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WELCOME

Regional Water Supply Servicing Master Plan

Public Consultation Centre #1

Thursday, August 17th , 2023

6:00 pm to 8:00 pm

Bloomfield Town Hall, 289 Main St., Bloomfield

Key Instructions for this Meeting

Regional Water Supply Servicing Master Plan

1

Please Sign in

Meeting is a “Drop-in” format.

2

Review Display Materials

Our representatives will be pleased to discuss the study, or any questions or concerns that you may have.

3

Complete a Comment Sheet

Drop off your completed Comment Sheet in the Box tonight or return it to the people shown on the Comment Sheet by September 15, 2023

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Why are we here tonight?

Prince Edward County is undertaking a **Regional Water Supply Servicing Master Plan Study** to identify the preferred water servicing strategies to support the long-term water needs of the serviced areas in the County in a sustainable and financially responsible manner.

Objectives of this **Public Consultation Centre**:

- Introduce the project and the need for it – Problem/Opportunity Statement
- Outline the process followed for the Master Plan study
- Review baseline conditions for each system, including opportunities and constraints
- Present the preliminary water servicing strategies recommended for further investigation in the study
- Receive your input on the information presented to incorporate in the next steps of the study

Additional PIC to be held

The County held a Public Information Centre (PIC) regarding the Wellington Water and Wastewater Treatment Plants Municipal Class Environmental Study on June 28, 2023 at the Wellington and District Community Centre. The County also held a Public Consultation Centre (PCC) on August 3, 2023 at the Picton Town Hall regarding the Picton Master Servicing Plan.

The majority of the feedback received at these two events focused on the following:

- Wellington Master Servicing Plan
- Development Charges and Front End Financing Agreements
- Water & Wastewater User Rates
- Development and Growth Projections

The County has scheduled a Public Information Centre on August 31, 2023 from 6-8pm at the Wellington and District Community Centre to provide further details and answer questions regarding the four topics above. This meeting is open to the public.

Master Plan Context

- Master Plans are long range plans that integrate a high-level review of infrastructure servicing requirements for a broad study area with order of magnitude implementation costs.
- Master Plans identify individual infrastructure projects distributed geographically across the study area, to be implemented gradually over time.
- Master Plans fulfill **Phase 1 and Phase 2 of the Municipal Class Environmental Assessment planning process.**
- The Regional Water Supply Servicing Master Plan is being conducted under **Approach 2 for Master Planning**. The work completed under the Master Plan will fulfill the requirements of Schedule B projects and provide supporting information for Schedule C projects. Recommended Schedule C projects will require additional investigation to fulfill Phases 3 and 4 of the Municipal Class EA process.
- A **Master Plan Report will be prepared** at the end of the study and made available for public review.

Overview of Activities under the EA Process

Phase 1 Getting Started

- Review available information/data
- Identify Problem / Opportunity Statement

NOTICE OF COMMENCEMENT
December 7, 2022

Phase 2 Exploring the Options

- Consider ways to address servicing needs and identify potential impacts
- Assess and shortlist **Servicing Solution(s)**

PUBLIC CONSULTATION CENTRE #1
August 17, 2023

WE ARE HERE

- Evaluate and select Preliminary **Preferred Servicing Solution(s)**
- Confirm Preferred Servicing Solutions based on **public and review agency input**

PUBLIC CONSULTATION CENTRE #2 (Future)

NOTICE OF COMPLETION (Future)

Phase 3 Conceptualizing the Preferred Solution

- Develop design concepts to implement the Preferred Servicing Solutions from Phase 2
- Identify impacts and mitigation measures
- Evaluate options and select the recommended **Preliminary Preferred Design Concepts**

Phase 4 Documenting the Process

- **Prepare a Report** and satisfy the documentation requirements of the Class Environmental Assessment process
- Make report available for **public review**

Phase 5 Implementing the Recommendations

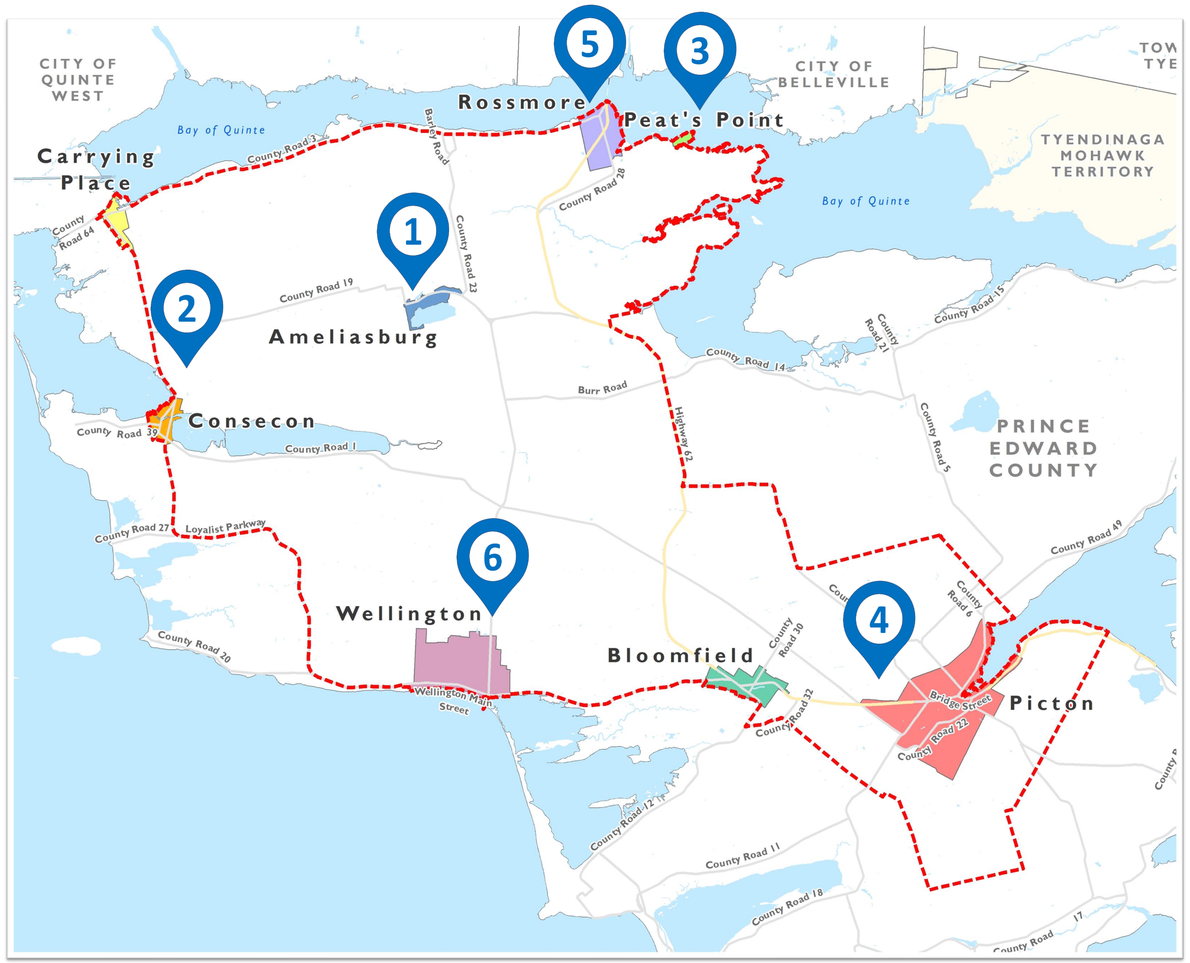
- Complete detailed design of the recommended solution
- Initiate construction

Phases 1 and 2 of the EA Process will be completed during the Master Plan. Projects identified as Schedule A and B projects will proceed to implementation.

How is Municipal Drinking Water Delivered in Prince Edward County?

