J.L.Richards
ENGINEERS · ARCHITECTS · PLANNERS

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October 8, 2021
Our File No.: 29304-000

VIA E-MAIL: kverkindt@thebluemountains.ca

Kevin Verkindt, C.E.T.
Senior Infrastructure Capital Project Coordinator
Town of The Blue Mountains
32 Mill Street, P.O. Box 310
Thornbury, ON N0H 2P0

Dear Mr. Verkindt:

Re: Town of The Blue Mountains Westside Water Storage Class EA – Public Information Centre No. 2 and Phase 2 Comment Summary REV. 00

The second Public Information Centre (PIC) for the Town-Wide Water Distribution System Master Plan took place, virtually June 17, 2021 from 5 pm to 7 pm. A Notice of PIC (refer to Appendix J of Project File Report) was prepared by the consulting team. The Notice was issued via the following means:

- Mailed and/or emailed to all stakeholders on the consultation list May 20, 2021
- Mailed to all property owners in the study area on May 20, 2021.
- Placed on the Town's website week of May 20, 2021.

Boards presenting the project information were presented (refer to attached Appendix J of the Project File Report) and representatives from the project team and Town staff were available to answer questions during the PIC. The PIC was well attended by 10 members of the public. The PIC including the Q&A was recorded and is available on the Town's project website.

PHASE 2 STAKEHOLDER COMENTS

Table 1 provides a summary of additional public consultation and comments received in during PIC No. 2 and Phase 2 regarding this Class EA. Refer to Appendix I of the Project File Report for copies of all written correspondence received from the public.

Table 1: PIC 2 and Phase 2 Public Stakeholder Comments and Consultation

Stakeholder	Comment	Action
Public Commenter 1	June 17, 2021 – Preferred Option 8.	Informed that work involving the Tower in Option 8 will likely be included in the next EA, when the existing tower reaches end of useful life.
Public Commenter 2	June 17, 2021 – Inquired if the expansion of the 10th line pumping station includes expansion of rated capacity for the generator.	Informed that as part of costing for 10th line pumping station, additional generator capacity was considered.
Public Commenter 3	June 17, 2021 – Commented that the high value of the land under the tower could be sold for Option 8.	The value of selling the land was not considered as part of the current Class EA, however, once plans for the site are known it could be factored into subsequent studies.
Public Commenter 4	June 17, 2021 – Inquired if the provincial increases density levels in the upcoming official plan review were accounted for.	Informed that projections were made in collaboration with Town's Planning Department and any new updates will be used to refine projections.
Public Commenter 5	June 17, 2021 – Inquired if insurance rates for property owners will be better with higher flow and increased storage.	Town noted proximity to a fire hydrant is typically what may impact insurance.
Public Commenter 6	June 21, 2021 – Requested a copy of Technical Report 1, Design Basis.	Sent report and attachments.
Public Commenter 7	July 5, 2021 – Requested PIC 2 slides and had questions about timelines and the study area.	Follow-up was completed.
Developer Commenter	June 17, 2021 – Inquired why the loads have increased by 50% (150 L/s) since the last EA completed 10 years ago (105 L/s) and was concerned system may be overbuilt. Requested affirmation that the Town has included increased level of service in their assessment management plan. August 20, 2021 – Submitted letter with further questions for response.	A meeting to discuss specific calculations occurred July 28, 2021. Provided, in brief, that OBC (protects against loss of life), FUS (fire underwriter standard; to protect property), and MECP standards were considered. Town shared sentiment that over designed system can lead to stagnant water. Provided response on Sept. 7, 2021 (refer to Appendix I in Project File).

Kevin Verkindt, C.E.T., Town of The Blue Mountains

As a result of comments received during and after PIC No. 2, statement was added to the Project File report (refer to R06 dated October 8, 2021) to clarify that when the Victoria elevated tower reaches end of life, opportunities to pursue alternative elevated storage locations in Pressure Zone 1 (Thornbury-Clarksburg) could be considered. Minor clarifications were provided in the report related to the future conditions modelling in response to developer inquiries. No significant changes were required to the recommend alternative based on the public stakeholder comments received.

Yours very truly,

J.L. RICHARDS & ASSOCIATES LIMITED

Prepared by:

Jane Wilson, P. Eng.
Senior Environmental Engineer

Attachments:

- Public Information Center No. 2 Presentation Materials

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Town of The Blue Mountains Westside Storage Class EA PIC No. 2

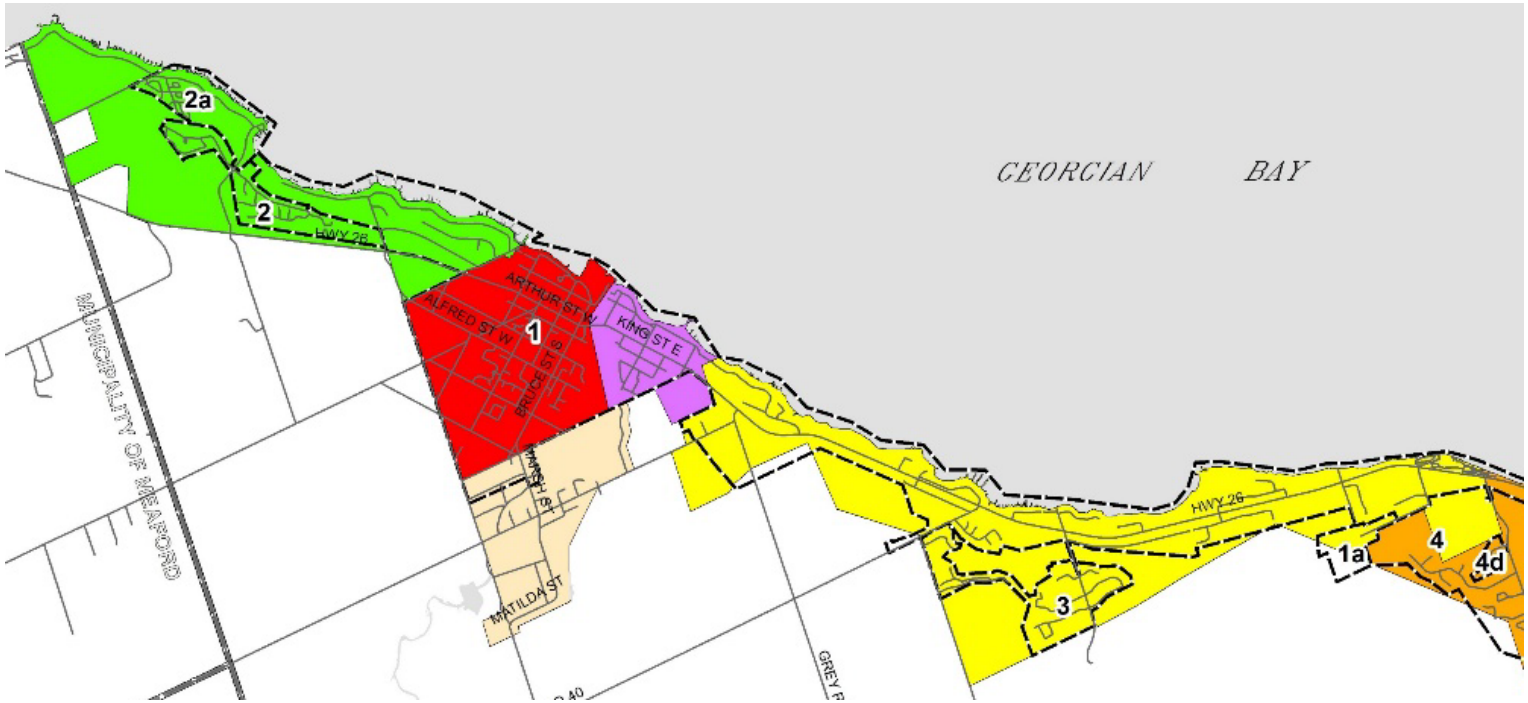
Presented by: J.L. Richards & Associates
Date: June 17th, 2021
JLR No.: 29304

