



TOWNSHIP OF SOUTH STORMONT LONG SAULT AND INGLESIDE MASTER SERVICING PLAN

EXECUTIVE SUMMARY

22-2047

June 14, 2024



OFFICE
17-370 Stone Road West
P.O. Box 25002
Guelph, ON N1G 4T4
T: 519.400.6701
www.wtinfrastucture.ca

TABLE OF CONTENTS

1 INTRODUCTION 1

 1.1 Project Scope 1

 1.2 Existing Conditions..... 1

2 DESIGN CRITERIA 2

 2.1 Population Growth 2

 2.2 Planned and Forecasted Growth 3

 2.3 Water Demand 3

 2.4 Wastewater Production..... 5

 2.5 Transportation Demand 6

3 DEVELOPMENT AND ANALYSIS OF ALTERNATIVES..... 6

4 PREFERRED ALTERNATIVES..... 7

5 ESTIMATED COSTS 12

6 PUBLIC CONSULTATION..... 12

LIST OF TABLES

Table 2-1 Potential Development under Build-out Conditions for Long Sault and Ingleside..... 3

Table 2-2: Forecast Water Demand..... 4

Table 2-3 Current and Future Fire Flow requirements..... 5

Table 2-4 Current and Forecasted Wastewater production..... 5

LIST OF FIGURES

Figure 6-1 Water Servicing: Preferred Alternative - Long Sault Pressure Zone..... 13

Figure 6-2 Water Servicing: Preferred Alternative - Ingleside Pressure Zone 14

Figure 6-3 Wastewater Servicing: Preferred Alternative for Long Sault 15

Figure 6-4 Wastewater Servicing: Preferred Alternative for Ingleside..... 16

Figure 6-5 Stormwater Servicing: Preferred Alternative for Long Sault..... 17

Figure 6-6 Stormwater Servicing: Preferred Alternative for Ingleside 18

Figure 6-7 Transportation System: Preferred Alternative for Long Sault..... 19

Figure 6-8 Transportation System: Preferred Alternative for Ingleside 20

1 INTRODUCTION

1.1 Project Scope

The Township of South Stormont, located on Lake St. Lawrence, part of the St. Lawrence Seaway upstream of the Moses-Saunders Hydroelectric Generating Station west of the City of Cornwall, has experienced significant growth in recent years. Most of the growth within the Township boundaries has occurred within the water and wastewater service areas of Ingleside and Long Sault. To date, the higher-than-anticipated growth has placed the existing infrastructure under stress.

As both communities continue to grow, The Township is undertaking a Master Servicing Plan Municipal Class Environmental Assessment to establish a long-term solution for the provision of water, wastewater, stormwater, and transportation servicing. The “planning for growth” will be a critical component of the Master Servicing Plan to provide the framework and vision for long-term servicing needs within Long Sault and Ingleside.

1.2 Existing Conditions

The following sections summarize the existing servicing conditions for both Long Sault and Ingleside. For additional information, please refer to Section 1.5 of the Master Servicing Plan.

1.2.1 Water System

The Long Sault and Ingleside water systems are combined into a regional water supply system with the primary treatment plant being located on the inside of Moulinette Island. The treatment plant consists of ultrafiltration membranes, carbon filtration, and chlorine disinfection. The system has a rated capacity of 8,575 m³/day. The Moulinette Island facility has 1,760 m³ of Clearwell storage and high lift pumps with a firm capacity of 239 L/s.

This plant services Long Sault via a transmission main extending across Mille Roches Island. There is no elevated storage within the Long Sault Pressure Zone (Lakeview Heights to the east edge of Ingleside). Ingleside is serviced via a 400 mm transmission main extending from the transmission main from the Regional Water Treatment Plant in Long Sault, along Manning Rd and Colonial Rd, to the former water treatment plant in Ingleside repurposed as a reservoir with 829 m³ of treated water storage, and equipped with high lift pumps discharging water into the Ingleside Pressure Zone controlled by the water level in the Ingleside Elevated Storage Tank with a capacity of 944 m³.

1.2.2 Wastewater System

The Long Sault Wastewater Treatment Plant (WWTP), constructed in 1993, is rated at an average daily flow (ADF) of 2,700 m³/day and peak day flow (PDF) of 11,500 m³/day. Wastewater is collected via a gravity sewer for most of the original Town site that extends from Saunders Ave south through the park area to Simcoe Street and through an easement adjacent to the Municipal Offices to County Rd to and then to Robin Rd to the WWTP. There are two existing pumping stations within the Long Sault Sanitary collection system:

- **Mille Roches Rd. Pumping Station:** Located at the intersection of French St. and Mille Roches Rd, the facility has a rated capacity of 5.8 L/s that services a small catchment area in the north, and discharges to the gravity collection system.
- **County Rd. 36 Pumping Station:** Located at the intersection of Forest Hill Rd. and County Rd. 36, the facility has a rated capacity of 47L/s, conveying water coming from the northeast section of the community to the plant for treatment.

The Ingleside WWTP, constructed in 1993, is rated at an average daily flow (ADF) of 4,045 m³/d and peak daily flow (PDF) of 10,027 m³/d. Wastewater is collected via north-south trunk sewers on Farran and Dickinson Drive to a primary west-to-east trunk sewer along the waterfront lands south of County Rd 2 to a sanitary pumping station with a rated capacity of 140 L/s that conveys all the wastewater to the plant for treatment.

1.2.3 Stormwater Management

Most of the original town sites and new developments in the community consist of shallow roadside ditches and limited outlet controls. Stormwater management facilities within the project area consist of a mix of piped services, infrastructure such as ponds and lot-level controls, and overland drainage.

In Long Sault, most of the pipes and stormwater runoff currently discharge into the Raisin River. On the other hand, the areas located to the south side of the Village of Ingleside discharge into the St. Lawrence River, while the areas located to the north side of the Village discharge into the Hoople Creek.

1.2.4 Transportation

The existing transportation networks in Long Sault and Ingleside are local roads with SDG County roads operating as the collector and arterial network to the east and west and north to Highway 401. Of the 310 kilometers of roads inventoried, a total of 31 kilometers were found to be critically deficient, requiring reconstruction within the next five years. This includes all roads in South Stormont, not only Long Sault and Ingleside.

Due in part to the proximity to the waterfront, there is a robust active transportation facility with cycling/pedestrian off-road facilities from Ingleside to Long Sault via the Long Sault Parkway and east to Cornwall via the waterfront trail. There are currently limited defined active transportation connections or facilities within either community. A review of the pedestrian network indicates that most existing sidewalks are concentrated in the communities of Long Sault and Ingleside. Sidewalks are provided on at least one side of most of the study roads. However, there are sections of roads where the sidewalks are not continuous, which is especially notable near the plazas that attract greater pedestrian footfall.

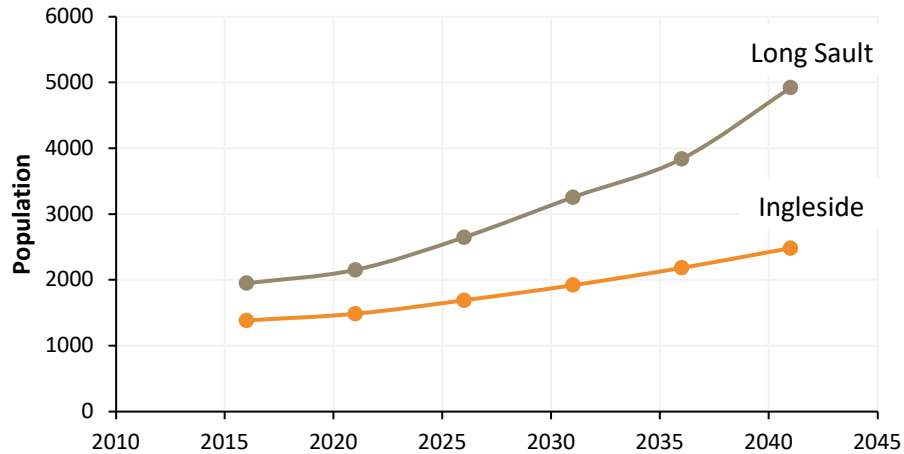
The Township intends to enhance traffic operations, safety, and active transportation and provide a quality user experience to tourists, visitors, and Township residents.