The County owns and operates four (4) independent drinking water systems and two (2) distribution systems, as shown in the map and below:

1. Ameliasburgh Drinking Water System
   - Water source: Roblin Lake
2. Consecon/Carrying Place Water Distribution System
   - Water source: Bay of Quinte (Lake Ontario). Treated water supplied by City of Quinte West
3. Peat's Point Drinking Water System
   - Water source: Groundwater well
4. Picton/Bloomfield Drinking Water System
   - Water source: Picton Bay (Lake Ontario)
5. Rossmore/Fenwood Gardens Water Distribution System
   - Water source: Bay of Quinte (Lake Ontario). Treated water supplied by City of Belleville
6. Wellington Drinking Water System
   - Water source: Lake Ontario



Purpose of the Regional Water Supply Servicing Master Plan

- The County currently operates six (6) separate municipal drinking water systems. Two (2) of these systems rely on external municipalities for the provision of treated water. Intermunicipal agreements are in place to secure water allocation to the Consecon/Carrying Place and Rossmore/Fenwood Gardens Water Distribution Systems.
- Population forecasts for the ultimate build-out indicate a rapid and significant growth within the next 20 years, particularly in the Wellington and Picton urban centres.
- Some municipal water systems experience limitations due to aging infrastructure. Infrastructure improvements would be required to meet the additional demands to support growth forecasts and alleviate existing limitations in some of the systems.
- The large number of municipal drinking water systems, relative to the small customer base in some areas, represent major operational and financial implications to the County.
- Other ongoing planning projects in the County – **The Picton Master Servicing Plan and the New Wellington Water Treatment Plant Schedule Class EA Study**, offer an opportunity to maximize synergies in the identification of long-term infrastructure needs within the County.

Problem/Opportunity Statement

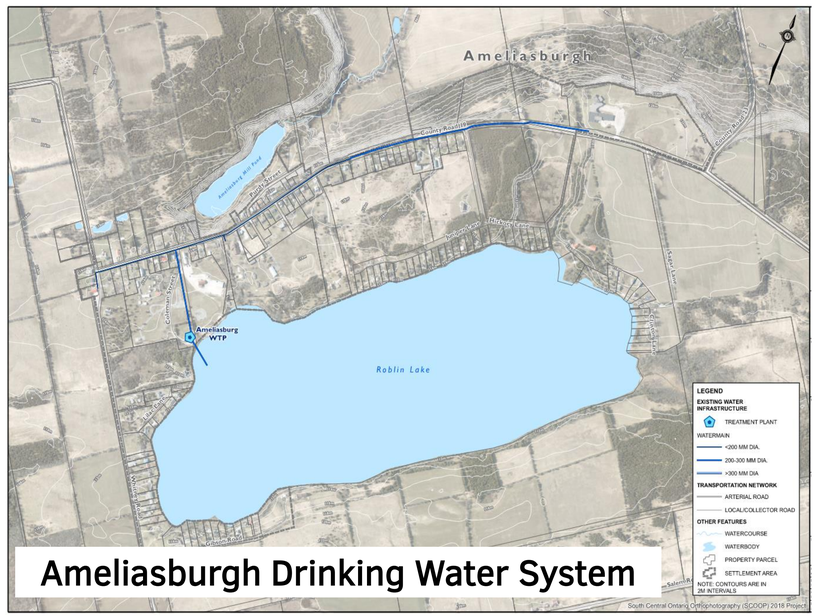
Municipal water services in Prince Edward County are provided through several drinking water systems servicing independently the settlement areas in the Urban Centres of Picton, Wellington, and Rossmore, and in the Villages of Bloomfield, Ameliasburgh, Consecon, Carrying Place, and Peat's Point.

The large number of municipal drinking water systems, relative to the small customer base in some areas, represent major operational and financial implications to the County. In addition, infrastructure upgrades to some systems will be required to alleviate existing limitations of aging infrastructure and to support long term servicing needs.

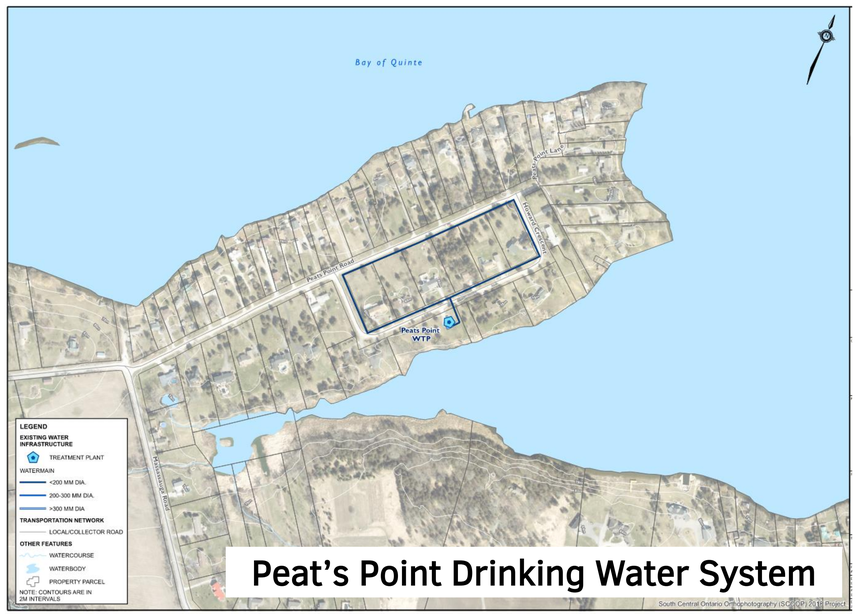
A broader review of the municipal drinking water servicing needs in the County will help establish its long-term comprehensive Regional Water Servicing Strategy, to provide ongoing servicing in a sustainable and financially responsible manner.

Study Area Limits – Regional Water Supply Servicing Master Plan

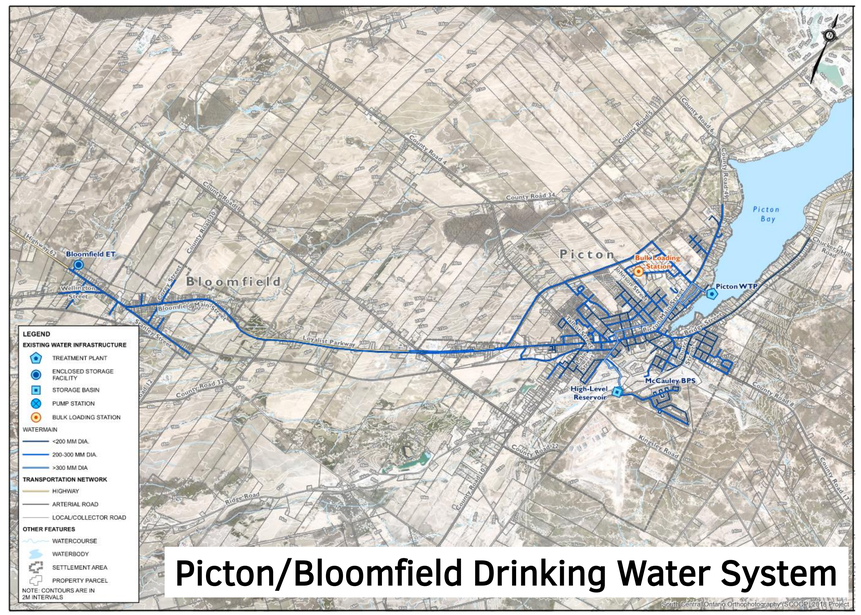
Prince Edward County – Existing Drinking Water Systems