Agenda

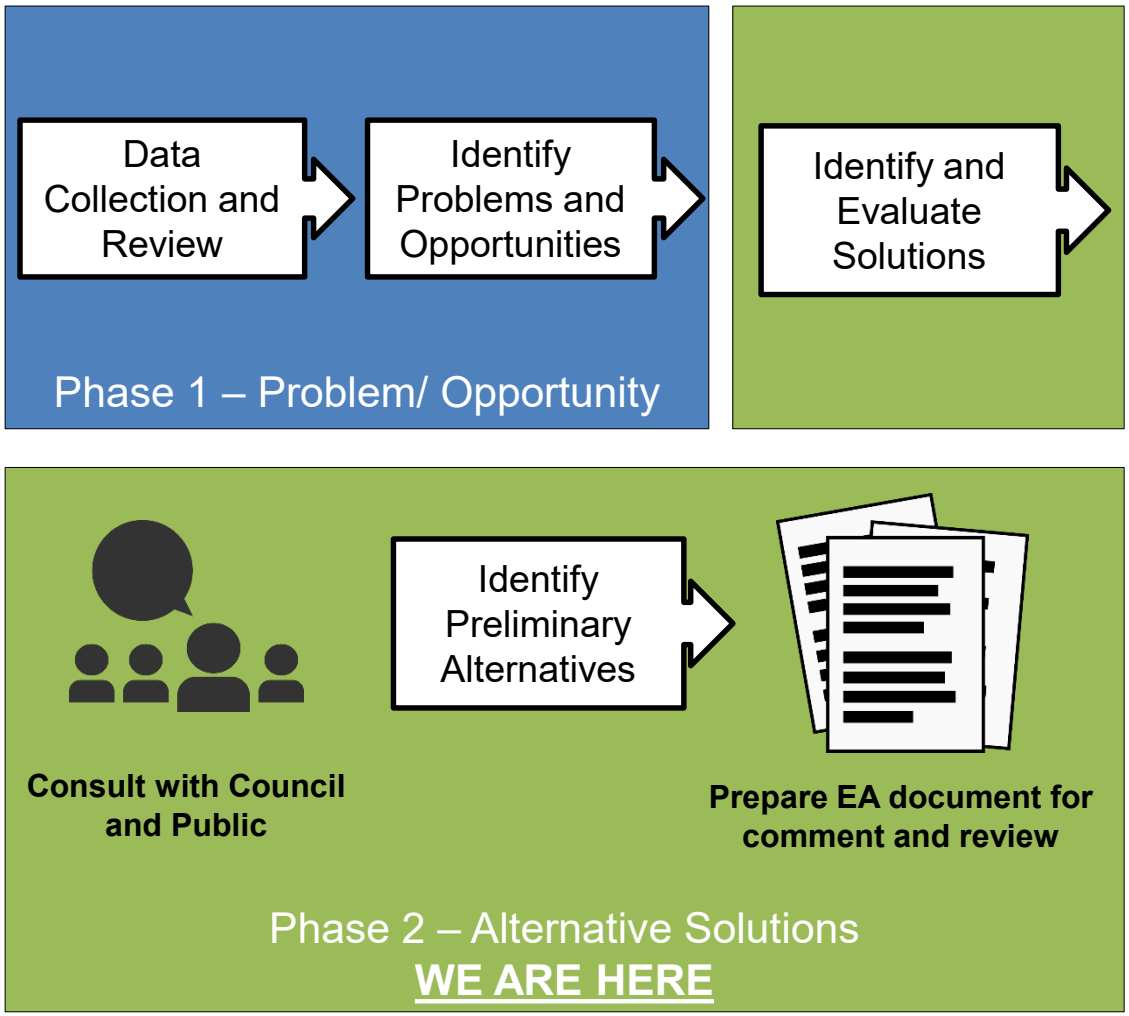
- Project Overview
- Class Environmental Assessment (EA) Process
- Existing Water Supply and Distribution System
- Existing Conditions
- Problems and Opportunities
- Evaluation Process
- Shortlisted Options
- Preferred Alternative
- Next Steps

Project Overview

The Town of the Blue Mountains has retained J.L.Richards (JLR) to prepare a Municipal Class Environmental Assessment (Class EA) for improving water storage and pumping for the Town's west pressure zones.

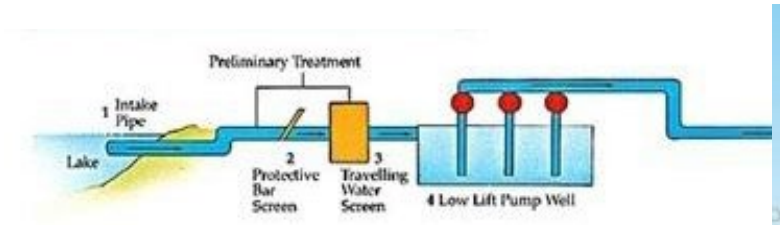


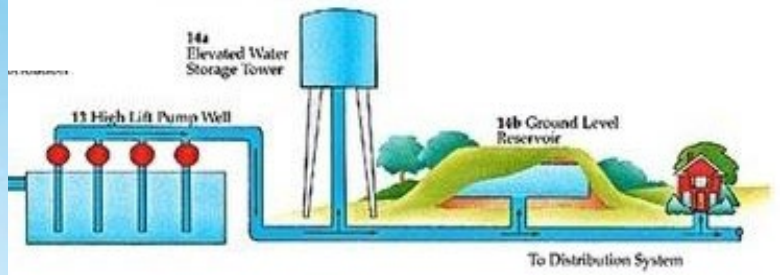
Class EA Process Overview



- Under the Environmental Assessment Act, municipalities must consider potential environmental effects before a potential water and/or wastewater project begins.
- The streamlined MEA Class EA process allows municipalities to consider impacts without having to obtain project-specific approval under the Environmental Assessment Act.

Why is Water Storage Important?





Examples of when the Town needs water storage:

- Everyday to maintain system water pressures (e.g. for your shower)
- At half-time of the Superbowl (peak hour flows)
- During a fire at business or residence (fire flow)
- If a water main breaks or during an extended power outage (emergency)

Storage is required to meet peak demands so that the water treatment plant can operate at more consistent rates below the worst-case demand of the system.

Why is Water Storage Important?

Frigid temperatures, power outages in Texas lead to water problems

Rosa Mendoza washes her hands as David Sanroman, 7, pours water from a bottle after the power came back on at their apartment in Dallas on Wednesday, Feb. 17, 2021. The pipes at Mendoza's apartment had burst from the cold, and hasn't consistently had power since the winter storm. (Juan Figueroa/The Dallas Morning News via AP)

Why is Water Storage Important?

