-owned stormwater management facilities prior to conveyance within the receiving system.

- Development Phasing Recommended -

**Level of Difficulty: Most Complex**

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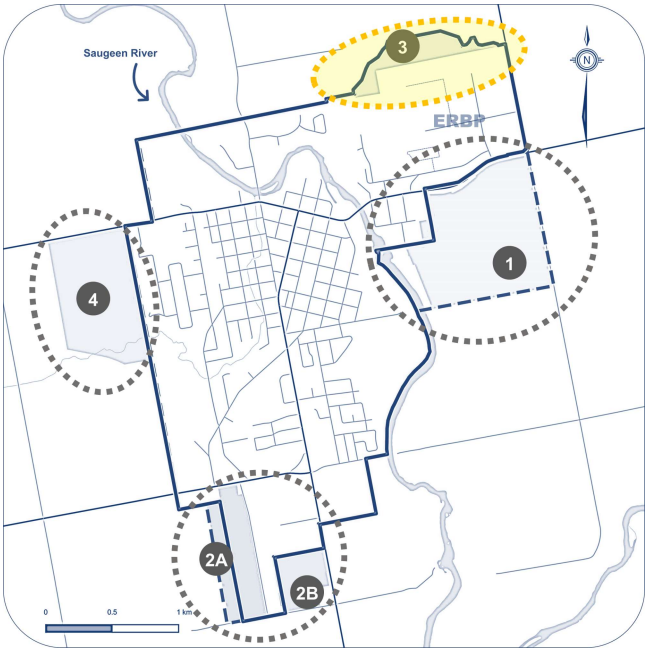
# SYSTEMS EVALUATION

## AREA 3

**Approved Expansion Area**
**Business Lands**




**Level of Difficulty: Easiest**

**Population Forecast = 478**
**Developable Area = 12.6 hectares**

**Water System:** There is sufficient fire flow, water storage, water supply, and water treatment capacity to service this area.

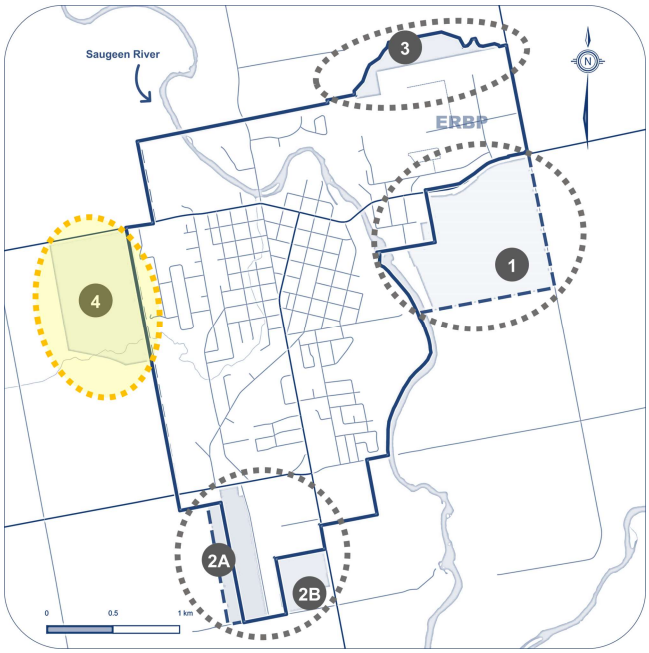
**Wastewater System:** There is sufficient capacity for wastewater conveyance and treatment to service this area.

**Stormwater System:** Either municipally-owned stormwater management facility or on-site stormwater management facilities prior to conveyance to the receiving system.

- Single Development Phase Recommended -

## AREA 4

**Potential Future Expansion Area**
**Residential Lands**




**Level of Difficulty: Most Complex**

**Population Forecast = 2,031**
**Developable Area = 53.5 hectares**

**Water System:** There is insufficient fire flow. However, there is sufficient water storage, supply, and treatment capacity to service this area.

**Wastewater System:** There is sufficient capacity for wastewater conveyance and treatment. However, wastewater trunk extension may be required.

**Stormwater System:** Municipally-owned stormwater management facilities prior to conveyance within the receiving system.

