



Amherstview West Secondary Plan

Municipal Class Environmental Assessment

Final Master Plan Environmental Study Report

March 18, 2025





Amherstview West Secondary Plan

Loyalist Township

Municipal Class Environmental Assessment Master Plan Environmental Study Report

March 18, 2025

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1 Introduction

Amherstview is experiencing the most rapid growth of Loyalist Township's three (3) urban settlement areas. Housing demand is outpacing population growth and the lands in the built-up area of Amherstview are anticipated to be built out by 2028, due in part to housing demand outpacing population growth and resulting in a declining average household size. Proximity to the City of Kingston in the east has also influenced the distribution of growth in Loyalist Township, and in Amherstview where residential growth in the Township is focused.

In order to plan for the growing population, Loyalist Township has retained WSP Canada Inc. (WSP) to prepare a Secondary Plan and Master Plan in accordance with the Municipal Class Environmental Assessment (MCEA) process to plan for the future community of Amherstview West. The Secondary Plan will provide a policy and implementation framework to guide the future growth and development of Amherstview West for the next 25 years to the year 2046. The plan will consider future needs and priorities for the new community, including housing types, urban design, community amenities, protection of the natural environment, servicing, stormwater management, and transportation, including active transportation.

The Secondary Plan Study Area is located to the west of County Road 6 and the existing built-up area of Amherstview, and between Taylor-Kidd Boulevard (County Road 23) to the north and Bath Road (Highway 33) to the south, as shown in **Figure 1-1**.



Figure 1-1: Amherstview West Study Area



The scope of work completed in support of the Secondary Plan development included:

- **An assessment of necessary infrastructure** (e.g., roads, water and wastewater, transportation, including active transportation, storm and sanitary services);
- **Completion of a study of existing natural heritage conditions** in the Secondary Plan Study Area, including a review of the natural heritage features (terrestrial and aquatic) to support the development of four (4) land use concepts for the Secondary Plan;
- **Identification and analysis of natural hazards** (e.g., erosion hazards) to ensure that future development is directed away from areas where there is an unacceptable risk to public health and safety, or property damage, and will not create new or aggravate existing hazards;
- **Completion of a cultural heritage and resource assessment** to ensure the conservation of existing significant built heritage resources, significant cultural heritage landscapes, and significant archaeological resources;
- Compilation of the existing conditions in the Secondary Plan Area to support the **development of four (4) land use concepts** for the Secondary Plan; and
- **Evaluation of the four (4) land use concepts to determine a Preferred Option** for Amherstview West, which constitutes Schedule A – Land Use Plan in the Secondary Plan.

The intent of the studies is to provide a detailed land use plan and policies that will guide future development and address all municipal infrastructure requirements for Amherstview West.

This Master Plan has been developed in coordination with the Secondary Plan and will address water and wastewater servicing following an integrated Planning Act / MCEA process in accordance with Section A.2.9 of the Municipal Engineers Association's (MEA) Municipal Class Environmental Assessment (October 2000, as amended in 2007, 2011, 2015 & 2023), Master Plan Approach #2. This integrated approach allows for consideration of municipal infrastructure improvements needed to service the Secondary Plan Study Area to be considered and approved concurrently with the completion and adoption of the Secondary Plan. This Master Plan process will satisfy Phases 1 and 2 of the MCEA process to obtain approval for all Schedule 'B' projects identified. The Master Plan will become the basis for future work for the specific Schedule 'C' projects identified within it, except for the proposed Collector Roads in the Secondary Plan Study Area, which will be subject to the Collector Road Screening Process.

Integrating the development of the Secondary Plan with the MCEA process allows for a coordinated approach to addressing land use, servicing, and transportation issues. It ensures that environmental considerations are fully integrated into the decision-making process. An overview of the integrated approach followed for this project is provided in **Figure 1-2**.



PARALLEL PROCESS – INTEGRATED STUDY APPROACH

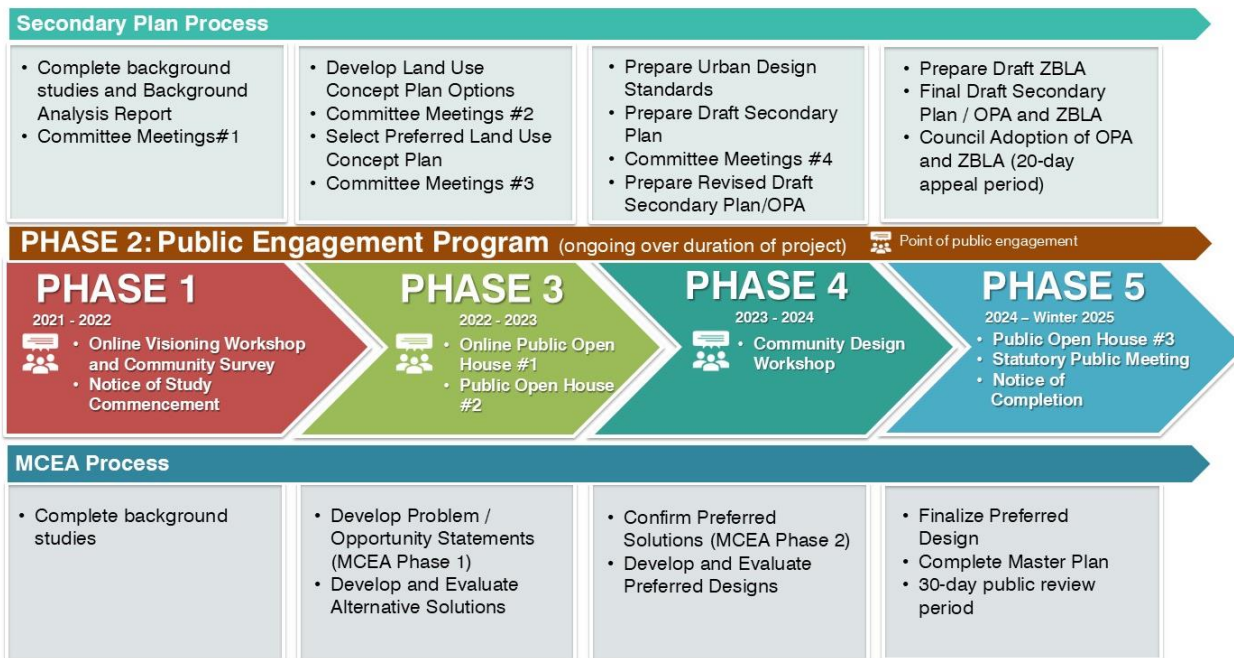


Figure 1-2: Overview of the Integrated Planning and MCEA Process

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2 Environmental Assessment Process

2.1 Ontario Environmental Assessment Act

The Ontario *Environmental Assessment Act* (EAA), and the associated Codes of Practice, require proponents to examine and document the environmental effects that might result from major projects or activities. The purpose of the Act is the betterment of the people of the whole or any part of Ontario by providing for the protection, conservation, and wise management of the environment in the Province (RSO1990, c. 18, s.2).

The Act sets a structure for a systematic, rational, and replicable environmental planning process that is based on five key principles, as follows:

- **Consultation with affected parties:** Consultation with the public and government review agencies is an integral part of the planning process. Consultation allows the proponent to identify and address concerns cooperatively before final decisions are made. Consultation should begin as early as possible in the planning process.
- **Consideration of a reasonable range of alternatives:** Alternatives to include functionally different solutions to the proposed undertaking as well as alternative methods of implementing the preferred solution. The “do nothing” alternative must also be considered.
- **Identification and consideration of the effects of each alternative on all aspects of the environment:** This includes the natural, social, cultural, technical, and economic environments.
- **Systematic evaluation of alternatives in terms of their advantages and disadvantages, to determine their net environmental effects:** The evaluation shall increase in the level of detail as the Study moves from the evaluation of alternatives to the proposed undertaking to the evaluation of alternative methods.
- **Provision of clear and complete documentation of the planning process followed:** This will allow traceability of decision-making with respect to the project. The planning process must be documented in such a way that it may be repeated with similar results.

2.1.1.1 Municipal Class Environmental Assessment (2023)

The EAA allows for certain “classes” of routine projects that have predictable environmental effects that can be readily managed to follow a streamlined Environmental Assessment (EA) process, referred to as a Class EA. Provided the approved process is followed, projects and activities included in a Class EA do not require individual review and approval under the EAA. This project is being conducted in accordance with the MCEA process, described in the MCEA guide (October 2000, as amended in 2007, 2011, 2015 & 2023).



The Class EA planning process requires the integration of sound engineering judgement, prudent long-term planning and protection of all aspects of the environment (natural, social, economic, and cultural). This includes consultation with the public and affected agencies, to obtain comments and input throughout the decision-making process before identifying a preferred alternative. The overall result of the Class EA process is the identification of a recommended plan that considers and minimizes impacts on the environment. The MCEA process is made up of five (5) phases:

- **Phase 1:** Identify the problems/opportunities to be addressed and the needs and justification;
- **Phase 2:** Development and evaluation of alternative solutions;
- **Phase 3:** Development and evaluation of alternative design concepts;
- **Phase 4:** Preparation of an Environmental Study Report for public review; and
- **Phase 5:** Implementation.

Since projects undertaken by municipalities can vary in their environmental impact, projects are classified under the MCEA in terms of “Schedules.” The project Schedule dictates which phases of the MCEA process must be completed before proceeding to implementation.

The following provides a high-level overview of the current MCEA Schedules.

Exempt Projects

On March 3, 2023, the Government of Ontario enacted Amendments to the MCEA process approved under the EAA. Under the amendments, projects that were formerly Schedule A and A+ projects, including various municipal maintenance, operational activities, rehabilitation works, minor reconstruction or replacement of existing facilities and new facilities that are limited in scale and have minimal adverse effects on the environment, are now exempt from the requirements of the EAA under the amended MCEA process. These projects may now proceed without any process requirements under the MCEA.

Schedule B

Schedule B projects have the potential for some adverse environmental effects. As such, the proponent is required to undertake a screening process, involving mandatory contact with directly affected public and relevant review agencies, to ensure that they are aware of the project and that their concerns are addressed through the planning and decision-making process.

Schedule B projects must complete Phases 1 and 2 of the MCEA process to proceed to implementation. At the completion of the Schedule B MCEA process, a Project File Report is made available for public and stakeholder review for a period of 30 days. During this time, a request may be made to the Ministry of Environment, Conservation and Parks (MECP) to require a higher-level of study (e.g., an individual or comprehensive EA approval before being able to



proceed) or that conditions be imposed (e.g., require further studies) on the grounds that the project could introduce adverse impacts on constitutionally-protected Aboriginal or Treaty rights under Section 16 of the EAA. This was previously known as a “Part II Order” or “bump up” request.

Schedule B projects generally include improvements and minor expansions to existing facilities. Examples include the construction of new water storage facilities and water/wastewater conveyance facilities (pumping stations), among others.

Schedule C

Schedule C projects have the potential for significant environmental effects and must proceed under the full planning and documentation procedures specified by the MCEA process. Schedule C projects require that an Environmental Study Report be prepared and filed for review by the public and review agencies.

Schedule C projects must complete Phases 1, 2, 3 and 4 of the MCEA process to proceed to implementation. At the completion of the Schedule C MCEA process, an Environmental Study Report is made available for public and stakeholder review for a period of 30-days. During this time requests may be made to MECP for a higher-level of study or that conditions be imposed, as described above for Schedule B projects.

Schedule C projects generally include the construction of new facilities and major expansions to existing facilities. Examples of a Schedule C project include construction of a new water system including water supply and distribution system, construction of a new road, or expansion of a wastewater treatment plant.

Agreements or commitments to further study and mitigation measures identified as part of the MCEA process must be followed through and implemented during later stages of design and construction.

Eligibility for Exemption

Under the 2023 MCEA amendments, projects that are identified as “eligible for screening” in the Project Tables of the MCEA may be exempt from the requirements of the Environmental Assessment Act based on the results of the Archaeological Screening Process and/or the Collector Roads Screening Process. Proponents must fully and accurately complete the screenings for a project to be considered exempt. Completing the screening process is voluntary and proponents may choose to proceed with a Schedule B or C process instead.

The MCEA process flowchart is provided in **Figure 2-1**.



2.2 Municipal Class Environmental Assessment and Master Plan Approach

This Master Plan will identify the infrastructure needed to service the Secondary Plan Study Area and will be approved concurrently with the completion and adoption of the Secondary Plan. Examples of municipal infrastructure improvements considered as part of this Master Plan include new transportation infrastructure, as well as extension of municipal water and wastewater services and stormwater management facilities.

This Master Plan MCEA Study has been completed following Approach 2 of the MCEA Master Plan process, and satisfies Phases 1 and 2 of the MCEA process (**Figure 2-1**).



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

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

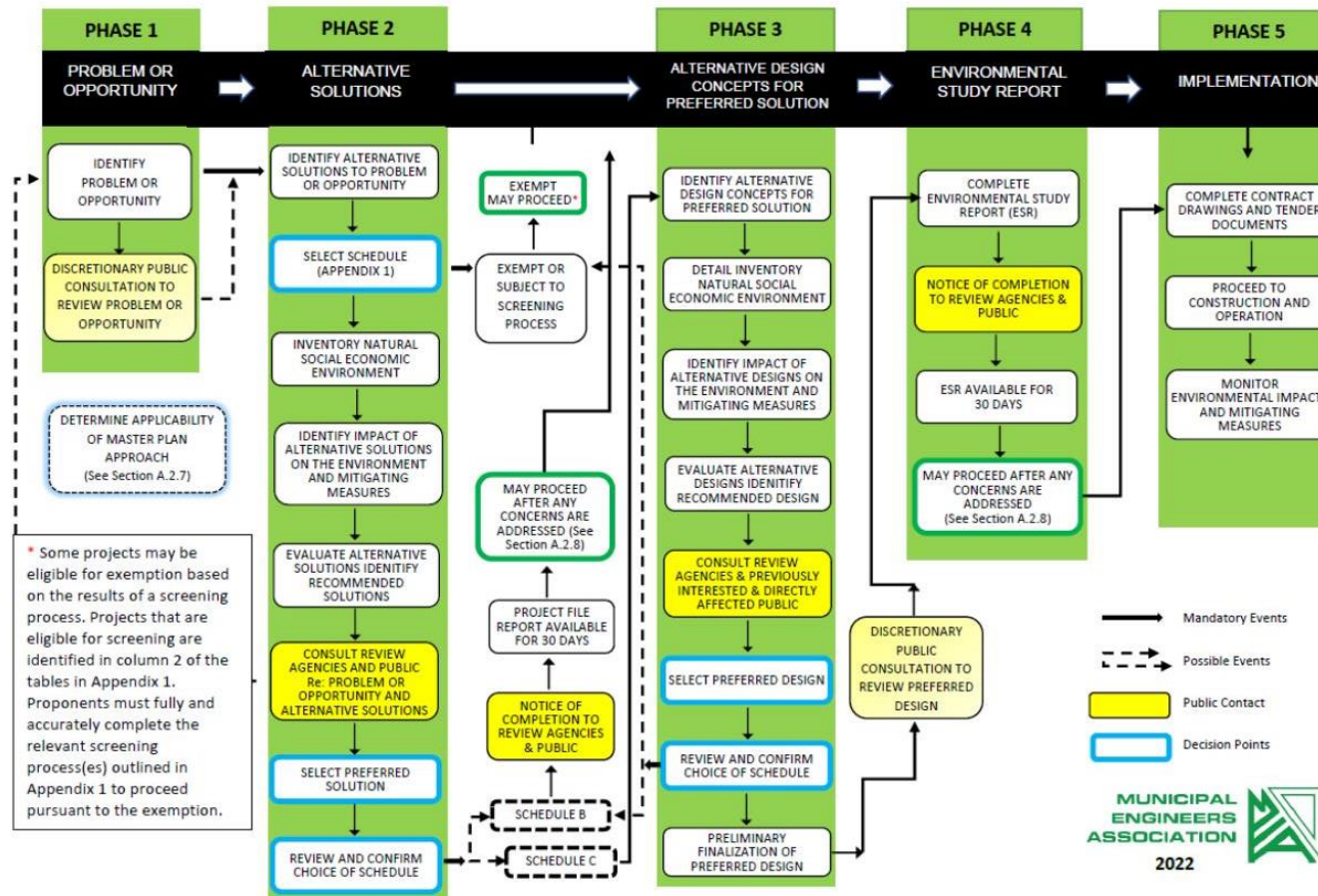


Figure 2-1: MCEA Process (2023)



2.2.1 MCEA Master Planning Process – Approach #2

The MCEA document identifies four (4) approaches to complete the Master Plan process. Master Plans are required to address, at a minimum, Phases 1 and 2 of the MCEA Process. MCEA Master Plan Approach 2 involves the Master Plan being undertaken with detailed assessment work, consultation and documentation to appropriately meet the requirements of Schedule B projects.

There is an opportunity to integrate Master Plans with the MCEA approvals under the Planning Act, and in many circumstances is highly encouraged by the ministry to avoid duplication and ensure improved environmental protection. The integrated approach requires the completion of MCEA processes; however, proponents can combine Planning Act and MCEA processes using shared notification, consultation, studies, technical reports and documentation, as long as the level of detail and assessment appropriately captures the requirements of both processes. Both processes may be satisfied at the same time using some of the same information/studies/documentation, as long as the level of detail and assessment completed appropriately captures the requirements of both processes.

When integrating Planning Act/MCEA approval, the standard MCEA steps are required and should match up with the Planning Act approval requirement steps to identify opportunities and reduce duplication and coordination of timing for both processes.

Infrastructure projects that are planned in accordance with this process are considered to be pre-approved as long as the Planning Act (i.e., Amherstview West Secondary Plan) application is approved and the MCEA requirements have been followed.

The MCEA recognizes the desirability of coordinating or integrating the planning processes and approvals under the EAA and the Planning Act, as long as the intent and requirements of both acts are met.

3 Problem/Opportunity Statement

Phase 1 of the five-phase MCEA planning process requires the proponent of an undertaking (Loyalist Township, in this case) to first document factors leading to the conclusion that the improvement is needed, and to develop a clear statement of the identified problems or opportunities to be addressed. As such, the Problem/Opportunity Statement is the main starting point in the undertaking of a MCEA and becomes the central theme and integrating element of the project. It also assists in setting the scope of the project.

The Problem/Opportunity Statement identified for the Amherstview West Secondary Plan and Master Plan is as follows:



- While there is some existing residential development within the Secondary Plan Study Area, lands suitable for future residential and commercial development have not been identified to accommodate the anticipated population and housing growth.
- The existing road, active transportation, water, and sanitary sewer network within, and adjacent to the Secondary Plan Study Area needs to be extended to service planned growth and meet existing municipal design standards.
- Future urbanization of the Secondary Plan Study Area requires an overall strategy to manage future stormwater flows while considering potential effects resulting from climate change and ensuring that natural heritage systems, including watercourses, woodlands and their buffer areas, are not degraded.

The Integrated Secondary Plan and MCEA process provides an opportunity to allow for an integrated and coordinated approach to address land use, servicing, transportation, and environmental considerations, while ensuring that such considerations are fully integrated into the decision-making process.

The Secondary Plan and Master Plan will adhere to the following guiding principles:

- Accommodate urban development in a westerly direction in Amherstview as directed by Loyalist Township's Official Plan.
- Recognize existing residential neighbourhoods and ensure their protection from incompatible development or redevelopment.
- Ensure that future residential and commercial development in Amherstview West is planned in an orderly, environmentally protective, and efficient manner.
- Strengthen Amherstview's commercial base and enhance opportunities for new amenities and economic development in Amherstview West.
- Respect the existing character of Amherstview West and ensure the preservation and protection of provincially significant natural features, other important natural features, and cultural heritage resources.
- Provide appropriate transportation connections that facilitate a pedestrian-oriented, active and vehicular transportation network within the Secondary Plan Area and to the surrounding communities.
- Introduce Urban Design Guidelines related to access and circulation, built form, open space and amenities, and site sustainability and climate change resiliency, that will guide future development in the Secondary Plan Area.
- Provide a framework for implementation of the Secondary Plan.



4 Existing Conditions

4.1 Planning Framework

4.1.1 Planning Act

The *Planning Act*, R.S.O. 1990, as amended, is the primary legislation governing land use planning in Ontario. It outlines matters of provincial interest and enables the Province to issue Policy Statements to provide direction to municipalities on these matters.

The *Planning Act* enables municipal Councils to pass tools to plan and regulate the use of land and the location of buildings and structures on a lot. Under Section 16 of the Act, most municipalities, including Lennox and Addington County (upper-tier) and Loyalist Township (lower-tier), are required to prepare and adopt Official Plans in accordance with the Act. Official Plans contain a vision, objectives, and policies to guide decision making on land use planning matters. Municipal decisions, by-laws, and public works are required to conform to the policies of the Official Plan (Section 24(1)). The Act also enables municipalities to provide more detailed land use policy direction for specific areas or neighbourhoods, by way of a Secondary Plan, which is added to an Official Plan by Amendment (Section 22(1)(1)).

4.1.2 Provincial Planning Statement, 2024

The 2024 Provincial Planning Statement (PPS) came into effect on October 20, 2024, and replaced the 2020 Provincial Policy Statement. The new PPS provides a streamlined province-wide land use planning policy framework that enables more housing to be built faster in a way that protects the environment, public health and safety and manages natural resources. All land use planning decisions in the Province of Ontario shall be consistent with the policies of the PPS.

Chapter 1: Introduction includes a Vision for Ontario's land use planning system that identifies that land use must be managed to accommodate appropriate development to meet the full range for current and future needs.

It is intended that Ontario will increase the supply and mix of housing options and address the full range of housing affordability needs. Ontario communities will build homes that respond to changing market needs, and local needs and demand, as well as providing a sufficient supply with the necessary range and mix of housing options will support a diverse and growing population and workforce for now and in the future. Growth and development will continue to be focused in urban and rural settlements.

A summary of the policy sections and policies related to the Amherstview West Secondary Plan is provided below.



Growth and Housing

- Planning authorities shall be required to base population and employment growth forecasts on Ontario Population Projections published by the Minister of Finance, which may be modified as appropriate (Policy 2.1.1).
- Planning authorities are required to provide adequate land for a time horizon of at least 20 years, but not more than 30 years, rather than the required 25-year horizon in the 2020 Provincial Policy Statement. Planning for infrastructure, public service facilities, strategic growth areas and employment areas may extend beyond this time horizon (Policy 2.1.3).
- Planning authorities are encouraged to permit and facilitate a range of housing options, including new development, as well as residential intensification, to respond to current and future needs (Policies 2.2.1(a) and 2.2.1(b)).
- Planning authorities are required to establish and implement minimum targets for housing that is “affordable to low and moderate households” (Policy 2.2.1(a)).
- A new definition for “affordable” is included: “means
 - a) in the case of ownership housing, the least expensive of:
 1. housing for which the purchase price results in annual accommodation costs which do not exceed 30 percent of gross annual household income for low and moderate income households; or
 2. housing for which the purchase price is at least 10 percent below the average purchase price of a resale unit in the municipality;
 - b) in the case of rental housing, the least expensive of:
 1. a unit for which the rent does not exceed 30 percent of gross annual household income for low and moderate income households; or
 2. a unit for which the rent is at or below the average market rent of a unit in the municipality.
- A new definition for “low and moderate income households” is included: “means
 - a) in the case of ownership housing, households with incomes in the lowest 60 percent of the income distribution for the municipality; or
 - b) In the case of rental housing, household with incomes in the lowest 60 percent of the income distribution for renter households for the municipality.



