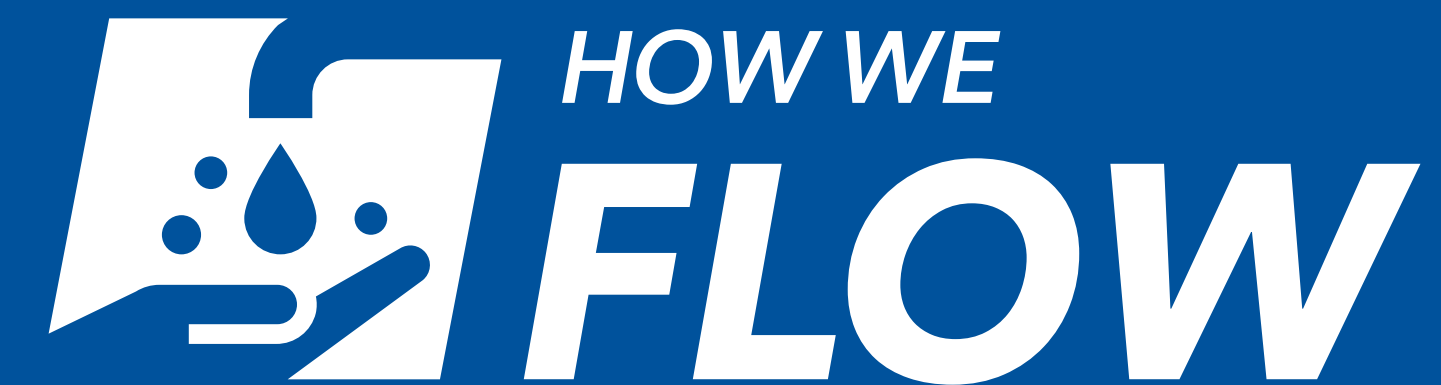




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WELCOME

Almonte Wastewater Treatment System Expansion

Public Information Centre 3 (PIC 3)

Wednesday, October 7, 2026

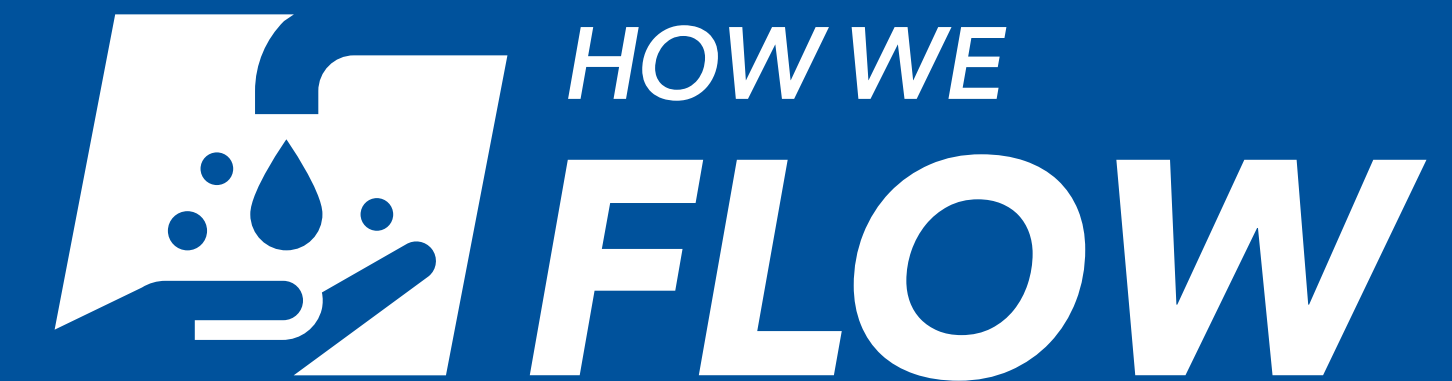
2:00 pm to 8:00 pm

Location: Almonte Old Town Hall (Multi-purpose room, Second floor), 14 Bridge Street, Almonte



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Key Instructions for this Meeting

Public Information Centre for Municipal Class Environmental Assessment

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.

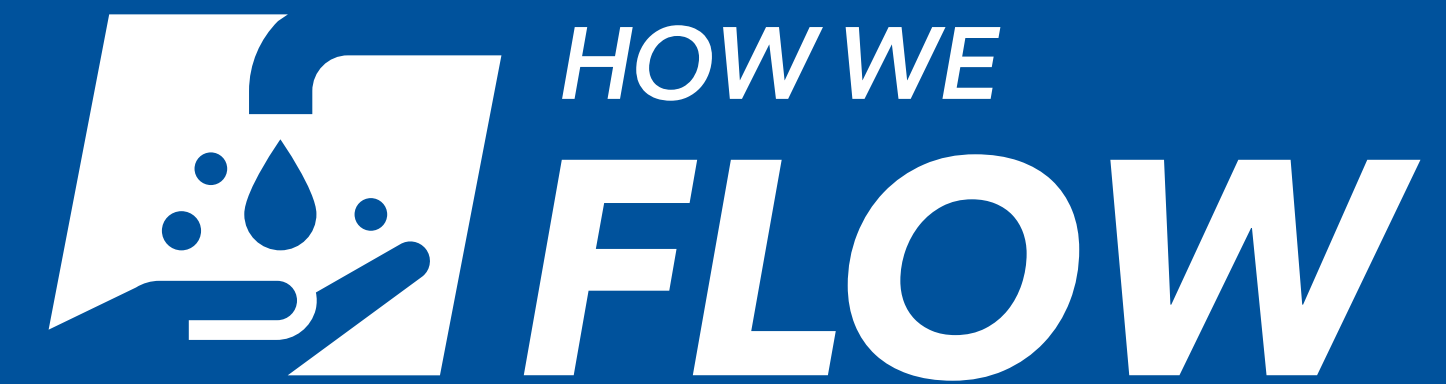
3

Post a Comment
Complete the online comment
form or post a comment on the final
display board.



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Why are we here today?

The Municipality is undertaking a Schedule B and C Municipal Class Environmental Assessment (Class EA) study for the Gemmill's Bay Wastewater Pumping Station and Mississippi Mills Wastewater Treatment Plant, respectively, to select the preferred alternatives to meet future wastewater pumping and treatment demands in Almonte. This Class EA study expands on the Municipality's 2024 Water and Wastewater Infrastructure Master Plan, which determined that the pumping station and treatment plant will require capacity expansions in the short-term to accommodate growth in Almonte.

Objectives of this Public Information Centre:



Recap the project background and study progress.



Present the preliminary preferred alternatives for the Gemmill's Bay Pumping Station and Mississippi Mills Wastewater Treatment Plant.



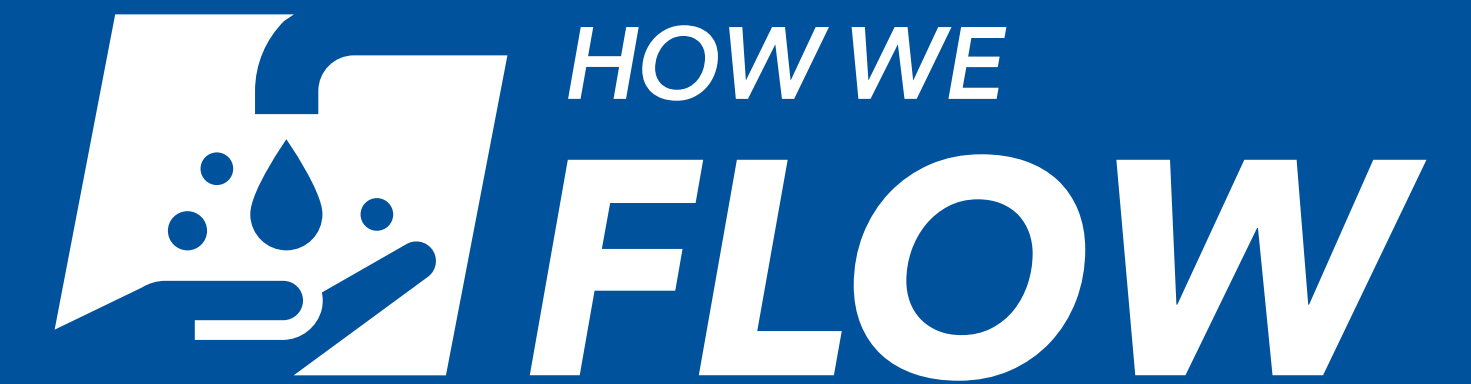
Receive comments from the public about the existing Gemmill's Bay Pumping Station and Mississippi Mills Wastewater Treatment Plant infrastructure, and preliminary preferred alternatives for this study.



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Class EA Context

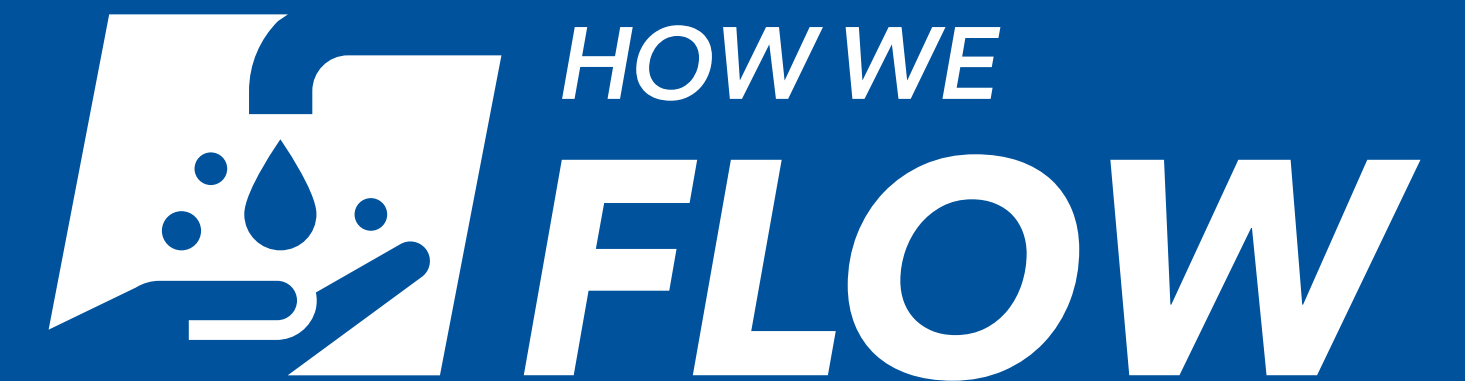
- The Class EA process meets **Ontario's Environmental Assessment Act (EAA)** by identifying problems or opportunities, and identifying, evaluating, and selecting a preferred means of addressing the problems or opportunities.
- A Class EA study enables the planning and implementation of municipal infrastructure to be undertaken in accordance with an approved procedure designed to protect the environment.
- Water and wastewater projects/activities are discussed in **Part C of the Municipal Class EA planning process**.
- **Schedule C Class EA** projects have the potential for more significant environmental effects.
- Municipalities are required to prepare an **Environmental Study Report (ESR) for Schedule C Class EA** projects for review by the public, Indigenous Communities, and review agencies.





