Township of Wilmot

Virtual Public Information Centre #2



Baden Trunk Sanitary Sewer Class Environmental Assessment





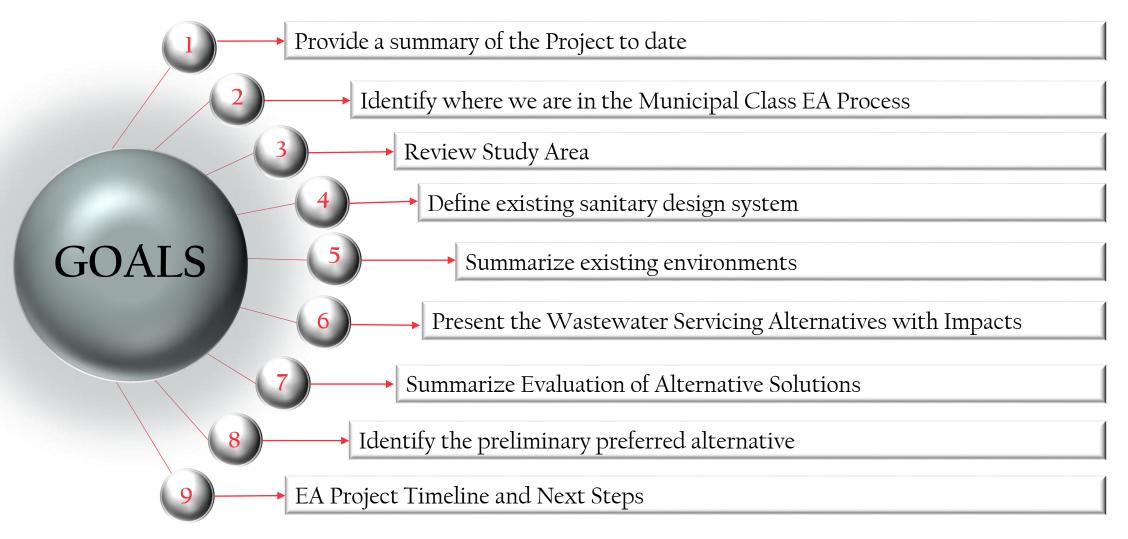








Objectives





Project Purpose

Problem / Opportunity Statement

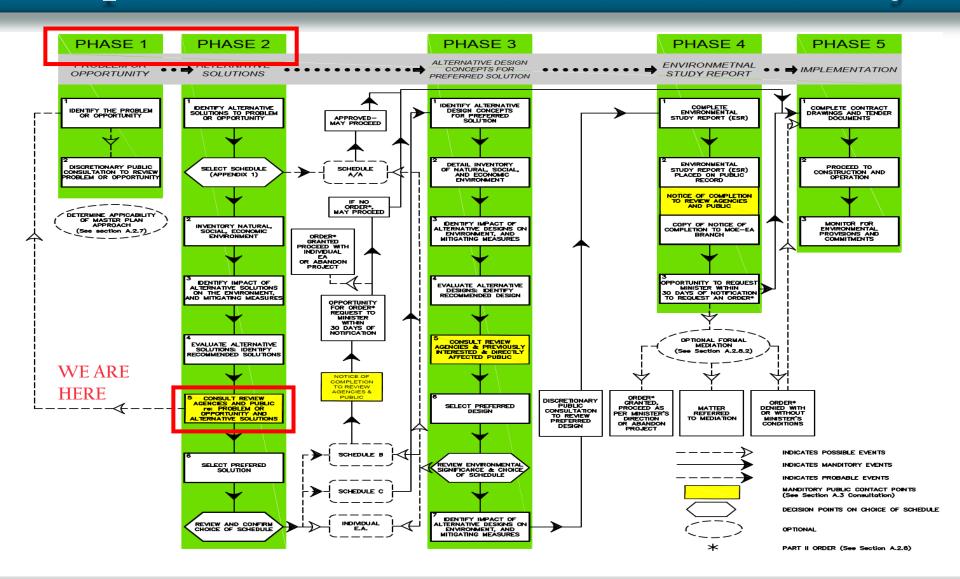
The existing sanitary infrastructure lacks capacity and depth for the planned growth within the Settlement of Baden.

The proposed sanitary trunk will accommodate current and future growth in the area.

The study will determine the corridor servicing alignment, size and depth of the trunk sewer to facilitate growth and optimize existing Township infrastructure in the area.

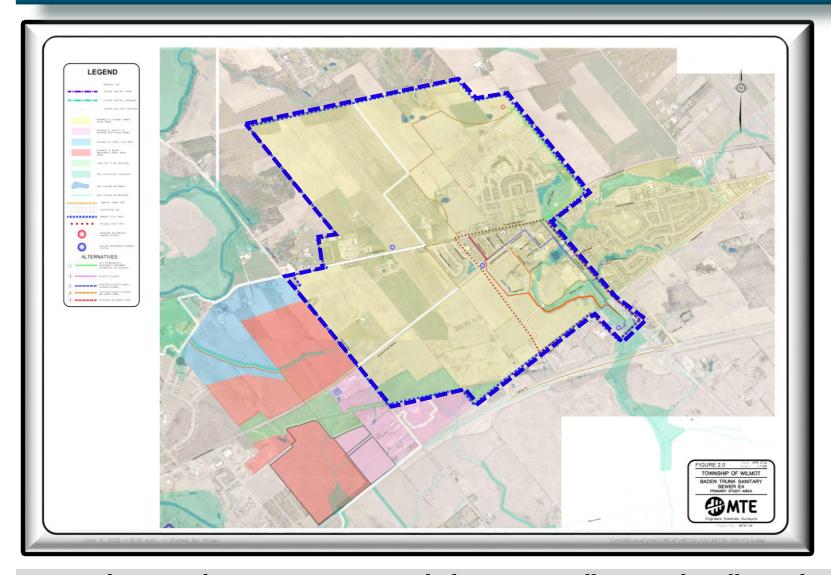


Municipal Class EA Process - Schedule 'B' Project





Primary Study Area

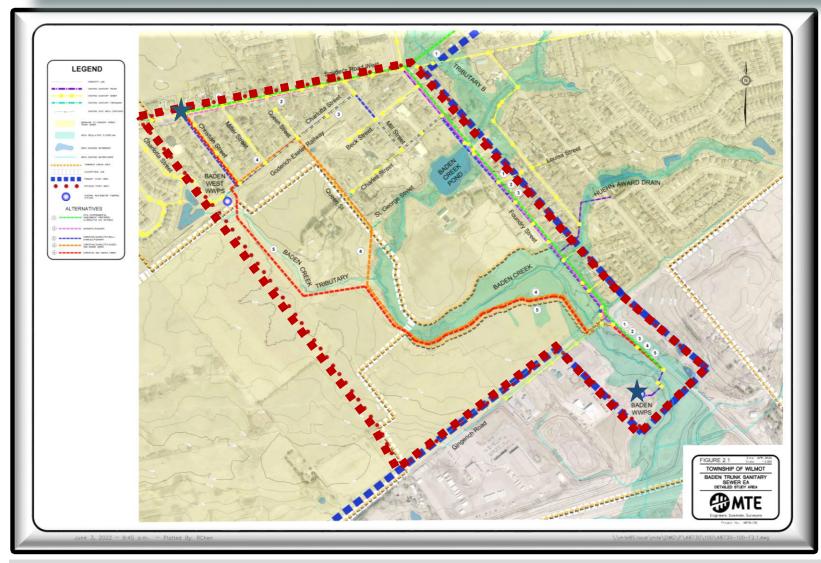


Primary Study Area

- Located within the Settlement of Baden.
- Several development proposals within the Study Area are in preconsultation and are at various stages of approval.
- Key considerations include:
 - Future development per the Township's Official Plan
 - Topography
 - > Capacity of existing sewer
 - Encroachment on natural features
 - Planning policy and regulation



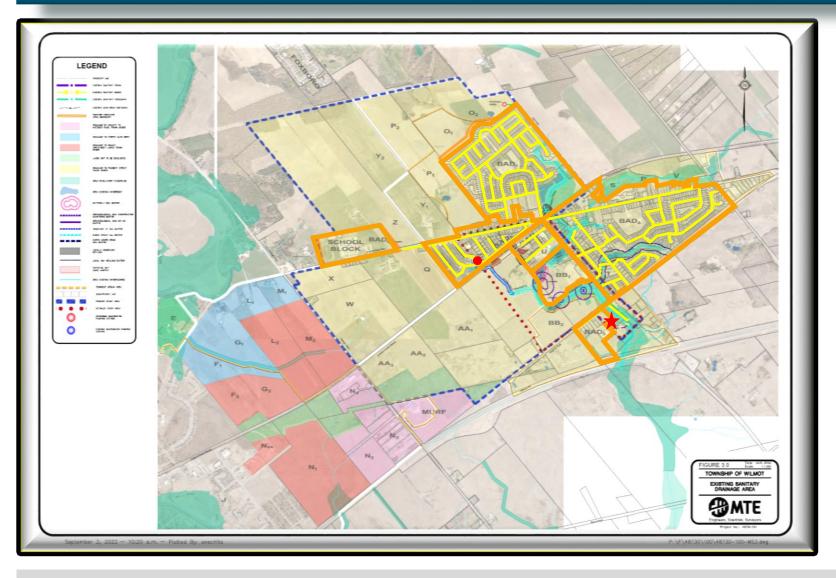
Detailed Study Area



Detailed Study Area

- The detailed study area defines the boundary for the proposed Baden Trunk alternative alignments.
- They will begin at the intersection of Snyder's Road West and Christian Street.
- Ultimately connect to the Baden wastewater pumping station.

