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Revision: A

December 5, 2025

Township of Springwater

Significant Drinking Water Threat Assessment for Proposed Alterations

J.L.Richards
ENGINEERS · ARCHITECTS · PLANNERS

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1.0 Introduction

The Clean Water Act, 2006 (CWA) was implemented to protect existing and future sources of drinking water in Ontario. Under the Act, communities protect their drinking water supplies through development of a Source Protection Plan, which outlines vulnerable areas of local drinking water sources and activities that may pose a threat of contaminating water supplies. The Township of Springwater is part of the South Georgian Bay Lake Simcoe Source Protection Plan [1].

The latest South Georgian Bay Lake Simcoe Source Protection Plan was approved on January 26, 2015, by the Ministry of the Environment, Conservation and Parks (MECP), effective July 1, 2015. Under the South Georgian Bay Lake Simcoe Source Protection Plan, vulnerable areas associated with the drinking water systems within the Township of Springwater—wellhead protection areas—are identified.

As part of the Township of Springwater's Consolidated Linear Infrastructure Environmental Compliance Approval (CLI-ECA) for Stormwater Management Systems (CLI-ECA No. 128-S701) and Sewage Collection Systems (CLI-ECA No. 128-W601), J.L. Richards & Associates (JLR) has been retained to prepare a "Significant Drinking Water Threat Assessment Report for Proposed Alterations".

Both CLI-ECA documents include a requirement to ensure that any Alteration to an Authorized System is designed, constructed, and operated in such a way as to be protective of sources of drinking water in vulnerable areas as identified in the Source Protection Plan. Per the requirements of CLI-ECA No. 128-S701(Schedule E, Section 8.0) and CLI-ECA No. 128-W601 (Schedule E, Section 7.0), this report includes:

- An outline of the circumstances under which proposed Alterations could pose a Significant Drinking Water Threat based on the Director's Technical Rules established under the CWA.
- An outline of how the Owner assesses the proposed Alterations to identify drinking water threats under the CWA.
- A table to track any proposed Alteration, including a list of components, equipment, or sewage works that are being altered and have been identified as a Significant Drinking Water Threat.
- A summary of design considerations and other measures that are to be put into place to mitigate risks resulting from construction or operation of the Alterations identified as a Significant Drinking Water Threat, such as those included in the Standard Operating Policy for Sewage Works.

Appendix A includes a flow chart which summarizes the information that is presented in this report and can be used to assess if a proposed Alteration to an Authorized Stormwater Management System or Sewage Collection System is a Significant Drinking Water Threat under the CWA. Appendix B includes a tracking list for alterations of infrastructure in vulnerable areas.

For clarity, as used herein the following terms are defined as follows:

Authorized System(s): As per of CLI-ECA 128-S701, the Authorized System comprises of storm sewers (including appurtenances such as maintenance holes and catch basins), a stormwater pumping station, culverts, ditches/swales, stormwater management facilities (ponds, oil and grit separators, LIDs, etc.), and outlets/outfalls.

As per CLI-ECA 128-W601, the Authorized System comprises of sewers, forcemains, and pumping stations.

Alteration(s): As per Schedule D of the CLI-ECA 128-S701 and CLI-ECA 128-W601, 'Alteration(s)' includes the following in respect of the Authorized System, but does not include repairs to the system:

- An extension of the system,
- A replacement or retirement of part of the system, or
- A modification of, addition to, or enlargement of the system.

Vulnerability Score (V.S.): Number between 2 and 10 indicating how fast pollutants could be expected to reach a municipal drinking water source if spilled in a certain area; 10 being the shortest time of travel and 2 being the longest time of travel.

Wellhead Protection Area (WHPA): The surface and subsurface area surrounding a water well or well field that supplies a municipal residential system or other designated system, through which the well is vulnerable to contamination. These areas are defined and classified by distance from the groundwater well supply or by how quickly water (and pollutants) can reach the well, measured in years. The WHPA classifications are outlined below:

- WHPA – A: Standard 100 metres radius circle around each municipal well.
- WHPA – B: This zone represents the 2-year time of travel.
- WHPA – C: This zone represents the 5-year time of travel.
- WHPA – D: This zone represents the 25-year time of travel.
- WHPA – E: This zone represents a vulnerable area around a groundwater well supply that is under the direct influence of surface water (GUDI), and has different vulnerabilities compared to regular WHPAs.

Prescribed Threat: An activity posing a risk to the quality of a municipal drinking water supply that is identified within the CWA. A threat may be related to chemical contamination or pathogen contamination.

Sewage (as defined by the Ontario Water Resources Act (OWRA) and identified in the ECA's): Includes drainage, storm water, commercial wastes and industrial wastes and such other matter or substance as is specified by the regulations.

Sewage works (as defined by the OWRA and identified in the ECA's): Means any works for the collection, transmission, treatment and disposal of sewage or any part of such works but does not include plumbing to which the Building Code Act applies.

1.1 Existing Infrastructure

The Township of Springwater has a population of approximately 24,500 people, of which 13,754 are serviced by municipal water. There are 11 wellfields in the Township of Springwater that supply drinking water, currently operated by Ontario Clean Water Agency (OCWA). The table below summarizes the mentioned wellfields:

Table 1: Township of Springwater Wellfields

Wellfields
Anten Mills
Del Trend / Midhurst
Elmvale
Hillsdale
Midhurst Valley
Midhurst Well 2,3,4,5
Minesing
Phelpston
Snow Valley - North W1&2
Snow Valley - South W 3&4
Vespra Downs

The Township's stormwater management system consists of approximately 890km of storm sewers, culverts, ditches, Stormwater Management (SWM) Facilities and outlets. The table below provides a summary of the Township of Springwater SWM facilities:

Table 2 : Summary of Stormwater Management Facilities by Type

Facility Type	Quantity
Wet Ponds	10
Dry Ponds	18
Infiltration Ponds	2
Low Impact Development (LID) Facilities	80
Sedimentation Oil and Grit Separators	2

The Township's sewage collection system consists of gravity sewers, pumping stations and forcemains. There are five separate sewage collection systems that discharge in their respective wastewater treatment plants:

- Centre Vespra Sanitary Sewer System
- Elmvale Sanitary Sewer System
- Midhurst Valley Interim Sanitary Sewer System
- Royal Oaks Sanitary Sewer System
- Snow Valley Highlands Sanitary Sewer System

There are 12 Sewage Pumping Stations in the Township's sewage collection systems. The total length of the conveyance system is approximately 27 km.

1.2 Wellhead Protection and Vulnerable Areas

The South Georgian Bay Lake Simcoe Source Protection Plan has identified the vulnerable areas and Wellhead Protection Areas (WHPA) related to each of the wellfields in the Township. Refer to Figures 1 and 2 showing the extent of Wellhead Protection Vulnerability Zones in conjunction with existing wastewater infrastructure and stormwater infrastructure, respectively. Refer to Appendices C and D showing these figures in further detail. It is noted that no WHPA-E (GUDI) zones were identified for any of the Township's drinking water systems.