- Development Phasing Recommended -

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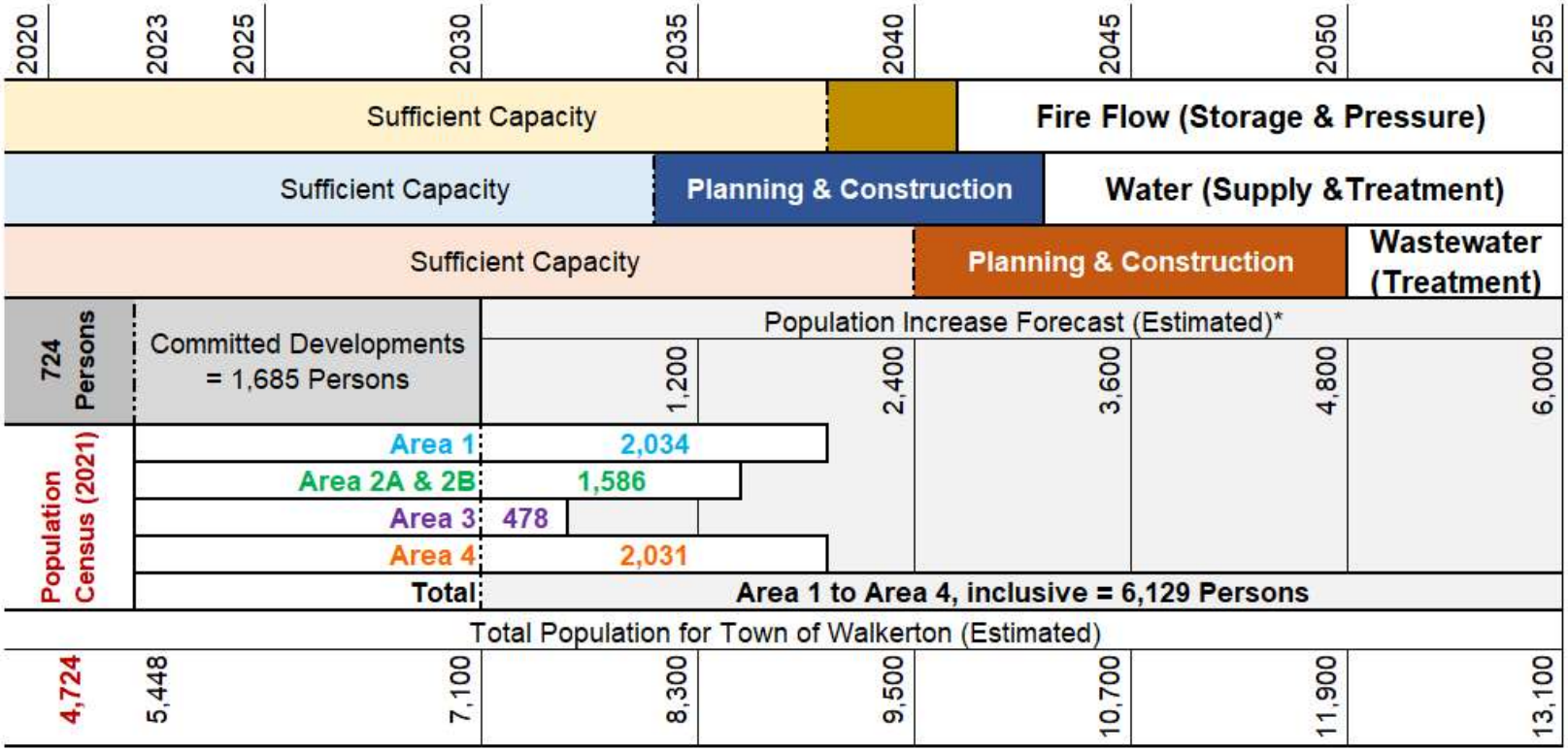
# WATER AND WASTEWATER SYSTEMS




*Population projected based on a development rate of approximately 240 persons per year (or 95 Equivalent Residential Units annually)

## - YOUR FEEDBACK IS IMPORTANT -

Please provide comments by completing a comment sheet or by submitting comments via mail or email to:


Municipality of Brockton
**Nicholas Schnurr, C.E.T., rcsi.**
Director of Operations
nschnurr@brockton.ca

GM BluePlan Engineering
**Jen Swiger, P.Eng.**
Project Manager
jen.swiger@gmblueplan.ca


**Please Provide Comments By:**
**January 8th, 2024**

With the exception of personal information, comments will become part of the public record of the study*

# APPENDIX G:
# PRESENTATION TO COUNCIL

# Master Servicing Plan for the Town of Walkerton

## Presentation to Council

Tuesday April 9, 2024

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GEI Consultants

BluePlan ENGINEERING

Why are we here?

# Presentation to Council

## Presentation Objectives

**Present the study area and objectives.**

**Present the environmental assessment process.**

**Present environmental and technical background relevant to the development of servicing alternatives.**

**Receive Council approval for the Master Servicing Plan.**

# Consultation

## November 30th, 2023

Notice of Study Commencement Issued

Master Servicing Plan (Version 1) posted on project website

## December 12th, 2023

Public Open House and Presentation to Council

## January 8th, 2024

End of Comment Period (Public and Agency)

## February 13th, 2024

Notice of Master Plan Issued

Master Servicing Plan (Version 2-Draft) posted on project website

## March 15th, 2024

End of Comment Period (Public and Agency)

What was this study about?