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Municipal Class EA Process

Phase 1 Getting Started

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

NOTICE OF
COMMENCEMENT
May 21, 2025

PUBLIC INFORMATION
CENTRE NO. 1
June 4, 2025

Phase 2 Exploring the Options

- Identify ways to address servicing needs and associated potential impacts
- Present **Alternative Solutions**

**PUBLIC INFORMATION
CENTRE NO. 2**
June 22, 2026

- Evaluate and select Preferred Solutions based on **public, indigenous community, and review agency input**

Phase 3 Conceptualizing the Preferred Solution

- Explore technologies and/or design concepts to implement the Preferred Solution from Phase 2
- Identify impacts and mitigation measures
- Evaluate options and select the recommended **Preliminary Preferred Technologies and/or Design Concepts**

**PUBLIC INFORMATION
CENTRE NO. 3**
October 7, 2026

WE
ARE
HERE

Phase 4 Documenting the Process

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

NOTICE OF
COMPLETION
Target Q4 2026

Phase 5 Implementing the Recommendations

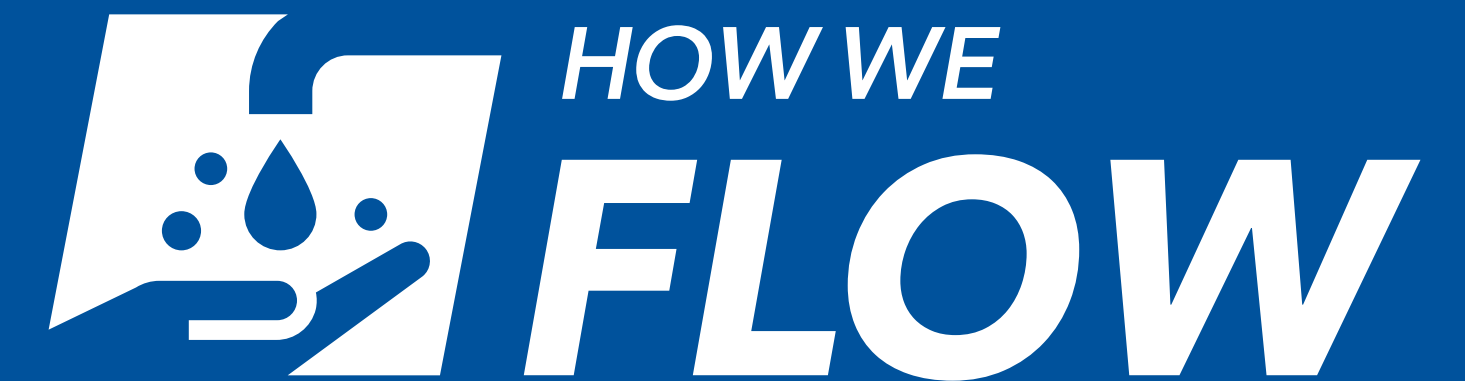
- *Complete detailed design of the recommended solutions*
- *Initiate construction*

Phases 1, 2, 3, and 4 of the Class EA Process will be completed during this Class EA.



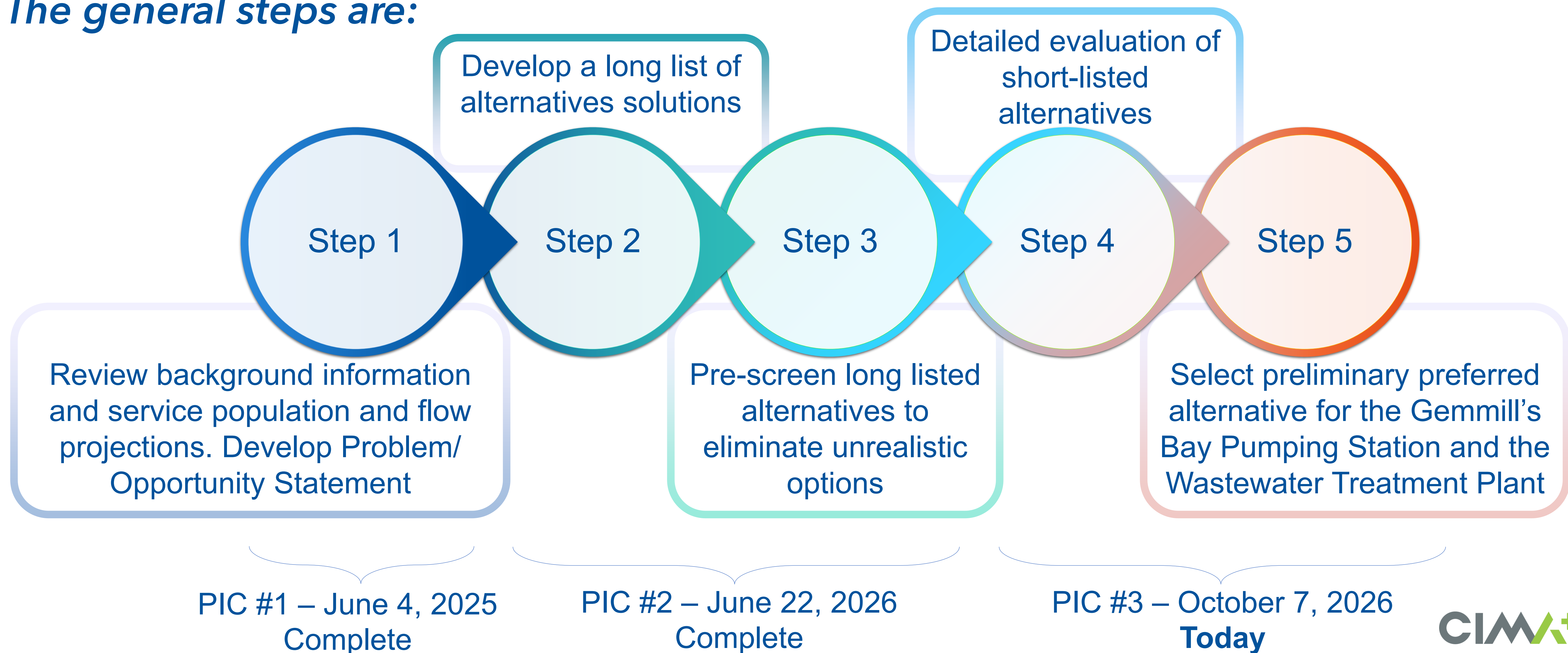
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Class EA Study Process for Gemmill's Bay Pumping Station and the Wastewater Treatment Plant

The general steps are:

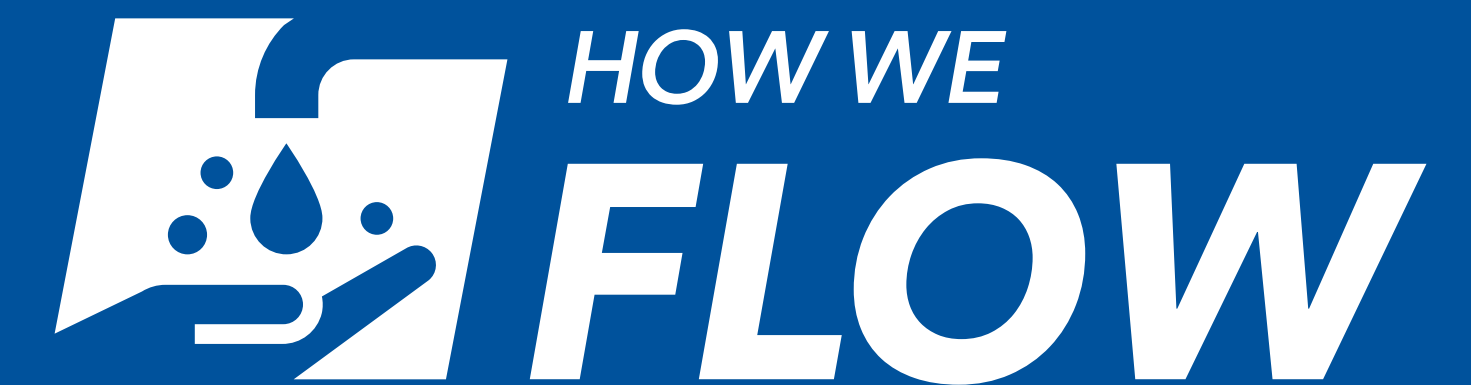




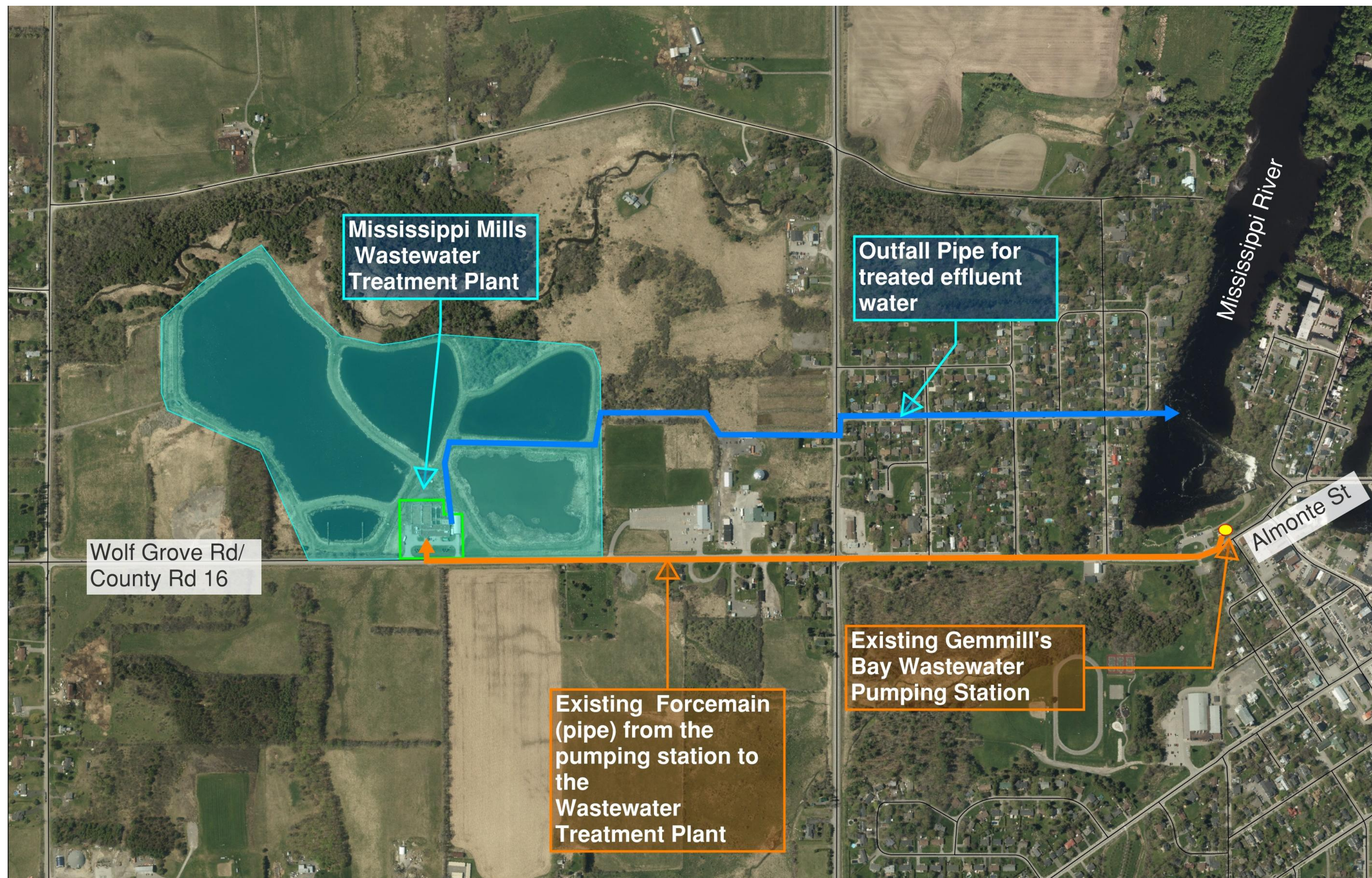
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How is wastewater managed in Mississippi Mills?