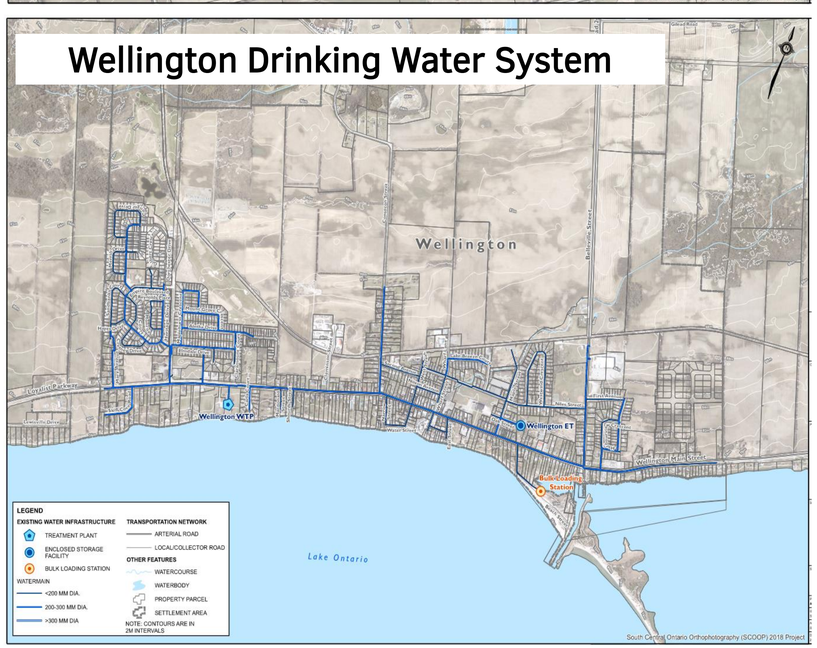
Ameliasburgh Drinking Water System



Peat's Point Drinking Water System

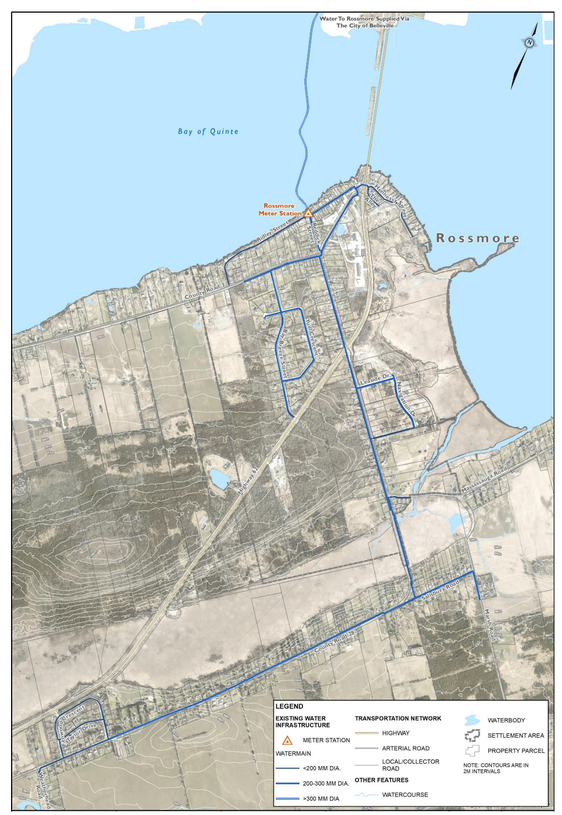


Picton/Bloomfield Drinking Water System



Wellington Drinking Water System

Consecon/ Carrying Place Water Distribution System



Rossmore/ Fenwood Gardens Water Distribution System

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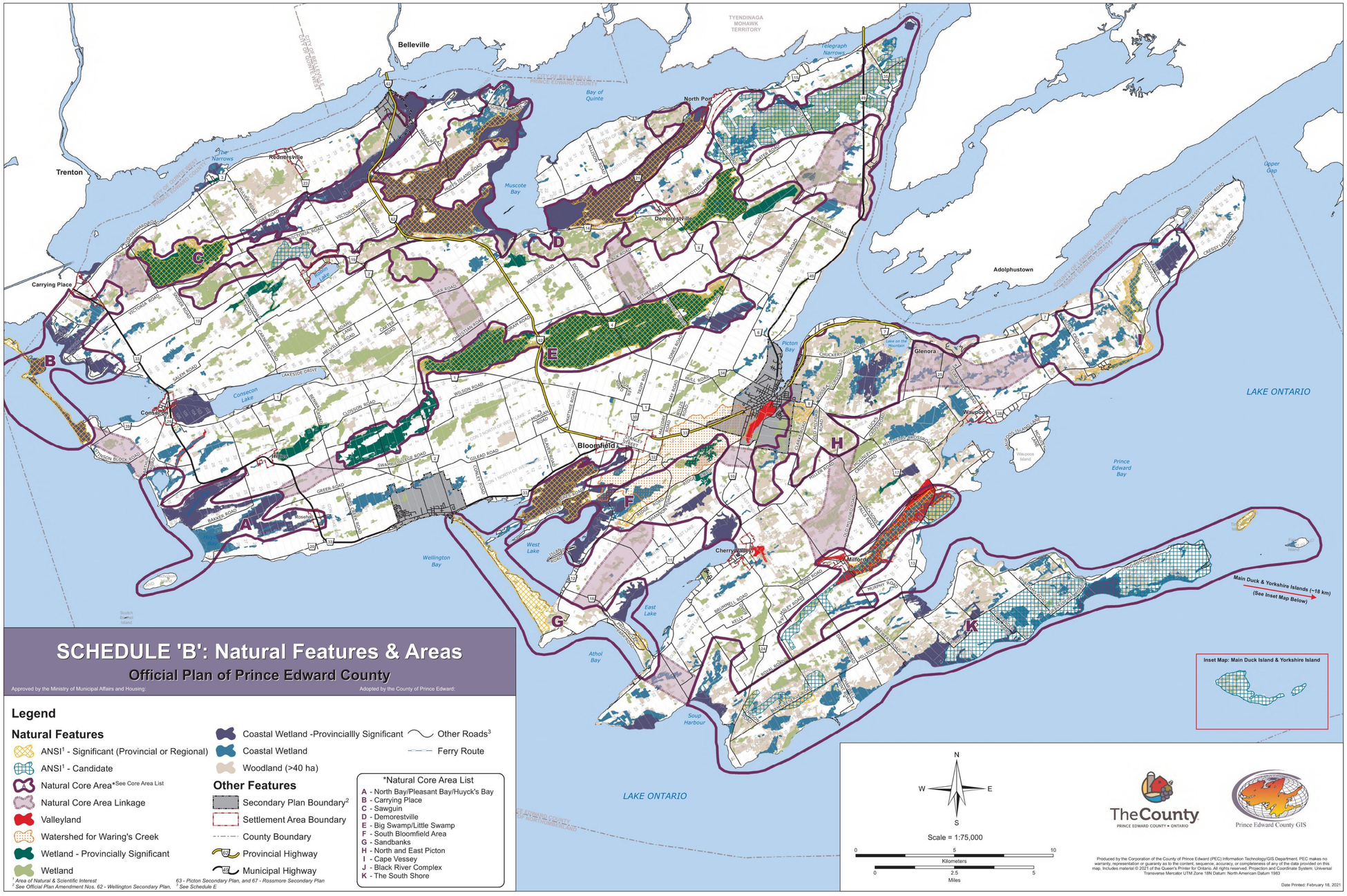
Prince Edward County – Existing Environmental Features



Design Criteria – Population and Water Demands Projections

	Existing Conditions			Future (Buildout) Conditions		
Municipal System	**Existing (2021) Serviced Population**	**Existing (2021) Maximum Day Demands m^3/day**	**Existing (2021) Peak Hour Demands m^3/day**	**Future (Buildout) Serviced Population**	**Future (Buildout) Maximum Day Demands m^3/day**	**Future (Buildout) Peak Hour Demands m^3/day**
Ameliasburgh	260	58	160	293	137	206
Consecon/Carrying Place	845	552	830	921	809	1,214
Peats Point	63	19	47	63	30	44
Picton/Bloomfield (Residential + Commercial + Institutional)	5,796	3,578	6,843	32,600	22,000	32,400
Rossmore/Fenwood Gardens	1,074	840	1,452	1,400	987	1,480
Wellington (Residential + Industrial + Commercial + Institutional)	2,248	1,282	2,559	14,500	14,000	21,000

Identification and Assessment of Water Servicing Strategies

Identification of Servicing Strategies

A long-list of available water servicing strategies is developed.