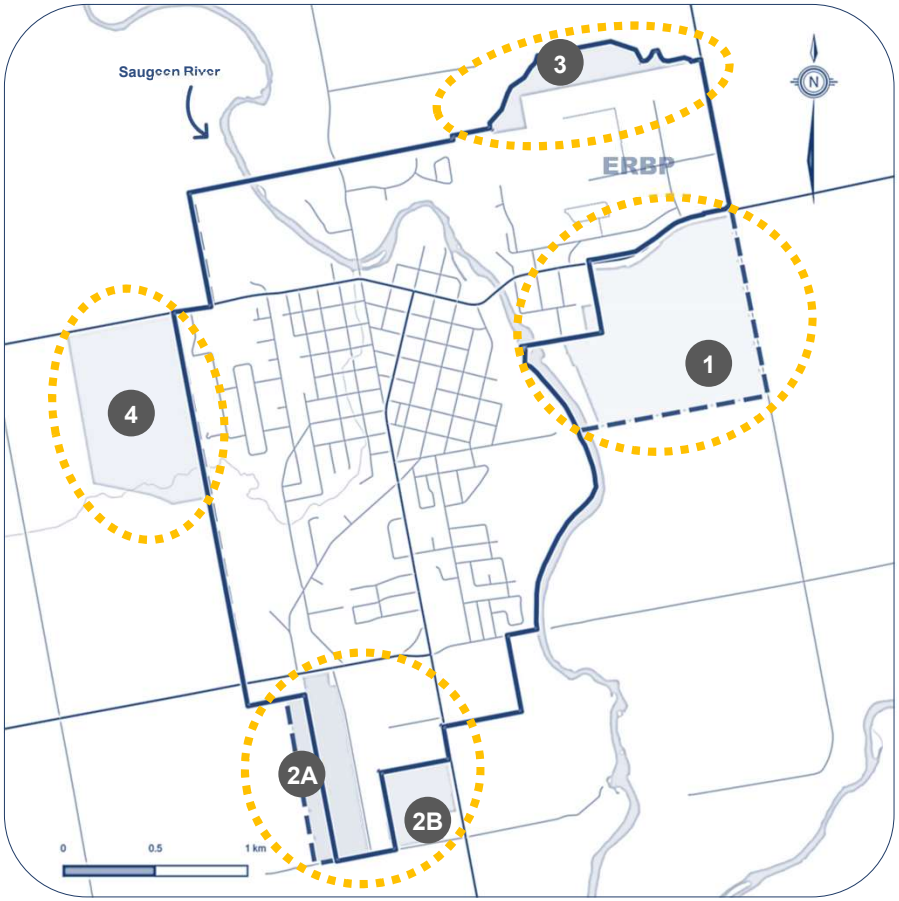
# Background and Study Objectives


The **Master Servicing Plan** develops water, wastewater, and stormwater servicing strategies required to meet Walkerton's forecast population and employment growth.

## Project Objectives

1. Review existing infrastructure condition and capacity.
2. Develop a management plan outlining short- and long-term system maintenance and upgrade needs.
3. Identify infrastructure needs required to support Walkerton's growth forecasts.
4. Review infrastructure improvements that may be necessary to provide adequate servicing to four development areas identified by the Municipality.

# Managing and Servicing Future Growth




## Planning for Future Servicing Upgrades and Needs

**Growth Pressures**

**Limited Land Supply**

**Additional Potential Development Areas**

### Problem and Opportunity Statement

To undertake a comprehensive Master Servicing Plan for water, wastewater and stormwater to identify the current capacity of the existing systems and to clearly define the infrastructure requirements needed to support the community of Walkerton's population and employment growth forecasts to the year 2046.

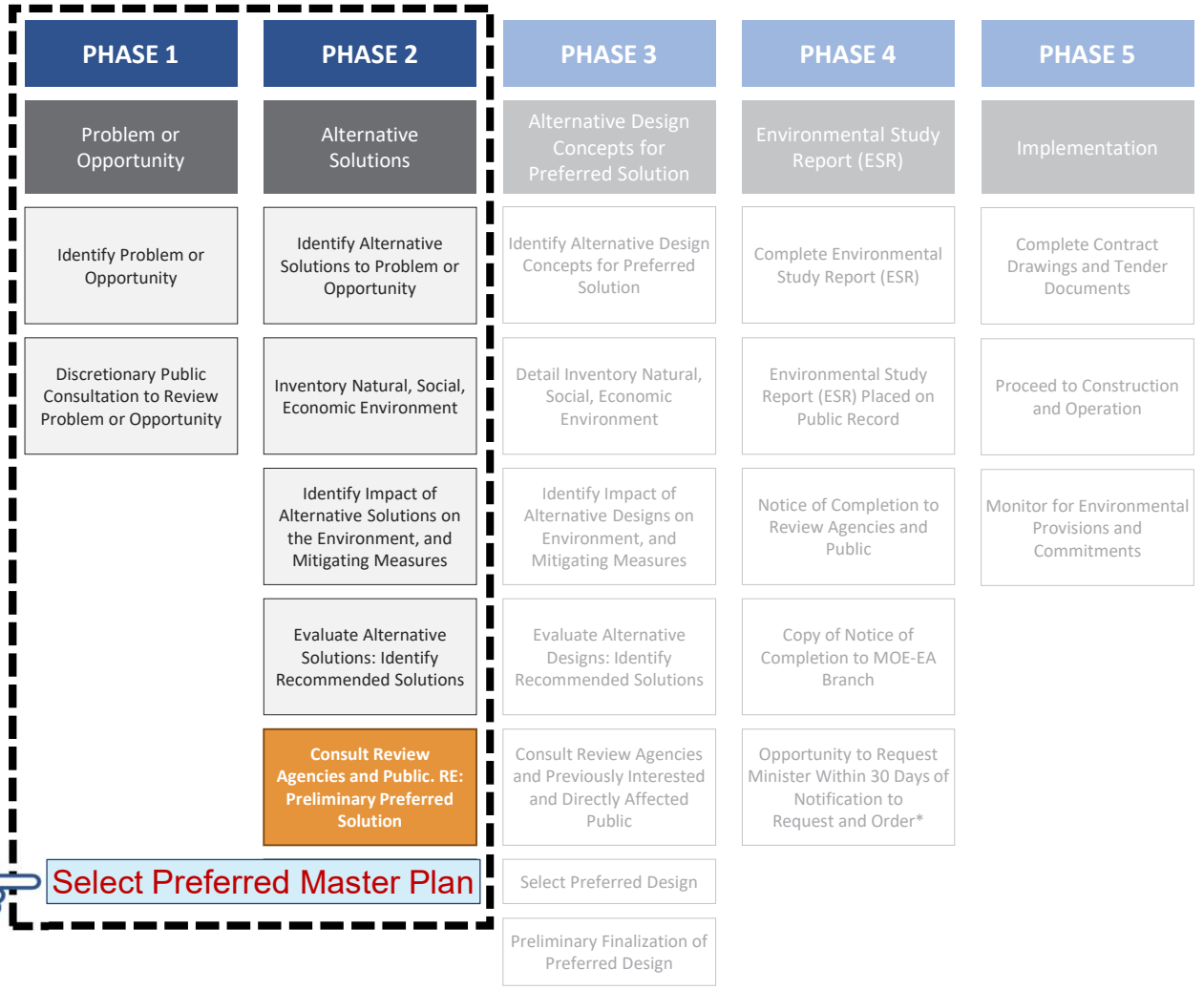
The Master Servicing Plan is intended to be the foundation document and roadmap for implementing cost-effective, safe, reliable, and efficient servicing strategies required to support long-term development and growth.