2 DESIGN CRITERIA

The next sections summarize the design criteria used for both Long Sault and Ingleside to develop potential servicing alternatives to meet current and future needs. For additional information, please refer to Section 2 of the Master Servicing Plan.

2.1 Population Growth

Based on a review of available data, Table 2-1 summarises the current and future population in both Long Sault and Ingleside. For additional information, please refer to Section 2 of the Master Servicing Plan.



2.2 Planned and Forecasted Growth

Based on a review of background information and the Township Subdivision Tracker, the current planned development in Long Sault is equal to 678 new residential units and 276 ha of industrial and commercial development. Although no active development applications are currently in place in Ingleside, several committed areas were identified as potential medium-term development which will count for a total of 200 residential units and 25 ha of industrial development.

Table 2-1 identifies potential development under build-out conditions according to the Zoning By-Law 2011-100 and its amendments for both Long Sault and Ingleside.

Table 2-1 Potential Development under Build-out Conditions for Long Sault and Ingleside

	Long Sault			Ingleside		
	Land Available	Potential Units	Potential Residents	Land Available	Potential Units	Potential Residents
Residential Development	115 ha	565	2,000	160 ha	1,400	4,200
Industrial and Commercial Development	65 ha	N/A	N/A	30.5 ha	N/A	N/A

2.3 Water Demand

2.3.1 Current and Forecasted Water Demand

The water demand in the study area is primarily residential with limited commercial (~250 m³/day ~6%) except for Lactalis in Ingleside which used an average of 1,770 m³/day (approximately 40%) of the system average day demand. Table 2-2 summarizes water demand based on current conditions, planned development, and build-out conditions.

Table 2-2: Forecast Water Demand

	Long Sault		Ingleside		Regional Water Supply Water Demand
	Number of units / Land Available for Commercial and Industrial	Water Demand	Number of units / Land Available for Commercial and Industrial	Water Demand	
Existing Residential Units / Commercial & Industrial lots					
Serviced by municipal systems	904 units (Residential) 34 lots (Non residential)	ADF: 1,500 m ³ /d MDF: 2,400 m ³ /d	723 units (Residential) 40 lots (Non residential)	ADF: 3,000 m ³ /d MDF: 4,800 m ³ /d	ADF: 4,500 m ³ /d MDF: 7,200 m ³ /d
Not Serviced by municipal systems	417 units (Residential) 19 lots (Non residential)	ADF: 590 m ³ /d MDF: 950 m ³ /d	155 units (Residential) 3 lots (Non residential)	ADF: 220 m ³ /d MDF: 350 m ³ /d	Not Serviced Units/Land * Average Flow * MDF
Total Existing Potential Connections (A)	1,321 units (Residential) 53 lots (Non residential)	ADF: 2,090 m ³ /d MDF: 3,350 m ³ /d	878 units (Residential) 43 lots (Non residential)	ADF: 3,220 m ³ /d MDF: 5,150 m ³ /d	ADF: 5,310 m ³ /d* MDF: 8,500 m ³ /d*
Development areas (5-20 years)					
Planned development (B)	678 units + LSLV + SLPC + 2 ha ICI lands	ADF: 4,000 m ³ /d MDF: 7,645 m ³ /d	SLPC	ADF: 225 m ³ /d MDF: 565 m ³ /d	ADF: 4,225 m ³ /d MDF: 8,210 m ³ /d
20-year Design Flow Conditions (A+B)	1,999 residential units + 53 non-residential units + LSLV + SLPC + 2 ha ICI lands	ADF: 6,090 m ³ /d MDF: 10,995 m ³ /d	878 units (Residential) 43 lots (Non residential) SLPC	ADF: 3,445 m ³ /d MDF: 5,715 m ³ /d	ADF: 9,535 m ³ /d MDF: 16,710 m ³ /d
Build-out (> 20 years)					
Ultimate Build-out Conditions (C)	565 units / 65 ha	ADF: 2,583 m ³ /d MDF: 5,166 m ³ /d	1400 units / 30.5 ha	ADF: 2,744 m ³ /d MDF: 5,488 m ³ /d	ADF: 5,327 m ³ /d MDF: 10,654 m ³ /d
Ultimate Build-out Design Flows (A+B+C)	2,564 residential units + 53 non-residential units + LSLV + SLPC + 67 ha ICI land	ADF: 8,673 m ³ /d MDF: 22,156 m ³ /d	2,278 units (Residential) 43 lots (Non residential) SLPC + 30.5 ha ICI land	ADF: 6,189 m ³ /d MDF: 11,203 m ³ /d	ADF: 14,860 m ³ /d MDF: 33,360 m ³ /d

* Note: This is within the current design capacity of the existing system.

2.3.2 Fire Flow

Fire flow demand is based on the population of the community and additional demands as identified for industrial/commercial needs. Table 2-3 summarizes current and future fire flow requirements according to the MECP guidelines.

Table 2-3 Current and Future Fire Flow requirements

Year	Population Served	Fire Flow Required (L/s)	Fire Flow Duration (hours)	Total Fire Storage Required (m³)
2024	4,045	126	2	906
2029	4,826	141	2	1,013
2034	5,625	153	2	1,104
2039	6,819	165	3	1,784
2044	8,380	177	3	1,910

2.4 Wastewater Production

2.4.1 Current and Forecasted Wastewater Production

Based on a review of available data, design standards, and discussion with Township staff, Table 2-4 summarizes wastewater production based on current conditions, planned development, and build-out conditions.

Table 2-4 Current and Forecasted Wastewater production.

	Long Sault <i>Peak Design Flow: 11,500 m³/d</i>			Ingleside <i>Peak Design Flow: 10,027 m³/d</i>			Wastewater Calculation
	Number of units / Land Available for Commercial and Industrial	Average Flow	Peak Flow	Number of units / Land Available for Commercial and Industrial	Average Flow	Peak Flow	
Existing Residential Units / Commercial & Industrial lots							
Serviced by municipal systems	904 units (Residential) 34 lots (Non residential)	1,600 m³/d (19 L/s)	8,383 m³/d (97 L/s)	723 units (Residential) 40 lots (Non residential)	3,823 m³/d (44 L/s)	11,117 m³/d (128 L/s)	Table 2-2 Current Wastewater Production
Not Serviced by municipal systems	417 units (Residential) 19 lots (Non residential)	1,400 m³/d (16 L/s)	5,600 m³/d (65 L/s)	155 units (Residential) 3 lots (Non residential)	1,100 m³/d (12 L/s)	3,200 m³/d (37 L/s)	Not Serviced Units/Land * Average Flow * Peak Factor + I&I
Development areas (5-20 years)							
Planned development	678 units / 276 ha	8,370 m³/d (97 L/s)	27,800 m³/d (322 L/s)	200 units 2 lots (Non residential)	4,900 m³/d (56 L/s)	14,300 m³/d (166 L/s)	Existing units + Planned development
Build-out (> 20 years)							
Ultimate Build-out Conditions	565 units / 65 ha	12,650 m³/d (147 L/s)	36,200 m³/d (420 L/s)	1400 units / 30.5 ha	8,310 m³/d (96 L/s)	25,000 m³/d (290 L/s)	Existing units + Planned development + Build-out

Note: Total may not sum due to rounding

2.4.2 Infiltration and Inflow

Infiltration and Inflow (I/I) is extraneous water (groundwater or runoff) that enters the sanitary sewer system taking up excess capacity without generating any revenue for the utility. As part of this study, WT engaged EVB Engineering to install three flow meters in existing maintenance holes in Long Sault. Refer to Section 2.4.2 of the Master Servicing Plan for a map of the flow monitoring locations.

