FINAL

Glen Walter Area Water and Wastewater Master Servicing Plan

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Prepared for the Township of South Glengarry

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Table of Contents

List of Tables

APPENDIX A – Figures

Schedule A6a – Glen Walter (the Counties of SDG Official Plan)

Figure 1 – Existing Glen Walter Water Distribution System

Figure 2 – Existing Glen Walter Wastewater Collection System

Figure 3 – Glen Walter Development Areas

Figure 4 – Option 2A Servicing (30-Year)

Figure 5 – Option 2A Servicing (50-Year)

Figure 6 – Option 2B Servicing (30-Year)

APPENDIX B – WSP Water and Wastewater Master Servicing Plan (Draft)

APPENDIX C – Public Consultation

1 Introduction

1.1 Purpose

The Township of South Glengarry (Township) had retained the services of WSP Canada Inc. (WSP) to undertake a Water and Wastewater Master Servicing Plan for the Glen Walter Area. WSP prepared a draft document but prior to initiating the public consultation process, the Township retained EVB Engineering to review the recommendations and complete the environmental assessment process in accordance with the Municipal Engineers Association Publication *Municipal Class Environmental Assessment*.

Although EVB Engineering's evaluation and recommendations differ from those made in the WSP report, many of the sections and supporting studies in WSP's report remain relevant. The relevant sections from WSP's report will be referenced in this document and the report completed by WSP can be found in Appendix B.

1.2 Glen Walter Area

For the purpose of this study, the Glen Walter Area is defined by the following borders:

- North Boundary: South Side of Highway 401 Right-Of-Way
- South Boundary: St. Lawrence River
- East Boundary: Rae Road
- West Boundary: Boundary Road

Schedule A6a from the United Counties of Stormont, Dundas and Glengarry (SD&G) Official Plan is provided in Appendix A which delineates the Glen Walter Area as well as the current urban settlement boundary for the Glen Walter Service Area.

1.3 Background Information

WSP's Report (Appendix B) contains Technical Memorandum No. 2: Growth Scenarios, which provides the following growth prediction.

Table 1 – Growth Prediction

GROWTH SCENARIO	NUMBER OF LOTS SERVICED	PROJECTED SERVICE POPULATION
Existing (Water/Wastewater)	339 / 321	746 / 667
Within 5 Years[1]	684	1,505
Within 10 Years	781	1,719
Within 20 Years	941	2,071

1 Included municipal servicing of Sutherland Subdivision, Sapphire Hills Subdivision and Sabourin Subdivision within the next five years.

WSP's memo provided that the growth forecast was in line with the forecast completed in the Glen Walter Water and Wastewater Servicing Master Plan (TSH 2008). The resultant growth rate for a 20-year period is approximately 2% per year.

1.4 Urban Settlement Area

The boundaries of the Urban Settlement Area for Glen Walter were modified during the 2018 Amendments to the Official Plan. The Urban Settlement Area can be found on Schedule A6a in the Official Plan and is provided in Appendix A.

1.5 Historic Growth Rate

Although the Official Plan does not indicate significant growth for the Glen Walter Area, over the past five years there have been approximately 6-10 building permits issued every year for homes within the municipal serviced area, representing a growth rate of 1% per year. This growth rate is hindered because of the available capacity in the Glen Walter Water and Wastewater Treatment Systems. Should additional municipal servicing capacity be made available, the number of building permits is expected to increase.

1.6 Boundary Road Industrial Park Servicing

The Township had been in negotiations with the City of Cornwall to provide municipal servicing from the City of Cornwall to the properties on the East side of Boundary Road, that are within the Township of South Glengarry. An analysis was completed that demonstrated that it was the most cost-effective solution to have these properties serviced for water and wastewater from City of Cornwall rather than extend services from the Glen Walter facilities.

The City of Cornwall had provided the Township with a draft Shared Services Agreement. When the property owners on Boundary were approached with the approximate cost for obtaining municipal services, there was an overwhelming response against carrying the project forward.

Once the feedback from the majority of the property owners was against the provision of municipal water and wastewater services, the pursuit of providing municipal services to this area was removed from the scope of this assignment.

2 Environmental Assessment Process

Refer to Appendix B, Section 2 of the WSP Report.

3 Literature Review

Refer to Appendix B, Section 3 of the WSP Report.

4 Existing Infrastructure

4.1 Glen Walter Drinking Water System

4.1.1 Glen Walter Water Treatment Plant (WTP)

As per the description in the WSP Report, Section 4.2.1, the Glen Walter WTP is located at 18352 County Road 2, Glen Walter, and operates under Ontario Drinking Water License #185-102. The WTP is a direct filtration plant with a rated capacity of 995 m^3/d. Source water from the St. Lawrence River flows by gravity into the low lift pumping station. Low lift pumps transfer raw water to a flocculation tank. An in-line mixer combines coagulant with the raw source water prior to entering the flocculation tank. Following flocculation, the water is conveyed to two (2) pressure dual-media filters that operate in parallel. The filtered water is then directed to two (2) pressurized granular activated carbon filters to remove constituents associated with taste and odour. Finally, the treated water is dosed with chlorine before entering a storage reservoir from where it is pumped via high lift pumps to the distribution system. The WTP Treatment process design details are provided in Table 2.

Table 2 – Glen Walter WTP Process Details

Process Component	Parameter	Design Value
Intake Pipe	Diameter Length	300mm 390m
Pre-Chlorination	Type Chlorine Capacity	Sodium Hypochlorite 2 kg/d
Low Lift Pumping Station	Well Dimensions # of Pumps Capacity of Pumps	4.5 m (L) x 2.0 m (W) x 3.9m (D) 2 (1 duty / 1 standby) 11.52 L/s at 31.6m TDH
Coagulation	Type # Metering Pumps Type of Metering Pumps Metering Pump Capacity	Aluminum Sulphate (PAS-8) 2 (1 duty / 1 standby) Diaphragm 3.8 L/hr
Flocculation	# of Tanks Dimensions	1 2.7m dia. X 3.5m height
Pressure Filtration	Type Quantity Dimensions (ea)	Multi-media Filters 2 (in parallel) 1.8m dia. X 2.7m height
Activated Carbon Filters	Type # of Tanks Dimensions	Granular Activated Carbon 2 (in series) 2.6m dia x 3.2m height
Post Chlorination	At Clearwell Inlet Type Chlorine Capacity At High Lift Well Type Chlorine Capacity	 Sodium Hypochlorite 2 kg/d Sodium Hypochlorite 2 kg/d
Storage Reservoir	# of Reservoirs Dimensions	2 (in series) 15.3m (L) x 12.2m (W) x 3.9m (D) (North Cell) 5.1m (L) x 12.2m (W) x 3.9m (D) (South Cell)

Process Component	Parameter	Design Value
	Total Capacity	623 m^3
High Lift Pumps	Pump Well Dimensions Pump Type # of Pumps Capacity of Pumps	2.3m (L) x 7.2m (W) x 3.9m (D) Vertical Turbine 2 (1 duty / 1 standby) 16.44 L/s

4.1.2 Water Distribution System

As per the description in Section 4.2.2 of the WSP Report, treated water from the Glen Water WTP is pumped directly into the distribution system, providing potable water to the Glen Walter population within the serviced area. There are no additional booster stations or storage tanks within the existing distribution system. The pipes that make up the distribution network are primarily PVC with a small number of HDPE pipes. Pipe diameters range from 75mm to 300mm. Figure 1 illustrates the existing Glen Walter Water Distribution System.

4.1.3 Glen Walter WTP Performance

The following table provides a summary of flows from the Glen Walter WTP for the period of 2016 through 2020.

Table 3 – Historic Flows from the Glen Walter WTP

Year	2016	2017	2018	2019	2020	Criteria
Raw Water ADF (m^3/d)	438	486	572	583	650	
Raw Water MDF (m^3/d)	738	792	895	897	912	995
Treated Water ADF (m^3/d)	365	389	434	453	500	
Treated Water MDF (m^3/d)	539	522	652	638	587	995

Raw water flows are higher than treated water flows due to the use of water for backwashing the filters on site as well as the use of carrier water for chlorine addition prior to the raw water flow meter.

4.1.4 Uncommitted Reserve Capacity at the Glen Walter WTP

The uncommitted reserve hydraulic capacity of the water plant has been calculated based on the requirements of the Ministry of Environment (MOE) Procedure D-5-1 (April 2016):

$$C_U = C_R - \frac{[L \times F \times P]}{H}$$

Where:

C_u: uncommitted hydraulic reserve capacity (m^3/d)

C_r: hydraulic reserve capacity (m^3/d)

L: number of unconnected approved lots (committed)

P: existing connected population

H: number of households or residential connections

F: maximum daily flow per capita (m^3/capita/d) (water treatment plant). The MDF from 2016-2020 was reported as 897 m^3/d in the annual report.

The uncommitted reserve capacity at the Glen Walter WTP is calculated as follows:

Hydraulic reserve capacity:

C_r = 995 m^3/d – 897 m^3/d

= 98 m^3/d

Theoretical max day water demand of committed residential lots not currently in service:

$\left[\frac{F \times P}{H}\right]$ = (897 m^3/d) / 440 lots = 2.04 m^3/d/lot

L = 73 committed lots

$\left[\frac{L \times F \times P}{H}\right]$ = 2.04 m^3/d/lot x 73 lots = 149 m^3/d

Uncommitted hydraulic reserve capacity at Glen Walter WTP:

C_u = 98 m^3/d – 149 m^3/d

= Overcommitted **51 m^3/d or ~ 25 residential lots**

Therefore, the Glen Walter WTP capacity is over committed and growth outside of the committed capacity should be restricted.

4.2 Glen Walter Wastewater System

4.2.1 Glen Walter Wastewater Collection System

As per the description in Section 4.3.1 of the WSP Report, the collection system in the Glen Walter Service Area is comprised of a network of gravity sewers, forcemains, and sewage pumping stations. The collection system can be separated into two (2) main catchment areas: west of the WPCP and east of the WPCP. The east catchment area flows by gravity to the Raw Sewage Pumping Station (RSPS), located on the site of the

WPCP. The west catchment area conveys wastewater through a network of two pumping stations and forcemains combined with a gravity sewer that discharge to the RSPS.

The gravity sewers range in size from 200mm to 300mm while the forcemains range in size from 100mm to 150mm. All pipes are made of PVC. Figure 2 illustrates the existing Glen Walter Wastewater Collection System.

There are no designated combined sewers in the Glen Walter Service Area.

4.2.2 Sewage Pumping Stations

Excluding the RSPS, there are two (2) sewage pumping stations servicing the west catchment area.

Table 4 – Sewage Pumping Stations

Pumping Station	**Yacht Blvd SPS #1**	**Bray St. PS #2**
Location	6734/6736 Yacht Blvd	6649 Bray Street
Service Area	All Sewage from Place St. Laurent is collected at the Yacht Blvd SPS and is transferred to the collection system which drains to the Bray Street SPS.	All Sewage from Place St. Laurent, Bray Street, and Purcell Street Flow to the Bray Street SPS and is transferred to the Gravity sewer on Lawrence Street which flows by gravity to the RSPS.
# of Pumps	2 (1 duty / 1 Standby)	2 (1 duty / 1 Standby)
Pump Capacity	10 L/s @9.44m TDH[1]	25 L/s @ 8.3m TDH

1 Initial size of the pumps was 10 L/s. The station was designed to be upgraded to 18.8 L/s should the full development reach the originally proposed 170 lots.

4.2.3 Glen Walter Water Pollution Control Plant

As per the description in Section 4.3.2 of the WSP Report, the Glen Walter WPCP is a secondary treatment system based on an extended aeration process with UV disinfection and chemical addition for phosphorus removal. The Glen Walter WPCP has a rated capacity of 787 m^3/d and operates under Environmental Compliance Number 3-0464084-889.

Raw sewage is pumped from the Raw Sewage Pumping Station (PS #3) into the circular treatment system. The first stage of treatment occurs in an aerated tank for grit removal. Post grit removal, aluminum sulphate is dosed into the flow which enters the second stage of treatment which is the extended aeration tank. Mixed Liquor overflows a weir at the end of the aeration tank into the secondary clarifier, located in the middle of the circular treatment tank. Clarified effluent undergoes disinfection through a UV channel prior to

discharge, by gravity, to the outfall located in the St. Lawrence River. Settled sludge from the clarifier is transferred back to the aeration tank as return activated sludge or transferred to the aerobic digester as waste activated sludge. Stabilized sludge is hauled to the Lancaster WPCP for storage.

WPCP Treatment process design details are provided in Table 5.

Table 5 - Glen Walter WPCP Process Component Details

Process Component	Parameter	Design Value
Raw Sewage Pumping Station (PS#3)	Pump Well Dimensions Inlet Pump Type # of Pumps Capacity of Pumps	3.3m (L) x 1.06m (W) x 5.5m (D) Screening Basket Submersible 2 (1 duty / 1 standby) 26.6 L/s
Grit Removal	Type Quantity Volume	Aerated Grit Tank 1 16.8 m3
Coagulant Addition	Type Pump Type # of Pumps	Aluminum Sulphate Diaphragm 2 (1 duty / 1 standby)
Biological Treatment	Type Total Volume	Extended Aeration 525 m3
Aeration System	Diffuser Type Blower Type # of Blowers Blower Capacity	Coarse Rotary Positive Displacement 2 340 L/s
Secondary Clarifier	Type # of Clarifiers Total Surface Area MDF Capacity	Circular 1 65.5 m^2 2,290 m^3/d
Disinfection	Type # of Units Peak Capacity	Ultraviolet 1 2,290 m^3/d
Outfall	Diameter Length	300mm 375m
Sludge Digester	Type # of Units Total Volume	Aerated 1 100 m^3

4.2.4 Glen Walter WPCP Performance

The following table provides a summary of flows from the Glen Walter WPCP for the period of 2016 through 2020.

Table 6 - Historical Performance for the Glen Walter WPCP

Year	2016	2017	2018	2019	2020	Criteria
ADF (m3/d)	626	786	727	782	700	787
MDF (m3/d)	1639	2037	1059	1144	1100	
Effluent BOD5	3.68	3.5	3.2	3.13	3.04	25
Effluent TSS	5.34	5.3	7.37	5.33	4.86	25
Effluent TP	0.25	0.24	0.24	0.16	0.22	0.86

4.2.5 Uncommitted Reserve Capacity at the Glen Walter WPCP

The uncommitted reserve hydraulic capacity of the wastewater plant has been calculated based on the requirements of the Ministry of Environment (MOE) Procedure D-5-1 (April 2016):

$$C_U = C_R - \frac{[L \times F \times P]}{H}$$

Where:

C_u: uncommitted hydraulic reserve capacity (m^3/d)

C_r: hydraulic reserve capacity (m^3/d)

L: number of unconnected approved lots (committed)

P: existing connected population

H: number of households or residential connections

F: maximum daily flow per capita (m^3/capita/d) (wastewater treatment plant) The five (5) year average daily flow at the WPCP is 724 m^3/d.

The uncommitted reserve capacity at the Glen Walter WPCP was calculated as follows:

Hydraulic reserve capacity:

C_r = 787 m^3/d – 724 m^3/d

= 63 m^3/d

Using the five-year average day flow (724 m^3/d) and the total number of existing sewage connections (424), the average day flow per connection is 1.708 m^3/d/lot. This is higher than the flowrate typically expects from new development, and is associated with the high volume of inflow and infiltration experienced with the system. To reflect the expected sewage flows more closely from the committed and future development, a theoretical sewage generation of future growth was used and is based on the typical design parameters of 3.5 persons per lot and a wastewater generation rate of 450 litres per person per day. Theoretical sewage generation for future growth associated with the committed residential lots not currently in service:

$\left[\frac{F \times P}{H}\right]$ = 0.450 m^3/person/d x 3.5 person/lot

= 1.575 m^3/d/lot

L = 73 committed lots

$\left[\frac{L \times F \times P}{H}\right]$ = 1.575 m^3/d/lot x 73 lots

= 115 m^3/d

Uncommitted hydraulic reserve capacity at Glen Walter WPCP:

C_u = 63 m^3/d – 115 m^3/d

= Overcommitted **52 m^3/d or ~ 33 residential lots**

Therefore, the Glen Walter WPCP capacity is over committed and growth outside of the committed capacity should be restricted.

4.3 Privately Servicing Properties

Outside of the Glen Walter Core Area, most of the remaining study area is serviced with private wells and septic systems. Only Farlinger Point has been provided with municipal water service but maintains private wastewater servicing through individual septic beds.

In Section 4.4 of the WSP Report, they describe a door-to-door survey of private services in Farlinger Subdivision, Sutherland Subdivision, Bayview Estates and Sapphire Hill Estates.

The findings of their field investigation are contained in Section 4.4.9 of their report, and summarized as follows:

- Many residents would benefit from information regarding the care and maintenance of well and septic systems, including, but not limited to, information regarding:
    - Discharging sump pumps, rain gutters or storm drains away from septic systems;
    - Regular inspections of their septic system (every 3 to 5 years) and pump-out of their septic tanks when the sludge depth reaches 1/3 the depth of the septic tank;
    - The Eastern Ontario Health Unit recommends residents test their well water three (3) times per year (free analysis service if bottles are dropped off at EOHU office)
- The field investigation also identified seven (7) homes in Bayview Estates that have septic systems and their drinking water supply well less than the regulated minimum separation distance from each other.

5 Growth Forecast

In order to determine the required capacity of future municipal infrastructure, the service area and the projected growth within the delineated service area need to be identified. Figure 3 identified blocks of land that are available for development and the timeline that the Township expects development to occur.

5.1 Glen Walter Development Areas

As previously indicated in Section 1, the previous studies targeted a 2% growth rate and historic building permit issuance rates reflect a 1% growth rate in the Glen Walter Area. This growth rate is hindered by the uncommitted reserve capacity at both the Glen Walter Water Treatment Plant as well as the Glen Walter Water Pollution Control Plant.

It is believed that should capacity be made available to encourage growth within the Glen Walter Area, the growth rates will more closely reflect the building rates currently occurring in the Village of Long Sault, which is directly to the west of the City of Cornwall. Based on information obtained by the Township of South Stormont Planner, the current growth rate in Long Sault is approximately 3.2%.

To ensure capacity is available in infrastructure improvements in Glen Walter, flows related to growth will be basing on a growth rate of 3% for 30 years.

5.2 Growth Potential within Areas

As identified in the Technical Memorandum No. 1, where plans of subdivision exist for proposed subdivisions, the number of units were based on the plans and population estimates were based on 3.5 persons per lot.

Where plans of subdivision were not available, EVB utilized a combination of low-density housing (estate lot configuration) and high-density housing (urban development) based on the following assumptions.

Table 7 – Population Growth Assumptions

Area for Development	Assumptions
For Areas with Site Plan Approvals	Persons per lot: 3.5
For High Density Developments	Lots per Ha: 14.3 Persons per Ha: 50
For Low Density Developments	Lots per Ha: 5.8 Persons per Ha: 20

Additionally, flows from these areas are based on the following assumptions:

Table 8 – Water and Wastewater Design Rate Assumptions

Description	Design Rate
Water Flow Per Person	350 L/capita/d
Maximum Day Factor	2
Wastewater Flow Per Person	450 L/capita/d
Inflow & Infiltration	90 L/cap/d

6 Alternative Servicing Options

6.1 Alternative Servicing Options

There are three main options that need to be considered when evaluating the servicing of the Glen Walter system:

Option 1 – Maintain a Mix of Municipal and Private Services

Option 2 – Expansion of South Glengarry's Infrastructure

Option 2A – Expansion to Entire Area

Option 2B – Expansion to Expanded Service Area (New Development)

Option 3 – Obtain Services from City of Cornwall

6.2 Option 1 – Maintain a Mix of Municipal and Private Services

6.2.1 Description

As identified earlier, there is a mix of municipal and private servicing for the study area. Maintaining this configuration (status quo) is possible for the existing development within

the Glen Walter Area, however, this will have the following impact on the development of the Glen Walter Area:

a) Onsite sewage systems require larger lots and does not optimize land use and potential population densities;
b) Private servicing will restrict the type of development (i.e. residential and dry commercial only) preventing potential opportunities with commercial, industrial and institutional developments;
c) Fire protection services will not be expanded into the areas that remain on private services;
d) The capacity of both the Glen Walter WTP and Glen Walter WPCP cannot provide services beyond the existing committed capacity. (Growth in the serviced area is halted).