How was this study conducted?

# Municipal Class Environmental Assessment Process

The Municipal Class Environmental Assessment (Class EA) process is a decision-making process followed for rehabilitating and building new public infrastructure.

The **Master Servicing Plan for Walkerton** followed the Class EA process for Master Plans and satisfied Phases 1 and 2 of the process.



What has been considered?

# Key Issues and Considerations

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**Technical Considerations**

- Can the option be technically constructed?
- Is there already existing infrastructure nearby?

**Environmental Impacts**

- Are there sensitive environmental features to consider or avoid?

**Economic Considerations**

- What options have higher operations and maintenance costs?
- Who pays for growth - related capital costs?

**Social and Cultural Impacts**

- Where are demand or growth pressures today?
- Are there sensitive archaeological resources or culturally significant features to consider or avoid?

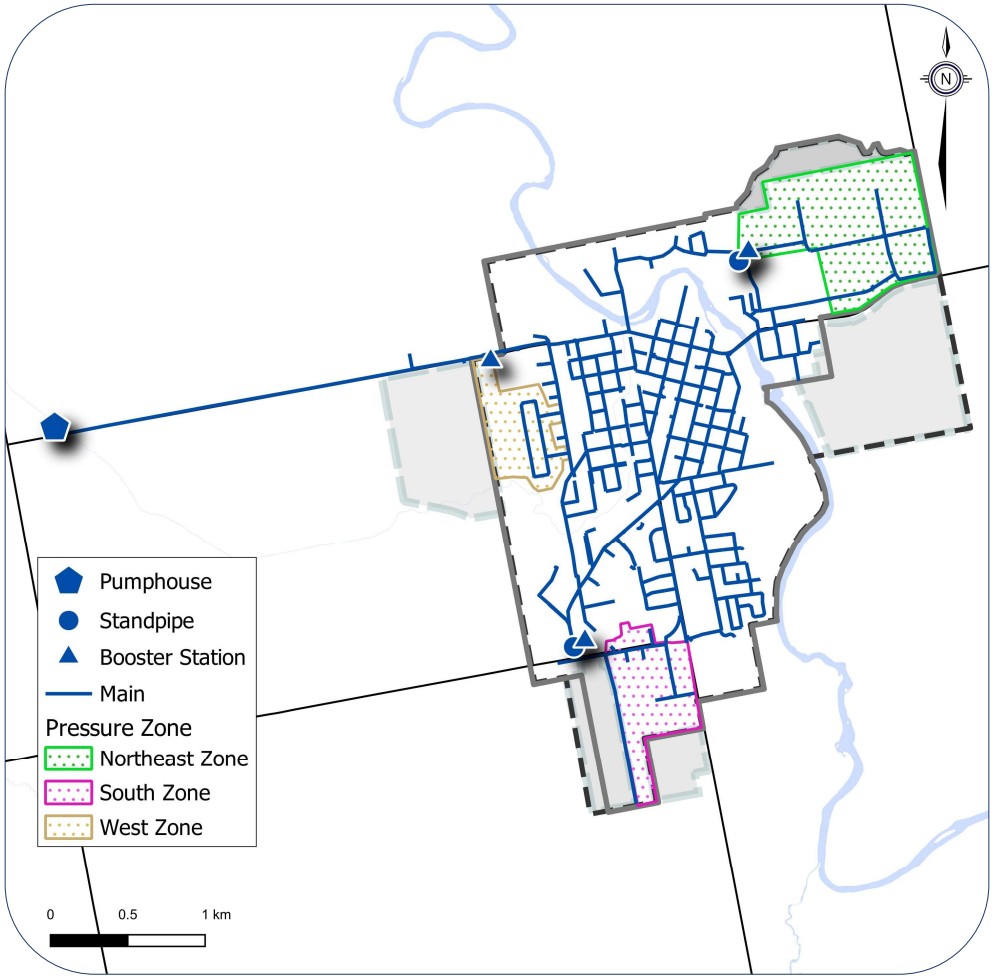
## Consultation Feedback

Existing, but aging, infrastructure near Area 2A increases the priority and value of considering development in Area 2A. Including Area 2A in future studies would allow more water storage alternatives to be explored to facilitate overall growth.