Existing Sanitary Design System



Sanitary Sewer System

The Settlement of Baden is currently serviced by a two-tier wastewater system that include the Township of Wilmot and the Region of Waterloo.

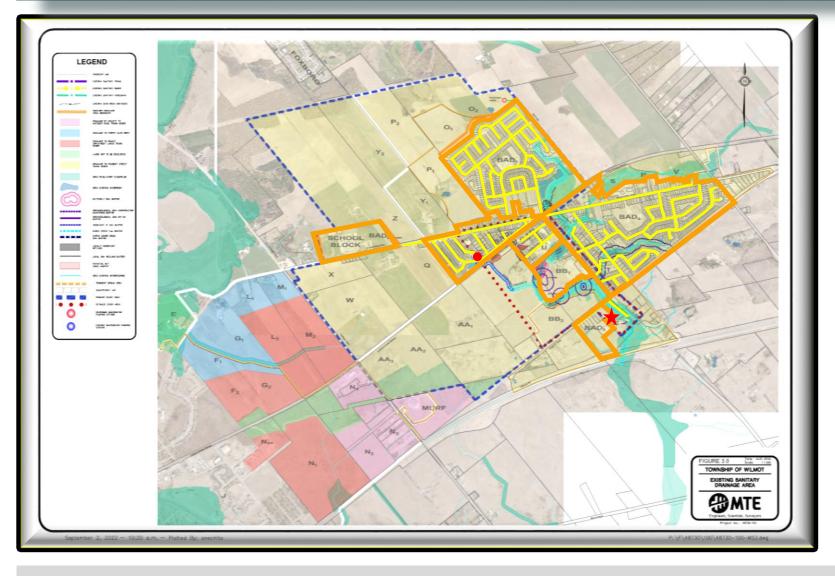
The Township is responsible for the existing sanitary sewers and the Baden West WWPS.

The Region of Waterloo is responsible for the Baden WWPS.

The areas outlined in orange are the current areas serviced by the Township.



Existing Sanitary Design System



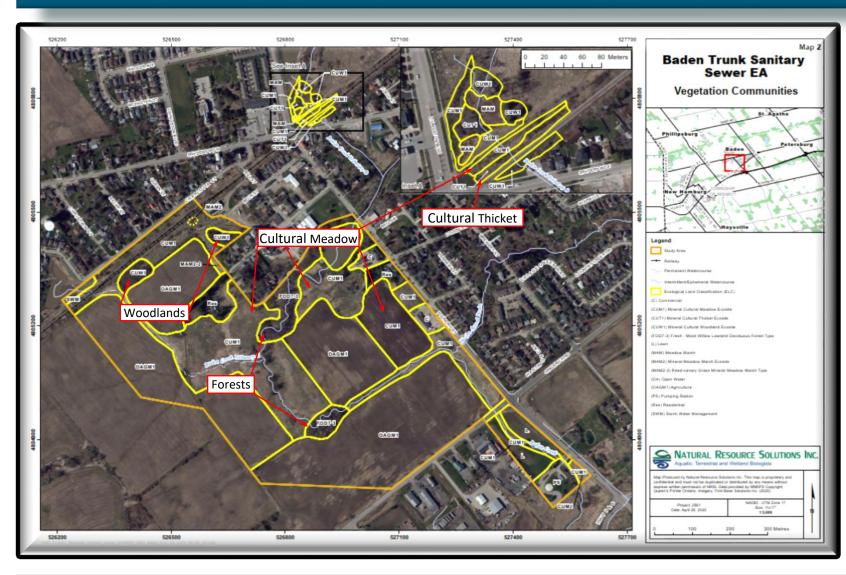
Infrastructure

The existing Baden Sanitary Sewer network is comprised of:

- Gravity sewers
- Pressure sewers
- Trunk sewers
- Wastewater pumping stations

Pressure sewers and gravity sewers connect with the existing sanitary trunk sewer along Foundry Street where it flows southeast to the Baden wastewater pumping station and ultimately to the New Hamburg wastewater treatment plant.





Vegetation Communities and Flora

Vegetation communities were inventoried to assess potential direct and/or indirect impacts to significant and sensitive vegetation species, terrestrial habitat features and functions.

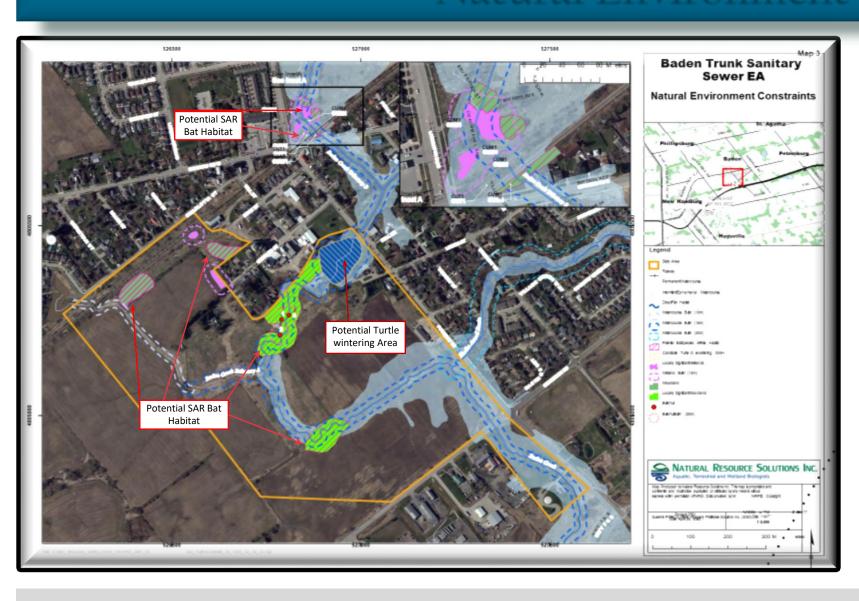
Vegetation communities of interest include:

- Forests
- Woodlands
- Cultural Thicket
- Cultural Meadow

Significant and sensitive vegetation species include the Species at Risk (SAR)
Butternut and the regionally significant
Running Serviceberry.

Features of concern include Locally Significant and Non-Significant Woodlands.



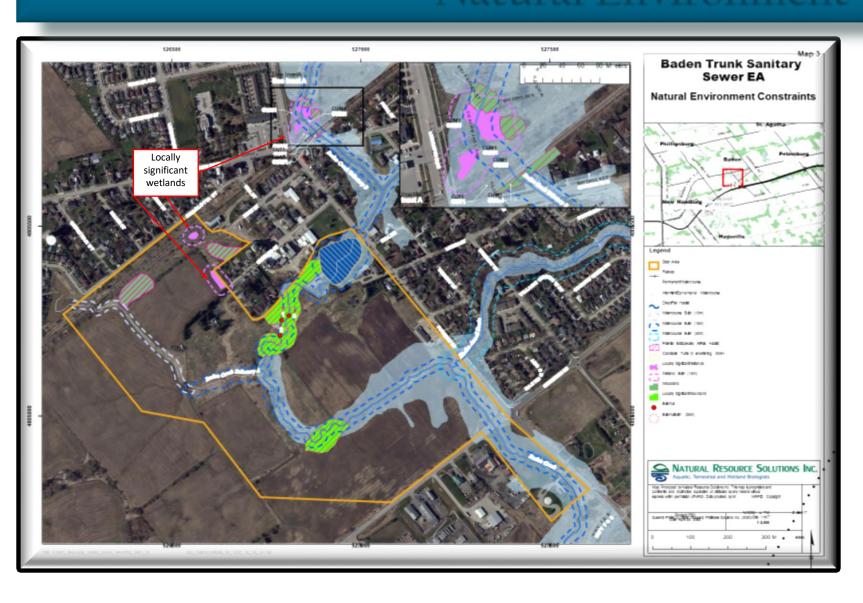


Wildlife Habitat

Impacts to wildlife habitats, including habitat for Species at Risk (SAR) and Significant Wildlife Habitat (SWH) were assessed.

Two Candidate SWH were identified:

- All wooded areas potential to provide suitable habitat for SAR bats.
- The Baden Creek pond provides suitable habitat for the SCC Snapping Turtle and is a possible Turtle Wintering Area.



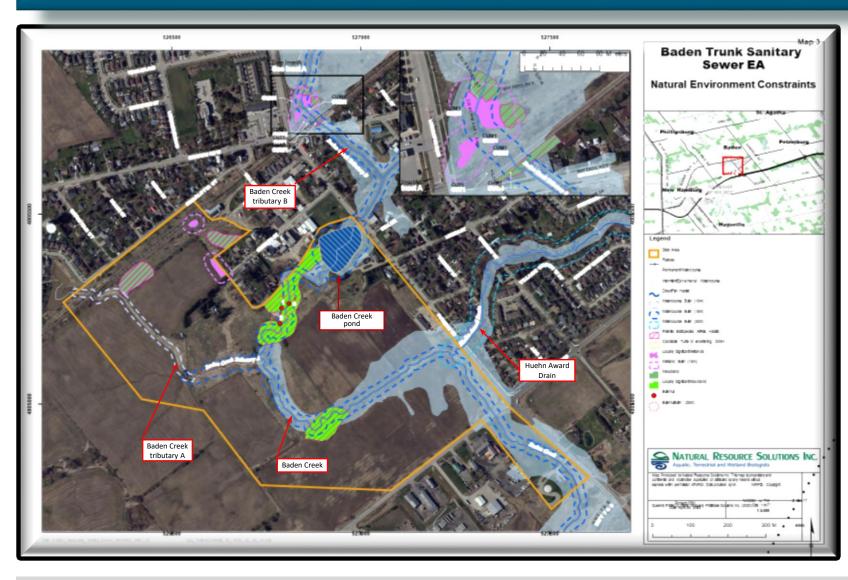
Wetlands

Wetland cover within the study area are limited to small, isolated features that are anthropogenic in nature.