News / Local News

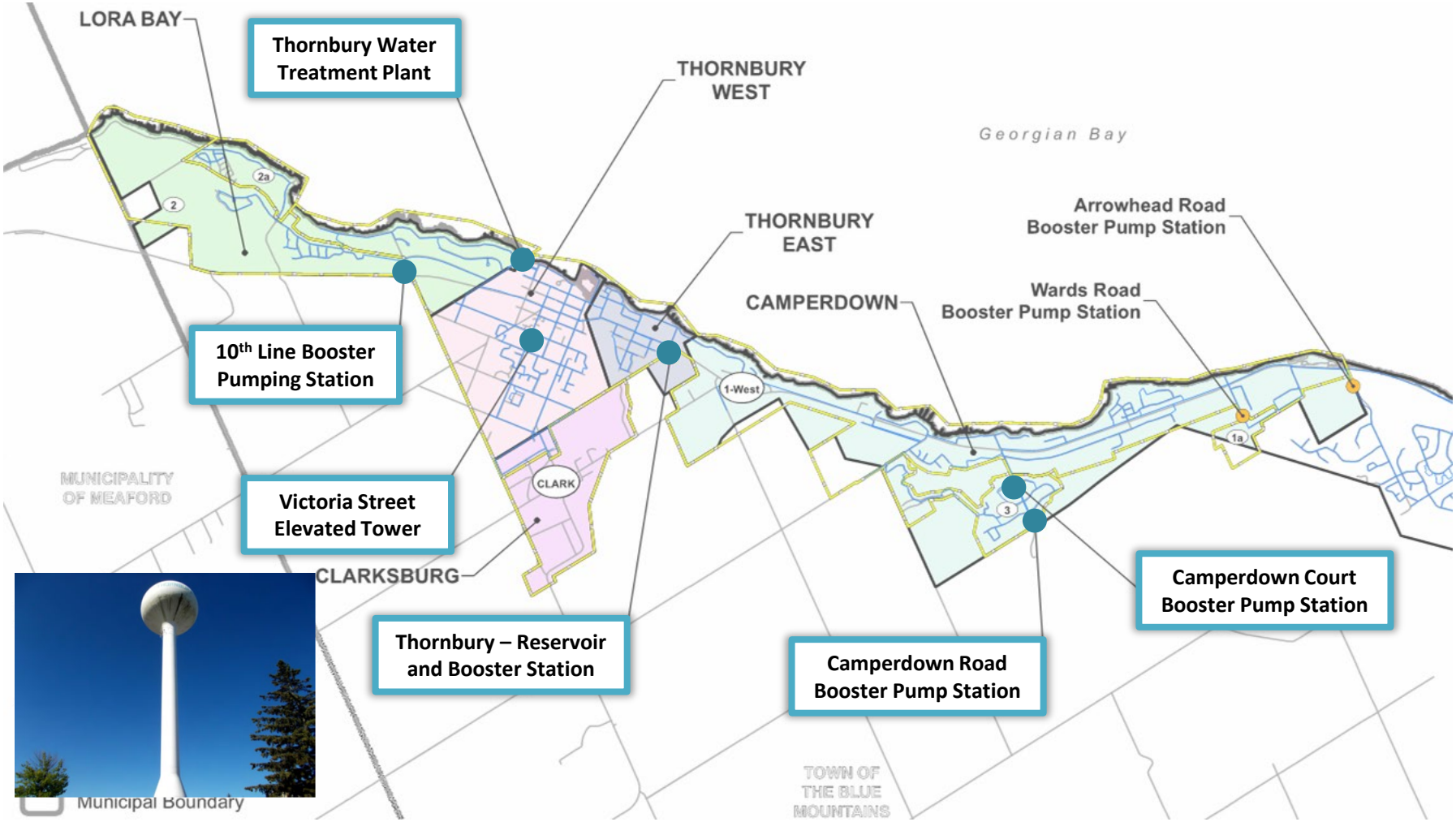
$7 million Thornbury-area home destroyed by fire

Greg Cowan
Jan 11, 2021 • January 12, 2021 • 3 minute read • Join the conversation

A recently sold multi-million dollar home smoulders on the shores of Georgian Bay west of Thornbury near the Lora Bay Golf Club hours after it was fully engulfed by fire early Monday morning. Greg Cowan/The Sun Times

Favourable overnight wind conditions and access to a hydrant at the property's edge helped in saving the nearby landscape and neighbouring home – save for a few trees – Conn said.

Existing Water Supply and Distribution System



Existing Storage

Existing storage/pumping in the EA area is provided by:

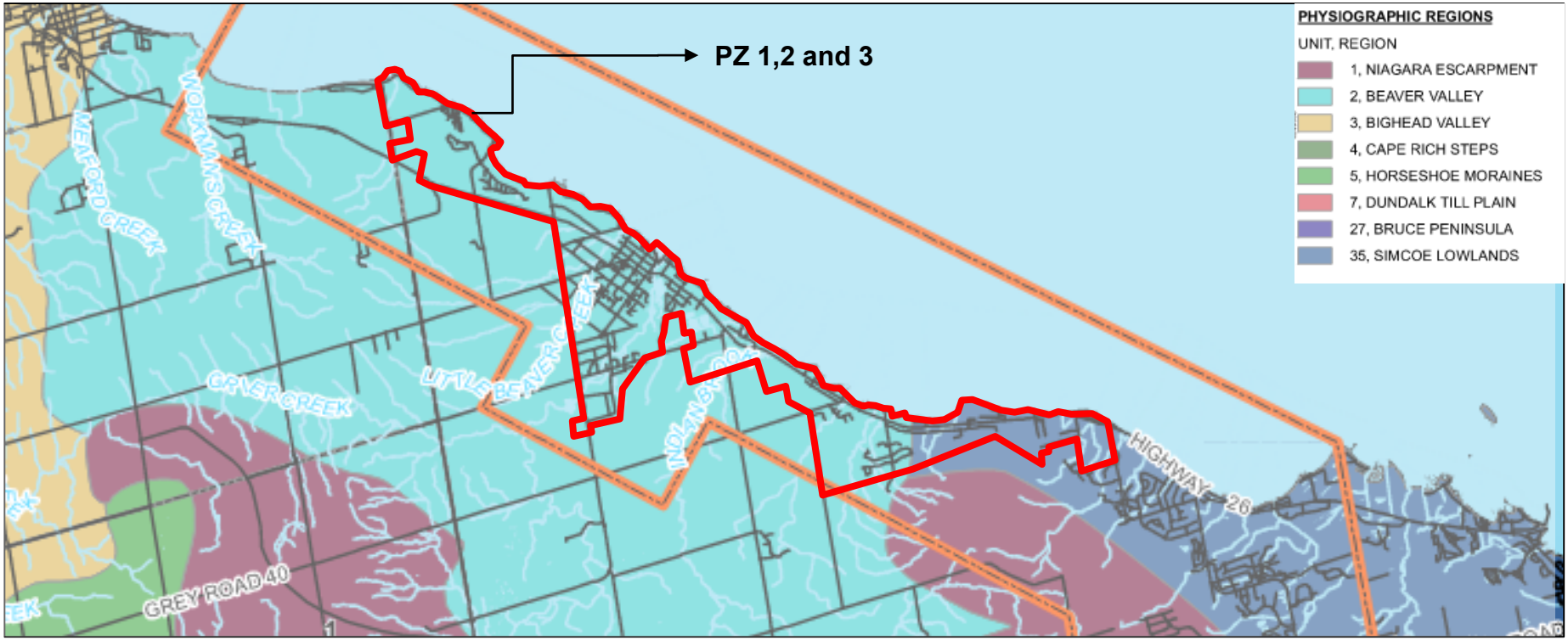
- Victoria Tower – 747m3
- Thornbury Reservoir - 3,400m3
- Camperdown Reservoir – 2,600m3
- 10th Line Booster Pumping Station

Victoria Street Tower

Additional Town Storage:

- Happy Valley Road Reservoir – 5,000m3
- Swiss Meadows Standpipe – 536m3

Existing Conditions - Geology

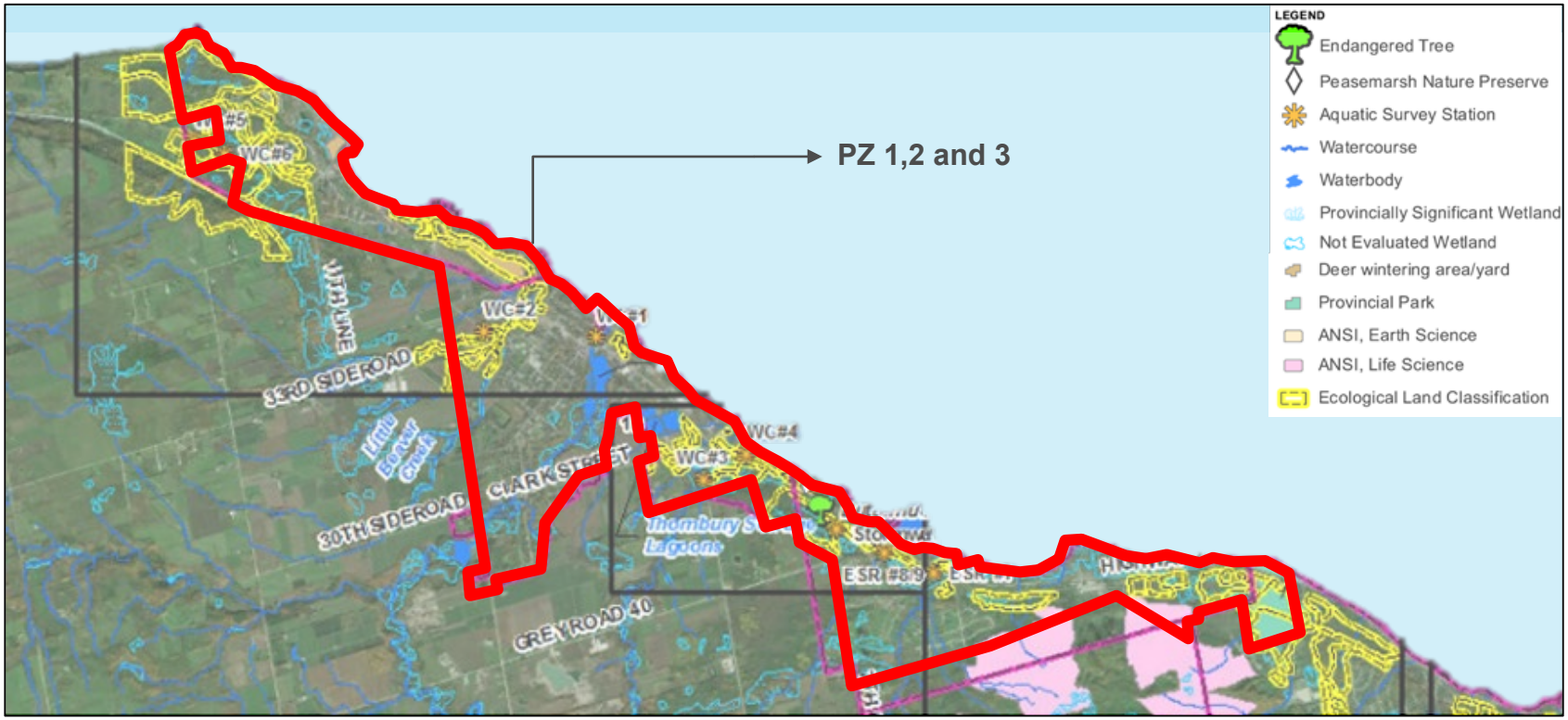


Design and construction challenges for in-ground reservoirs on the Niagara Escarpment

Specialized foundations and **construction techniques** may be necessary

Site-specific geotechnical investigations required

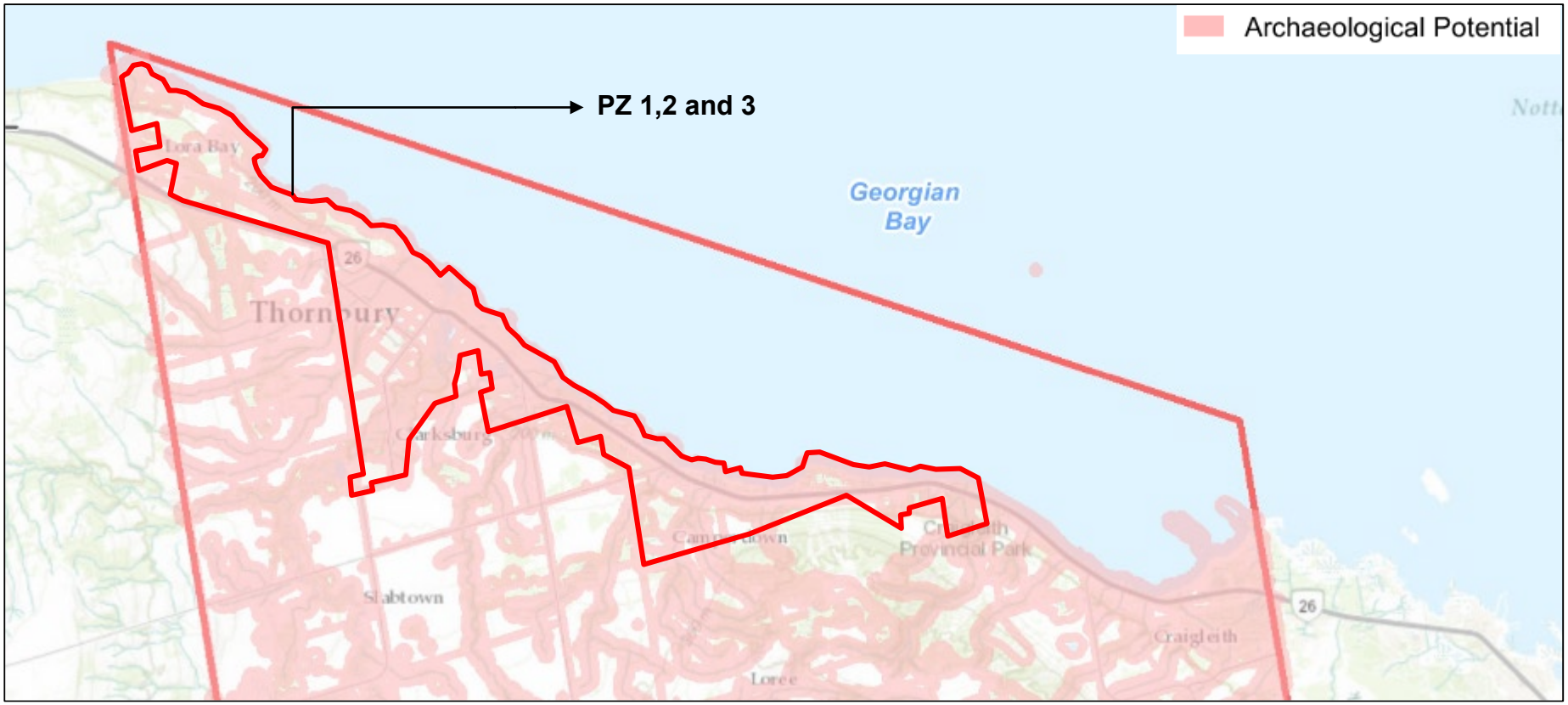
Existing Conditions – Natural Heritage



Assess potential impacts
during detailed design and planning

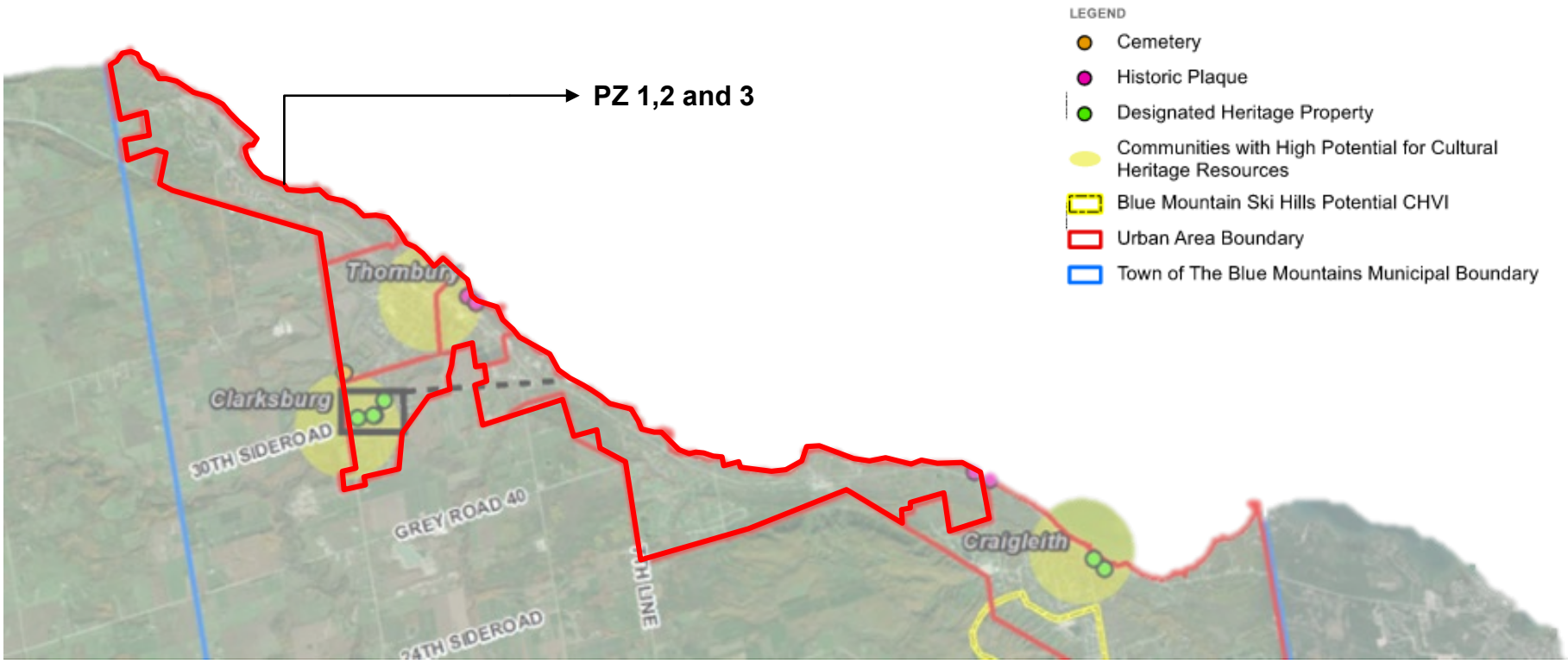
Low impact to significant natural features -
Most disturbance will be restricted to road right-of-way