Sewage, Water and Stormwater

- In planning for sewage and water services, there should be consideration for accommodating forecasted growth that is efficient and optimizes existing municipal sewage and water services and private communal sewage and water services (Policy 3.6.1(a)). Planning authorities are also required to ensure these systems can be sustained by existing water services, are feasible and financially viable, and protects human health, safety, and the natural environment, and aligns with comprehensive municipal planning for these services, where applicable (Policy 3.6.1(b)).
- Planning for stormwater management shall integrate with planning for sewage and water services, ensuring systems are optimized, retrofitted as appropriate, feasible and financially viable over the long term. Stormwater management planning efforts should minimize erosion, contaminant loads, and changes in water balance, mitigate risks to human health, safety, property and environment, expand and preserve vegetative and pervious surfaces, and promote stormwater management best practices and low impact development” (Policy 3.6.8).

Transportation

- Land use patterns within settlement areas should be based on densities and a mix of land uses, which support active transportation (Policy 2.3.2(c)).
- Public service facilities should be planned and co-located with one another, along with parks and open space where appropriate, to promote cost-effectiveness and facilitate service integration, access to transit and active transportation (Section 3.1.4).
- Transportation systems should be provided, which are safe, energy efficient, facilitate the movement of people and goods, are appropriate to address projected needs, and support the use of zero- and low-emission vehicles (Policy 3.2.1).

Implementation

“Designated and available,” is defined as “lands designated in the official plan for urban residential use. For municipalities where more detailed official plan policies (e.g., secondary plans) are required before development applications can be considered for approval, only lands that have commenced the more detailed planning process are considered to be designated and available for the purposes of this definition.”

4.1.3 County of Lennox & Addington Official Plan (2016, Consolidated Version February 13, 2018)

The County of Lennox and Addington Official Plan (County OP) was adopted by Council on September 30, 2015 and approved with modifications by MMAH on March 9, 2016. The County of Lennox and Addington is the upper-tier municipality, under which Loyalist Township is one of



four (4) member municipalities. Detailed land use planning and local decision making is managed and administered locally through the local municipal Official Plans.

The County OP establishes a broad, upper-tier policy framework that provides planning guidance for the County's member municipalities. Amherstview is designated as an Urban Area as per Schedule A of the County OP (**Figure 4-1**). Urban areas are those settlement areas in that are serviced with municipal sewage services and municipal water services. Urban Areas are intended to be the focus of major growth and development.

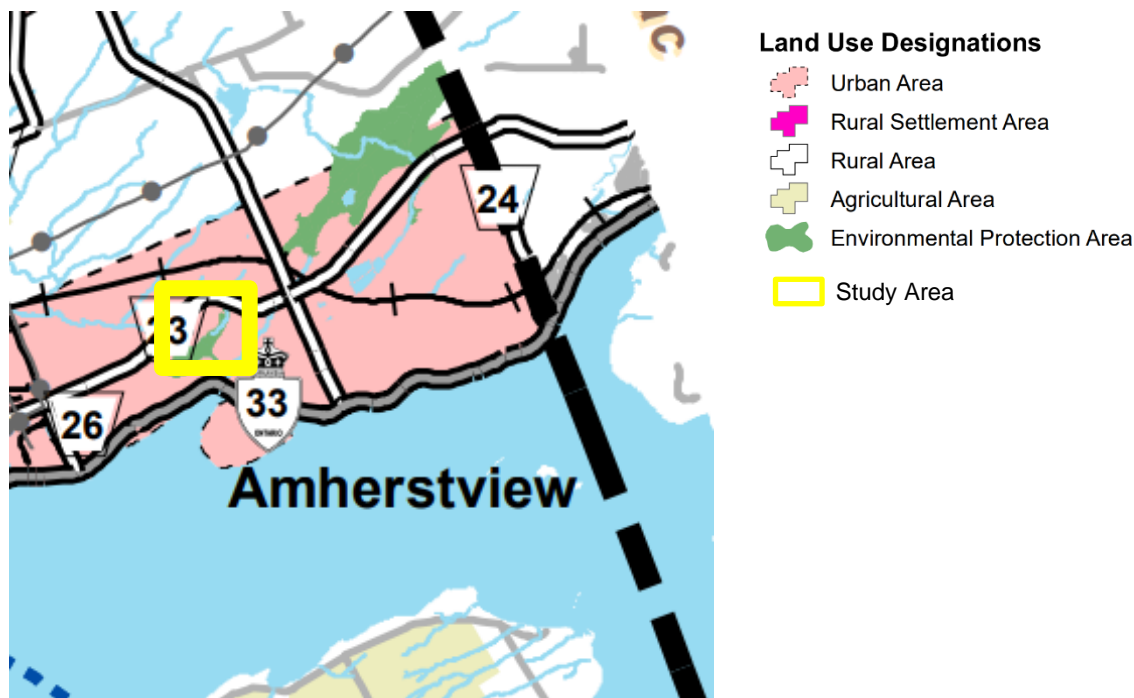


Figure 4-1: County OP Land Use Designation - Schedule A (Excerpt)

4.1.4 Official Plan for the Township of Loyalist Planning Area (Amendment No. 38, Five Year Review) (County Approval: March 23, 2022)

The Township completed the five-year comprehensive review of the Township of Loyalist Planning Area, which was adopted through Amendment No. 38 (By-law 2021-062) by Township Council on September 27, 2021 (Township OP). The intent of the update was to ensure that its policies and designations are consistent with the PPS, 2020 and the Official Plan for the County of Lennox and Addington. The OP guides growth and development in the Township to the year 2036, and was approved by County Council on March 23, 2022.



Policy 4.2.1 sets out new population and employment forecasts for the entire Township to the year 2036. Policy 4.2.2 states that, “The population forecasts noted in 4.2.1 shall not prevent the development of a Secondary Plan for the Amherstview West Area to accommodate a growth forecast to 2046.” As such, **Policy 4.2.2 of the OP permits the planning horizon of the Amherstview West Secondary Plan, once adopted, to the year 2046.**

The Secondary Plan Study Area is predominantly designated as Fringe Area as indicated on Schedule C – Land Use Plan: Amherstview – Parrott’s Bay of the Township OP (**Figure 4-2**). A portion of the lands are also designated Environmental Protection.

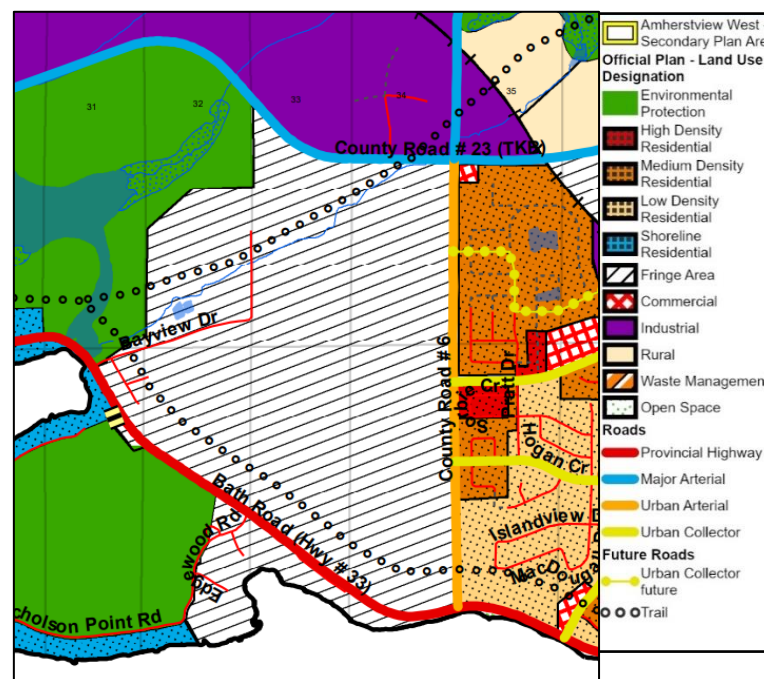


Figure 4-2: Land Use Designations - Township of Loyalist Official Plan - Schedule C (Excerpt)

Environmentally Sensitive Areas (ESA) are also identified in the Secondary Plan Study Area, as shown on Schedule C1 – Environmental Overlay: Amherstview – Parrott’s Bay (**Figure 4-3**). Per Section 5.2.3 ESA include lands designated Environment Protection. Lands designated Environmental Protection have been included within the ESA mapping in order to display a comprehensive natural heritage system, however Environmental Protection lands are subject to the policies in Section 5.2.2 Environmental Protection Areas of the Township OP.

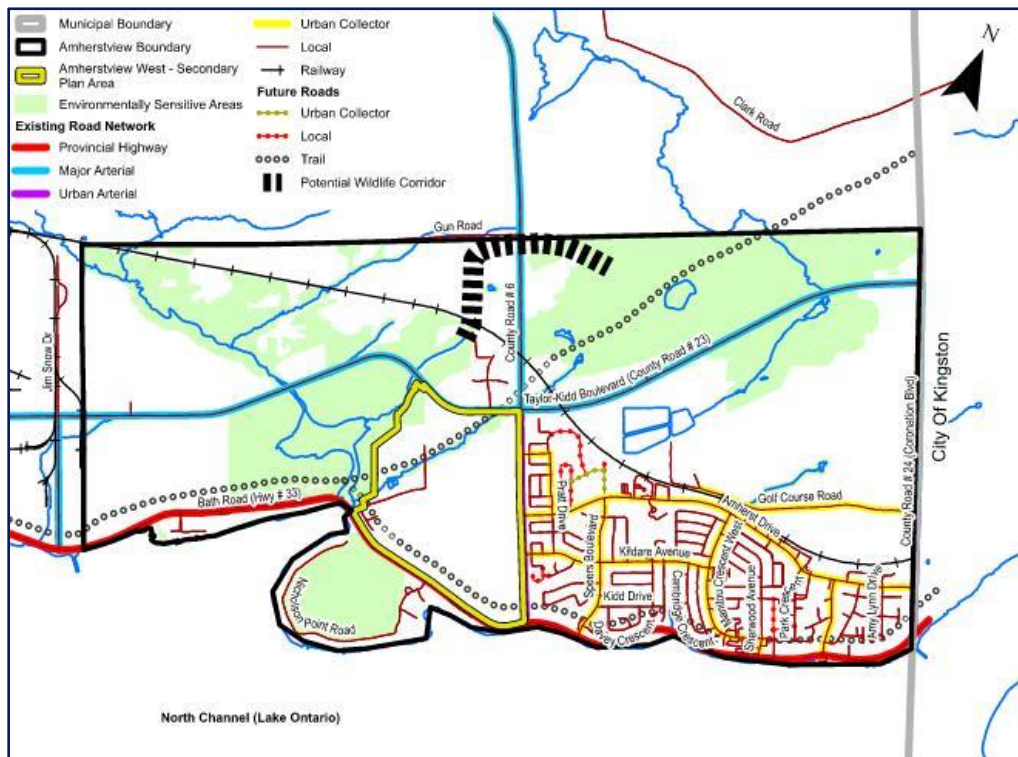


Figure 4-3: Environmental Overlay – Amherstview – Parrott’s Bay – Township of Loyalist Official Plan – Schedule C-1 (Excerpt)

4.2 Existing Land Use

The majority of the northeast portion of the Secondary Plan Study Area is owned by Loyalist Township (i.e. the lands southwest of County Road 6 and Taylor-Kidd Boulevard (County Road 23)). There are numerous smaller residential parcels along Bath Road (Highway 33), Bayview Drive, and Parrott’s Bay Lane, which are owned by private landowners.

There are also a number of larger land parcels primarily located north and central in the Study Area, which are also privately-owned. These larger land parcels are largely undeveloped, some of which are former agricultural lands with farm and outbuildings located on site.

4.3 Growth Management Report

A growth management analysis was conducted as part of the Secondary Plan process to assess the ability to accommodate projected future residential and employment growth and development in Amherstview West. This analysis was documented in a Growth Management Report (July 2021; Updated January 2025), which identifies population, dwelling, and



employment allocations for Amherstview West to the year 2046, as well as the identification of the required land areas to be designated Residential and Commercial in the Study Area.

The initial Growth Management Report completed in 2021 concluded that the population of Amherstview West is expected to grow by approximately 2,420 people by 2046. The results of the residential land analysis indicate that 20.47 net hectares of residential land will be required to accommodate 1,000 residential dwelling units to be added to Amherstview West by 2046.

The results of the commercial employment land analysis indicate that 1.32 net hectares (1.65 gross hectares) of commercial employment land will be needed to accommodate forecasted commercial jobs.

A Growth Study was completed by Watson & Associates Economists Ltd. in September 2023 on behalf of the County of Lennox and Addington. Section 6.2 Urban Land Needs Assessment, 2023 to 2048 identified that there will be a surplus of designated urban lands in the County's Settlement Areas, with the exception of Amherstview which is anticipated to have a forecast residential housing supply deficit of 105 units. The Study recommends that based on an average density of approximately 15 units per gross developable hectare, an additional seven (7) gross hectares of residential land be accommodated for in the Amherstview West Secondary Plan Area.

If the same 25% gross-down factor is applied, this would result in approximately 5.25 net hectares being added to Amherstview West within the 25-year planning horizon.

The Growth Management Report is provided in **Appendix A**.

4.4 Existing Sanitary Sewer Collector System

There are no existing sanitary sewers that directly connect to the Amherstview West Study Area. The existing 58 residential properties within the Secondary Plan Study Area, along Bayview Drive and Parrott's Bay Lane, are currently serviced by private septic systems.

The properties located north and east of the Study Area are connected to the municipal sanitary system by means of sanitary service laterals. There are three sanitary maintenance holes that may be utilized to connect sanitary services to the Secondary Plan Study Area to the existing system. The locations and respective pipe sizes are as follows:

- 200 mm sewer that ends at the north end of Dr. Richard James Crescent; 200 mm sewer that ends at the north end Pearce Street; (Note: Both currently limited as a connection point per the Lakeside Ponds Phase 2 Draft Plan servicing);
- 200 mm sewer that ends at the south end of William Henderson Drive (Currently limited as a connection via gravity sewer due to topography);



- 200 mm sewer at County Road 6 and future Jack Kippen Place (Lakeview Phase 8, Dance Hall Property). Currently a sanitary block and easement is being established and 200 mm sanitary sewer connection is available via McDonough Road;
- 525 mm sewer at Speers Boulevard and Raycraft Drive; and
- Potential 250 mm sewer on Kildare Avenue approximately 200 m east of County Road 6. Connection subject to sewer extension and final capacity review.

In addition to these locations, Loyalist Township has also installed a new 450 mm sewer pipe under County Road 6 at the intersection of Taylor-Kidd Boulevard. This pipe is currently vacant, and may be considered as a possible future connection pipe for a gravity sewer or a forcemain to connect at the Township-owned lands located within the Study Area.

There is an existing pumping station located northeast of County Road 23 and County Road 6. The pumping station was built in 2008 and pumps sanitary flow through a forcemain north-east along County Road 23 to the Amherstview Wastewater Treatment Plant. The existing sanitary sewer infrastructure adjacent to the Study Area is illustrated in **Figure 4-4**.

Existing sanitary facilities in close proximity to the Secondary Plan Area include:

- Loyalist East Amherstview Wastewater Pollution Control Plant (WPCP);
- Loyalist East Taylor-Kidd Pumping Station; and
- Loyalist East Lakeview Pumping Station.

The topography of the study area includes a lower elevation on the southside of the study area and a higher elevation on the north side of the study area. Due to this topography, to service the study area with sanitary services will likely require a sanitary pumping station(s) in lower lying areas, however there are opportunities to direct flows between areas using deeper sewers and/or by building up areas. Gravity sewers are limited in areas due to the elevation changes without significant excavation of shallow bedrock which is found to be present throughout the area. While shallow bedrock excavation is prevalent, it is common in this area for many developments to combine pipe trench excavation and re-use of rock shatter for road construction.



Figure 4-4: Existing Sanitary Services

4.5 Existing Stormwater Management Conditions

The existing drainage system within the Amherstview West Secondary Plan Study Area consists of two (2) primary drainage areas. To the north and north-east, runoff generated drains directly into Lost Creek as part of the Lost Creek Watershed that outlets into Parrott's Bay. The remaining area to the south drains towards Lake Ontario directly or via direct outlets that cross Bath Road (Highway 33). A large portion south of the Secondary Plan Study Area drains into the Edgewood Municipal Drain. There are a few municipal drainage features and structures including sewers and culverts located along Bayview Drive and twin culverts located on Parrott's Bay Lane at the Lost Creek Crossing.



4.6 Existing Water Distribution System

There is an existing watermain within the right of way on the north side of Bath Road (Highway 33) which services houses on Brooklands Park Avenue, Harrow Court, Edgewood Drive, Compton Court and Bath Road (Highway 33). There are also watermain that extend off Bath Road (Highway 33) to the east end of Brookland Park Avenue, the north end of Harrow Court, and 14 Bayview Drive. On the east side of the Study Area there is a watermain that runs along County Road 6 which services many houses in the subdivisions to the east of the Amherstview West Study Area. The County Road 6 watermain also extends north and provides water services to houses to the north of the Amherstview West Study Area. There is also a 400 mm trunk watermain on the west side of County Road 6 which extends north to Odessa. This connection was recently constructed at the intersection of Walden Pond and County Road 6. The 400 mm trunk watermain includes connections to the east at Kildare Avenue and Walden Pond Drive as well as to the Loyalist East Business Park. All current watermain have the required watermain appurtenances in place, such as fire hydrants, to provide fire flows and pressures in the occurrence of a fire emergency.

There are watermain adjacent to the Study Area that may service future development in Amherstview West. Each location allows for the possibility to extend the watermain servicing for proposed development of the Amherstview West Secondary Plan Study Area. The five (5) possible watermain connection locations are as follows:

- 300 mm watermain that ends at the south end of William Henderson Drive;
- 400 mm watermain along County Road 6 with a possible connection point anywhere along the east side of the Secondary Plan Area between Bath Road (Highway 33) and Taylor-Kidd Boulevard (County Road 23);
- 400 mm watermain across Country Road 6 at the Kildare Avenue intersection;
- 200 mm watermain on the north edge of Bath Road (Highway 33) northeast of Edgewood Road;
- 250 mm watermain on Bath Road (Highway 33) between Lakeside Lane and County Road 6;
- 200 mm watermain on Bath Road (Highway 33) between Lakeside Lane and Bayview Drive;
- 150 mm watermain that ends at the north end of Harrow Court – (Candidate connection with 400mm watermain at the recently constructed Walden Pond and County Road 6 intersection upsizing to a 300mm watermain to provide looping and fire flow benefit); and
- 400 mm watermain at the recently constructed Walden Pond and County Road 6 intersection.



The existing watermain services within and adjacent to the study are illustrated in **Figure 4-5**.

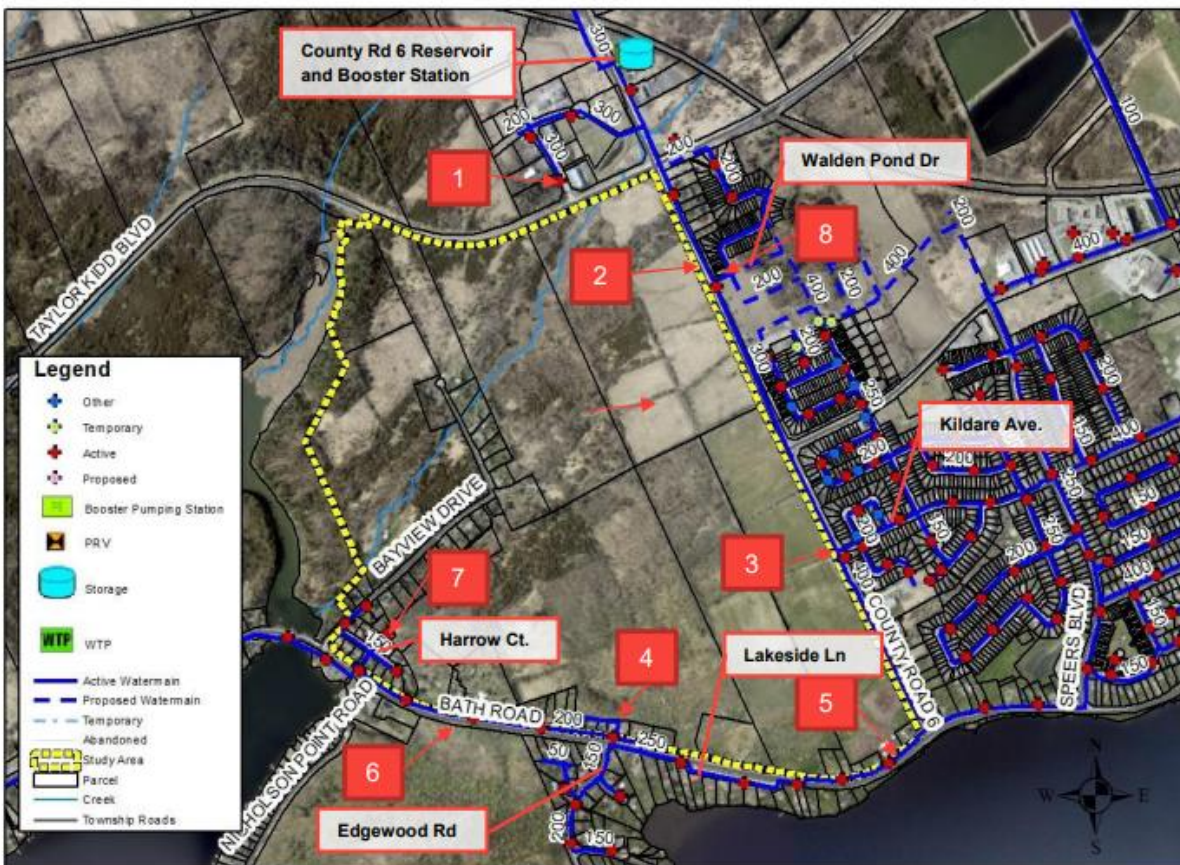


Figure 4-5: Existing Water Connections in the Study Area

Located just north of the Secondary Plan Study Area on County Road 6 is a reservoir and booster pumping station. Located on the northeast corner of County Road 23 & County Road 6 and east of the corner of County Road 6 and Bath Road (Highway 33) are drain chambers that connect to the watermain. This infrastructure provides water storage to the entire Fairfield water service area and boosts pressures to provide reliable service to the community of Odessa. The following is a list of all water facilities located in close proximity to the Secondary Plan Study Area:

- County Road 6 Reservoir and Booster Station;
- Fairfield Water Treatment Plant; and
- Amherstview Water Tower.