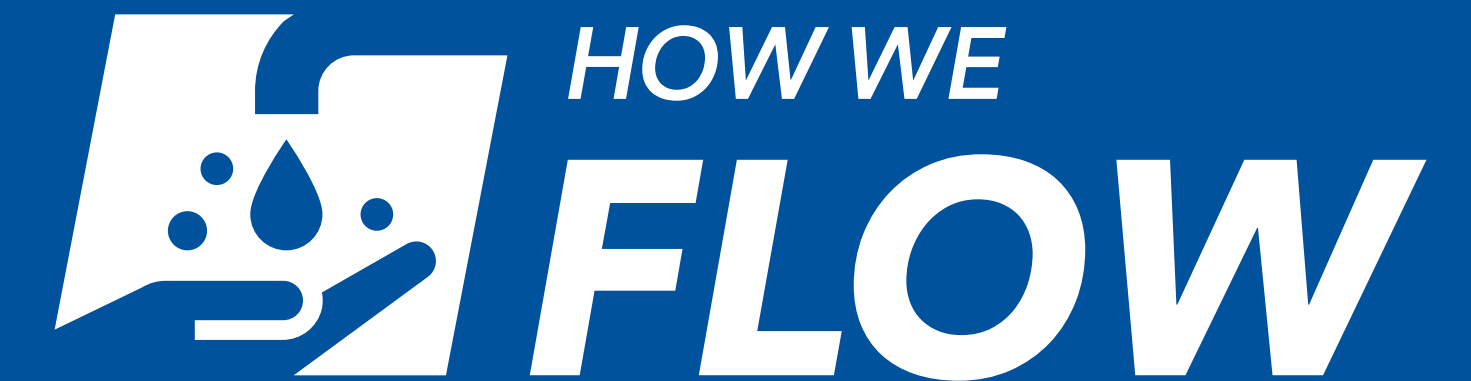
- Wastewater is generated at homes and businesses.
- In Almonte, a network of underground sewers and sewage pumping stations collects wastewater from homes and businesses and conveys it to the Gemmill's Bay Wastewater Pumping Station. The Pumping Station then pumps Almonte's wastewater to the Wastewater Treatment Plant.
- The Wastewater Treatment Plant is also capable of receiving and treating septage from the Municipality's rural areas.
- Wastewater is fully treated at the Wastewater Treatment Plant before clean effluent is returned to the local watershed via the Mississippi River.



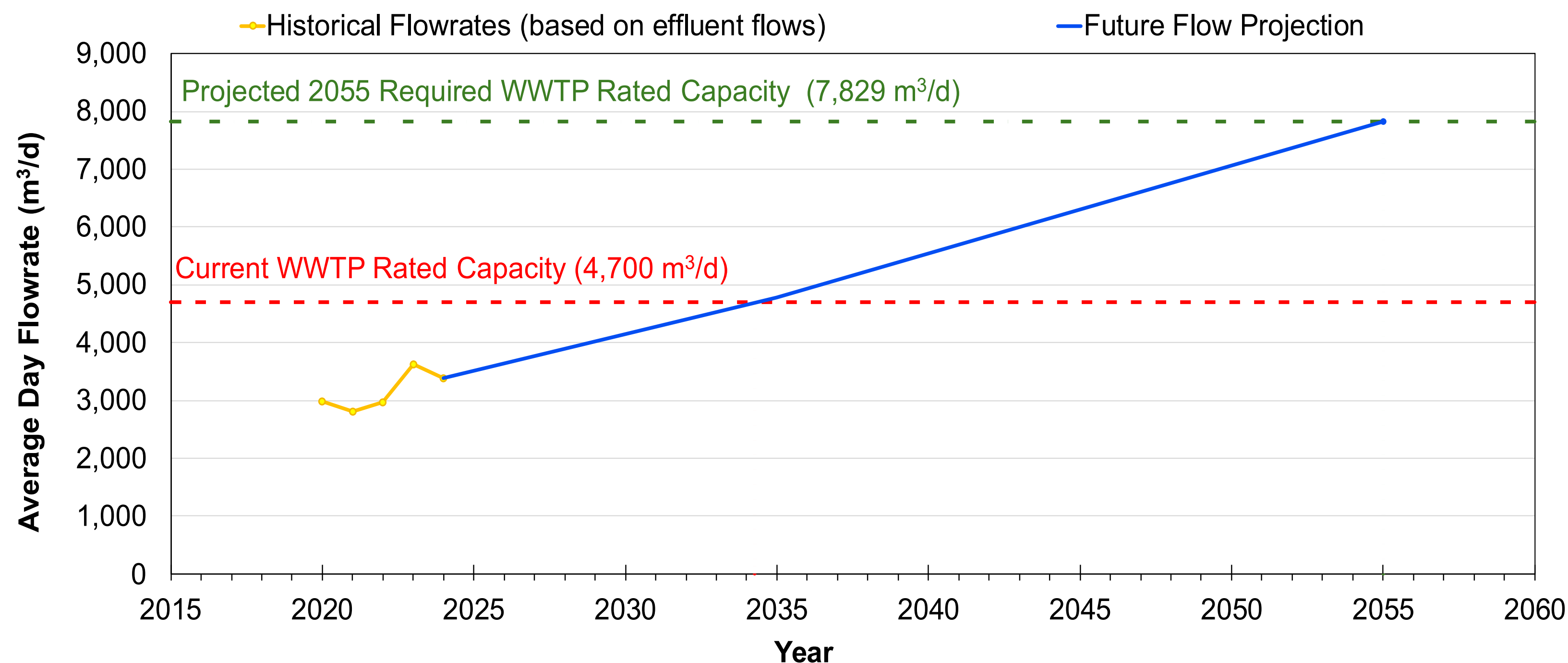
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Service Population and Flow Projections: Recap



- The Wastewater Treatment Plant currently receives an average of 3,155 cubic metres of wastewater each day. This represents 67% of its treatment capacity of 4,700 cubic metres per day. With current approved developments in Almonte, 90% of the Wastewater Treatment Plant's capacity has been reserved.
- It is expected that with anticipated population and housing growth, the Plant will exceed its rated capacity by the year 2034. In the year 2055, the wastewater system is expected to receive approximately 7,829 cubic metres of wastewater per day.
- Under high flow conditions, such as during the spring melt, the wastewater flowing to the Wastewater Treatment Plant exceeds its peak treatment capacity of 14,100 cubic metres per day. When this happens, excess wastewater is diverted to a storage pond temporarily.
- The Gemmill's Bay Wastewater Pumping Station does not have sufficient capacity to pump existing and projected peak wastewater flows to the Wastewater Treatment Plant.

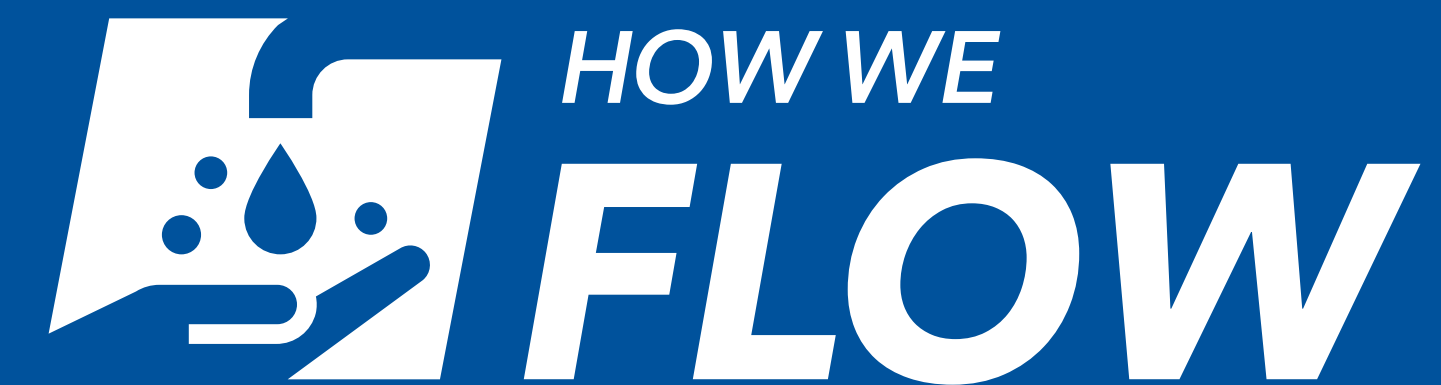
Parameter	Facility Capacity	Existing	Short-Term (2025-2035)	Mid-Term (2035-2045)	Long-Term (2045-2055)
Population	-	6,926	9,962	12,722	15,482
Treatment Plant Average Daily Flow, m ³ /d	4,700	3,155	4,778	6,303	7,829
Treatment Plant Peak Daily Flow, m ³ /d	14,100	15,820	20,200	24,320	28,440
Pumping Station Peak Flow, m ³ /d	21,000	25,000	31,489	37,592	43,696