Option 1 is not recommended since 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 as noted in the Provincial Policy Statement.

The Glen Walter WTP and WPCP will need to be expanded to service the committed growth as well as infill within the settlement boundaries. The design population for Option 1 is based on current planned or approved subdivision that are proposed to be developed with municipal services as well as providing for infill within the Glen Walter Core area. The ultimate service population is shown in the following table.

Table 9 – Option 1 Design Population

Area	Population
	Based on Infill
Municipal Water/Wastewater Service	963
Existing Private Serviced Development	0
Approved Plans of Subdivision	252
Regional Growth (Infill)	124
TOTAL POPULATION	1,339
Growth Rate (within Serviced Area)	0.33%

The design water and wastewater requirements for this population is presented in the following table.

Table 10 – Option 1 Water and Wastewater Design Flows

System	Ultimate Capacity
WTP (MDF)	1,175
WPCP (ADF)	989

Based on these design flows, the existing Glen Walter WTP and WPCP do not have the the capacity to meet the design daily flows and will require an expansion of both facilities.

6.2.2 Water Storage Requirements

As per the MECP's *Design Guidelines for Drinking-Water Systems*, the requirement for total treated water storage is based on the population and maximum daily flows within the water distribution system, and can be calculated as follows:

Total Treated Water Storage = A + B + C

Where: A = Fire storage
B = Equalization storage (25% of maximum day demand); and
C = Emergency storage (25% of A + B)

The water storage requirements were calculated for the various scenarios and are shown in the following table.

Table 11 – Water Storage Requirements

Storage Requirements	30-Year Projection
Fire Water Storage	570
Equalization Storage	294
Emergency Storage	216
Total Required Storage	**1,080**
Available Storage at WTP	230
Minimum Additional Storage Required	850
Recommended Additional Storage	**1,000**

It is recommended that a slightly larger storage volume be provided, which will add nominal costs to the project at this point but will provide significant flexibility should the Township wish to expand the municipal water servicing in the future.

6.2.3 Water Distribution System

WSP completed a hydraulic model of the water distribution system. Through the use of the hydraulic model, it was determined that sections of the existing water distribution system were identified for rehabilitation to ensure that the water distribution system can support fire flows throughout the entire system.

6.2.4 Wastewater Collection System

WSP completed a hydraulic model of the wastewater collection system. Through the use of the hydraulic model, it was determined that sections of the existing wastewater collection system were identified for rehabilitation as they could not convey the peak sanitary sewage flows during a 100-year rain event.

6.2.5 Infrastructure Requirements for Option 1

Should Option 1 be selected as the preferred option, the following works are required to support the existing service area, including potential infill and committed plans of subdivision:

- The Glen Walter WTP will require an expansion to support the existing service area, the committed developments as well as the growth within the next 30-years (growth rate of 0.33%).
- Increase water storage on the system with an elevated tower that will provide sufficient storage to meet the MECP requirements for fire flows, equalization storage and emergency storage.
- Replacement of parts of the existing distribution system to ensure fire flows are achieved within the entire serviced area.
- Expansion of the Glen Walter Wastewater Treatment Plant is required to support the existing service area, the committed developments as well as the growth within the next 30-years (growth rate of 0.33%).
- Replacement of parts of the collection system to ensure the collection system is capable of carrying the 100-year design flows.

6.2.6 Cost Estimate

Based on the cost models developed in the Ontario Ministry of Public Infrastructure Renewal publication "Water and Wastewater Asset Cost Study", a total project cost estimate has been generated for the implementation of this solution.

Table 12 – Opinion of Total Project Cost for Option 1

Opinion of Construction Cost	Option 1
Water Treatment	$3,156,000
Water Storage	$1,713,000
Linear Water	$900,000
Wastewater Treatment	$10,019,000
Linear Wastewater	$400,000
CONSTRUCTION SUBTOTAL	$16,188,000
Design/CA (15%)	$2,428,000
Contingency (30%)	$4,856,000
TOTAL ESTIMATED COST	$23,472,000
Potential Funding (2/3)	$15,648,000
Net Township Cost	$7,824,000

6.3 Option 2 – Expansion of South Glengarry's Infrastructure

6.3.1 Description

The second servicing option considers the provision of municipal sewage and water services to the entire Glen Walter study area and includes major upgrades to the existing infrastructure as required to provide municipal services to all existing developments while creating capacity for future growth.

6.3.2 Option 2A - Phased Approach for Servicing the Entire Study Area

This option requires a multi-phased approach to expanding municipal servicing throughout the entire study area. This will be achieved by setting a 30-year and a 50-year goal for the expansion of services.

30-Year Expansion

The goal for Phase 1 is to provide both water and wastewater servicing for the Glen Walter Core Area, Farlinger Point (Area A), Sutherland Subdivision (Area B), Sapphire Hills (Area C), Bayview Estates (Area C), Place St. Laurent (Area D), Country Club Estates (Area E) and Boundary Road (Area T). In additional, capacity allocation will be made available in areas J, K, and L1. (Figure 4)

Table 13 – 30 Year Population Requirements

Area	Population
Municipal Water/Wastewater Service	963
Existing Privately Serviced Development	882
Approved Plans of Subdivision	417
Regional Growth	3,228
TOTAL POPULATION	5,490
Growth Rate	3%

The goal for Phase 2 is to provide both water and wastewater servicing for the entire Glen Walter Study Area (Figure 5), including growth in Areas F1, F2, G1, G2, H, I, M, N, O, Q, R and S.

Table 14 – 50 Year Population Requirements

Area	Population
Municipal Water/Wastewater Service	963
Existing Privately Serviced Development	1,425
Approved Plans of Subdivision	568
Regional Growth	10,003
TOTAL POPULATION	12,959
Growth Rate	3.00%

6.3.3 Option 2B – Expansion of the Municipal Service Boundaries

The goal for this phase is to provide both water and wastewater servicing for new developments fronting the existing Glen Walter Core Area, including infill within the Glen Walter Core and Farlinger Point (Area A), Place St. Laurent (Area D), and Country Club Estates (Area E). In additional development will be permitted in areas K and U. (Figure 6)

Table 15 – Option 2B – 30 Year Population Requirements

Area	Population
Municipal Water/Wastewater Service	963
Approved Plans of Subdivision	252
Regional Growth	1,734
TOTAL POPULATION	2,949
Growth Rate	3%

6.3.4 Option 2 – Water and Wastewater Treatment Facility Requirements

The design water and wastewater requirements for the population described in Option 2A and 2B are presented in the following table.

Table 16 – Option 1 Water and Wastewater Design Flows

System	2A (30-Years)	2A (50-Years)	2B (30-Years)
WTP (MDF)	4,100	9,300	2,300
WPCP (ADF)	3,200	7,300	1,900

Based on these design flows, the existing Glen Walter WTP and WPCP do not have the the capacity to meet the design daily flows and will require an expansion of both facilities.

6.3.5 Option 2 – Water Storage Requirements

As per the MECP's *Design Guidelines for Drinking-Water Systems*, the requirement for total treated water storage is based on the population and maximum daily flows within the water distribution system, and can be calculated as follows:

Total Treated Water Storage = A + B + C

Where: A = Fire storage
B = Equalization storage (25% of maximum day demand); and
C = Emergency storage (25% of A + B)

The water storage requirements were calculated for the various scenarios and are shown in the following table.

Table 17 – Option 2 - Water Storage Requirements

Storage Requirements	2A (30-Years)	2A (50-Years)	2B (30-Years)
Fire Water Storage	1,717	2,376	792
Equalization Storage	1,020	2,327	576
Emergency Storage	684	1,176	342
Total Required Storage	**3,421**	**5,879**	**1,710**
Available Storage at WTP	230	230	230
Minimum Additional Storage Required	3,191	5,649	1,480
Recommended Additional Storage	3,200	5,750	1,500

It is recommended that a larger storage volume be constructed, which will add nominal costs to the project at this point but will provide significant flexibility should the Township wish to expand the municipal water servicing in the future.

6.3.6 Linear Water Infrastructure Requirements

As previously discussed, the expansion of South Glengarry's infrastructure requires water storage, which is proposed to consist of an elevated storage tank in a location to be determined. Upgrades to the existing watermains and an expansion of the infrastructure will also be required to service existing and future development.

Generally, the water distribution system is expected to consist of trunk watermains from the Glen Walter WTP to the elevated storage tank, and along the major roadways (County Road 2 & Purcell Road) as required to provide sufficient domestic and firefighting flows from the elevated storage tank to areas located within the limit of the Glen Walter area, such as Area I (future development on Rae Road North) and Area F & M (Edgewater Subdivision). Smaller watermains would be installed within new and existing developments to provide servicing to all properties.

The need for trunk watermains in Glen Walter's ultimate development area is exacerbated by cost inefficiencies related to installation of long watermain loops through areas not slated for development. For example, it may not be cost-efficient to construct a watermain loop between the east limit of Area C1 (Sapphire Hills) and the south limit of Area Q (Rae

Road East) if development does not occur alongside the watermain loop. This loop would however be beneficial to provide system redundancy and possibly decrease the diameter of trunk watermains.

A more detailed analysis consisting of water modeling of the entire collection system would be needed to review the benefits of loops in conjunction with alternative locations for the elevated storage tank.

Upgrades to the pumps at the Glen Walter WTP would also be required to supply the necessary flows from the Glen Walter WTP to the elevated storage tank.

6.3.7 Linear Wastewater Infrastructure Requirements

EVB Engineering reviewed the existing infrastructure, areas slated for future development, existing topography and information pertaining to proposed developments, and developed a conceptual servicing plan for Glen Walter seeking to minimize capital costs as well as operation and maintenance costs.

The use of gravity sewers was preferred where possible, however pumping stations could not be avoided due to the challenging topography of the area. The conceptual plan makes very little use of the existing infrastructure since the future flows at full development are significant and could not be accommodated by the existing infrastructure.

It is however important to note that interim servicing of new sanitary pumping stations is possible to some extent using existing infrastructure. For example, the forcemain from proposed SPS #6 (Edgewater Subdivision) is proposed to outlet to the gravity sewer on County Road 2, and a similar arrangement could be done for proposed SPS #4 (Country Club Estates) with its forcemain outletting to the existing gravity sewer on Purcell Road. As development occurs and flows increase, these forcemains would need to be extended to the wastewater treatment plant to avoid surcharging existing sewers.

The conceptual sanitary servicing plan for Glen Walter based on an expansion of South Glengarry's infrastructure is shown on Figure 4 (30-Year) and Figure 5 (50-year) and is discussed in greater detail in the following table. Note that all flows discussed below consist of maximum daily flows (MDF) with an allowance of 0.19 L/s/ha for infiltration and inflow and were based on the 50-year low-density scenario.

Table 18 - Details of Sanitary Conceptual Plan (Expectation is for Developers to Pay for this Component)

Sanitary Pumping Station (SPS)	Servicing Areas	Description
SPS #1, Existing Place St. Laurent	Existing: D, D3, D4, D5 Future: A, B	Extension of relatively deep gravity sewers along County Road 2 & easements to service Areas A (Farlinger Point) and B (Sutherland Subdivision). Replacement of existing pumps from 10 L/s to 20.8 L/s, slightly exceeding original design flow of 18.8 L/s for the SPS but can easily be accommodated with the existing wet-well and new pumps.
SPS #2, Existing Bray Street	Existing: SPS #1, northwest area of Glen Walter Future: K	SPS was upgraded in 2021.
SPS #3, Existing Wastewater Treatment Plant	Existing: Glen Walter Future: A & B (SPS #1), R & S (SPS #8), O	A sewer extension along County Road 2 was proposed as part of the development of Area F (Edgewater Subdivision) to provide an outlet for the new forcemain and provide servicing to Area O (dwellings along County Road 2 and Sabourin Drive). Pumps will need to be replaced at the RSPS to accommodate an additional 10.8 L/s from SPS #1, 4.2 L/s from SPS #8 and 2.1 L/s from Area O.
SPS #4, Proposed Country Club Estates	Existing: n/a Future: C1, C2, E, G1, G2, J, L, N, P, SPS #5	Construction of deep gravity sewers and new large SPS to accommodate 98.7 L/s from Areas C1, C2, E, G1, G2, J, L, N, P and 58.4 L/s from SPS #5, for a total of 157.1 L/s, and new forcemain along Purcell Road and County Road 2 directly to the Glen Walter WPCP. We understand a SPS is already proposed as part of the preliminary servicing report prepared as part of the draft plan submission for the development of Area E (Country Club Estates), hence the SPS could be designed to accommodate higher flows and/or deeper sewers.
SPS #5, Proposed Boundary Road	Existing: n/a Future: T	Construction of new 58.4 L/s SPS at the southeast limit of the Boundary Road area, gravity sewers as per the preferred option in the *Boundary Road Servicing Study* (EVB, 2017). Construction of new forcemain to new gravity sewers on Tyotown Road, discharging into new SPS #4.
SPS #6, Proposed Edgewater Subdivision	Existing: n/a Future: F, M, SPS #7	Construction of deep gravity sewers and new SPS to accommodate 20.1 L/s from Areas F and M and 49.3 L/s from SPS #7 (total = 69.4 L/s).

Sanitary Pumping Station (SPS)	Servicing Areas	Description
		A SPS is already proposed as part of the development of Area F (Edgewater Subdivision), hence the SPS could be designed to accommodate higher flows. Its proposed depth appears sufficient. It is expected that the forcemain will eventually have to be brought directly into the WPCP as development occurs and flows increase.
SPS #7, Proposed Rae Road	Existing: n/a Future: Q, I	Construction of gravity sewers and new SPS to accommodate 49.3 L/s from Areas Q and I. As can be seen, this also relies on a sewer in an easement to avoid unnecessarily deep sewers at the large hill at the intersection of Rae Road and Tyotown Road. Forcemain from SPS #7 was taken to SPS #6 in order to minimize flows to SPS #4 and since a gravity sewer discharging to SPS #6 will be required in the south portion of area Q due to existing topography. For phasing reasons, forcemain could instead be redirected to new gravity sewers on Tyotown Road, discharging to new SPS #4.
SPS #8, Proposed Craig Road Subdivision	Existing: n/a Future: R, S	Construction of gravity sewers and small SPS to accommodate low-lying Area R and S, and extension of the sanitary sewer along County Road 2. Forcemain is proposed to discharge to the existing sanitary sewer along County Road 2 or to the sewer extension proposed for the development of Area F (Edgewater Subdivision).

6.3.8 Cost Estimate

Based on the cost models developed in the Ontario Ministry of Public Infrastructure Renewal publication “Water and Wastewater Asset Cost Study”, a total project cost estimate has been generated for the implementation of this solution.

Table 19 – Opinion of Total Project Cost for Option 1

Opinion of Construction Cost	Option 2A		Option 2B
Project Component	30-Year	50-Year	30-Year
Water Treatment	$22,892,000	$17,792,000	$15,823,000
Water Storage	$3,825,000	$3,161,000	$2,312,000
Linear Water	$3,100,000	$3,100,000	$3,100,000
Wastewater Treatment	$27,072,000	$26,610,000	$17,137,000
Linear Wastewater	$3,322,000	$3,322,000	$3,322,000
CONSTRUCTION SUBTOTAL	$60,211,000	$53,985,000	$41,694,000
Design/CA (15%)	$9,032,000	$8,098,000	$6,254,000
Contingency (30%)	$18,063,000	$16,196,000	$12,508,000
TOTAL ESTIMATED COST	$87,306,000	$78,279,000	$60,456,000
Potential Funding (2/3)	$58,204,000	$52,186,000	$40,304,000
Net Township Cost	$29,102,000	$26,093,000	$20,152,000

Please note that the costs for Option 2A – 50-Year Phase are an incremental cost to the Option 2A – 30-Year Phase.

6.4 Option 3 – Connection to Cornwall Infrastructure

The third option considered to provide municipal sewage and water services to the Glen Walter area consists of a connection to the City of Cornwall's infrastructure. As the City of Cornwall and the Township of South Glengarry failed to come to a suitable arrangement to supply municipal services from the City of Cornwall to the portion of South Glengarry on the East side of Boundary Road, the Township has chosen to stop exploring this opportunity with the City of Cornwall.

7 Evaluation of Alternative Solutions

7.1 Evaluation Approach

Utilizing the evaluation criteria prepared in conjunction with WSP (WSP Section 10.2), each of the servicing options will be evaluated in terms of their impacts on the natural, social, economic and technical criteria.

Following the application of the evaluation criteria, a preferred alternative will be identified for the future servicing of the study area.

7.2 Evaluation Criteria

EVB Engineering utilized the evaluation criteria prepared by WSP (WSP Table 10.1) for the evaluation of the servicing options.

Table 20 – Evaluation Criteria

Category	Criteria	Description
Natural Environment	Surface Water and Groundwater Impacts	Impact on water quantity and water quality of receiving waters including the St. Lawrence River and area municipal drains as well as groundwater quality and quantity
	Impact on natural heritage features/vegetation	Impacts on terrestrial resources such as trees and other vegetation
Social and Cultural Heritage	Impact to development areas and private properties	Noise, traffic, odour and visual distraction impacts on residents resulting from construction and/or long-term operation of the facilities
	Compatibility with proposed land uses	Compatibility of official plan land use with proposed land use
Economic Viability	Capital Cost	Estimated capital cost
	Operating and Maintenance Costs	Estimated annual operating and maintenance costs
Technical Sustainability	Ease of Construction and Site Access	Ability to maintain the performance of the treatment process during construction
	Impact on operations during construction	Change to operational requirements and impact on operations
	Ease of integration with existing infrastructure and ability to expand in the future	Compatibility with existing infrastructure in terms of use of existing infrastructure
	Ease of operation	Change to operational requirements and complexity of operations
	Impact on vulnerability to future climate changes	Ability to address potential issues arising from climate change (peak wet weather flows)

7.3 Evaluation of the Alternative Servicing Solutions

Table 21 provides a summary of the evaluation of the alternative servicing solutions.

Notes regarding construction cost estimate:

- Construction dollars are expressed in 2020$
- Although linear costs are shown in the table, some of these costs can be assumed by the developers of the vacant properties
- Linear costs are shown for service connections, water mains, wastewater sewers, and sewage forcemains within areas that are developed on private services which will be converted to municipal servicing. Infrastructure within undeveloped lots will be financed through the developers.
- Assumed sewer installation at 4-6m depth without rock removal.
- Excludes HST
- Assumed 2/3s funding from higher levels of government
- Assumed funding is not available for Capital Buy-in costs

Table 21 – Evaluation of Servicing Alternatives

Evaluation Criteria	Option 1 – Status Quo	Option 2 – South Glengarry Servicing Extension
Natural Environment		
• Surface water and groundwater impacts • Impacts on natural heritage / vegetation	• Potential for tree removal for new water tower location and site for Glen Walter WPCP. • Expansion of Glen Walter WPCP will improve effluent quality returned to St. Lawrence. • Expanded WPCP will handle peak flows reducing bypass events. • Potential requirement for dewatering during construction.	• Potential for tree removal for new water tower location and site for Glen Walter WPCP. • Expansion of Glen Walter WPCP will improve effluent quality returned to St. Lawrence. • Expanded WPCP will handle peak flows reducing bypass events. • Potential requirement for dewatering during construction. • Removal of private water and sewage systems will potentially improve groundwater quality in the area
Social and Cultural Heritage		
• Impact to development areas and private properties • Compatibility with proposed land uses	• Minimizes the area to which municipal water and wastewater services will be offered. • Provides for fire flow within the service area. • Dust and noise impacts should be controlled during construction. • Less opportunity for expansion of services in the future. • Private water and sewage system remain in use.	• Provides a long-term plan for the municipal servicing of the study area. • Provides for fire flow within the entire study area. • Dust and noise impacts should be controlled during construction. • Removes private water and sewage systems from operation within the study area which will improve enjoyment of properties. • Municipal services allows for higher intensity of development.
Economic Implications [1]		
• Capital Cost	Capital Cost: $29,102,000	Capital Cost: 2A (Phase 1) $87,306,000 2A (Phase 2) $78,279,000 2B $60,456,000
Technical Suitability		
• Ease of Construction and Site Access • Impact on Operations During Construction • Ease of Integration with Existing Infrastructure and ability to expand in the future	• Existing site is restrictive and new property acquisition may be required. • New elevated water storage will allow for modifications on the treated water line from the WTP • Schedule “C” EA required for WPCP works.	• Existing site is restrictive and new property acquisition will be required. • New elevated water storage will allow for modifications on the treated water line from the WTP • Schedule “C” EA required for WPCP works.