Several Locally Significant Wetlands were identified within the Detailed Study area and along Alternative 1.

Though not provincially significant, the Locally Significant Wetlands are considered a form of Supporting Environmental Feature (Township of Wilmot 2019).





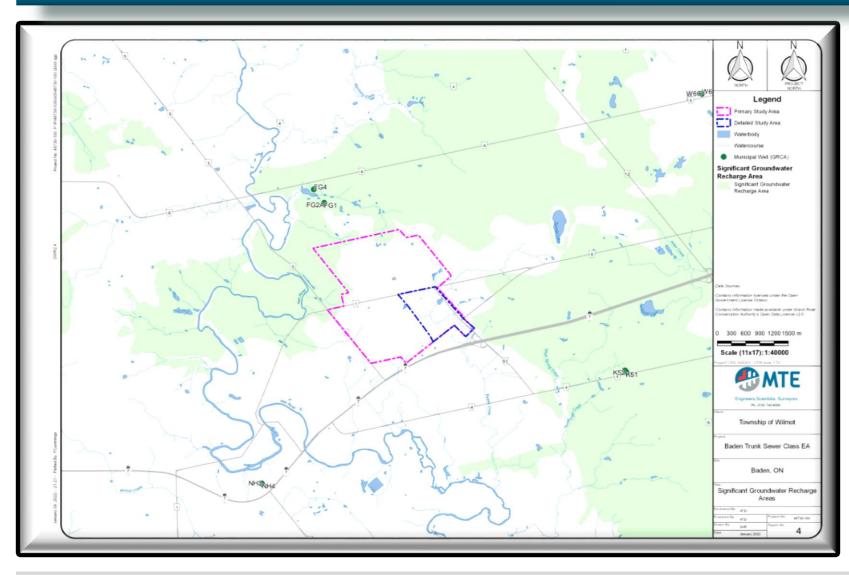
Aquatic Habitat

There are five water features within the Primary Study Area. They include:

- Baden Creek (Permanent)
- Tributary A (Intermittent/ephemeral)
- Tributary B (Permanent)
- Huehn Award Drain (Permanent)
- Baden Creek pond

Baden Creek provides direct fish habitat including suitable spawning, foraging and rearing habitats for a variety of warmwater and coolwater fish.

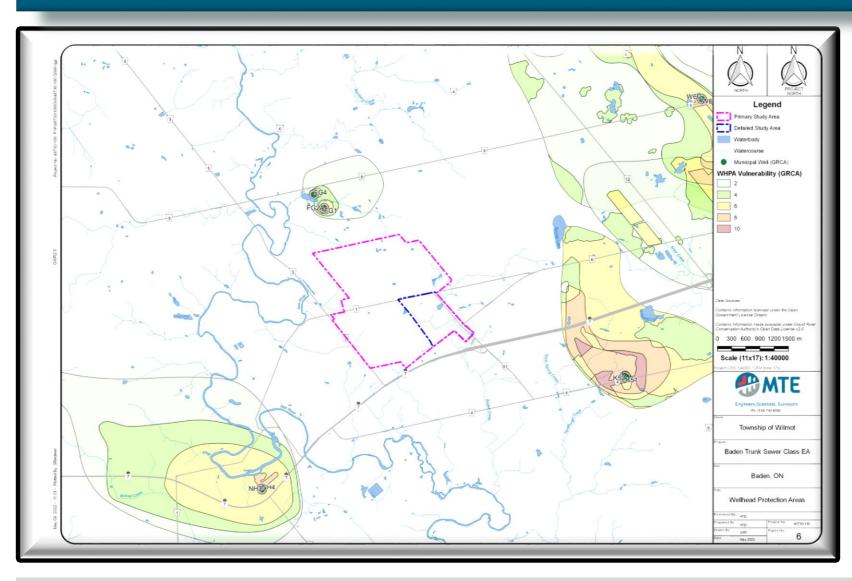
All watercourses provide direct fish habitat except tributary A.



Groundwater Resources

The hydrogeologic assessment was based on geologic and geotechnical studies and used to assess impacts to:

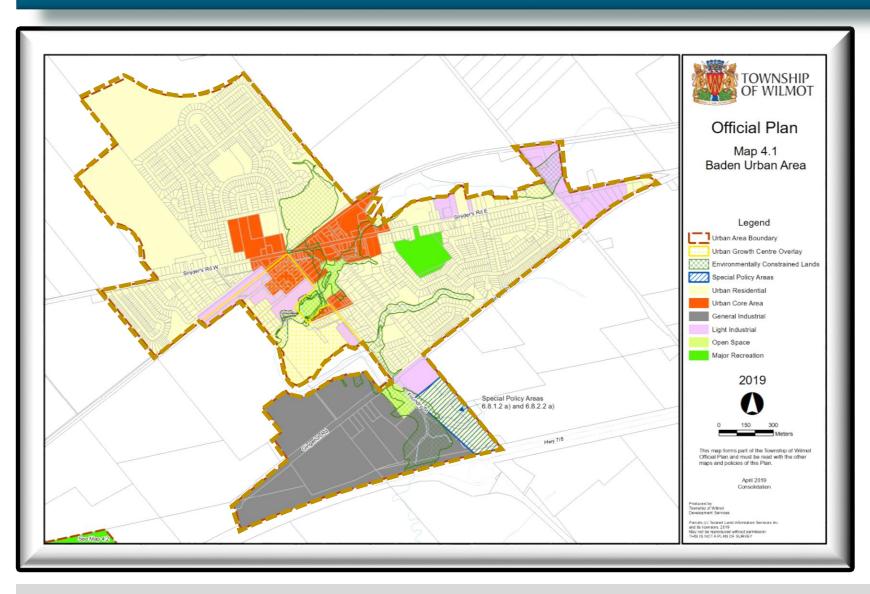
- Shallow Groundwater Movement
- Groundwater Recharge areas
- Groundwater Quality
 - SGRA Significant
 Groundwater Recharge
 Areas
 - HVA Highly Vulnerable Aquifers
 - WHPA Well HeadProtection Areas
 - > IPZ Intake Protection Zone



Groundwater Resources

The hydrogeologic assessment was based on geologic and geotechnical studies and used to assess impacts to:

- Shallow Groundwater Movement
- Groundwater Recharge areas
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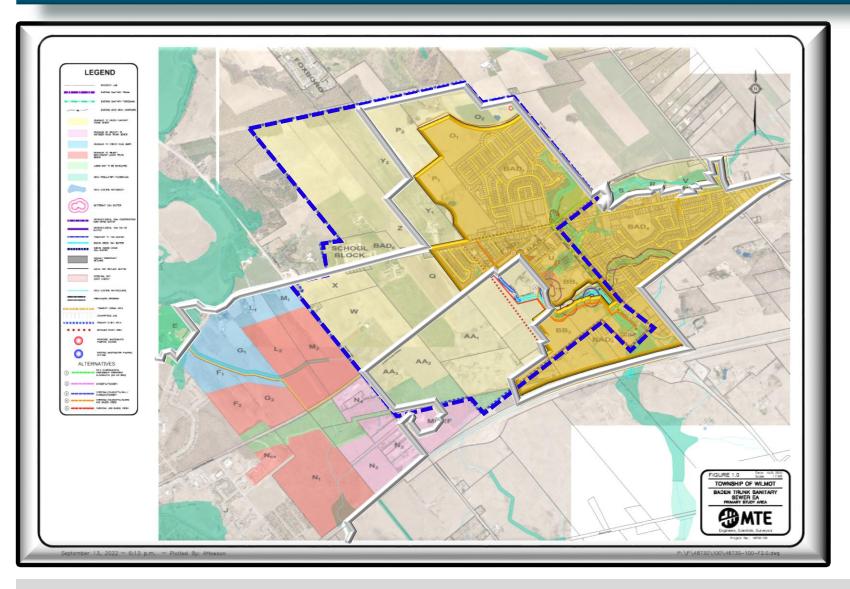
Land Use

Land use designations within Baden:

- Environmentally Constrained Lands
- Special Policy Areas
- Urban Residential
- Urban Core
- Open Space
- Major Recreational
- Light Industrial
- General Industrial
- Agriculture

Each alternative was assessed for potential land use impacts.