Existing Conditions – Archeological Resources



Stage 2 Archaeological Assessment recommended –
To confirm the archaeological potential and minimize impacts to archaeological resources

Existing Conditions – Cultural Heritage

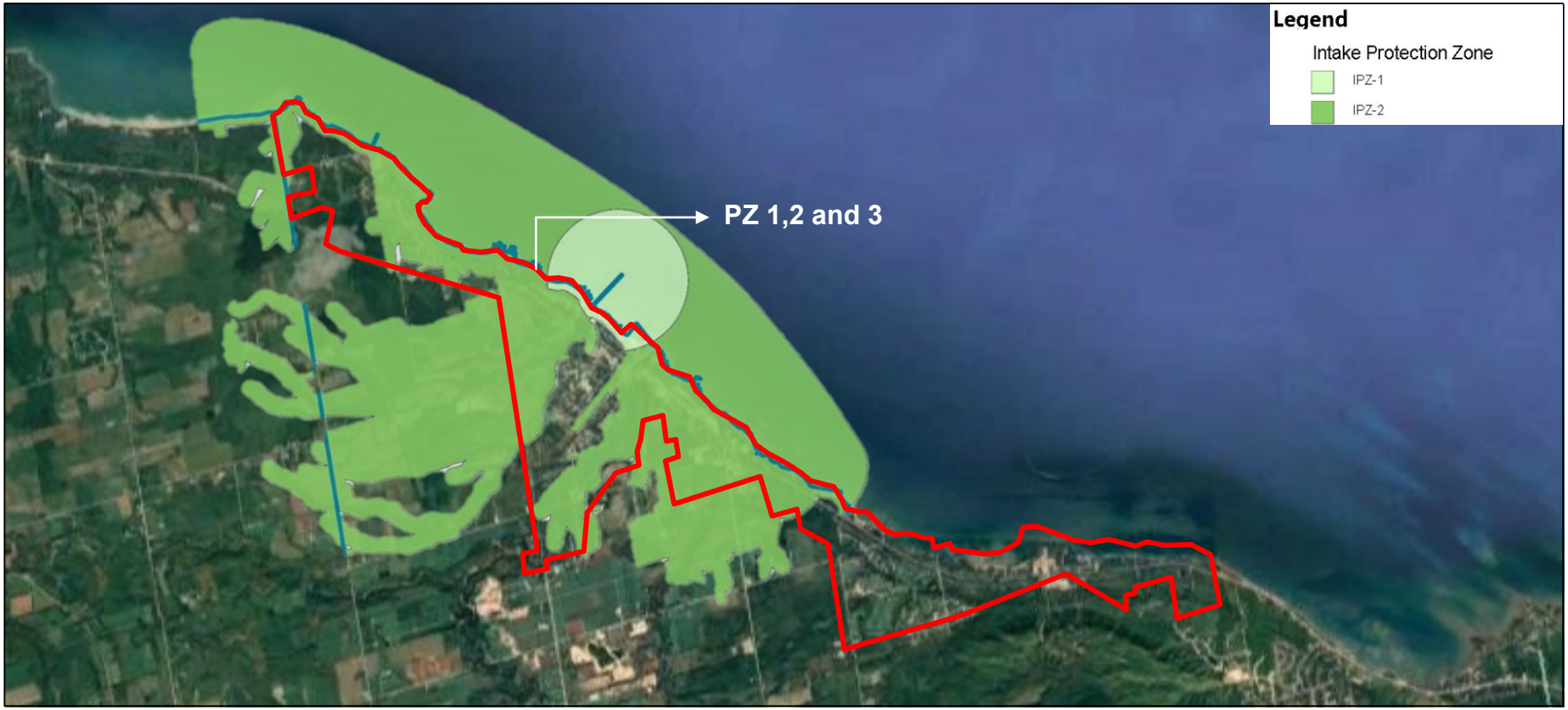


3 Heritage Properties –
67 Alice St W
53 Alice St W
76 Elma St S

67 Alice St W
likely needs some form of **mitigation**

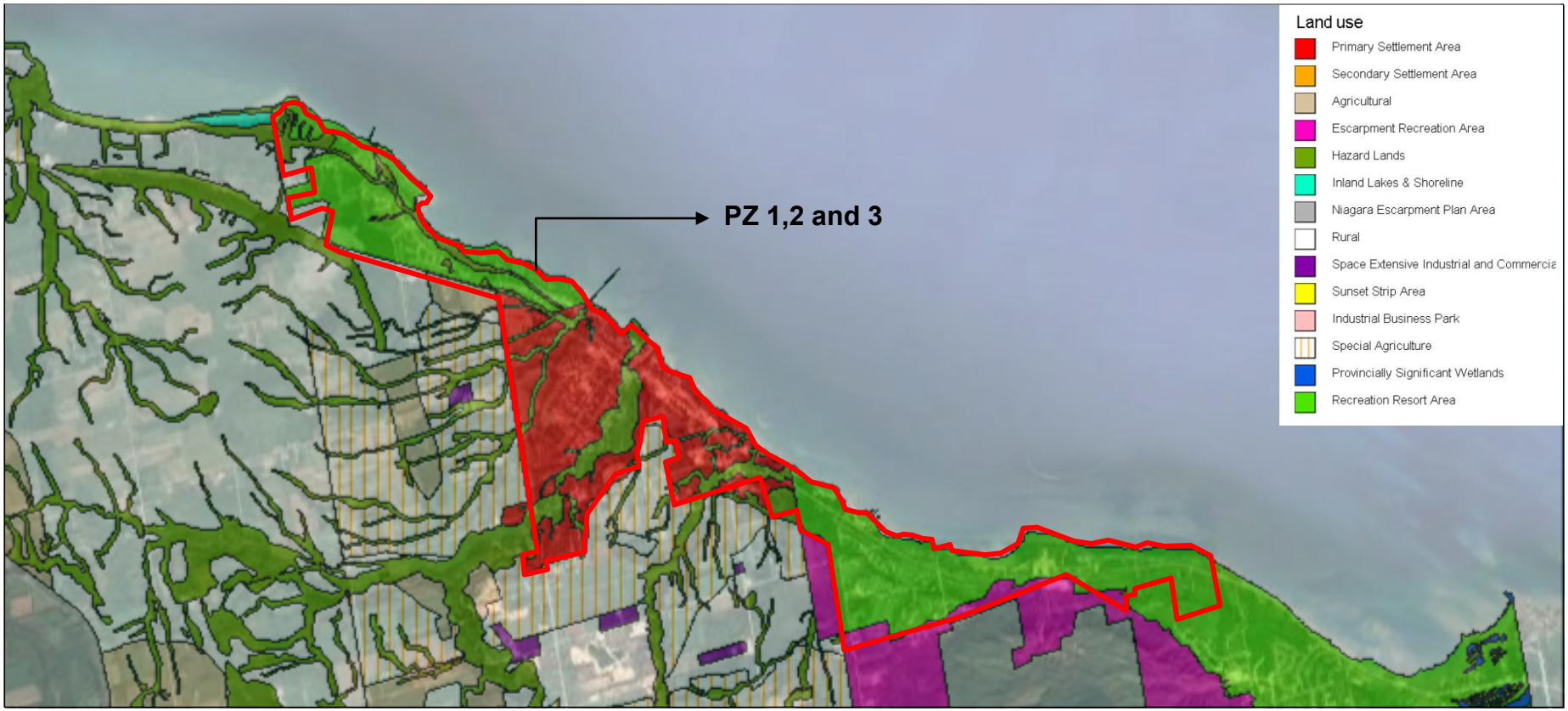
Development at heritage properties recommended **to be avoided**