General water servicing strategies are screened based on their ability to meet the objective of the Regional Master Plan Study, and Problem/Opportunity Statement.

Evaluation of Servicing Strategies

Long-term water needs for each service area are established.

Servicing strategies are screened based on a high-level assessment of the technical, legal and regulatory, potential environmental impacts, and opinion of probable cost (Class 5 capital cost estimates)

Preferred servicing strategies are short-listed and recommended for further detailed evaluation.

Selection of Preferred Strategy

Long-list of Water Servicing Strategies

The following Water Servicing Strategies were applied to each servicing area:

Water Servicing Strategies	Eliminated from Further Consideration	Recommended for Further Assessment
Do-Nothing (Status Quo) No changes to existing systems. Municipal drinking water systems will be kept as is with no upgrades or new infrastructure to accommodate additional water demands. **Strategy will be assessed further, specific to each serviced area.**		✓
Limit Community Growth Does not meet the problem & opportunity statement and is not feasible due to ongoing planning applications and Official Plan direction. **The overall plans for growth in the County cannot be met through this strategy and there may be legal risks to do so, thus it is eliminated.**	✗	
Reduce Water Demands Implementation of additional water conservation and water efficiency measures to further reduce water consumption. **The overall plans for growth in the County cannot be met through this strategy alone, so it is eliminated.**	✗	
Expand/Upgrade/Retrofit Existing Water System Modifications to existing systems to address operational/capacity deficiencies or a capacity increase to accommodate future servicing needs. **Strategy will be assessed further, specific to each serviced area.**		✓
Provide a New Water System Construction of new groundwater-based or surface water-based drinking water systems to accommodate future servicing needs. **Strategy will be assessed further, specific to each serviced area.**		✓
Obtain Water from another Municipal Source Interconnection to an adjacent municipal drinking water system from another area. **Strategy will be assessed further, specific to each serviced area.**		✓

System #1 – Ameliasburgh Drinking Water System

Key Infrastructure:

- Water intake sourcing raw water from Roblin Lake, supply capacity: 360 m^3/d
- Water treatment plant with rated capacity: 360 m^3/d
- Distribution watermains – Fire protection by tanker truck

Opportunities and Constraints:

Opportunities

- Current system has sufficient capacity to meet current and future water demands
- Existing treatment system is effective and simple to operate
- Available land within existing site for a system expansion, including storage facilities.
- Roblin Lake is a source water protected feature. The lake is in an upland area with no tributaries draining to it.
- Roblin Lake has been historical a good and sustainable water source

Constraints

- Existing system has annual water use restrictions due to operational needs
- Aging treatment process equipment
- Remote location of serviced area limits potential interconnection to other areas.
- No existing water storage for fire flows or pump control.

Alternative Servicing Strategies:

1. Do Nothing
2. Expand/Upgrade/Retrofit existing water system
3. Provide a New water system
4. Obtain water from another municipal source:
   a) Connect to Rossmore
   b) Connect to Consecon/Carrying Place
   c) Connect to Wellington

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System #1 – Ameliasburgh, Screening Results

	Alternative Servicing Strategy	Pre-Screening Assessment	Shortlisted?
1	**Do Nothing** Standard routine maintenance with no major upgrades	• Existing system has sufficient capacity to meet projected buildout demands • No need for new infrastructure, no complexity with implementation • Planned operational/maintenance activities to be carried out as part of County's capital project implementation program • Existing system will continue to operate without provision of fire flows or water storage • No capital investment beyond planned maintenance activities	Yes
2	**Expand/Upgrade/Retrofit existing water system** System upgrade/retrofit to improve operations and management activities without increasing system rated capacity	• Opportunity to provide water storage to increase system security and fire protection • Construction of new treatment facility within existing site addresses the need to replace aging equipment and maintenance challenges during construction • Moderate capital cost (approx. $2.1 Million) relative to other options	Yes
3	**Provide a new water system – use individual wells** Decommission existing system and use individual private groundwater wells	• Contrary to the County's Official Plan where municipal water services are preferred for new growth in Ameliasburgh • Use of existing infrastructure, currently in good condition, is minimized • Challenges in transfer/acceptance of responsibility to private property owners • High capital cost compared to other available option • Dependant on MECP approval.Need to complete extensive hydrogeological study to confirm viability and long-term sustainability of private wells.	No
4a	**Connect to Rossmore Water Distribution System** 6.5 km interconnection transmission main	• Reliance on third party/renegotiation of servicing agreement with City of Belleville • Concerns with water age in long transmission watermain • Potential significant impacts to environmental features and source water protection areas with transmission main • Significant capital costs relative to other options (approx. $6.2 Million, excluding pumping and storage)	No
4b	**Connect to Carrying Place/Consecon Water Distribution System** 10 km interconnection transmission main	• Reliance on third party/renegotiation of servicing agreement with City of Quinte West • Concerns with water age in long transmission watermain • Significant capital costs relative to other options (approx. $8.7 Million, excluding pumping and storage)	No
4c	**Connect to Wellington Drinking Water System** 13 km interconnection transmission main	• Concerns with water age in long transmission watermain • Significant capital costs relative to other options (approx. $11.2 Million, excluding pumping and storage)	No

System #2 – Consecon/Carrying Place Water Distribution System

Key Infrastructure:

- Water intake sourcing raw water from Bay of Quinte. Intermunicipal agreement with City of Quinte West – Maximum Daily Treated Water Allocation: 1,262 m^3/d
- Carrying Place Booster Pumping Station
- Consecon Elevated Tank
- Distribution watermains – Fire protection by watermain

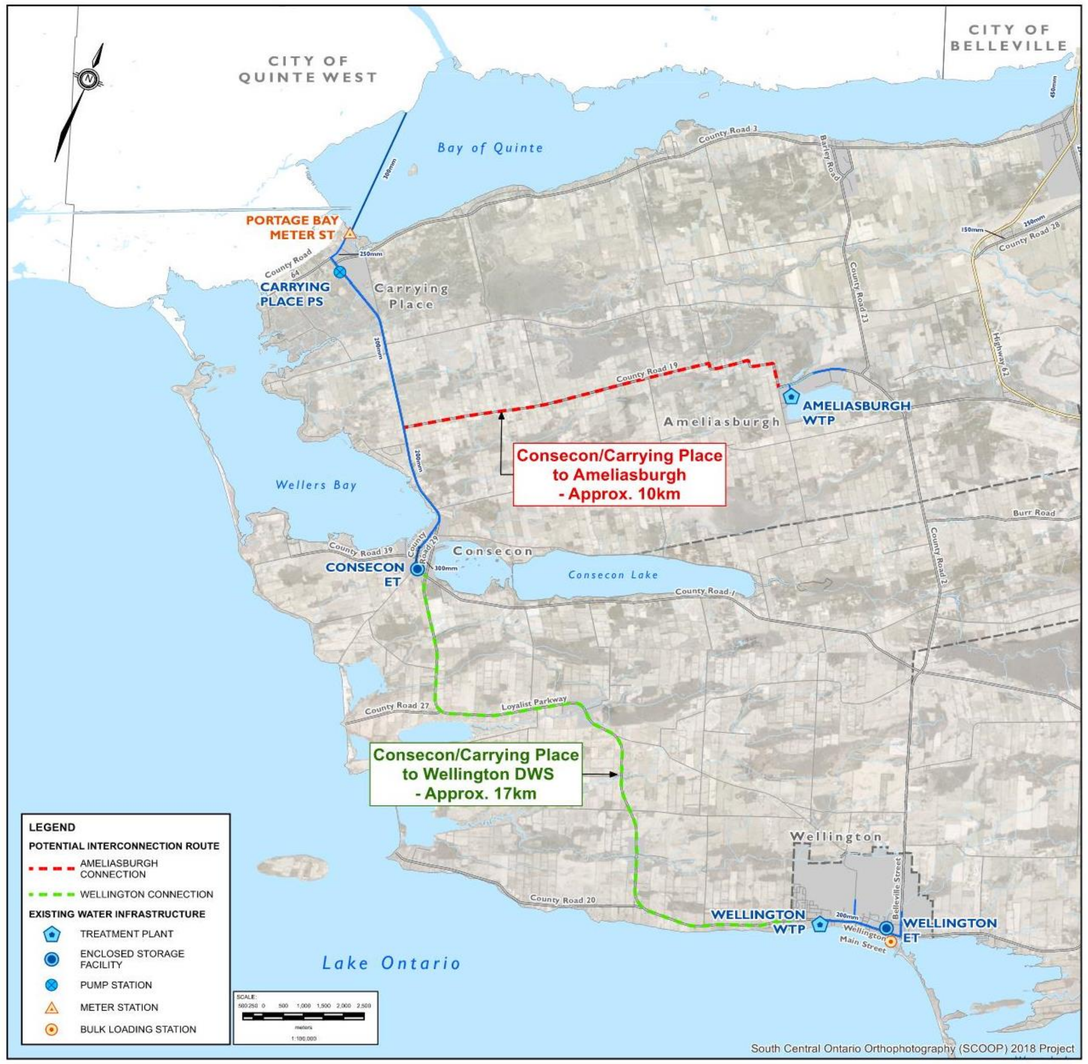
Opportunities and Constraints:

Opportunities

- Current system has sufficient capacity to meet current and future water demands
- Current operational practices are simple
- Bay of Quinte is a source water protected feature.

Constraints

- Remote location of serviced area limits potential interconnection to other areas.
- Dependency from other municipality in the provision of drinking water (agreement expiry 2027).
- Intake is relatively vulnerable
- Disinfection by-products have been historically within the regulatory limits but nearing higher end of the acceptable range. Current enhanced flushing program reduces potential risks from water quality deterioration.



Alternative Servicing Strategies:

1. Do Nothing
2. Expand/Upgrade/Retrofit existing water system
3. Provide a New water system
4. Obtain water from another municipal source:
   a) Connect to Ameliasburgh
   b) Connect to Wellington

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System #2 – Consecon/Carrying Place, Screening Results

	Alternative Servicing Strategy	Pre-Screening Assessment	Shortlisted?
1	**Do Nothing** Standard routine maintenance with no major upgrades	• Existing intermunicipal agreement with Quinte West has sufficient allocated capacity to meet projected buildout demands • No complexity with implementation • Continuous reliance on an external party for the provision of water • Planned operational/maintenance activities to be carried out as part of County's capital project implementation program • No capital investment beyond planned maintenance activities	Yes
2	**Expand/Upgrade/Retrofit existing water system** System upgrade/retrofit to improve operations and management activities without increasing system rated capacity	• No need or justification to warrant an expansion/upgrade or retrofit of the existing system to meet current or projected future demands	No
3	**Provide a new water system – use individual wells** Decommission existing system and use individual private groundwater wells	• Contrary to the County's Official Plan where municipal water services are preferred for new growth in Consecon/Carrying Place • Challenges in transfer/acceptance of responsibility to private property owners • Use of existing infrastructure, currently in good condition, is minimized • The large number of individual private wells required render option ineffective for technical complexity and water quantity • Dependant on MECP approval. Need to complete extensive hydrogeological study to confirm viability and long-term sustainability of private wells	No
4a	**Connect to Ameliasburgh Wellington Drinking Water System** 10 km interconnection transmission main	• A major system expansion/retrofit of the Ameliasburgh system will be necessary to meet the combined future demands • Some concerns with water age, water quality deterioration in long transmission pipe • Significant capital cost (approx. $14.3 Million, excluding pumping and storage) relative to other available options	No
4b	**Connect to Wellington Drinking Water System** 17 km interconnection transmission main	• Opportunity to provide servicing through the New Wellington WTP and eliminating reliance on another municipality • Concerns with water age, water quality deterioration in long transmission pipe. • Water storage can be provided to address concerns with security of supply caused by a possible break in the long transmission main • Significant capital cost relative to other available options (approx. $13.8 Million, excluding pumping and storage)	No

System #3 – Peat's Point Drinking Water System

Key Infrastructure:

- Groundwater production GUDI well (Groundwater Under the Direct Influence of Surface Water), supply capacity: 80 m^3/d
- Water treatment plant with rated capacity: 80 m^3/d
- Distribution watermains – Fire protection by tanker truck

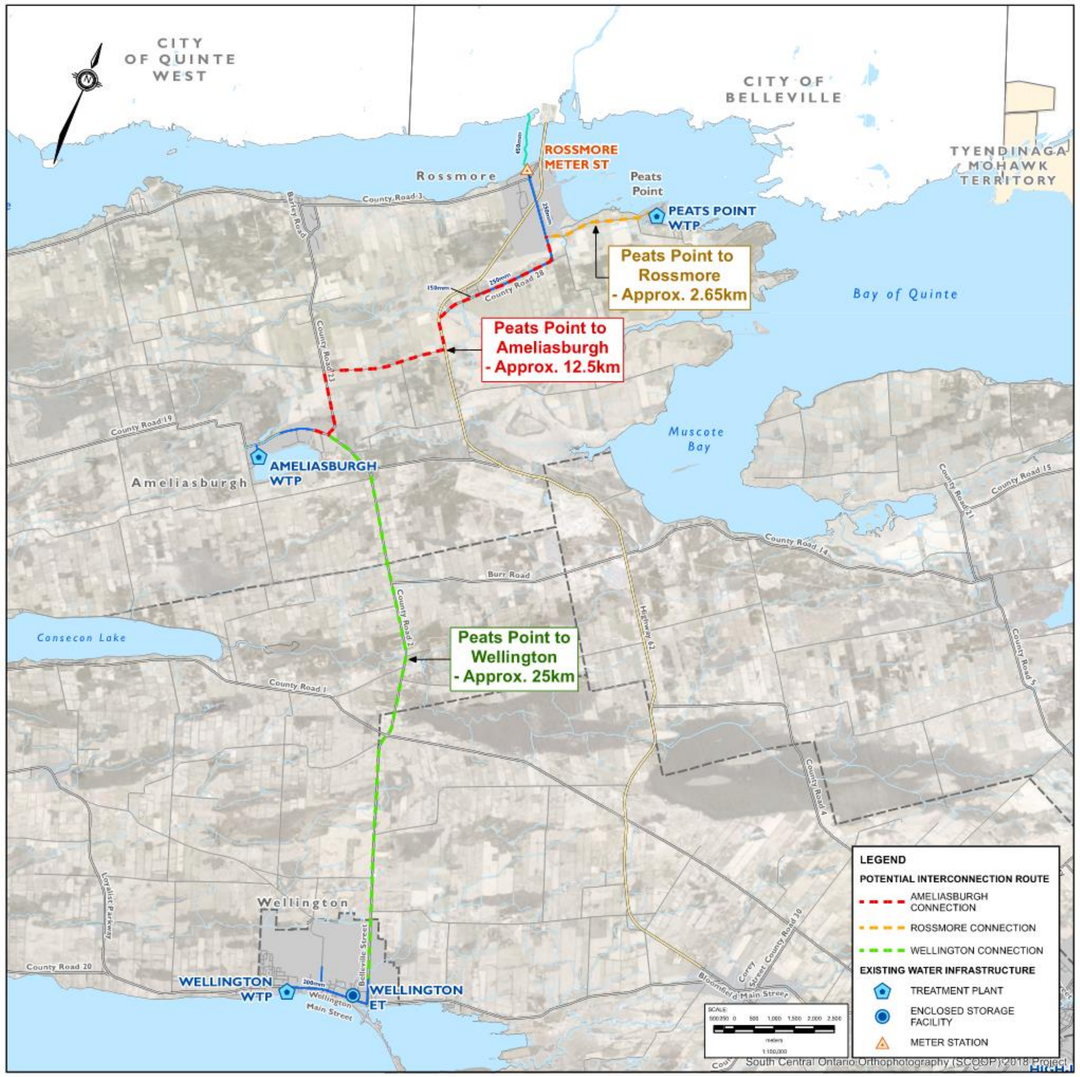
Opportunities and Constraints:

Opportunities

- Current system has sufficient capacity to meet current and future water demands
- Existing treatment system is effective
- Opportunity to assess other servicing alternatives for current small customer base
- Proximity to Rossmore distribution system for a potential interconnection - Possibility to connect private residences along Massassauga Road with interconnecting pipe

Constraints

- Current operational practices are complex (relative to system size) and treatment costs are significant considering small customer base
- Existing system has annual water use restrictions
- No existing water storage for fire flows or pump control
- A potential interconnection to Rossmore creates dependency on external municipality



Alternative Servicing Strategies:

1. Do Nothing
2. Expand/Upgrade/Retrofit existing water system
3. Provide a New water system
4. Obtain water from another municipal source:
   a) Connect to Rossmore
   b) Connect to Ameliasburgh
   c) Connect to Wellington

System #3 – Peat's Point Drinking Water System – Screening Results

	Alternative Servicing Strategy	Pre-Screening Assessment	Shortlisted?
1	**Do Nothing** Standard routine maintenance with no major upgrades	• No growth expected in the serviced area, existing system has sufficient capacity to meet current and future demands • No need for new infrastructure, no complexity with implementation • Planned operational/maintenance activities to be carried out as part of County's capital project implementation • Existing system will continue to operate without provision of fire flows or water storage • No capital investment beyond planned maintenance activities	Yes
2	**Expand/Upgrade/Retrofit existing water system** System upgrade/retrofit to improve operations and management activities without increasing system rated capacity	• No need or justification to warrant an expansion/upgrade or retrofit of the existing system to meet current or projected future demands	No
3	**Provide a new water system – use individual wells** Decommission existing system and use individual private groundwater wells	• Need regulatory relief from regulatory agencies – Uncommon process • Well responsibilities to be transferred to private owners – Possible public objection • Eliminate significant operational and maintenance needs and respective costs from existing system • Low capital cost (approx. $1.5 Million) relative to other available options • Dependant on MECP approval. Need to complete extensive hydrogeological study to confirm viability and long-term sustainability of private wells.	Yes
4a	**Connect to Rossmore Water Distribution System** 2.65 km interconnection transmission main	• Reliance on third party/acceptance and renegotiation of servicing agreement with City of Belleville • Security of supply can be addressed with water storage between Rossmore and Peats Point, benefiting both areas • Opportunity to serve 100+ residences along the new distribution main. Would require Urban Area Expansion and Official Plan amendment • Eliminate significant operational and maintenance needs and respective costs from existing system • Moderate capital costs (approx. $2.9 Million, excluding pumping and storage) relative to other available options	Yes
4b	**Connect to Ameliasburgh Drinking Water System** 12.5 km interconnection transmission main	• No system expansion in Ameliasburgh will be necessary to meet the combined future demands. • Some concerns with water age and water quality deterioration in long transmission pipe • Security of supply can be mitigated with provision of water storage in Peats Point • Eliminate significant operational and maintenance needs and respective costs from existing system • Significant capital costs (approx. $10 Million, excluding pumping and storage) relative to other available options	No
4c	**Connect to Wellington Drinking Water System** 25 km interconnection transmission main	• Opportunity to provide servicing through the New Wellington WTP and eliminate reliance on another municipality • Concerns with water age and water quality deterioration in long transmission pipe • Water storage can be provided to address concerns with security of supply • Significant capital cost (approx. $18 Million, excluding pumping and storage) relative to other available options and size of the serviced area	No

System #4 – Rossmore/Fenwood Gardens Water Distribution System

Key Infrastructure:

- Water intake sourcing raw water from Bay of Quinte. Intermunicipal agreement with City of Belleville – Maximum Daily Treated Water Allocation: 2,250 m^3/d
- Distribution watermains – Fire protection by watermain

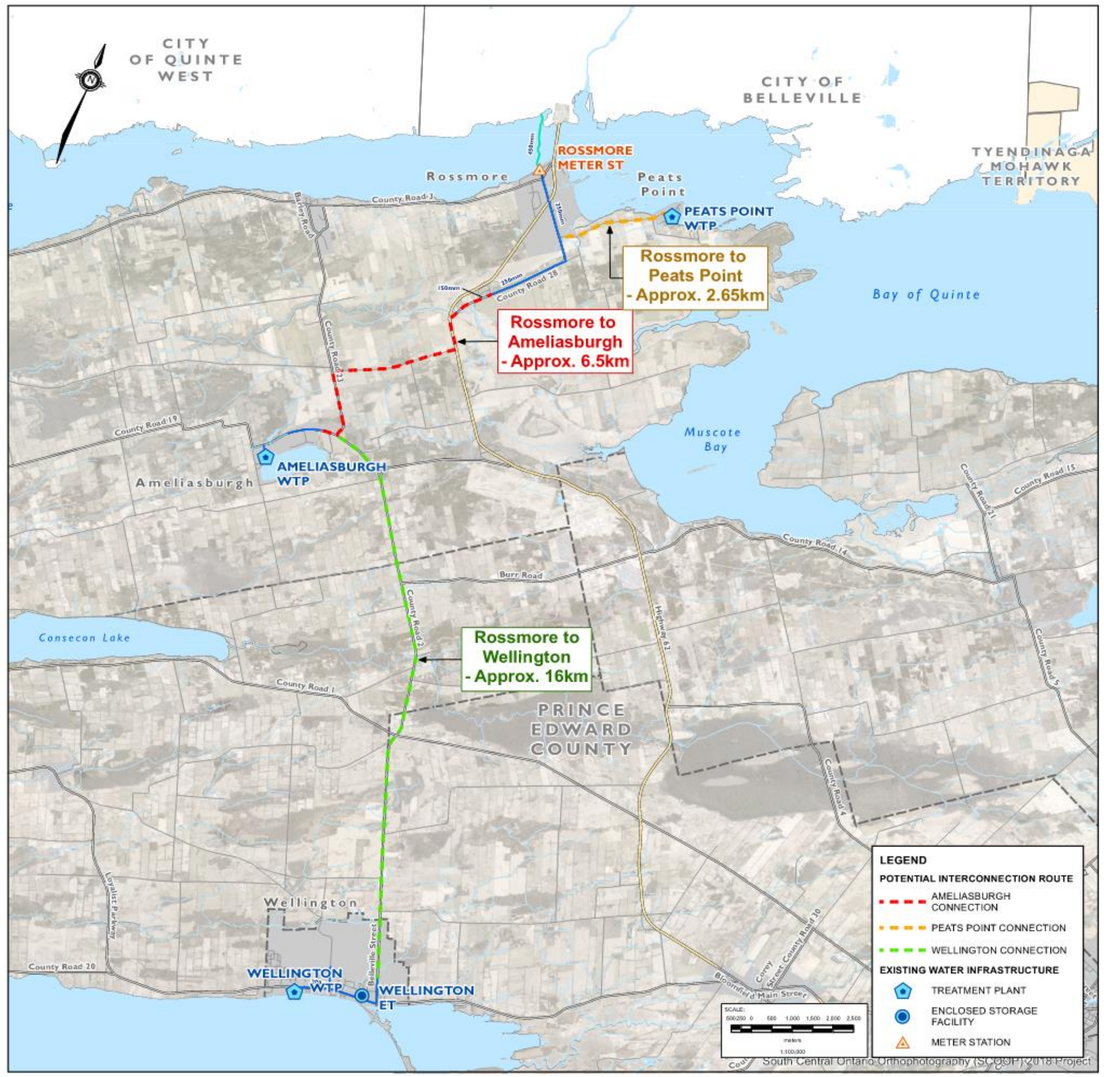
Opportunities and Constraints:

Opportunities

- Current system has sufficient capacity to meet current and future water demands
- Current operational practices are simple
- Bay of Quinte is a source water protected feature.