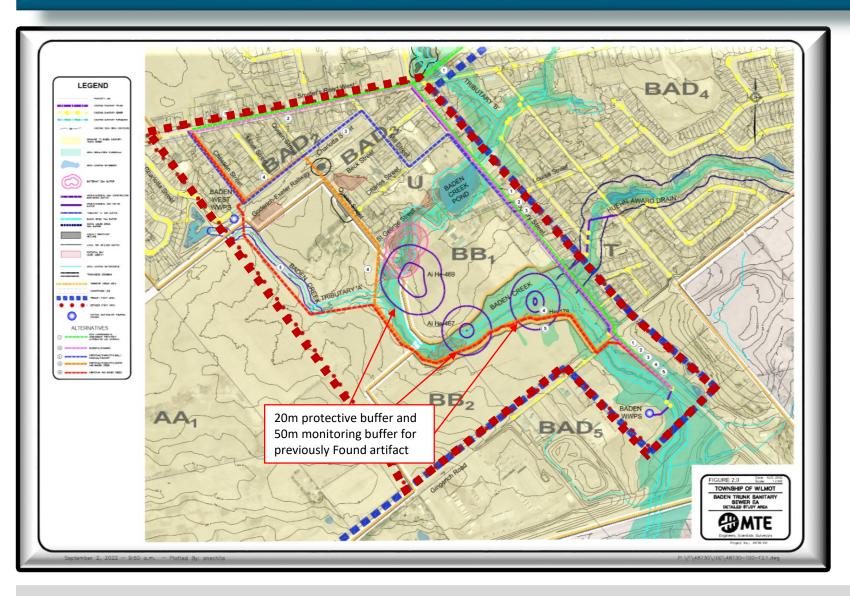


Land Use

Countryside

- Lands located outside the urban areas
 Countryside Line
- Long-term boundary between existing Urban Area and the Countryside
- Represents the future Urban Area boundary to accommodate for future growth
- Is consistent with:
 - Provincial Policy Statement (2020)
 - > Places to Grow Plan (2020),
 - » Regional Official Plan (2015),
 - > Township of Wilmot Official Plan (2019)





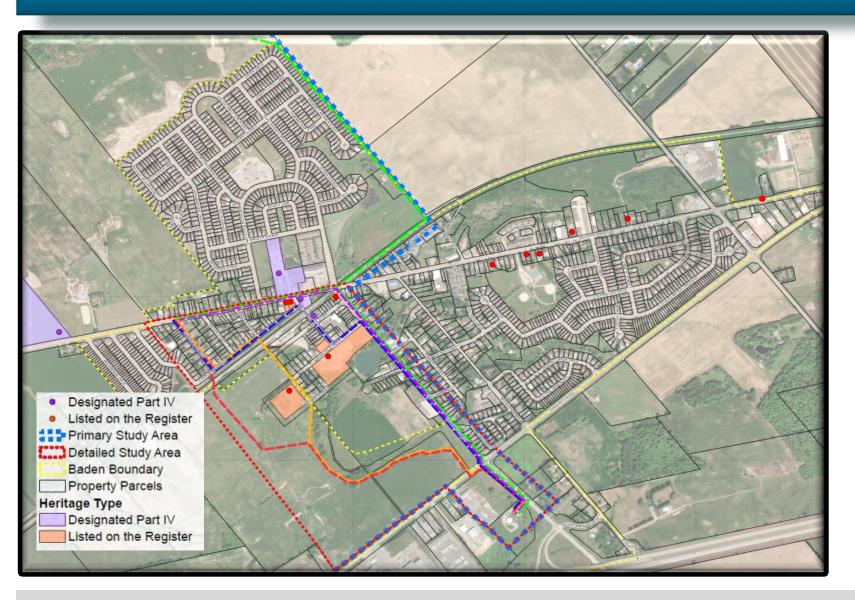
Archeological Resources

Stage 1 and Stage 2 archaeological assessments have been performed along the alternatives traversing open fields.

The Stage 1 background research indicated the Detailed Study Area exhibited moderate to high potential for the identification and recovery of archeological resources.

The Stage 2 investigations consisted of a pedestrian surveys at 3m intervals and test pits.





Cultural Heritage

Baden has been identified as a potential Cultural Heritage Landscape.

A cultural heritage assessment of the Primary Study Area was performed.

Eleven Cultural Heritage Resources within and/or adjacent to the DSA were identified.

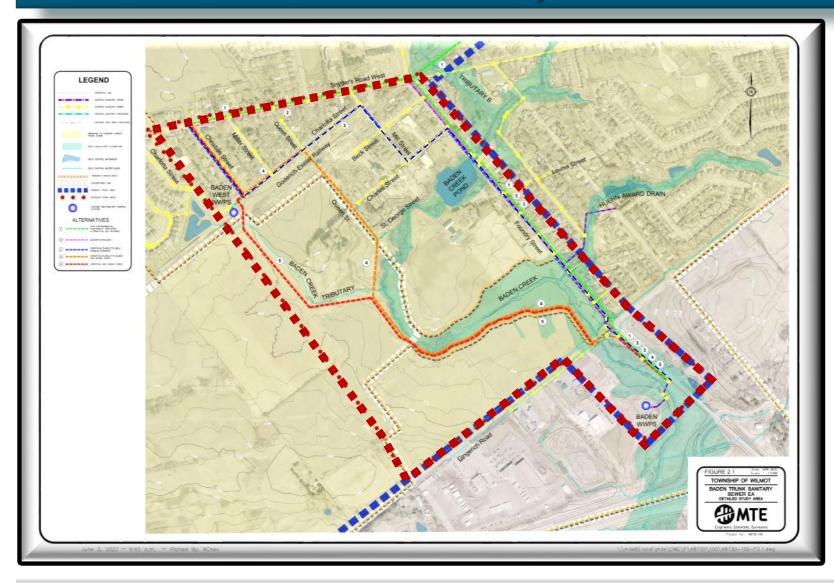
- 7 listed Heritage Properties
- 4 designated Heritage Properties

Foundry Street and Snyder's Road West have been identified as scenic roads.

Adverse impacts were evaluated as designated in the Ontario Heritage Toolkit (OHTK).



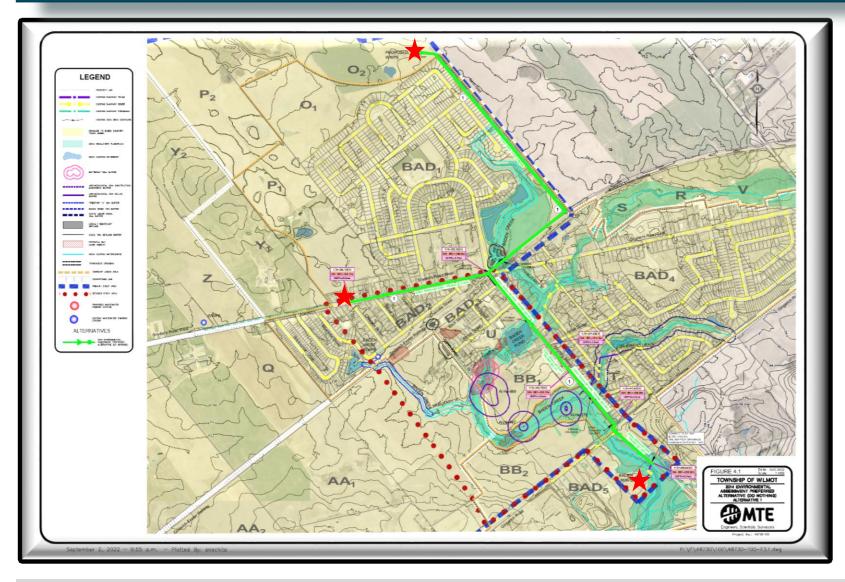
Baden Trunk Sanitary Sewer - Alternative Solutions



Alternatives

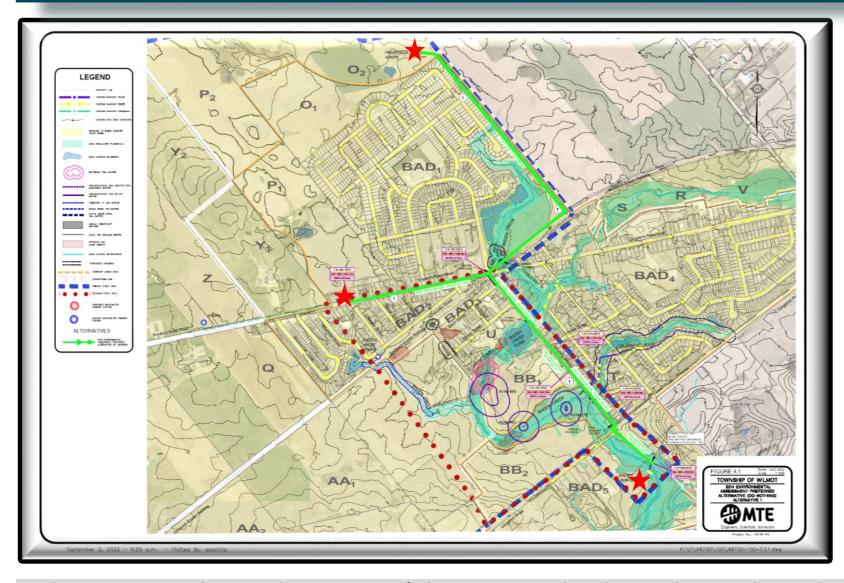
- 1. Do Nothing
- 2. Snyder's/Foundry Upgrade existing sewer down two main regional roads
- 3. Christian/Charlotta/Mill/Charles/ Foundry - Upgrade existing sewers along local and regional roads
- 4. Christian/Charlotta/Queen and Baden Creek Upgrade local sewers and construct new sewer within agricultural lands
- 5. Christian and Baden Creek Upgrade local sewer and construct new sewer within agricultural lands



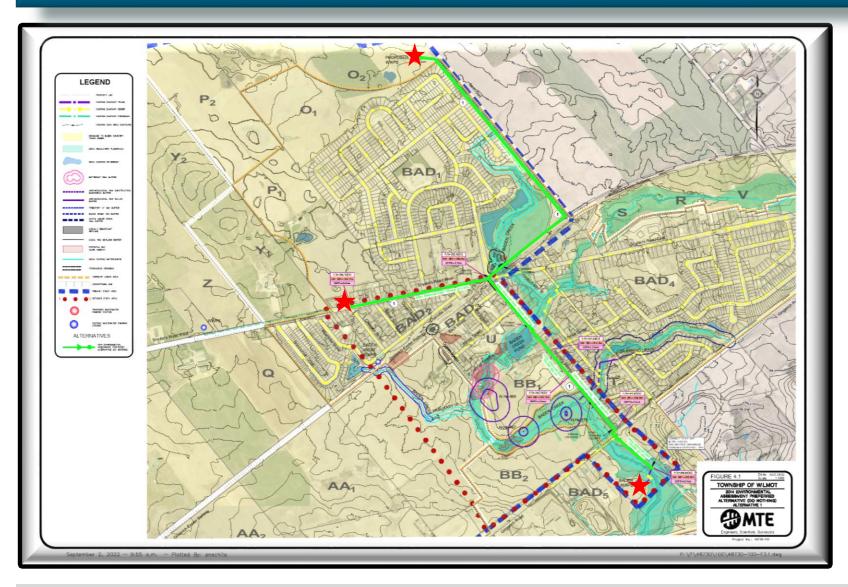


Do Nothing

- The 'Do Nothing' alternative is a Mandatory requirement for consideration in a Class EA
- It examines the outcome if no alternative is selected
- Identified as the current wastewater servicing strategy of 2014