A review of the data collected from the flow meters indicated that the baseline I/I into the system is approximately 385 m³/day with the vast majority being associated with the north half of the original Long Sault town site (approximately 300 m³/day) and very little (less than 5 m³/day) is associated with the area east of the original town site consisting of Chantine Meadows and Industrial properties on Avonmore Road (County Rd 15). This is the baseline I/I and does not capture the peak I/I flows associated with storm events, which is evident in the maximum day multiplier in Long Sault of 5.24 or approximately 6,800 m³/day during peak events.

It is anticipated that the I/I problems are a combination of infiltration associated with groundwater around the existing piping and leaks as well as inflow from the private side. Anecdotal evidence from the community indicates that original residences have intentionally perforated the sanitary service proximate to the foundation wall in order to collection groundwater around the perimeter drain. It is anticipated that most of these connections are in the original town site. As these connections are on private property, rectifying the problem will require resident participation.

It must be noted that I/I infiltration and inflow are common problems in dated sanitary sewer systems. Several municipalities are currently dealing with I/I. With the intention of facing these challenges, the Federation of Canadian Municipalities (FCM) and the National Research Council (NRC) have joined forces to deliver the National Guide to Sustainable Municipal Infrastructure: Innovations and Best Practices. The Guide project aims to provide a decision-making and investment planning tool as well as a compendium of technical best practices for the implementation of I/I control/reduction program with the focus on sanitary sewers. This document is a focal point for the Canadian network of practitioners and municipal governments focused on infrastructure operations and maintenance.

2.5 Transportation Demand

In order to assess the transportation conditions in the future, both the growth in population and changes in the population are important areas to be assessed. In the review of the capacity of the existing system, the increase in population will have an impact on traffic; however, the distribution of population does not support a significant impact on the level of service within the Township roadways.

3 DEVELOPMENT AND ANALYSIS OF ALTERNATIVES

An options analysis was performed for alternative solutions to address the system deficiencies. This included an initial screening of alternatives, detailed evaluation of the screened alternatives, and selection of the preferred alternative according to the Class EA environmental components and summarized in four (4) major categories:

- Technical Environment
- Natural Environment
- Social/Cultural Heritage Environment
- Economic Environment

Every alternative was assigned an evaluation impact level for each criterion, as it was recognized that more than one alternative or technology could address the problem. For each alternative, potential costs were included. These costs should be considered as Class “D” estimates (+/-25%).

To review all the proposed servicing alternatives for water, wastewater, stormwater, and transportation systems, as well as individual assessments for each of the aforementioned criteria, please refer to Section 6 and Section 7, respectively, of the Master Servicing Plan.

4 PREFERRED ALTERNATIVES

The following projects have been identified as the preferred system upgrades and solutions for the Master Plan. For additional details on each of the proposed preferred solutions, please refer to Section 8 of the Master Servicing Plan.

4.1.1 Water Servicing

Long Sault

The preferred alternative layout and cost estimate for each proposed solution is outlined in Figure 6-1. The Township can consider the following measures to improve current water servicing deficiencies and provide future water servicing within the Long Sault Servicing area:

Timeline: 0-5 Years:

- Create a watermain loop to serve both the east and west ends of the Long Sault Logistics Village development by installing a 300mm watermain on both ends. Costs will be covered by the developer.

Timeline: 5-10 Years

- Upsizing existing watermains along the east end of Moulinette Island, Jenkins Road, and Chantine Drive to meet current FUS fireflow requirements. Those should be planned together with future infrastructure renewal projects. Costs to be covered by the Township.
- Upsizing the existing watermains along McNiff Avenue from Moulinette to connection with Jim Brownell Blvd up to 200mm. Costs will be covered by the developer.
- Install new transmission main from the intersection of County Rd. 2 and Moulinette Rd. via Moulinette and Simcoe St. to the open space park by the splash pad/baseball diamond to the new storage site located off Johnson Cres. Southeast of the United Church property and continuing north through the municipally owned lands crossing Saunders and French to McNiff to connect to the North Community Loop. Costs to be covered by the Township.

Timeline: 10-20 Years

- Install a new elevated storage tank in the Long Sault Pressure Zone located in the open space park land southeast of the United Church property off Johnson Cres. Costs to be covered by the Township.
- Upsize developer watermain on Barry Street from Chase Meadows to Fenton Farm via future developments to 200mm. Costs will be covered by the developer.

Ingleside

The preferred alternative layout and cost estimate for each proposed solution is outlined in Figure 6-2. The Township can consider the following measures to improve current water servicing deficiencies and provide future water servicing within the Ingleside Servicing area:

Timeline: 0-5 Years

- Provide a new 250mm tee connection on the outlet from the booster station on the north side of County Rd. No. 2 and reroute 250mm along the north side of County Road No. 2. extending north on Killarney and extending a 250mm watermain east to connect with Ault Drive and a

200mm watermain west along St. Lawrence Drive to the easement back to County Rd No. 2 and continue east to the intersection of County Rd No. 2 and Farran Point Rd. Costs to be covered by the Township.

- Replace watermain from existing 250 mm watermain at Farran Dr. and St. Lawrence Dr. along Farran Dr. to College St. to Dickinson and along Dickinson to connect with 45th Parallel Dr. and the existing Water Tower. Project can be implemented over two to three construction years for budgetary purposes. Project costs include full reconstruction to Township Standard.

Timeline: 10-20 Years

- Upsize developer watermain on Ault Drive (future) and Balsam Street (future) from Ault Drive and Beech Street to Balsam Street and Farran Drive. Costs will be covered by the developer.
- Every other cross-street or street that extends more than 300m within an intersecting watermain shall be increased to a 200mm diameter pipe or greater.

4.1.2 Wastewater Servicing

Long Sault

The preferred alternative layout and cost estimate for each proposed solution is outlined in Figure 6-3. The Township can consider the following measures to improve current wastewater servicing deficiencies and provide future wastewater servicing within the Long Sault Servicing area:

Timeline: 0-5 Years

- Upsize the 300 mm Sanitary Sewer North of County Road 36 to 450mm. Costs will be covered by the Township.
- Upsize the 250 mm Sanitary Sewer South of County Road 36 to 350mm. Costs will be covered by the Township.
- County Rd 36 SPS and Forcemain Upgrades: Increase SPS Capacity from 47 L/s to 170 L/s to convey the ultimate capacity of the upstream area. Increase Inlet SPS to 450 mm to convey the build-out flow of 170 L/s. Costs will be covered by the Township.
- Chase Meadows Development area:
 - Install a new 200 mm – 1.0 km long gravity sewer from LSLV to the new SPS. Costs will be covered by the developer.
 - Install a new 250mm – 1.5 m long Forcemain from the new SPS to existing trunk sanitary sewer directed to the Long Sault WWTP. Costs will be covered by the developer.
 - Install a new Sanitary Pumping Station (SPS) sized for Chase Meadows, McNiff Area, West of Moulinette, and Long Sault Logistic Village Development. Primary Developer covers base costs of the SPS.
- Long Sault Logistic Village Development (Phase 1) area
 - Install a new 200 mm – 1.5 km long gravity sewer from LSLV to Chase Meadows SPS. Costs will be covered by the developer.

Timeline: 5-10 Years

- Long Sault Logistic Village Development (Phase 2) area

- Install a new Sanitary Pumping Station (SPS) sized to 7.5 L/s to be located within the LSLV development area. Costs will be covered by the developer.
- Install a new 200 mm – 2.0 km long gravity sewer upstream to the new SPS within the LSLV development area. Costs will be covered by the developer.
- Install a new 200mm – 0.5 km long Forcemain from the new SPS within LSLV development to be connected on the existing sewer on County Rd 36. Costs will be covered by the developers.

Timeline: 10-20 Years

- Moulinette Road Subdivision development area:
 - Install a new 200 mm – 750 m long gravity sewer from development to be connected to existing trunk sanitary sewer directed to the Long Sault WWTP. Costs will be covered by the developer.