There are a few WHPAs from neighbouring municipalities where zone of influence extends into the boundaries of the Township of Springwater, listed in the table below:

Table 3 : Nearby WHPAs with Zones Within Township Boundaries

Wellfields	Municipality
Barrie Well 16	City of Barrie
Barrie Well 9 & 13	City of Barrie
Barrie Well 11,12,14,15	City of Barrie
Angus – Centre Street	Township of Essa

In addition, private wells are not included as part of the Significant Drinking Water Threat Assessment, as the Clean Water Act focuses on municipal drinking water systems. The Township may utilize other tools to assess, prevent or mitigate risk related to impacts to private groundwater wells.

N

Georgian Bay

Wasaga Beach - Jenetta

TOWN OF WASAGA BEACH

TOWNSHIP OF TINY

TOWNSHIP OF TAY

TOWNSHIP OF ORO-MEDONTE

FLOS

MEDONTE

ELMVALE

Elmvale

Orr Lake

Hillsdale

HILLSDALE

PHELPSTON

Phelpston

TOWNSHIP OF SPRINGWATER
COUNTY OF SIMCOE

Craighurst

FLOS

VESPRA

ANTEN MILLS

Anten Mills

TOWNSHIP OF CLEARVIEW

Minesing

MINESING

Midhurst Valley

Snow Valley - North W1&2

Snow Valley - South W 3&4

MIDHURST

Midhurst Well 2,3,4,5

SNOW VALLEY

Del Trend / Midhurst

Angus - Centre Street

Vespra Downs

CENTRE VESPRA

Barrie Well 16

Little Lake

CITY OF BARRIE

Barrie Well 9 & 13

TOWNSHIP OF ESSA

Barrie Well 11,12,14,15

Lake Simcoe

6 27 29 92 19 93 400 22 26 28 53 43 40 90 11 20

Wastewater
- Pumping Station
- Gravity Sewer
- Forcemain

Boundary
- Community Boundary
- Municipal Boundary

Wellhead Protection
Vulnerability Score
- 10
- 8
- 6
- 4
- 2

PROJECT:

Significant Drinking Water Threat Assessment for Proposed Alterations

Township of Springwater, Ontario

DRAWING:

Existing Wastewater Infrastructure

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DESIGN:	PM
DRAWN:	KTK
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JLR #:	31724-007

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Figure 1

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Georgian Bay

Wasaga Beach - Jenetta

TOWN OF WASAGA BEACH

TOWNSHIP OF TINY

TOWNSHIP OF TAY

TOWNSHIP OF ORO-MEDONTE

FLOS

MEDONTE

Elmvale

ELMVALE

Orr Lake

Hillsdale

HILLSDALE

PHELPSTON

Phelpston

TOWNSHIP OF SPRINGWATER
COUNTY OF SIMCOE

Craighurst

FLOS

VESPRA

ANTEN MILLS

Anten Mills

TOWNSHIP OF CLEARVIEW

Minesing

MINESING

Midhurst Valley

MIDHURST

Midhurst Well 2,3,4,5

Snow Valley - North W1&2

Snow Valley - South W 3&4

SNOW VALLEY

Del Trend / Midhurst

Angus - Centre Street

Vespra Downs

CENTRE VESPRA

Barrie Well 16

Little Lake

CITY OF BARRIE

Barrie Well 9 & 13

TOWNSHIP OF ESSA

Barrie Well 11,12,14,15

Lake Simcoe

6 27 92 29 19 93 400 22 26 28 53 43 11 40 90 20

Stormwater
- Gravity Sewer
- Stormwater Pond

Boundary
- Community Boundary
- Municipal Boundary

Wellhead Protection
Vulnerability Score
- 10
- 8
- 6
- 4
- 2

PROJECT:

Significant Drinking Water Threat Assessment for Proposed Alterations

Township of Springwater, Ontario

DRAWING:

Existing Stormwater Infrastructure

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2.0 Significant Drinking Water Threat Circumstances

There are 22 specific activities prescribed as Drinking Water Threats under the CWA in O. Reg. 287/07, Section 1.1. One of these activities includes *"the establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage."* Proposed Alterations to the Authorized Stormwater Management System and/or Sewage Collection System must be assessed to determine the Alterations risk as a Significant Drinking Water Threat.

The Director's Technical Rules (2021) established under the CWA [2] determine a Significant Drinking Water Threat in reference to the circumstances associated with the threat and the Vulnerability Score of the zone in which the activity occurs.

The Director's Technical Rules Tables of Drinking Water Threats (chemical and pathogen tables for water quality) identify the specific circumstances under which a Drinking Water Threat poses a low, moderate, or significant threat to drinking water sources. The Tables of Drinking Water Threats are organized by subcategories of activities for the prescribed threats in O. Reg. 287/07.

Table 4 below is a condensed list from the 2021 Director's Technical Rules and lists the circumstances considered Significant Drinking Water Threats within a WHPA-10. If the proposed Alteration does not fall into the circumstances in Table 4 then under the 2021 Director's Technical Rules, it is not considered a Significant Drinking Water Threat, and no further threat assessment is required. Note that the Director's Technical Rules may be updated, so the most recent version should be reviewed as part of this assessment.

Table 4: Significant Drinking Water Threat (SDWT) Circumstances for Alterations to Stormwater Management and Sewage Collection Systems within The Township of Springwater (CWA Director's Technical Rules 2021)

Circumstance		Area of SDWT
1. Outfall from a storm water management facility or storm water drainage system		
I.	A storm water management facility outfall or a storm water drainage system outfall that serves land where the **predominant land use is rural, agricultural, outdoor recreational, parkland or greenhouses.** **AND** **The percentage of impervious areas of the lands served by the facility** (including roads, sidewalks and parking surfaces - aisles and driveways but excluding roofs) draining to the storm water management facility or to the storm water drainage system **is more than 50% of the drainage area.**	For WHPA areas with V.S. 10.
II.	A storm water management facility outfall or a storm water drainage system outfall that serves land where the **predominant land use is residential or institutional or community use.** **AND** **The percentage of impervious areas of the lands served by the facility** (including roads, sidewalks and parking surfaces - aisles	For WHPA areas with V.S. 10.