Constraints

- Remote location of serviced area limits potential interconnection to other areas.
- Dependency from other municipality in the provision of drinking water (agreement expiry 2032)
- Intake vulnerability is relatively moderate due to its distance from shore and depth. The Belleville intake has some historical concerns with water quality (e.g., total phosphorus, taste, and odour) – also reflected in the intake vulnerability.



Alternative Servicing Strategies:

1. Do Nothing
2. Expand/Upgrade/Retrofit existing water system
3. Provide a New water system
4. Obtain water from another municipal source:
   a) Connect to Ameliasburgh
   b) Connect to Wellington
   c) Connect to Peat's Point

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System #4 – Rossmore/Fenwood Gardens, Screening Results

	Alternative Servicing Strategy	Pre-Screening Assessment	Shortlisted?
1	**Do Nothing** Standard routine maintenance with no major upgrades	• Existing intermunicipal agreement with City of Belleville has sufficient allocated capacity to meet projected buildout demands • No complexity with implementation • Continuous reliance on an external party for the provision of water • Planned operational/maintenance activities to be carried out as part of County's capital project implementation program • No capital investment beyond planned maintenance activities	Yes
2	**Expand/ Upgrade/Retrofit existing water system** System upgrade/retrofit to improve operations and management activities without increasing system rated capacity	• No need or justification to warrant a major expansion/upgrade or retrofit of the existing system to meet current or projected future demands other than consideration for provision of a water storage facility in Rossmore, to address concerns with security of supply	Yes
3	**Provide a new water system** New surface/groundwater source or private individual wells	• A new surface water supply from Bay of Quinte or a new groundwater supply from municipal wells would be unfeasible mainly due to technical and financial considerations • Servicing through individual wells on private properties not viable due to high costs and extensive hydrogeological and other studies/investigations needed to confirm viability and long-term sustainability of private wells • Dependant on MECP approval.	No
4a	**Connect to Ameliasburgh DWS** 6.5 km interconnection transmission main	• Eliminates reliance from another municipality for provision of water • A major system expansion/retrofit of the Ameliasburgh system will be necessary to meet the combined future demands, including new enlarged intake • Some concerns with water age and water quality deterioration in transmission pipe • Security of supply concerns can be addressed with water storage in Rossmore. • Significant capital cost (approx. $15 Million, excluding pumping and storage) relative to other available options	No
4b	**Connect to Wellington DWS** 16 km interconnection transmission main	• Eliminates reliance from another municipality for provision of water • Some concerns with water age and water quality deterioration in transmission pipe • Security of supply concerns can be addressed with water storage in Rossmore • Significant capital cost (approx. $15 Million, excluding pumping and storage) relative to other options	No
4c	**Connect to Peats Point DWS** 2.65 km interconnection transmission main	• Peats Point Drinking Water System does not have sufficient capacity. A capacity expansion for Peats Point is not feasible due to constraints in sustainable yield of existing production well in the system	No

Potential Water Servicing for Northern Areas Only

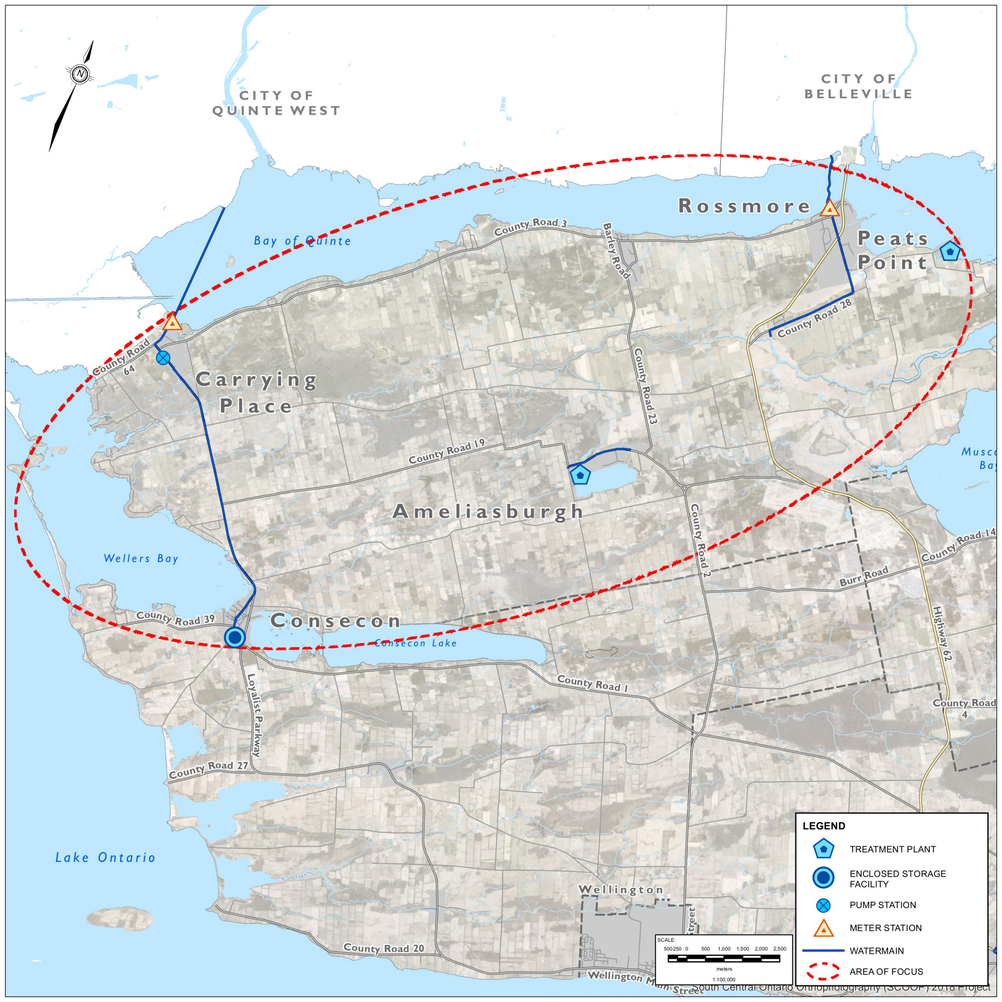
In addition to the servicing strategies shown in the previous display panel, consideration was also given to centralizing municipal water servicing in the Northern areas of the County to include:

- Ameliasburgh,
- Carrying Place/Consecon,
- Peat's Point, and,
- Rossmore.

The centralizing servicing options included:

1. Construction of a New Water Treatment Plant to supply all 4 northern areas, with Bay of Quinte as water source
2. Centralized branched interconnection of all 4 areas to the New WTP in Wellington

The high-level cost estimate of >$50-70 Million rendered both options financially prohibitive, considering the small size of the combined customer base of approximately 2,700 people from all 4 areas.



System #5 – Picton/Bloomfield Drinking Water System

Key Infrastructure:

- Water intakes (2) sourcing raw water from Lake Ontario- Picton Bay,
- Water treatment plant with rated capacity: 10,400 m^3/d
- 63 km of distribution watermains, 10 km to Bloomfield, fire protection by Watermain
- 2 Water Storage Reservoirs and Bloomfield Elevated Tank

Opportunities and Constraints:

Opportunities

- Explore alternate water sources for Picton/Bloomfield and reduce/eliminate major concerns with source water protection
- Maximize synergies with ongoing planning studies in the County – Possible connection to the New WTP in Wellington with high-quality raw water from Lake Ontario

Constraints

- Stress test identified a capacity of 6,000 m3/d to achieve key performance indicators, however effective sustainable plant capacity of 5,200 m3/d based on operator experience.
- Current system cannot support immediate and long-term needs of service area
- Complete Picton treatment plant replacement needed by 2032
- Current operational practices are complex and costly due to condition of aging infrastructure
- Historical major concerns with vulnerability and potential for contamination of Picton Bay & sourcewater
- Limited footprint available onsite for a plant expansion

Alternative Servicing Strategies:

1. Do Nothing
2. Expand/Upgrade/Retrofit existing water system
   a) Expand existing system beyond its rated capacity
   b) Retrofit existing system to meet plant's rated capacity
3. Provide a New water system
4. Obtain water from another municipal source:
   a) Connect to Wellington
   b) Connect to Deseronto or Napanee Drinking Water Systems

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System #5 – Picton/Bloomfield, Screening Results

	Alternative Servicing Strategy	Pre-Screening Assessment	Shortlisted?
1	**Do Nothing** Standard routine maintenance with no major upgrades	• Existing system does not have sufficient capacity to meet projected buildout demands • Major concerns with vulnerability of water source (Picton Bay) and potential migration of contaminants into the bay • Increased and more complex O&M practices over time due to deteriorated state of existent assets • Contrary to the County's Official Plan – Planned development highly constrained with lack of available municipal servicing • Significant capital expenditure in 2042 for complete replacement of Picton WTP	No
2a	**Expand existing water system** Expand existing system beyond its rated capacity of 10,400 m3/d	• Significant performance limitations and constraints with Picton Water Treatment Plant – actual operating capacity is about 60% of the plant's rated capacity of 10,400 m^3/d • Plant expansion not feasible due to unconventional plant design, characteristics of existing site and aging conditions of the overall plant	No
2b	**Retrofit existing water system** Plant retrofit to address existing deficiencies without increasing its rated capacity. An interconnection to the new WTP in Wellington will be provided to supplement the deficit in capacity.	• A retrofitted Picton WTP would meet about 27% of projected demands at buildout. Additional required capacity would need to be supplemented through the New Wellington WTP • Need for a 20km transmission main between Wellington and Picton • Major concerns with vulnerability of water source (Picton Bay) and potential migration of contaminants into the bay • Increased and more complex O&M practices at the Picton WTP over time due to deteriorated state of existent assets • Increased system resilience and security with 2 separate systems supplying one area • Significant capital costs (approx. $74 Million + Contingency) for Picton retrofit, Picton replacement in 2042, 20 km transmission main and associated partial servicing cost from new Wellington WTP. Additional O&M costs for 2 plants in County.	Yes
3	**Provide a new water system** Decommission existing system and construct a new surface water-based system	• A new water system for the projected demands in Picton/Bloomfield, can only be realized through a surface water-based system. A new groundwater system is not feasible. • A new surface water system assumes Picton Bay as the water source. Existing major concerns with vulnerability of water source (Picton Bay) and potential migration of contaminants into the bay will remain for the new system • New system, including new intakes, treatment plant, storage and pumping facilities, and connection to existing distribution system will be required. • Significant capital costs (approx. $85 Million + Contingency, excluding pumping and storage) for a New Picton WTP. Additional O&M costs for 2 plants in County.	Yes
4a	**Connect to Wellington DWS** 20 km interconnection transmission main to Wellington to obtain full servicing capacity in Picton/Bloomfield	• Opportunity to maximize synergies with New Wellington WTP and eliminating reliance on aging assets that are nearing the end of their useful life • Overall reduced system resilience and reliability with elimination of an independent DWS in Picton • Concerns with security of supply with transmission main can be alleviated through twin pipes or water storage in Picton • Concerns with water age and potential water quality deterioration in transmission pipe can be addressed with watermain design and operational practices (e.g., re-chlorination, chloramination, mixing systems in valve chambers) • Significant capital costs (approx. $74 Million + Contingency) for 20 km transmission main and Picton/Bloomfield portion of the New Wellington WTP and Intake (excludes pumping and storage). Additional O&M costs for 2 plants in The County is reduced to 1 plant.	Yes
4b	**Connect to Deseronto System in Town of Deseronto or Nappanee in Town of Greater Nappanee**	• Interconnection to either system will create reliance on another municipality & purchase of water, • Both Deseronto WTP and Nappanee WTP are in areas as remote to Picton as the New Wellington WTP, making an interconnection to Wellington a far more favourable alternative	No

System #6 – Wellington, Evaluation Results (2021 MSP)

Assessment of water servicing strategies for Wellington were evaluated in the 2021 Wellington Master Servicing Plan (MSP). Alternatives and assessment results are summarized below. The preferred alternative recommended in the 2021 Wellington MSP was to Build a New Water Treatment Plant on the Existing Site (Alternative 5).

	Alternative Servicing Strategy	Pre-Screening & Detailed Assessment	Shortlisted?	Preferred?
1	**Do Nothing** Standard routine maintenance with no major upgrades	• Did not meet the requirements of the problem & opportunity statement	No	No
2	**Limit Growth**	• Did not meet the requirements of the problem & opportunity statement	No	No
3	**Water Conservation Measures**	• Did not meet the requirements of the problem & opportunity statement	No	No
4	**Expand/ Upgrade/Retrofit existing water system** System upgrade/retrofit, with treatment modules that can be added to suit development milestones	• Moderate capital costs (approx. $33.5 Million) with life-cycle estimate $42 M • Higher O&M costs for re-use of existing facility • Major challenges integrating and operating two different treatment processes • Constructability challenges with operating plant	Yes	No
5	**Provide a new water system** Build new WTP, at existing site, with more capacity and decommission existing WTP	• Moderate capital costs (approx. $37.1 Million) with life-cycle estimate $43.3 M • Lower O&M costs for new facility • Greater flexibility in treatment process selection, less constructability and operational challenges • Existing municipal site has sufficient available area to accommodate a new WTP and stay within the existing intake protection zone that provides a great source of water quality. Consideration to expand the new Wellington WTP to a Regional WTP.	Yes	Yes
6	**Obtain potable water from other water supply systems** (i.e,. Picton, Belleville, Trenton)	• Significant Financial Costs	No	No
7	**New Groundwater sources and treatment facility(ies)**	• Significant Financial Costs • Dependant on MECP approval. • Need to complete extensive hydrogeological study to confirm viability and long-term sustainability of private wells.	No	No

Summary of Short-listed Servicing Strategies

The following short-listed servicing strategies are recommended for further evaluation in the study:

Water System	Short-listed Servicing Strategies
Ameliasburgh Drinking Water System	• Do nothing • Expand/Upgrade/Retrofit existing water system
Consecon/Carrying Place Water Distribution System	• Do nothing
Peats Point Drinking Water System	• Do nothing • Provide a new water system through individual private groundwater wells. ***This strategy is dependent on obtaining feedback on potential approvals and permits from regulators, confirmation of technical viability through a comprehensive hydrogeological investigation, and public feedback.*** • Obtain water from another municipal source through an interconnection to Rossmore Water Distribution System.
Picton/Bloomfield Drinking Water System	• Retrofit existing Picton water system to remediate current deficiencies and supplement deficit in capacity through interconnection to the new Water Treatment Plant in Wellington. • Provide a new surface water-based system in Picton including new intake, water treatment plant, pumping, storage and connection to distribution system. Decommission existing Picton WTP. • Obtain full servicing capacity from the new Water Treatment Plant in Wellington through an interconnection to the Wellington Drinking Water System – Decommission existing Picton WTP.
Rossmore Water Distribution System	• Do nothing • Expand/Upgrade/Retrofit existing water system

What are the Next Steps?

After this Public Consultation Centre, the project team will:

- Review and consider input received during this meeting.
- Consult with regulatory agencies and confirm short-listed servicing strategies presented at this PCC.
- Further develop short-listed servicing strategies and complete a detailed evaluation. Costs presented tonight are subject to refinement in the next stages of the study.
- Select preliminary preferred servicing strategies for each serviced area.
- Host a second Public Consultation Centre to present the results of the detailed evaluation and present the preliminary preferred servicing strategies for each serviced area.

Early Fall 2023

Detailed evaluation and consultation with regulators

Late Fall 2023

Public Consultation Centre #2

Winter 2023/2024

Master Plan Report

2024

Completion of the Class EA process

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Next Steps & Comments

Questions or comments?

Should you have any questions about this presentation or the project, please fill out a comment sheet tonight or contact:

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Please provide your comments and questions by September 15, 2023