Ingleside

The preferred alternative layout and cost estimate for each proposed solution is outlined in Figure 6-4. The Township can consider the following measures to improve current wastewater servicing deficiencies and provide future wastewater servicing within the Ingleside Servicing area:

Timeline: 0-5 Years

- Trunk Sewer Rehabilitation. It is recommended to investigate the impact of infiltration and inflow by performing a CCTV investigation. This would allow for an assessment of the need for rehabilitating leaky pipes or broken lateral connections in order to improve operation efficiency. Costs will be covered by the Township.

4.1.3 Stormwater Servicing

Long Sault

The preferred alternative layout and cost estimate for each proposed solution is outlined in Figure 6-5. The Township can consider the following measures to improve current wastewater servicing deficiencies and provide future wastewater servicing within the Long Sault Servicing area:

Timeline: 0-5 Years

- Provide Condition Assessment of the 600mm diameter storm sewer along Miller Roches and directed to County Rd 36. Costs will be covered by the Township.

Timeline: 5-10 Years

- Define the new Municipal Drain for North Outlet to St. Lawrence River to provide outlet certainty to all impacted landowners. Costs will be covered by the Township.
- Install a new 9,000 m³ Stormwater Management (SWM) Facility to be located to the south side of the intersection between County Rd 2 and Robin Rd. Flow to be redirected accordingly. It will include crossing the County Rd 2 to discharge into the St. Lawrence River. Costs will be covered by the Township.
- Moulinette Road Subdivision Development Area
 - Install a new 9,000 m³ Stormwater Management (SWM) Facility. Flow to be redirected accordingly. Costs will be covered by the developer.

Timeline: 10-20 Years

- Install a new 9,000 m³ Stormwater Management (SWM) Facility to be located on the west side of Long Sault and south of County Rd 2. Flow to be redirected accordingly. Costs will be covered by the Township.
- Install a new 9,000 m³ Stormwater Management (SWM) Facility to be located on the east side of Long Sault and south of County Rd 2. Flow to be redirected accordingly. Costs will be covered by the Township.

Ingleside

The preferred alternative layout and cost estimate for each proposed solution is outlined in Figure 6-6. The Township can consider the following measures to improve current wastewater servicing deficiencies and provide future wastewater servicing within the Ingleside Servicing area:

Timeline: 0-5 Years

- Upsizing Storm Sewer along College Street from 400mm to 525mm. Costs will be covered by the Township.
- Upsizing Storm Sewer along Hoople Street from 200mm to 350mm. Costs will be covered by the Township.
- Install a new 350 mm from Hoople Street to Dickinson Drive (CR14). Costs will be covered by the Township.
- Installation of approximately 20 oil-grit separators (OGS) on a street-by-street level, designed to remove oil and grit from stormwater runoff. This will need to be coordinated with Road Reconstruction projects. Costs will be covered by the Township.

Timeline: 5-10 Years

- No alternatives were identified within this timeframe.

Timeline: 10-20 Years

- Northeast Combined SWM Facility: Install a new 9,000 m³ Stormwater Management (SWM) Facility. Flow to be redirected accordingly. Costs will be covered by the Township and Developers. Land Acquisition will be required.
- Northwest Combined SWM Facility: Install a new 9,000 m³ Stormwater Management (SWM) Facility. Flow to be redirected accordingly. Costs will be covered by the Township, but recovered by the developer/development charges.
- Future Development: Install a new 9,000 m³ Stormwater Management (SWM) Facility within the residential area allocated for future development. The flow will require to be redirected accordingly. Costs will be covered by the developer.

4.1.4 Transportation Servicing

The preferred alternative layouts and cost estimates for both Long Sault and Ingleside are outlined in Figure 6-7 and Figure 6-8, respectively. The Township can consider the following measures to enhance traffic, road safety, and active transportation operations on their public right-of-way:

- Address the roads in Long Sault and Ingleside identified as critically deficient.
- Confirm the recommendations contained in relevant development transportation studies, including:

- Extending McNiff Avenue east of Moulinette Road (County Road 35), connecting to Mille Roches Road. This provides an alternate route to Highway 401. This will be coordinated and paid for by development.
- Installing three traffic signals identified in the Long Sault Logistics Village TIS. These signals are all located at County intersections. This will be coordinated with the County and paid for by the County and/or Developer.
- Continue to improve traffic operations and road geometry at critical intersections and roads, especially along the roads next to schools, hospitals, and commercial plazas.
- Ensure all posted speed limits are in increments of 10 kilometers per hour and signed as per the OTM guidance. Notably, the Township may wish to consider replacing any speed limit signs posted at “55”.
- Identify missing sidewalk links and provide a network of continuous sidewalks and crossings. Current and future sidewalks will require to be constructed, as minimum, to provide a 1.5 m width on one side of the street.
- Continue to install dedicated cycling facilities, notably where they connect to the more frequently used recreational trails, such as the South Stormont Recreation Trail.
- Move forward with all recommendations from noted transportation-related plans.

4.1.5 Integrated Renewal

Independent from identified bottlenecks and growth-related servicing requirements, addressing the non-revenue water and I/I issues in both communities is an opportunity to increase system efficiency, increase the uncommitted reserve capacity and, ultimately, reduce the operational cost per connection.

The approach to achieving these reductions consists of renewing and upgrade the original town site infrastructure and cross-section as well as implementing a private side service replacement program to address identified I/I issues. The recommended implementation would be as follows:

- Develop a public consultation process to promote the private side service replacement program including a subsidy program to maximize capture rate.
- Reconstruct one block length in each community annually including all servicing and utilities per year.
- Integrate the prioritization of projects with the existing road condition assessments in order to maximize the overall value by addressing areas that have complementary deficiencies (poor pavement condition, missing sidewalks, etc.) to generate complete street solutions.

The implementation of this approach should be in addition to the annual expenditures proposed in the sections below with the exception of projects that are directly related to either developer or municipally driven projects identified in this report. Prioritization of projects that do address identified water, sanitary, storm and/or transportation issues identified herein is important to maximize the value for money; however, it is recommended that, independent from the identified infrastructure investments required for meeting current and future infrastructure requirements, approximately \$3 million per year (adjusted annually for inflation) be invested in infrastructure renewal to begin to capture the I/I and water loss issues as well as reducing the current infrastructure deficit. This investment would result in one street reconstruction per year per community.

5 ESTIMATED COSTS

The recommendations from the Master Servicing Study have an estimated capital cost of \$106.5M (\$2024) that will need to be implemented over 20 years in the following increments including consideration for the impacts of inflation on the cost:

- 0 – 5 years: \$31.35M plus \$6.1M (inflation) ~ \$7.5M/yr.
- 5 – 10 years: \$32.25M plus \$12.6M (inflation) ~ \$9.0M/yr.
- 10 – 20 years: \$42.9M plus \$25.3M (inflation) ~ \$6.8M/yr.

These costs are full cost including engineering and contingency and do not allow for any external funding source (i.e. provincial, federal) or project partnerships (i.e. developers, Counties). For additional information on individual cost estimates for each of the proposed alternatives, please refer to Section 6 of the Master Servicing Plan.

6 PUBLIC CONSULTATION

To facilitate the consultation process, the project team met frequently with Town staff. On July 17th, 2023, a Notice of Study Commencement was issued to the agency contacts and advertised on the Town's website.

The first Public Information Centre (PIC) was held on October 17th, 2023, to inform the public, project stakeholders, and review agencies of the proposed alternatives, and cost estimates. In total, 10 individuals attended the PIC.

A second PIC was held on November 7th, 2023, to inform the public, project stakeholders, and review agencies of the preferred alternatives, and cost estimates. No individuals attended the meeting.

For both PICs, comment forms were provided. All stakeholder comments were recorded and are included in this Master Plan.

For additional information, please refer to Section 9 of the Master Servicing Plan.