Existing Conditions – Source Water Protection



Projects proposed as part of this Class EA are **located within the IPZ-2 –**
Consultation with Grey Sauble Source Protection Region
to be undertaken prior to project implementation

Existing Conditions – Land Use and Regulatory



Options should **consider the expected population at build out –**
Engage the County to confirm residential and employment growth projections

Key Elements for Water Storage Needs

1. **Condition of Facilities**
   - Facilities nearing end of anticipated life
   - Conduct a condition assessment
2. **Storage Requirements**
   - Maintain emergency storage volume
   - Storage deficit of 800 m^3 at build out
3. **Pumping Requirement**
   - Pumping capacity deficiencies in Pressure Zone 2 and 3 (if maximum day plus fire flow demands continue to be provided by pumping)

Evaluation Process

1. Initial Screening of Alternatives
2. Detailed Evaluation of Shortlisted Alternatives
3. Selection of Preferred Alternative

Major Criteria	Minor Criteria
Natural Environment and Archaeology	Effect on Fish and Aquatic Habitat
	Effect on Wetlands, Woodlands, Wildlife
	Effect on Archeological Resources
Technical Considerations	Opportunities for Phased Implementation
	Optimized Use of Existing Infrastructure
	System Redundancy
	Operations and Maintenance Requirements
Social Environment	Impacts During Construction
	Cultural Heritage Impacts
	Compatibility with Surrounding Land Use
	Zoning and Official Plan Designation
Economic Considerations	Capital Costing
	50- Year Lifecycle Costing

- High +ve impact
- Low +ve impact
- No impact
- Low –ve impact
- High –ve impact

Initial Screening

Alternative	Carry Forward
Option 0 - Do nothing	✗
Option 1 - Rehabilitate Victoria St Elevated Tower and In-Ground Storage at 10th Line BPS	✓
Option 2A - Rehabilitate Victoria St Elevated Tower and Floating Storage on Escarpment in Zone 2 (west side of PZ 2, near Christie Beach Rd extension)	✗
Option 2B - Rehabilitate Victoria St Elevated Tower and Floating Storage on Escarpment in Zone 2 (east side of PZ 2, near 11th Line)	✗
Option 3 - Rehabilitate Victoria St Elevated Tower and New Elevated Storage in Zone 2	✓

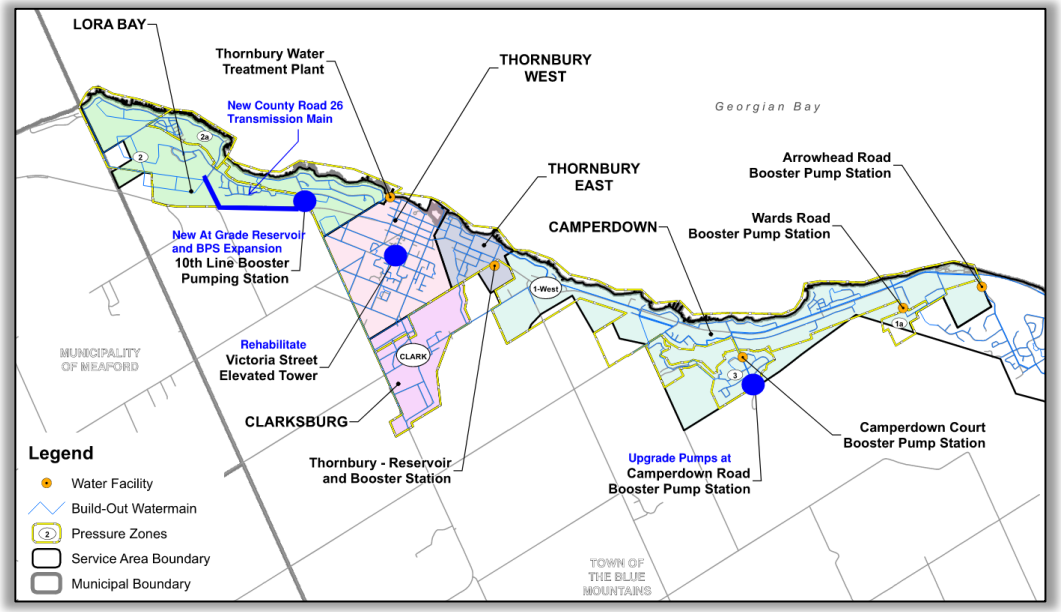
Initial Screening

Alternative	Carry Forward
Option 4,5 and 6 – Replace Zone 1 Tower at Same Site (no expansion) in Combination with Zone 2 Options 1, 2, or 3	✗
Option 7 – New (larger volume) Zone 1 Tower at Existing Site with Upgrades to 10th Line BPS	✓
Option 8 - New (larger volume) Zone 1 Tower at New Site with Upgrades to 10th Line BPS	✓
Option 9 – Split additional Storage Required Between a New (larger volume) Zone 1 Tower at Existing Site and In-ground Reservoir at 10th Line BPS	✗
Option 10 - Split additional Storage Required Between a New (larger volume) Zone 1 Tower at New Site and In-ground Reservoir at 10th Line BPS	✗
Option 11 Expand Thornbury Reservoir	✗

Detailed Evaluation

OPTION 1

Rehabilitate Victoria St Elevated Tower, Construct Reservoir at 10th Line BPS and Upgrade Pumps



Effect on Fish and Aquatic Habitat	
Effect on Wetlands, Woodlands, Wildlife Habitat	
Effect on Archeological Resources	
Opportunities for Phased Implementation	
Optimized Use of Existing Infrastructure	
System Redundancy	
Operations and Maintenance Requirements	
Impacts During Construction	
Cultural Heritage Impacts	
Compatibility with Surrounding Land Use	
Zoning and Official Plan Designation	

below grade storage has **minimal aesthetic impact and no new land is required**

requires **significant pump upgrades** and more **complex to operate**

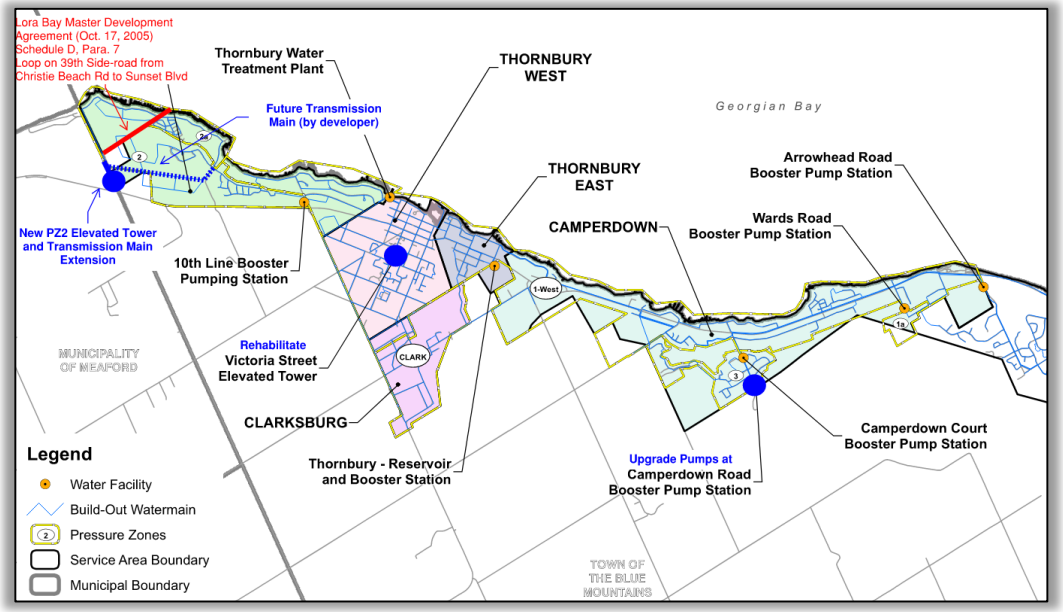
Capital Costing - **$ 10.3 M**

50-year Lifecycle Costing- **$ 18.1 M**

Detailed Evaluation

OPTION 3

Rehabilitate Victoria St Elevated Tower and Construct Elevated Tower on East Side of Pressure Zone 2 (Lora Bay)