	Circumstance	Area of SDWT
	and driveways but excluding roofs) draining to the storm water management facility or to the storm water drainage system **is more than 50% of the drainage area.**	
III.	A storm water management facility outfall or a storm water drainage system outfall that serves land where the **predominant land use is commercial or industrial.** **AND** **The percentage of impervious areas of the lands served by the facility** (including roads, sidewalks and parking surfaces - aisles and driveways but excluding roofs) draining to the storm water management facility or to the storm water drainage system **is more than 20% but no more than 50% of the drainage area.**	For WHPA areas with V.S. 10.
IV.	A storm water management facility outfall or a storm water drainage system outfall that serves land where the **predominant land use is commercial or industrial.** **AND** **The percentage of impervious areas of the lands served by the facility** (including roads, sidewalks and parking surfaces - aisles and driveways but excluding roofs) draining to the storm water management facility or to the storm water drainage system **is more than 50% of the drainage area.**	For WHPA areas with V.S. 10.
2. Storm water infiltration facility		
I.	A storm water infiltration facility that serves land where the **predominant land use is rural, agricultural, outdoor recreational, parkland or greenhouses.** **AND** **The sum of impervious areas of the lands served by the facility** (including roads, sidewalks and parking surfaces - aisles and driveways but excluding roofs) draining to the storm water infiltration facilities in the **site is more than 200 m^2 but not more than 2000 m^2**.	For WHPA areas with V.S. 10.
II.	A storm water infiltration facility that serves land where the **predominant land use is rural, agricultural, outdoor recreational, parkland or greenhouses.** **AND** **The sum of impervious areas of the lands served by the facility** (including roads, sidewalks and parking surfaces - aisles and driveways but excluding roofs) draining to the storm water infiltration facilities in the **site is more than 2000 m^2**.	For WHPA areas with V.S. 10.

	Circumstance	Area of SDWT
III.	A storm water infiltration facility that serves land where the **predominant land use is residential or institutional or community use**. **AND** **The sum of impervious areas of the lands served by the facility** (including roads, sidewalks and parking surfaces - aisles and driveways but excluding roofs) draining to the storm water infiltration facilities in the **site is more than 200 m^2 but not more than 2000 m^2**.	For WHPA areas with V.S. 10.
IV.	A storm water infiltration facility that serves land where the **predominant land use is residential or institutional or community use**. **AND** **The sum of impervious areas of the lands served by the facility** (including roads, sidewalks and parking surfaces - aisles and driveways but excluding roofs) draining to the storm water infiltration facilities in the **site is more than 2000 m^2**.	For WHPA areas with V.S. 10.
V.	A storm water infiltration facility that serves land where the **predominant land use is commercial or industrial land uses**. **AND** **The sum of impervious areas of the lands served by the facility** (including roads, sidewalks and parking surfaces - aisles and driveways but excluding roofs) draining to the storm water infiltration facilities in the **site is more than 200 m^2**.	For WHPA areas with V.S. 10.
VI.	A storm water infiltration facility that serves land where the **predominant land use is commercial or industrial land uses**. **AND** **The sum of impervious areas of the lands served by the facility** (including roads, sidewalks and parking surfaces - aisles and driveways but excluding roofs) draining to the storm water infiltration facilities in the **site is more than 200 m^2 but not more than 2000 m^2**.	For WHPA areas with V.S. 10.
VII.	A storm water infiltration facility that serves land where the **predominant land use is commercial or industrial land uses**. **AND** **The sum of impervious areas of the lands served by the facility** (including roads, sidewalks and parking surfaces - aisles and driveways but excluding roofs) draining to the storm water infiltration facilities in the **site is more than 2000 m^2**.	For WHPA areas with V.S. 10.
3. Sanitary sewers		
I.	A forcemain or rising main that forms part of a wastewater collection facility, not including its appurtenances. **AND** The wastewater collection facility is **designed to convey more than 10,000, but not more than 100,000 m^3 of sewage per day.**	For WHPA areas with V.S. 10.

Circumstance		Area of SDWT
II.	A forcemain or rising main that forms part of a wastewater collection facility, not including its appurtenances. **AND** The wastewater collection facility is **designed to convey more than 100,000 m^3 of sewage per day.**	For WHPA areas with V.S. 10.
III.	A forcemain, a combined sewer or partially separated sanitary sewer, a rising main or a gravity sanitary sewer that forms part of a wastewater collection facility, not including its appurtenances. **AND** **The discharge from the system may result in the presence of one or more pathogens in groundwater or surface water.**	For WHPA-A/B areas with V.S. 10.
4. Outfall of a combined sewer overflow (CSO), or a sanitary sewer overflow (SSO) from a manhole or wet well		
I.	A combined sewer or partially separated sanitary sewer outfall that discharges combined sewer overflow (CSO), or a manhole that discharges sanitary sewer overflow (SSO) or a wet well outfall that discharges sanitary sewage pumping station overflow (PSO), and forms part of a wastewater collection facility. **AND** The **discharge may result in the presence of one or more pathogens in groundwater or surface water**.	For WHPA-A/B areas with V.S. 10.
5. Sewage pumping station or lift station wet well, a holding tank or a tunnel		
I.	A holding tank or a tunnel that forms part of a wastewater collection facility **not including a wet well and stores sanitary sewage containing human waste and that may discharge sewage to groundwater.** **AND** The wastewater collection facility is designed to convey more than **100,000 m^3 of sewage per day.**	For WHPA areas with V.S. 10.
II.	**A wet well, a holding tank or a tunnel** that forms part of a wastewater collection facility as part of a sanitary sewage pumping station or lift station and stores sanitary sewage containing human waste. **AND** A **spill may result in the presence of one or more pathogens in groundwater or surface water**.	For WHPA-A/B areas with V.S. 10.
6. Wastewater treatment facilities and associated parts		
I.	A final effluent outfall or a sewage treatment plant overflow outfall that is part of a wastewater treatment facility. **AND** The wastewater treatment facility is designed to discharge treated sanitary sewage **at an average daily rate that is more than 50,000 m^3 on an annual basis.**	For WHPA areas with V.S. 10.
II.	A sewage lagoon that forms part of a wastewater treatment facility and **that may discharge sewage to groundwater.** **AND**	For WHPA areas with V.S. 10.

	Circumstance	Area of SDWT
	The wastewater treatment facility is designed to discharge treated sanitary sewage **at an average daily rate that is more than 2,500 m^3 but not more than 17,500 m^3 on an annual basis.**	
III.	A sewage lagoon that forms part of a wastewater treatment facility and **that may discharge sewage to groundwater.** **AND** The wastewater treatment facility is designed to discharge treated sanitary sewage **at an average daily rate that is more than 17,500 m^3 but not more than 50,000 m^3 on an annual basis.**	For WHPA areas with V.S. 10.
IV.	A sewage lagoon that forms part of a wastewater treatment facility and **that may discharge sewage to groundwater.** **AND** The wastewater treatment facility is designed to discharge treated sanitary sewage **at an average daily rate that is more than 50,000 m^3 on an annual basis.**	For WHPA areas with V.S. 10.
V.	A sewage treatment plant process tank or a sewage treatment plant holding tank that is part of a wastewater treatment facility **and that may discharge sewage to groundwater.** **AND** The wastewater treatment facility is designed to discharge treated sanitary sewage **at an average daily rate that is more than 17,500 m^3 but not more than 50,000 m^3 on an annual basis.**	For WHPA areas with V.S. 10.
VI.	A sewage treatment plant process tank or a sewage treatment plant holding tank that is part of a wastewater treatment facility **and that may discharge sewage to groundwater.** **AND** The wastewater treatment facility is designed to discharge treated sanitary sewage **at an average daily rate that is more than 50,000 m^3 on an annual basis.**	For WHPA areas with V.S. 10.
VII.	A final effluent outfall or a sewage treatment plant overflow outfall that is part of a wastewater treatment facility. **AND** **A discharge** may result in the presence of one or more **pathogens in groundwater or surface water.**	For WHPA-A/B areas with V.S. 10.
VIII.	A sewage lagoon that forms part of a wastewater treatment facility and **that may discharge sewage to groundwater.** **AND** **A discharge** may result in the presence of one or more **pathogens in groundwater.**	For WHPA-A/B areas with V.S. 10.
IX.	A sewage treatment plant process tank or a sewage treatment plant holding tank **that forms part of a wastewater treatment facility.** **AND** **A spill** may result in the presence of one or more **pathogens in groundwater or surface water.**	For WHPA-A/B areas with V.S. 10.