Evaluation Criteria	Option 1 – Status Quo	Option 2 – South Glengarry Servicing Extension
• Ease of Operation • Impact on Vulnerability to Future Climate Change	• MECP approvals required for WPCP works and amendment to Drinking Water Works Permit for water storage. • Improved redundancy within both water and wastewater systems. •	• MECP approvals required for WPCP works and amendment to Drinking Water Works Permit for water storage. • Improved redundancy within both water and wastewater systems.

8 Identification of Preferred Alternative

8.1 Description of Preferred Alternative

The preferred option for the provision of water and wastewater servicing within the Study area is Option 2B: Expansion of the Municipal Services Boundaries. This option includes ensuring that there is capacity in the municipal water and wastewater systems to support growth within the following areas: infill within the Glen Walter Core and Farlinger Point (Area A), Place St. Laurent (Area D), and Country Club Estates (Area E). In addition, development will be permitted in areas K and U (refer to Figure 6). The development of these areas is expected to increase the service population within the municipal serviced area from just under 1,000 persons (2021) to just under 3,000 persons (2051).

The infrastructure required to implement this servicing plan includes:

- Expansion of the Glen Walter Water Treatment Plant from 995 m^3/d to 2,300 m^3/d;
- Construction of a new Glen Walter Wastewater Treatment Plant increasing the capacity from 787 m^3/d to 1,900 m^3/d;
- Construction of a 1,500 m3 elevated water storage tower;
- Replacement of some areas of the water distribution system to ensure that peak flows and fire flows can be conveyed through the system;
- Upgrades to the Place St. Laurent Sewage Pumping Station to support additional growth within its catchment area; and
- Replacement of some areas of the wastewater collection system to ensure that peak flows can be conveyed to the new Glen Walter Water Pollution Control Plant.

The next steps for the implementation of this project include:

Year 1

- Complete a Schedule “C” Environmental Assessment for the expansion of the Glen Walter Water Treatment Plant and Glen Walter Water Pollution Control Plant.
- As per initiatives that have already commenced, implement a leak detection and correction program to reduce the 50% water loss on the water distribution system. If water loss reduction efforts are successful, it may delay the timing for the expansion of the Glen Walter Water Treatment Plant.
- Advocate for funding from higher levels of government.

Year 2

- Implement the land acquisition requirements from the Schedule “C” EA.
- Advocate for funding from higher levels of government.

Year 3

- Initiate the Design of the Glen Walter Water Pollution Control Plant
- Advocate for funding from higher levels of government.

Year 4-5

- Construct the Glen Walter Water Pollution Control Plant
- Initiate the Design of the Glen Walter Water Treatment Plant

Year 5-6

- Construct the Glen Walter Water Treatment Plan

8.2 Public Consultation Requirements of the Environmental Assessment Process

As described in Section 2 of this report the preparation of a Master Plan must follow the requirements of the MEA's publication "Municipal Class Environmental Assessments". When this process is completed, in accordance with this process, Phases 1 and 2 of the EA process is complete and works that are categorized as Schedule A, A+ and B may proceed to implementation.

In order for this document to comply with the EA process, the public consultation component of the process must be completed. The public consultation requires two components:

- Public Notifications; and
- Public Information Centre.

8.2.1 Project Notifications

The notification requirements consist of three mandatory notices being circulated for including:

- Notice #1 – Public Consultation Centre #1
- Notice #2 – Public Consultation Centre #2
- Notice #3 – Notice of Study Completion

Copies of these notices are in Appendix C.

8.2.2 Public Information Centre

Public consultation is an integral component of the environmental assessment process, allowing the public and various governmental agencies an opportunity to provide input

into the selection of a preferred solution for the expansion of water and wastewater servicing within the Glen Walter Area.

Upon the onset of the project a list of entities (first nation groups and agencies) was developed and is provided in Appendix C.

Public Information Centre #1

The Public Information Centre #1 was advertised in the Glengarry News on June 17, 2020 as well as on the Township's website.

The virtual Public Information Centre was held on June 24, 2020 from the times of 6:00pm to 8:00pm. Presentation information was also made available through the Township website.

The presentation materials and comments sheets are included in Appendix C.

Public Information Centre #2

The Public Information Centre #2 was advertised in the Glengarry News on September 21, 2021 as well as on the Township's website.

The virtual Public Information Centre was held on September 28, 2021 from the times of 5:00pm to 7:00pm. Presentation information was also made available through the Township website.

The presentation materials and comments sheets are included in Appendix C.

8.2.3 Agency Consultation

A list of governmental and non-governmental agencies that were contacted about this project is provided in Appendix C.

8.3 Master Plan Filing

On November 24, 2021, the Township of South Glengarry issued a Study Completion for the project and have placed this document on public record for comment for 30-calendar days.

If concerns arise regarding this project, which cannot be resolved in discussion with the municipality, a person or party may request that the Minister of the Environment, Conservation and Parks to order a change in the project status and require a higher level of assessment under an individual Environmental Assessment process (referred to as a Part II Order). The Part II Order Request Form is available online on the Forms Repository Website (http://www.forms.ssb.gov.on.ca) by searching "Part II Order" or

"012-2206E" (the form number). Reasons must be provided for this request. Request must be received by the Minister within 30 calendar days of this Notice.

Minister Jeff Yurek
Minister of the Environment, Conservation and Parks
College Park 5th Floor, 777 Bay Street
Toronto, ON M7A 2J3

-and-

Director, Environmental Assessment and Permissions Branch
Ministry of the Environment, Conservation and Parks
Environmental Approvals Branch
135 St. Clair Avenue West, 1st Floor
Toronto, ON M4V 1P5

-and-

Sarah McDonald
General Manager of Infrastructure Services
Township of South Glengarry
6 Oak Street, Box 220, Lancaster, Ontario K0C 1N0
T: 613-347-1166
smcdonald@southglengarry.com

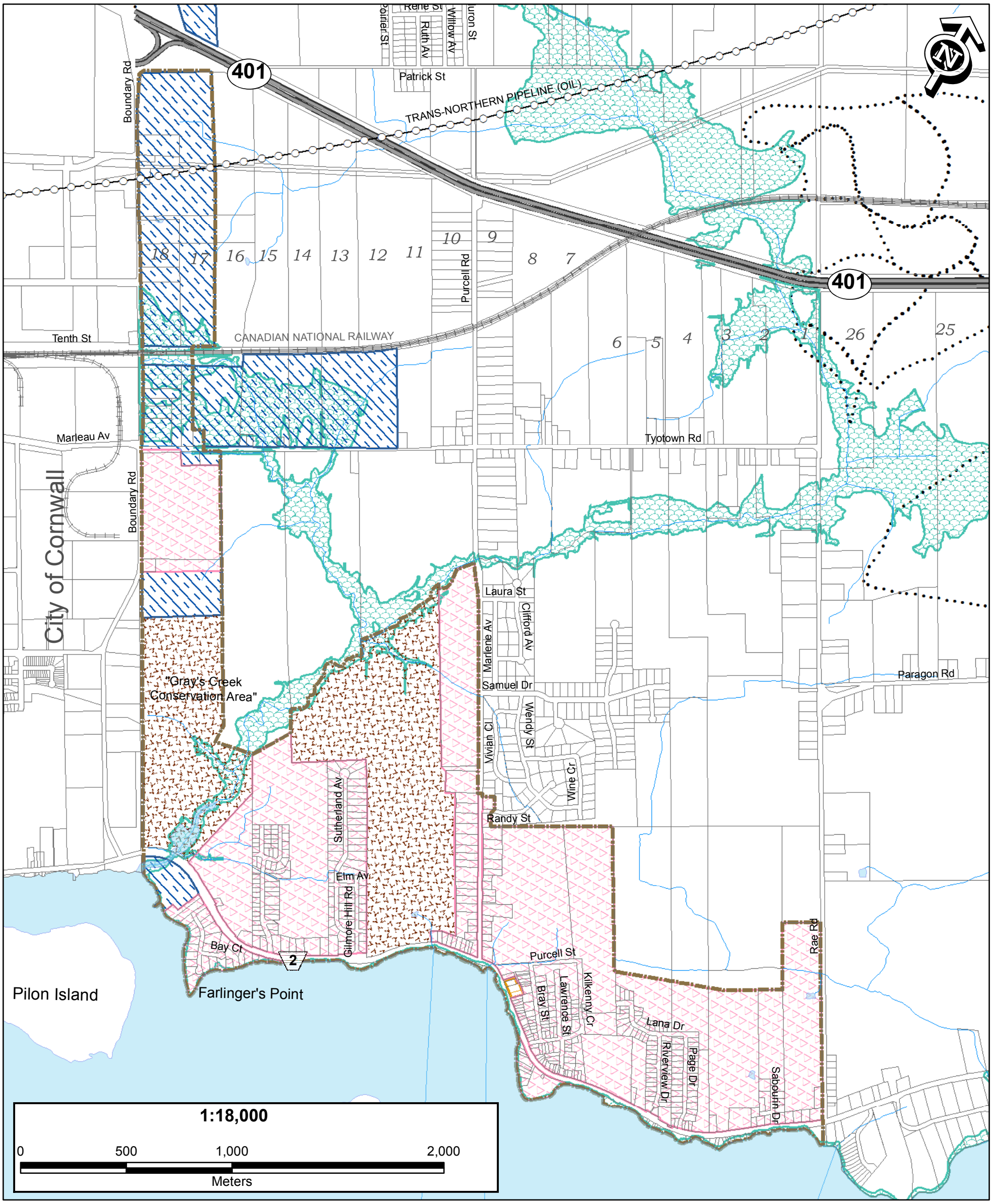
If there is no request received by January 8, 2022, the Township will proceed with the implementation of the recommendations from the Master Plan.

APPENDIX A

Figures

SCHEDULE A6a

Glen Walter



LEGEND

Boundaries (Land Use Designation)

- Urban Settlement Area
- Urban Service Limit

Settlement Areas (Land Use Designation)

- Residential District
- Commercial District
- Employment District
- Provincially Significant Wetland
- Salvage Yard District
- Major Open Space
- Airport District
- Special Land Use District (See Table 9.1.5 of the OP Text)

Environmental Protection Lands (Constraint Overlay)

- Regulatory Floodline
- Organic Soils
- Unstable Slope

MOECC Identified Closed Waste Site (Approximate Location):

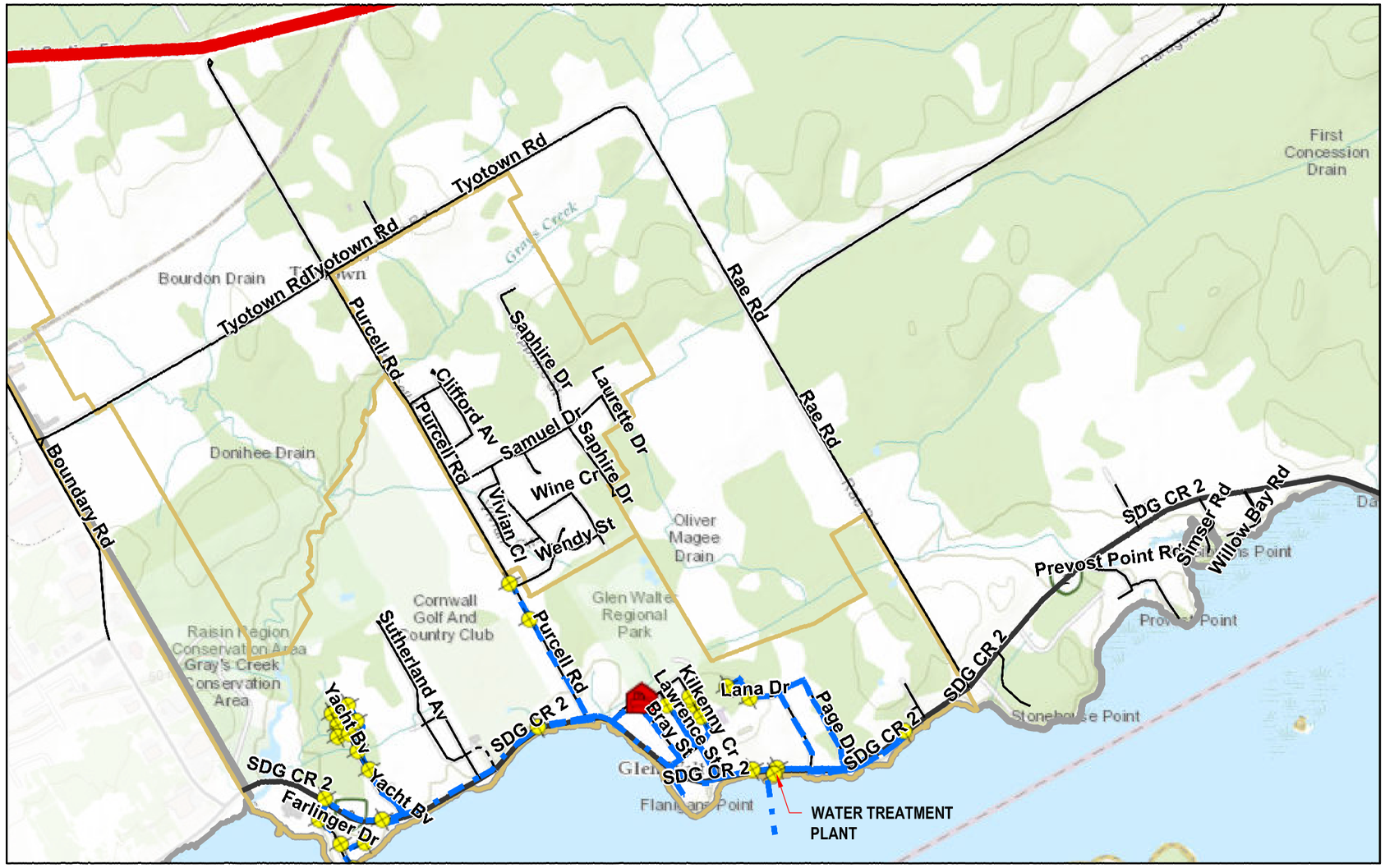
- Closed Waste Site

Infrastructure

- Communal Well
- Hospital
- Sewage Lagoon

Produced by the United Counties of Stormont, Dundas and Glengarry, Transportation and Planning Services with Data supplied under Licence by Members of the Ontario Geospatial Data Exchange

Glen_Walter_Water



12/5/2019, 8:53:58 AM

Fire Hydrant — Fire Station — Water Line

Hydrant - Valve — Fire Station

0 0.2 0.4 0.8 mi

0 0.35 0.7 1.4 km

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, SDG

For informational purposes only. Data is representative of location of water and sewer assets but are not survey accurate. Remember to call before you dig by to locate underground utilities by contacting ON1Call 1-800-400-2255 .

EVB ENGINEERING
800 SECOND STREET WEST
CORNWALL, ONTARIO CANADA, K6J 1H6
TEL: 613-935-3775 | FAX: 613-935-6450
WEBSITE: EVBengineering.com

CLIENT: SOUTH GLENGARRY — Ontario's Celtic Heartland

PROJECT:

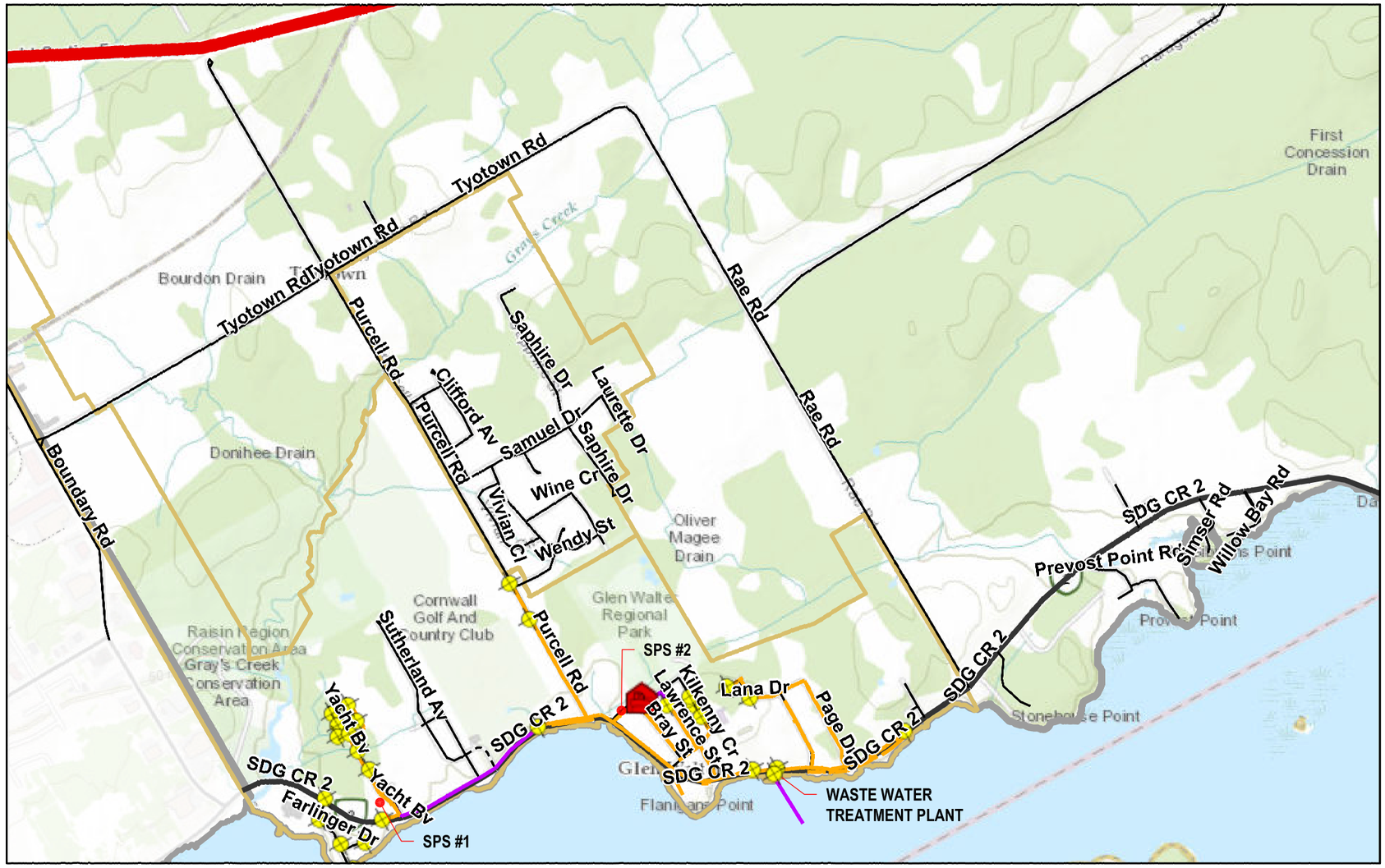
GLEN WALTER AREA
WATER AND WASTEWATER
MASTER SERVICING PLAN

TITLE:

GLEN WALTER
EXISTING WATER DISTRIBUTION
SYSTEM

SCALE: N.T.S.	JOB NO: 19030
DESIGNED BY: M.V.	DATE: 2020/05/01
DRAWN BY: K.B.W.	DRAWING NO. FIG.1
CHECKED BY: M.V.	

Glen_Walter_Wastewater



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Fire Hydrant

Hydrant - Valve

Fire Station

Fire Station

Sewer Line

Gravity

Forcemain

0 0.2 0.4 0.8 mi

0 0.35 0.7 1.4 km

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, SDG

For informational purposes only. Data is representative of location of water and sewer assets but are not survey accurate. Remember to call before you dig by to locate underground utilities by contacting ON1Call 1-800-400-2255 .