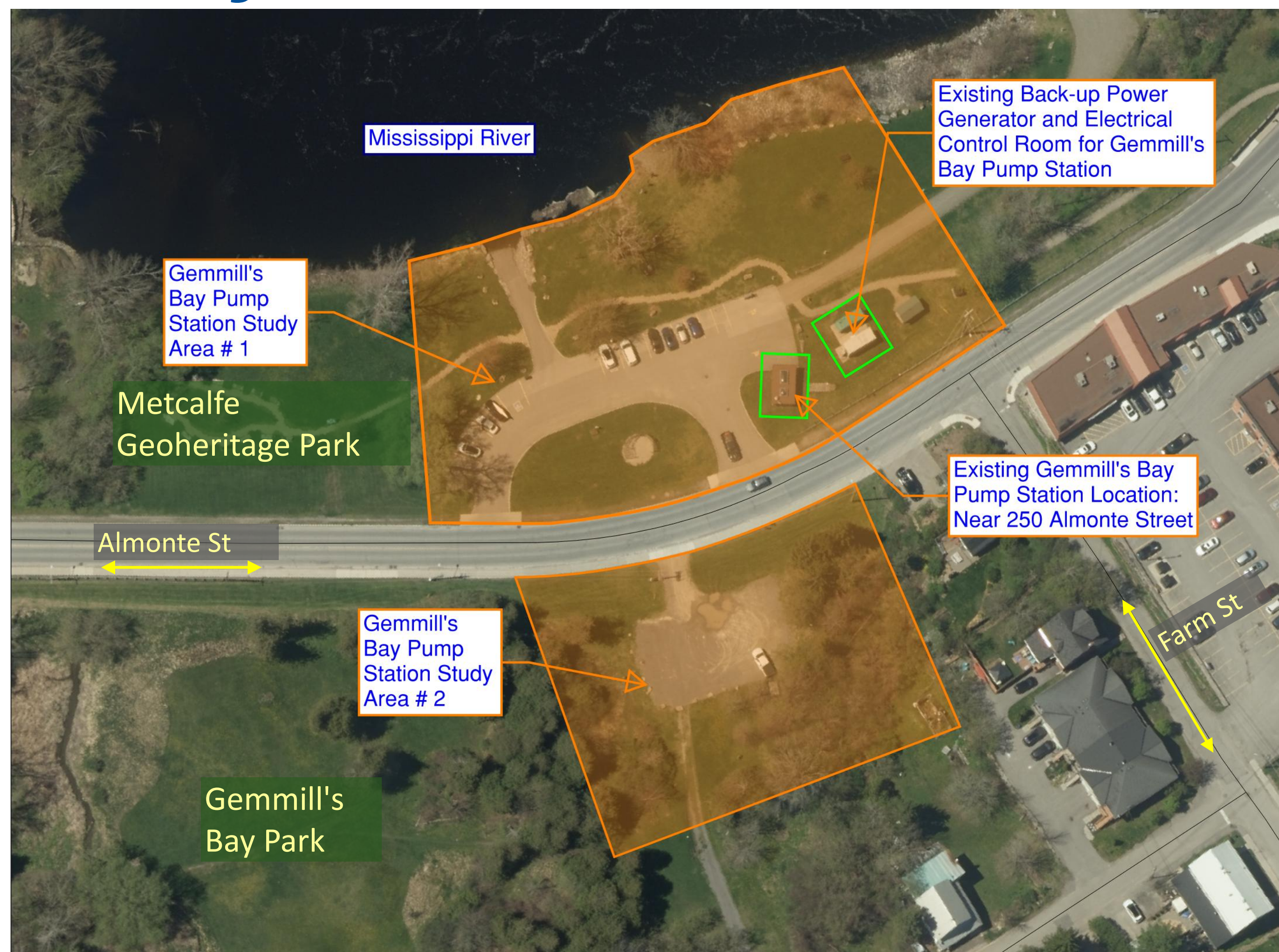
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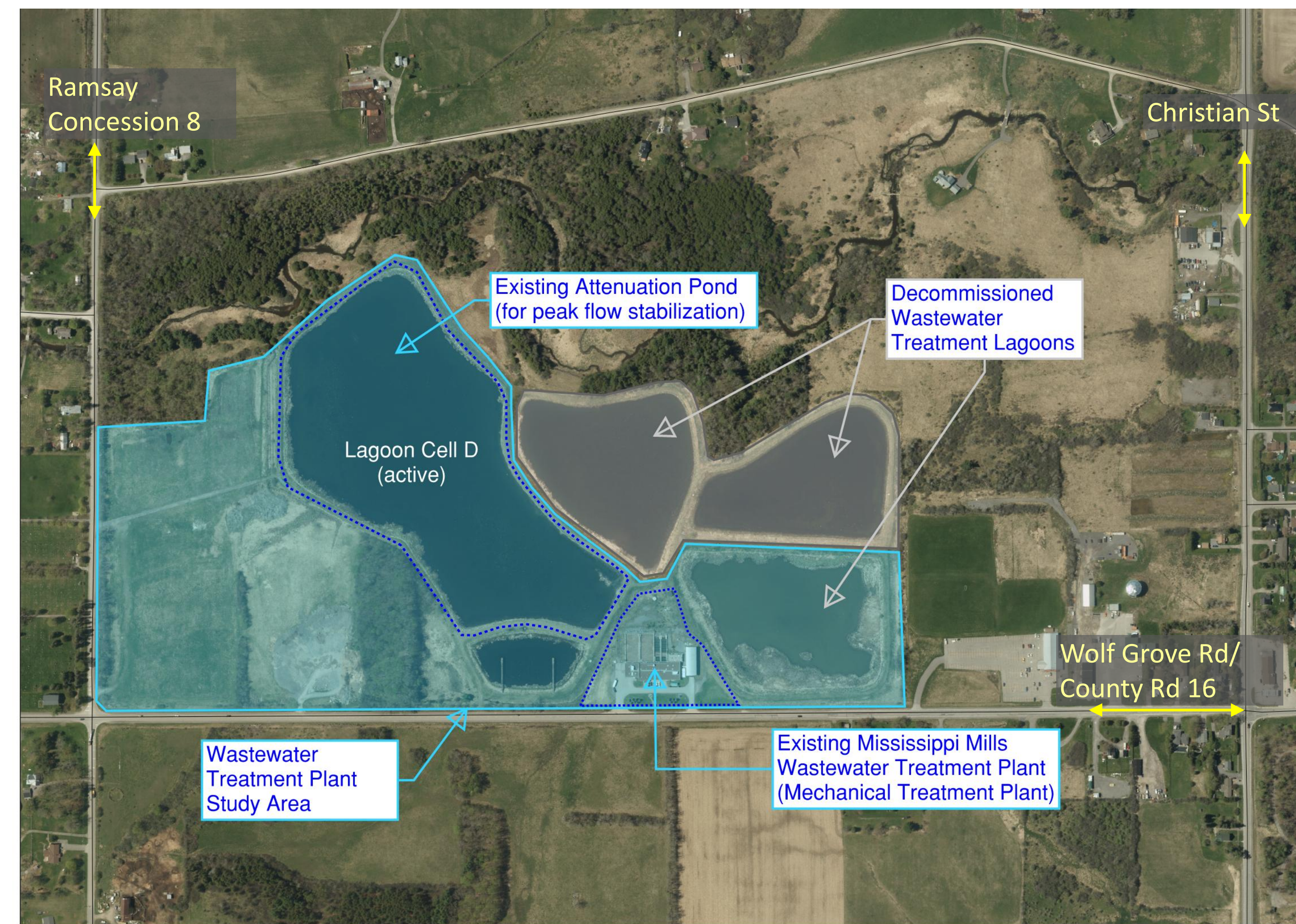
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Study Area Limits



Gemmill's Bay Wastewater Pumping Station



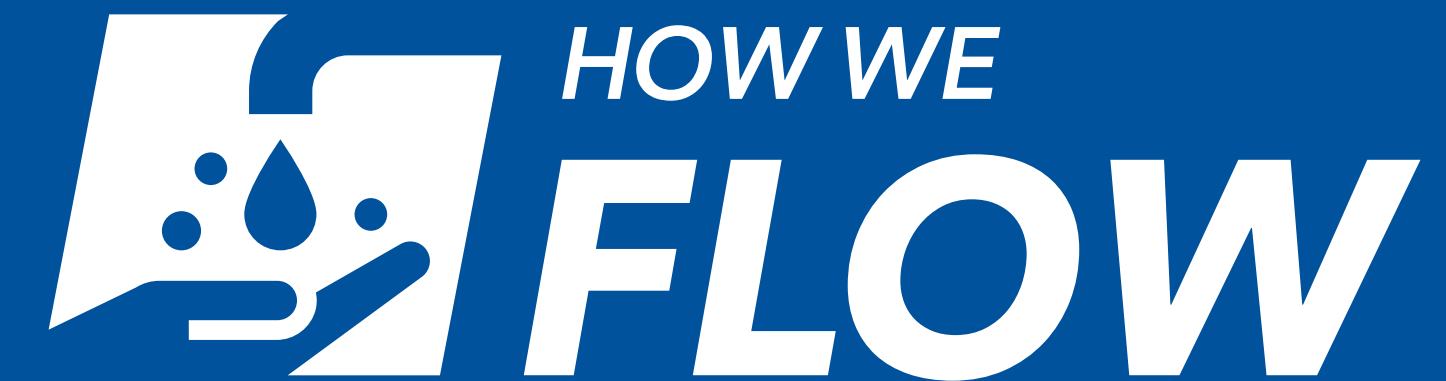
Mississippi Mills Wastewater Treatment Plant

These two study areas have been used to demarcate areas for supporting studies, including the cultural heritage and heritage impact assessment reports, the archaeological assessment report, and the natural environment assessment report.



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Background information: Recap

Gemmill's Bay Pumping Station

- The pumping station was originally built in the 1960s and has undergone various upgrades.
- The station contains three sewage pumps.
- Currently, the station lacks adequate screening, which results in wear and tear on the sewage pumps from larger solids present in the wastewater.
- The station is operating at capacity during existing wet weather events.
- Bypass events, where raw wastewater is diverted to the Mississippi River, have occurred in the past 5 years at the pumping station.
- Other key considerations:
 - The existing buildings and tanks are space constrained, which limits expansion options.
 - The pumping station's current site is adjacent to a park and boat launch, which limits the land available for new construction or expansion.
 - Gemmill's Bay Wastewater Pumping Station is located within a Heritage Conservation District and the Secondary Plan for Downtown Almonte.