Effect on Fish and Aquatic Habitat	
Effect on Wetlands, Woodlands, Wildlife Habitat	
Effect on Archeological Resources	
Opportunities for Phased Implementation	
Optimized Use of Existing Infrastructure	
System Redundancy	
Operations and Maintenance Requirements	
Impacts During Construction	
Cultural Heritage Impacts	
Compatibility with Surrounding Land Use	
Zoning and Official Plan Designation	

storage provided **in each Zone** and is **easily accessible**

Visual impact in Thornbury and Lora Bay

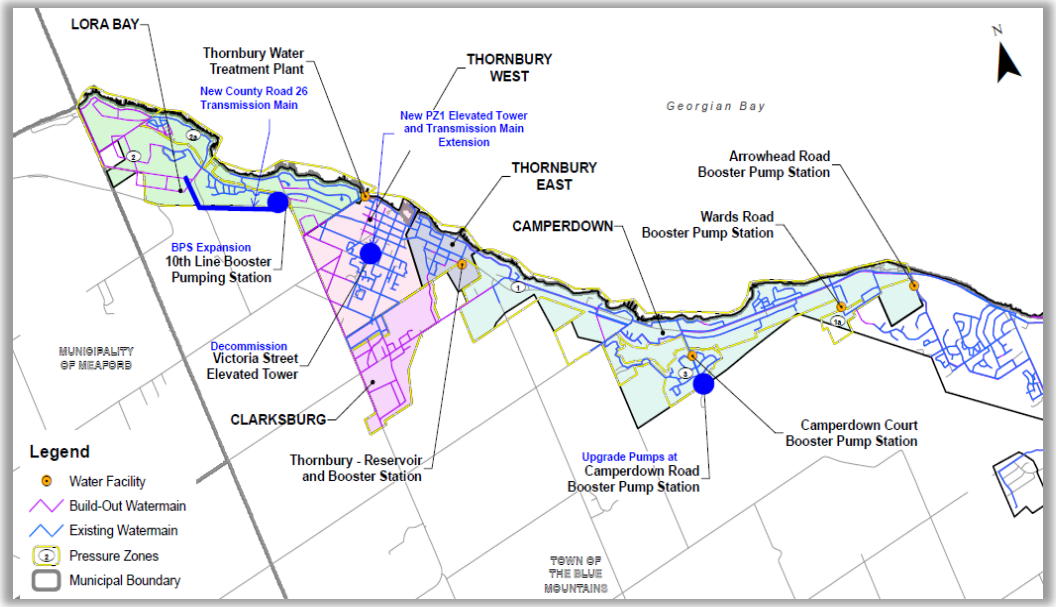
Capital Costing - **$ 8.7 M**

50-year Lifecycle Costing- **$ 17 M**

Detailed Evaluation

OPTION 7

New Expanded Victoria Elevated Tower in Pressure Zone 1 and Pump Upgrades at 10th Line BPS



Effect on Fish and Aquatic Habitat	
Effect on Wetlands, Woodlands, Wildlife Habitat	
Effect on Archeological Resources	
Opportunities for Phased Implementation	
Optimized Use of Existing Infrastructure	
System Redundancy	
Operations and Maintenance Requirements	
Impacts During Construction	
Cultural Heritage Impacts	
Compatibility with Surrounding Land Use	
Zoning and Official Plan Designation	

low visual impact and
less infrastructure to maintain

no dedicated storage for Zone 2

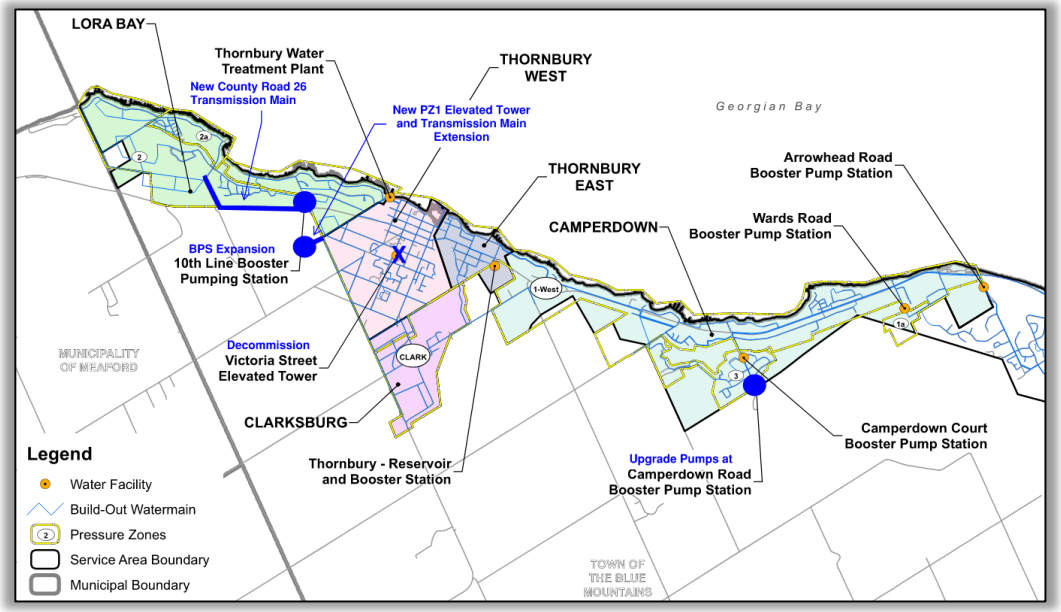
Capital Costing - **$ 11.9 M**

50-year Lifecycle Costing- **$ 15 M**

Detailed Evaluation

OPTION 8

New Elevated Tower in Pressure Zone 1 (at new location) and Pump Upgrades at 10th Line BPS