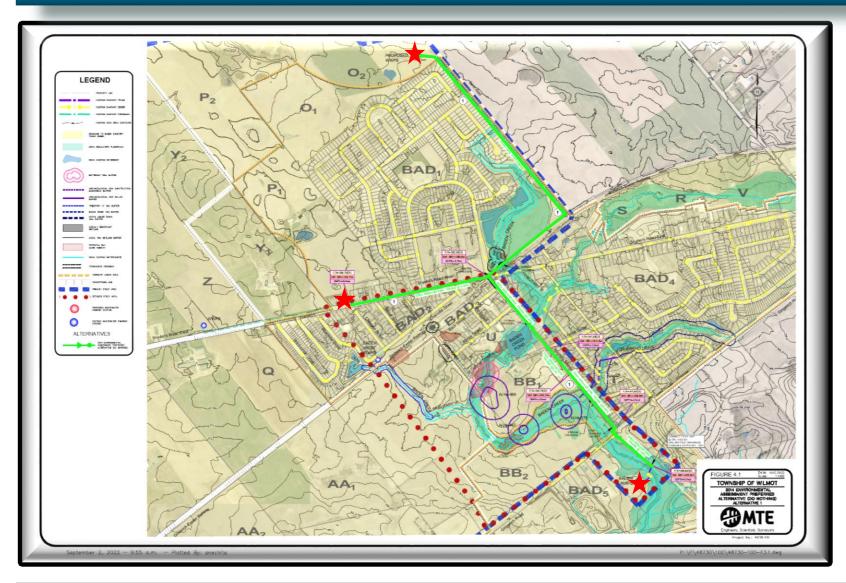


- This alignment has been preapproved
- Does not impact SWH woodlands or SAR Butternut Trees
- Does not impact any area with known archeological findspots



Constraints

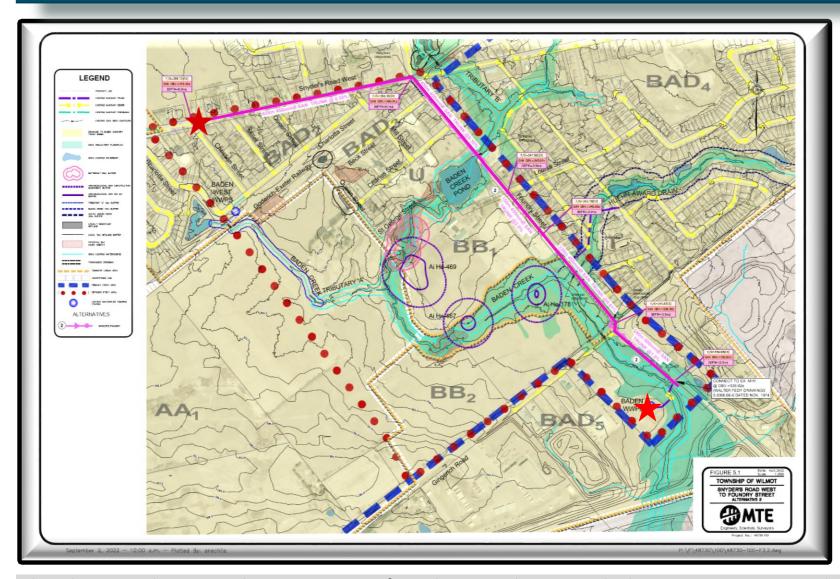
- Does not support planned future development of Baden
- Hinders timely project completion due to regional road corridors
- Greatly disrupts road network and traffic
- Greatly impacts existing businesses and residents
- Impacts access to Township Fire Hall
- Impacts cultural heritage resources
- Complex trenchless railway crossing



Constraints

- Impacts flow regime at stream crossings
- Impacts water quality and water quantity to significant water features
- Impacts the aquatic habitat of Baden Creek, pond and the Huehn Award Drain
- Increases noise and odour from additional pumping station
- Increases long-term operation and maintenance cost due to additional wastewater pumping station
- Uncertainty in securing the right-ofway
- High cost of construction

Alternative 2 – Snyder's / Foundry

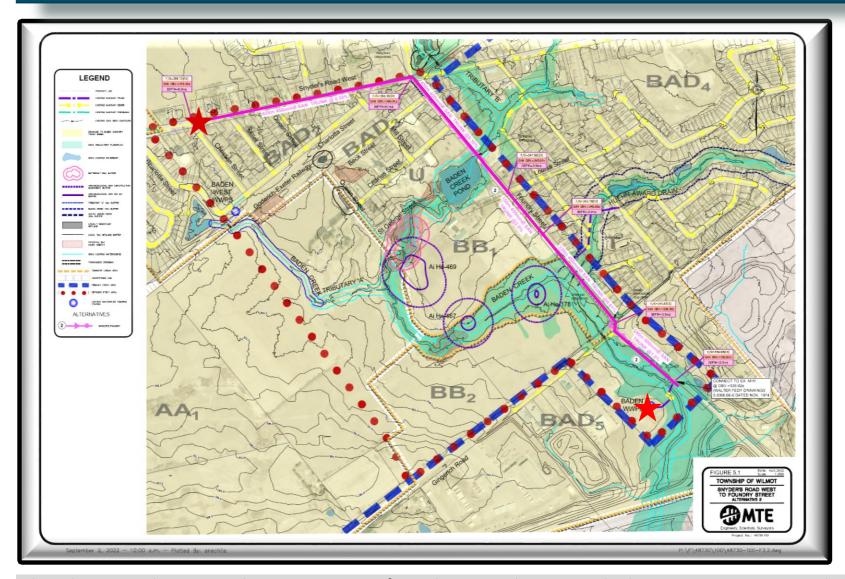


Benefits

- Negligible impacts to vegetation communities, wildlife habitat and wetlands
- Does not impact any area with known archeological findspots
- Eliminates the school WWPS
- Reduces noise and odour associated with pumping station
- Reduces maintenance costs associated with pumping station
- No Land acquisition required

This alignment begins at the intersection of Snyder's Road West and Christian Street, proceeds east along Snyder's Road West to Foundry Street where it continues southeast to the Baden wastewater pumping station.

Alternative 2 – *Snyder's / Foundry*

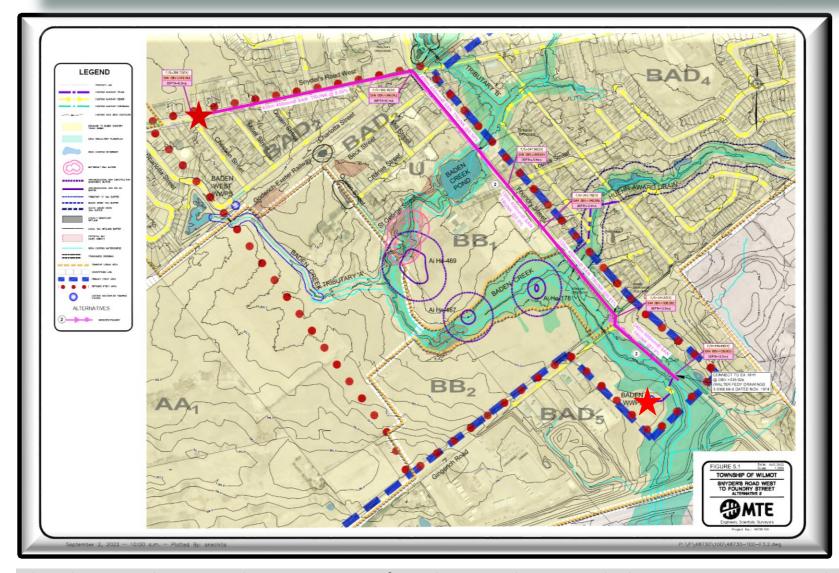


Constraints

- Does not completely support planned future development of Baden
- Hinders timely project completion due to regional road corridors
- Greatly disrupts road network and traffic
- Greatly impacts existing businesses and residents
- Impacts access to Township Fire Hall
- Impacts to cultural heritage resources

This alignment begins at the intersection of Snyder's Road West and Christian Street, proceeds east along Snyder's Road West to Foundry Street where it continues southeast to the Baden wastewater pumping station.