Furthermore, the South Georgian Bay Lake Simcoe Source Protection Plan outlines other circumstances for stormwater and wastewater activities determining whether an activity is a significant drinking water threat. The table below lists the circumstances considered Significant Drinking Water Threats within a WHPA-10 as per the South Georgian Bay Lake Simcoe Source Protection Plan. Note that the Source Protection Plan may be updated, so the most recent version should be reviewed as part of this assessment.

Table 5 : Significant Drinking Water Threat (SDWT) Circumstances for Alterations to Stormwater Management and Sewage Collection Systems within The Township of Springwater (Source Protection Plan, 2015)

Circumstance	Area of SDWT
1. Storm water management facility	
I. Discharge from Stormwater Management Facility for the treatment, retention, infiltration or control of stormwater **in which the stormwater drainage area is equal or greater than 10 ha.**	For WHPA areas with V.S. 10.
2. Sanitary Sewer Systems and Wastewater Treatment Plants	
I. Wastewater treatment plant effluent discharges, storage of sewage, sewage bypasses, and sanitary sewer pipes, **in which the discharge rate of the treatment plant is equal or greater than 17,500 m^3/day** (1).	For WHPA areas with V.S. 10.
Note: 1) For sewage treatment plants with a discharge rate greater than 50,000 m3/day, if the discharge contains vinyl chloride or another DNAPL then the treatment system is a significant threat in areas with a vulnerability score of 8 - 10.	

In the case of any contradictions of interpreting a SDWT between the Source Protection Plan and Clean Water Act, the more stringent interpretation should apply.

3.0 Significant Drinking Water Threat Assessment

Appendix A includes a flow chart which can be used to assess if a proposed Alteration to an Authorized Stormwater Management System or Sewage Collection System is a Significant Drinking Water Threat under the CWA. As shown, prior to assessment the proponent should review if there have been revisions published to source documents. Thereafter, the assessment procedure generally consists of:

- Confirmation that the project falls within the definition of an Authorized System under CLI-ECA 128-S701 or CLI-ECA 128-W601.
- Confirmation that the project falls within the definition of an Alteration as described in the ECA's.
- Screening of project location to determine whether the project falls within the Township of Springwater WHPA – A.
- Identification of the Alteration Circumstance per Table 4 and Table 5.

Using the Drinking Water Source Protection South Georgian Bay Lake Simcoe Region website (https://ourwatershed.ca/) the Alteration location can be input to determine if it falls within an associated WHPA in Springwater. Figures 1 and 2 also display the WHPAs in relation to existing wastewater and stormwater infrastructure; however, the mapping tool is more user friendly as the project address can be searched directly. In addition, the South Georgian Bay Lake Simcoe Source Protection Committee may update vulnerable areas and/or the Vulnerability Scores from time to time.

If the Alteration is not located within any WHPA or not within the WHPA and Vulnerability Score associated with the circumstance per Table 4 and Table 5, the Alteration is not considered a Significant Drinking Water Threat, and no further threat assessment is required.

If the Alteration is related to one of the Circumstances per Table 4 and Table 5 and is within a WHPA and Vulnerability Score associated with the Circumstance per Table 4 and Table 5, the Alteration poses a Significant Drinking Water Threat requiring management and mitigation measures.

4.0 Significant Drinking Water Threat Management and Mitigation

Where a proposed Alteration falls within any of the Circumstances per Table 4 and Table 5 and is identified as a Significant Drinking Water Threat, mitigation measures must be implemented to reduce the threat to sources of drinking water. The South Georgian Bay Lake Simcoe Source Protection Plan Policies and the Ministry of Environment and Climate Change (MECC) Standard Operating Policy (SOP) for Sewage Works (2014) [3] set out design, construction, operation and maintenance considerations for threat mitigation.

Referring to these Policies, at a minimum a *Source Protection Supplementary Report* must be completed by a Professional Engineer including, but not limited to, the following components:

1. Risk identification during both construction and operation activities, including but not limited to:
    a. Risk of fuel or other chemical spills
    b. Risk of sewage / pathogenic spills
    c. Solids or sediment discharge
2. Review and identification of South Georgian Bay Lake Simcoe Source Protection Plan Policies and MECC SOP recommendations applicable to the proposed alteration.
3. Description of design measures to mitigate identified risks. Design measures may include:
    a. Measures required or recommended in South Georgian Bay Lake Simcoe Source Protection Plan Policies and/or MECC SOP recommendations.
    b. Measures included in the MECP's Risk Management Measures Catalogue
    c. Circumstance-specific considerations in the proceeding Sections 4.1 to 4.6.
4. Procedures and protocols during construction to mitigate risk and reduce impacts, including but not limited to:
    a. A Spill Prevention and Emergency Response Plan
        i. Specify actions/safeguards to be implemented to reduce risk of a spill.

        ii. Specify actions to be undertaken in the event of a spill including response procedures by on-site personnel; reporting procedures; spill response equipment; and follow-up events to be conducted in the event of a spill.
    b. An Erosion and Sediment Control Plan
        i. Specify actions/safeguards to ensure that activities such as placing or dumping of fill, removal of topsoil and alteration of grade do not have a negative impact during construction.
5. Procedures and protocols during operation to mitigate risk and reduce impacts, which may include:
    a. Measures required or recommended in South Georgian Bay Lake Simcoe Source Protection Plan Policies and/or MECC SOP recommendations.
    b. Measures included in the MECP's Risk Management Measures Catalogue

4.1 Circumstance 1: Outfall from a Storm Water Management Facility or Storm Water Drainage System

Where a new outfall for a stormwater management facility or a new outfall for a stormwater drainage system is proposed and the proposed outfall fits the criteria for Circumstance 1 outlined in Table 4, it is recommended that the project take place outside of WHPA 10 within the Township of Springwater such that the project would not be considered a Significant Drinking Water Threat.