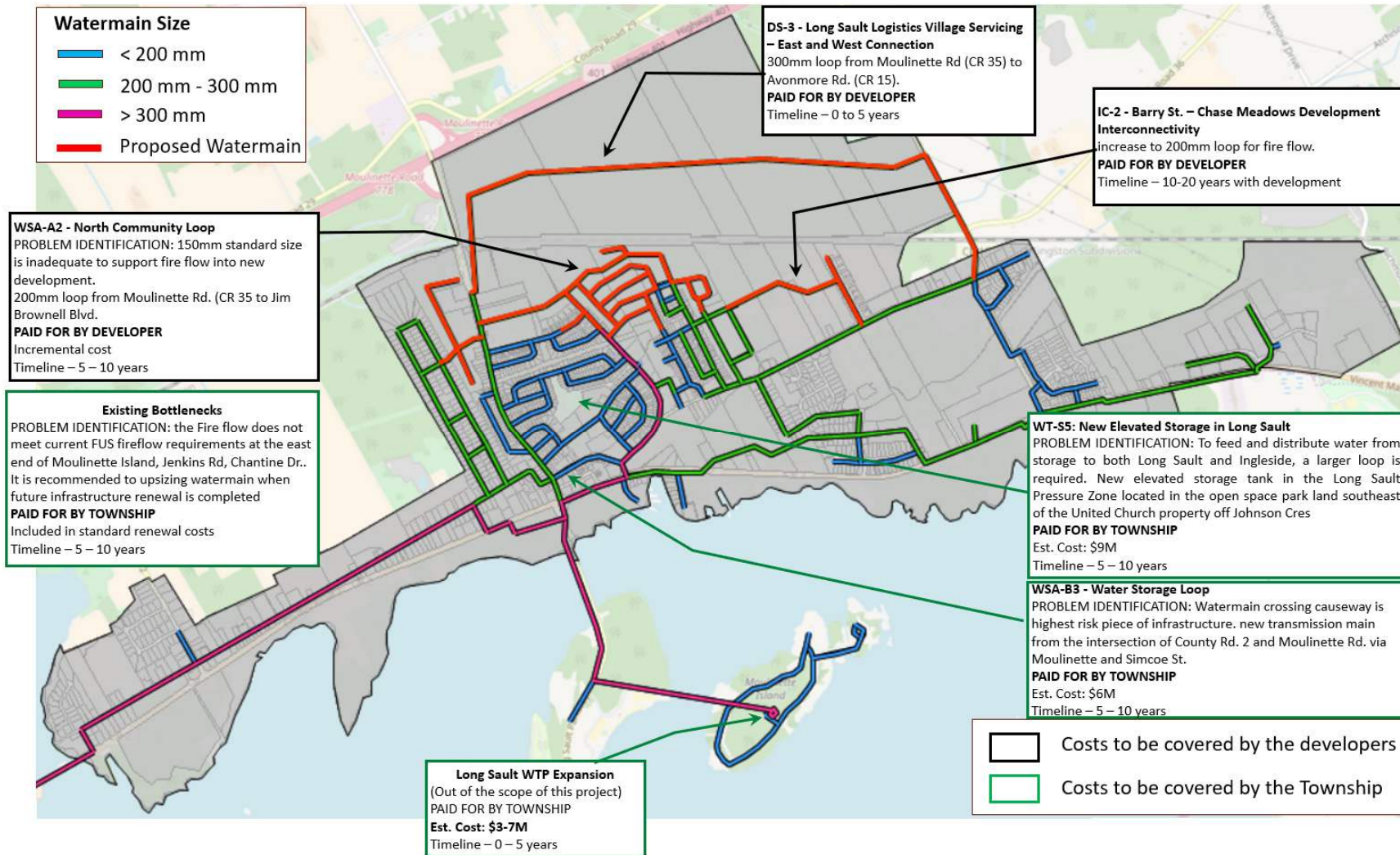


Figure 6-1 Water Servicing: Preferred Alternative - Long Sault Pressure Zone

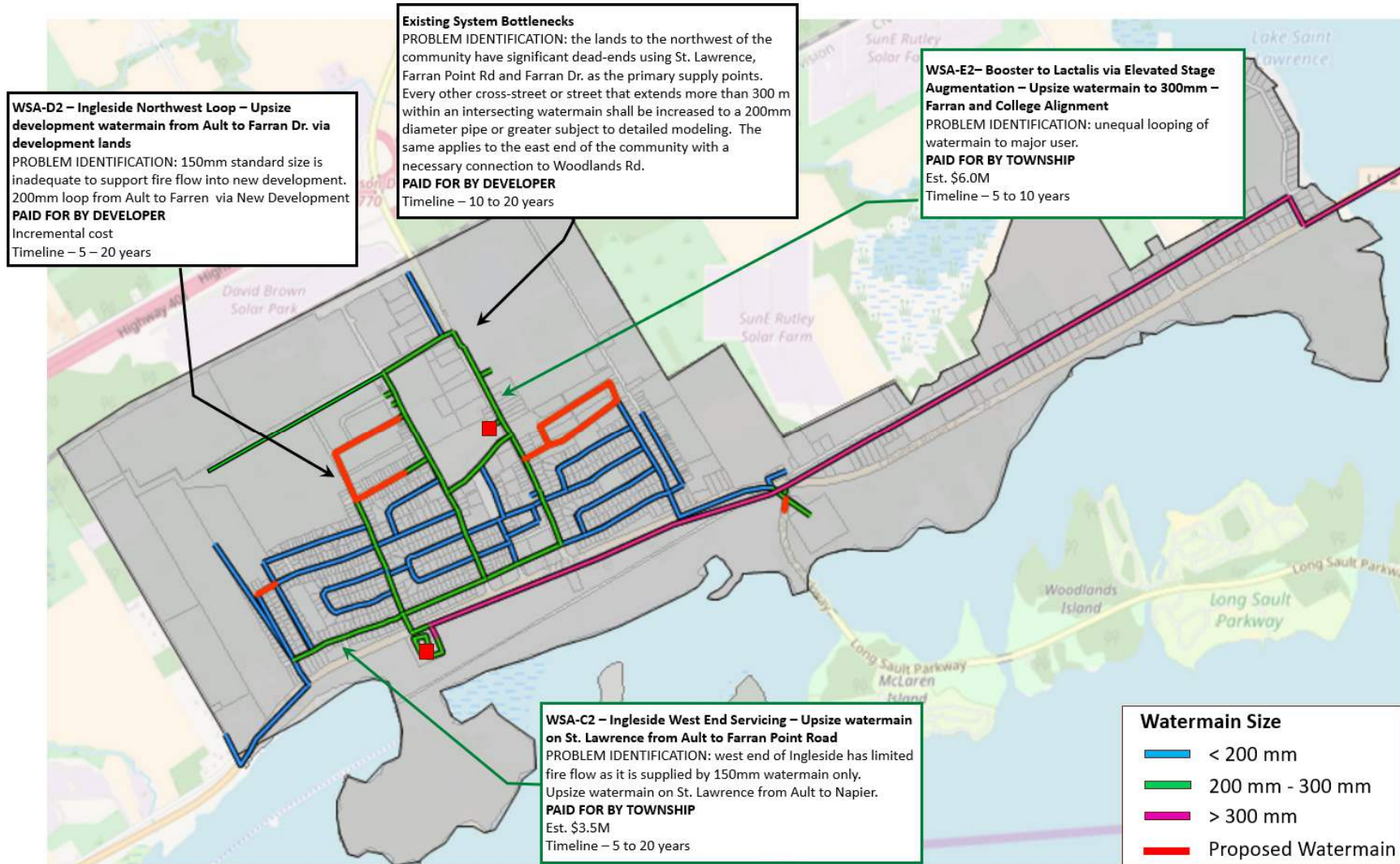


Figure 6-2 Water Servicing: Preferred Alternative - Ingleside Pressure Zone