Alternative 2 – Snyder's / Foundry

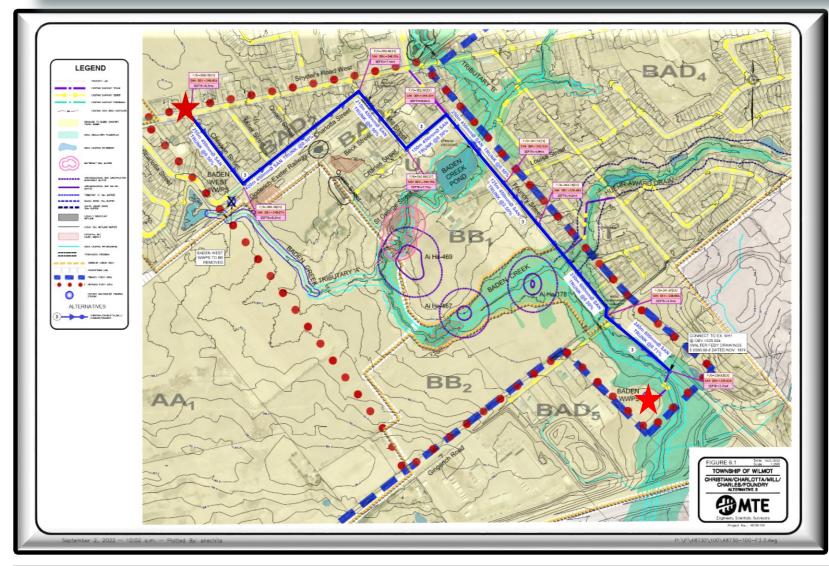


Constraints

- Impacts flow regime at stream crossings
- Impacts to water quality and quantity
- Impacts the aquatic habitat of Baden Creek, pond and the Huehn Award Drain
- Complex trenchless railway crossing

This alignment begins at the intersection of Snyder's Road West and Christian Street, proceeds east along Snyder's Road West to Foundry Street where it continues southeast to the Baden wastewater pumping station.

Alternative 3 – Christian/Charlotta/Mill/Charles/Foundry

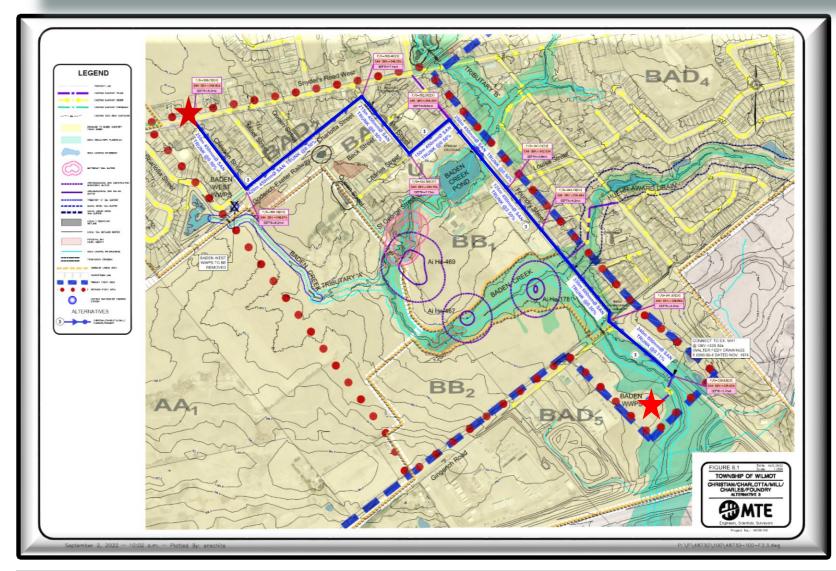


Benefits

- Negligible impacts to vegetation communities, wildlife habitat and wetlands
- Does not impact any area with known archeological findspots
- Eliminates two pumping stations (School WWPS, Baden West WWPS)
- Reduces noise and odour associated with pumping stations
- Reduces maintenance costs associated with pumping station and noise wall
- No Land acquisition required

This alignment begins at the intersection of Snyder's Road West and Christian Street, proceeds southeast to Charles Street, northeast to Foundry Street then southeast to the Baden WWPS.

Alternative 3 – Christian/Charlotta/Mill/Charles/Foundry

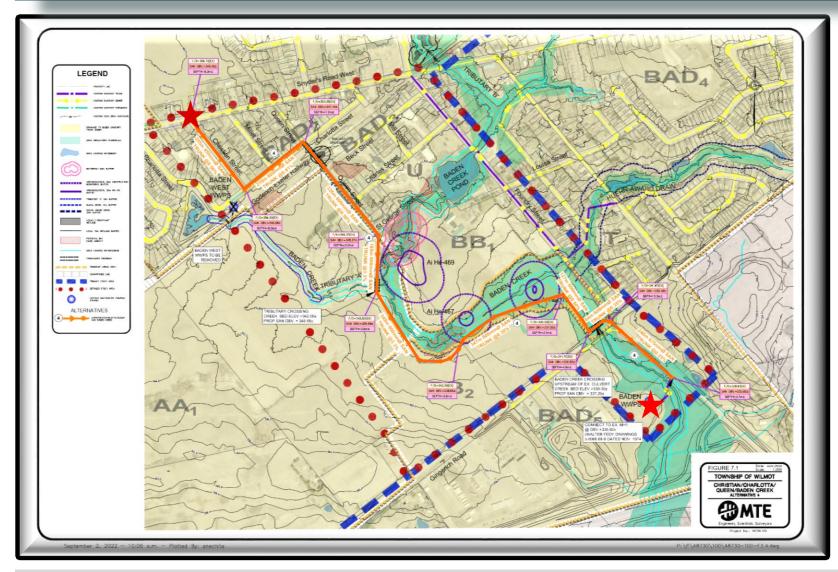


Constraints

- Does not completely support planned future development of Baden
- Untimely project completion due to regional road corridors
- Disrupts road network and traffic
- Impacts existing businesses and residents
- Impacts access to Township Fire Hall
- Impacts to cultural heritage resources
- Impacts flow regime at stream crossings
- Impacts to water quality and quantity
- Impacts the aquatic habitat of Baden Creek, pond and the Huehn Award Drain

This alignment begins at the intersection of Snyder's Road West and Christian Street, proceeds southeast to Charles Street, northeast to Foundry Street then southeast to the Baden WWPS.

Alternative 4 – Christian/Charlotta/Queen & Baden Creek

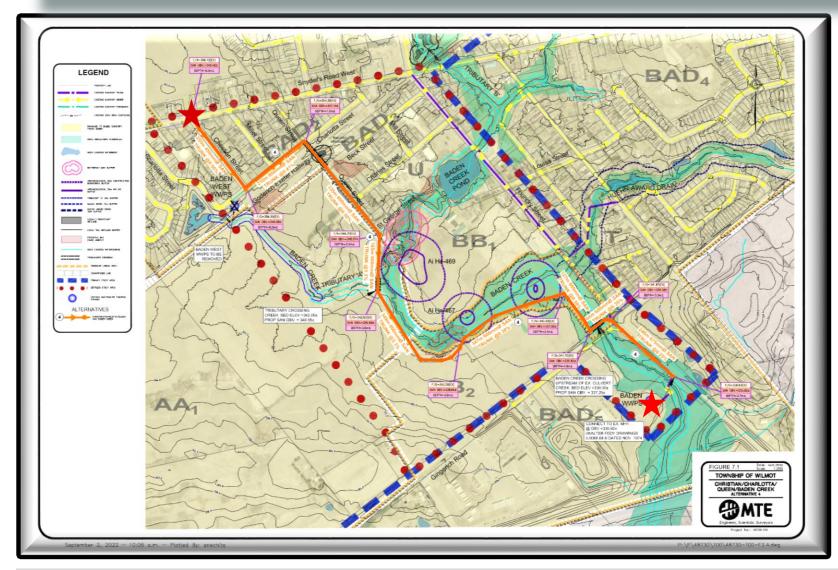


Benefits

- Provides flexibility for servicing the entire Primary Study Area
- Provides timely project completion due to minimal regional road corridors
- Eliminates two existing pumping stations (school WWPS and the Baden West WWPS)
- Eliminates noise and odour associated with the removal of existing WWPS
- Reduces operational and maintenance costs associated with pumping station and noise wall

This alignment begins at Snyder's Road West and Christian Street, southeast to Charlotta Street, northeast to Queen Street, down Queen Street, along Baden Creek to Gingerich Road, northeast to Foundry Street and southeast to the Baden WWPS

Alternative 4 – Christian/Charlotta/Queen & Baden Creek

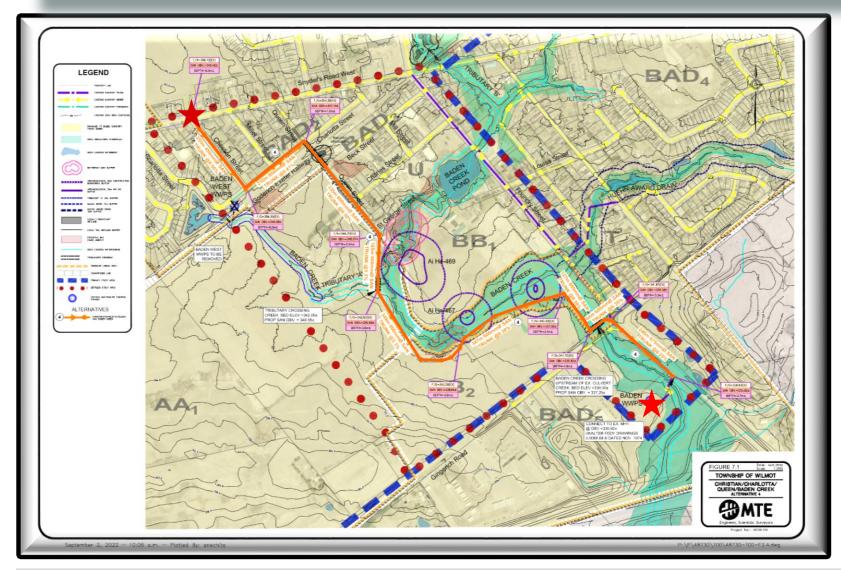


Benefits

- Minimal impacts to significant water features (Baden Creek, Baden Creek pond and the Huehn Award Drain)
- Does not impact flow regime of any water feature
- Does not impact the aquatic habitat of Baden Creek, pond or the Huehn Award Drain
- Minimal impacts to cultural heritage resources
- Right-of-Ways have been secured

This alignment begins at Snyder's Road West and Christian Street, southeast to Charlotta Street, northeast to Queen Street, down Queen Street, along Baden Creek to Gingerich Road, northeast to Foundry Street and southeast to the Baden WWPS