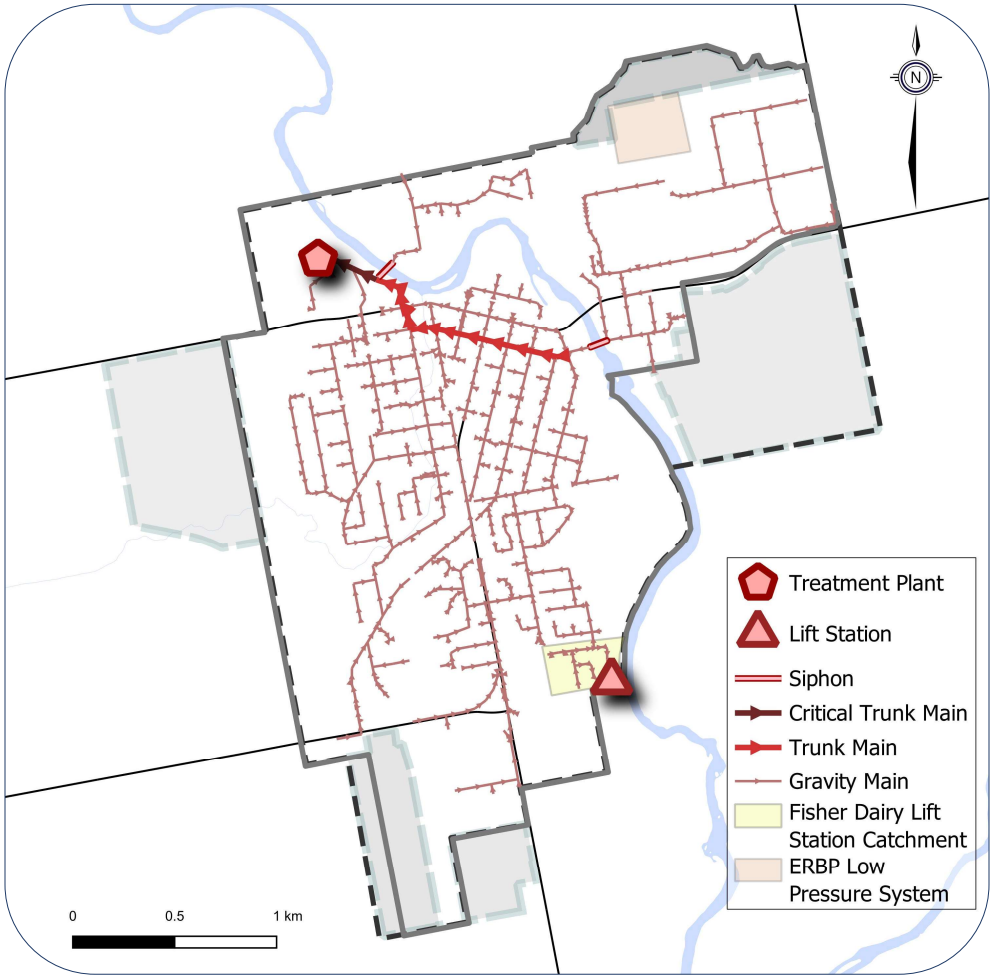
Committed business lands development in the East Ridge Business Park to be included in the capacity projections and timeline.

# Existing Infrastructure System Evaluation

## Water System

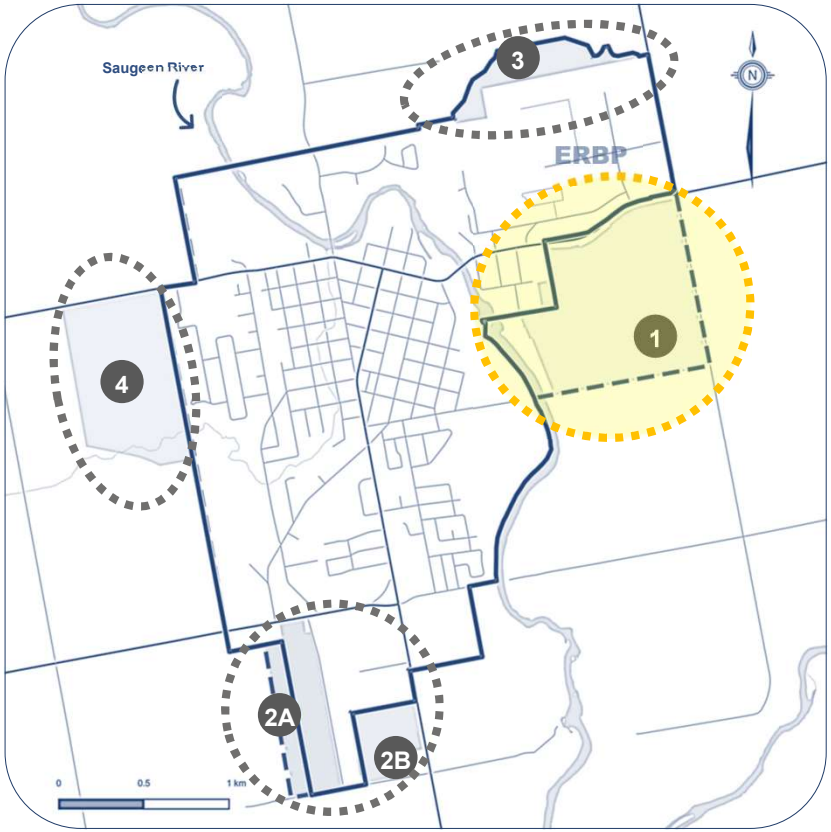



## Wastewater System



# Existing Infrastructure System Evaluation

## Area 1




**Population:** 2,000 Persons (Estimated)

**Estimated Development Area:** 53.6 hectares

**Type of Development:** Residential and Employment

**Status:** Proposed Expansion Area

**Development Phasing Recommended**

### System Evaluation

**Water System:** There is sufficient fire flow, water storage, water supply, and water treatment capacity to service this area.