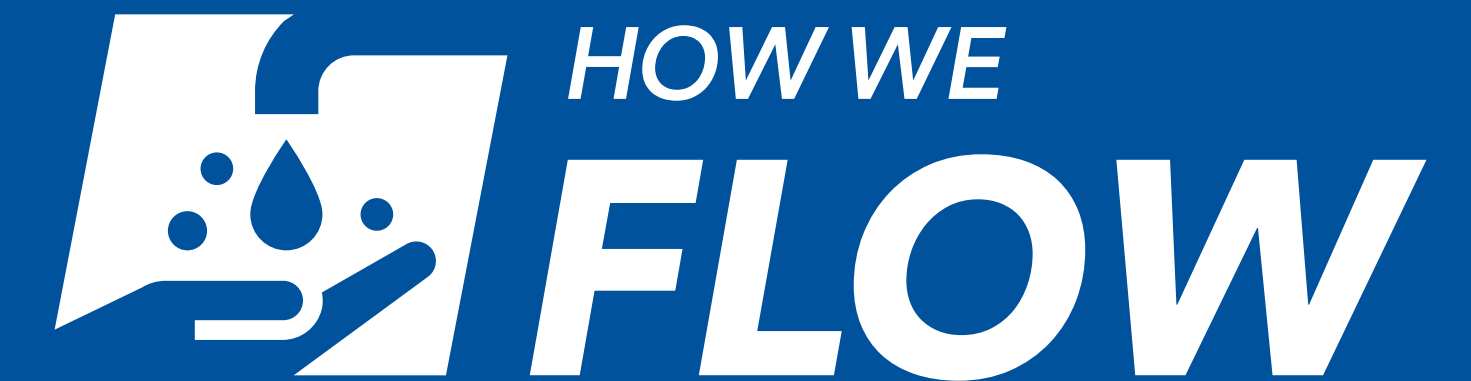
Mississippi Mills Wastewater Treatment Plant

- The current Wastewater Treatment Plant is a mechanical plant built in 2012 to replace the original sewage treatment lagoons.
- Lagoon Cell D currently provides temporary storage of peak flows for the plant.
- The Wastewater Treatment Plant currently experiences operational challenges managing and treating peak flows.
- Future flow projections up to the year 2055 indicate that the Wastewater Treatment Plant will require an average daily treatment capacity increase to 7,829 cubic metres per day, and increased capacity for managing peak flows.
- Other key considerations:
 - The existing Wastewater Treatment Plant's concrete tank layout limits expansion options within the existing footprint for key treatment processes.
 - Sufficient land is available on the current Wastewater Treatment Plant's site for new construction or expansion.



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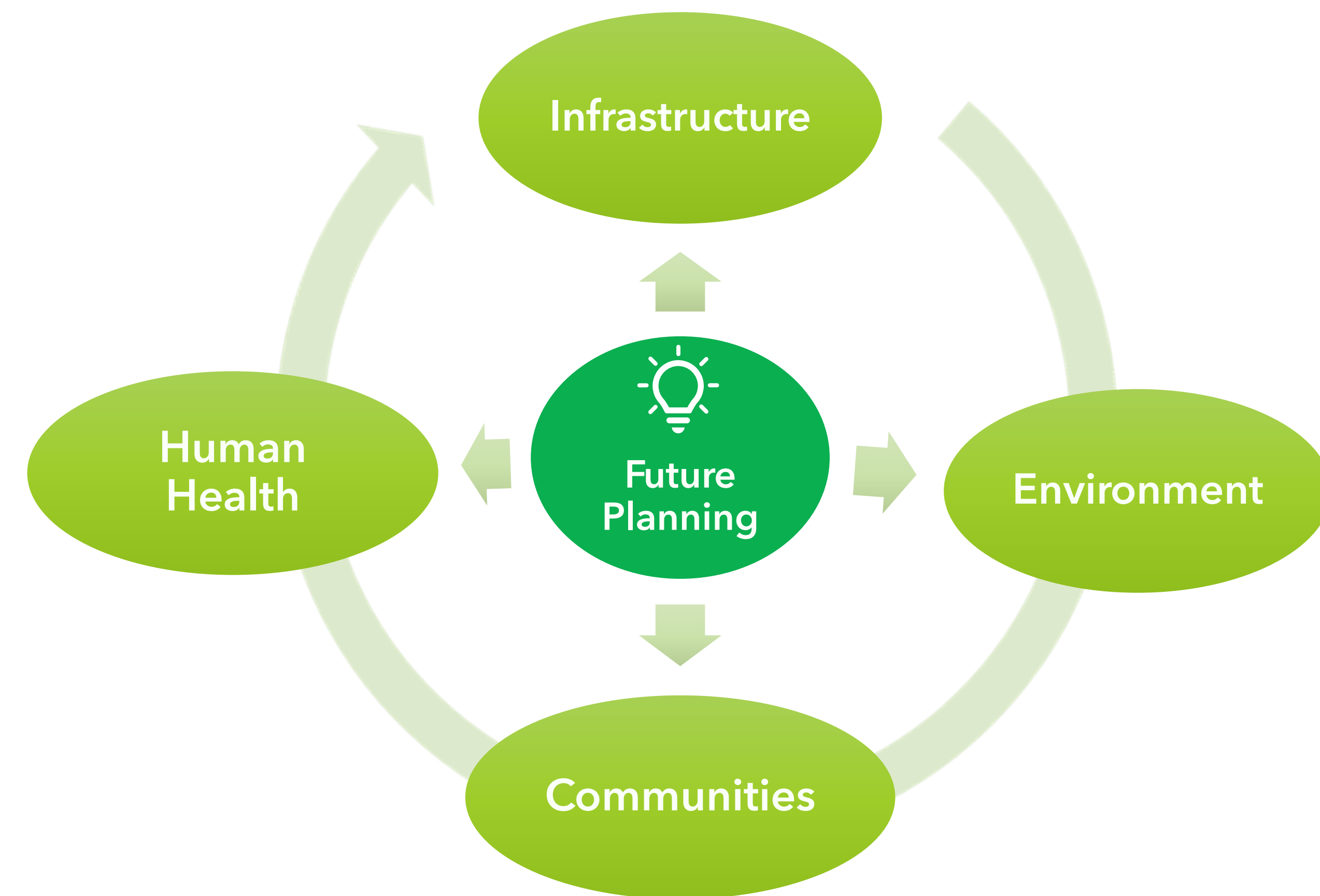
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Problem / Opportunity Statement:

The Gemmill's Bay Wastewater Pumping Station and Mississippi Mills Wastewater Treatment Plant require capacity expansions in the short-term to accommodate projected wastewater flows for servicing the community to year 2055.

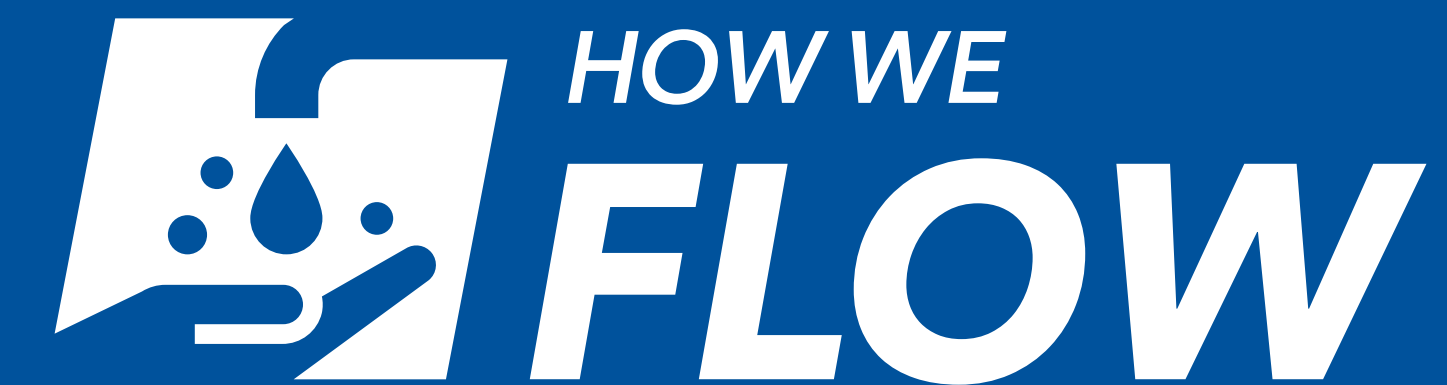
Alternative solutions should minimize collective impacts of social, operational, environmental, and economic factors while efficiently utilizing existing infrastructure and increasing climate change resilience.





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How were short-listed alternatives evaluated?

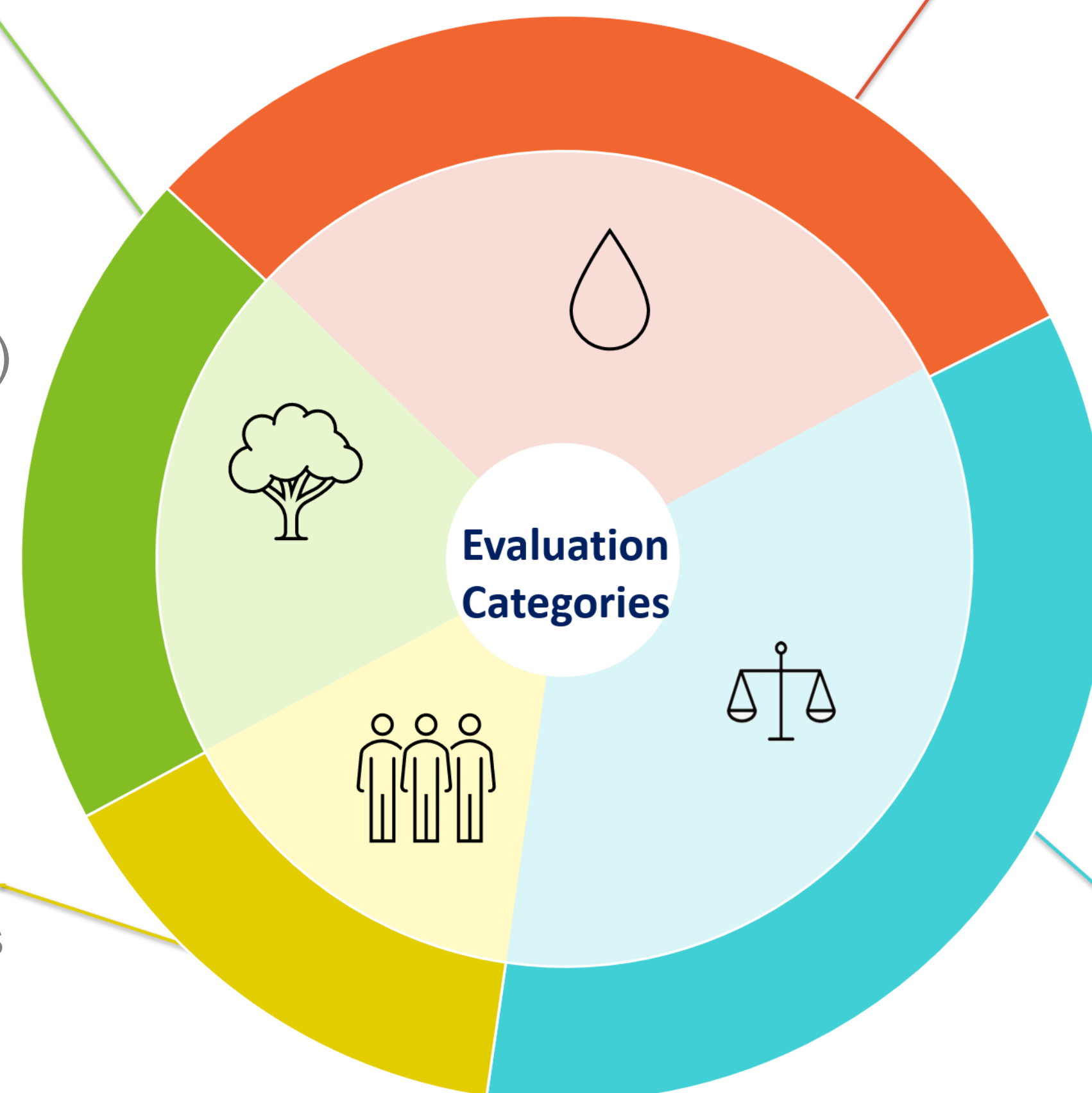
In Phase 3 of the Class EA study, the short-listed alternatives were subjected to a detailed evaluation to determine their relative socio-cultural, technical and operational, environmental, and economic benefits.