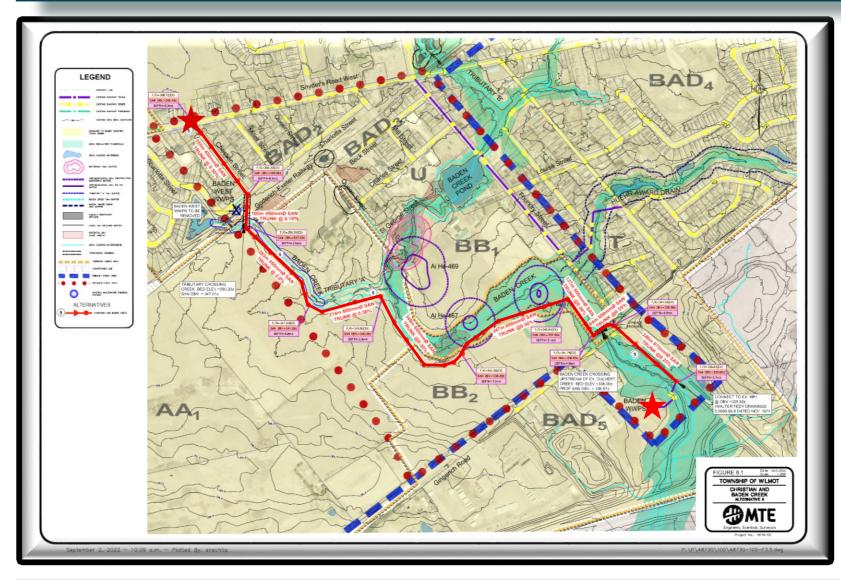
Alternative 4 – Christian/Charlotta/Queen & Baden Creek



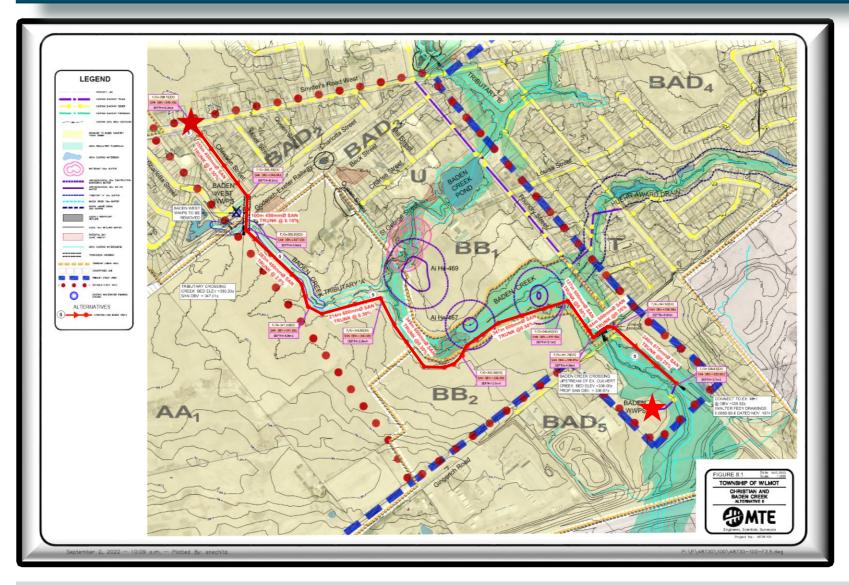
Constraints

- Disrupts local road network and traffic along Christian Street, Charlotta Street and Queen Street
- Impacts local residents along Christian Street, Charlotta Street and Queen Street
- Impacts to archeological findspot
 50m monitoring buffer
- Possible impacts significant local wetlands at trenchless railway crossing

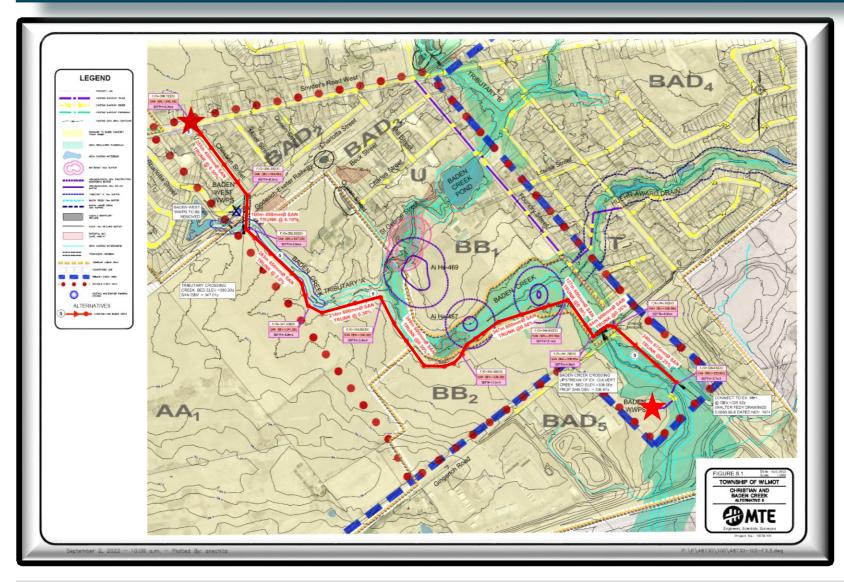
This alignment begins at Snyder's Road West and Christian Street, southeast to Charlotta Street, northeast to Queen Street, down Queen Street, along Baden Creek to Gingerich Road, northeast to Foundry Street and southeast to the Baden WWPS



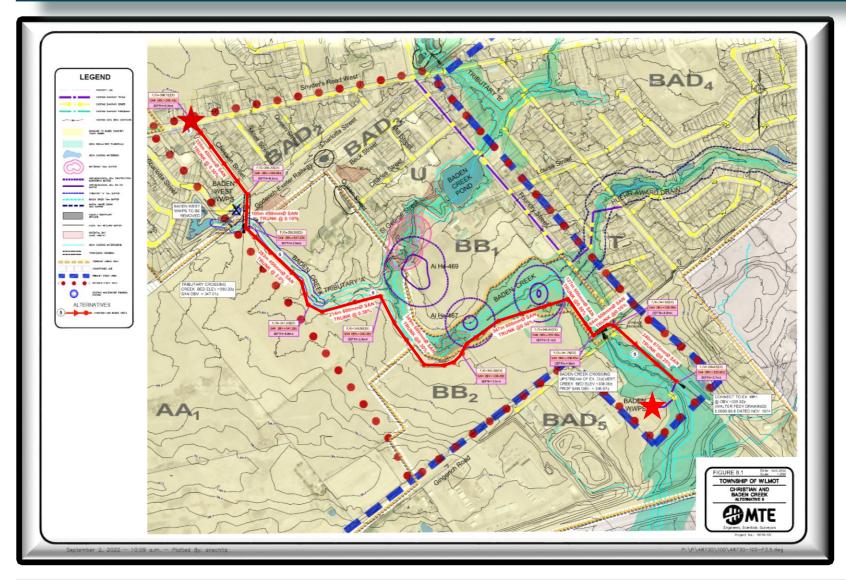
- Provides flexibility for servicing the entire primary study area
- Provides timely project completion due to minimal regional road corridors
- Minimal disruption to road network and traffic
- Minimal impacts existing businesses and residents
- No impacts to cultural heritage resources



- Eliminates two existing pumping stations (school WWPS and the Baden West WWPS)
- Eliminates noise and odour associated with the removal of existing pumping stations
- Reduces long-term operational and maintenance costs
- No impacts to locally significant wetlands
- No impacts to SAR or SWH



- Negligible impacts to significant water features (Baden Creek, Baden Creek pond and the Huehn Award Drain)
- Does not impact flow regime of any water feature
- No impact to the aquatic habitat of Baden Creek, the Baden Creek pond or the Huehn Award Drain
- Right-of-Ways have been secured
- Represents the least cost solution



Constraints

- Disrupts traffic along Christian
 Street and Charlotta Street
- Impacts existing residents along Christian Street
- Impacts archeological findspot monitoring buffer

Evaluation of Alternative Solutions

PRELIMINARY EVALUATION CRITERIA - BADEN SANITARY TRUNK						
Factor Category / Factor Group / Factor	Alternative					
	A1	A2	A3	A4	A5	
Date: August 2022	Modified 2014 Environmental Assessment Preferred Alternative (Do Nothing)	Snyder's/Foundry	Christian/Charlotta/Mill/ Charles/Foundry	Christian/Charlotta/Queen and Baden Creek	Christian and Baden Creek	
4. FINANCIAL						
Capital Cost		•	•	•	\bigcirc	
Operational Cost (Sanitary sewer)	•	•	0	•	0	
Summary Financial		•	0	•	0	
5. TECHNICAL						
Constructability	•	•	0	•	0	
Trenchless (Constructability and Complexity)	•	•		•	•	
Property (Land/acquisition)	•	\bigcirc	•	•	•	
Serviceability (Long-term)	•	•	0	•	\bigcirc	
Summary Technical		•	•	•	0	
Traffic Operations			0	Ŏ		
Transportation policy initiatives	•	Ŏ	•	Ŏ		
Railroad Crossing	•	•	0	0	•	
3.B Municipal Services and Utilities						
Municipal Services (sanitary, water, storm)	•	•	0	•	0	
Municipal Infrastructure		•	•	•		
Utilities (Bell, Hydro, Gas)		•	•	•		
Summary Transportation/Municipal Services & Utility						

Order of Preference				
Most Preferred	\bigcirc			
More Preferred				
Somewhat Preferred				
Less Preferred				
Least Preferred				