If it is not feasible to construct the new outfall outside of WHPA 10 or an Alteration is proposed to an existing stormwater outfall within a Springwater WHPA 10 and falls under Circumstance 1 per Table 4, the following should be considered during preparation of the *Source Protection Supplementary Report*:

- Site design methods to reduce impervious areas for new developments that will be serviced by the proposed stormwater outfall (e.g., increase landscaped areas, utilize permeable pavers). Reducing the overall percentage of impervious areas served by the facility outfall to less than 50% for Circumstance 1.I./II. /IV. (per Table 4) or to less than 20% for Circumstance 1.III. (per Table 4) will eliminate the proposed Alteration as a Significant Drinking Water Threat.
- Implementation of stormwater treatment measures: oil and grit separators, filters (sand, organic), etc.

4.2 Circumstance 2: Stormwater Infiltration Facility

Where a new stormwater infiltration facility is proposed and fits the criteria for Circumstance 2 outlined in Table 4, it is recommended that the project take place outside of WHPA 10 within the Township of Springwater such that the project would not be considered a Significant Drinking Water Threat.

If it is not feasible to construct the new storm water infiltration facility outside of WHPA 10 and the proposed Alteration falls under Circumstance 2 per Table 4, the following should be considered during preparation of the *Source Protection Supplementary Report*:

- Site design methods to reduce impervious areas for new commercial and/or industrial lands that will be serviced by the proposed stormwater infiltration facility (e.g., permeable pavers). Reducing the overall impervious area served by the facility to less than 2000 m^2 for Circumstance 2. II. /IV. /VII. (per Table 4) or to less than 200 m^2 for Circumstance 2.I./III. /V./VI. (per Table 4) will eliminate the proposed Alteration as a Significant Drinking Water Threat.
- Implementation of stormwater treatment measures: oil and grit separators, filters (sand, organic), etc.

4.3 Circumstance 3: Sanitary Sewers (Including Forcemains)

Where a new sanitary sewer or forcemain in a wastewater collection facility and associated parts is proposed and fits the criteria for Circumstance 3 outlined in Table 4, it is recommended that the project take place outside of WHPA 10 within the Township of Springwater such that the project would not be considered a Significant Drinking Water Threat.

If it is not feasible to construct the new sanitary sewer or forcemain outside of WHPA 10 and the proposed Alteration falls under Circumstance 3 per Table 4, the following should be considered during preparation of the *Source Protection Supplementary Report*:

- Site design methods to reduce the sewage per day conveyed in the wastewater collection facility. Reducing the overall sewage per day conveyed by the facility to less than 10,000 m^3 for Circumstance 3.I. (per Table 4) or to less than 100,000 m^3 for Circumstance 2. II. (per Table 4) will eliminate the proposed Alteration as a Significant Drinking Water Threat.
- New and replacement sewers are to be constructed of materials and with joints that are equivalent to watermain standards of construction and are to be pressure tested in accordance with the Ontario Provincial Standards Specification (OPSS).
- Operational procedures to include CCTV inspections every five years with records made available for inspection by the Ministry.

4.4 Circumstance 4: Outfall of a Combined Sewer Overflow (CSO), or a Sanitary Sewer Overflow (SSO) from a Manhole or Wet Well

Where a new combined sewer overflow (CCO) or sanitary sewer overflow (SSO) outfall is proposed and fits the criteria for Circumstance 4 outlined in Table 4, it is recommended that the project take place outside of WHPA 10 within the Township of Springwater such that the project would not be considered a Significant Drinking Water Threat. New combined sewers are not permitted per MECP Procedure F-5-5.

If it is not feasible to construct a new SSO outfall outside of WHPA 10 and the proposed Alteration falls under Circumstance 4 per Table 4, the following should be considered during preparation of the *Source Protection Supplementary Report*:

- Installation of a tank or other storage system designed to temporarily store sewage and release it to the treatment facility through pumping, to minimize release to the receiver WHPA.
- For existing outfalls and associated sewers segments within a WHPA, a sewer infrastructure inspection shall be completed to assess infiltration/ exfiltration to the

surrounding environment. Depending on the results of the investigation, existing sewer segments may require replacing.
- New and replacement sewers are to be constructed of materials and with joints that are equivalent to watermain standards of construction and are to be pressure tested in accordance with the Ontario Provincial Standards Specification (OPSS).
- Designs must be accompanied with a Monitoring and Reporting Plan, to include regular and annual maintenance, inspection, and monitoring details.
- Operational procedures to include CCTV inspections every five years with records made available for inspection by the Ministry.

4.5 Circumstance 5: Sewage Pumping Station or Lift Station Wet Well, a Holding Tank or a Tunnel

Where a new sanitary sewage pumping or lift station wet well, a new holding tank or a new tunnel is proposed and fits the criteria for Circumstance 5 outlined in Table 4, it is recommended that the project take place outside of WHPA 10 within the Township of Springwater such that the project would not be considered a Significant Drinking Water Threat.

If it is not feasible to construct the infrastructure outside of WHPA 10 and the proposed Alteration falls under Circumstance 5 per Table 4, the following should be considered during preparation of the *Source Protection Supplementary Report*:

- Site design methods to reduce the sewage per day conveyed in the wastewater collection system. Reducing the overall sewage per day conveyed by the pumping station to less than 100,000 m^3 for Circumstance 5.I. (per Table 4) will eliminate the proposed Alteration as a Significant Drinking Water Threat.
- Appropriate sizing to reduce bypasses-in adherence to the ministry's Sewage Works Design Guideline (2008) and provisions of Procedure F-5-5 and F-5-1.
- For existing pumping stations and associated sewers segments within a WHPA, a sewer infrastructure inspection shall be completed to assess infiltration/ exfiltration to the surrounding environment. Depending on the results of the investigation, existing sewer segments may require replacing.
- Standby power is provided at the pumping/lift station in the event of a power failure.
- New and replacement sewers are to be constructed of materials and with joints that are equivalent to watermain standards of construction and are to be pressure tested in accordance with the Ontario Provincial Standards Specification (OPSS).
- Designs must be accompanied with a Monitoring and Reporting Plan, to include regular and annual maintenance, inspection, and monitoring details.
- Operational procedures to include CCTV inspections (where applicable i.e. tunnels) every five years with records made available for inspection by the Ministry.

4.6 Circumstance 6: Wastewater Treatment Facilities and Associated Parts

Where a new wastewater treatment facility is proposed and fits the criteria for Circumstance 6 outlined in Table 4, it is recommended that the project take place outside of WHPA 10 within the Township of Springwater such that the project would not be considered a Significant Drinking Water Threat.

If it is not feasible to construct the infrastructure outside of WHPA 10 and the proposed Alteration falls under Circumstance 6 per Table 4, the following should be considered during preparation of the *Source Protection Supplementary Report*:

- Site design methods to reduce the discharged treated sanitary sewage for a wastewater treatment facility. Reducing the average daily rate of treated sanitary sewage by the facility to less than 50,000 m^3 for Circumstance 6.I./IV. /VI. (per Table 4) or to less than 17,500 m^3 for Circumstance 6.III. /V. (per Table 4) or to less than 2,500 m^3 for Circumstance 6. II. (per Table 4) will eliminate the proposed Alteration as a Significant Drinking Water Threat.
- Appropriate size to reduce bypasses in adherence to the MECP Sewage Works Design Guidelines (2008) and provisions of Procedure F-5-5 and F-5-1.
- New and replacement sewers are to be constructed of materials and with joints that are equivalent to watermain standards of construction and are to be pressure tested in accordance with the Ontario Provincial Standards Specification (OPSS).
- Designs must be accompanied with a Monitoring and Reporting Plan, to include regular and annual maintenance, inspection, and monitoring details.
- Standby power is provided in the event of a power failure.
- Response plan for premature effluent discharge (i.e., in the event of seasonal lagoons).