4.7 Composite Utilities

A Composite Utility Servicing Report (December 8, 2022) was prepared by WSP, and provides a summary of the review that identified existing external connection points for natural gas, electrical, cable, and other telecommunication lines that would be required to service the Amherstview West Secondary Plan Study Area. The Report included correspondence with utility agencies, including Hydro One, Enbridge Gas, Union Gas, the following provides an overview of the existing external connection points for utilities required to service the Study Area.

4.7.1 Electrical Supply

The estimated demand for electrical power was determined referencing the Ontario Electrical Safety Code (OESC) and is based on the size, type, and use of the existing buildings in the study area, as well as correspondence with Hydro One. There are currently available transmission and distribution connections to the Secondary Plan study area, including two (2) 44 kV feeders, on the north and east sides of the study area, which has the capacity to supply the expected electrical load of the Secondary Plan study area upon full build-out to 2046. It is noted that Hydro One does not reserve capacity, so it is possible that this may change in the future. Once the Official connection request is received by Hydro One, the timeline and fees required for connection will be determined.

4.7.2 Natural Gas Supply

The calculation for the natural gas demand for the Secondary Plan study area will be determined based on the phasing of development within the study area, as well as the timing of development on adjacent lands, including Loyalist East Business Park at County Road 6 and Taylor-Kidd Boulevard and other residential subdivision development. There are two (2) existing natural gas mains in close proximity to the study area: north of the study area opposite Taylor-Kidd Boulevard; and east of the study area at County Road 6 and Amherst Drive. Enbridge Gas was unable to determine future feed locations or construction costs of the study area. This determination depends on which areas are developed first, other developments in the area, and other factors. Enbridge would need to further conduct their own detailed cost/analysis feasibility studies to determine how to best service the area based on the final land use design and natural gas demand calculations.

4.7.3 Telecommunications

The Secondary Plan study area is outfitted with existing Bell and Cogeco telecommunications infrastructure. Future telecommunication points are to be determined based on the phasing of development, with multiple tie-in point locations available along the perimeter of the study area.



There are three (3) existing Cogeco and Bell plants in close proximity to the study area, including at: north of the study area at Taylor-Kidd Boulevard; south of the study area at Bath Road and Edgewood Road; and east of the study area on County Road 6. Prior to undertaking detailed design works, the incumbent carriers (i.e. Bell, Cogeco, etc.) would need to be notified of any proposed works and development, at which time a detailed cost and feasibility study would be completed to determine how to best service the area based on the final design.

4.8 Transportation Network

The following provides an overview of the existing transportation network within the Study Area.

4.8.1 Existing Road Network

The following provides an overview of the existing road network within the Study Area as illustrated in **Figure 4-6**.

Provincial Roads (Ministry of Transportation of Ontario)

- **Bath Road (Highway 33):** An east-west Provincial Highway that borders the Secondary Plan Study Area to the south with a posted speed limit of 60 km/h. Bath Road (Highway 33) features paved shoulders with guard rails fixed along sections where there are steep slopes. There are several residential and commercial accesses directly onto Highway 33, most of which are located on the north side.

County Roads (County of Lennox and Addington)

- **Taylor-Kidd Boulevard (County Road 23):** A designated County major arterial road, which runs east-west between County Road 4 and Princess Street in the City of Kingston. The road has a single lane and paved shoulder in each direction and a posted speed limit of 80 km/h.
- **Wilton Road (County Road 6):** A County urban arterial road running north-south, which serves the built-up area of Amherstview between Taylor-Kidd Boulevard (County Road 23) and Bath Road (Highway 33). The road has a single lane in each direction and a posted speed limit of 60 km/h. There are paved shoulders to just outside of the centreline, which transition to gravel shoulders and numerous accesses to private properties going northbound on Wilton Road (County Road 6).

Township Roads (Loyalist Township)

- **Amherst Drive:** An urban collector road that runs east-west between Wilton Road (County Road 6) and County Road 24. The roadway is configured with a driving lane in each direction, unpaved shoulders, and grass ditches on each side of the road. There is a separated asphalt multi-use pathway along the north side of Amherst Drive.



- **Kildare Drive:** An urban collector road that runs east-west between Wilton Road (County Road 6) and Manitou Crescent. The roadway is configured with a lane in each direction and a concrete gutter on each side of the road. There is a separated concrete sidewalk on each side of the road as it approaches Wilton Road (County Road 6).
- **Walden Pond Drive:** An urban collector that has been recently constructed that provides a connection between Wilton Road (County Road 6) and Amherst Drive. The roadway is configured with a lane in each direction and a concrete gutter on each side of the road.
- **Bayview Drive/Parrott's Bay Lane:** A north-south local road that serves as an access from Bath Road to the Secondary Plan Study Area. Bayview Drive is paved for approximately 300 m north of Bath Road (Highway 33), and then transitions to an unpaved roadway. Parrott's Bay Lane is the northern extension of Bayview Drive and terminates in a cul-de-sac.

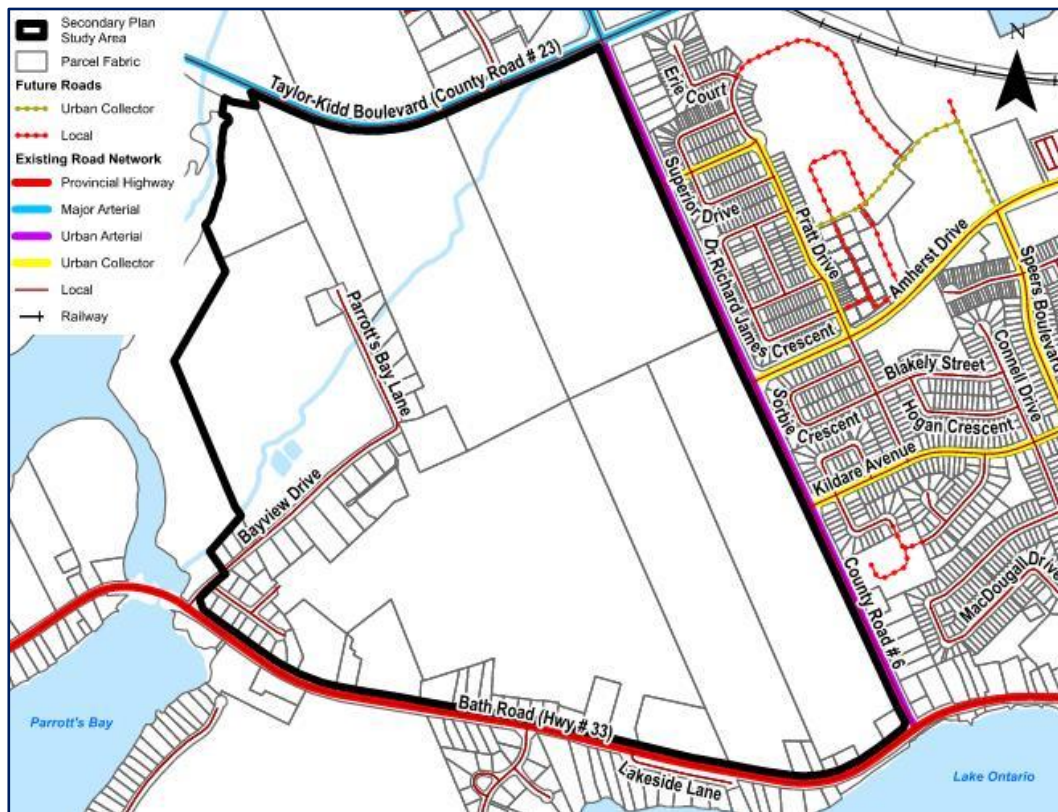


Figure 4-6: Existing Road Network

4.8.2 Planned Roadway Improvements

The County of Lennox and Addington has identified the following planned road improvements to intersections within the Study Area:



- **Taylor-Kidd Boulevard / County Road 6:** Converted to a roundabout in 2024 (see **Figure 4-7**). The County has indicated a right turn slip lane has been planned for the roundabout between 2040 and 2045.
- **Taylor-Kidd Boulevard / Coronation Boulevard:** Planned to be converted from an existing two-way stop control to a roundabout (see **Figure 4-8**).
- **County Road 6 / Walden Pond Drive:** Planned to have a southbound auxiliary left-turn lane installed by 2025.
- **Amherst Drive / Pratt Drive:** To remain as two-way stop control based on proximity to the intersection of County Road 6 / Amherst Drive.
- **Amherst Drive / Speers Boulevard:** The County has plans to convert this intersection from an existing T-intersection with stop control on the minor road (Speers Boulevard) to a four-legged intersection with all-way stop control to support the construction of the commercial component of the Lakeside Ponds Development.



Figure 4-7: Taylor-Kidd Blvd / CR 6 Roundabout (Source: County of Lennox and Addington TMP Update, 2014)

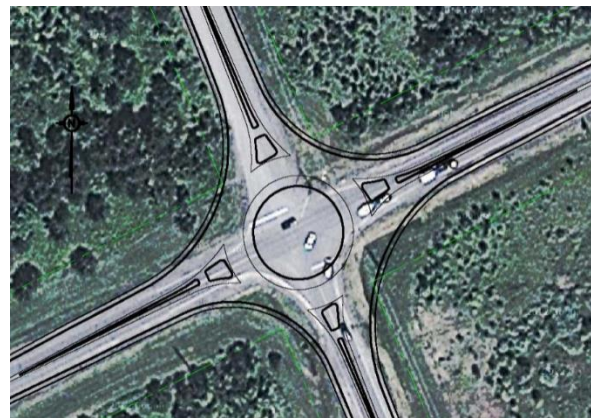


Figure 4-8: Future Taylor-Kidd Blvd / Coronation Blvd Roundabout (Source: County of Lennox and Addington TMP Update, 2014)

4.8.3 Transit Service

The Amherstview area is serviced by Kingston Transit's Route 10, which connects Cataraqui Centre in Kingston to the built-up area of Amherstview, east of the Study Area. Route 10 is operated at a 60-minute daily frequency. As shown in **Figure 4-9**, currently, Route 10's coverage does not extend to the Amherstview West Study Area. The closest transit stop to the Study Area are those at Pratt Drive/Amherst Drive and Pratt Drive/Kildare Avenue, both of which are approximately 200 metres from County Road 6.



At the time of preparation of this Master Plan, Kingston Transit is not looking to extend service to the Secondary Plan Area in the short-term and were unable to comment on options for longer-term planning in Amherstview West.

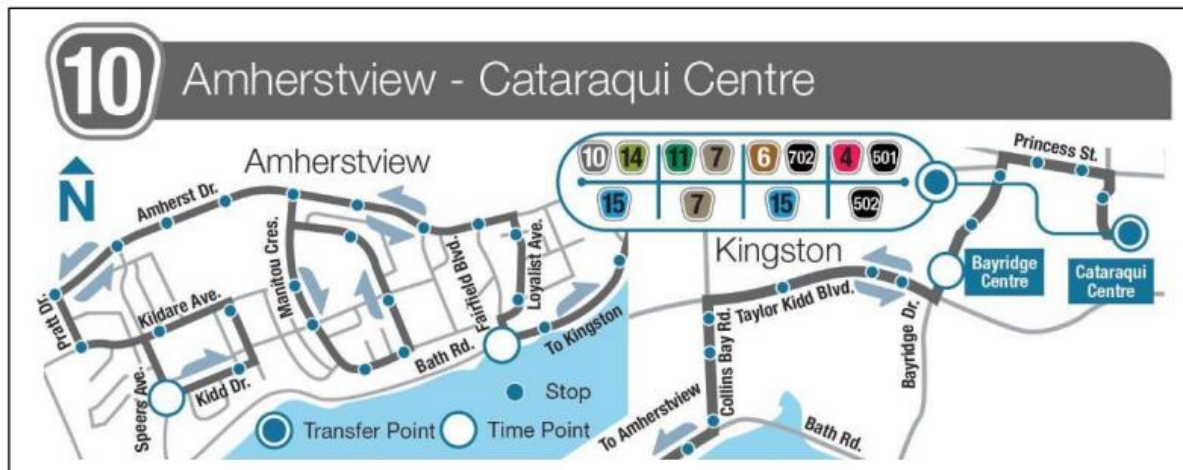


Figure 4-9: Kingston Transit - Route 10 (Amherstview - Cataraqui Centre)

4.8.4 Active Transportation

The County of Lennox and Addington and Loyalist Township have constructed active transportation facilities that border the Secondary Plan Study Area. Paved shoulders have been constructed on Wilton Road (County Road 6) and Taylor-Kidd Boulevard (County Road 23) as part of the County's Paved Shoulder Trail Program, which was initiated in 2006.

There is an existing multi-use pathway on the east side of Wilton Road (County Road 6) between Amherst Drive and Pearce Street, with plans to extend it further north to Walden Pond Drive. Loyalist Township is interested in extending active transportation facilities on Wilton Road (County Road 6) to Bath Road (Highway 33), with possibility of providing an active transportation connection to Odessa over the next 20 years.

4.9 Cultural Environment

4.9.1 Archaeology

A High-Level Archaeological Review was completed in April 2021, which included a desktop background review. Based on several of the criteria for the determination of archaeological potential, it was determined that the Secondary Plan Study Area has high potential for the presence of pre-contact Indigenous and historic Euro-Canadian archaeological resources. This conclusion is based on the area's proximity to Lake Ontario and Parrott's Bay, both of which



served as significant transportation routes and resource areas for pre-contact populations and early European settlers. The presence of smaller creeks and other natural drainage areas that are present also support the potential for the presence of inland pre-contact resources.

The High-Level Archaeological Review recommends that any proposed developments and municipal infrastructure projects on lands that have not been previously cleared of archaeological concerns by the Ministry of Citizenship and Multiculturalism (MCM) must undergo an archaeological assessment prior to disturbance. All archaeological assessments must be conducted in accordance with the Ontario Heritage Act and the MCM's Standards and Guidelines for Consultant Archaeologists (2011).

The High-Level Archaeological Review (April 16, 2021) is provided in **Appendix B**.

4.9.2 Cultural Heritage

A Cultural Heritage Resource Assessment (CHRA) was prepared in 2022. The purpose of the CHRA was to identify any recognized or potential cultural heritage resources (CHRs) in the Study Area to inform development of appropriate policy in the Amherstview West Secondary Plan and development of alternative design solutions in the MCEA process. The CHRA included a background review of the Study Area, identification of known and potential Cultural Heritage Resources, and recommendations for appropriate heritage policies for the identified CHRs. The CHRA also considers the infrastructure improvements proposed under the MCEA process, and includes recommendations for further reporting for any CHRs that may be adversely impacted.

Through a review of historical photography, mapping and a field investigation completed on March 23, 2021, five (5) CHRs were identified within or adjacent to the Secondary Plan Study Area. These include three (3) built heritage resources (BHR) and two (2) cultural heritage landscapes (CHL).

Section 27(1.2) of the Ontario Heritage Act, R.S.O. 1990, c. O.18 (OHA) states that Council may include a property that it believes to be of cultural heritage value or interest on a Municipal Heritage Register. On February 14, 2022, Township Council added four (4) of the five (5) CHRs to the Register of Cultural Heritage Properties. On March 14, 2022, Township Council de-listed one (1) of the properties from the Register as requested by the property owner.

As of the time of writing of this Master Plan, the following properties were listed on the Township's Municipal Heritage Register:

- 34 Bayview Drive;
- 4661 Bath Road; and
- 4809 Bath Road.

Further to the work completed for the CHRA, a Cultural Heritage Evaluation (CHER) was undertaken for an identified Cultural Heritage Landscape (CHL) at 4661 Bath Road in Spring



2022. The CHER identified the specific buildings, structures, or features located on the property that possess cultural heritage value.

The CHRA (January 27, 2022) and CHER (August 26, 2022) are provided in **Appendix C** and **Appendix D**, respectively.

4.10 Natural Environment

A Natural Heritage Existing Conditions Report was completed in March 2022, which identified natural environmental constraints within the Secondary Plan Study Area relating to natural heritage features, wildlife and wildlife habitat, and Species at Risk (SAR). The Natural Heritage Existing Conditions Report Study Area extends 120 metres beyond the Secondary Plan Study Area boundary to account for policy recommendations and setback distances set out in the current PPS (2020) and PPS (2024) and Natural Heritage Reference Manual (MNR, 2010).

The following sections provide an overview of the existing natural environment conditions within the Study Area as documented in the Natural Heritage Existing Conditions Report. The Natural Heritage Existing Conditions Report (March 14, 2022) is provided in **Appendix E**.

4.10.1 Terrestrial Environment

The Secondary Plan Study Area is an ecologically diverse landscape consisting of unique vegetation communities and land formations with valley slopes, rock outcrops, undulating topography with wetlands, uplands, forests, and scrublands. Significant woodlands and valleylands (**Figure 4-10**) are present within the Secondary Plan Study Area, which contribute to Environmentally Sensitive Areas (ESA) as defined by the Township OP, Schedule C-1 – Environmental Overlay – Amherstview – Parrott’s Bay.

There is one (1) Confirmed Significant Wildlife Habitat (SWH) present within the Secondary Plan Area and includes a Wildlife Concentration Area for Colonial Waterbird Nesting. This feature is associated with the Parrott’s Bay Provincially Significant Wetland (PSW) and Conservation Area. An Environmental Impact Study (EIS) would be required to determine the indirect effects of future development to this SWH. Indirect effects can include temporary and/or permanent vibrations and noise disturbance, increase in sediment and erosion to wetlands and the release of other contaminants in surface runoff, and increased human activity. Such indirect impacts may cause birds to permanently abandon the site as a nesting area. As such, a minimum of 150 m radius from the most peripheral nests in a colony determines the area of the SWH. Development is not permitted within this feature unless an EIS is prepared that demonstrates that there will be no negative impacts on the feature or its ecological feature.

There are fourteen (14) Candidate SWH Features present within the Secondary Plan Study Area. An evaluation of significance shall be conducted for each potential habitat feature prior to



future development to assess impacts and apply appropriate mitigation measures. The candidate SWH features include:

- **Seasonal Concentration Areas**, including: raptor wintering area; bat maternity colonies; reptile hibernacula; migratory butterfly stopover areas; and landbird migratory stopover areas.
- **Specialized Habitat for Wildlife**, including: waterfowl nesting area; bald eagle and osprey nesting, foraging, and perch habitat; turtle nesting areas; amphibian breeding habitat (woodland); and amphibian breeding habitat (wetland).
- **Habitats for Species of Conservation Concern**, including: marsh breeding bird habitat; open country bird breeding habitat; shrub/early successional bird breeding habitat; and Special Concern and rare wildlife species.



Figure 4-10: Amherstview West Study Area Policy Considerations



4.10.2 Aquatic Environment

Parrott's Bay PSW is located within 120 metres of the Secondary Plan Study Area. Parrott's Bay is within Lake Ontario; therefore, it is designated a Great Lakes Coastal Wetland. It is 30 hectares (ha) in size and composed of a shallow cattail marsh vegetation community. It is known to host sensitive species and SAR, such as Snapping Turtle, Blanding's Turtle, Eastern Musk Turtle, Least Bittern, Pied-billed Grebe, Virginia Rail, Bald Eagle, and Osprey. Many locally significant and sensitive vascular plant species also are known to occur.

The Bayview Bog PSW is located within 1 kilometre north of the Secondary Plan Study Area and is 215 ha in size. The PSW may be closely associated with the Parrott's Bay PSW due to the unnamed watercourse that transects the Study Area southwest-northeast.

Parrott's Bay and two unnamed watercourses are located within the Secondary Plan Study Area, one of which intersects with the Study Area boundary, running northeast to southwest and the other occurs northwest of the Study Area within the 120 m buffer area at the head of Parrott's Bay (**Figure 4-11**). There is potential for the two watercourse features to contain fish and fish habitat.

There are approximately six (6) unevaluated wetlands pockets located within the Secondary Plan Study Area located northeast, and west.

There are two (2) Life Science Areas of Natural and Scientific Interest (ANSI) present within 2 kilometres of the Study Area and include the Amherstview Swamp and Fen and Asselstine Alvar. As both features are not located within 120 metres of the Secondary Plan Study Area, no direct impacts are anticipated as a result of future development.



Figure 4-11: Natural Heritage Features



4.10.3 Species at Risk

The Secondary Plan Study Area has the potential to support eleven (11) Species at Risk (SAR) with a status of Threatened or Endangered these species include the Least Bittern, Eastern Whip-poor-will, Chimney Swift, Loggerhead Shrike, Barn Swallow, Eastern Meadowlark, Blanding's Turtle, Little Brown Myotis, Northern Myotis, Eastern Small-footed Myotis, and the Tri-coloured Bat. Such species receive automatic species and habitat protection on private and provincial lands under the Endangered Species Act (ESA), 2007.

There are eleven (11) Special Concern and/or Species of Conservation Concern, with potential to occur within the Secondary Plan Study Area. These species include the Monarch, Midland Painted Turtle, Northern Map Turtle, Eastern Musk Turtle, Snapping Turtle, Eastern Milksnake, Eastern Ribbonsnake, Short-eared Owl, Eastern Wood-pewee, and the Grasshopper Sparrow. Such species do not receive protection under the ESA but do receive protection under alternative acts such as: Migratory Bird Convention Act, 1994 and the Fish and Wildlife Conservation Act, 1997.

4.10.4 Geotechnical and Hydrogeological Conditions

A Geotechnical and Hydrogeological Investigation was completed in 2021 and presents recommendations and construction considerations for the Secondary Plan Study Area. Twelve (12) boreholes were drilled from June 1 to June 3, 2021, and analysis was undertaken to investigate subsurface conditions, including surficial soil, shallow bedrock, and groundwater conditions. Eight (8) of the twelve (12) boreholes were further developed as monitoring wells on June 15, 2021. Groundwater condition measurements were also taken at this time.

A ground penetrating radar (GPR) survey of the Study Area was completed from April 5 to April 6, 2021. The purpose of the GPR survey was to obtain detailed information on bedrock depth and identify potential presence of karsts, land made up of limestone, in the area while creating contour mapping live while on-site in the Study Area. The resulting contour map showed that the majority of bedrock within the Study Area is likely within 1 metre from the surface. Some areas were shown to have higher moisture content, resulting in difficulty of interpretation of features.

A desktop review of the Study Area and geological and hydrogeological field work identified the following conditions:

- Topsoil was encountered at the surface at most borehole locations. The typical thickness of the topsoil is approximately 0.6 metres.
- The GPR survey data found that the overburden is marginally thicker in the northeast quadrant of the Study Area.