Evaluation of Alternative Solutions

PRELIMINARY EVALUATION CRITERIA - BADEN SANITARY TRUNK						
Factor Category / Factor Group / Factor	Alternative					
	A1	A2	A3	A4	A5	
Date: August 2022	Modified 2014 Environmental Assessment Preferred Alternative (Do Nothing)	Snyder's/Foundry	Christian/Charlotta/Mill/ Charles/Foundry	Christian/Charlotta/Queen and Baden Creek	Christian and Baden Creek	
4. FINANCIAL						
Capital Cost		•	•	•	\bigcirc	
Operational Cost (Sanitary sewer)	•	•	0	•	0	
Summary Financial		•	0	•	0	
5. TECHNICAL						
Constructability	•	•	0	•	0	
Trenchless (Constructability and Complexity)	•	•		•	•	
Property (Land/acquisition)	•	\bigcirc	•	•	•	
Serviceability (Long-term)	•	•	0	•	\bigcirc	
Summary Technical		•	•	•	0	
Traffic Operations			0	Ŏ		
Transportation policy initiatives	•	Ŏ	•	Ŏ		
Railroad Crossing	•	•	0	0	•	
3.B Municipal Services and Utilities						
Municipal Services (sanitary, water, storm)	•	•	0	•	0	
Municipal Infrastructure		•	•	•		
Utilities (Bell, Hydro, Gas)		•	•	•		
Summary Transportation/Municipal Services & Utility						

Order of Preference				
Most Preferred	\bigcirc			
More Preferred				
Somewhat Preferred				
Less Preferred				
Least Preferred				



Evaluation of Alternative Solutions

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Date: August 2022	Modified 2014 Environmental Assessment Preferred Alternative (Do Nothing)	Snyder's/Foundry	Christian/Charlotta/Mill/ Charles/Foundry	Christian/Charlotta/Queen and Baden Creek	Christian and Baden Creek	
4. FINANCIAL						
Capital Cost		•	•	•	\bigcirc	
Operational Cost (Sanitary sewer)	•	•	0	•	0	
Summary Financial		•	0	•	0	
5. TECHNICAL						
Constructability	•	•	0	•	0	
Trenchless (Constructability and Complexity)	•	•		•	•	
Property (Land/acquisition)	•	\bigcirc	•	•	•	
Serviceability (Long-term)	•	•	0	•	\bigcirc	
Summary Technical		•	•	•	0	
Traffic Operations			0	Ŏ		
Transportation policy initiatives	•	Ŏ	•	Ŏ		
Railroad Crossing	•	•	0	0	•	
3.B Municipal Services and Utilities						
Municipal Services (sanitary, water, storm)	•	•	0	•	0	
Municipal Infrastructure		•	•	•		
Utilities (Bell, Hydro, Gas)		•	•	•		
Summary Transportation/Municipal Services & Utility						

Order of Preference				
Most Preferred	\bigcirc			
More Preferred				
Somewhat Preferred				
Less Preferred				
Least Preferred				

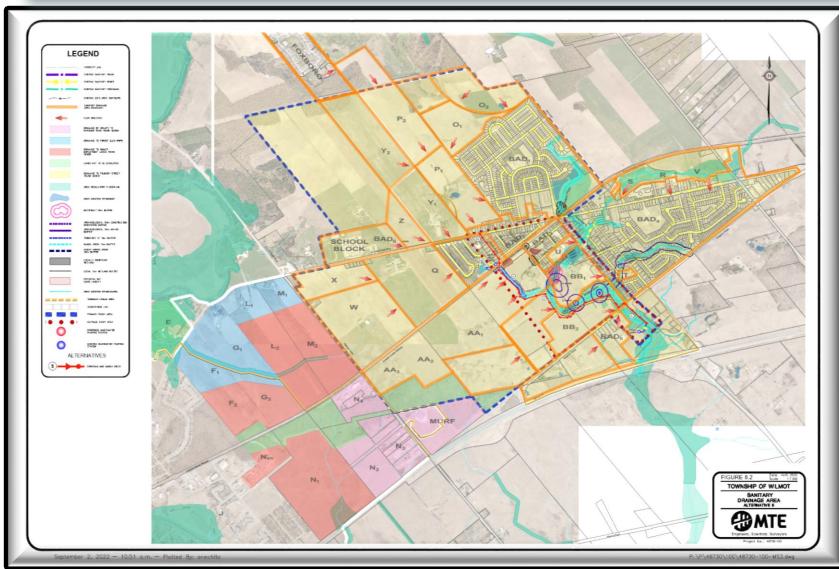


Evaluation Summary

PRELIMIN	ARY EVALUATION	I CRITERIA - BADI	EN SANITARY TRU	JNK		
Factor Category / Factor Group / Factor	Alternative					
	A1	A2	A3	A4	A5	
Date: August 2022	Modified 2014 Environmental Assessment Preferred Alternative (Do Nothing)	Snyder's/Foundry	Christian/Charlotta/Mill/ Charles/Foundry	Christian/Charlotta/Queen and Baden Creek	Christian and Baden Creek	
1. NATURAL ENVIRONMENT						
Summary Natural Environment		•		•		
2. SOCIO-CULTURAL ENVIRONMENT						
Summary Socio-Cultural Environment		•		•		
3. TRANSPORTATION/MUNICIPAL SERVICES AND UTIL	ITIES					
Summary Transportation/Municipal Services & Utility		•	•	•		
4. FINANCIAL						
Summary Financial						
5. TECHNICAL						
Summary Technical		•	•	•		
Overall Summary		4				



Preliminary Preferred Alternative



Christian and Baden Creek Alternative 5

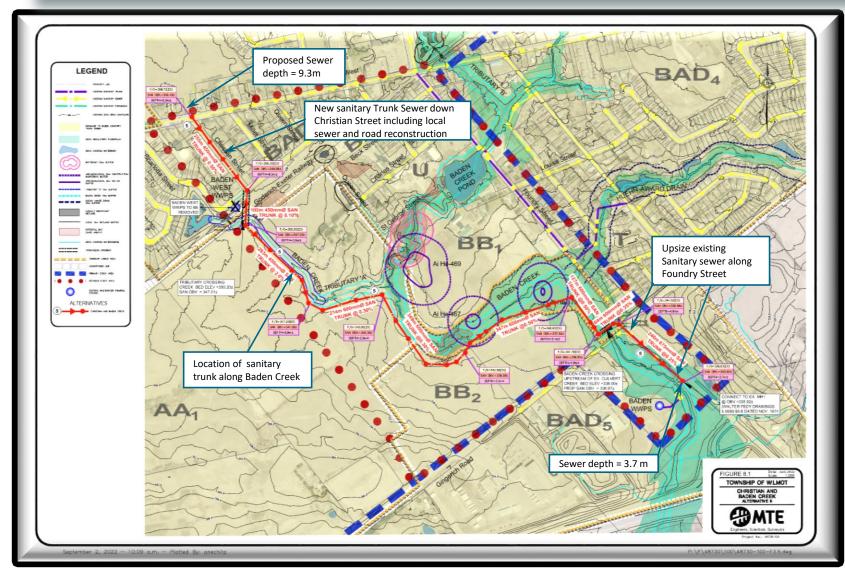
Alternative 5 has been selected as the preliminary preferred alignment for the Baden Sanitary Trunk.

The alignment will

- improve current sanitary services to the existing Baden residents
- reduce operations and maintenance costs
- provide sanitary services to the future growth areas with minimal impacts to the natural, social, cultural, built and economic environments.

The Baden Sanitary Trunk design and sizing will be per MECP Guidelines, the Township of Wilmot Design Guide and located within the right-of-way of the municipally owned roads except for the section between the Baden WWPS and the Gingerich Road and Foundry Street intersection which is within the Region of Waterloo right-of-way.

Preliminary Preferred Alternative



Christian and Baden Creek Alternative 5

This alternative consists of

- Replacing the local sanitary sewer along Christian Street.
- Installing a new trunk sanitary sewer along Christian Street, through the open fields adjacent to the Baden Creek Tributary 'A' and Baden Creek
- Upsizing the sewer from the Gingerich Road and Foundry Street intersection to the Baden WWPS.

A complete reconstruction of Christian Street will be required.

The Baden Sanitary Trunk design and sizing will be per MECP Guidelines, the Township of Wilmot Design Guide and located within the right-of-way of the municipally owned roads except for the section between the Baden WWPS and the Gingerich Road and Foundry Street intersection which is within the Region of Waterloo right-of-way.

EA Project Timeline

Municipal Class EA, Baden Trunk Sanitary Sewer

Notice of Commencement

Complete Studies

Develop Alternative Alignments

Consult with Stakeholders

Public Information Centre #1

Evaluate Alternative Alignments

Prepare first Public Information Centre

Public Information Centre #2

Select Preferred Alignment

Consult with

Stakeholders

Prepare Preliminary Design

Document Project Findings in the Project File Report (PFR)

> Council Endorsement

Notice of Completion

30-Day Review Period

June 17 2021

Summer/Fall/Winter 2021

Winter 2021/2022 Spring/Summer 2022

Fall/Winter 2022

Next Steps

- Review public, stakeholder and Agency comments generated from this Public Information Centre;
- Comments received by October 11, 2022 will be incorporated into a Public Information Centre summary which will include a summary of your written comments along with project related responses;
- Select Preferred Alternative and once Township Council endorsement is received;
- Issue Notice of Study Completion and provide Project File Report (PFR) for final public review and comment for a period of 30 days.



We Want to Hear from You

THANK YOU FOR YOUR PARTICIPATION

Please direct any comments, questions or suggestions relevant to this study to either of the following project team members by October 11, 2022:



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Phone: (519)634-8519 ext.9238

Fax: (519)634-5522

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Dot Roga, C.E.T Division Manager

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