5.0 Significant Drinking Water Threat Alterations Tracking List & Annual Reporting

As part of the CLI-ECA all Alterations to Stormwater Management Systems and Sewage Collection Systems identified as a Significant Drinking Water Threats are to be tracked in the table provided in Appendix B, noting the corresponding mitigation measures that have been implemented.

By February 1 of each year the Township is to provide to the South Georgian Bay Lake Simcoe Source Protection Authority a report highlighting a summary of the actions it has taken to achieve the outcomes of the South Georgian Bay Lake Simcoe Source Protection Plan Policies. This report should include the updated Tracking List in Appendix B as well as the status of any maintenance and asset management activities for infrastructure in vulnerable areas; a summary of how these infrastructures were assessed; and a summary of how these infrastructures align with the terms and conditions in the respective CLI-ECA to ensure significant drinking water threats are being sufficiently managed and maintained.

6.0 Future Source Protection Plan Updates

Please note the Source Protection Plan is currently being updated under Section 36 of the Clean Water Act. The update will incorporate revised policies and circumstances and is expected to be implemented within the next one or two years. It is recommended that the report be reviewed against the new Source Protection Plan and confirm if any updates to the report are required.

7.0 Disclaimer

This report has been prepared by J.L. Richards & Associates Limited for the Township of Springwater's exclusive use. Its discussions and conclusions are summary in nature and cannot properly be used, interpreted or extended to other purposes without a detailed understanding and discussions with the client as to its mandated purpose, scope and limitations. This report is based on information, drawings, data, or reports provided by the named client, its agents, and certain other suppliers or third parties, as applicable, and relies upon the accuracy and completeness of such information. Any inaccuracy or omissions in information provided, or changes to applications, designs, or materials may have a significant impact on the accuracy, reliability, findings, or conclusions of this report.

This report was prepared for the sole benefit and use of the named client and may not be used or relied on by any other party without the express written consent of J.L. Richards & Associates Limited, and anyone intending to rely upon this report is advised to contact J.L. Richards & Associates Limited in order to obtain permission and to ensure that the report is suitable for their purpose.

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[2] Conservation and Source Protection Branch, Ministry of the Environment, Conservation and Parks, "2021 technical rules under the Clean Water Act," 16 February 2023. [Online]. Available: https://www.ontario.ca/page/2021-technical-rules-under-clean-water-act. [Accessed 11 2025].

[3] Ministry of the Environment and Climate Change, "Source Protection Standard Operating Policies," [Online]. Available: https://www.yourdrinkingwater.ca/files/supporting-documentation/ECA-Standard-Policies.pdf. [Accessed 11 2025].

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Appendix A

Procedure to Assess if a
Proposed Alteration is a
Significant Drinking Water Threat
Under the Clean Water Act

Significant Drinking Water Threat Assessment
Township of Springwater CLI-ECA Implementation

Appendix A: Procedure to Assess if a Proposed Alteration is a Significant Drinking Water Threat Under the Clean Water Act

NOTE Prior to following the steps outlined within this flow chart, the proponent should review if there has been a revised version of the following documents: 1. Part XII – Tables of Drinking Water Quality Threats from the 2021 Director's Technical Rules under the Clean Water Act. The current flow chart uses a condensed format derived from the latest update on February 16, 2023. 2. South Georgian Bay Lake Simcoe Source Protection Plan – Vulnerability Scores for Springwater WHPA-10. The current flow chart is based on Vulnerability Scores of 10 (WHPA & WHPA-A/B).
1. **Project Type** Does your project fall within the definition of an Authorized System under CLI-ECA 128-S701or CLI-ECA 128-W601?
YES; Proceed to Step 2. **NO**; Project does not apply.
2. **Alteration Confirmation** Does your project fall within the definition of Alteration as described in the ECA?
YES; Proceed to Step 3. **NO**; Project does not apply.
3. **Project Location** Input the project location into the region mapping tool of South Georgian Bay Lake Simcoe website, accessible online here: https://ourwatershed.ca/ Does your project fall within Springwater WHPA 10?
YES; Activities associated with your project could be considered Significant Drinking Water Threats based on location. Proceed to Step 4a. **NO;** Activities associated with your project are NOT considered Significant Drinking Water Threats.
4a. **Identifying the Alteration Circumstance** Does your project involve an outfall from a storm water management facility or storm water drainage system?
YES; Refer to Table 4, Circumstance 1 Item I, II, III, and IV for a description of Circumstances that are considered Significant Drinking Water Threats in WHPA 10. Then proceed to Step 5. **NO**; Proceed to step 4b.

Significant Drinking Water Threat Assessment
Township of Springwater CLI-ECA Implementation

4b. **Identifying the Alteration Circumstance** Does your project involve a storm water infiltration facility?
YES; Refer to Table 4 Circumstance 2 Item I, II, III, IV, V, VI, and VII for description of Circumstances that are considered Significant Drinking Water Threats in WHPA 10. Then proceed to Step 5. **NO**; Proceed to step 4c.
4c. Identifying the Alteration Circumstance Does your project involve sanitary sewers or forcemains?
YES; Refer to Table 4 Circumstance 3 Item I, II, and III for description of Circumstances that are considered Significant Drinking Water Threats in WHPA 10. Then proceed to Step 5. **NO**; Proceed to step 4d.
4d. **Identifying the Alteration Circumstance** Does your project involve an outfall of a combined sewer overflow (CSO), or a sanitary sewer overflow (SSO) from a manhole or wet well?
YES; Refer to Table 4 Circumstance 4 Item I for a description of Circumstances that are considered Significant Drinking Water Threats in WHPA 10. Then proceed to Step 5. **NO**; Proceed to step 4e.
4e. **Identifying type of Circumstance** Does your project involve a Sewage pumping station or lift station wet well, a holding tank or a tunnel?
YES; Refer to Table 4 Circumstance 5 Item I, and II for description of Circumstances that are considered Significant Drinking Water Threat in WHPA 10. Then proceed to step 5. **NO;** Proceed to step 4f.
4f. **Identifying type of Circumstance** Does your project involve Wastewater treatment facilities and associated parts?
YES; Refer to Table 4 Circumstance 6 Item I, II, III, IV, V, VI, VII, VIII, and IX for description of Circumstances that are considered Significant Drinking Water Threat in WHPA 10. Then proceed to step 5. **NO;** Activities associated with your project are NOT considered Significant Drinking Water Threats.
5. **Mitigation** Was your project identified as having a SDWT?
YES; Refer to Section 4.0 Significant Threat Management and Mitigation for requirements. **NO**; Activities associated with your project are NOT considered Significant Drinking Water Threats.