**Wastewater System:** There is sufficient capacity for wastewater conveyance and treatment to service this area.

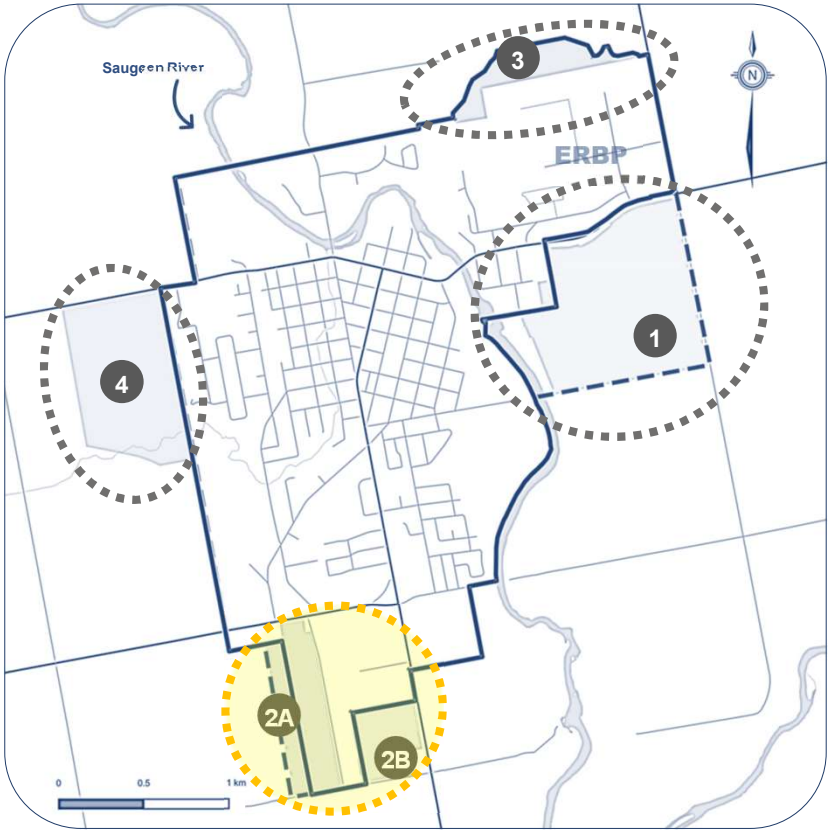
**Stormwater System:** Stormwater may be coordinated in the Secondary Plan or addressed by lot-level controls.

**Difficulty to Service:** **Easy to Moderate**

**Capital Cost:** $2M to $3M

# Existing Infrastructure System Evaluation

## Area 2A and 2B




**Population:** 1,600 Persons (Estimated)

**Estimated Development Area:** 41.8 hectares

**Type of Development:** Residential

**Status: 2A** Proposed Expansion; **2B** Potential Future Expansion

**Development Phasing Recommended**

**System Evaluation**

**Water System:** There is insufficient fire flow in areas 2A and 2B. However, there is sufficient water storage, water supply, and water treatment capacity to service areas 2A and 2B.

**Wastewater System:** There is sufficient capacity for wastewater conveyance and treatment. However, wastewater trunk extension may be required to service this area.

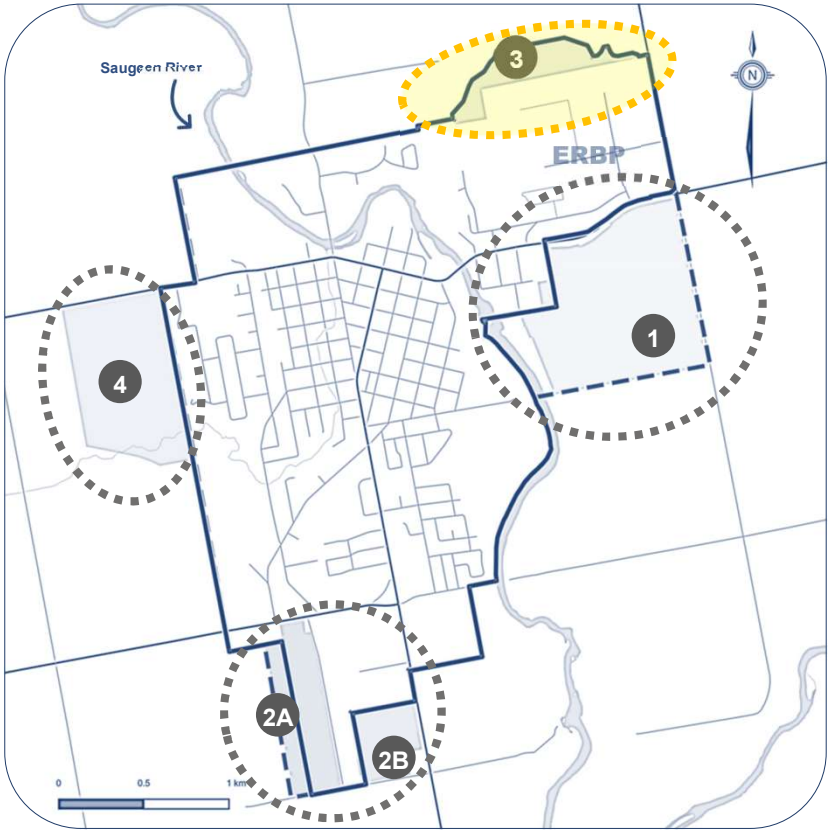
**Stormwater System:** Municipally-owned stormwater management facilities prior to conveyance within the receiving drainage system.