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WEBSITE: EVBengineering.com

CLIENT:

SOUTH GLENGARRY
Ontario's Celtic Heartland

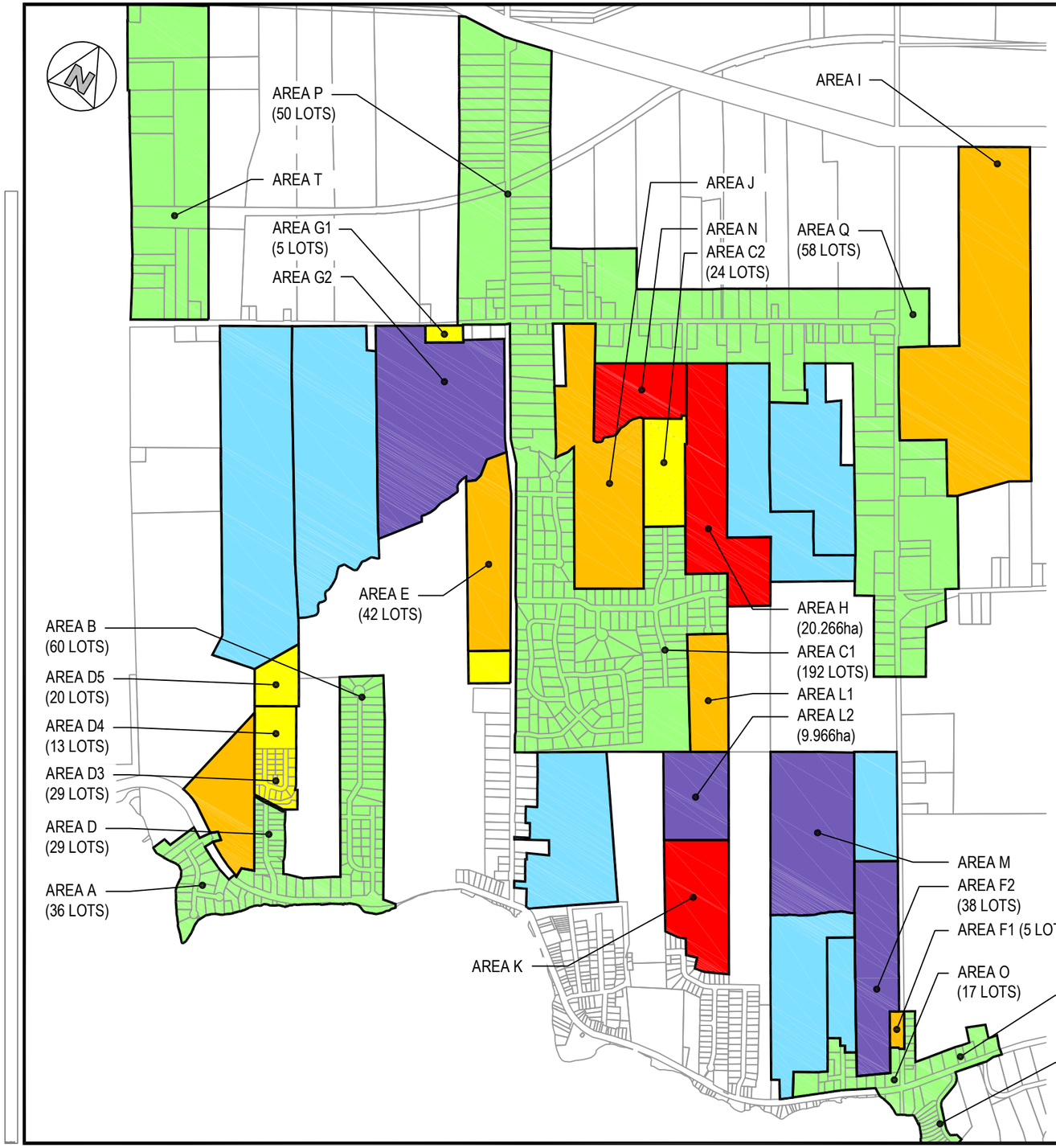
PROJECT:

GLEN WALTER AREA
WATER AND WASTEWATER
MASTER SERVICING PLAN

TITLE:

GLEN WALTER
EXISTING WASTE WATER
COLLECTION SYSTEM

SCALE: N.T.S.	JOB NO: 19030
DESIGNED BY: M.V.	DATE: 2020/05/01
DRAWN BY: K.B.W.	DRAWING NO. FIG.2
CHECKED BY: M.V.	



Area	DEVELOPMENT AREA	DESCRIPTION	STATUS
	Glen Walter Core	Serviced (W/WW)	Existing
Area A	Farlinger Point	Water Service Only	Existing
Area B	Sutherland Subdivision	Private Services	Existing
Area C1	Sapphire Hills	Private Services	Existing
Area C2	Sapphire Hills	Private Services	Existing
Area D	Place St. Lawrence	Serviced	Phase 1
	Place St. Lawrence	Serviced	Phase 2
Area D3	Place St. Lawrence	Serviced	Phase 3
Area D4	Place St. Lawrence	Serviced	Phase 4
Area D5	Place St. Lawrence	Serviced	Phase 5
Area E	Country Club Estates	Serviced	Undeveloped
Area F1	Edgewater Subdivision	Undeveloped	Phase 1
Area F2			Phase 2
Area G	Grant Subdivision	Private Services	Phase 1
			Phase 2
Area H	Area H	Unserviced	Undeveloped
Area I	Rae Rd North	Unserviced	Undeveloped
Area J	Area J	Unserviced	Undeveloped
Area K	Area K	Unserviced	Undeveloped
Area L1	Area L	Unserviced	Undeveloped
Area L2		Unserviced	Undeveloped
Area M	Area M	Unserviced	Undeveloped
Area N	Area N	Unserviced	Undeveloped
Area O	Sabourin Subdivision	Private Services	Existing
Area P	Purcell North	Private Services	Existing
Area Q	Tyotown East	Private Services	Existing
Area R	Rae Rd East	Private Services	Existing
Area S	Craig Road Subdivision	Private Services	Existing
Area T	Boundary Rd Industrial	Private Services	Existing
Area U	Area U	Unserviced	Undeveloped

LEGEND

- EXISTING
- NEAR TERM (WITHIN 5 YEARS)
- MID TERM (WITHIN 10 YEARS)
- LONG TERM (WITHIN 30 YEARS)
- VERY LONG TERM (WITHIN 50 YEARS)
- BEYOND STUDY PERIOD (OVER 50 YEARS)

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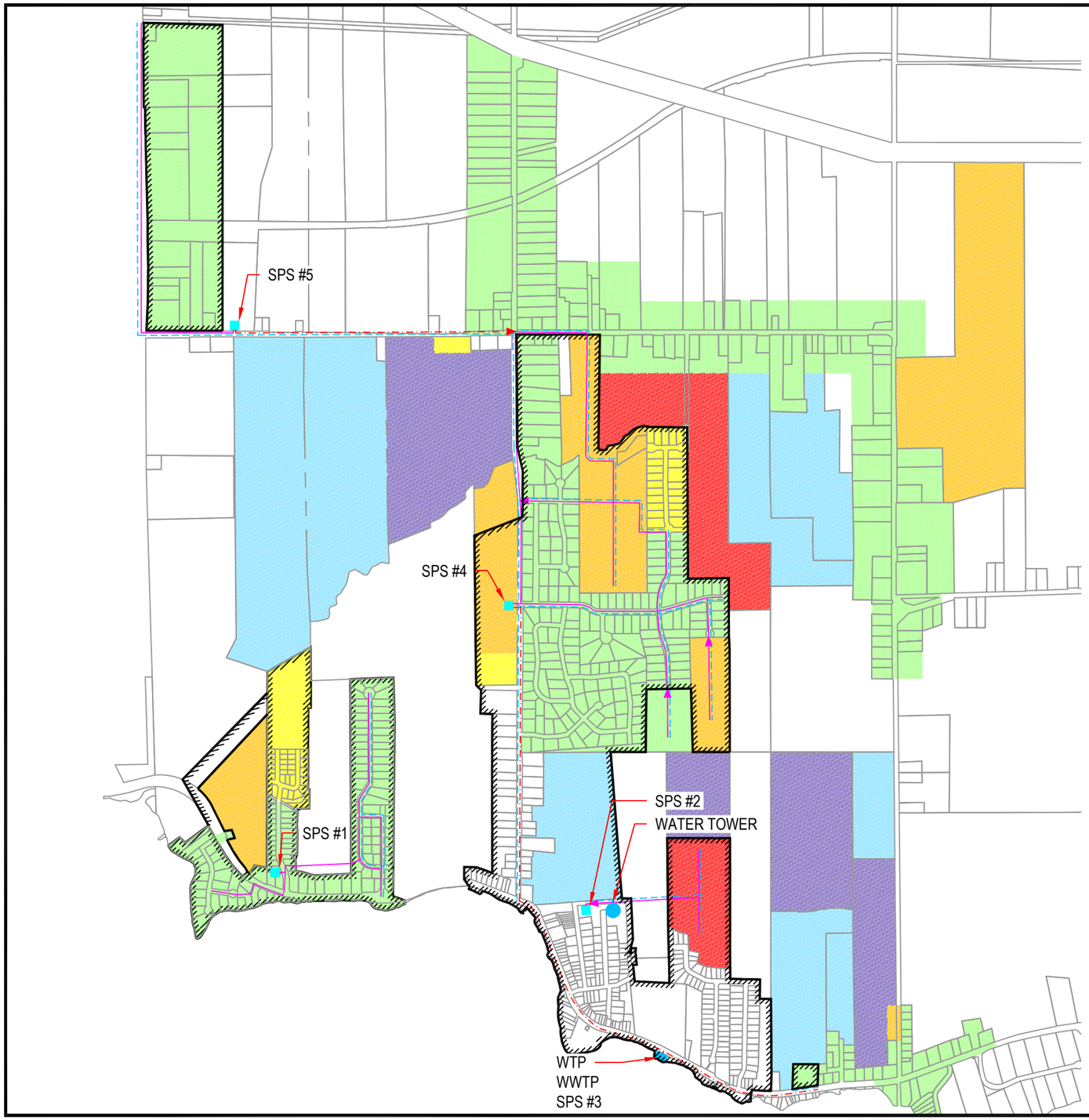
WEBSITE: EVBengineering.com

CLIENT:
SOUTH GLENGARRY
Ontario's Celtic Heartland

PROJECT:
GLEN WALTER AREA
WATER AND WASTEWATER
MASTER SERVICING PLAN

TITLE:
DEVELOPMENT AREAS
WITHIN THE STUDY AREA

SCALE: 1:20,000	JOB NO: 19030
DESIGNED BY: M.V.	DATE: 2020/05/01
DRAWN BY: K.B.W.	DRAWING NO. FIG.3
CHECKED BY: M.V.	



LEGEND

- MUNICIPAL SERVICE AREA
- EXISTING
- NEAR TERM (WITHIN 5 YEARS)
- MID TERM (WITHIN 10 YEARS)
- LONG TERM (WITHIN 30 YEARS)
- VERY LONG TERM (WITHIN 50 YEARS)
- BEYOND STUDY PERIOD (OVER 50 YEARS)
- NEW GRAVITY SEWER
- NEW FORCEMAIN
- NEW WATERMAIN
- NEW SEWAGE PUMPING STATION

EVB ENGINEERING
800 SECOND STREET WEST
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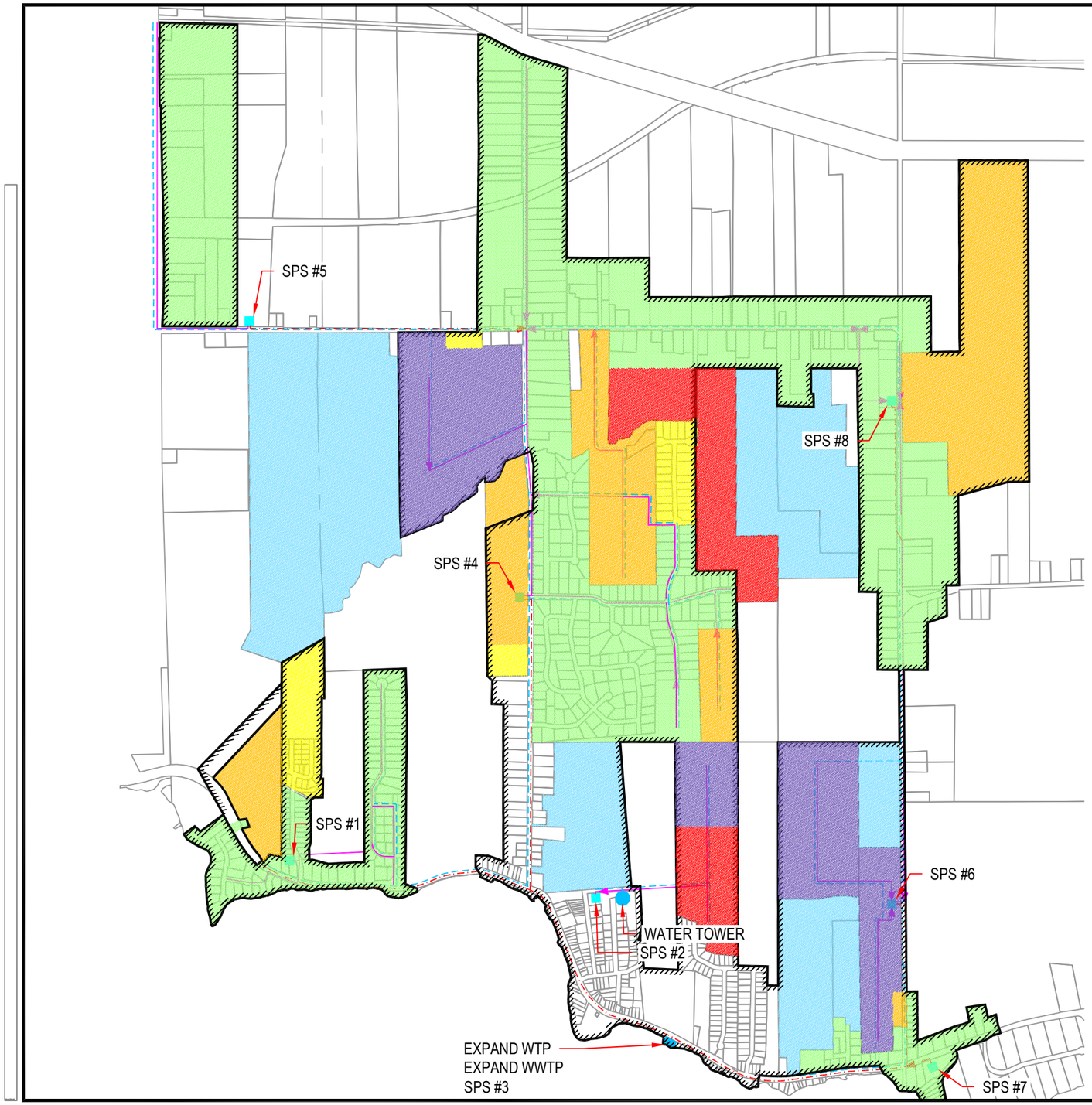
TEL: 613-935-3775 | FAX: 613-935-6450
WEBSITE: EVBengineering.com

CLIENT:
SOUTH GLENGARRY
Ontario's Celtic Heartland

PROJECT:
GLEN WALTER AREA
WATER AND WASTEWATER
MASTER SERVICING PLAN

TITLE:
OPTION 2A
SERVICING (30 YEARS)

SCALE: 1:20,000	JOB NO: 19030
DESIGNED BY: M.V.	DATE: 2020/05/01
DRAWN BY: K.B.W.	DRAWING NO. FIG.4
CHECKED BY: M.V.	



LEGEND

- MUNICIPAL SERVICE AREA
- EXISTING
- NEAR TERM (WITHIN 5 YEARS)
- MID TERM (WITHIN 10 YEARS)
- LONG TERM (WITHIN 30 YEARS)
- VERY LONG TERM (WITHIN 50 YEARS)
- BEYOND STUDY PERIOD (OVER 50 YEARS)
- NEW GRAVITY SEWER
- NEW FORCEMAIN
- NEW WATERMAIN
- NEW SEWAGE PUMPING STATION

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TEL: 613-935-3775 | FAX: 613-935-6450
WEBSITE: EVBengineering.com

CLIENT:

SOUTH GLENGARRY
Ontario's Celtic Heartland

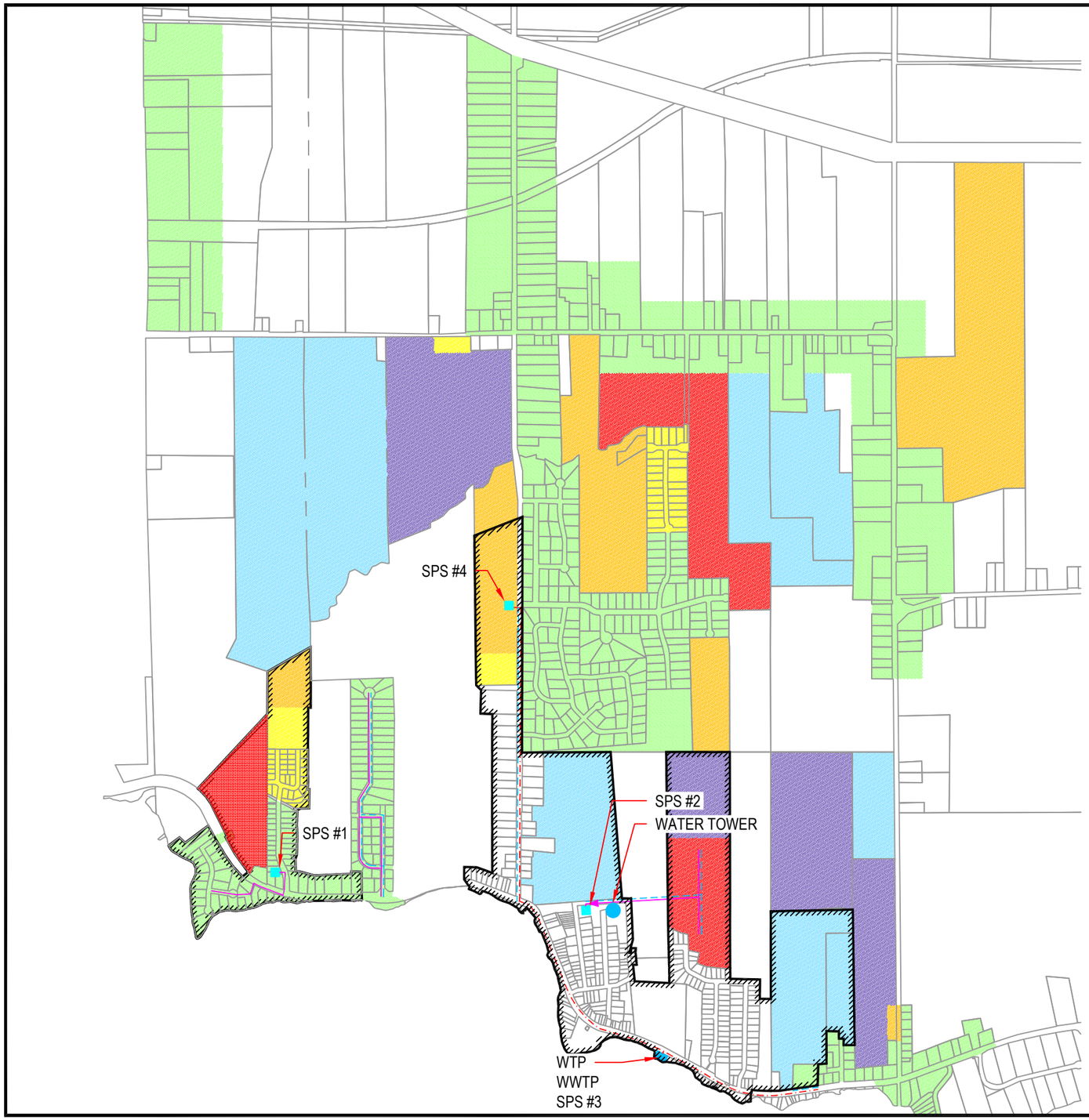
PROJECT:

GLEN WALTER AREA WATER AND WASTEWATER MASTER SERVICING PLAN

TITLE:

OPTION 2A SERVICING (50 YEARS)

SCALE: 1:20,000	JOB NO: 19030
DESIGNED BY: M.V.	DATE: 2020/05/01
DRAWN BY: K.B.W.	DRAWING NO. FIG.5
CHECKED BY: M.V.	