Appendix B

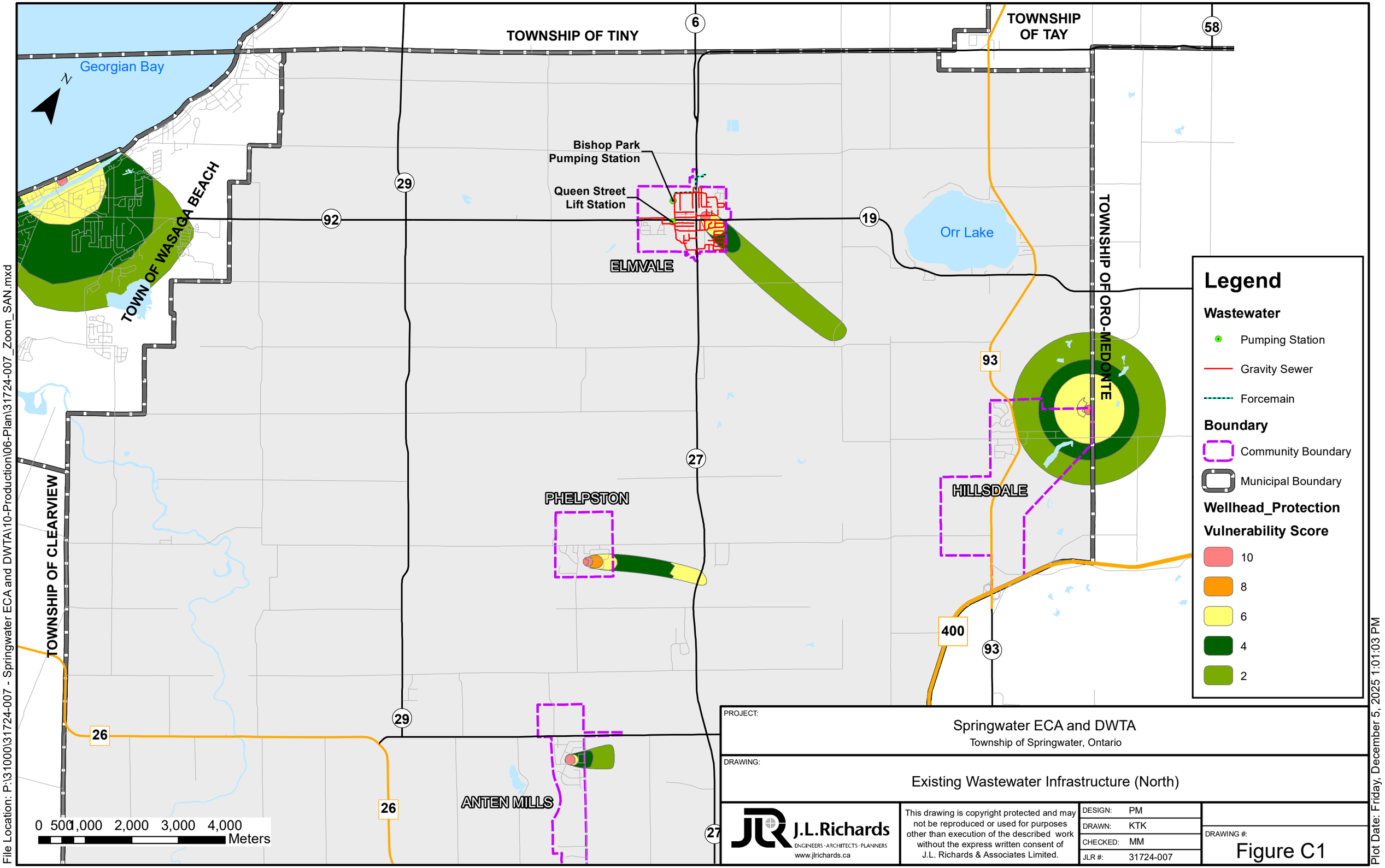
Significant Drinking Water Threat
Alterations Tracking List

Appendix B: Significant Drinking Water Threat (SWDT) Alterations Tracking List

Project Name	Alteration Type (Sanitary/Storm)	Project Description	Project Address	Identified as a SDWT (Y/N)	SDWT Policies and Mitigation Measures Applied	Date of Alteration

Appendix C

Existing Wastewater Infrastructure



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PROJECT:

Springwater ECA and DWTA

Township of Springwater, Ontario

DRAWING:

Existing Wastewater Infrastructure (North)

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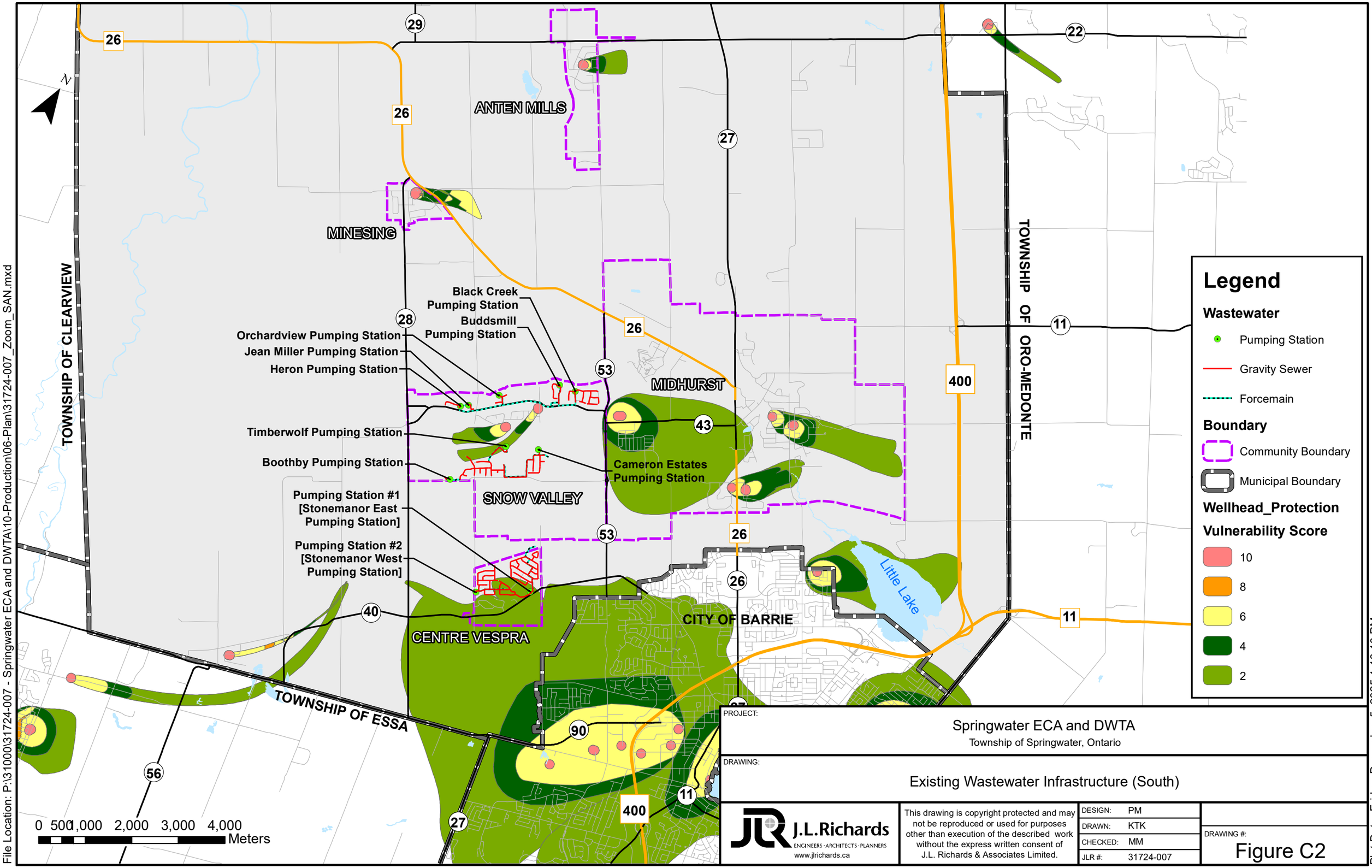
DESIGN:	PM
DRAWN:	KTK
CHECKED:	MM
JLR #:	31724-007