Township of South Stormont
 Master Servicing Study - Executive Summary
 22-2047

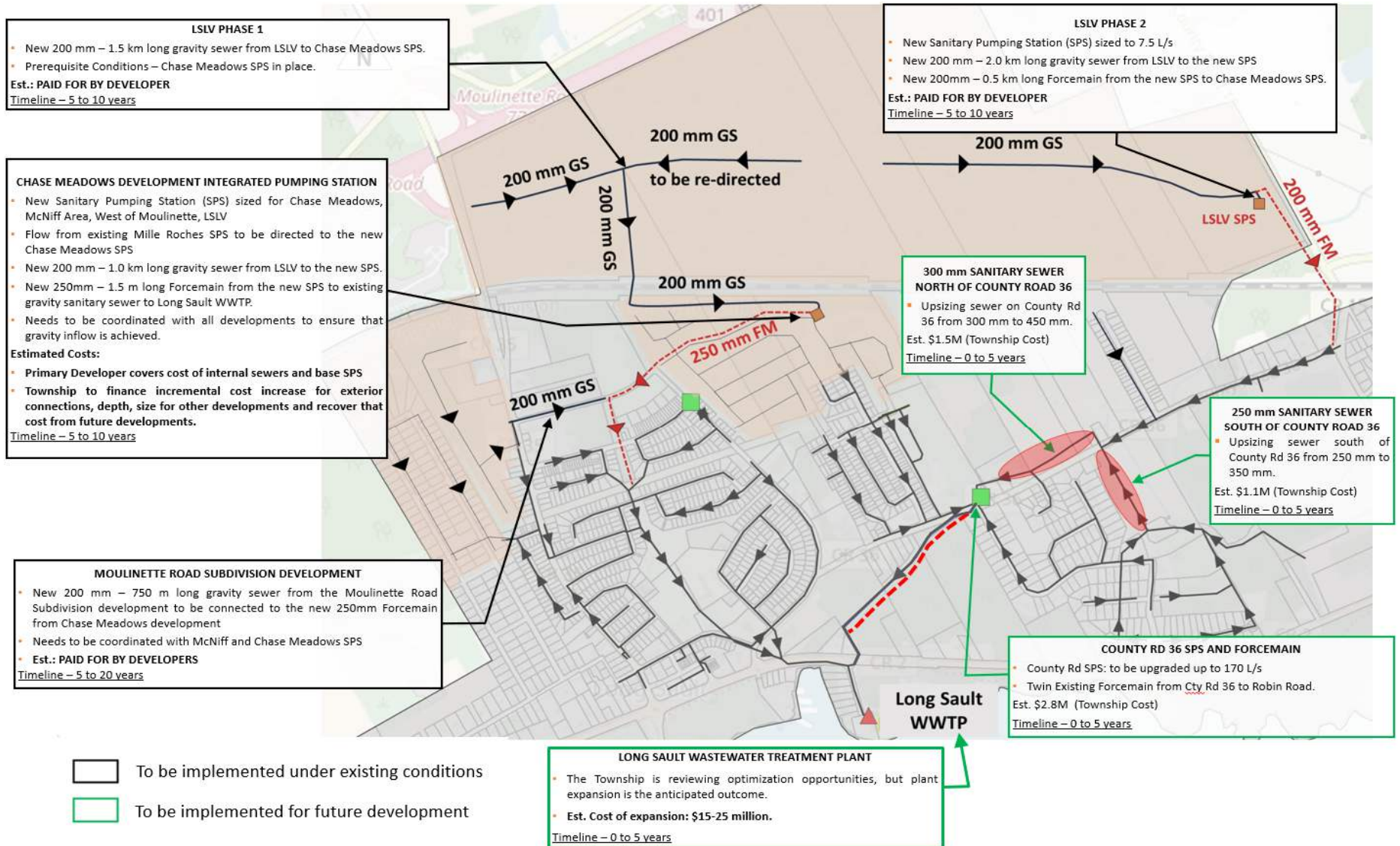


Figure 6-3 Wastewater Servicing: Preferred Alternative for Long Sault