- The surficial geology in the vicinity of the Secondary Plan Study Area generally consists of flatlying Paleozoic limestone bedrock with a thin layer of overburden consisting of topsoil and fine textured glaciolacustrine deposits of silt, clay, minor sand, and gravel pockets.
- The bedrock underlying the Study Area primarily consists of lithographic to fine-crystalline limestone, silty dolostone, shale, and fine-grained calcareous quartz sandstone of the Gull River Formation. Bedrock is typically found within 1 metre of the surface and outcrops of limestone are located throughout the Study Area. Borehole inspections found that bedrock typically occurred within 0.7 metres of the surface.
- Four (4) of the eight (8) installed monitoring wells contained a measurable quantity of groundwater.

The Geotechnical and Hydrogeological Investigation is provided in **Appendix F**.

4.10.5 Site Contamination

A Phase One Environmental Site Assessment (ESA) was prepared in 2021 for due diligence purposes, in accordance with Ontario Regulation (O. Reg.) 153/04, as amended. The purpose of the Phase One ESA was to identify the likelihood of the presence or absence of potentially contaminating activities (PCAs), identify the areas of potential environmental concerns (APECs) and contaminants of potential concern (POCs) from the PCAs and identify the requirements for additional investigation in the form of a Phase Two ESA.

The Phase One ESA concluded the following:

- Based on the historical aerial photographs reviewed for this assessment, it appeared that portions of the Study Area were developed for residential purposes starting in the early 1950s.
- The Phase One Property is sloped with an elevation range of approximately 80 - 100 metres above sea level (masl). The topography in the vicinity of the Phase One Property slopes to the south and west. Based on the local topography, the inferred shallow ground water flow direction of the Phase One Study Area is towards a tributary of Lake Ontario running across the northern portion of the Study Area and towards Lake Ontario in the southern portion of the Study Area.
- The Study Area is situated in the Napanee Plain physiographic region. Surficial geology in the vicinity of the Study Area is described as Paleozoic bedrock and massive to well laminated, fine textured glaciolacustrine deposits of silt, clay and minor sand and gravel. The underlying bedrock within the area is shale, limestone, dolostone, arkose and sandstone of the Ottawa and Simcoe Groups and Shadow Lake Formation. Based on a review of the MECP well records, the depth of the bedrock in the vicinity of the Study Area is approximately 1 to 2 metres.



- Due to the past agriculture use of the some of the properties, pesticides have likely been used across the Study Area.
- During the site reconnaissance, metal drums, and other scrap metal were observed on the southeast portion of the Study Area. Due to the unknown nature of the materials previously contained within the metal drums, the dumping area requires additional investigation.
- The Study Area is located adjacent to multiple heavily trafficked roadways. As such, seasonal de-icing activities occur for vehicle and pedestrian safety.

Based on a review of information obtained for the Phase One ESA, PCAs were identified within the Study Area, including electricity generation, transformation and power stations; garages and maintenance, and repair of railcars, marine vehicles, and aviation vehicles; transformer manufacturing, processing, and use; waste disposal and waste management, including thermal treatment, landfilling and transfer of waste, other than use of biosoils as soil conditioners; dumping activities; and seasonal de-icing activities.

The identified PCAs are contributing to two (2) areas of potential environmental concern (APECs) in the Study Area and include dumping activities in the western portion of the Study Area and areas adjacent to roads where seasonal de-icing activities occur.

The Phase One ESA (September 28, 2021) is provided in **Appendix G**.

4.11 Noise Feasibility Study

A Noise Feasibility Study (July 2, 2024) was completed by WSP and was conducted in accordance with the Ministry of Environment, Conservation and Parks (MECP) Noise Pollution Control (NPC) Publication NPC-300 “Environmental Noise Guideline, Stationary and Transportation Sources – Approval and Planning” (NPC-300), dated August 2013. The Noise Feasibility Study assesses the impact of transportation and stationary noise sources on preexisting sensitive land uses and those introduced by the Secondary Plan, and verified the compatibility of land uses and flexibility for growth in developing the community.

Transportation sources include the existing roads that bound the Plan Area, and proposed collector roads within the Secondary Plan. The Stationary sources include future sources associated with the proposed medium/high density residential, commercial, and industrial land uses potential developments. There are industrial facilities and rail to the north; however, these are well separated from the Plan Area and are not considered in this report. Institutional planned land uses were deemed not noise sensitive for the purposes of the feasibility study; generally, noise sensitive institutions such as universities have non-operable windows.

The study concluded that there is potential for exceedance at future noise sensitive developments within the secondary plan area for both transportation and stationary sources. The assessment also showed marginal exceedances at the existing receptors from the future



stationary sources within the Plan Areas. It was concluded that it is feasible to develop the Plan Area in compliance with the MECP's guideline requirements. It is recommended that a site-specific noise impact assessment be requested requiring the above details for each noise sensitive development.

The Noise Feasibility Study (July 2, 2024) is provided in **Appendix K**.

5 Identification and Evaluation of Alternative Solutions

5.1 Identification of Alternatives

Four (4) Land Use Concept alternatives were developed to address the Problem / Opportunity statement and guiding principles for Amherstview West. The alternatives were developed to meet the requirements for future land uses identified in the Growth Management Report and include low-, medium, and high-density residential areas, neighbourhood commercial areas, highway commercial areas, institutional areas, parks/open spaces, and associated municipal servicing and transportation requirements. The Do Nothing alternative was also considered, which represents the status quo or what would likely occur if none of the alternatives were implemented.

Land Use Concept Alternatives 1, 2, 3 and 4 are illustrated in **Figure 5-1, Figure 5-2, Figure 5-3, and Figure 5-4** respectively.



Figure 5-1: Land Use Concept - Alternative 1

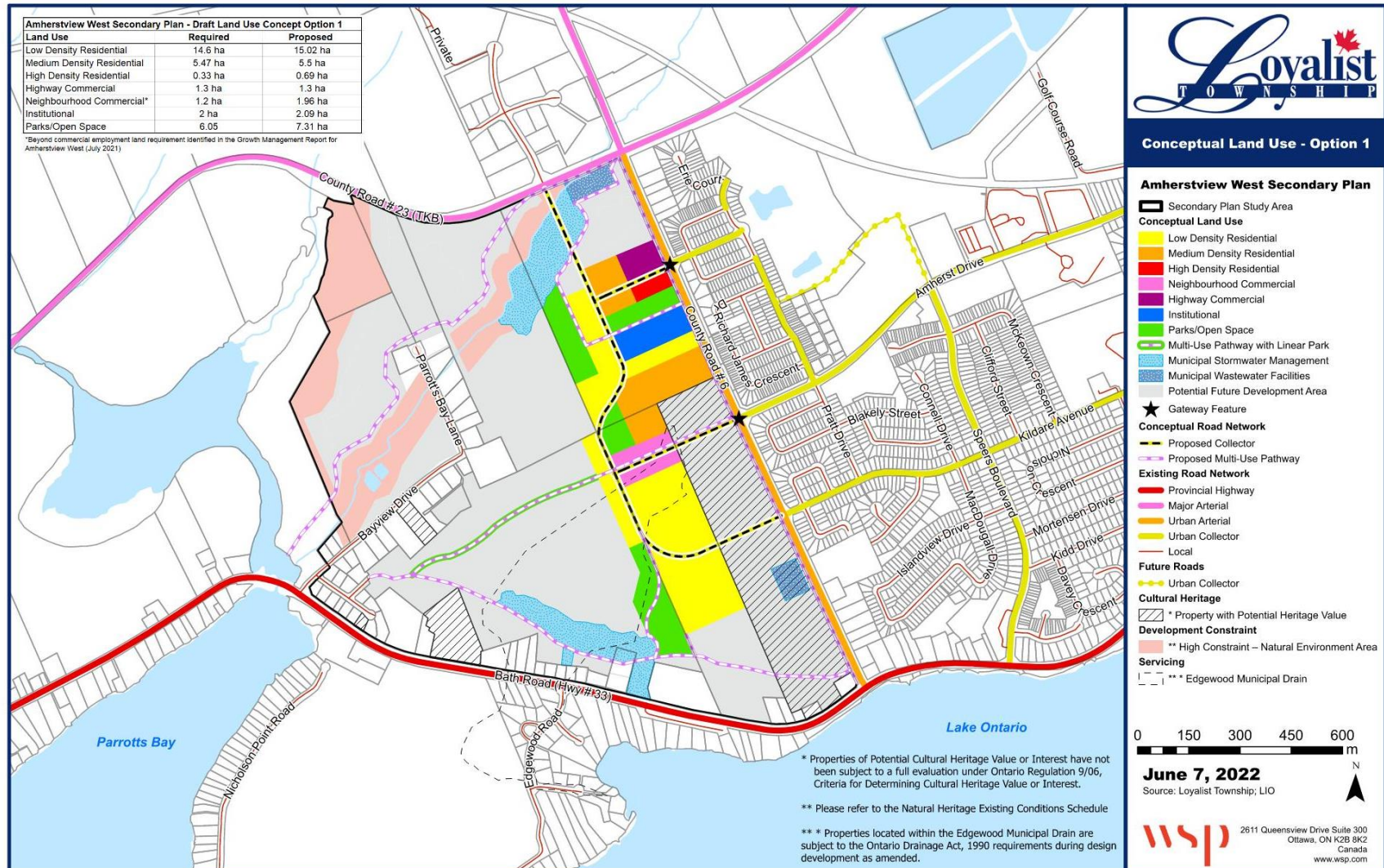




Figure 5-2: Land Use Concept - Alternative 2

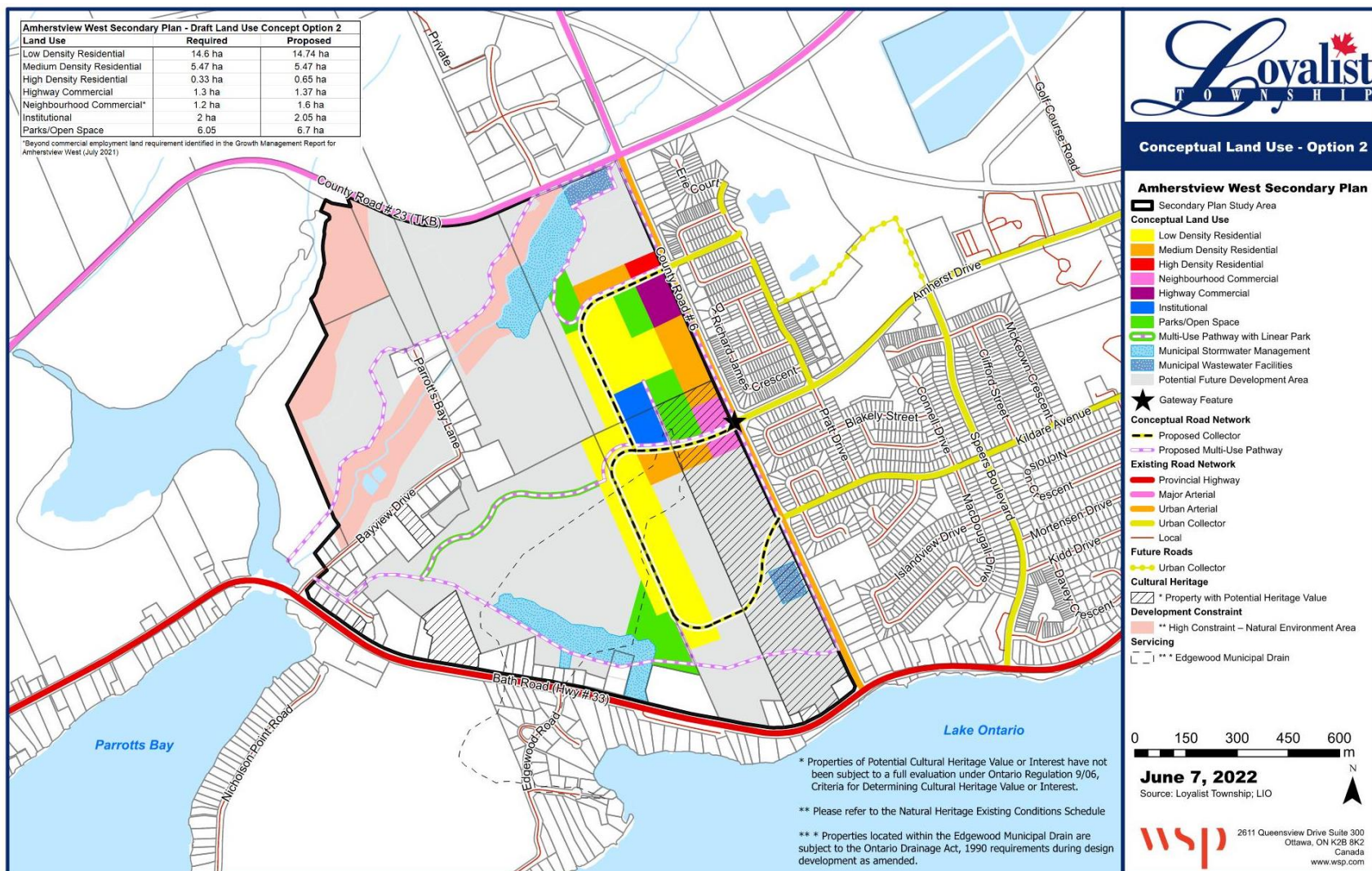




Figure 5-3: Land Use Concept - Alternative 3

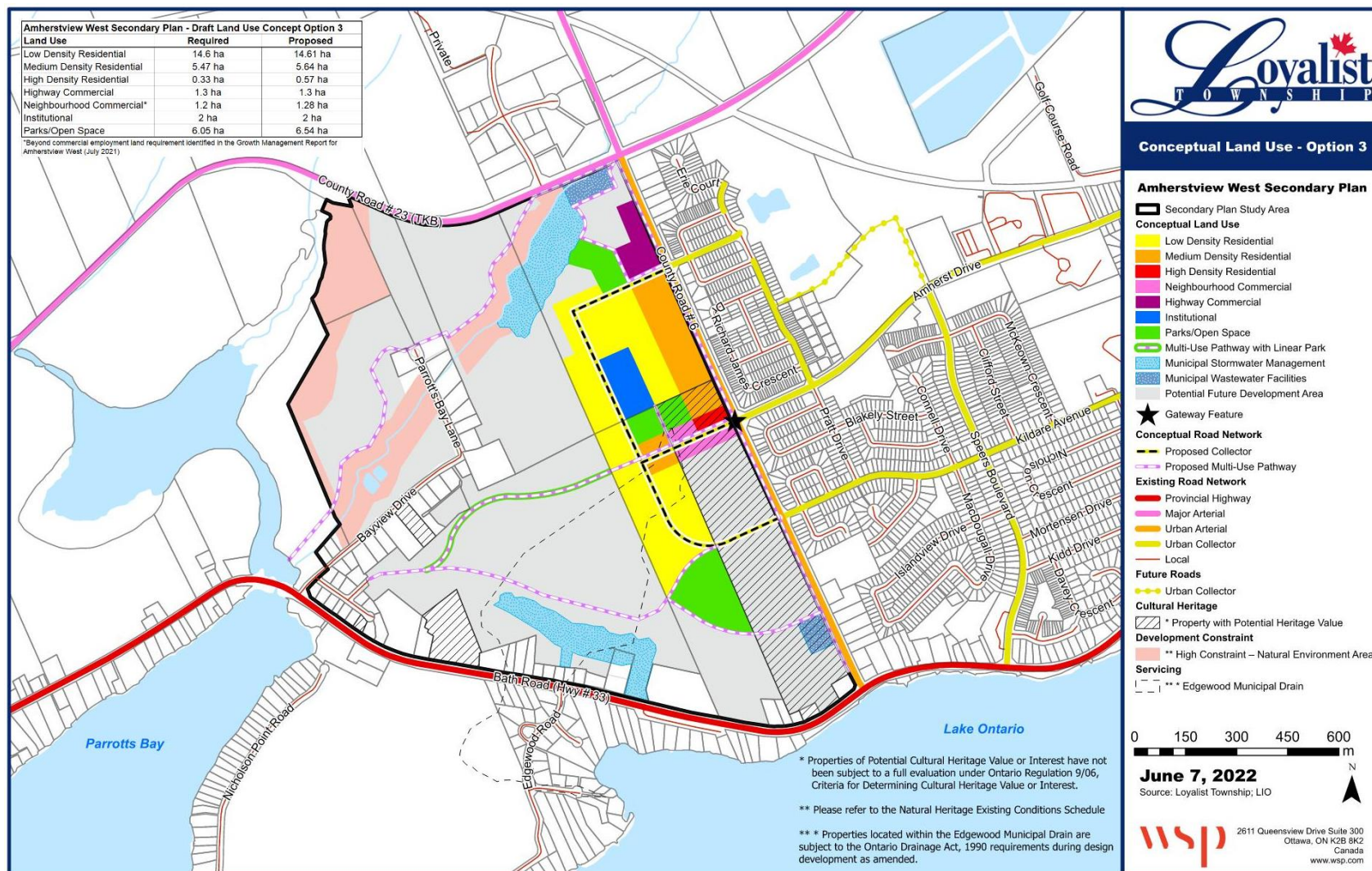
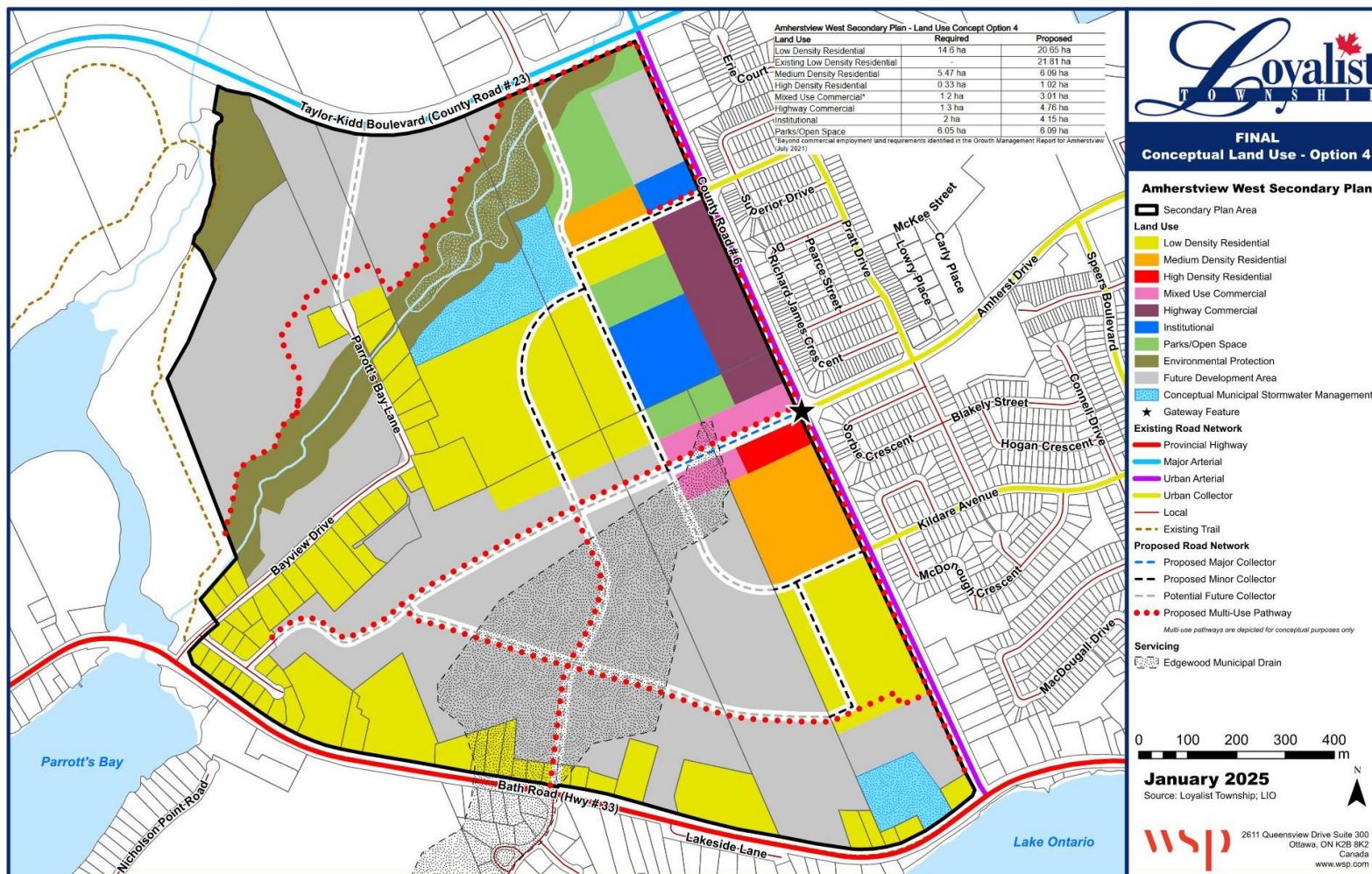




Figure 5-4: Land Use Concept - Alternative 4





5.2 Evaluation Criteria

A qualitative evaluation was undertaken for the evaluation of alternatives for the Amherstview West Secondary Plan. **Table 5-1** summarizes the criteria and measures used for evaluation purposes to determine the preferred solution.

Preliminary evaluation criteria was first presented to the project Technical Advisory Committee (TAC) and Coordinating Committee on February 17, 2022. The proposed criteria and process was revised incorporating comments received, and then applied to the alternative designs to determine the preferred solution, which was presented to the general public at the virtual Public Open House (POH) #1 held on March 10, 2022.

Table 5-1: Criteria for Evaluation of Alternatives

Category	Evaluation Criteria / Indicator
Built Environment	Transportation <ul style="list-style-type: none">• Potential to improve existing and future traffic congestion and level of service on the existing road network surrounding the Secondary Plan Study Area.• Potential for new transit servicing opportunities and expansion of the existing Kingston Transit network in Amherstview.
	Active Transportation <ul style="list-style-type: none">• Potential to incorporate active transportation facilities for walking and cycling.• Potential for opportunities to create active transportation linkages to Parrott's Bay Conservation Area, Loyalist East Business Park, and adjacent communities.
	Open Space / Parks <ul style="list-style-type: none">• Ability to meet the target for new Neighbourhood Parks set out in the Loyalist Township Parks and Recreation Master Plan (June 26, 2017).
	Infrastructure Servicing <ul style="list-style-type: none">• Effects on the existing stormwater and sanitary sewer, and water facilities.• Potential for opportunities for connection to existing services and utilities.