LEGEND

- MUNICIPAL SERVICE AREA
- EXISTING
- NEAR TERM (WITHIN 5 YEARS)
- MID TERM (WITHIN 10 YEARS)
- LONG TERM (WITHIN 30 YEARS)
- VERY LONG TERM (WITHIN 50 YEARS)
- BEYOND STUDY PERIOD (OVER 50 YEARS)
- NEW GRAVITY SEWER
- NEW FORCEMAIN
- NEW WATERMAIN
- NEW SEWAGE PUMPING STATION

EVB ENGINEERING
800 SECOND STREET WEST
CORNWALL, ONTARIO CANADA, K6J 1H6
TEL: 613-935-3775 | FAX: 613-935-6450
WEBSITE: EVBengineering.com

CLIENT:
SOUTH GLENGARRY
Ontario's Celtic Heartland

PROJECT:
GLEN WALTER AREA
WATER AND WASTEWATER
MASTER SERVICING PLAN

TITLE:
OPTION 2B (30 YEARS)

SCALE: 1:20,000	JOB NO: 19030
DESIGNED BY: M.V.	DATE: 2020/05/01
DRAWN BY: K.B.W.	DRAWING NO. FIG.6
CHECKED BY: M.V.	

APPENDIX B

WSP Water and Wastewater Master Servicing Plan (Draft)

APPENDIX C

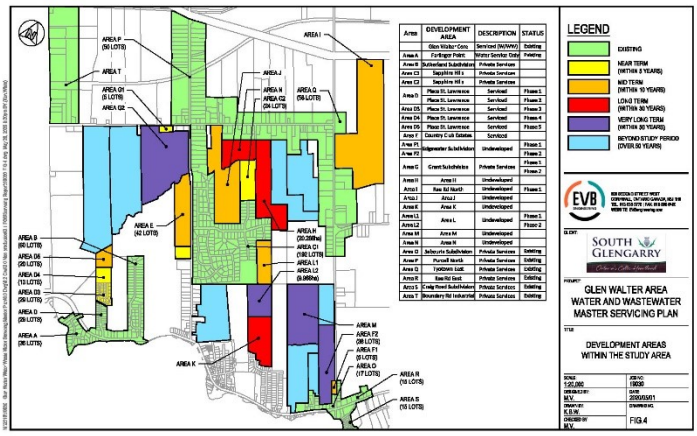
Public Consultation

First_name	Last_Name	Job_Title	Company	Address	City	Postal_Code	Phone	Email
Municipality								
Political Representation								
Eric	Duncan	MP	Member of Parliament	691 Brockdale Ave, Unit C	Cornwall	K6J 5C6	613-937-3331	Eric.Duncan@parl.gc.ca
Jim	McDonell	MPP	Member of Provincial Parliament	120 Second Street West	Cornwall	K6J 1G5	613-933-6513	jim.mcdonellco@pc.ola.org
Provincial Government								
Jon	Orpana	Environmental Assessment Coordinator	MECP	1259 Gardiners Road, Unit 1	Kington	K7P 3J6	613-548-6917	jon.orpana@ontario.ca
James	Mahoney	Manager (Acting)	MECP	1259 Gardiners Road, Unit 1	Kington	K7P 3J6	613-548-6902	james.mahoney@ontario.ca
Michelle	Gordon	Water Inspector	MECP	113 Amelia Street	Cornwall	K6H 3P1	613-933-0709	michelle.gordon@ontario.ca
Scott	Lee	District Planner	MNR	10 Campus Drive, P.O.Box 2002	Kemptville	K0G 1J0	613-258-8470	scott.lee@ontario.ca
Jonh	O'Neil	Rural Planner	OMAFRA	59 Ministry Road, PO Box 2004	Kemptville	K0G 1J0	613-258-8341	john.o'neil@ontario.ca
Michael	Elms	Manager	Ministry of Municipal Affairs & Housing	Rockwood House, 8 Estate Lane	Kingston	K7M 9A8	613-545-2132	michael.elms@ontario.ca
Joseph	Harvey	Heritage Planner	Ministry of Tourism	401 Bay Street	Toronto	M7A 0A7	416-314-7643	joseph.harvey@ontario.ca
Heather	Levecque	Director	Indigenous Relations	9th Floor, 160 Bloor St. East	Toronto	M7A 2E6	416-325-7032	heather.levecque@ontario.ca
Federal Government								
Anjala	Puvananathan	Director	Canadian Environmental Assessment Agency	55 St. Clair Avenue East, Rm 907	Toronto	M4T 1M2	416-953-1575	iaac.cear-rcee.aeic@canada.ca
Anne	Scotton	Regional Director General	Indigenous Affairs and Northern Developmen	25 St. Clair Avenue East, 8th Fl	Toronto	M4T 1M2	416-973-1255	anne.scotton@aadnc-aandc.gc.ca
		Regional Manager	Transport Canada - Navigation Protection	4900 Young St, 4th Floor	Toronto	M2N 6A5	5193831863	nppont-ppnont@tc.gc.ca
			DFO -Fisheries Protection					fisheriesprotection@dfo-mpo.gc.ca
Agencies								
Dr. Paul	Roumeliotis	Medical Officer of Health	Eastern Ontario Health Unit	1000 Pitt Street	Cornwall	K6J 3X1	613-933-1375	proumeliotis@eohu.ca
Lisa	Deslandes	Regulation Officer	RRCA	18045 County Road #2, Box 429	Cornwall	K6H 5T2	613-938-3611	info@rrca.on.ca
Benjamin	de Haan	Director of Transportation and Planning Servic	United Counties of SDG	26 Pitt Street	Cornwall	K6J 3P2	6139321515	bdehaan@sdgcounties.ca
Vicky	Bennett	Real Estate Associate	Ontario Power Generation	700 University Ave, 18th Fl	Toronto	m5G 1X6	416-592-2525	vicky.bennett@opg.com
First Nation Groups								
			Algonquin Anishinabeq Nation	81 Kichi Mikan	Kitigan Zibi, Q	J9E 3C3	819-449-1225	info@anishinabenation.ca
		Consultation Intake Clerk	Metis Nation of Ontario Region	Suite 311 - 75 Sherbourne St	Toronto	M5A 2P9	416-977-9881	consultations@metisnation.org
Abraham	Francis	Director	Mohawk Council of Akwesasne	PO Box 90	Akwesasne, O	H0M 1A0	613-575-2250	abraham.francis@akwesasne.ca
Property Owners								
REFER TO SPREADSHEET PROVIDED BY CITY								

Township of South Glengarry
Glen Walter Area Water and Wastewater Servicing Master Plan
Public Consultation Centre #1

THE STUDY

The Township of South Glengarry is carrying out a study to determine infrastructure requirements for the Greater Glen Walter Area. This study is being conducted in accordance with the requirements of Phases 1 and 2 of the Municipal Class Environmental Assessment which is an approved process under the Environmental Assessment Act.



WE WANT TO HEAR FROM YOU

Public consultation is a key component of this study. The proposed consultation plan provides for public consultation centres at two points in the study: early summer 2020 – to review the problem and late summer 2020 – to review alternative solutions. In addition there will be an opportunity to review the final Master Plan report.

The study area is as shown on the attached key plan. The first public consultation centre has been arranged to review and receive input from the public about the colletion of background information and identification of the problem:

Date: Wednesday June 24th, 2020

Time: 6:00pm – 8:00pm (Review of Boards at 6:00pm, 6:30pm, 7:00pm and 7:30pm)

Online: https://us04web.zoom.us/j/76200741414?pwd=M01CZWVmMmFpeUdwLzYyQ2tMS0xtdz09

For those individuals who are unable to link to the zoom meeting, display boards will be made available to the public on www.southglengarry.com, the Township's website, starting on June 24th, 2020.

Members of the public are encouraged to submit comments by July 8th, 2020. Comments can be submitted to the email address provided below.

STUDY CONTACTS

All those with an interest in the study are urged to attend. If you have any questions or wish to be added to the study mailing list, please contact:

Ewen MacDonald
General Manager of Infrastructure Services
Township of South Glengarry
6 Oak Street, Box 220, Lancaster, Ontario K0C 1N0
T: 613-347-1166 ext. 228
emacdonald@southglengarry.com

Marco Vincelli
Project Manager
EVB Engineering
800 Second Street West, Cornwall, ON K6J5J9
T: 613-935-3775, x210
marco.vincelli@evbengineering.com

Issued June 5th, 2020

Township of South Glengarry
Glen Walter Area Water and Wastewater Master Servicing Plan
Public Information Centre #2

STUDY STATUS

The Township of South Glengarry is carrying out a study to determine infrastructure requirements for the Glen Walter Area. Based on the study findings to date and comments received from technical agencies and the public, a series of alternative solutions have been developed to address proposed water and wastewater infrastructure requirements.

SECOND PUBLIC INFORMATION CENTRE

The first Public Consultation Centre was held on Wednesday June 24th, 2020 to introduce the study. As a result of comments received from the public, alternative solutions were developed and assessed in terms of their impacts on the area.

A second Public Consultation Centre has been arranged to review and receive input from the public about the alternative solutions, and the preliminary identification of a preferred Master Plan solution. The format of the Public Consultation Centre will be a virtual open house:

Date:	September 28th, 2021
Time:	5:00pm to 7:00pm (Review of Boards at 5:00pm, 5:30pm, 6:00pm, and 6:30pm)
Link:	https://us02web.zoom.us/webinar/register/WN_eRwjQVQUSVGCl-1pcHXPzw

If you are not available to attend the Public Consultation Centre you may request a PDF copy of the presentation boards from Kelli Campeau, Director of Corporate Services/Clerk at kcampeau@southglengarry.com.

STUDY CONTACTS

All those with an interest in the study are urged to attend. If you have any questions or wish to be added to the study mailing list, please contact:

Tim Mills
Chief Administrative Officer
Township of South Glengarry
6 Oak Street, Box 220, Lancaster, Ontario K0C1N0
T: 613-347-1166
tmills@southglengarry.com

Marco Vincelli
Project Manager
EVB Engineering
800 Second Street West, Cornwall, ON K6J5J9
T: 613-935-3775, x210
marco.vincelli@evbengineering.com

Township of South Glengarry
Glen Walter Area Water and Wastewater Master Servicing Plan
NOTICE OF STUDY COMPLETION

RECOMMENDED MASTER PLAN

The Township of South Glengarry has prepared a Master Plan following Phase 1 and 2 of the Municipal Class Environmental Assessment.

Based on the study findngs and input from technical agencies and the public, the recommended Master Plan identifies the recommended infrastructure to serve the future water and wastewater needs for the Glen Walter Area. The main components are listed below. While the Master Plan addresses need and justification at a broad level, more detailed studies for Schedule C projects will be undertaken at a later date following the Muncipal Class EA process.

TYPE OF PROJECT	STATUS
Schedule B Projects	
New Elevated Water Tower	• Proceed with the design and construction of the new wlwvated water tower.
Improvements to watermains	• Proceed as required.
Improvements to sewers	• Proceed as required.
Schedule C Projects	
Upgrades to the WWTP	• Proceed to a Schedule "C" EA for the expansion of the Glen Walter WWTP.
Upgrades to the WTP	• Proceed to a Schedule "C" EA for the expansion of the Glen Walter WWTP.

The Master Plan is available at the Municipal Office.

Please forward any comments to the Study Contact by January 8, 2022. Thereafter, the Master Plan will be reviewed and revised taking into consideration the comments which are received from the public. The recommended Master Plan will be presented to Town Council for approval.

Sarah McDonald
General Manager - Infrastructure
Township of South Glengarry
6 Oak Street, Box 220, Lancaster, Ontario K0C 1N0
T: 613-347-1166
smcdonald@southglengarry.com

Marco Vincelli
Project Manager
EVB Engineering
800 Second Street West, Cornwall, ON K6J5J9
T: 613-935-3775, x210
marco.vincelli@evbengineering.com

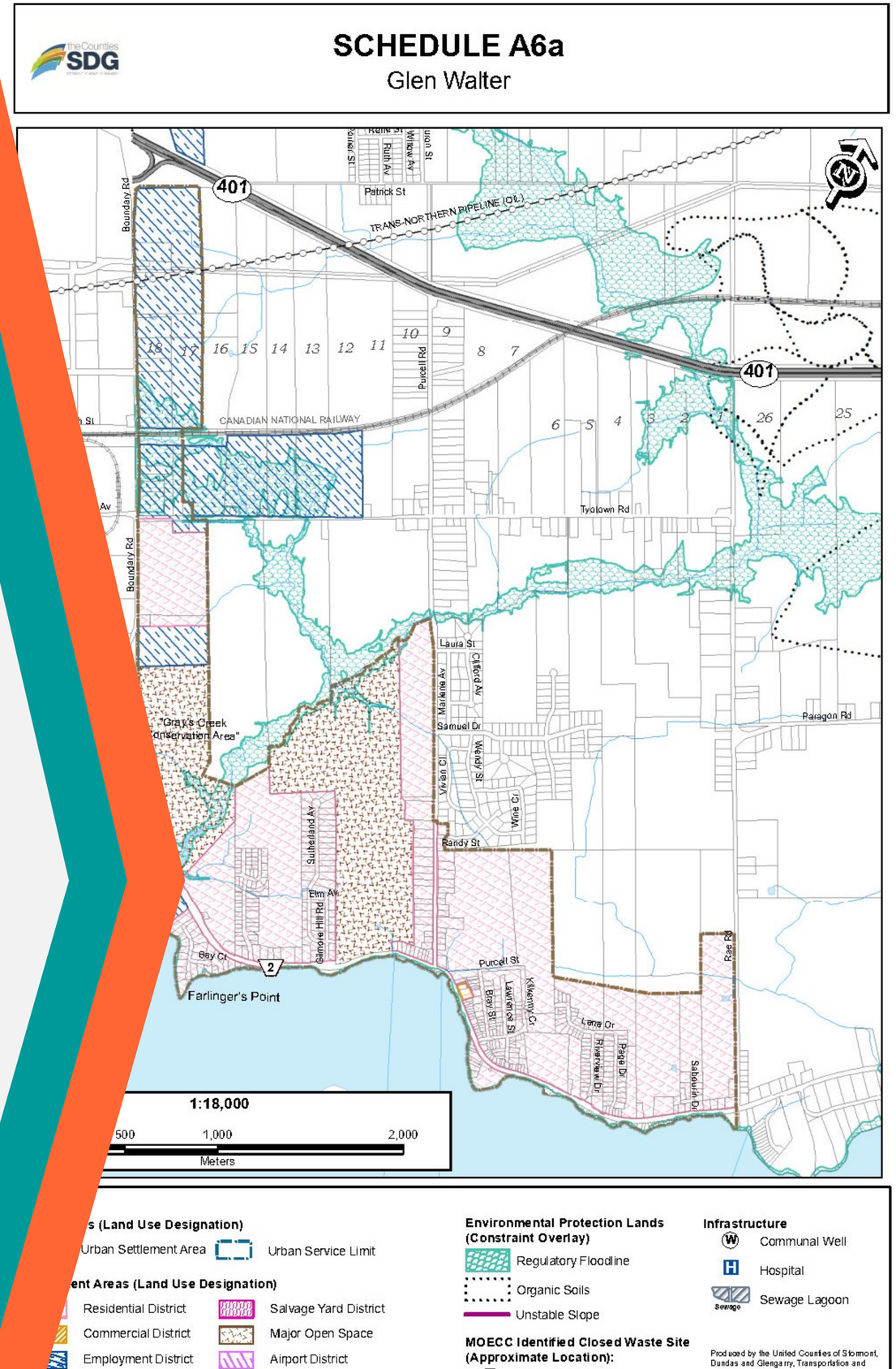
November 24, 2021

EVB ENGINEERING

GLEN WALTER AREA WATER AND WASTEWATER SERVICING MASTER PLAN

Public Information Centre #1

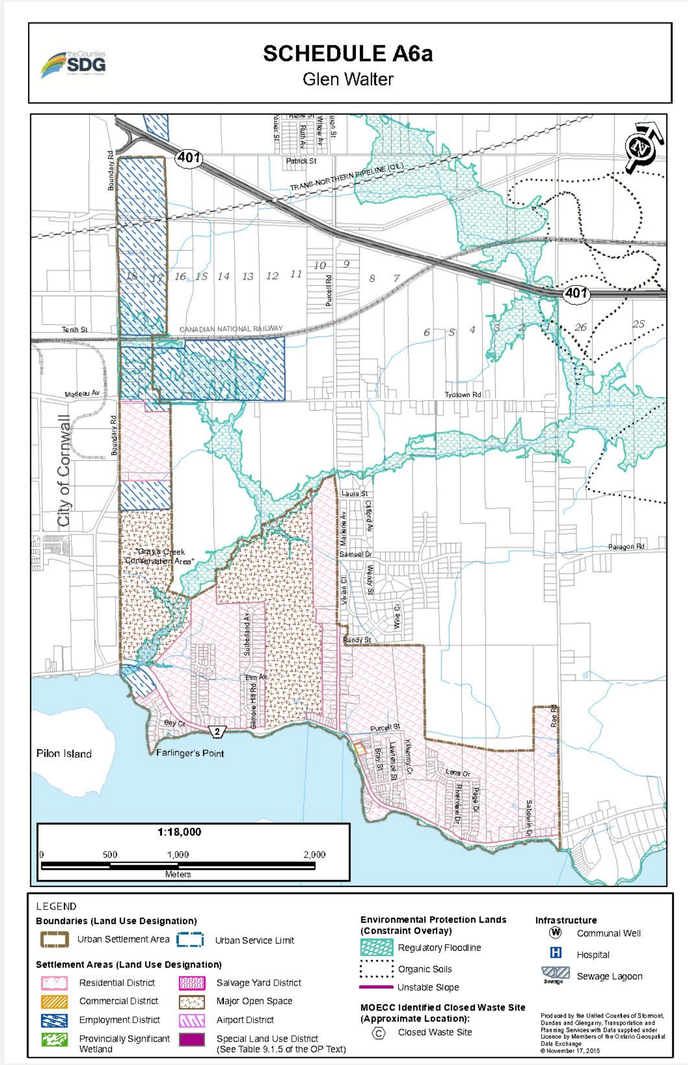
June 24, 2020



What is a Water and Wastewater Servicing Master Plan

The Water and Wastewater Servicing Master Plan is a long-term strategy to extend municipal water and wastewater services to support the growing Glen Walter Area. The Master Plan will review the requirements to support the existing community and future developments following the environmental assessment planning process.

The Glen Walter Area is defined in the United Council of Stormont, Dundas and Glengarry Official Plan.



Environmental Assessment Process

In Ontario, master plans are subject to the provisions of the Municipal Class Environmental Assessment. Key components of the Class EA process include:

- Consultation with the general public and agencies potentially affected by the proposed project;
- Consideration of a reasonable range of alternatives; and
- Documentation of the planning process.