Natural Environmental – 20%

- 25 | Source Water Protection
- 15 | Minimize air/solids emissions and site impacts
- 10 | Minimize impacts on species at risk
- 25 | Minimize impacts on Climate Change (GHG & Carbon Footprint)
- 25 | Flexibility of treatment processes (Climate Change Resiliency)

Socio-Cultural – 15%

- 40 | Minimize odour during operations
- 25 | Minimize impacts on neighboring properties
- 15 | Minimize noise
- 10 | Minimize truck traffic
- 10 | Minimize footprint and site impacts



Technical and Operational – 35%

- 15 | Meets Effluent Quality Criteria
- 15 | Flexibility to respond to variable raw wastewater quality and low initial loads
- 10 | Compatibility with existing infrastructure, available site area
- 5 | Compatibility with hydraulic grade line requirements
- 15 | Constructability and Construction Schedule
- 10 | Proven Technology with strong track record; pilot testing, start-up needs, ease of approvals
- 5 | Process complexity & operator training
- 10 | Process robustness and redundancy
- 20 | Operation and maintenance requirements

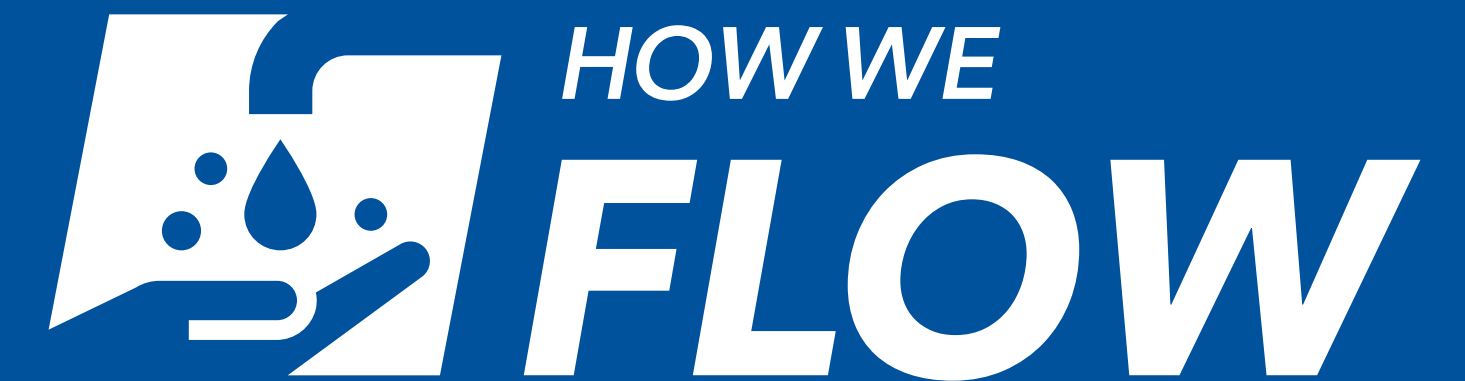
Economic – 30%

- 60 | Capital costs (maximise asset reuse)
- 40 | Operational costs / LCC



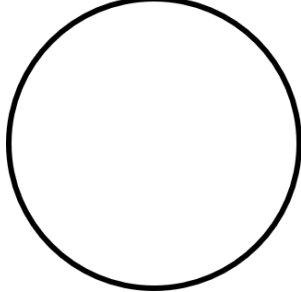
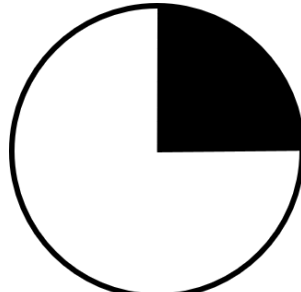
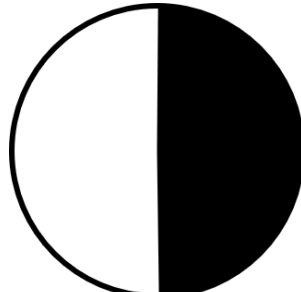
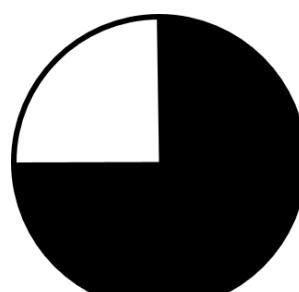
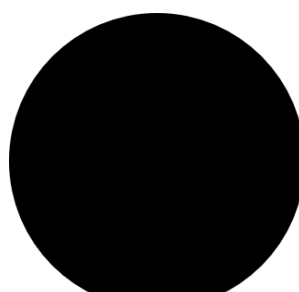
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How were short-listed alternatives scored?

Short-listed alternatives were assessed relative to each other and assigned a score based on potential socio-cultural, technical, environmental, and economic impacts and available mitigation measures. Scores were based on the following scoring approach:

				
Scores according to the evaluation criteria are very low. The losses are far greater than the gains.	Scores according to the evaluation criteria are low. Implementation would require extensive mitigation measures to reduce impacts.	Scores according to the evaluation criteria are moderate. The gains are on par with the losses.	Scores according to the evaluation criteria are moderately high, with some drawbacks. The gains outweigh the losses.	Scores according to the evaluation criteria are relatively high. Good feasibility, low complexity and provides a viable solution.

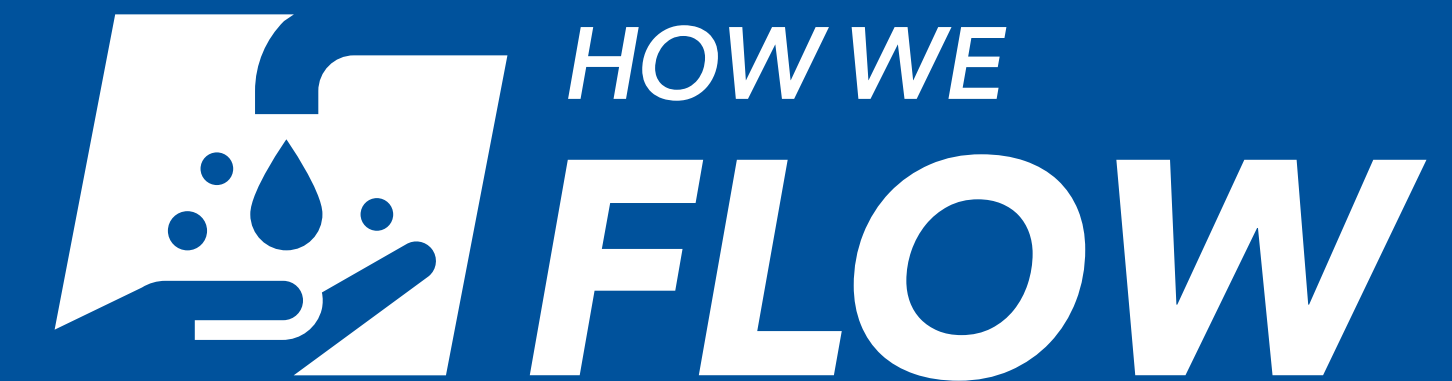
Least Preferred

Most Preferred



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Phase 2 pre-screening of alternatives: Recap

Gemmill's Bay Wastewater Pumping Station

No.	Alternative Servicing Strategy	Pre-Screening Assessment	Shortlisted
4a	Retrofit the Existing Pumping Station	- Expansion of existing underground concrete infrastructure will be challenging to design and construct. - Age of existing infrastructure adds high complexity to retrofit. - Costly bypass pumping will be required during implementation.	No
4b	New Pumping Station on Existing Site	- New infrastructure will address existing constraints, particularly for peak flows, and will have increased lifetime with sizing to meet future capacity requirements. - The existing pumping station can remain online during construction. No land acquisition needed.	Yes
4c	New Pumping Station on New Site	- New infrastructure will address existing constraints, particularly for peak flows, and will have increased lifetime with sizing to meet future capacity requirements. - The existing pumping station can remain online during construction. - No land acquisition needed.	Yes

Mississippi Mills Wastewater Treatment Plant

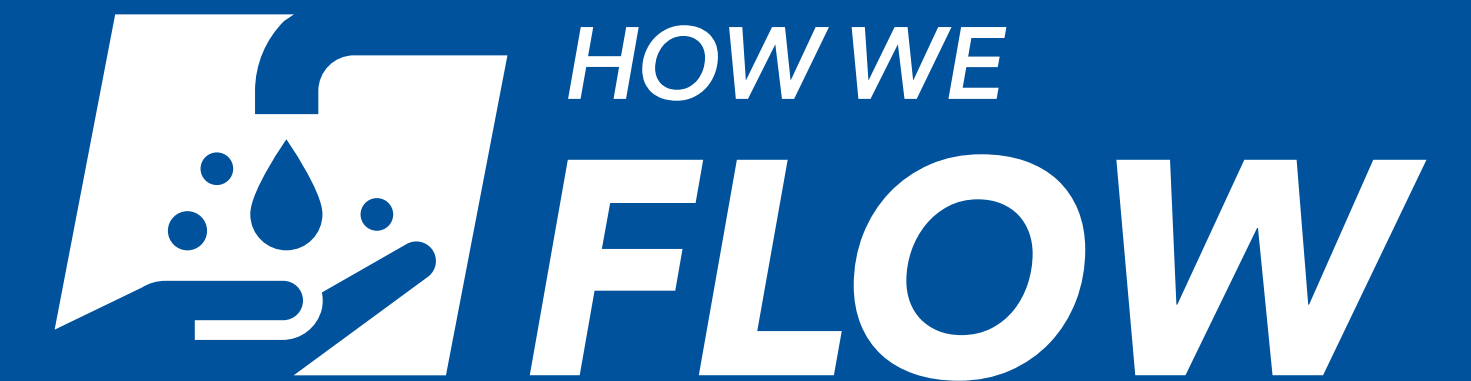
No.	Alternative Servicing Strategy	Pre-Screening Assessment	Shortlisted
5a	Process Optimization of Existing WWTP	- Process optimization can provide some additional capacity, particularly for peak flow treatment. - Can help to delay major upgrades to meet future capacity requirements but cannot provide long-term treatment capacity. - Recommended for consideration with a short-listed alternative.	Short Term Solution
5b	Retrofit the Existing WWTP	- Process retrofits can offer adequate treatment capacity expansion though modification or additions to existing WWTP. - Can be implemented with lower cost than construction of a new WWTP. - New infrastructure must be constructed close to existing infrastructure, which adds construction complexity.	Yes
5c	New WWTP on Existing Site	- A new treatment plant can be sized to accommodate future growth and increased flows, while the existing plant is maintained to treat existing flows. - Minimal disruptions anticipated to the existing treatment plant operation, reducing construction complexity.	Yes
5d	New WWTP on New Site	- A new treatment plant can be sized and located on a new site, to accommodate future growth and increased flows, while the existing plant is maintained to treat existing flows. - The new plant can be located closer to proposed growth areas to limit wastewater sewer and pumping requirements.	Yes