**Difficulty to Service: Moderate**

**Capital Cost:** $2M to $4M

# Existing Infrastructure System Evaluation

## Area 3




**Population:** 500 Persons (Estimated)

**Estimated Development Area:** 12.6 hectares

**Type of Development:** Employment

**Status:** Approved Expansion Area

**Single Development Phase Recommended**

### System Evaluation

**Water System:** There is sufficient fire flow, water storage, water supply, and water treatment capacity to service this area.

**Wastewater System:** There is sufficient capacity for wastewater conveyance and treatment to service this area.

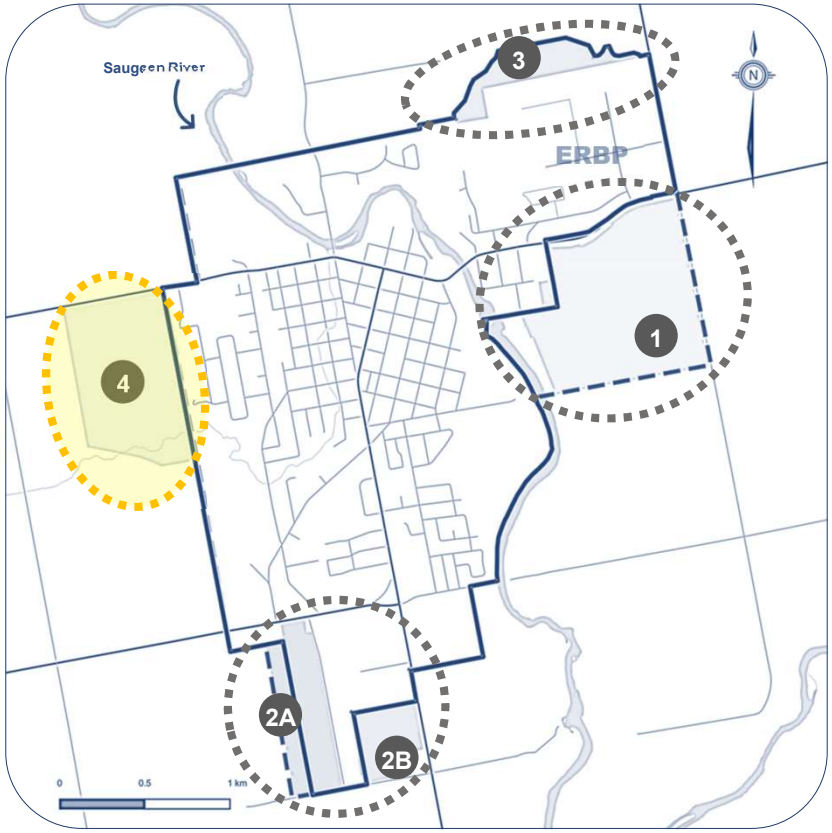
**Stormwater System:** Either municipally-owned stormwater management facility or on-site stormwater management facilities prior to conveyance to the receiving system.

**Difficulty to Service:** **Easiest**

**Capital Cost:** Negligible

# Existing Infrastructure System Evaluations

## Area 4




**Population:** 2,000 Persons (Estimated)

**Estimated Development Area:** 53.5 hectares

**Type of Development:** Residential

**Status:** Potential Future Expansion Area

**Development Phasing Recommended**

### System Evaluation

**Water System:** There is insufficient fire flow. However, there is sufficient water storage, water supply, and water treatment capacity to service this area.

**Wastewater System:** There is sufficient capacity for wastewater conveyance and treatment. However, wastewater trunk extension may be required to service this area.