Phase 1 of EA Process
DEFINE NEEDS
PIC #01

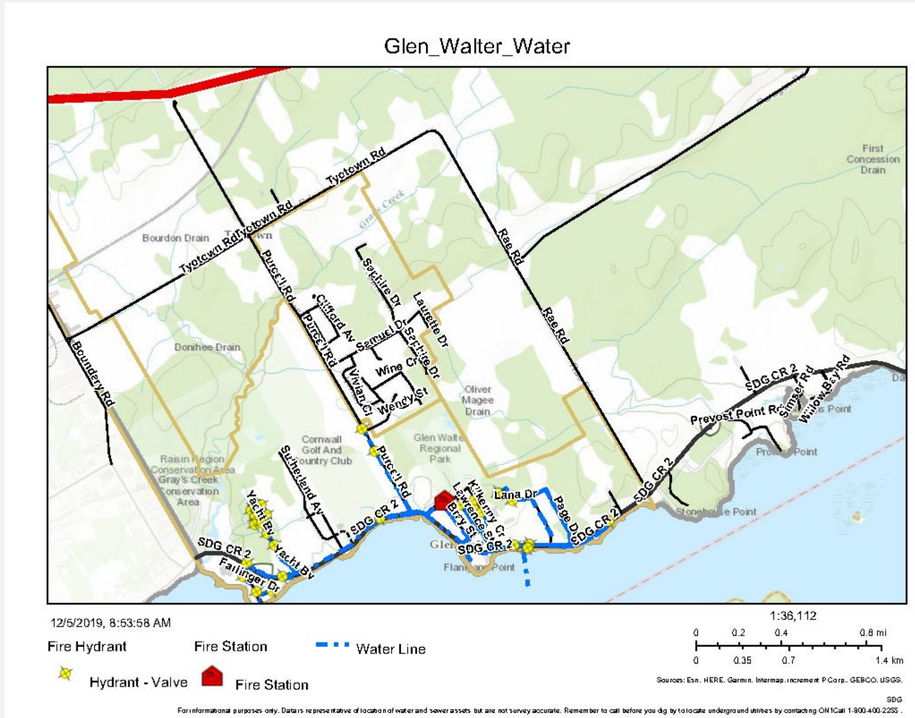
← We are here

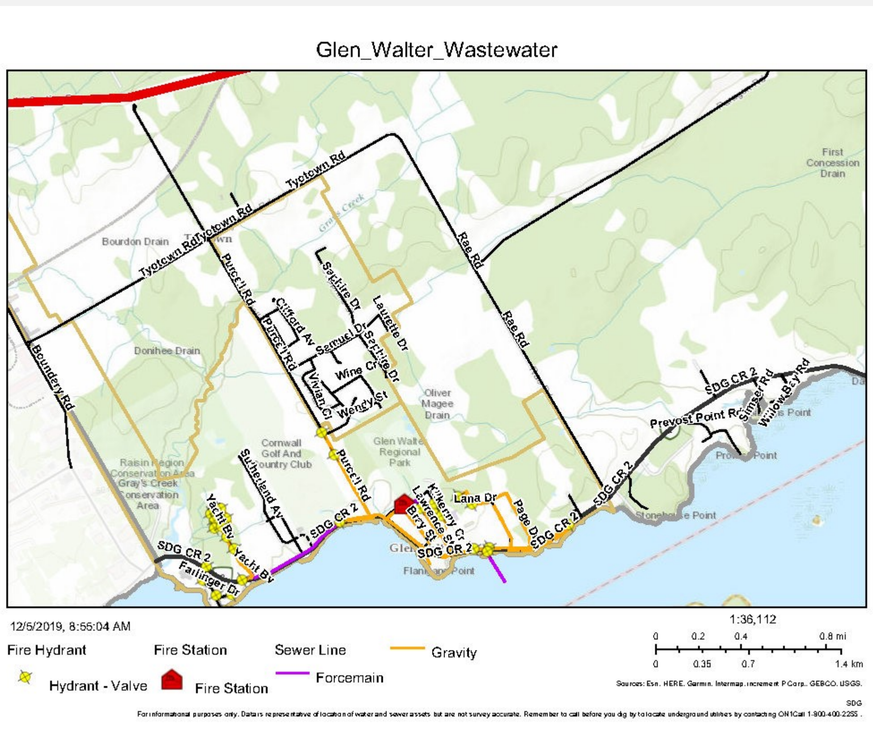
Phase 2 of EA Process
ALTERNATIVE SERVICING SOLUTIONS
PIC #02

Phase 3 of EA Process
PREPARE PLAN
30-Day Public Circulation

State of Water and Wastewater Servicing

Municipal water and wastewater servicing is currently provided throughout the Glen Walter Core Area, Place St. Lawrence, and Farlinger Point (water only) and there is committed capacity to Country Club Estates as well as infill (new growth) within the Glen Walter Core Area.





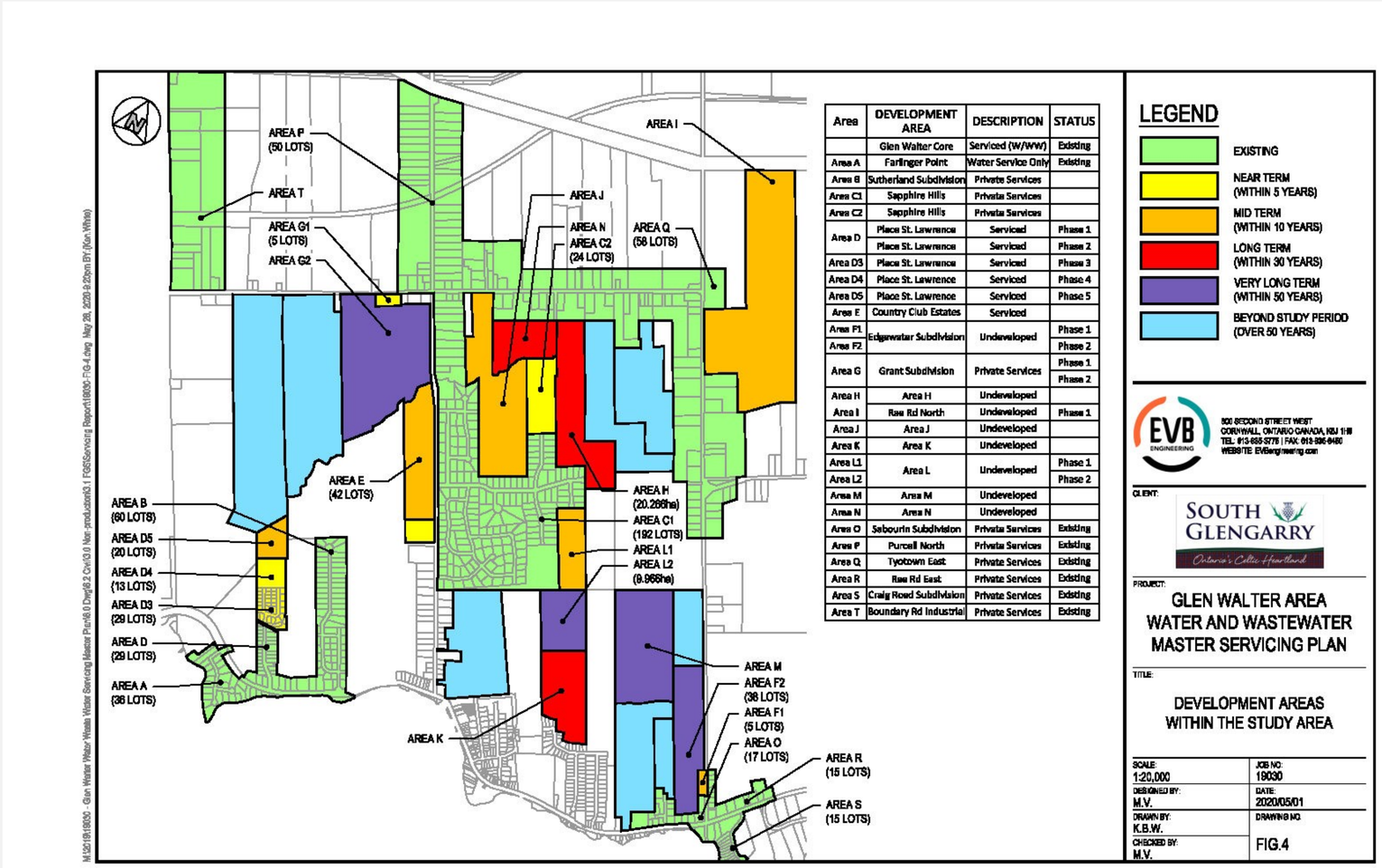
EVB ENGINEERING

State of Water and Wastewater Servicing

- **Water Storage**
  - The Glen Walter Water Distribution System was not designed to provide fire protection
  - There is insufficient storage to offer fire protection services
  - There is no water storage within the water distribution system which limits the ability to conduct maintenance activities at the WTP (increases redundancy)
- **Glen Walter Water Treatment Plant**
  - Has capacity to support the committed growth as well as approximately 115 additional lots
  - Existing property restricts future expansions
- **Glen Walter Wastewater Treatment Plant**
  - Does not have capacity to support growth beyond current commitments
  - Existing property restricts future expansions

Glen Walter Area

- Through consultation with the Township Planning Department, potential areas for development and a timeframe for those developments were prepared.



Area	DEVELOPMENT AREA	DESCRIPTION	STATUS
	Glen Walter Core	Serviced (W/WW)	Existing
Area A	Farlinger Point	Water Service Only	Existing
Area B	Sutherland Subdivision	Private Services	
Area C1	Sapphire Hills	Private Services	
Area C2	Sapphire Hills	Private Services	
Area D	Place St. Lawrence	Serviced	Phase 1
	Place St. Lawrence	Serviced	Phase 2
Area D3	Place St. Lawrence	Serviced	Phase 3
Area D4	Place St. Lawrence	Serviced	Phase 4
Area D5	Place St. Lawrence	Serviced	Phase 5
Area E	Country Club Estates	Serviced	
Area F1	Edgewater Subdivision	Undeveloped	Phase 1
Area F2			Phase 2
Area G	Grant Subdivision	Private Services	Phase 1
			Phase 2
Area H	Area H	Undeveloped	
Area I	Raw Rd North	Undeveloped	Phase 1
Area J	Area J	Undeveloped	
Area K	Area K	Undeveloped	
Area L1	Area L	Undeveloped	Phase 1
Area L2			Phase 2
Area M	Area M	Undeveloped	
Area N	Area N	Undeveloped	
Area O	Sebourin Subdivision	Private Services	Existing
Area P	Purcell North	Private Services	Existing
Area Q	Tyotown East	Private Services	Existing
Area R	Raw Rd East	Private Services	Existing
Area S	Craig Road Subdivision	Private Services	Existing
Area T	Boundary Rd Industrial	Private Services	Existing

LEGEND

- EXISTING
- NEAR TERM (WITHIN 5 YEARS)
- MID TERM (WITHIN 10 YEARS)
- LONG TERM (WITHIN 30 YEARS)
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EVB ENGINEERING
800 SECOND STREET WEST
CORNWALL, ONTARIO CANADA, K6J 1H9
TEL: 613-935-2355 | FAX: 613-936-9480
WEBSITE: EVBengineering.com

CLIENT: SOUTH GLENGARRY – Ontario's Celtic Heartland

PROJECT: GLEN WALTER AREA WATER AND WASTEWATER MASTER SERVICING PLAN

TITLE: DEVELOPMENT AREAS WITHIN THE STUDY AREA

SCALE: 1:20,000	JOB NO: 19030
DESIGNED BY: M.V.	DATE: 2020/05/01
DRAWN BY: K.B.W.	DRAWING NO. FIG.4
CHECKED BY: M.V.	

M:\2019\19030 - Glen Walter Water Wastewater Water Servicing Master Plan\R6.0 Dwg\6.2 Civil\3.0 Non -production\3.1 FIGS\Servicing Report\19030- FIG-4.dwg May 28, 2020 9:20pm BY (Kim White)

EVB ENGINEERING

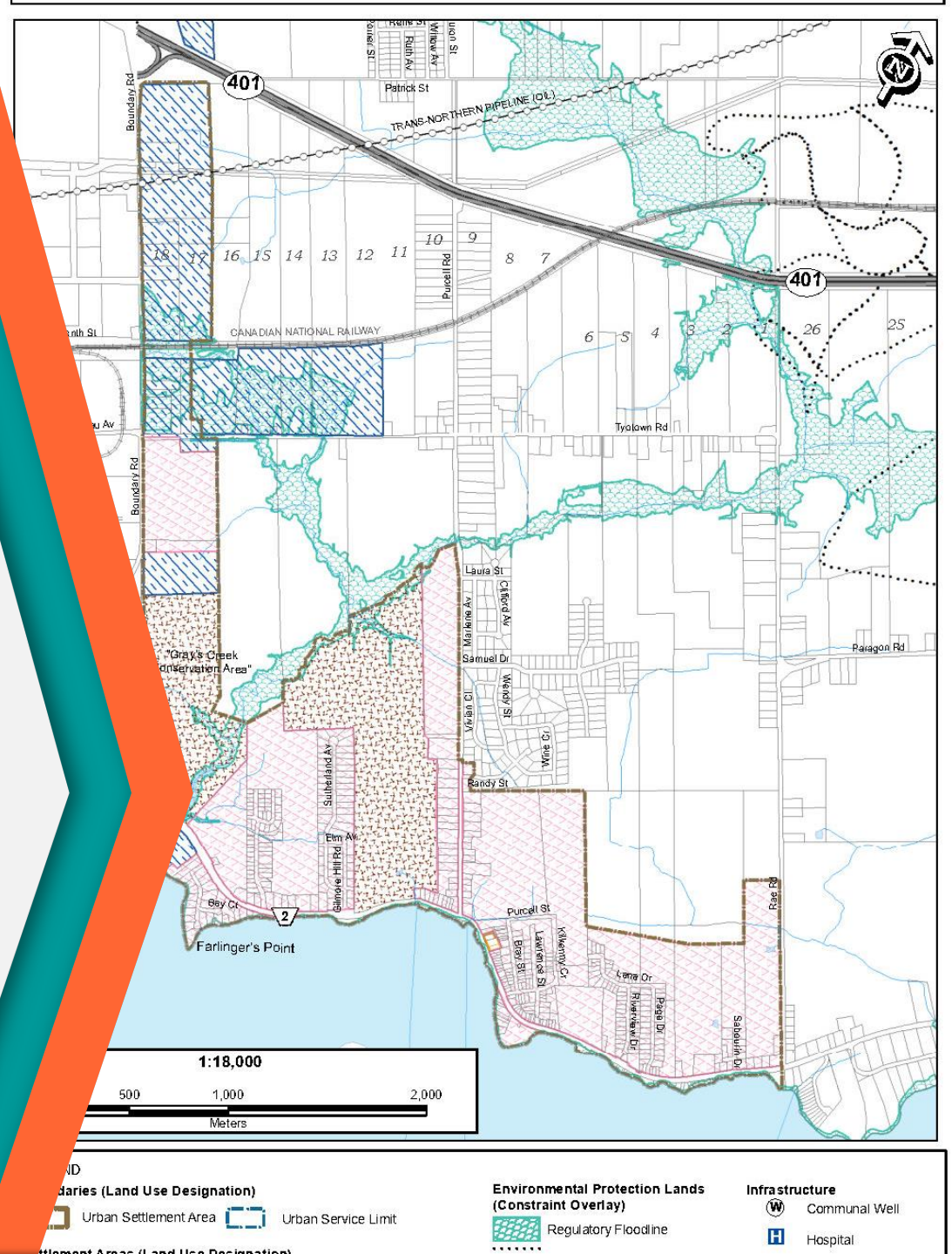
Next Steps

- The Township will be developing strategies to extend services throughout the Glen Walter Area.
- The Township had conducted a short survey of private systems in 2019 and results will be shared with the public at Public Information Centre #2.
- There will be another Public Information Centre in August 2020.
- **WE WANT YOUR INPUT AND FEEDBACK**
  - Critical decisions on where and when to extend municipal servicing are dependent on feedback from the community and developers.
  - Comments can be submitted in writing at the Township Office or sent to emacdonald@southglengarry.com

Glen Walter Area Water & Wastewater Servicing Master Plan

Public Information Centre #2

September 28, 2021



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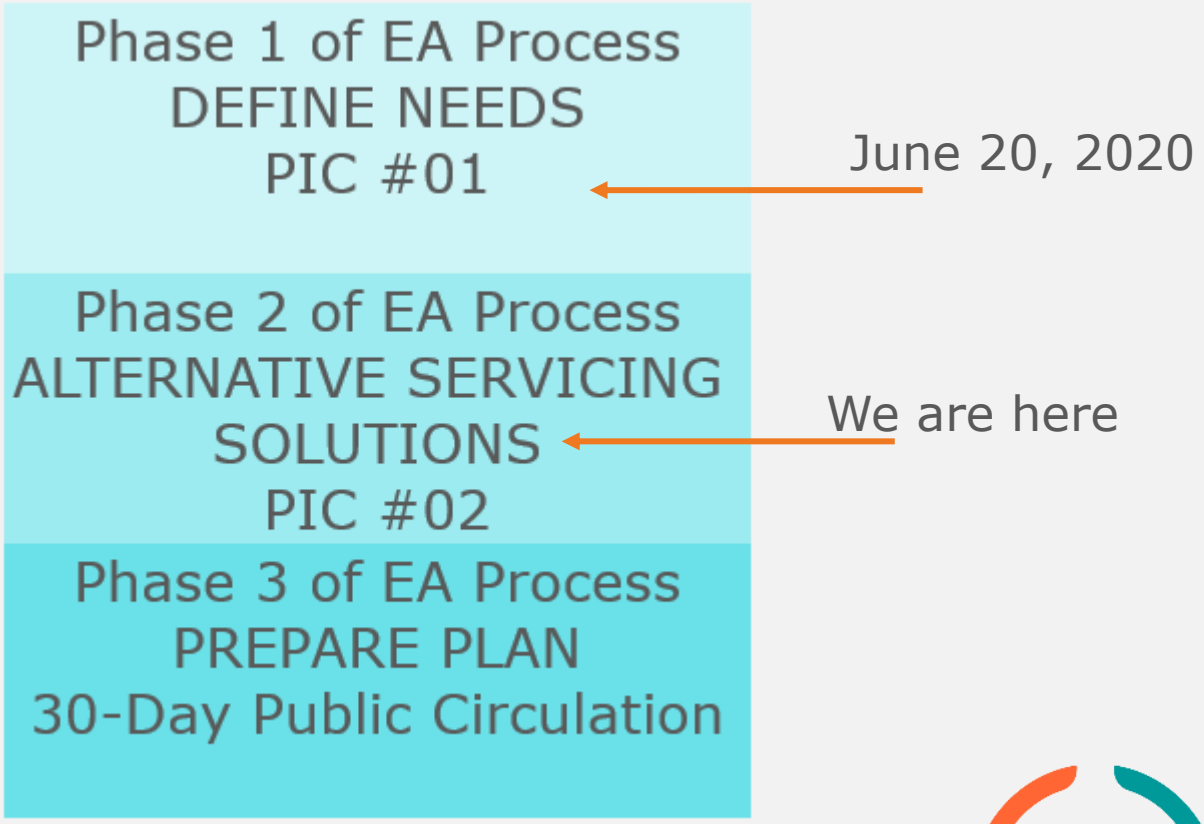

State of Water and Wastewater Servicing

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  - There is insufficient storage to offer fire protection services
  - There is no water storage within the water distribution system which limits the ability to conduct maintenance activities at the WTP (increases redundancy)
- **Glen Walter Water Treatment Plant**
  - Has limited potential to support additional growth
  - Existing property restricts future expansions
- **Glen Walter Wastewater Treatment Plant**
  - Does not have capacity to support growth beyond current commitments
  - Existing property restricts future expansions

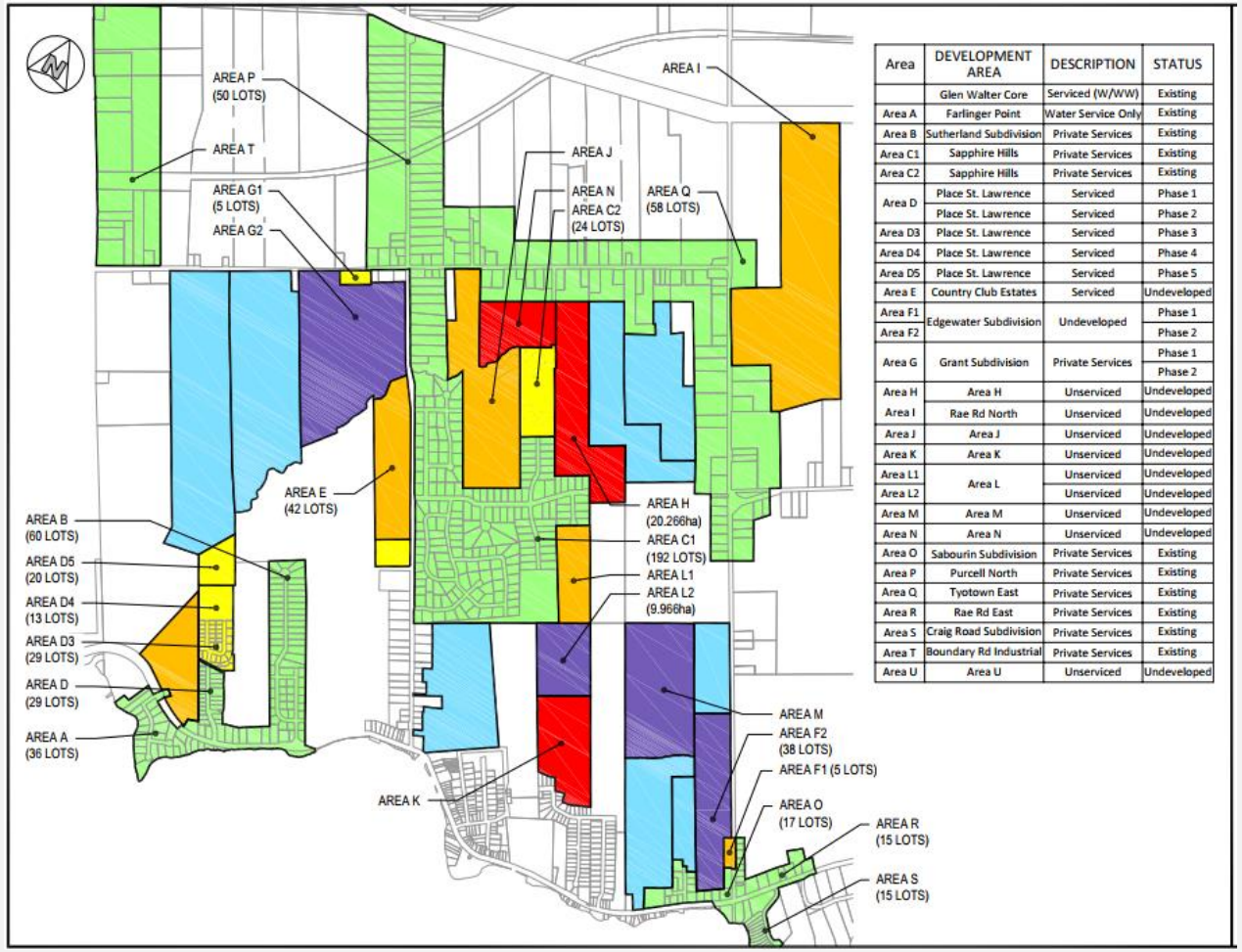
EVB ENGINEERING

Glen Walter Water and Wastewater Servicing Master Plan

Objective

- Develop a preferred strategy to provide water and wastewater services to the Glen Walter Community.
- Meet the requirements of the Environmental Assessment Act.