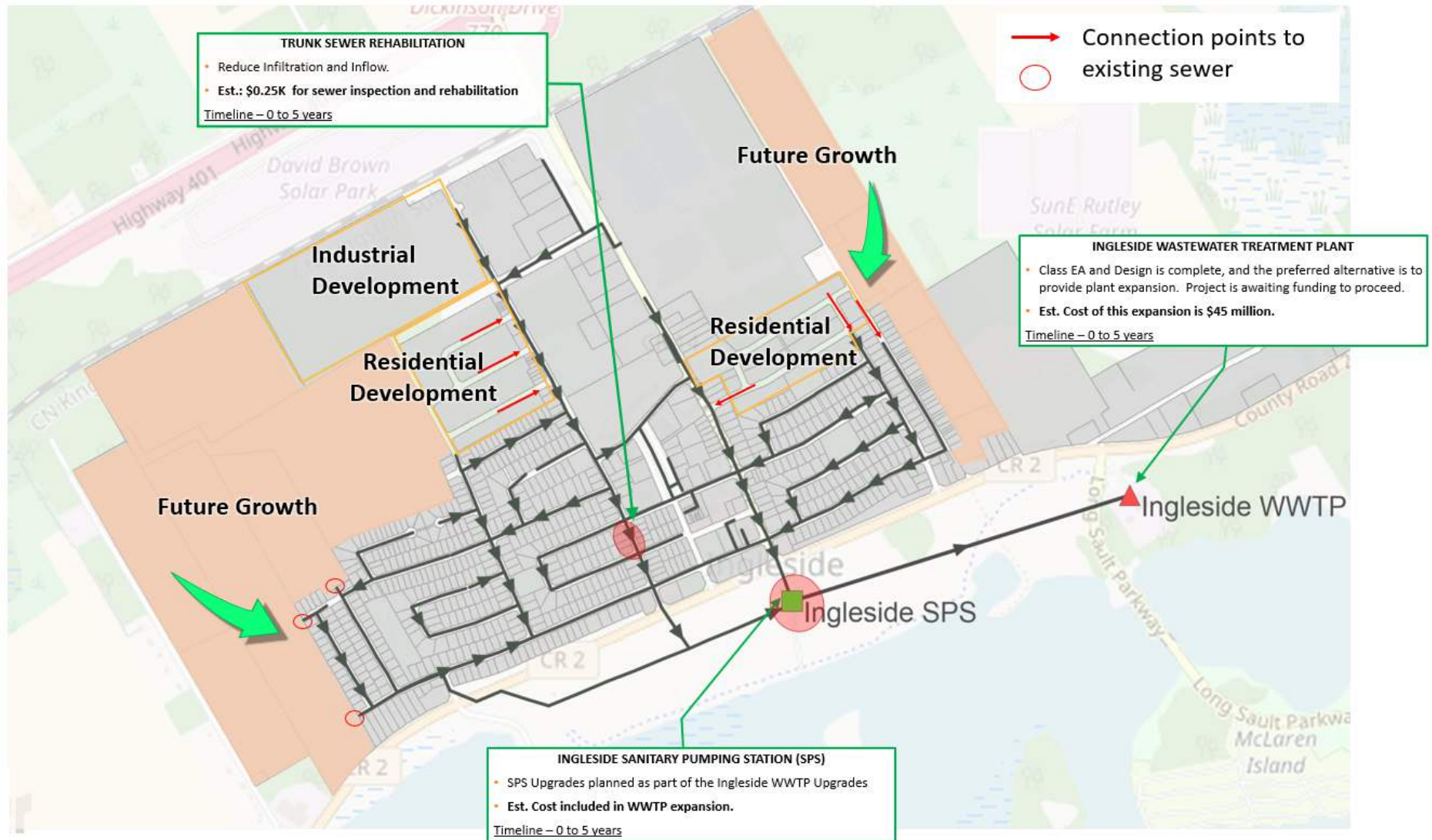


Figure 6-4 Wastewater Servicing: Preferred Alternative for Ingleside

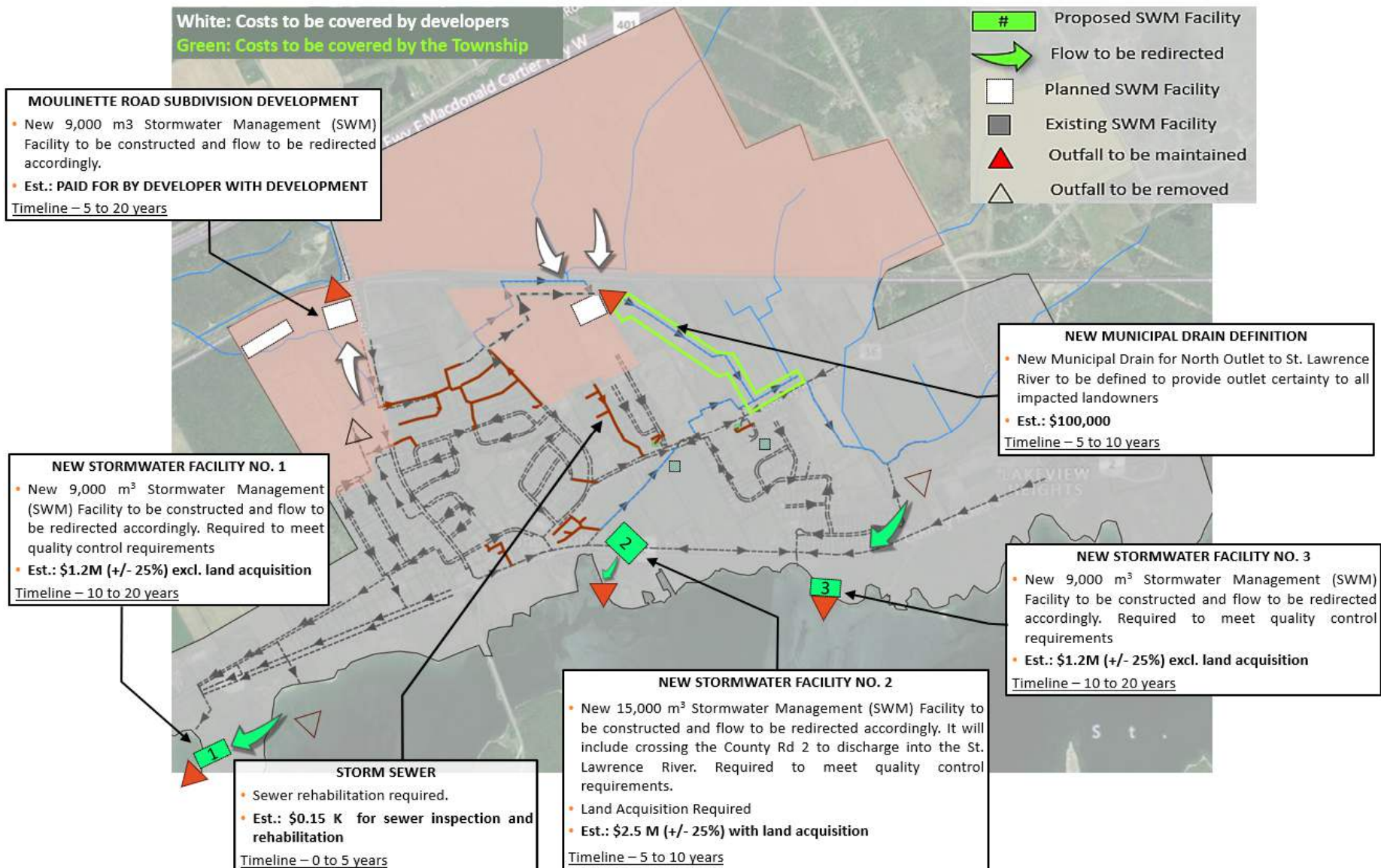
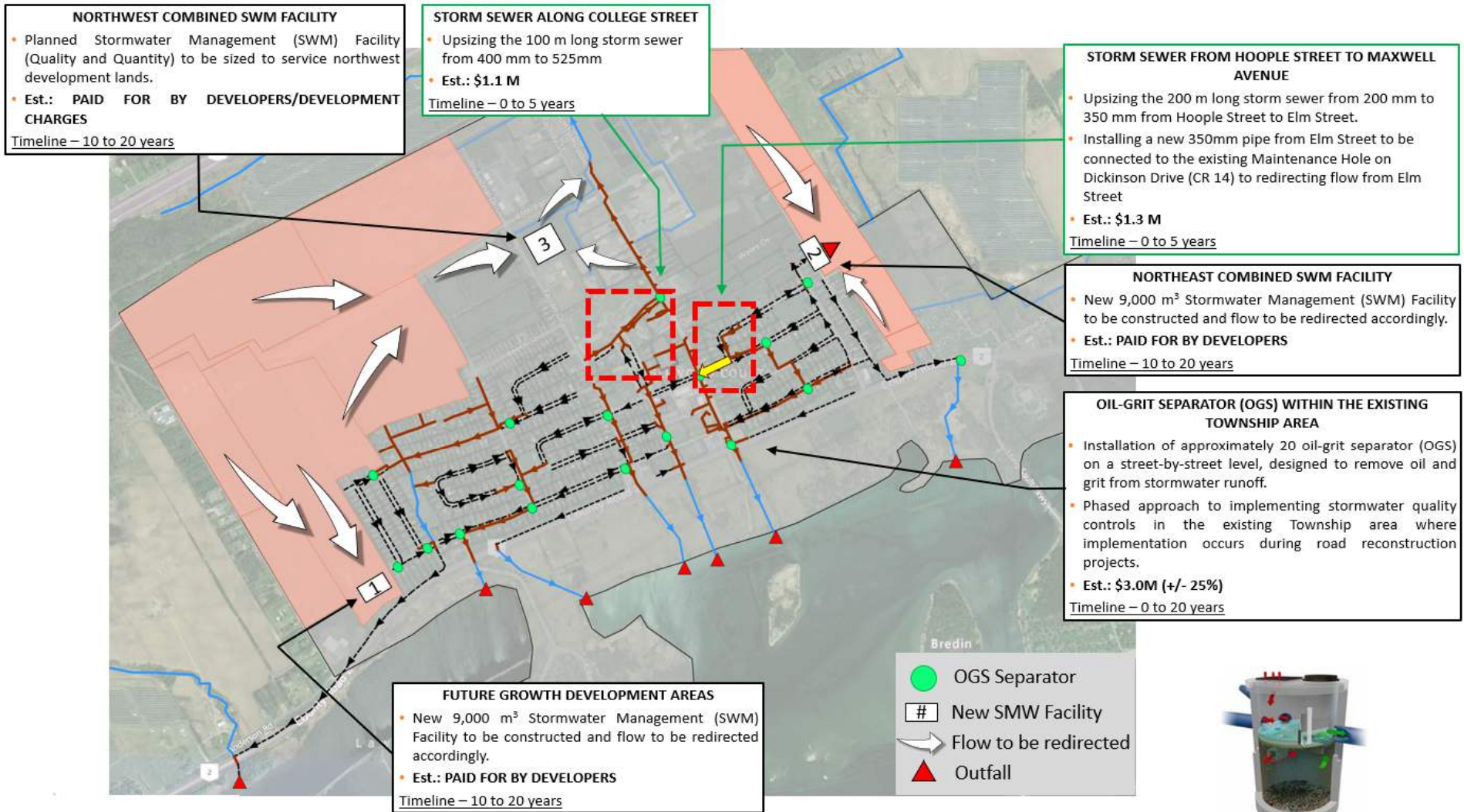