Category	Evaluation Criteria / Indicator
Social / Cultural Environment	Land Use <ul style="list-style-type: none"> • Ability to achieve consistency with the Provincial Policy Statement, 2020 and conformity with the Lennox and Addington County Official Plan and Adopted Loyalist Township Official Plan (Adopted September 25, 2021). • Ability to accommodate the 2046 population, housing, and commercial lands needs forecasts in the Growth Management Report (July 2021). • Impacts on existing residential neighbourhoods within and adjacent to the Study Area, and considerations of land use compatibility, and required buffers to mitigate noise, • Minimization of future land acquisition by Loyalist Township in the implementation of the Secondary Plan.
	Archaeological Resources <ul style="list-style-type: none"> • Effect on potential archaeological resources, including presence of areas with archaeological potential affected.
	Cultural Heritage <ul style="list-style-type: none"> • Effect on potential cultural heritage landscapes and potential built heritage resources.
Natural Environmental	Terrestrial Environment <ul style="list-style-type: none"> • Effects on terrestrial environment, including habitat, tree removal, and species at risk. • Habitat enhancement and opportunities to create linkages to existing Natural Heritage Features and Parrott's Bay Conservation Area.
	Aquatic Environment <ul style="list-style-type: none"> • Effects on aquatic environment, including habitat and species at risk.
	Water Quality and Quantity Controls <ul style="list-style-type: none"> • Water quality enhancements resulting from stormwater management measures.
Technical Considerations	Design and Function <ul style="list-style-type: none"> • Ability to address Problem Opportunity Statement.



Category	Evaluation Criteria / Indicator
	<ul style="list-style-type: none">• Addresses recommendations of Loyalist Township's Infrastructure Master Plan (IMP) and provides opportunity to coordinate future infrastructure works.• Review of existing geology and hydrogeology opportunities and constraints.• Ability to address maintenance and access concerns.• Potential to implement climate change and infrastructure resiliency per the direction in the ResiLienT Loyalist Township Climate Action Plan (2020).• Evaluation of construction feasibility.
Financial Considerations	Capital Costs <ul style="list-style-type: none">• Evaluation of the capital costs, including an estimation of capital cost of all works including land acquisition if required.• Evaluation of municipal operation and maintenance considerations.• Land acquisition by Township.

6 Evaluation of Alternatives

The alternative solutions were carried forward for further assessment and were evaluated against the criteria developed for the project in order to determine the preferred water servicing strategy for the Secondary Plan Study Area using a qualitative assessment process. The Do Nothing alternative was screened out of being fully evaluated because it was determined that this solution does not address the project needs as identified in the Problem / Opportunity statement.

The detailed evaluation process is provided in **Table 6-1**.



Table 6-1: Evaluation of Alternatives (Draft Land Use Concept Options)

Ranking	Most Preferred = 1	Less Preferred = 2	Not Preferred = 3			
Evaluation Criteria	Indicator	Do Nothing	Option 1	Option 2	Option 3	Option 4
Built Environment						
Transportation	Potential to improve existing and future traffic congestion and level of service on the existing road network surrounding the Secondary Plan Study Area.	<ul style="list-style-type: none">Lowest transportation impacts as there would be no additional trip generation if the Secondary Plan Study Area is not developed. Growth in traffic congestion would be based on growth in the Township as a whole.	<ul style="list-style-type: none">Site generated traffic will be distributed between four (4) accesses: three (3) from County Road 6 and one (1) from County Road 23.Access to County Road 23 will offset some site-generated traffic to and from County Road 6.	<ul style="list-style-type: none">Site generated traffic will be distributed between three (3) access points from County Road 6.All site generated traffic will interact with County Road 6 intersections.	<ul style="list-style-type: none">Site generated traffic will be distributed between three (3) access points from County Road 6.All site generated traffic will interact with County Road 6 intersections.	<ul style="list-style-type: none">Site generated traffic will be distributed between three (3) access points from County Road 6.All site generated traffic will interact with County Road 6 intersections.
	Potential for new transit servicing opportunities and expansion of the existing Kingston Transit network in Amherstview.	<ul style="list-style-type: none">No impacts. Existing Kingston Transit service into Amherstview provides service to existing urban area.	<ul style="list-style-type: none">The extension of Route 10 service to County Road 6 with stops at Amherst Drive and Kildare Avenue will provide 400 m (5 min) walking distance to some of the proposed Residential development.The extension of transit service into the Secondary Plan Study Area will be required to serve all residential areas.A transit extension to the north would be required to serve High Density Residential and Commercial areas.	<ul style="list-style-type: none">The extension of Route 10 service to County Road 6 with stops at Amherst Drive and Kildare Avenue will provide 400 m (5 min) walking distance to some of the proposed Residential development.The extension of transit service into the Secondary Plan Study Area will be required to serve all Residential areas.A transit extension to the north would be required to serve High Density Residential and Commercial areas.	<ul style="list-style-type: none">The extension of Route 10 service to County Road 6 with stops at Amherst Drive and Kildare Avenue will provide 400m (5 min) walking distance to all Low Density Residential and most of Medium Density Residential development.A transit extension to the north would be required to serve High Density Residential and Commercial areas.	<ul style="list-style-type: none">The extension of Route 10 service to County Road 6 with stops at Amherst Drive and Kildare Avenue will provide 400m (5 min) walking distance to all Low Density Residential and most of Medium Density Residential development.A transit extension to the north would be required to serve High Density Residential and Commercial areas.



Ranking	Most Preferred = 1	Less Preferred = 2	Not Preferred = 3			
Evaluation Criteria	Indicator	Do Nothing	Option 1	Option 2	Option 3	Option 4
Active Transportation (AT)	Potential to incorporate active transportation (AT) facilities for walking and cycling.	<ul style="list-style-type: none">Multi-use pathway (MUP) along County Road 6 is planned outside of the Secondary Plan Study Area and will provide an AT connection between Amherst Drive MUP and Waterfront Trail.	<ul style="list-style-type: none">The proposed road network will provide connections to County Road 6 and Amherst Drive AT facilities.	<ul style="list-style-type: none">The proposed road network will provide connections to County Road 6 and Amherst Drive AT facilities.	<ul style="list-style-type: none">The proposed road network will provide connections to County Road 6 and Amherst Drive AT facilities.	<ul style="list-style-type: none">The proposed road network will provide connections to County Road 6 and Amherst Drive AT facilities.A new MUP added as a north-south connection throughout the study area.
	Potential for opportunities to create active transportation linkages to Parrott's Bay Conservation Area, Loyalist East Business Park, and adjacent communities.	<ul style="list-style-type: none">No opportunities for new linkages. All AT connections to/from the west are via County Road 23 or Bath Road.	<ul style="list-style-type: none">AT connections are provided from the Secondary Plan Study Area to Parrott's Bay. A short diversion is required to connect to this path from Amherst Drive.The new north intersection at County Road 23 provides opportunity for an AT crossing to Loyalist East Business Park.	<ul style="list-style-type: none">AT connections are provided from the Secondary Plan Study Area to Parrott's Bay. The connection is continuous from Amherst Drive.A midblock crossing would be required for access between the Secondary Plan Study Area and Loyalist East Business Park.	<ul style="list-style-type: none">AT connections are provided from the Secondary Plan Study Area to Parrott's Bay. The connection is continuous from Amherst Drive.A midblock crossing would be required for access between the Secondary Plan Study Area and Loyalist East Business Park.	<ul style="list-style-type: none">AT connections are provided from the Secondary Plan Study Area to Parrott's Bay. The connection is continuous from Amherst Drive.A midblock crossing would be required for access between the Secondary Plan Study Area and Loyalist East Business Park.
Open Space / Parks	Ability to meet the target for new Neighbourhood Parks (parkland to be developed for active and passive recreation uses) in new planning areas set out in the Loyalist Township Parks and Recreation Master Plan (June 26, 2017) – 2.5 ha/population = 5.5 hectares required.	<ul style="list-style-type: none">Unable to evaluate as the Study Area if not further developed would not constitute a “new planning area”. There are no existing parks for passive and active recreation uses within the Study Area.	<ul style="list-style-type: none">4.65 ha of parks/open space is proposed, which does not meet the 5.5 ha target.	<ul style="list-style-type: none">5.82 ha of parks/open space proposed, which exceeds the 5.5 ha target.	<ul style="list-style-type: none">5.85 ha of parks/open space proposed, which exceeds the 5.5 ha target.	<ul style="list-style-type: none">6.09 ha of parks/open space proposed, which exceeds the 5.5 ha target.
	Ability to meet the location criteria for new Neighbourhood Parks (parkland to be developed for active and passive recreation	<ul style="list-style-type: none">Unable to evaluate as the Study Area if not further developed would not constitute a “new planning area”. There	<ul style="list-style-type: none">Parks/open space proposed in three locations, with frontage on Proposed Collector Roads and is connected to the proposed multi-use path network.	<ul style="list-style-type: none">Parks/open space proposed in three locations, with frontage on Proposed Collector Roads and is connected to the proposed multi-use path network.	<ul style="list-style-type: none">Parks/open space proposed in two locations.Smaller park/open space proposed adjacent to school block. Larger park/open space proposed south of	<ul style="list-style-type: none">Parks/open space proposed in three locations.



Ranking	Most Preferred = 1	Less Preferred = 2	Not Preferred = 3			
Evaluation Criteria	Indicator	Do Nothing	Option 1	Option 2	Option 3	Option 4
	uses) in new planning areas set out in the Loyalist Township Parks and Recreation Master Plan (June 26, 2017).	are no existing parks for passive and active recreation uses within the Study Area.	<ul style="list-style-type: none">Park/open space proposed adjacent to school block.	<ul style="list-style-type: none">Park/open space proposed adjacent to school block.Smaller park/open space proposed adjacent to Highway Commercial uses, which may be undesirable in terms of land use compatibility.	Kildare Avenue extension. Lack of central park location may not serve new residential areas well.	<ul style="list-style-type: none">Two (2) park/open space areas proposed adjacent to school block.Lack of parks and open space areas south of Amherst Drive extension, but opportunity for these uses in the Future Development Area.
Infrastructure Servicing	Effects on the existing stormwater, water and sanitary sewer facilities and systems.	<ul style="list-style-type: none">Existing water/sanitary systems will not be impacted.Large land requirements are currently active for stormwater management (SWM) in the existing conditions for Edgewood Municipal Drain and Lost Creek Watersheds.	<ul style="list-style-type: none">The establishment of new watermain distribution piping will provide improvements to the existing system surrounding the area after looping. This includes the Loyalist East Business Park.SWM facilities will mitigate impacts due to severe rainfall for both the Edgewood Road Municipal Drain and Lost Creek watershed areas.Existing sanitary collection systems will be impacted, and capacity constraints may be mitigated; however, this option will require a new dedicated pumping station facility.	<ul style="list-style-type: none">The establishment of new watermain distribution piping will provide improvements to the existing system surrounding the area after looping. Watermain looping may extend to Highway 33.SWM facilities will mitigate impacts due to severe rainfall for both the Edgewood Road Municipal Drain and Lost Creek watershed areas.Existing sanitary collection systems will be impacted, and capacity constraints may be mitigated; however, this option will require a new dedicated pumping station facility.	<ul style="list-style-type: none">The establishment of new watermain distribution piping will provide improvements to the existing system surrounding the area along County Road 6.SWM facilities will mitigate impacts due to severe rainfall for both the Edgewood Road Municipal Drain and Lost Creek watershed areas.Existing sanitary collection systems will be impacted, and capacity constraints may be mitigated through additional connections to existing sewers. A new pumping station facility would not be required until late phase development.	<ul style="list-style-type: none">The establishment of new watermain distribution piping will provide improvements to the existing system surrounding the area along County Road 6.SWM facilities will mitigate impacts due to severe rainfall for both the Edgewood Road Municipal Drain and Lost Creek watershed areas. The land use option minimizes development within the Edgewood Road Municipal Drain area in the short-term.Existing sanitary collection systems will be impacted, and capacity constraints may be mitigated through additional connections to existing sewers. A new pumping station facility would not be required until late phase development.



Ranking	Most Preferred = 1	Less Preferred = 2	Not Preferred = 3			
Evaluation Criteria	Indicator	Do Nothing	Option 1	Option 2	Option 3	Option 4
	Potential for opportunities for connection to existing services and utilities.	No opportunities to connect to existing services and utilities.	<ul style="list-style-type: none">The establishment of a new collector to Taylor-Kidd Boulevard may provide direct watermain access for looping to the Loyalist East Business Park.	<ul style="list-style-type: none">The development of properties to the south of Amherst Drive with a new collector will require further watermain looping connections to Highway 33 and piping to service this option.	<ul style="list-style-type: none">A direct connection to sanitary sewers across from Country Road 6 is possible under this option and reduces the requirement for new pumping station facilities in the short term to support development.	<ul style="list-style-type: none">A direct connection to sanitary sewers across from Country Road 6 is possible under this option and reduces the requirement for new pumping station facilities in the short term to support development.
Social / Cultural Environment						
Land Use	Ability to achieve consistency with the Provincial Policy Statement, 2020 and the Adopted Loyalist Township Official Plan (Adopted September 25, 2021).	<ul style="list-style-type: none">The Amherstview settlement area currently does not have sufficient residential-designated land to accommodate growth for a 25-year planning horizon to 2046 as required by the PPS, 2020.	<ul style="list-style-type: none">Options 1, 2, 3, and 4 would see the provision of adequate land in the Study Area as part of the Secondary Plan for a 25-year planning horizon to 2046 and would support the maintaining of a 15-year supply of lands designated and available for residential development.			
	Ability to accommodate the 2046 population, housing, and commercial employment lands needs forecasts in the Growth Management Report (July 2021).	<ul style="list-style-type: none">The existing condition (i.e. residential development, servicing) in the Study Area is unable to accommodate future growth and development in Amherstview West for the required 25-year planning horizon to 2046.	<ul style="list-style-type: none">Option 1 meets the residential land needs set out in the Growth Management Report.Option 1 exceeds the commercial employment land needs in the Growth Management Report.	<ul style="list-style-type: none">Option 2 meets the residential land needs set out in the Growth Management Report.Option 2 exceeds the commercial employment land needs in the Growth Management Report.	<ul style="list-style-type: none">Low Density Residential does not meet the land requirement set out in the Growth Management Report (13.65 ha proposed; 14.6 ha required).Option 3 exceeds the commercial employment land needs in the Growth Management Report.	<ul style="list-style-type: none">Low Density Residential does not meet the land requirement set out in the Growth Management Report (20.65 ha proposed; 14.6 ha required).Option 4 exceeds the commercial employment land needs in the Growth Management Report.



Ranking	Most Preferred = 1	Less Preferred = 2	Not Preferred = 3			
Evaluation Criteria	Indicator	Do Nothing	Option 1	Option 2	Option 3	Option 4
	Impacts on existing residential neighbourhoods within and adjacent to the Study Area, and considerations of land use compatibility.	<ul style="list-style-type: none">No impact to existing residential neighbourhoods within and adjacent to the Study Area if no development occurs.	<ul style="list-style-type: none">Proposed land uses sited away from existing residential properties within the Study Area; parallel to County Road 6 and existing built-up area of Amherstview.Highway Commercial proposed west of County Road 6 and in close proximity to proposed Medium and High Density Residential, as well as existing residential areas at Walden Pond Drive.			
	Ability to incorporate a future school block (minimum 2 ha; 4.9 ha) to serve the future community of Amherstview West.	<ul style="list-style-type: none">No opportunities for the future siting of a school block.	<ul style="list-style-type: none">2.18 ha school block proposed. Siting along curved Proposed Collector Road may not be desirable.	<ul style="list-style-type: none">2.07 ha school block proposed with frontage on Amherst Drive extension.	<ul style="list-style-type: none">2 ha school block proposed with frontage on Amherst Drive extension, with close proximity to County Road 6/Amherst Drive.	<ul style="list-style-type: none">2 ha school block proposed with frontage on Kildare Avenue extension, based on School Board's preference.
	Minimization of future land acquisition by Loyalist Township to provide for public infrastructure to support development of the Secondary Plan Study Area.	<ul style="list-style-type: none">Future land acquisition by Loyalist Township not required if future development does not occur.	<ul style="list-style-type: none">Moderate amount of private land impacted by public infrastructure (e.g., collector road). North-south collector road is located on Township land.	<ul style="list-style-type: none">Largest amount of private land impacted by public infrastructure (e.g., collector road).	<ul style="list-style-type: none">Minimizes impacts on private property due to public infrastructure requirements.More compact form of development has the potential to minimize footprint of SWM features.	<ul style="list-style-type: none">Minimizes impacts on private property due to public infrastructure requirements.More compact form of development has the potential to minimize footprint of SWM features.
Archaeological Resources	Effect on potential archaeological resources, including presence of areas with archaeological potential affected.	<ul style="list-style-type: none">No development impacts to the area will result in no potential impacts to archaeological resources.	<ul style="list-style-type: none">Large area of impact, which has the potential to impact archaeological resources.	<ul style="list-style-type: none">Moderate area of impact, which has potential to impact archaeological resources.	<ul style="list-style-type: none">Moderate area of impact, which has the potential to impact archaeological resources.	<ul style="list-style-type: none">Large area of impact, which has the potential to impact archaeological resources.
Cultural Heritage		<ul style="list-style-type: none">There will be no potential impacts to built heritage resources and	<ul style="list-style-type: none">Cultural heritage resources identified and subject to Properties of Potential Cultural Heritage Value Overlay.			<ul style="list-style-type: none">No impact, currently listed properties on Municipal Heritage Register are



Ranking	Most Preferred = 1	Less Preferred = 2	Not Preferred = 3			
Evaluation Criteria	Indicator	Do Nothing	Option 1	Option 2	Option 3	Option 4
	Effect on cultural heritage landscapes and built heritage resources.	cultural heritage landscapes.				anticipated to be de-listed in 2027.
Natural Environment						
Terrestrial Environment	Effects on terrestrial environment, including habitat, tree removal, and species at risk.	<ul style="list-style-type: none">No development will result in no impacts to the terrestrial environment (including habitat, tree removal, and species at risk)	<ul style="list-style-type: none">This option has the highest level of impact on the terrestrial environment as the proposed collector road to the north transects the High Constraint – Natural Environment Area.This option has the largest area of impact due to the size of the residential and commercial development footprint.	<ul style="list-style-type: none">This option has a moderate level of impact on the terrestrial environment as the proposed collector road avoids the High Constraint – Natural Environment Area but still allows for a larger development footprint compared to Option 3, thereby impacting more of the surrounding terrestrial environment.This option has a moderate area of impact due to the size of the residential and commercial development footprint.	<ul style="list-style-type: none">This option has the lowest level of impact on the terrestrial environment compared to Options 1 and 2.The footprint of the proposed collector road is minimized compared to Option 1 and 2 and avoids the High Constraints – Natural Environment Area.This option has the lowest residential and commercial footprint resulting in lower impacts to the surrounding terrestrial environment when compared to Options 1 and 2.	<ul style="list-style-type: none">This option has a greater footprint of Low Density Residential and Collector road compared to Option 2 and 3.The Lost Creek watercourse and associated meadow marsh wetland feature and buffers (50 metres from Lost Creek; 30 metres from the meadow marsh) are designated as Environmental Protection.This option clearly illustrates the Regulated Areas - Hazard Lands and Environmentally Sensitive Areas
	Effects on linkages to existing Natural Heritage Features, including significant woodlands, valleylands, wetlands, and watercourses, and Parrott's Bay Conservation Area.	<ul style="list-style-type: none">No development will result in no impacts to the Natural Heritage Features and the existing habitat / linkages can remain intact without the need for further habitat enhancement measures.	<ul style="list-style-type: none">This option has the highest level of impact on habitat and linkage features as the proposed collector road that extends to the north may further inhibit wildlife connectivity to Natural Heritage Features.	<ul style="list-style-type: none">This option has a moderate level of impact on habitat and linkage features as the proposed collector road is removed from the High Constraint – Natural Environment Area, thereby allowing for habitat enhancement opportunities to a greater extent as existing linkage features can be retained.	<ul style="list-style-type: none">This option has the lowest level of impact on the connectivity to Natural Heritage Features compared to Option 1 and 2.The footprint of the proposed collector road is relatively smaller compared to Option 1 and 2 and avoids the areas identified as linkage features. Areas surrounding the High Constraints – Natural Environment Area can be retained and creates opportunities to further enhance habitat and existing linkage features.	<ul style="list-style-type: none">This option has a higher potential impact on habitat connectivity compared to Options 1 and 2 because of the potential future collector road in the south that could separate habitat and create a movement barrier for wildlife.The Lost Creek watercourse and associated meadow marsh wetland feature and buffers (50 metres from Lost Creek; 30 metres from the meadow



Ranking	Most Preferred = 1	Less Preferred = 2	Not Preferred = 3			
Evaluation Criteria	Indicator	Do Nothing	Option 1	Option 2	Option 3	Option 4
						<p>marsh) are designated as Environmental Protection in order to protect and preserve the ecological corridor between the Parrott's Bay Provincially Significant Wetland (PSW) and Bayview Bog PSW. Both of these PSWs are located outside of the Secondary Plan Area.</p> <ul style="list-style-type: none">This option clearly illustrates the Regulated Areas - Hazard Lands and Environmentally Sensitive Areas.
Aquatic Environment	Effects on aquatic environment, including habitat, water quality, and species at risk.	<ul style="list-style-type: none">No development will result in no impacts to the aquatic environment (including habitat, water quality, and species at risk)	<ul style="list-style-type: none">This option has the highest level of impact on the aquatic environment as the proposed collector road to the north will need to cross a watercourse feature and High Constraint lands.	<ul style="list-style-type: none">This option has a moderate level of impact on the aquatic environment as the proposed collector road avoids the watercourse feature and High Constraint lands.	<ul style="list-style-type: none">This option has a moderate level of impact on the aquatic environment as the proposed collector road avoids the watercourse feature and High Constraint lands.	<ul style="list-style-type: none">The Lost Creek watercourse and associated meadow marsh wetland feature and buffers (50 metres from Lost Creek; 30 metres from the meadow marsh) are designated as Environmental Protection. Development would be restricted within this designation and would be subject to the required setbacks from watercourses as set out in the Township's Zoning By-law.This option has a moderate level of impact on the aquatic environment as the proposed collector road avoids the watercourse feature, however, there is a potential future collector that could potentially



Ranking	Most Preferred = 1	Less Preferred = 2	Not Preferred = 3			
Evaluation Criteria	Indicator	Do Nothing	Option 1	Option 2	Option 3	Option 4
						impact the watercourse (i.e., watercourse crossing). <ul style="list-style-type: none">This option clearly illustrates the Regulated Areas - Hazard Lands and Environmentally Sensitive Areas.
Water Quality and Quantity Controls	Water quality enhancements resulting from stormwater management (SWM) measures.	<ul style="list-style-type: none">The current conditions include more pervious area of land and depression storage. There are lower requirements to store/treat stormwater during major storm events.	<ul style="list-style-type: none">New SWM facilities will mitigate impacts due to severe rainfall for both the Edgewood Road Municipal Drain and Lost Creek.There are opportunities for quality enhancement of stormwater with new facilities and new quantity controls may decrease the overall generation of runoff to receiving bodies.This option includes a watercourse crossing. Lost Creek conveyance may be impacted from infill.	<ul style="list-style-type: none">New SWM facilities will mitigate impacts due to severe rainfall for both the Edgewood Road Municipal Drain and Lost Creek.There are opportunities for quality enhancement of stormwater with new facilities and new quantity controls may decrease the overall generation of runoff to receiving bodies.	<ul style="list-style-type: none">New SWM facilities will mitigate impacts due to severe rainfall for both the Edgewood Road Municipal Drain and Lost Creek.There are opportunities for quality enhancement of stormwater with new facilities and new quantity controls may decrease the overall generation of runoff to receiving bodies.This option does not include collector roads which are adjacent to SWM facilities in the Edgewood Municipal Drain Catchment area, therefore the establishment of new ditches/swales may be required with greater land requirements.	<ul style="list-style-type: none">New SWM facilities will mitigate impacts due to severe rainfall for both the Edgewood Road Municipal Drain and Lost Creek. There is an opportunity under this land-use plan minimize the amount od development within the Edgewood Road Municipal Drain.There are opportunities for quality enhancement of stormwater with new facilities and new quantity controls may decrease the overall generation of runoff to receiving bodies.This option does not include collector roads which are adjacent to SWM facilities in the Edgewood Municipal Drain Catchment area, therefore the establishment of new ditches/swales may be required with greater land requirements.