Study Area



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Area K	Area K	Unserviced	Undeveloped
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Area L2		Unserviced	Undeveloped
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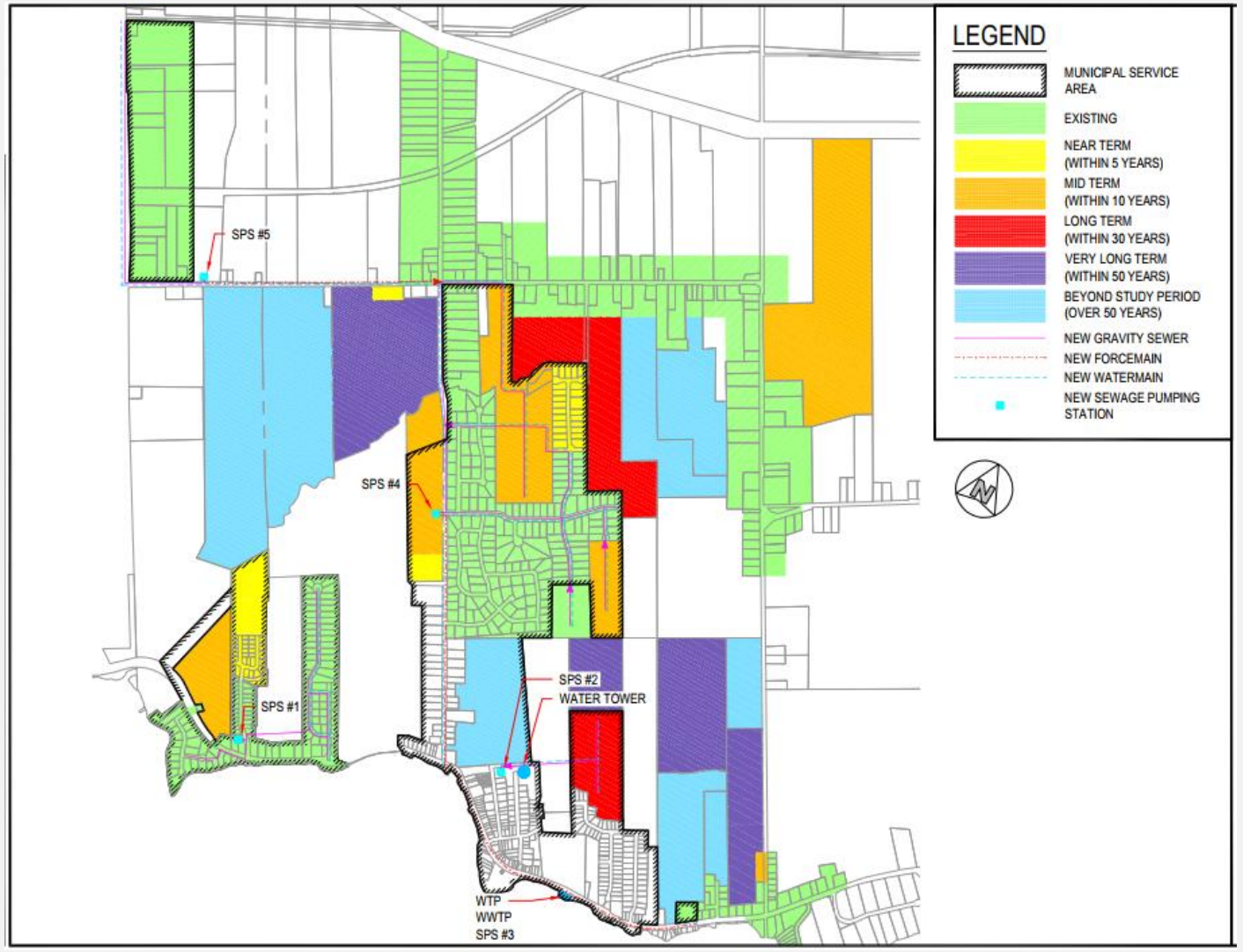
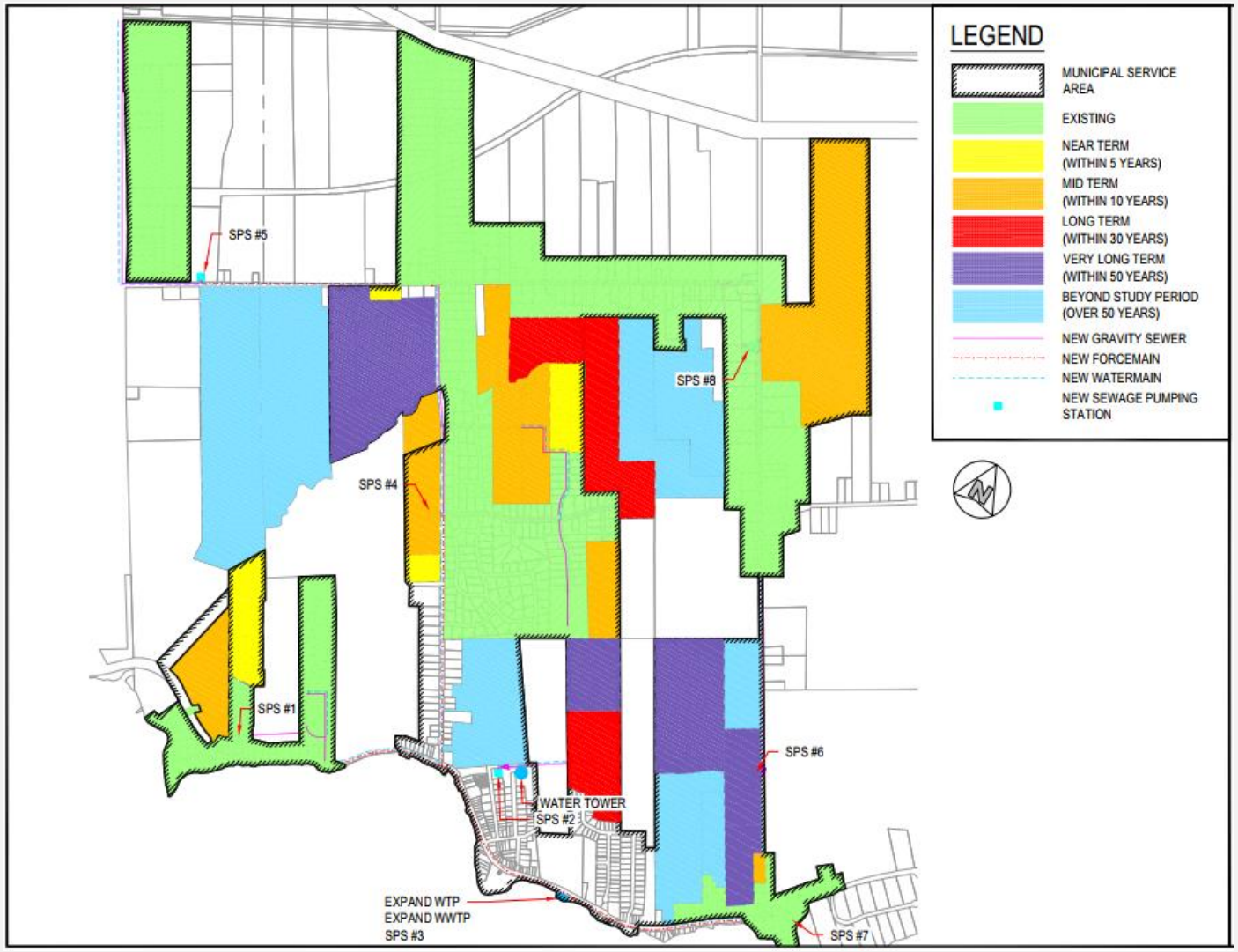
Area P	Purcell North	Private Services	Existing
Area Q	Tyotown East	Private Services	Existing
Area R	Rae Rd East	Private Services	Existing
Area S	Craig Road Subdivision	Private Services	Existing
Area T	Boundary Rd Industrial	Private Services	Existing
Area U	Area U	Unserviced	Undeveloped

Potential 30-Year Servicing Plan



Potential 50-Year Servicing Plan



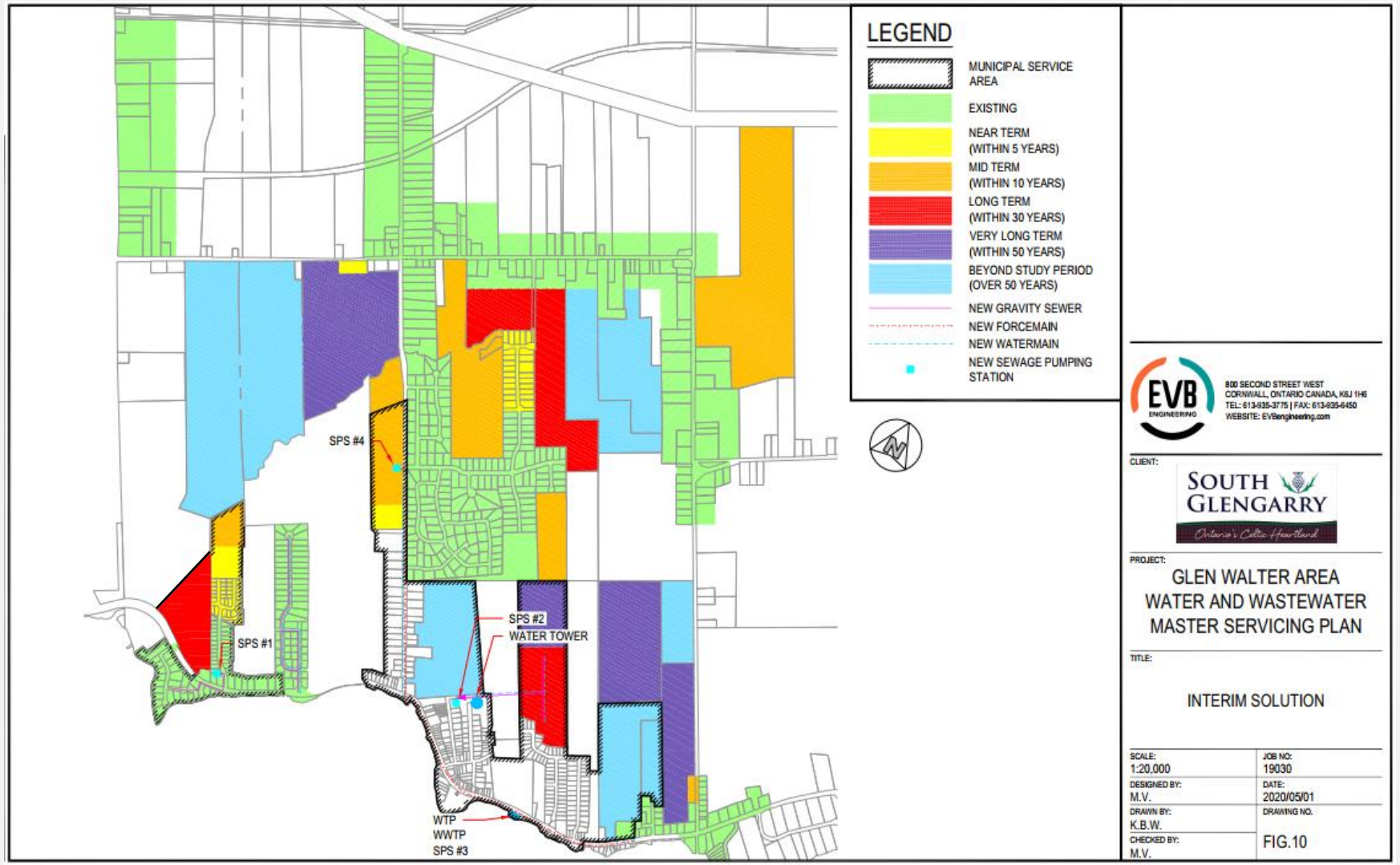
Evaluation of 50-Year Servicing Plan

- Too expensive
- Concern for resistance from areas that are currently on private services
- Plan surpassed a reasonable growth rate for the area

Results:

- Refocus on development of properties abutting Glen Walter core

Proposed Extension of Municipal Services



EVB ENGINEERING

Population Growth

Growth Rate Comparison with Neighbors

- Glen Walter – 10 units per year of 1% per year
- Long Sault – 41 units per year or 3.2 % per year

Growth Component	Units		Population
Current	440		963
Committed	72		252
2021	512		1215
Growth Rate	Units	Units/year	Term = 30
3.0%	1,243	27	2,949

Within the Water Distribution System and Wastewater Collection System

- Water Storage = Fire Storage + Equalization Storage + Emergency Storage
  - Fire Storage is based on population serviced
  - Equalization Storage = 25% of the MDF
  - Emergency Storage = 25% of (Fire Storage + Equalization Storage)
- Some existing watermains will need to be increased in diameter to permit flows
- Some sanitary sewers will need to be increased in diameter to permit flows

Component	Total Cost
Water Storage (1,900 m^3)	$2,689,000
Water Distribution	$3,100,000
Wastewater Collection	$3,322,000

EVB ENGINEERING

Water and Wastewater Treatment Plant Cost

- Existing Site not large enough for expansion of both water and wastewater treatment plants
  - Require land acquisition for expansion of one of the services
- Water Treatment Plant expansion required
- Wastewater Treatment Plant expansion required

Infrastructure	Total Cost
Water Treatment Plant	$17,072,000
Wastewater Treatment Plant	$18,537,000

EVB ENGINEERING

Total Servicing Cost

Based on a 30-year debenture at 2.32% interest, annual payments for existing residential lots would be:

Total Project	Total Cost	Cost per Lot	Annual Cost
3.0% Growth	$44,720,000	$36,790	$1,715.83

The Township is seeking funding for the water tower and some watermain expansion ($5M) which could receive 73% funding. The Township will continue to lobby for 66% or more funding for the remainder of the project costs.

Component	Cost per Lot	Annual Cost
3% Blended	$11,738	$547.43

EVB ENGINEERING

Status Quo

If system prohibits growth on municipal services:

- No additional connections are permitted with Glen Walter
- A water tower is still required to provide fire flows and maintain pressure in the system
- Some watermains will need to be upgraded to permit fire flows
- Some sewers will need to be upgraded.
- The mechanical and electrical systems in the Wastewater Treatment Plant will need capital replacement within the next 10 years as the equipment reaches the end of its design service life
- The concrete in the Wastewater Treatment Plant will need rehabilitation within the next 30 years as it reaches the end of its design service life

	Total Cost	Cost per Lot	Annual Cost
Without Funding	$23,472,500	$53,346.59	$2,488.00
With Funding	$7,280,700	$16,546.93	$771.71

EVB ENGINEERING

Glen Walter Water and Wastewater Master Plan
Next Steps

1. Publish Master Servicing Plan
2. Publish Notice of Completion
3. Initiate Schedule “C” EA for Plant Expansion
4. Apply for ICIP Funding and Initiate Design of Elevated Storage Tower and Watermain Replacement

Ministry of Heritage, Sport, Tourism and Culture Industries

Programs and Services Branch
401 Bay Street, Suite 1700
Toronto, ON M7A 0A7
Tel: 416.314.7133

Ministère des Industries du Patrimoine, du Sport, du Tourisme et de la Culture

Direction des programmes et des services
401, rue Bay, Bureau 1700
Toronto, ON M7A 0A7
Tél: 416.314.7133

Ontario

June 26th 2020 EMAIL ONLY

Ewan MacDonald
General Manager of Infrastructure Services
Township of South Glengarry
6 Oak Street, Box 220
Lancaster, ON K0C 1N0
emacdonald@southglengarry.com

MHSTCI File	**:**	**0012617**
Proponent	**:**	**Township of South Glengarry**
Subject	**:**	**Notice of Public Consultation Centre – Municipal Class EA**
Project	**:**	**Glen Walter Area Water and Wastewater Servicing Master Plan**
Location	**:**	**Township of South Glengarry**

Dear Ewan MacDonald:

Thank you for providing the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) with the Notice of Commencement for this project. MHSTCI's interest in this Master Plan project relates to its mandate of conserving Ontario's cultural heritage, which includes:

- archaeological resources (including land and marine)
- built heritage resources (including bridges and monuments)
- cultural heritage landscapes

Under the Municipal Class Environmental Assessment (EA) process, the proponent is required to determine a project's potential impact on cultural heritage resources. A Master Plan project at minimum will address Phases 1 and 2 of the Municipal Class EA process.

Developing and reviewing inventories of known and potential cultural heritage resources within the study area can identify specific resources that may play a significant role in guiding the evaluation of alternatives for individual EA's completed as part of the Master Plan and any subsequent project-driven EAs.

Please note that technical cultural heritage studies will need to be completed for any Schedule B and C Municipal Class EA projects deemed complete as part of the selected master planning approach. The findings and recommendations of these technical cultural heritage studies will inform the evaluation and selection of preferred alternatives for any Municipal Class EA's completed as part of the Master Plan and subsequent project-driven Municipal Class EAs.

Project Summary
The Township of South Glengarry is carrying out a study to determine infrastructure requirements for the Greater Glen Walter Area. This study is being conducted in accordance with the requirements of Phases 1 and 2 of the Municipal Class Environmental Assessment which is an approved process under the Environmental Assessment Act.