DRAWING #:

Figure C1



PROJECT:

Springwater ECA and DWTA

Township of Springwater, Ontario

DRAWING:

Existing Wastewater Infrastructure (South)

J.L.Richards
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DESIGN:	PM
DRAWN:	KTK
CHECKED:	MM
JLR #:	31724-007

DRAWING #:

Figure C2

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Appendix D

Existing Stormwater Infrastructure

Georgian Bay

TOWNSHIP OF TINY

TOWNSHIP OF TAY

TOWN OF WASAGA BEACH

TOWNSHIP OF ORO-MEDONTE

TOWNSHIP OF CLEARVIEW

ELMVALE

PHELPSTON

HILLSDALE

ANTEN MILLS

Orr Lake

6 58 92 29 19 93 27 400 26

0 500 1,000 2,000 3,000 4,000 Meters

Legend

Stormwater

- Gravity Sewer
- Stormwater Pond

Boundary

- Community Boundary
- Municipal Boundary

Wellhead_Protection

Vulnerability Score

- 10
- 8
- 6
- 4
- 2

PROJECT:

Springwater ECA and DWTA

Township of Springwater, Ontario

DRAWING:

Existing Stormwater Infrastructure (North)

J.L.Richards
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DESIGN:	PM
DRAWN:	KTK
CHECKED:	MM
JLR #:	31724-007

DRAWING #:

Figure D1

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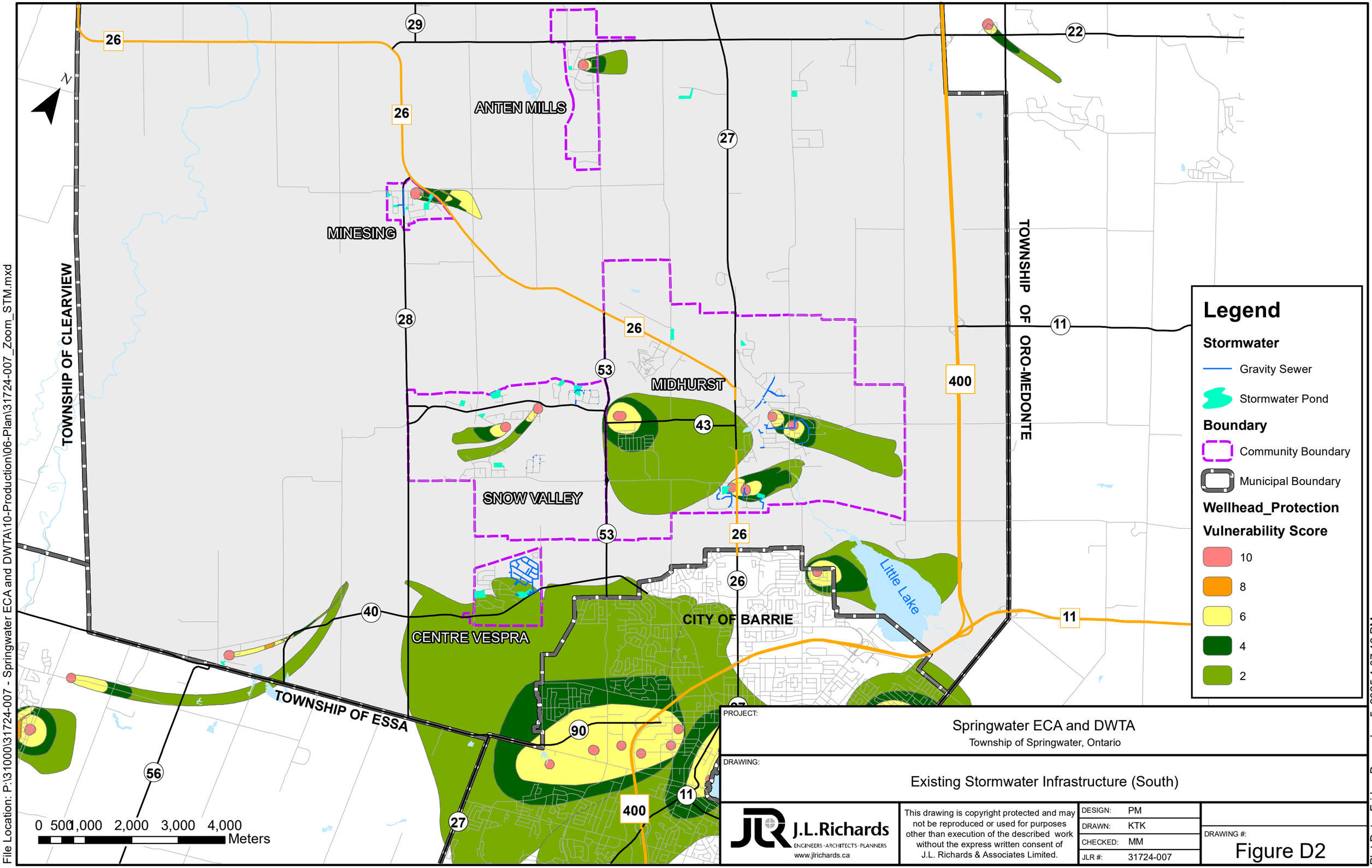

PROJECT:

Springwater ECA and DWTA

Township of Springwater, Ontario

DRAWING:

Existing Stormwater Infrastructure (South)

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DESIGN:	PM
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JLR #:	31724-007

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Figure D2

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