Effect on Fish and Aquatic Habitat	
Effect on Wetlands, Woodlands, Wildlife Habitat	
Effect on Archeological Resources	
Opportunities for Phased Implementation	
Optimized Use of Existing Infrastructure	
System Redundancy	
Operations and Maintenance Requirements	
Impacts During Construction	
Cultural Heritage Impacts	
Compatibility with Surrounding Land Use	
Zoning and Official Plan Designation	

less infrastructure to maintain

no dedicated storage for Zone 2

difficult to rezone & existing tower to be **decommissioned**

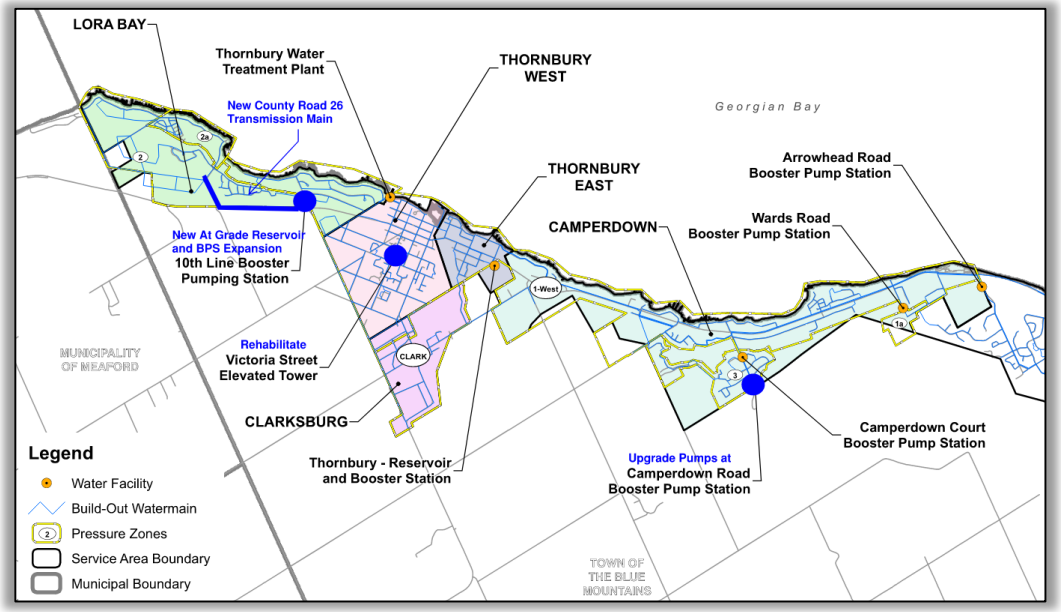
Capital Costing - **$ 11.5 M**

50-year Lifecycle Costing- **$ 14.5 M**

Preferred Option

OPTION 1

Rehabilitate Victoria St Elevated Tower, Construct Reservoir at 10th Line BPS and Upgrade Pumps



Effect on Fish and Aquatic Habitat	
Effect on Wetlands, Woodlands, Wildlife Habitat	
Effect on Archeological Resources	
Opportunities for Phased Implementation	
Optimized Use of Existing Infrastructure	
System Redundancy	
Operations and Maintenance Requirements	
Impacts During Construction	
Cultural Heritage Impacts	
Compatibility with Surrounding Land Use	
Zoning and Official Plan Designation	

below grade storage has **minimal aesthetic impact and no new land is required**

requires **significant pump upgrades** and more **complex to operate**

Capital Costing - **$ 10.3 M**

50-year Lifecycle Costing- **$ 18.1 M**

Preferred Option

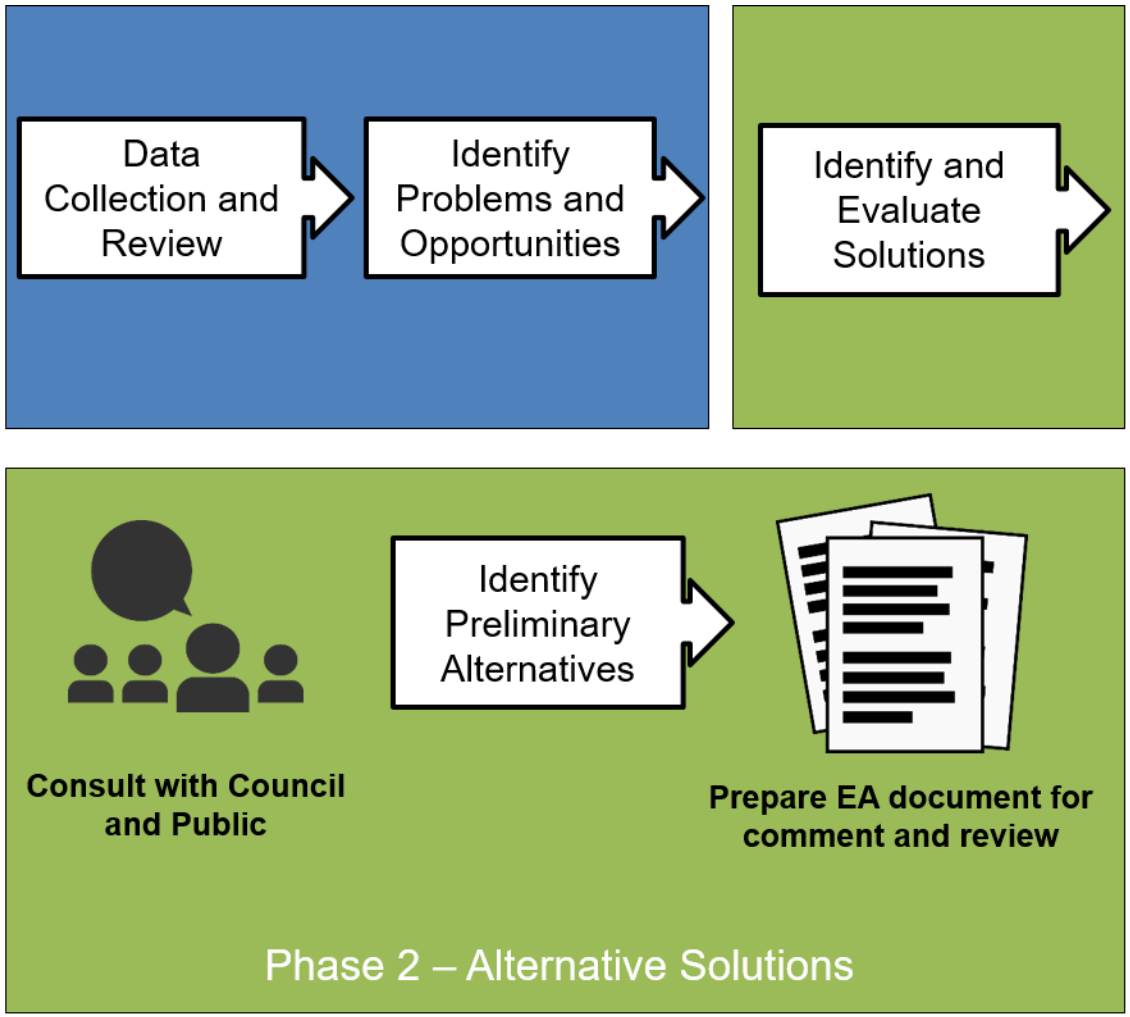
OPTION 1

Rehabilitate Victoria St Elevated Tower, Construct Reservoir at 10th Line BPS and Upgrade Pumps

Service Area	Zone	Project	Time Frame	Funding Source	Capital Cost (1) (2)
Storage	Zone 1	Rehabilitate Existing Victoria Street Tower	1 - 2 year	Non-Growth	$1,073,100
Storage	Zone 2	New 800 m3 At/Below Grade Reservoir at 10th Line and BPS Upgrades	5 year	Growth	$2,380,000
Storage	Zone 2	New 300 mm Watermain Loop From 10th Line to Lora Bay Drive	5 year	Growth	$2,354,000
Pumping	Zone 3	Upgrade Pumps at Camperdown Road BPS	5 year	Non-Growth	$400,000
Camperdown	Zone 1a	Implement findings from Hidden Lake Class EA (C.C. Tatham and Assoicates)	5 year	Growth	TBD
Camperdown	Zone 3	Check valve at Grey Road 40 and Timberleif	5 year	Non-Growth	$110,000
Craigleith	Zone 4c	Implement findings from Zone 4c Pressure Zone Modification Conceptual Design	5 year	Non-Growth	$580,000
Craigleith	Zone 4b	Add pressure Zone 4b into Zone 4 (PRV currently not operating)	5 year	Non-Growth	n/a
				Projects 5-Year Subtotal	$6,897,100
				General Requirements(4) (9.5%)	$655,225
				Engineering and Contingency (22%)	$1,517,362
				TOTAL 5-YEAR (ROUNDED)	$9,100,000

+ Recommendations from the 2019 Master Servicing Plan

Class EA Process Overview



- Under the Environmental Assessment Act, municipalities must consider potential environmental effects before a potential water and/or wastewater project begins.
- The streamlined MEA Class EA process allows municipalities to consider impacts without having to obtain project-specific approval under the Environmental Assessment Act.

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Questions?