Identifying Cultural Heritage Resources
While some cultural heritage resources may have already been formally identified, others may be identified through screening and evaluation. Indigenous communities may have knowledge that can contribute to the identification of cultural heritage resources, and we suggest that any engagement with Indigenous communities includes a discussion about known or potential cultural heritage resources that are of value to these communities. Municipal Heritage Committees, historical societies and other local heritage organizations may also have knowledge that contributes to the identification of cultural heritage resources.

Archaeological Resources
This Master Plan project may impact archaeological resources therefore the screening checklists developed by MHSTCI: *Criteria for Evaluating Archaeological Potential* and *Criteria for Evaluating Marine Archaeological Potential* should be completed. A Stage 1 archaeological assessment may need to be completed to determine whether archaeological assessments will be needed for subsequent project-driven Municipal Class EAs.

In addition, archaeological assessments are required for any Municipal Class EA's completed as part of the selected master planning approach. Archeological assessments are to be undertaken by an archaeologist licensed under the Ontario Heritage Act and submitted for MHSTCI review prior to the issue of a notice of completion or any ground disturbing activities.

Built Heritage and Cultural Heritage Landscapes
A Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment will be undertaken for the entire study area during the Master Plan process to inform if technical cultural heritage studies will be needed for Municipal Class EA's completed as part of the selected Master Plan approach and any subsequent project-driven Municipal Class EAs. This report should;

1. Identify existing baseline cultural heritage conditions within the study area. The report will include a historical summary of the development of the study area and will identify all known or potential built heritage resources and cultural heritage landscapes in the study area. MHSTCI has developed screening criteria that may assist with this exercise: *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes*.

2. Identify preliminary project-specific impacts on the known and potential built heritage resources and cultural heritage landscapes that have been identified. The report should include a description of anticipated impact to each known or potential built heritage resources or cultural heritage landscape that has been identified.

3. Propose and recommend measures to avoid or mitigate potential negative impacts to known or potential cultural heritage resources. The proposed mitigation measures are to inform the next steps of project planning and design.

Technical cultural heritage studies are to be undertaken by a qualified person who has expertise, recent experience, and knowledge relevant to the type of cultural heritage resources being considered and the nature of the activity being proposed.

The findings of the above-mentioned studies should be summarized as part of the Master Plan discussion of existing conditions, preliminary impact assessment and future commitments.

Environmental Assessment Reporting
All technical cultural heritage studies and their recommendations are to be addressed and incorporated into Master Plan projects. Please advise MHSTCI whether any technical heritage studies are required to be completed for this Master Plan project and provide them to MHSTCI before issuing a Notice of Completion.

Thank you for consulting MHSTCI on this project. Please continue to do so through the Master Plan process and contact the Kimberly Livingstone for any questions or clarification.

Sincerely,

Joseph Harvey
On behalf of

Kimberly Livingstone
Heritage Planner (A)
Heritage Planning Unit
Kimberly.Livingstone@ontario.ca

Copied to: Marco Vincelli, Project Manager, EVB Engineering

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

By email only

July 8, 2020

Township of South Glengarry
6 Oak Street
Box 220
Lancaster, ON K0C 1N0

Attention: Mr. Ewen Macdonald, General Manager of Infrastructure Services
emacdonald@southglengarry.com

Dear: Mr. Macdonald,

Re: Township of South Glengarry, Glen Walter Area Water and Wastewater Servicing Master Plan Notice of Commencement

Thank you for the Notice of Study Commencement provided by email on June 22, 2020. The notice indicates that the Township of South Glengarry is carrying out this study to determine infrastructure requirements for the Greater Glen Walter Area. Additionally, this study is being undertaken in accordance with the requirements of Phases 1 and 2 of the Municipal Class Environmental Assessment which is an approved process under the Environmental Assessment Act.

Here are MECP preliminary comments on the project. Please consider these comments as you proceed through the Class EA process. The comments are grouped under these headings:

- Class EA process,
- MECP technical review issues,
- Aboriginal consultation

Class Environmental Assessment Process

Notification

As the Regional EA Coordinator for this project, I will be responsible for circulating project notices and information to MECP reviewers and coordinating the MECP response during the Class EA process. I am also the mandatory contact for all notices issued for the project.

Preferred methods of correspondence are email for notices (pdf), and one hard copy and one copy on a memory stick for reports (such as the Project File report). It is helpful to provide scanned copies of the notices as they appear in newspapers, and confirm the dates of publication.

Please contact:

Jon Orpana, Environmental Assessment Coordinator
Ministry of the Environment, Conservation and Parks
1259 Gardiners Road
P.O. Box 22032
Kingston, Ontario
K7M 8S5
email: jon.orpana@ontario.ca

Please ensure that the Notice of Completion states that Part II Order requests should be addressed in writing to:

Minister Jeff Yurek
Ministry of Environment, Conservation and Parks
777 Bay Street, 5th Floor
Toronto ON M7A 2J3
minister.mecp@ontario.ca

and

Director, Environmental Assessment and Permissions Branch
Ministry of Environment, Conservation and Parks
135 St. Clair Ave. W, 1st Floor
Toronto ON, M4V 1P5
enviropermissions@ontario.ca

The notice should also state that a Part II Order Request Form must be used to request a Part II Order. The Part II Order Request Form is available online on the Forms Repository Website (http://www.forms.ssb.gov.on.ca) by searching “Part II Order” or “012-2206E” (the form number).

Master Plan Process

The Master Plan process is discussed in section A.2.7 and Appendix 4 of the Class EA. Appendix 4 of the Class EA sets out different approaches that could be followed, and includes sample notices. It is preferable to determine the Master Plan approach at an early stage of the process, so that the public and commenting agencies are aware of future commenting opportunities, appeal mechanisms, and additional work needed for individual projects in the plan.

For example, the proponent will need to decide whether the final notice of study completion for the Master Plan will also serve as a final notice of completion for some or all of the schedule B projects identified in the Master Plan. In this case, the notice should list the specific schedule B projects and include a statement informing the public that they have a right to request a Part II Order for the specified projects (approach # 2).

Alternatively, if the proponent has determined that additional EA work and public consultation is needed before the schedule B and C projects are deemed to be completed, and the Master Plan simply provides the framework for future decisions, then the Master Plan is not subject to Part II Order requests, and the notice would not include a statement about the Part II Order mechanism (approach # 1, sample notice # 3).

Approach # 4 involves integrating the Master Plan with a planning approval such as an Official Plan or a comprehensive Official Plan Amendment. With this approach, the Master Plan must meet the requirements set out in Section A.2.9 of the Municipal Class EA.

The proponent should be aware that copies of notices must be provided to the Director of this ministry's Environmental Approvals Branch, with a brief summary of how the Master Plan followed the Class EA requirements. This information is required to be sent to EAB for tracking purposes, to monitor the effectiveness of the Master Plan approach at MEANoticesEAAB@ontario.ca.

The Master Plan document should clearly define the projects which will be carried out under the Master Plan, the appropriate schedule for each project, future documentation or studies that will be needed, and future public consultation opportunities for each project or class of projects. The Master Plan should also explain the appeal mechanisms for the projects in the plan (for example, opportunities to request a Part II Order at a later date, appeal to LPAT if integration with a Planning Act approval is proposed). We recommend that the Master Plan include a chart which summarizes the above information.

As the Master Plan is intended to satisfy Phases 1 and 2 of the Municipal Class EA process, the Master Plan should evaluate alternatives and identify impacts to the environment. The description and evaluation of alternatives should be completed in sufficient detail to allow any reviewer to understand the advantages and disadvantages of each alternative and the rationale for selecting the preferred alternative. The Master Plan may also identify technical studies that will be carried out in future as the individual projects within the Master Plan are further developed.

Consultation with Review Agencies

In addition to public consultation, consultation with review agencies is an important component of the Class EA process. Please ensure that you contact review agencies directly to determine their interest in the project at the Notice of Commencement stage.

The MECP Regional office is a mandatory contact for all notices. In addition, other ministries and agencies that may have an interest in the project are listed in section A.3.6 and Appendices 3 and 7. The provincial ministries that are most often involved in Class EA project review include the Ministry of Municipal Affairs (for example, expansion of settlement boundaries, consistency with Growth Plan), Ministry of Natural Resources and Forestry (for example, significant wetlands), and Ministry of Tourism, Culture and Sport (for example, cultural heritage or archaeological resources).

The Master Plan should consider any impacts to servicing policies for the area. For example, the Province does not support growth on partial services. In addition, expansion of settlement boundaries may have implications for the Official Plan. We recommend that the local Ministry of Municipal Affairs Municipal Services Office be included in the government review agency consultation list for this project.

The final report should include information on correspondence with review agencies, issues raised by reviewers, and how these issues will be addressed. This could include technical studies or other information, and commitments to obtain specific approvals or permits.

We normally recommend that intermediate reports or Technical Memoranda, be prepared and circulated for comment before the final Report is prepared. This is not a requirement of the Municipal Class Environmental Assessment (Class EA) process; however, it can ensure that consultation with review agencies is carried out in an effective way and that technical comments are received from agencies before the report is finalized.

<u>MECP Technical Review</u>

This Ministry's technical review of infrastructure projects could consider:

- problems identified during MECP inspections of the existing facilities,

- impacts to the receiving water body due to increased volumes of sewage treatment plant effluent,
- impacts to source protection areas,
- quality of the drinking water source,
- potential to impact wells during operation of an expanded municipal water supply,
- impacts to groundwater and surface water due to construction (i.e. dewatering of trenches during installation of sewers and watermains, control of erosion and sedimentation, construction and/or dredging at outfall or intake locations),
- potential for encountering landfill sites, contaminated soil, contaminated sediment or groundwater during construction,
- management of excess materials, waste, contaminated soil and groundwater during construction,
- noise and air quality impacts to nearby residents or planned subdivisions,
- information on inflow and infiltration to the sewage collection system and remedial measures under consideration,
- information on the available capacity at sewage or water treatment plants to service design population,
- proposed water and sewage service areas,
- consideration to species at risk at a high level recognizing that SAR will be addressed on a project specific level at a later date.

These environmental issues, and appropriate mitigation measures, should be addressed during the Class EA process.

We recommend that you contact this office as soon as possible during the environmental assessment process if you become aware of:

- contaminated sites in the study area or influence area of the project,
- a source water protection vulnerable area in the vicinity of the project, or
- issues that are contentious to the general public.

Water Resources

For a new or expanded water supply from a groundwater source, please submit a hydrogeological assessment as part of the Class EA process. Taking more than 50,000 litres a day from a lake, river, stream or groundwater source for a water supply requires a Permit to Take Water.

Impacts to surface water due to increased volumes or concentrations of sewage effluent should be evaluated as soon in the Municipal Class EA process as possible. A site-specific receiving water assessment must be conducted to determine the effluent requirements based on the waste assimilative capacity of the receiver. The site-specific effluent requirements derived from the receiving water assessment must be compared to provincial guidelines for effluent discharge (MOE procedure F-5-1: *Determination of Treatment Requirements for Municipal and Private Sewage Treatment Works*

Discharging to Surface Waters), and the most stringent criteria will apply. The receiving stream assessment, including background water quality and flow data, must be provided to MECP by the proponent.

If construction involves taking, dewatering, storage or diversion of water in excess of 50,000 litres per day, the activity may be required to be registered on the Environmental Activity and Sector Registry (EASR) or may require a Permit To Take Water. The process to be used depends on the source of the water, the quantity of water taken, and the type of construction activity. EASR requirements for water takings for construction dewatering are prescribed in Ontario Regulation 63/16 under the Environmental Protection Act. The Permit To Take Water requirements are prescribed in Section 34, Ontario Water Resources Act.

Guidance on nearshore construction and dredging may be obtained from the following MECP guidelines:

- *B-6 Guidelines for Evaluating Construction Activities Impacting on Water Resources,*
- *Evaluating Construction Activities Impacting on Water Resources, Part III A, Part III B, and Part III C* (dredging handbook) and accompanying *Appendix A Provincial Sediment Quality Guidelines,*
- *Guidelines for Identifying, Assessing and Managing Contaminated Sediments in Ontario: An Integrated Approach.*

Source Protection

Proponents undertaking a Municipal Class EA project must identify early in the process whether a project is occurring within a source water protection vulnerable area. This must be clearly documented in a Master Plan, Project File report or Environmental Study Report. If the project is occurring in a vulnerable area, then there may be policies in the local Source Protection Plan (SPP) that need to be addressed (requirements under the Clean Water Act). The proponent should contact and consult with the appropriate Conservation Authority/Source Protection Authority (CA/SPA) to discuss potential considerations and policies in the SPP that apply to the project.

Please include a section in the report on Source Water Protection. Specifically, it should discuss whether or not the project is located in a vulnerable area or changes or creates new vulnerable areas, and provide applicable details about the area. If located in a vulnerable area, proponents should document whether any project activities are a prescribed drinking water threat and thus pose a risk to drinking water (please consult with the appropriate CA/SPA). 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 SPP. If creating or changing a vulnerable area, proponents should document whether any existing uses or activities may potentially be affected by the implementation of source protection policies. This section should then

be used to inform and should 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. Even if the project activities in a vulnerable area are deemed to not to be a drinking water risk, there may be other policies that apply, so consultation with the local CA/SPA is important.

Contaminated Sites and Waste Management

The proponent should consider the potential that the project may be constructed in an area of contamination. If an area of contamination is present, the EA should determine the appropriate management of contaminated soil, sediment and groundwater as well as consider health and safety measures.

Waste, including contaminated soil, must be managed in accordance with MECP standards. The *Environmental Protection Act* (EPA) and Regulation 347 require waste to be classified and disposed of appropriately. When determining the waste category, the proponent must ensure compliance with Schedule 4 of Regulation 347.

Where the removal and movement of soils is required for the project, we recommend that you refer to the MECP document *Management of Excess Soil – A Guide for Best Management Practices*.

We recommend that the proponent consider development of an Excess Materials Management Plan for identification, assessment, excavation, conveyance, treatment, staging, grading and/or off-site disposal/re-use of soils and aggregates generated within the study area during construction.

The Waste Disposal Site Inventory, dated June 1991, may be helpful in identifying the locations of open and closed waste disposal sites in Ontario.

Consultation with First Nation and Métis Communities

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 you can proceed with this project, the Crown must ensure that its duty to consult has been fulfilled, where such a duty is triggered. Although the duty to consult with Aboriginal peoples is a duty of the Crown, the Crown may delegate procedural aspects of this duty to project proponents while retaining oversight of the process.

Your proposed project may have the potential to affect Aboriginal or treaty rights protected under Section 35 of Canada's *Constitution Act* 1982. Where the Crown's duty

to consult is triggered in relation to your proposed project**, the MECP is delegating the procedural aspects of rights-based consultation to you 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 you have provided to date and the Crown`s preliminary assessment you are required to consult with the following Aboriginal communities who have been identified as potentially affected by your proposed project:

- **Mohawk Council of Akwesasne**
- **MNO Ottawa Métis Council – please cc Métis Nation of Ontario (MNO) on any correspondence going to the council**

Steps that you may need to take in relation to Aboriginal consultation for your proposed project are outlined in the "Code of Practice for Consultation in Ontario's Environmental Assessment Process" which can be found at the following link:

https://www.ontario.ca/document/consultation-ontarios-environmental-assessment-process

Additional information related to Ontario's Environmental Assessment Act is available online at: www.ontario.ca/environmentalassessments

You must contact the Director of Environmental Assessment and Permissions Branch under the following circumstances subsequent to initial discussions with the communities identified by MECP:

- Aboriginal or treaty rights impacts are identified to you by the communities
- You have reason to believe that your proposed project may adversely affect an Aboriginal or treaty right
- Consultation has reached an impasse
- A Part II Order request or elevation request is expected

The Director can be notified by email, mail or fax using the information provided below:

Email:	enviropermissions@ontario.ca Subject: Potential Duty to Consult
Fax:	416-314-8452
Address:	Environmental Assessment and Permissions Branch 135 St. Clair Avenue West, 1st Floor Toronto, ON, M4V 1P5

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.

Regards,

Jon K. Orpana
Environmental Planner & Environmental Assessment Coordinator
Ministry of the Environment, Conservation and Parks
Kingston Regional Office
PO Box 22032, 1259 Gardiners Road
Kingston, Ontario
K7M 8S5

Phone: (613) 548-6918
Fax: (613) 548-6908
Email: jon.orpana@ontario.ca

ec: Marco Vincelli, Project Manager, EVB Engineering, Cornwall, ON
marco.vincelli@evbengineering.com

Michael Seguin, Area Supervisor, Ministry of the Environment, Conservation and Parks, Cornwall Area Office
Michael.seguin@ontario.ca

Ministry of Heritage, Sport, Tourism and Culture Industries

Programs and Services Branch
400 University Ave, 5th Flr
Toronto, ON M7A 2R9
Tel: 437.522.6582

Ministère des Industries du Patrimoine, du Sport, du Tourisme et de la Culture

Direction des programmes et des services
400, av. University, 5e étage
Toronto, ON M7A 2R9
Tél: 437.522.6582

Ontario

January 6, 2022 EMAIL ONLY

Marco Vincelli, P. Eng.
Vice-President, EVB Engineering
Marco.Vincelli@evbengineering.com

MHSTCI File	**:**	**0012617**
Proponent	**:**	**Township of South Glengarry**
Subject	**:**	**Notice of Completion**
Project	**:**	**Glen Walter Water and Wastewater Master Servicing Plan**
Location	**:**	**South Glengarry, Ontario**

Dear Marco Vincelli:

Thank you for providing the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) with the Notice of Completion for the above-referenced project. MHSTCI's interest in this Environmental Assessment (EA) project relates to its mandate of conserving Ontario's cultural heritage.

Project Summary
The *Glen Walter Water and Wastewater Servicing Master Plan* is a long-term strategy to extend municipal water and wastewater services to support the growing Glen Walter Area. The Master Plan will review the requirements to support the existing community and future developments following the environmental assessment planning process. The Glen Walter Area is defined in defined by the following borders: South Side of Highway 401 Right-Of-Way (North boundary), St. Lawrence River (South boundary), Rae Road (East boundary), Boundary Road (West boundary).

Comments
We have reviewed the Glen Walter Water and Wastewater Master Servicing Plan dated November 23, 2021 prepared by EVB Engineering and have the following comments and recommendations:

- We understand that the Master Servicing Plan addresses need and justification at a broad level, and that more detailed studies will be undertaken at a later date as part of future MCEA. However, the Plan should describe the cultural heritage component of the environment and indicate which projects (regardless of Schedule) will need further technical cultural heritage studies.
    - This Master Plan project may impact archaeological resources therefore the screening checklists developed by MHSTCI: *Criteria for Evaluating Archaeological Potential* and *Criteria for Evaluating Marine Archaeological Potential* should be completed.
    - Existing baseline cultural heritage conditions within the study area should be identified. MHSTCI has developed screening criteria that may assist with this exercise: *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes*.
- At this time, the Schedule B projects (new elevated water tower, improvements to watermains and sewers) may require a Stage 1 Archaeological Assessment if the project

areas meet the criteria for archaeological potential. These project areas will require a Cultural Heritage Report.

- A Stage 1 archaeological assessment is to be undertaken by an archaeologist licensed under the Ontario Heritage Act and submitted for MHSTCI review prior to the issue of a notice of completion or any ground disturbing activities.
- A Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment will be undertaken for the entire project area during the planning phase and will be summarized in the EA Report.
- Technical cultural heritage studies are to be undertaken by a qualified person who has expertise, recent experience, and knowledge relevant to the type of cultural heritage resources being considered and the nature of the activity being proposed.

The findings of the above-mentioned studies should be summarized as part of the Master Plan discussion of existing conditions, preliminary impact assessment and future commitments.

For more information on Archaeological Assessment and Cultural Heritage Report requirements, please review the MHSTCI letter dated June 26, 2020.

Thank you for consulting MHSTCI on this. If you have any questions or require clarification, do not hesitate to contact me.

Regards,

Sincerely,

Jack Mallon
Heritage Planner
Jack.Mallon @Ontario.ca

Copied to:

Karla Barboza, Team Lead, Heritage Planning, MHSTCI – karla.barboza@ontario.ca
Jon Orpana, Environmental Resource Planner & EA Coordinator, MECP – jon.orpana@ontario.ca