Figure 6-5 Stormwater Servicing: Preferred Alternative for Long Sault



OGS Separator

To be implemented under existing conditions

To be implemented for future development

Figure 6-6 Stormwater Servicing: Preferred Alternative for Ingleside

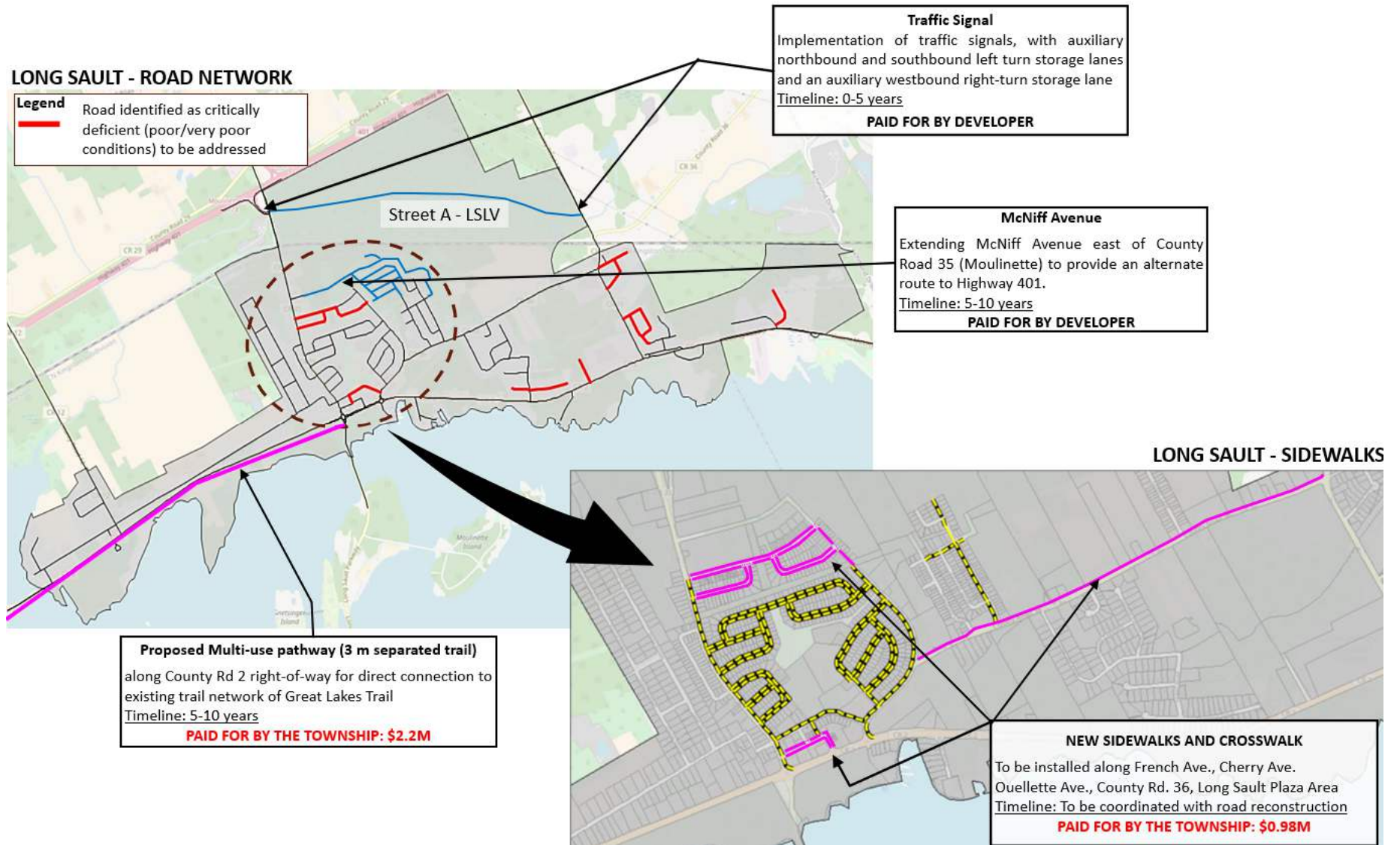
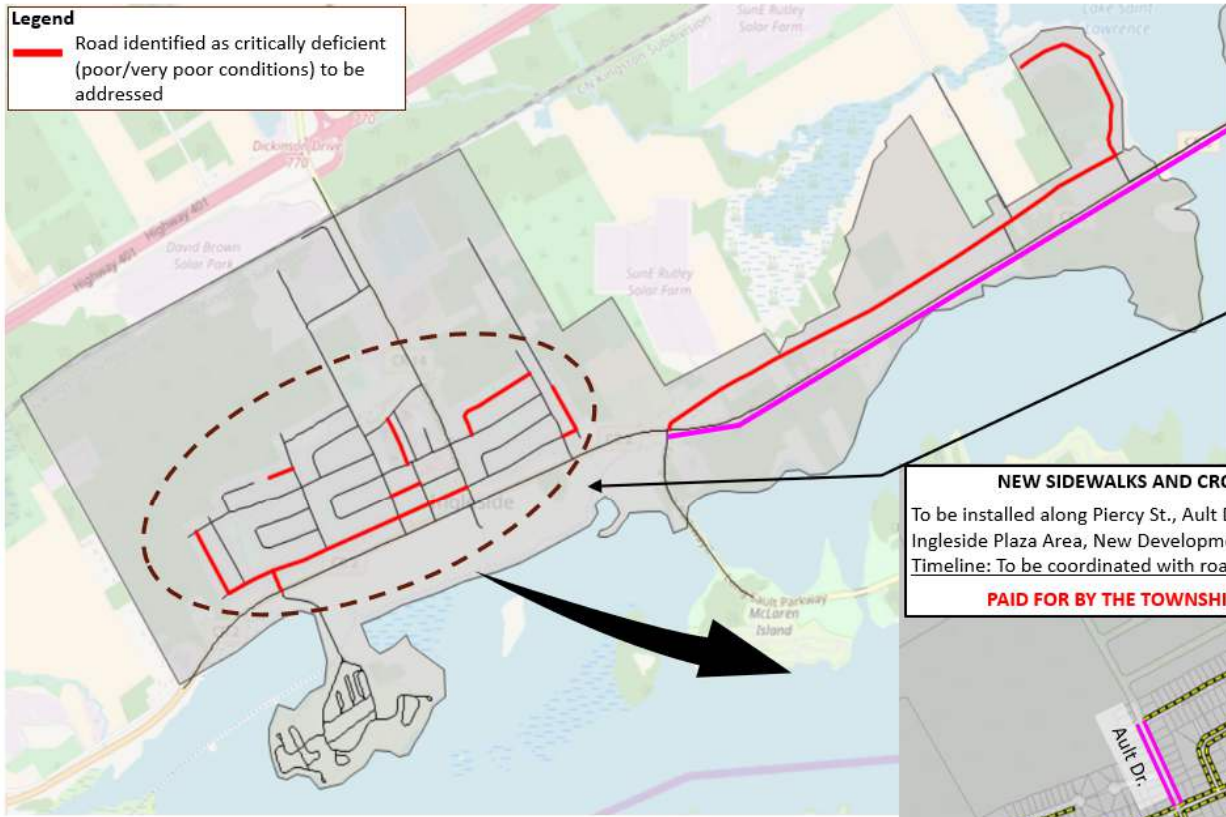


Figure 6-7 Transportation System: Preferred Alternative for Long Sault

INGLESIDE - ROAD NETWORK

Legend
 Road identified as critically deficient (poor/very poor conditions) to be addressed

COUNTY RD 2 - PEDESTRIAN CROSSING
 To provide a minimum of two, but up to four pedestrian crossings.
 Counties to be involved to determine the best approach to maximize safety for all road users.
 Timeline: 0-10 years
PAID FOR BY THE TOWNSHIP: \$ - TBD



INGLESIDE - SIDEWALKS

NEW SIDEWALKS AND CROSSWALK
 To be installed along Piercy St., Ault Dr., Woodlands Rd., Ingleside Plaza Area, New Development.
 Timeline: To be coordinated with road reconstruction
PAID FOR BY THE TOWNSHIP: \$0.11M



Figure 6-8 Transportation System: Preferred Alternative for Ingleside