Ranking	Most Preferred = 1	Less Preferred = 2	Not Preferred = 3			
Evaluation Criteria	Indicator	Do Nothing	Option 1	Option 2	Option 3	Option 4
Technical Considerations						
Design and Function	Ability to address Problem Opportunity Statement.	<ul style="list-style-type: none">Does not address the Problem Opportunity Statement.	<ul style="list-style-type: none">All options address the Problem Opportunity Statement for growth development in the Secondary Plan Study Area.			
	Addresses recommendations of Loyalist Township's Infrastructure Master Plan (IMP) (2022) and provides opportunity to coordinate future infrastructure works.	<ul style="list-style-type: none">Provides limited to no opportunity to support recommendations from the IMP.	<ul style="list-style-type: none">Provides indirect and direct opportunities including improvements to transportation connectivity, transit expansion and servicing upgrades along the boundary of the servicing area.	<ul style="list-style-type: none">Provides indirect and direct opportunities including improvements to transportation connectivity, transit expansion and servicing upgrades along the boundary of the servicing area.	<ul style="list-style-type: none">Provides indirect and direct opportunities including improvements to transportation connectivity, transit expansion and servicing upgrades along the boundary of the servicing area.Provides direct opportunities to connect to the infrastructure across County Road 6 to reduce requirements for additional pumping stations for sanitary servicing.	<ul style="list-style-type: none">Provides indirect and direct opportunities including improvements to transportation connectivity, transit expansion and servicing upgrades along the boundary of the servicing area.Provides direct opportunities to connect to the infrastructure across County Road 6 to reduce requirements for additional pumping stations for sanitary servicing.
	Review of existing geology and hydrogeology opportunities and constraints.	<ul style="list-style-type: none">Provides limited to no opportunity.	Each new development provides an opportunity to characterize and minimize the impacts of observed or apparent Karst topography.			
	Ability to address maintenance and access concerns.	<ul style="list-style-type: none">Provides limited to no opportunity.	<ul style="list-style-type: none">Provides the greatest number of access options and flexibility with new collector roads.The installation of a new collector road watercourse crossing will require additional maintenance.	<ul style="list-style-type: none">Provides many access options and flexibility with new collector roads.This option includes the greatest amount of new roadway to be maintained.	<ul style="list-style-type: none">Provides many access options and flexibility with new collector roads.	<ul style="list-style-type: none">Provides most access options and flexibility with new collector roads.
	Potential to implement climate change and infrastructure resiliency per the direction in	<ul style="list-style-type: none">Provides limited opportunity, subject to	<ul style="list-style-type: none">Includes a large area of development potential on Township owned lands which presents a	<ul style="list-style-type: none">Includes the large mix of development potential on Township owned lands and privately owned	<ul style="list-style-type: none">Most compact land-use which limits the amount of feasible Climate	<ul style="list-style-type: none">Includes the most development potential on Township owned lands which presents the



Ranking	Most Preferred = 1	Less Preferred = 2	Not Preferred = 3			
Evaluation Criteria	Indicator	Do Nothing	Option 1	Option 2	Option 3	Option 4
	the ResiLienT Loyalist Township Climate Action Plan (2020).	working with existing landowners.	great opportunity to address Climate Action Plan goals.	land which presents many opportunities to address Climate Action Plan goals.	Action Plan initiatives that can be implemented.	greatest opportunity to address Climate Action Plan goals.
	Evaluation of construction feasibility.	Not applicable, as the “Do Nothing” option does not involve construction.	<ul style="list-style-type: none">Higher complexity due to new water crossing.Will require a new pumping station to facilitate development in earlier phases.	<ul style="list-style-type: none">Will require a new pumping station to facilitate development in earlier phases.	<ul style="list-style-type: none">Lower complexity as a new pumping station may not be required in initial phase of development.	<ul style="list-style-type: none">Least complexity as a new pumping station will not be required in initial phase of development. Development is the most concentrated along CR 6 with direct connections to existing infrastructure.
Financial Considerations						
Capital Costs	Evaluation of the capital costs, including an estimation of capital cost of all works.	Most Preferred. <ul style="list-style-type: none">No capital costs.	<ul style="list-style-type: none">Highest capital costs due to inclusion of Lost Creek watercourse crossing	<ul style="list-style-type: none">Higher capital costs associated with longer network of collector roads and piping infrastructure for servicing.	<ul style="list-style-type: none">Compact land use option which includes the options for direct connections.This option may defer capital costs in short-term for sanitary pumping station requirements with direct connections to existing infrastructure.	<ul style="list-style-type: none">Most compact land use option which includes the options for direct connections.This option may defer capital costs in short-term for sanitary pumping station requirements with direct connections to existing infrastructure.
	Evaluation of municipal operation and maintenance considerations.	<ul style="list-style-type: none">No additional operation or maintenance.	<ul style="list-style-type: none">Highest combination of new road infrastructure and servicing infrastructure to maintain and operate.	<ul style="list-style-type: none">Large combination of new road infrastructure and servicing infrastructure to maintain and operate.	<ul style="list-style-type: none">Moderate combination of new road infrastructure and facility infrastructure to maintain and operate.	<ul style="list-style-type: none">Moderate combination of new road infrastructure and facility infrastructure to maintain and operate.
Preliminary Recommendation						
			Not Preferred – 45 points	Less Preferred – 44 points	Less Preferred - 36 points	Preferred - 33 points



6.1 Preferred Alternative

Based on the results of the evaluation, Option 4 is the preferred alternative for the land use concept design of Amherstview West. Upon determination of the preferred alternative, refinements to the preferred land use concept (i.e., Option 4) were made based on feedback received from Loyalist Township staff, Technical Advisory Committee, Coordinating Committee, external technical agencies, and members of the community and included the following:

- The proposed elementary school block was increased in land area, as requested by one of the area school boards;
- Highway Commercial-designated lands proposed to be located south of the Walden Pond Drive extension and Highway Commercial land area increased;
- Institutional block proposed to be located northwest of County Road 6 and the Walden Pond Drive extension;
- Additional parks and open space areas as requested by Loyalist Township staff. The southern park space shown on the June 7, 2022 options has been relocated to the Township-owned lands southwest of County Road 6 / Taylor-Kidd Boulevard (County Road 23) and north of the future elementary school block;
- With respect to the lands at 4661 Bath Road that are currently listed on the Township's Municipal Heritage Register, in January 2024, the Municipal Heritage Committee did not recommend designation of this property and as such, the Properties of Potential Cultural Heritage Interest Overlay shown on Options 1 through 3 was removed. This change resulted in preparation of a new land use option for 4661 Bath Road as it can now be considered within the 25-year horizon of the Secondary and designated for various land uses. The current Land Use Plan designates these lands as Low, Medium, and High Density Residential, as well as Mixed Use Commercial;
- The proposed multi-use path (MUP) located at the south of the Study Area was re-aligned to show a more direct route running east-west;
- A new MUP was added as a north-south connection throughout the Study Area;
- Mapping of the Meadow Marsh located along the Lost Creek watercourse at the northern portion of the Secondary Plan Area based on input received from the Cataraqui Region Conservation Authority;
- The Lost Creek watercourse and associated meadow marsh wetland feature and buffers (50 metres from Lost Creek; 30 metres from the meadow marsh) are designated as Environmental Protection, as recommended by the Cataraqui Region Conservation Authority and informed by the Natural Heritage Existing Conditions Report. The designation of these features would ensure the protection and preservation of the



watercourse and meadow marsh wetland feature, as well as of the ecological corridor between the Parrott's Bay PSW and Bayview Bog PSW. Development would be restricted within this designation and would be subject to the required setbacks from the Environmental Protection (EP) Zone and watercourses as set out in the Township's Zoning By-law;

- Refinement of the MUP that traverses the Study Area northeast to southwest, northern municipal stormwater management facility, and Low Density Residential-designated lands in order to avoid the Environmental Protection-designated land;
- Refinement of municipal stormwater management facility areas. The option reduces the amount of development within Edgewood Road Municipal Drain area;
- Removal of the southern municipal wastewater facility that was formerly shown at 4661 Bath Road has been removed as per recent reviews of the Servicing Report. Loyalist Township will be looking to undertake upgrades of the existing pump stations at Taylor-Kidd Boulevard (County Road 23) and Lakeview prior to siting a new facility in Amherstview West.

The preferred alternative is illustrated in **Figure 6-1**.

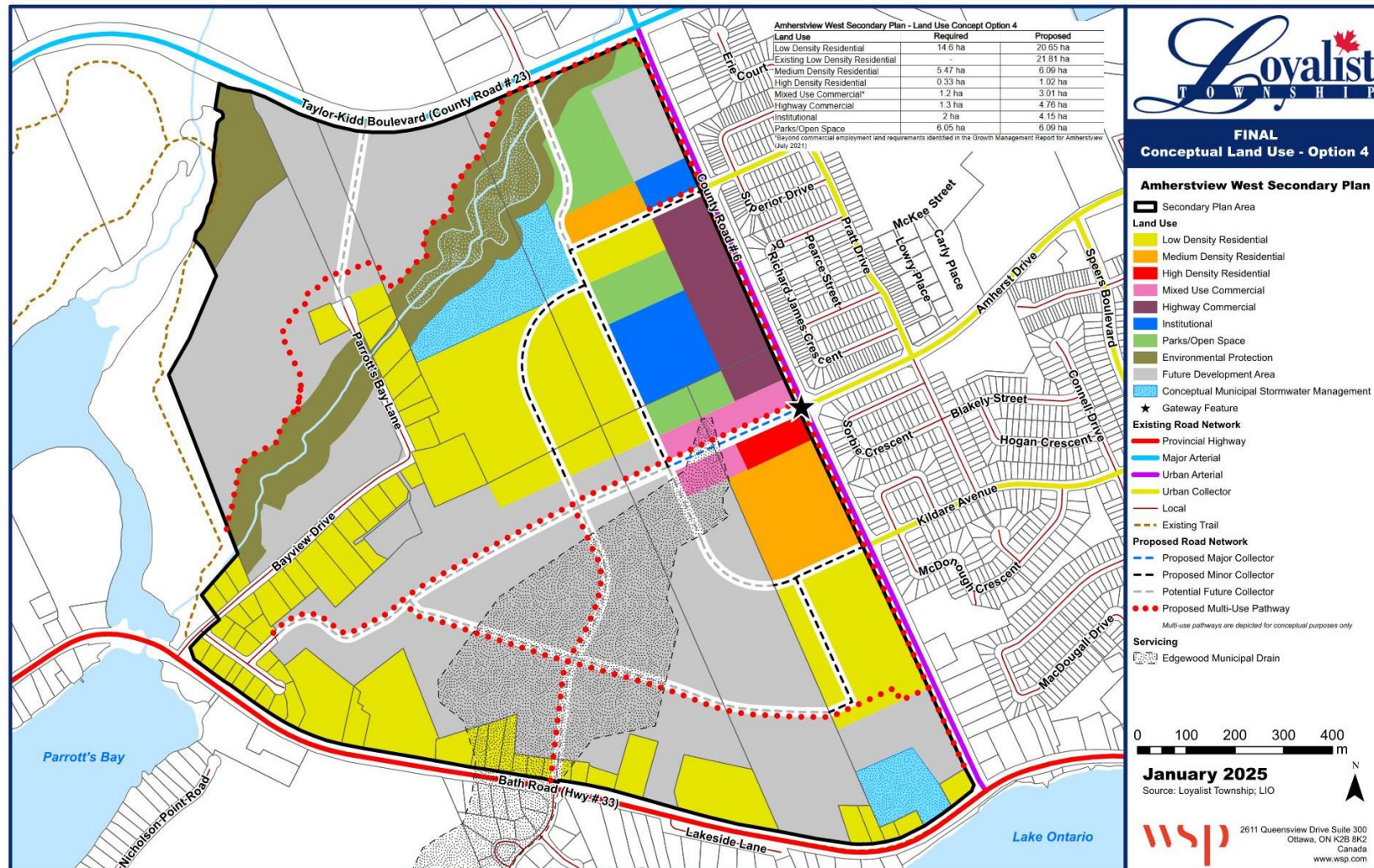


Figure 6-1: Preferred Alternative



7 Recommended Servicing Strategy

7.1 Water Servicing

Future development will require construction of a looped watermain distribution network throughout the study area that would utilize existing connections to County Road 6 and Bath Road (Highway 33). This servicing strategy will provide the area with an adequate flow/pressure distribution to meet the Average Day Demand (ADD), Maximum Day Demand (MDD), and Peak Hour Demand (PHD). The available water storage network in Amherstview will need to be connected to meet the servicing objective and adequate storage needs may be confirmed under the Infrastructure Master Plan study. The existing water treatment plant modelled for the water distribution system will have sufficient capacity under current conditions to provide safe and reliable municipal drinking water to the service area. Upgrades to the distribution network, including watermain upsizing and installation of new hydrants, will be necessary to service maximum day demand plus fire flow conditions.

Table 7-1 provides an overview of the project recommendations to implement the preferred water system strategy, the year when the project would need to be completed, and the corresponding MCEA Schedule.

Further details on the preferred location for the water distribution network connections are provided in the Water and Sanitary Infrastructure Servicing Report in **Appendix H**.

Table 7-1: Water System Projects

Project	Year Required	MCEA Schedule	Trigger
Expansion of Amherstview water distribution network piping and looping	2022-2042	Exempt	Subject to Form 1 and Ontario Drinking Waterworks Amendments, the expansion of the existing distribution network piping into the new service area.
Upsizing of Existing Watermains and Addition of Hydrants along Boundary Secondary Plan Area	2022-2025	Exempt	Prioritized by areas with proposed commercial/institutional development within the expansion area. High fire flow demand requirements warrant the upsizing/addition of existing distribution piping along the boundary of the Secondary Plan Area.



7.2 Wastewater System

Due to the current topography of the area, the gravity sewers which provide sanitary servicing to the study area will have to be split into two gravity systems flowing towards different pumping stations if connecting to the existing Amherstview system. The two systems will be divided into two catchment areas which require a division at the high point which divides the study area within the 25-year planning horizon.

The first gravity system will be located on the north half of the study area and will utilize gravity sewers that flow to the Taylor-Kidd Boulevard Pumping Station. This pumping station currently includes additional capacity and existing residual capacity estimated at 52 L/s (RVA, 2023). Additional investigation and design must be considered in the detailed design stage to determine if the pumping station will require further upgrades, however based on residual capacity alone its not anticipated that the station will require any upgrades for the projected 25-year horizon.

The second gravity system will be located within the south half of the study area along CR 6 and will utilize gravity sewers which may connect to existing gravity sewers along CR 6 or to a future pumping station in full build-out conditions. Splitting the projected 25-year horizon development peak flows between north and south limits would optimize the existing available residual capacity of the Lakeview PS estimated at 41 L/s (RVA,2023) while also providing future gravity sewer connections the ability to convey flow from the potential connections. **Table 7-2** includes a description of each recommended project as part of the preferred wastewater servicing strategy, the year when the project needs to be completed, and the corresponding MCEA Schedule.

Table 7-2: Wastewater Servicing Projects

Project	Year Required	MCEA Schedule	Trigger
New Dedicated Amherstview West Pumping Station (PS)	Not required within 25-year planning horizon Full Build Out (When Development Extends to 'Future Development Area')	Eligible for Archaeological Screening Process or Schedule B	A new PS will be necessary to convey flow from low-lying areas of Amherstview West to existing boundaries and sanitary sewer connections as part of the Amherstview Village in order to provide municipal services. The PS may pump flows directly to the Wastewater Treatment plant, or existing gravity systems, or existing PSs if they have capacity (maximum peak flows of 57.5 L/s). The trigger to installation would be based on first plan of subdivision where potential future development areas are



Project	Year Required	MCEA Schedule	Trigger
			proposed in low lying areas that cannot connect to the established or planned gravity sewer collection system.
Lakeview PS Upgrades	TBD	Eligible for Archaeological Screening Process or Schedule B	<p>Prioritized by areas with proposed commercial/institutional development within the expansion area. High fire flow demand requirements warrant the upsizing/addition of existing distribution piping along the boundary of the Secondary Plan Area.</p> <p>Note: Lakeview PS upgrades are further detailed under the Loyalist Township Infrastructure Master Plan Study and MCEA process.</p>
Taylor-Kidd PS Upgrades	TBD	Eligible for Archaeological Screening Process or Schedule	<p>PS upgrades may be required if selected as the receiver for Amherstview West sanitary flows (maximum peak flows of 57.5 L/s). However, downstream capacity is required prior to upgrades. Trigger to upgrades is to be based on review of peak inflow following I/I reduction initiatives and phasing of development during detailed design of proposed subdivisions.</p> <p>Note: Lakeview PS upgrades are further detailed under the Loyalist Township Infrastructure Master Plan Study and MCEA process.</p>
Upsizing / extension of Sewer Network	2022-2025	Schedule B	At boundary connections to the Amherstview West service area, all gravity sewer extensions along County Road 6 and Bath Road will be required and initiated at the start of any planned development for servicing. Preferred options for connections include the Jack Kippen Sanitary connection.

Further details on the preferred location for the water distribution network connections are provided in the Water and Sanitary Infrastructure Servicing Report in **Appendix H**.



7.3 Stormwater Management Servicing

Three (3) Storm Infrastructure Improvement Areas were identified within the Study Area as requiring stormwater drainage infrastructure improvements and servicing. The following provides a summary of the proposed stormwater management servicing required for each improvement area.

Lost Creek

Current conveyance of upstream of the Study Area will need to be maintained to not compromise the existing infrastructure. The Parrott's Bay twin culvert crossing acts as an Inlet Control Device (ICD) and backwater during minor and major storm events spills onto the surrounding lowlands around the creek and into existing fields and wetlands which act as a buffer. To mitigate any negative impacts due to flooding the lands surrounding the creek, this area should be protected from infilling or provisions should be made to develop cut areas (ponds) where infilling occurs. The provision of a least 3.75 ha of land will provide sufficient area to house stormwater management ponds that will store water for water quantity and quality control. The final size of the stormwater management facility should be based on the degree of low impact development measures designed with a target to reduce stormwater runoff flows by 20% as compared to existing conditions to align with the Township's draft Technical Design Guidelines currently under development.

Edgewood Road Municipal Drain and Areas to the South-East of the Secondary Plan Area and Along County Road 6

Collective stormwater management pond(s) or storage facilities that includes provisions for water quality and quantity control should be provided at the Edgewood Road municipal drain or to split flow from the municipal drain area to dedicated stormwater management facilities. This opportunity to regrade the area during future development means that the municipal drain can be mitigated within the secondary plan area. The development of these facilities would require property north of Highway 33 at two locations at the west and east extents. The storage facilities may be designed for catchment of areas outside of the Edgewood Road municipal drain catchment area south of Amherst Drive. The provision of at least 4.5 ha of additional land will provide sufficient area to house stormwater management ponds that will store water for quantity and quality control of these areas. The final size of the stormwater management facility should be based on the degree of low impact development measures designed with a target to reduce stormwater flows by 20% as compared to existing conditions to align with the Township's draft Technical Design Guidelines currently under development.



Areas to the West and South of Lost Creek that Discharge Towards Parrot's Bay

Areas located west of the Lost Creek catchment area are subject to stormwater runoff flows being directed west towards Parrot's Bay in an uncontrolled manner to the north while areas directly south-east of Bayview Drive also direct flows westward towards the Parrot's Bay. This discharge for these locations cross Bayview Drive at a few locations via culverts and sewers located along Harrow Crescent and Brooklands Park Avenue. These located structures are treated as ICDs. Storage facility per development may be designed for catchment of areas within these areas depending on the catchment area delineation.

7.3.1 Storm Servicing Infrastructure

All newly proposed storm sewer infrastructure will be subject to the Environmental Compliance Approval process under the MECP and are to be sized in accordance with MECP Stormwater Management Design Guidelines and applicable Township Technical Design Guidelines currently in development.

In Ontario, Low Impact Development is currently the primary recommended approach, where applicable, for SWM management of properties. It is recommended that policies are in place to limit or eliminate all proposed connections of sump pumps or drainage pipe systems for roof-tops and weeping tiles into municipal sewer systems, in order to promote overland drainage allowing for stormwater to infiltrate into the ground or enter enhanced swale networks which provide the ability to treat water for quality control.

Any conditions imposed on developments which limit storm sewer servicing may be reviewed on a case-by-case basis when reviewed against the other proposed Storm Infrastructure Improvement Area benefits.

Table 7-3 provides an overview of the project recommendations to implement the preferred storm servicing infrastructure strategy, the year when the project(s) would be required to be completed, and the corresponding MCEA Schedule.

Table 7-3: Storm Servicing Infrastructure Projects

Project	Year Required	MCEA Schedule	Trigger
Low Impact Development Systems	Within 25-year planning horizon	EXEMPT	Implementation and construction of stormwater management for low impact development required as a condition of Site Plan, Plan of Subdivision or Condominium under the Planning Act are EXEMPT.
	Full Build Out	Schedule 'B' If 'Land Acquisition is Required'	Schedule 'B' for establishment of 'new' collection systems is only triggered when



Project	Year Required	MCEA Schedule	Trigger
			additional Land Acquisition is required dedicated to stormwater low impact development infrastructure.
New Servicing Infrastructure including ponds, tanks, sewers and ditches.	Within 25-year planning horizon	EXEMPT	Establishing new or replacing/expanding existing stormwater infrastructure including sewers and ditches are EXEMPT when infrastructure is located within an established utility corridor, or road allowance where property acquisition is not required.
	Full Build-out	Schedule 'B' if 'Land Acquisition is required'	Schedule 'B' for establishment of 'new' collection systems is triggered when additional Land Acquisition is required dedicated to stormwater collection infrastructure.

7.3.2 Stormwater Management Facilities

SWM facilities will be subject to the Environmental Compliance Approval process under the MECP and are to be sized in accordance with MECP Stormwater Management Design Guidelines and applicable Township Technical Design Guidelines currently in development.

Low Impact Development facilities and traditional SWM facilities should be periodically inspected from performance and treated as assets for regular operational maintenance.