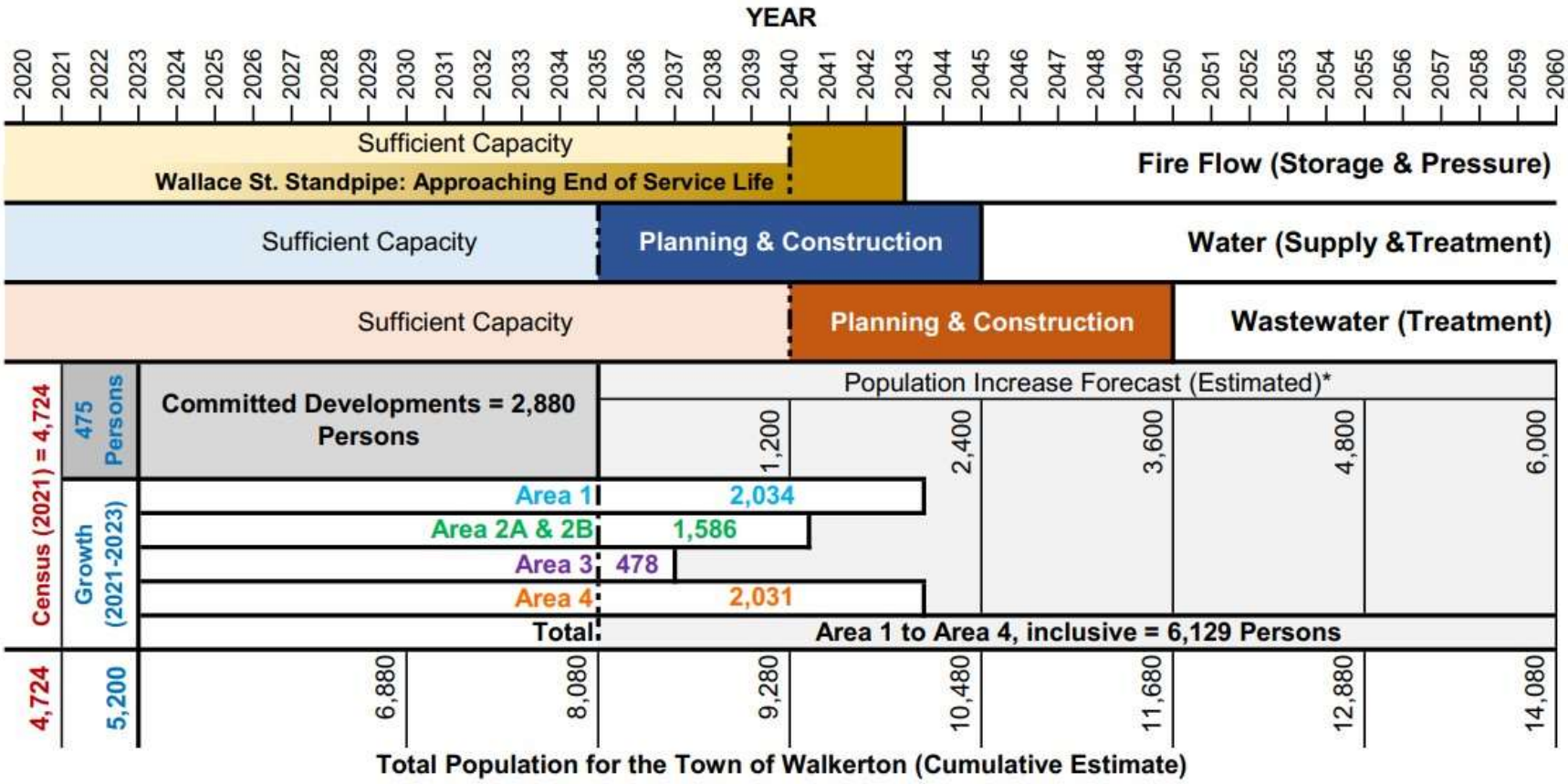
**Stormwater System:** Municipally-owned stormwater management facilities prior to conveyance within the receiving drainage system.

**Difficulty to Service: Most Complex**

**Capital Cost:** $2M to $4M

What are the servicing needs?

# Comparison and Timeline



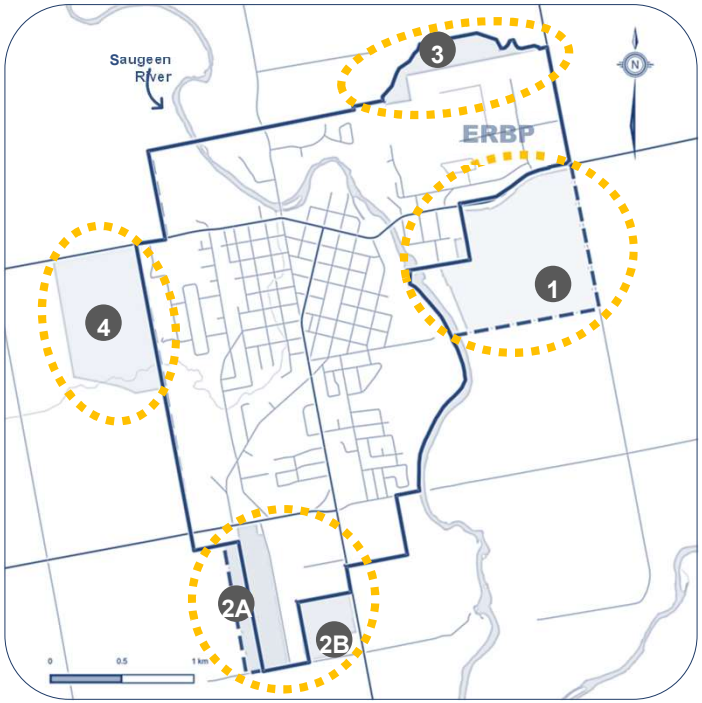

Notes:

1. *Population projected based on a rate of approximately 240 persons per year (or 95 Equivalent Residential Units annually)
2. Based on a population growth rate of 713 persons during the 3-year period between 2020 and 2023, it is estimated that the population increased by approximately 475 persons between the 2021 census and 2023.

# Recommendations

1. Consider the Infiltration and Inflow Study recommendations, including continued efforts to locate contributing locations and CCTV investigations (B.M. Ross, April 2023).
2. Educational Program on Water Usage
3. Storage and Pressure Study: Prior to development in Area 2A & 2B
   - While it is estimated that there is sufficient fire flow and storage to service Walkerton to the year 2043, the Wallace Street standpipe may require replacement prior to this time at which point it is recommended that additional capacity for the Town also be reviewed.
   - A Class EA process focusing on the South Pressure Zone, the Wallace Street Standpipe, the existing booster station, and the potential for a new standpipe in Area 2A may be advanced at any time.
   - The inclusion of Area 2A within the settlement area boundary would provide the opportunity for the Town to consider, in more detail, the construction of a water tower in this Area at such a time that planning is initiated. Further, the Town could start pursuing funding for this project, as opportunities permit.
4. Financial Considerations: Equitable division of costs for expansion of facilities. This will be informed by the Development Charges Background Study that has been initiated.

# Council Resolution




## What are we doing next?

- **Council Endorsement of the Master Servicing Plan (or otherwise).**
- **Implement individual projects through specific planning processes.**
- **Master Servicing Plan update every 5 years (next one recommended for 2029)**