Reduce Inflow and Infiltration was also noted as a short-term solution, for both the Pumping Station and the Wastewater Treatment Plant, via the Phase 2 pre-screening of alternatives



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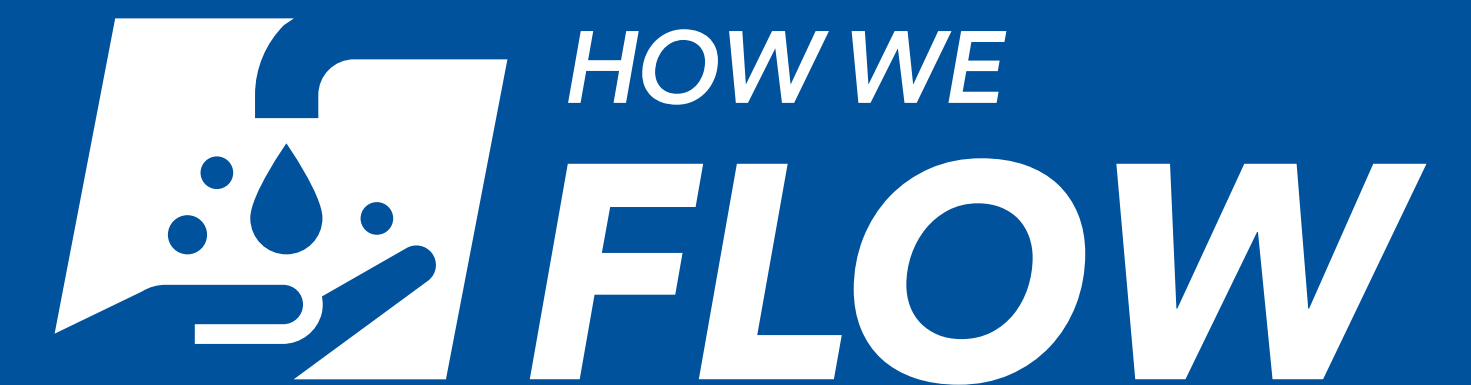
Phase 2 Summary: Gemmill's Bay Pumping Station

Evaluation Criteria	Alternative 4b – New Pumping Station on Existing Site	Alternative 4c – New Pumping Station on New Site
Key descriptors of Alternative Design Concept	• New pump station will be sized for future peak flows. • Limited availability of land area on existing site (constraints from the boat launch); Sizing of new pump station has higher complexity. • Construction implementation will also require extensive coordination to work around the boat launch. • The area is part of the Heritage Conservation District, requiring detailed supporting studies and possible associated approvals. • Site location is in very close proximity to the Mississippi River and the aquatic environment → Higher risk of construction impacts. • No change in status quo expected during regular operations for noise, truck traffic, and odour impacts. • Costs are slightly higher for this alternative.	• New pump station will be sized for future peak flows. • Proposed location is across the road, hence, does not have constraints arising from the boat launch. Existing access road and parking lot at the site will need to be rerouted and relocated. • Sizing of new pump station can be done with more flexibility in terms of area footprint. Some new tie-in piping will be required. • The area is not part of the Heritage Conservation District, hence, does not require extensive associated studies / possible approvals. • Site is farther away from the Mississippi River and the aquatic environment → Lower risk of associated construction impacts. • No change in status quo expected during regular operations for noise, truck traffic, and odour impacts. • Costs are more advantageous for this alternative.
Social & Cultural (15%)	●	●
Natural Environment (20%)	●	●
Technical (35%)	●	●
Economic (30%)	●	●
Overall Scores	● Least Preferred	● Most Preferred



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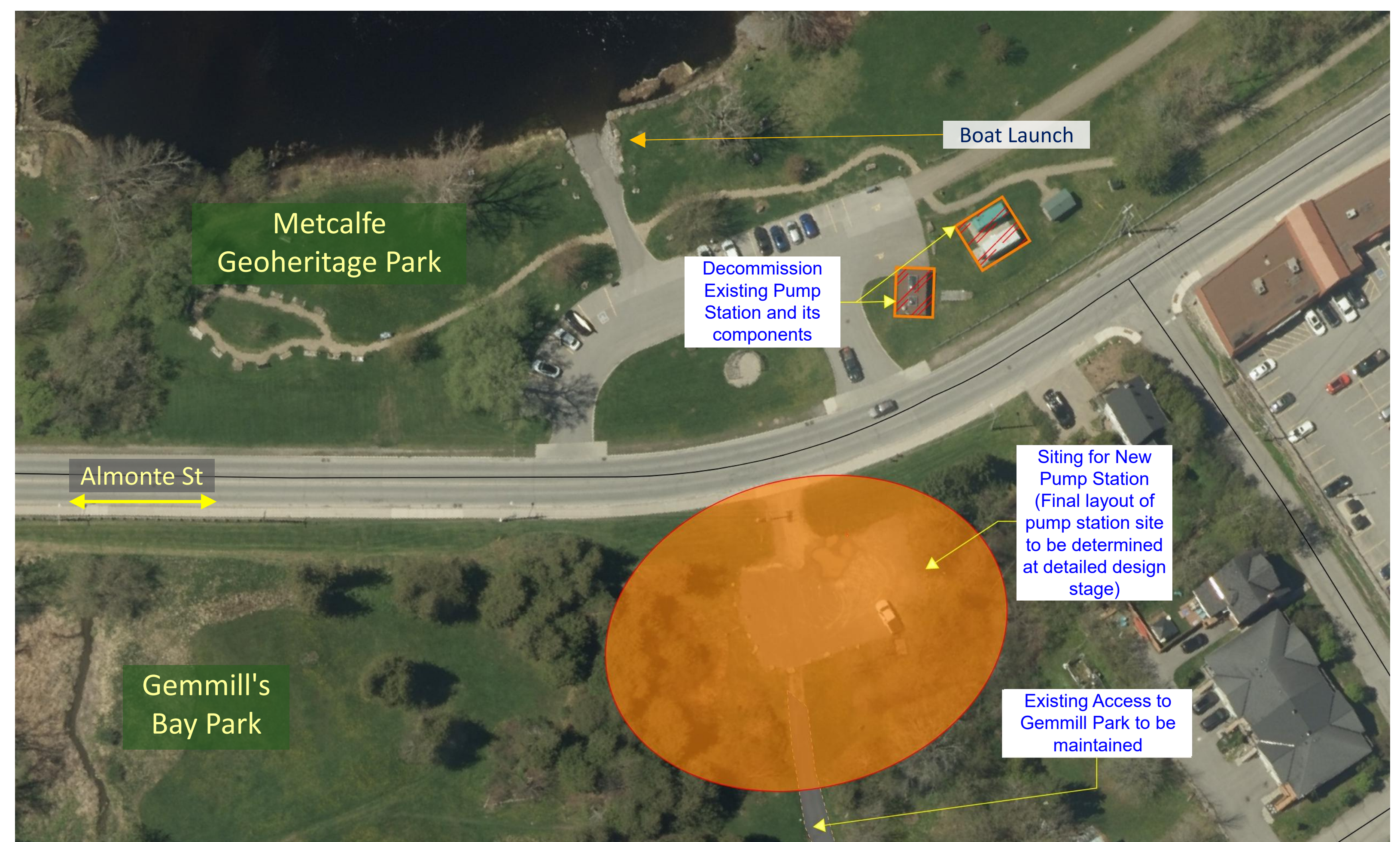


New Gemmill's Bay Pumping Station on New Site: Preliminary Siting

The new pump station will require:

- Screening and flow monitoring
- Two (2) wet wells
- Four (4) pumps
- Associated piping and valving
- Tie-in to the existing collection system
- Tie-in to the existing forcemain supplying the Wastewater Treatment Plant
- Tie-in to the overflow
- Back-up power generator and fuel tank
- Electrical control room
- Access road and parking

Estimated costs are **\$15M** for the New Station



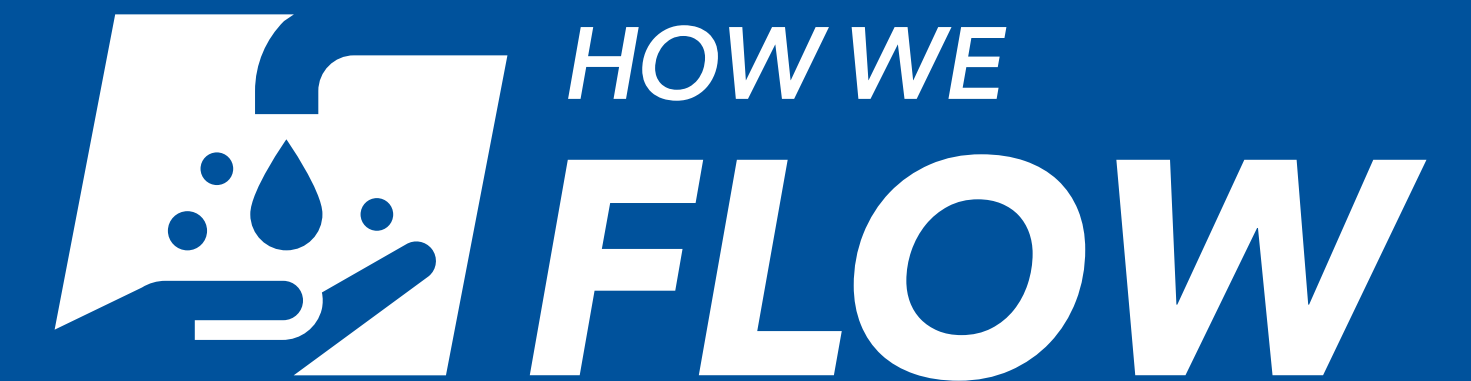
Gemmill's Bay Pumping Station's preferred alternative to proceed with implementation, since the requirements for the Schedule B Municipal Class EA Process have been fulfilled.