Areas designated as snow collection will be subject to increased risk to surface water quality degradation. These sites should be planned and reviewed during the site plan application process as part of the detailed design of development areas.

The 25-year planning horizon represents a buildout which includes the establishment of a new stormwater management pond or stage-storage control facilities which incorporate quality control, the requirement for an MCEA Schedule B process will apply.

The Natural Hazards and Master Stormwater Management Report is included in **Appendix I**.

Table 7-4 provides an overview of the project recommendations to implement the preferred storm management facility infrastructure strategy, the year when the project(s) would need to be completed, and the corresponding MCEA Schedule.



Table 7-4: Stormwater Management Facility Projects

Project	Year Required	MCEA Schedule	Trigger
Lost Creek SWM Facility	Within 25-year planning horizon	Schedule 'B'	The Lost Creek SWM facility is proposed within the 25-year planning horizon and is to be established once development is proposed within the catchment. This facility includes stormwater detention/retention ponds and appurtenances and includes establishing of a new outfall to Lost Creek where property acquisition is required.
Edgewood Road Municipal Drain and Areas to the South-East of the Secondary Plan Area and Along County Road 6	Within 25-year planning horizon Full Build-out	Schedule 'B'	Within 25-years the areas to the south-east of the Secondary Plan Area and along County Road 6 are to be developed which will trigger the establishment of a new SWM facility. This facility includes stormwater detention/retention ponds and appurtenances and includes where property acquisition is required. Expansion of the SWM facility is not required until full build-out when the Edgewood Road Municipal drain area is planned for development. To construct new or modify, retrofit or improve existing retention/detention facility or infiltration system for the purpose of stormwater quality control and quantity control that includes property acquisition will trigger the Schedule 'B' process.
Areas to the West and South of Lost Creek that Discharge Towards Parrot's Bay	Full Build-Out	Schedule 'B'	The areas West and South of Lost Creek that discharge towards parrot's dedicated SWM facilities are not triggered until full build-out of future development lands. These facilities include stormwater detention/retention ponds and appurtenances and includes establishing of a new outfall to Lost Creek where property acquisition is required.

7.4 Transportation Network

Table 7-5 provides an overview of the project recommendations for construction, the year when projects need to be completed, and the corresponding MCEA schedule.



Municipal Class Environmental Assessment (MCEA) Appendix 1 – (March 2023)

Table 7-5: Transportation Projects

Project	Year Required	MCEA Schedule	Applicable Project Schedule(s)
Modification to existing established roads or road enhancement projects	2022-2042	Exempt <u>Schedule 'C'</u>	Reconstruction of existing sidewalks, multi-purpose paths or cycling facilities along the perimeter of the Secondary Plan Area (Taylor Kidd Boulevard, Highway 33, and County Road 6) including roadway reconstruction with no changes to the number of motor vehicle lanes and within the same ROW are Exempt projects from the MCEA requirements. Reconstruction or widening of roads along CR 6 to support additional capacity (e.g., additional lanes, continuous centre turn lanes, etc..) which include ROW widening for projects will trigger Schedule 'C' for overall projects \geq \$3 million.
Roadside parks and/or picnic areas	2022-2042	<u>Exempt</u>	Roadside parks and picnic areas projects within the Secondary Plan Area during the 25-year planning horizon are exempt.
Traffic signing/signalization installation	2022-2042	<u>Exempt</u> <u>Eligible for Archaeological Screening or Schedule B (Table A)</u>	Major Collector to Major Collector Road intersections, such as Amherst Drive and CR 6, includes multi-use paths, signing and signalization as well as roadway widening works anticipated to be $>$ \$12m. This triggers a project eligible for archaeological screening process or Schedule 'B' within the 25-year planning horizon. Major Collector to Minor Collector Road intersections including Kildare Ave/CR 6 and Waldon Pond Dr/CR 6 include multi-use path crossings, signing and signalization, as well as roadway widening works anticipated to be $>$ \$12m. This triggers project(s) eligible for archaeological screening process or Schedule 'B' within the 25-year planning horizon. Minor Collection to Minor Collection Road intersections proposed within the Secondary Plan Area includes signing and establishment of cross walks $<$ \$12m classifying them as exempt projects.
Expansion of road network and establishment of new collectors	2022-2042	<u>Exempt</u> Schedule 'C'	Establishing a new Major Collector Road for expansion of Amherst Drive into the Secondary Plan Area will exceed \$3m which triggers the Schedule 'C' process.



Project	Year Required	MCEA Schedule	Applicable Project Schedule(s)
			<p>For establishment of the new Minor Collector Roads within the Secondary Plan Area for the 25-year planning horizon the total project(s) costs are anticipated to exceed \$3m which triggers the Schedule 'C' process.</p> <p>Construction of local roads within the Secondary Plan Area which are required as a condition of approval on a Site Plan, Consent, Plan of Subdivision or Plan of Condominium are Exempt.</p>
New water crossings	2022-2042 Full Build-out	<u>Exempt</u> Schedule 'B'	<p>Construction of a new culvert(s) or planned projects to increase culvert size due to change in the drainage area within the 25-year planning horizon are Exempt.</p> <p>Construction of new water crossings trigger the Schedule B process which is not anticipated until the full build-out planning horizon.</p>
New multi-use pathways and other active transportation facilities	2022-2042	<u>Exempt</u> Schedule 'B'/'C' (Full build-out)	<p>Multi-use pathways are to be constructed within the 25-year planning horizon in conjunction with planned Minor and Major Collector Road construction. The construction or removal of sidewalks, multi-purpose paths or cycling facilities including water crossings outside existing ROW and/or in a utility or rail corridor are Exempt for projects <\$4.1Million. While the build-out of the multi-use trail system would trigger a Schedule B for projects ≥\$4.1M or Schedule 'C' for projects ≥\$12M for the full network.</p>

8 Climate Change Considerations

A Climate Change Assessment was completed in March 2022. The Climate Change Assessment identified opportunities and climate change mitigation and adaptation recommendations related to climate change resilience, greenhouse gas (GHG) emission reductions, energy efficiency, and sustainable development to support the Amherstview West Secondary Plan. The recommendations are intended to be implemented through future policies in the Secondary Plan and Urban Design Standards, requirement of additional studies and/or conditions for development and were based on best practices and the goals and actions contained in the ResiLienT Loyalist Township Climate Action Plan (2021) (CAP).

The climate change opportunities and recommendations for the Secondary Plan are summarized by priority sectors, this includes Sustainable Land Use, Solid Waste, Transportation, Buildings, Water and Wastewater; and Other (e.g., Procurement, construction, partnerships).



It is noted that while the recommendations are tailored to the Study Area context, they may require further review to determine feasibility and identify priorities.

The Climate Change Assessment is provided in **Appendix J**.



9 Consultation

Engagement of the community, Indigenous communities, and stakeholders, including government agencies, regulatory agencies, and interest groups and organizations is integral to the MCEA process. Throughout the Secondary Plan and MCEA process, engagement events were held to inform and seek feedback from the community through various methods to ensure their input is considered in the development of the Secondary Plan and Master Plan for Amherstview West. The main objectives of the consultation were to gather feedback on the following topics:

- Vision and land use objectives;
- Land use designations (e.g., residential, commercial, parks);
- Permitted uses within each land use designation (e.g., single-detached and semi-detached dwellings, apartments, retail stores, offices, other commercial uses);
- Urban design guidelines and proposed streetscape standards (e.g., desired built form, neighbourhood character, allocation of space);
- Opportunities for connectivity and active transportation, parklands and open space, and servicing;
- Protection and preservation of natural environment features; and
- Energy conservation, air quality and climate change policies.

A summary of the consultation activities undertaken over the course of the study is provided in this section.

9.1 Public Consultation

A project webpage was developed for the Township's website, intended to provide project information, including presentation materials and draft and final documents as they become available. The Township's website, social media platforms (i.e., Facebook, X, formerly Twitter), notice postings in various locations and local newspapers, were used to advertise the various engagement opportunities, including public open houses and public meetings. Input received from residents and stakeholders were used to set the foundation for the objectives and formulation of land use policies in the Secondary Plan.

Public notices were issued throughout the course of the study to notify government and technical agencies, school boards, local stakeholders, Indigenous communities, and the public. These notices included:

- Notice of Study Commencement issued on June 3, 2021;



- Notice of the Online Visioning Workshop issued on June 3, 2021;
- Notice of online Public Open House (POH) #1 held on March 10, 2022;
- Notice of in-person POH #2 held on June 21, 2023;
- Notice of the in-person Community Workshop held on September 30, 2023;
- Notice of the Statutory Public Open House held on July 31, 2024;
- Notice of the Statutory Public Meeting held on February 11, 2025; and
- Notice of Completion issued on March 18, 2025.

Additionally, a Technical Advisory Committee and Coordinating Committee were established at the outset of the Secondary Plan Study, whose mandate was to review all draft deliverables and provide input.

The Technical Advisory Committee was formed by representatives from the following agencies and organizations:

- Loyalist Township;
 - Development Services Division;
 - Public Works;
 - Engineering & Environment;
 - Recreation & Facilities;
 - Utilities;
 - Fire Department;
- Ministry of Transportation;
- County of Lennox and Addington;
- Cataraqui Region Conservation Authority; and
- Enbridge Gas.

The Coordinating Committee was comprised of members of the community in Amherstview and Loyalist Township, as well from the local development industry.

The following additional agencies and organizations provided input throughout the study:

- Kingston Transit;
- Algonquin and Lakeshore Catholic District School Board;
- Limestone District School Board;



- KFL&A Public Health; and
- Secondary Plan Study Area Landowners.

9.1.1 Indigenous Engagement

Engagement with local Indigenous communities was an integral part of the consultation for the MCEA and Secondary Plan process. Although no reserves are located within the Township, the following Indigenous communities were engaged: Alderville First Nation, Curve Lake First Nation, Métis Nation of Ontario, Mississaugas of Scugog Island, Hiawatha First Nation, and the Mohawks of Bay of Quinte. In the early stages of the Secondary Plan process, lands management or consultation staff at each of the communities were contacted to introduce the project, determine any specific Indigenous community interests, and how the communities would like to be engaged in the process moving forward. An Indigenous Engagement Record was maintained throughout the Secondary Plan process, and was submitted to the Township and the County upon completion of the Secondary Plan study. The Indigenous Engagement Record is provided in **Appendix L**.

9.1.2 Online Visioning Workshop

An Online Visioning Workshop was held on June 24, 2021, and was the first public touchpoint as part of the Public Engagement Program for the Secondary Plan and EA Study. The purpose of the Workshop was to provide an introduction and overview of the project to the community, present preliminary development opportunities and constraints, and obtain feedback from participants to obtain input on a draft Vision Statement for the lands in the Study Area. Following the event, an Online Visioning Survey was available from Friday June 25, 2021 through Friday July 16, 2021, to receive input from members of the community who were unable to attend the Visioning Workshop. The Survey was comprised of the same questions that were posed to participants during the Visioning Workshop. Community input received through the Workshop and Survey is summarized in an “As We Heard It” Report (August 2021), provided in **Appendix M**.

9.1.3 Community Design Workshop

A Community Design Workshop was held on September 30, 2023 to provide an update on ongoing development of the draft Amherstview West Secondary Plan and obtain input and ideas from members of the community on the visioning for a future Main Street in Amherstview West and development of high-level concept plans for the lands designated as Future Development Areas. The Notice of the Community Workshop was publicly released on the Township’s project webpage and circulated to the project email notification list on August 30, 2023.



The Community Workshop was held in-person at the Amherstview Community Hall at 177 Upper Park Road in Amherstview from 10 am to 2 pm. The event was hosted in a ‘seminar’ format and attendees were invited to directly engage with the project team throughout the session by providing input and feedback. Approximately 16 people attended the Community Workshop. The Workshop included a brief presentation by the Township’s consultant, WSP, to provide an overview of the Secondary Plan Study, as well as several workshop activities carried out in groups, including:

- **Community Design ‘Main Street’ Approach and Urban Design**
 - **Activity #1 – Main Street Character:** Through the use of various precedent imagery showing various built form, materiality, and neighbourhood character, participants were asked to identify images that they felt captured the ‘look and feel’ of what a main street (extension of Amherst Drive to the west) in Amherstview West should look like.
 - **Activity #2 – Main Street Gateway:** In a similar image carding exercise, participants commented on various images to identify the appropriate treatment for a gateway feature to mark the entry into Amherstview West at the future main street.
 - **Activity #3 – Allocation of Space:** Participants were asked to provide input on how space should be prioritized in the design of a future main street in Amherstview West. Groups assembled scaled street cross sections of a main street, which identified the built features (e.g., sidewalks, street furniture, trees, on-street parking, drive lanes) that should be prioritized.
- **Land Use Visioning for Future Development Area**
 - **Activity #4 – Future Development Area Visioning:** Using activity workbooks, participants prepared conceptual plans for the lands proposed to be designated as Future Development Area, taking into account the various site opportunities and constraints present in Amherstview West (e.g., ecological areas, inclusion of a new elementary school). Upon preparation of the concepts, groups were asked to determine if the Draft Vision Statement for Amherstview West required further refinement based on the land uses and features incorporated in the concepts for the Future Development Area.

The Community Workshop As We Heard It Report is provided in **Appendix M**.



9.1.4 Public Open Houses

9.1.4.1 Public Open House #1

The first Public Open House was held online on March 10, 2022. The purpose of the Workshop was to provide a project update to the community, present the key findings of the background technical reports and obtain feedback on the draft land use concept options.

The POH was hosted in a ‘seminar’ format and attendees were invited to directly engage with the project team throughout the session by providing input and feedback using the Zoom chat box, using the “raise hand” feature on Zoom to speak. Over 45 people attended the event. The POH included a presentation by the Township’s consultant, WSP. Information presented included:

- Overview of the Secondary Plan Study, study process and timeline, and key findings of the background technical reports;
- Presentation of the Draft Vision Statement, Problem Opportunity Statement, Guiding Objectives, and land use assumptions;
- Presentation of the three draft land use concept options and evaluation criteria; and
- Next steps and how to submit feedback.

The input received has helped inform final changes to the draft land use concept options prior to the evaluation of the preferred alternative. Then, the Preferred Land Use Concept Plan and associated fiscal analysis for their endorsement prior to proceeding with the preparation of the Draft Secondary Plan were presented to Township Council on April 4, 2022.

The POH #1 As We Heard It Report is provided in **Appendix M**.

9.1.4.2 Public Open House #2

A second POH was held on June 21, 2023 to obtain public feedback on the land use concept options, evaluation of alternatives, and draft Preferred Land Use Option. These documents were circulated to Township staff and the Technical Advisory Committee and Coordinating Committee for their review and comment, and was then posted on the project webpage for public review and feedback.

The second POH was held in-person at the Amherstview Community Hall at 177 Upper Park Road in Amherstview from 3 pm to 7:30 pm on June 21, 2023. The event was hosted in a ‘seminar’ format and attendees were invited to directly engage with the project team throughout the session by providing input and feedback. Approximately 30 people attended the POH. The POH included a presentation by the Township’s consultant, WSP. Information presented included:



- Overview of the Secondary Plan Study, revised study process and timeline as a result of the Council-approved change to the project scope and schedule in July 2022, and update on the status of the background technical reports;
- Presentation of the three revised land use concept options, evaluation criteria and evaluation of alternatives, and the draft Preferred Land Use Option;
- Summary of proposed high-level phasing of future development; and
- Next steps and how to submit feedback.

The POH #2 As We Heard It Report is provided in **Appendix M**.

9.1.4.3 Public Open House #3

A third and final POH was held on July 31, 2024 to obtain public feedback on the Draft Secondary Plan and associated recommended policies, Draft Official Plan and Zoning By-law Amendment, and Draft Urban Design Guidelines. The Draft Secondary Plan was circulated to Township staff and the Technical Advisory Committee and Coordinating Committee for their review and comment, and was then posted on the project webpage for public review and feedback.

The third POH was held a hybrid format, with options for participating online through a Zoom Meeting, or in-person at the Amherstview Fire Hall at 363 Amherst Drive in Amherstview from 5:30 pm to 7:30 pm on July 31, 2024. Approximately 20 people attended the POH in-person and 9 people attended the event online through Zoom. The POH included a presentation by the Township's consultant, WSP. Information presented included:

- Overview of the Secondary Plan Study, revised study process and timeline as a result of the Council-approved change to the project scope and schedule in March 2024, and update on the status of the background technical reports;
- Present the Draft Amherstview West Secondary Plan, Draft Official Plan Amendment, Draft Zoning By-law Amendment, Draft Urban Design Guidelines, Future Development Area Evaluation of Options;
- Present an update on the MCEA process and Draft MCEA Master Plan Environmental Study Report; and
- Next steps and how to submit feedback.

The POH #3 As We Heard It Report is provided in **Appendix M**.



9.1.5 Statutory Public Meetings

9.1.5.1 Statutory Public Meeting #1

The first statutory public meeting as required under the Planning Act was held on December 10, 2024 to present the Final Draft Secondary Plan, Final Draft Official Plan Amendment, Final Draft Zoning By-law Amendment, and Final Draft Urban Design Guidelines. These documents were circulated to Township staff and the Technical Advisory Committee and Coordinating Committee for their review and comment. The documents were then posted on the project webpage for public review and feedback, along with the Notice of Statutory Public Meeting on November 19, 2024.

The first statutory public meeting was held in-person at Council Chambers at 263 Main Street in Odessa on December 10, 2024, with options for virtual attendance via Zoom. Representatives of Township Council were in attendance and the meeting was chaired by the Mayor. The statutory public meeting included a presentation by the Township's consultant, WSP. Information presented included:

- Overview of the Secondary Plan Study, study process, and overview of the community engagement and Indigenous engagement completed to date;
- Present the Draft Amherstview West Secondary Plan, Final Draft Official Plan Amendment, Final Draft Zoning By-law Amendment, and Final Draft Urban Design Guidelines, and a summary of proposed changes to the documents since the Public Open House #1 held on July 31, 2024;
- Present an update on the MCEA process and Draft MCEA Master Plan Environmental Study Report; and
- Next steps and how to submit feedback.

A staff report (SR-2809) was prepared by the Township Economic Growth and Community Development Services Department and submitted to Council with recommendations to receive the report for information, provide direction for staff to make any necessary revisions to the project documents, and bring forward a recommendation at a future Council meeting.

9.1.5.2 Statutory Public Meeting #2

A second statutory public meeting was held on February 11, 2025 to present the Final Proposed Secondary Plan, Final Proposed Official Plan Amendment, Final Proposed Zoning By-law Amendment, and Final Proposed Urban Design Guidelines. These documents were circulated to Township staff and the Technical Advisory Committee and Coordinating Committee for their review and comment. The documents were then posted on the project webpage for public review and feedback, along with the Notice of Statutory Public Meeting on January 21, 2025.



The first second public meeting was held in-person at Council Chambers at 263 Main Street in Odessa from 6:00 pm to 8:00 pm on February 11, 2025, with options for virtual attendance via Zoom. Representatives of Township Council were in attendance and the meeting was chaired by the Mayor. The statutory public meeting included a presentation by the Township's consultant, WSP. Information presented included:

- Overview of the Secondary Plan Study, and recap of the first statutory public meeting held on December 10, 2024;
- Present the Final Proposed Amherstview West Secondary Plan, Final Proposed Official Plan Amendment, Final Proposed Zoning By-law Amendment, and Final Proposed Urban Design Guidelines, and a summary of proposed changes to the documents since the first statutory public meeting held on December 10, 2024;
- Present an update on the MCEA process and Draft MCEA Master Plan Environmental Study Report; and
- Next steps and conclusion of the project.

The purpose of the second statutory public meeting was also for Township staff to bring forward recommendations to Township Council to adopt the Final Proposed Official Plan Amendment, Final Proposed Zoning By-law Amendment, and Final Proposed Urban Design Guidelines, among other recommendations. A staff report (SR-2830) was prepared by the Township Economic Growth and Community Development Services Department and submitted to Council.

At the statutory public meeting, Council passed a motion to adopt the recommendations listed in the staff report (SR-2830), including adoption of the Final Proposed Official Plan Amendment, Final Proposed Zoning By-law Amendment, and Final Proposed Urban Design Guidelines.

The Notice of Adoption for the Official Plan Amendment and Notice of Passing for the Zoning By-law Amendment were issued by Loyalist Township on February 19, 2025. The 20-day appeal period under the Planning Act was until March 11, 2025. No appeals were received and the Official Plan Amendment and Zoning By-law Amendment are now in effect.

9.2 Agency Consultation

A Technical Advisory Committee (TAC) was established to help with the development of the Amherstview West Secondary Plan. The TAC provided background information, identified key issues to be considered, reviewed draft reports before they were released to the public, and provided technical input and analysis at key project milestones. The TAC was comprised of Township representatives from relevant department/divisions (e.g., Development Services, and Engineering and Environment, Economic Growth and Community Development Services, Corporate Services (GIS), Community and Customer Services Department (Public Works and Recreation), Emergency Services), and external agency representatives from the County of



Lennox and Addington, Cataraqui Region Conservation Authority, Enbridge Gas, and the Ministry of Transportation.

TAC meetings were held on June 8, 2021, February 17, 2022, January 25, 2023, and December 4, 2023, and comments on the Draft Secondary Plan documents were requested in writing over the course of July – August 2024, and in December 2024. Similar to the public consultation notification process, agencies were also contacted throughout the study.

9.2.1 MECP

MECP provided direction on consultation with Indigenous communities, requirements for source water protection, and climate change considerations.

9.2.2 MTO

Meetings were held with MTO on November 21, 2018 and May 23, 2019 to discuss the Secondary Plan Study, including identification of issues and review proposed approaches to servicing. Representatives from MTO also participated in the Technical Advisory Committee meetings held on June 8, 2021, February 17, 2022, January 25, 2023, and December 4, 2023.

9.2.3 Cataraqui Region Conservation Authority (CRCA)

Representatives of CRCA were included as part of the Technical Advisory Committee meetings held on June 8, 2021, February 17, 2022, January 25, 2023, and December 4, 2023. CRCA staff also submitted written comments on the Final Draft Secondary Plan documents following the first statutory public meeting held on December 10, 2024.

9.2.4 Landowners

Secondary Plan landowners received notifications from the Township throughout the project to advise of proposed field work in close proximity to their properties, as well as proposed major changes in land use designations affecting their lands. They were also notified of Public Open Houses, the Community Design Workshop and all other community consultation activities that were conducted throughout the project.

In addition, meetings were arranged with Township staff and Secondary Plan Area landowners to discuss the project and receive input on the proposed alternatives and Secondary Plan.



10 Commitments, Mitigation, and Monitoring

It is recognized that the future construction/implementation of the preferred servicing strategies will result in impacts to the existing environment. Construction impacts to neighbouring residents, such as noise, vibration, access and lighting, are a significant concern and should have specific attention during detailed design and construction. In order to address the effects, the following approach should be taken:

- **Avoidance:** The first priority is to prevent the occurrence of negative effects (e.g., adverse environmental effects) associated with the implementation of an alternative.
- **Mitigation:** Where adverse environmental effects cannot be avoided, it will be necessary to develop appropriate mitigation measures to eliminate or reduce the negative effects associated with implementing the alternative.
- **Enhancement/Compensation:** In situations where appropriate mitigation measures are not available, or significant net adverse effects will remain following the application of mitigation, enhancement or compensation measures may be required to counterbalance the negative effect through replacement in kind, or provision of a substitute or reimbursement.

The following mitigation measures are recommended to ensure that any disturbances are managed by the best available methods. These measures will be further confirmed and developed during detailed design. The following sections provides a detailed assessment of the potential impacts associated with the project and the recommended mitigation, enhancement or compensation measures required to reduce these effects. These form EA commitments that will be fulfilled during detailed design, construction, and post construction.

10.1 Cultural Environment

10.1.1 Archaeology

Potential Impacts

There are areas of archaeological potential within the Study Area that may result in delays to project schedules. The length of project delays due to the mitigation of archaeological concerns can vary based on the size, nature, and context of identified archaeological and/or burial sites. As each archaeological site is unique, project delays can not be estimated until the analysis of artifacts and cultural features has been completed.



Mitigation

It is recommended that any proposed developments and municipal infrastructure projects on lands that have not been previously cleared of archaeological concerns by the MCM must undergo an archaeological assessment(s) prior to disturbance. All archaeological assessments must be conducted in accordance with the Ontario Heritage Act and the MCM's Standards and Guidelines for Consultant Archaeologists (2011).

10.1.2 Cultural Heritage

Potential Impacts

There are five (5) potential Cultural Heritage Resources identified within or adjacent to the Study Area. Three (3) of these resources are remnants of farm landscapes that date back to the nineteenth century and demonstrate the area's longstanding agricultural history. The other two (2) resources were constructed in the 1970's and reflect a noteworthy mixture of mid-century and international architectural styles.

Mitigation

Since the completion of the Cultural Heritage Resource Assessment completed in 2022 in support of the Secondary Plan study, three (3) of the properties identified as having Cultural Heritage Resources are currently listed on the Township's Municipal Heritage Register. With recent amendments to the Ontario Heritage Act, these three (3) properties will be de-listed from the Municipal Heritage Register in 2027 unless they are designated before that time. In January 2024, the Township's Municipal Heritage Committee did not recommend designation of the currently listed properties in the Secondary Plan Study Area. As such, the properties identified as having Cultural Heritage Resources in the Secondary Plan Study Area will not have protections under the Secondary Plan. As such, mitigation measures are not required for the CHRs in the Study Area. Should any of these properties be designated in the future, the Township may request a Heritage Impact Assessment (HIA) to assess the impact of any proposed development

10.2 Natural Environment

The various natural heritage features identified in the Natural Heritage Existing Conditions Report prepared in support of the Secondary Plan were reviewed to determine which features should be identified and form part of the Environmentally Sensitive Area Overlay on Schedule C of the Township Official Plan. Using the policy criteria set out in the Township Official Plan, Section 5.2.3, a portion of the Secondary Plan Study Area will be subject to the Environmentally Sensitive Areas Overlay. Should development be proposed within this Overlay, the Township may request an Environmental Impact Assessment with a future development application.



Additionally, the Lost Creek watercourse and associated meadow marsh wetland feature and buffers (50 metres from Lost Creek; 30 metres from the meadow marsh) are designated as Environmental Protection, as recommended by the Cataraqui Region Conservation Authority and informed by the Natural Heritage Existing Conditions Report. The designation of these features would ensure the protection and preservation of the watercourse and meadow marsh wetland feature, as well as of the ecological corridor between the Parrott's Bay PSW and Bayview Bog PSW. Development would be restricted within this designation and would be subject to the required setbacks from the Environmental Protection (EP) Zone and watercourses as set out in the Township's Zoning By-law.

10.2.1 Terrestrial Environment

Potential Impacts

Amherstview West is a diverse landscape that promotes wildlife and species diversity. The potential infrastructure and other development applications proposed within the Study Area may have effects on terrestrial environment, including habitat, tree removal and SAR.

Mitigation

The following mitigation measures are recommended to minimize impacts to terrestrial environment features:

- Detailed and species-specific ecological surveys shall be undertaken for future development applications.
- It is recommended that the Secondary Plan consider the indirect effects of future development lands to the Wildlife Concentration Area for Colonial Waterbird Nesting Significant Wildlife Habitat (SWH), including temporary and/or permanent vibrations and noise disturbance, increase in sediment and erosion to wetlands and the release of other contaminants in surface runoff, and increased human activity. These impacts may cause birds to permanently abandon the site as a nesting area. As such, a minimum of 150 metre radius from the most peripheral nests in a colony determines the area of the SWH. Development is not permitted within this feature unless it can be demonstrated that there will be no negative impacts on the feature or its ecological feature (MNRF, 2014b). Confirmed SWH within the Study Area is shown as part of the Environmentally Sensitive Areas Overlay in the Secondary Plan. Should development be proposed within this Overlay, the Township may request an Environmental Impact Assessment with a future development application.
- An evaluation of significance shall be conducted for each of the 14 candidate SWH features prior to future development activities in order to assess impacts and apply appropriate mitigation measures. It is recommended for the following surveys to be



conducted in order to evaluate significance. Suggested field surveys could include but may not be limited to the following:

- Breeding bird (Marsh, Raptors, Grassland, Woodland);
- Spring and fall landbird bird migration;
- Fall butterfly migration;
- Amphibian call counts (woodland and wetland);
- Reptile hibernacula emergence;
- Acoustic bat maternity colony;
- Turtle emergence and basking; and
- Winter Raptor.

10.2.2 Aquatic Environment

Potential Impacts

Four (4) aquatic features are present within 1 kilometre of the Study Area. They include Lake Ontario, Parrott's Bay, and two (2) watercourses. Lake Ontario and Parrott's Bay are known to support fish and fish habitats.

Mitigation

The following mitigation measures are recommended to minimize impacts to aquatic environment features:

- It is recommended that the Secondary Plan area should not encroach into Parrott's Bay PSW and future land use designations should ensure the protection of this ESA. As per the Secondary Plan, the Study Area is not located within Parrott's Bay PSW. The Lost Creek watercourse and a 50-metre buffer around this feature have been designated as Environmental Protection in order to ensure the protection and preservation of the ecological corridor between the Parrott's Bay PSW and the Bayview Bog PSW.
- Appropriate setbacks of 120 metres may be required to ensure protection of the Parrott's Bay PSW's natural heritage features. A policy has been included in the Secondary Plan to restrict development within 120 metres of the Parrott's Bay PSW unless an Environmental Impact Study prepared by a qualified professional demonstrates that there will be no negative impact to the feature as a result of development.



- It is recommended that temporary barrier fencing be installed prior to any future development along the Parrott's Bay PSW to reduce or eliminate indirect and direct impacts to turtle species and encroachment into the PSW.
- It is recommended that the Secondary Plan consider a setback of 50 metres to 120 metres for the unnamed watercourse in Bayview Bog PSW. Lands within 50 metres of the Lost Creek watercourse have been designated as Environmental Protection in the Secondary Plan. Development would be restricted within this designation.
- It is recommended that the Secondary Plan consider the retention and buffer setback of 30 metres to all aquatic features in the Secondary Plan Study Area. Lands within 50 metres of the Lost Creek watercourse, and within 30 metres of the associated meadow marsh wetland feature have been designated as Environmental Protection in the Secondary Plan. Development would be restricted within this designation and would be subject to the required setbacks from the Environmental Protection (EP) Zone and watercourses as set out in the Township's Zoning By-law.
- If land use designations allow for the development of unevaluated wetlands, a wetland evaluation should be required at the time of a development application to determine if the Parrott's Bay PSW has other contributing/supporting wetland features in proximity to it. It is recommended that the Secondary Plan consider a setback distance of 30 metres from the unevaluated wetlands within the Secondary Plan Study Area. Certain natural heritage features, including unevaluated wetlands are shown as part of the Environmentally Sensitive Areas Overlay in the Secondary Plan. Should development be proposed within this Overlay, the Township may request an Environmental Impact Assessment, including a wetland evaluation, with a future development application. Lands within 30 metres of the meadow marsh wetland feature have been designated Environmental Protection in the Secondary Plan. Development would be restricted within this designation and would be subject to the required setbacks from the Environmental Protection (EP) Zone and watercourses as set out in the Township's Zoning By-law.
- It is recommended that linkage features and wildlife corridors are considered with the development of the Secondary Plan as both ANSIs may provide a natural linkage feature to the Parrott's Bay PSW. The Lost Creek watercourse and a 50-metre buffer around this feature have been designated as Environmental Protection in order to ensure the protection and preservation of the ecological corridor between the Parrott's Bay PSW and the Bayview Bog PSW.



10.2.3 Significant Woodlands and Valleylands

Potential Impacts

Significant Woodlands and Valleylands are present within the Secondary Plan Study Area and contribute to the Loyalist Township Environmentally Sensitive Areas as defined by the OP.

Mitigation

- **Significant Woodlands and Valleylands:** No development or change in land use in this area shall be considered without a detailed Environmental Impact Assessment completed to the satisfaction of the Township and the Conservation Authority. Lands within 50 m of Significant Woodlands and Valleylands should also be conserved in the long term (Township OP, 2022).

10.2.4 Significant Wildlife Habitat

There is one (1) confirmed SWH feature present within the Study Area that includes a Wildlife Concentration Area for Colonial Waterbird Nesting, and fourteen (14) Candidate SWH features have been identified to occur within the Study Area.

Mitigation

The following mitigation measures for significant wildlife habitats include:

- **Significant Wildlife Habitat:** It is recommended for the Secondary Plan to consider the indirect effects of future development lands to this significant wildlife habitat. Indirect effects can include temporary and/or permanent vibrations and noise disturbance, increase in sediment and erosion to wetlands and the release of other contaminants in surface runoff, and increased human activity. Such indirect impacts may cause birds to permanently abandon the site as a nesting area. Therefore, a minimum of 150 m radius from the most peripheral nests in a colony determines the area of the SWH. Development is not permitted within this feature unless it can be demonstrated that there will be no negative impacts on the feature or its ecological feature. Confirmed SWH within the Study Area is shown as part of the Environmentally Sensitive Areas Overlay in the Secondary Plan. Should development be proposed within this Overlay, the Township may request an Environmental Impact Assessment with a future development application.



10.2.5 Species at Risk

Impacts

There are eleven (11) Threatened/Endangered species under the ESA have a High, Moderate to Low potential to occur within the Study Area. Such species receive automatic species and habitat protection on private and provincial lands. There are also eleven (11) Special Concern and/or Species of Conservation Concern species under the ESA have a High, Moderate to Low potential to occur within the Study Area. Such species do not receive protection under the ESA but do receive protection under alternative acts such as; Migratory Bird Convention Act, 1994 and the Fish and Wildlife Conservation Act, 1997.

The following species at risk include:

- **Least Bittern** (Threatened): Breeds in a variety of wetland habitats but prefers cattail marshes with open pools and channels. Potential habitat is present in the Study Area in the form of Shallow Marsh (MAS);
- **Eastern Whip-poor-will** (Threatened): Breeds in a mix of habitats; open woodlands, upland forests with open ground layers, savannahs. Potential habitat is present in the Study Area in the form of Cultural Woodlands (CUW), Mixed Forest (FOM), and Deciduous Forest (FOD) with open ground layers and understorey.
- **Chimney Swift** (Threatened): Commonly found in urban areas near buildings; nests in hollow trees, crevices of rock cliffs, chimneys; highly gregarious; feeds over open water. Potential habitat is present in the Study Area in the form of residential structures (RES) with chimneys;
- **Loggerhead Shrike** (Endangered): Pastures or grasslands with scattered shrubs and small trees. Prefers fields or alvars with exposed bedrock. Potential habitat is present in the Study Area in the form of Mixed Meadow (MEM) and Cultural Thicket (CUT) with areas of exposed bedrock;
- **Barn Swallow** (Threatened): Farmlands or rural areas; cliffs, caves, rock niches; buildings or other man-made structures for nesting; open country near body of water. Potential habitat is present in the Study Area in the form of man-made structures (RES) and farmlands of Graminoid Meadow (MEG);
- **Eastern Meadowlark** (Threatened): Open, grassy meadows, farmland, pastures, hayfields or grasslands with elevated singing perches; cultivated land and weedy areas with trees; old orchards with adjacent, open grassy areas >10 hectares in size. Habitat is present in the Study Area as Eastern Meadowlarks were heard in Graminoid Meadows (MEG) at the time of field investigations (MEG);



- **Blanding's Turtle** (Threatened): Lives in shallow waters, usually in large wetlands and shallow lakes. Potential habitat is present within 120 metres of the Study Area in the form of Shallow Marsh (MAS) with open aquatic (OA) features. Adjacent upland features within the Study Area may provide suitable nesting habitat;
- **Little Brown Myotis** (Endangered): Roost in trees and buildings; such as attics, abandoned buildings and barns for summer colonies. Hibernate in caves, abandoned mines. Potential habitat is present in the Study Area in the form of Deciduous Forest (FOD), Mixed Forest (FOM), and Cultural Woodlands (CUW);
- **Northern Myotis** (Endangered): Hibernates during winter in mines or caves; during summer males roost alone and females form maternity colonies of up to 60 adults; roosts in houses, man-made structures but prefers hollow trees or under loose bark; hunts within forests, below canopy. Potential habitat is present in the Study Area in the form of Deciduous Forest (FOD), Mixed Forest (FOM), and Cultural Woodlands (CUW);
- **Eastern Small-footed Myotis** (Endangered): Roost in a variety of habitats; under rocks, rock outcrops, buildings. Potential habitat is present in the Study Area in the form of rock outcrops and crevices observed within the Cultural Thicket (CUT) and Mixed Meadow (MEM) communities;
- **Tri-colored Bat** (Endangered): Found in a variety of forested habitats during summer, forms day roosts and maternity colonies in older forest and occasionally in barns or other structures; forage over water and along forested streams; hibernates in a cave or underground structure and roost individually. Potential habitat is present in the Study Area in the form of Deciduous Forest (FOD), Mixed Forest (FOM), and Cultural Woodlands (CUW)
- **Black-crowned Night-heron** (SCC (S3B, provincial rank)): Nest colonially in cattail marshes. Potential habitat is present within 120 metres of the Study Area in the form of Shallow Marsh (MAS);
- **Short-eared Owl** (Special Concern): Lives in open areas of grasslands, marshes, and tundra. Potential habitat is present in the Study Area in the form of Mixed Meadow (MEM) and Graminoid Meadow (MEG);
- **Common Nighthawk** (Special Concern): Open ground; clearings in dense forests; ploughed fields; gravel beaches or barren areas with rocky soils; open woodlands; flat gravel roofs. Potential habitat is present in the Study Area in the form of Mixed Meadow (MEM) and Cultural Woodlands (CUW) with open ground and exposed bedrock;
- **Eastern Wood-pewee** (Special Concern): Open deciduous, mixed or coniferous forest; predominated by oak with little understory; forest clearings, edges; farm woodlots, parks.



Potential habitat is present in the Study Area in the form of Deciduous Forest (FOD) and Cultural Woodland (CUW);

- **Wood Thrush** (Special Concern): Coniferous or deciduous woods with dense young undergrowth; spruce bogs; borders of wooded swamps and damp forest; brushy pasture. Potential habitat is present in the Study Area in the form of Deciduous Forest (FOD) and Cultural Woodland (CUW);
- **Grasshopper Sparrow** (Special Concern): Open grassland areas and nests in hayfields, pastures, alvars, and prairies; preferring areas that are sparsely vegetated. Potential habitat is present in the Study Area in the form of Graminoid Meadow (MEG);
- **Snapping Turtle** (Special Concern): Permanent, semi-permanent fresh water; marshes, swamps or bogs; rivers and streams with soft, muddy banks or bottoms; often uses soft soil or clean dry sand on south-facing slopes for nest sites; may nest at some distance from water; often hibernate together in groups in mud under water; home range size ~28 ha. Potential habitat is present within 120 metres of the Study Area in the form of Shallow Marsh (MAS) with open aquatic (OA) features. Adjacent upland features within the Study Area may provide suitable nesting habitat;
- **Eastern Musk Turtle** (Special Concern): Found in ponds, lakes, marshes, and rivers that are slow-moving and abundant with aquatic vegetation and muddy substrate. Potential habitat is present within 120 m of the Study Area in the form of Shallow Marsh (MAS) with open aquatic (OA) features. Adjacent upland features within the Study Area may provide suitable nesting habitat;
- **Eastern Ribbonsnake** (Special Concern): Found close to water, usually marshes where it hunts for frogs and fish. They hibernate in rock crevices and underground burrows. Potential habitat is present within 120 metres of the Study Area in the form of Shallow Marsh (MAS). Hibernacula may be present in the form of rock outcrops and crevices observed within the Mixed Meadow (MEM) and Cultural Thicket (CUT) communities;
- **Monarch** (Special Concern): Uses three (3) types of habitat; caterpillars feed on milkweed plants and are confined to meadows and open areas with milkweed, adult butterflies can be found in more diverse habitats where they feed on nectar from wildflowers. Potential habitat is present in the Study Area in the form of Mixed Meadow (MEM);
- **Grass Pickerel** (Special Concern): Found in wetlands, streams, ponds, and shallow bays of larger lakes. Potential habitat is present within 120 metres of the Study Area in the form of Shallow Marsh (MAS) and Open Aquatic (OA) features.



Mitigation

As potential infrastructure and other development applications are proposed within the Study Area, detailed and context specific ecological impact assessments will be required to evaluate the potential impacts on the Natural Heritage System. Once potential infrastructure requirements are better understood, additional review, assessment of impacts, and recommended mitigation measures may be required to satisfy the Municipal Class Environmental Assessment process.

The following potential vegetation and heritage considerations and their mitigation measures include:

- **Linkage / Connectivity: (Parrott's Bay PSW to Bayview Bog PSW and Amherstview Swamp and Fen ANSI - Riparian and Meadow Marsh:** Due to the sensitivity of the habitat and wildlife likely to be found in this area; development within this area is not recommended.
- **Potential for Loggerhead Shrike (END) and Candidate SWH for snake hibernacula - Deciduous and coniferous thicket:** Due to potential for SAR and other sensitive habitats in this area, a full Environmental Impact Study (EIS) should be required prior to development. This EIS should include SAR target surveys and a complete evaluation of habitats (including candidate SWH). Appropriate setbacks should be applied to sensitive features. Species at Risk permitting may be required pending the results of surveys.
- **Potential for Snapping Turtle (SC) and Blanding Turtle (THR) - Deciduous and coniferous forest:** Due to potential for SAR and other sensitive habitats in this area, a full Environmental Impact Study (EIS) should be required prior to development. This EIS should include SAR target surveys and a complete evaluation of habitats (including candidate SWH). Appropriate setbacks should be applied to sensitive features. Species at Risk permitting may be required pending surveys results.
- **Eastern Meadowlark (THR) habitat and Potential for Bobolink (THR) - Grass Meadow:** A full EIS should be completed to evaluate the potential SAR habitat and other natural heritage values. The EIS should also consider the social value that the area provides. This EIS should include SAR targeted surveys for Eastern Meadowlark and Bobolink. Endangered Species Act (ESA, 2007) permitting or registration may be required.
- **Potential for Loggerhead Shrike (END) - Coniferous and deciduous thicket:** Due to potential for SAR and other sensitive habitats in this area, a full Environmental Impact Study (EIS) should be completed prior to development. This EIS should include SAR target surveys and a complete evaluation of habitats (including candidate SWH). Appropriate setbacks should be applied to sensitive features.



10.2.6 Site Contamination

Potential Impacts

The Phase One Environmental Site Assessment (ESA) identified potentially contaminating activities (PCAs) within the Study Area, these include:

- Electricity generation, transformation and power stations;
- Garages and maintenance, and repair of railcars, marine vehicles, and aviation vehicles;
- Transformer manufacturing, processing, and use;
- Waste disposal and waste management, including thermal treatment, landfilling and transfer of waste, other than use of biosoils as soil conditioners;
- Dumping activities; and
- Seasonal de-icing activities.

The identified PCAs are contributing to two (2) areas of potential environmental concern (APECs) in the Study Area and include dumping activities in the western portion of the Study Area and areas adjacent to roads where seasonal de-icing activities occur.

Mitigation

A Phase Two ESA is recommended to investigate the identified APECs and further assess the existing soil and groundwater conditions in the Study Area.

10.2.7 Erosion and Sediment Control

Potential Impacts

Disturbance of sediment during construction will increase the potential for erosion and movement of sediment into Study Area watercourses.

Mitigation

- Develop an Erosion and Sediment Control Plan including the protection of terrestrial and aquatic natural areas.
- Implement and monitor erosion and sedimentation control strategy.
- Any areas disturbed by construction will be restored and stabilized as soon as practically possible.



10.2.8 Air Quality

Potential Impacts

Dust emissions may result from construction activities.

Mitigation

- The contractor shall implement provisions for dust control.
- The contractor shall halt work in event that dust emissions are found to be unacceptable.

10.2.9 Noise

Potential Impacts

There is potential for exceedance at future noise sensitive developments within the secondary plan area for both transportation and stationary sources, and marginal exceedances at the existing receptors from the future stationary sources within the Study Area.

Mitigation

For future noise sensitive developments, a site-specific noise impact assessment should be required as part of the approval conditions, which includes the following:

- Once the Site Plan is finalized for each noise sensitive development within the Study Area, including building floor plan and suites layout plans (at the Site Plan Approval Stage) a site-specific noise impact study (SNIA) be requested from respective developers for review by the Township.
- Noise sensitive development within the Study Area will require central air conditioning as an alternate means of open window.
- Detail acoustical performance requirements for exterior façade elements (i.e. exterior walls, windows and balcony doors) for each future noise sensitive development should be confirmed based on final layout plans by the SNIA.
- SNIA should recommend and provide suitable warning clauses to be included in pertinent Offers of Purchase or Sales and Lease or Rental Agreements.
- SNIA should confirm that no outdoor living area greater than 4 metres in depth is provided within the development or such area should be assessed, and noise control requirements be determined at the site plan approval stage.



11 Conclusion

This Master Plan has been developed in coordination with the Secondary Plan and will address water and wastewater servicing following an integrated Planning Act / MCEA in accordance with Section A.2.9 of the Municipal Engineers Association's (MEA) Municipal Class Environmental Assessment (October 2000, as amended in 2007, 2011, 2015 & 2023), Master Plan Approach #2. This integrated approach allows for consideration of municipal infrastructure improvements needed to service the Secondary Plan Study Area to be considered and approved concurrently with the completion and adoption of the Secondary Plan.

This Master Plan covers the processes required to ensure that the proposed servicing strategies and associated proposed works meets the requirements of the Environmental Assessment Act. The MCEA planning process requires initial screening for a project of this type and this initial screening has not identified any significant concerns that cannot be addressed by incorporating established mitigation measures during construction.