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Phase 2 Summary: Wastewater Treatment Plant

Evaluation Criteria	Alternative 5b – Retrofit the Existing Wastewater Treatment Plant	Alternative 5c – New Wastewater Treatment Plant on Existing Site	Alternative 5d – New Wastewater Treatment Plant on New Site
Key descriptors of Alternative Design Concept	- Location on existing site allows for high efficiency of operation, maintenance, and trucking for chemical deliveries and sludge haulage. - The primary disadvantage → added design and construction complexity required for phasing the upgrades, while maintaining continuous wastewater treatment. - Minimal construction impacts. - Existing outfall will be reused. - Most cost-effective alternative.	- Similar to Alternative 5b, location on existing site allows for high efficiency of operation, maintenance, and trucking for chemical deliveries and sludge haulage. - The primary disadvantage → higher extent of construction required for a new plant. - Higher construction impacts from construction and excavation. However, the existing outfall can be reused. - Less cost-effective than alternative 5b, but is more cost-effective than alternative 5d.	- New site → More laborious operation, maintenance, due to two active facilities. More resources and staff required. Increases trucking for chemical deliveries and sludge haulage. - Highest extent of construction → New plant, in a new location that will likely be undisturbed land. Higher extent of studies and approvals required. A new outfall pipe will be required → more laborious and costly. - Higher construction impacts, and possible tree removals. - Least cost-effective alternative, most expensive.
Social & Cultural (15%)			
Natural Environment (15%)			
Technical (35%)			
Economic (30%)			
Overall Scores	 Most Preferred	 Not Preferred	 Least Preferred

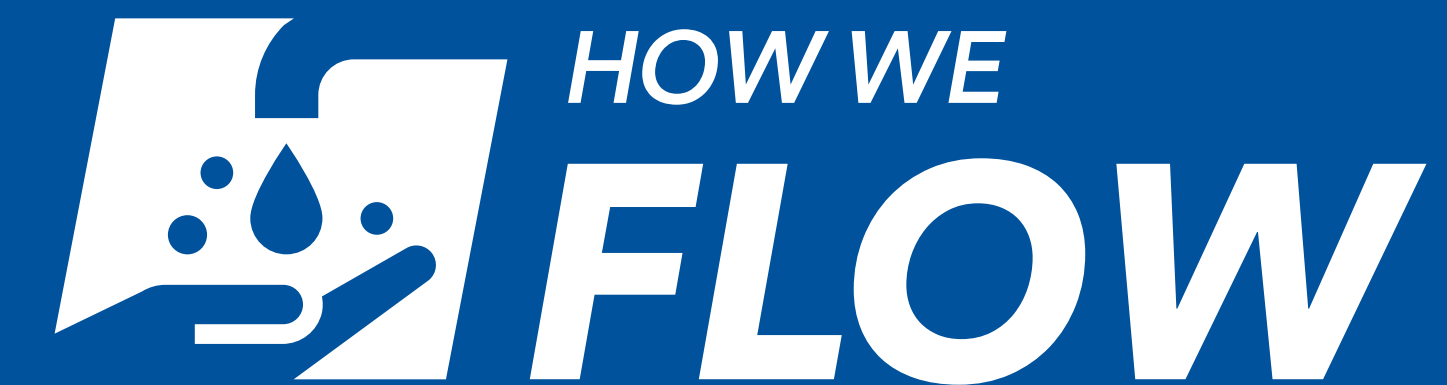
The Wastewater Treatment Plant will proceed to Phase 3 for further evaluation, in line with [Schedule C Class EA requirements](#)





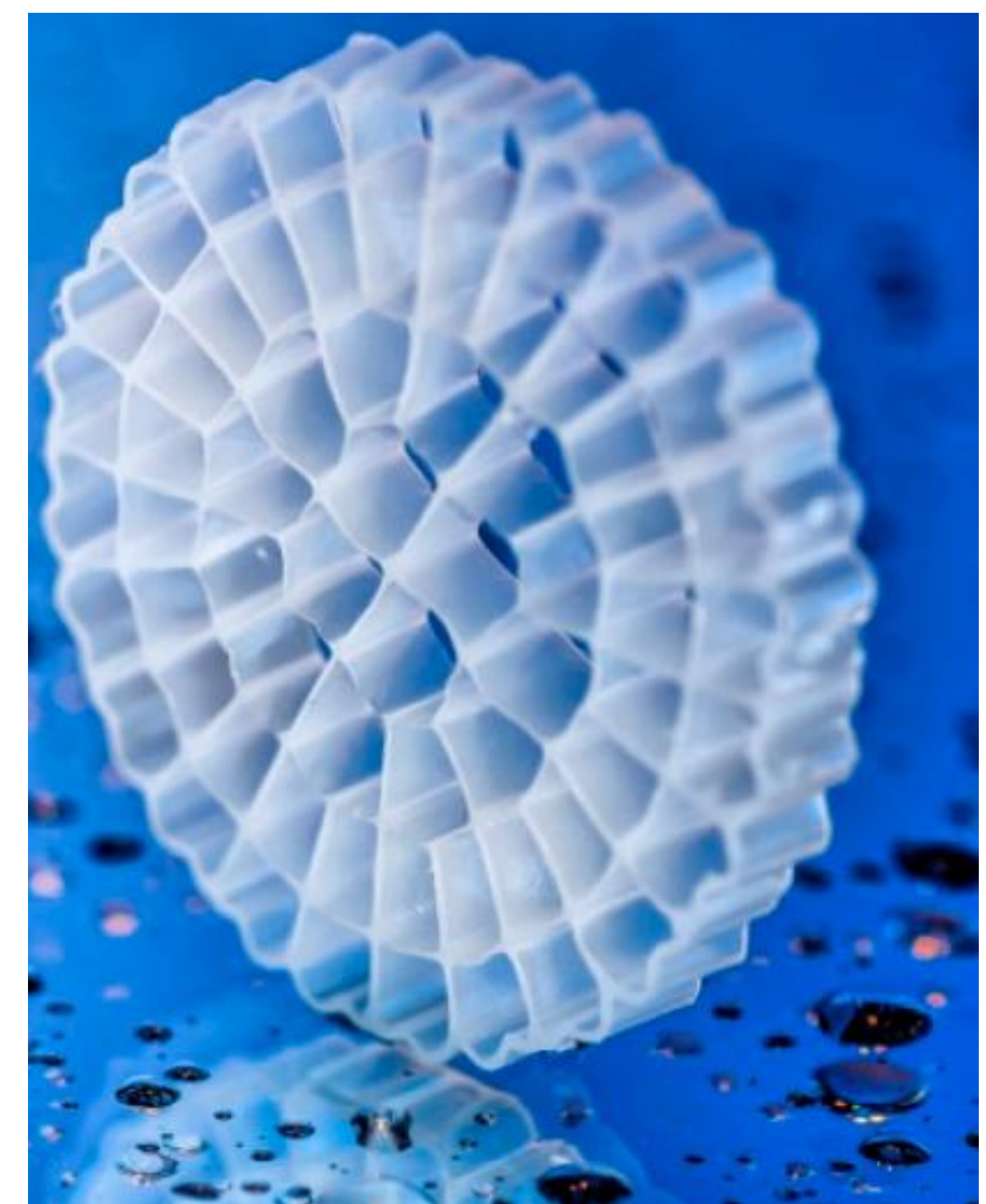
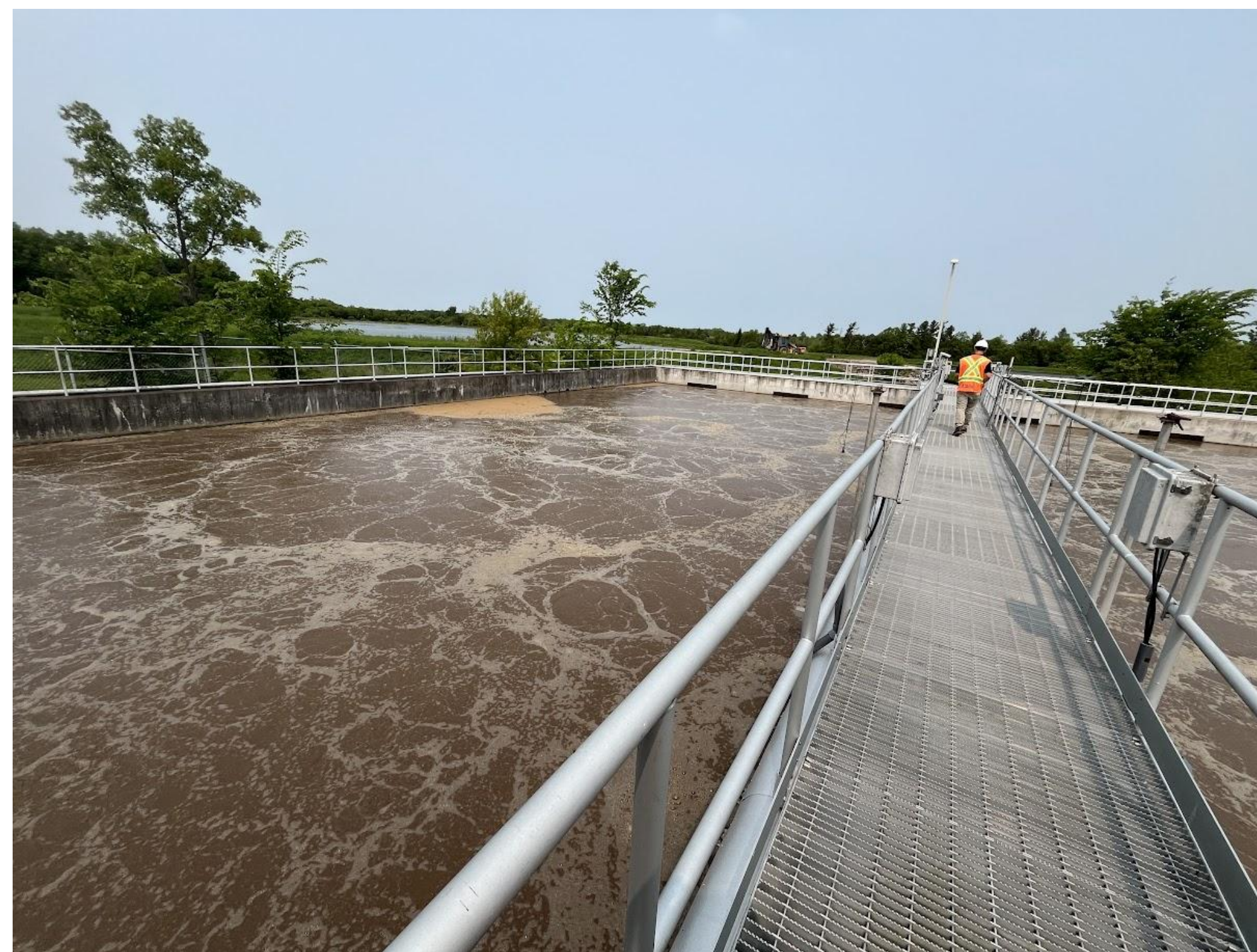
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Moving from Phase 2 to Phase 3: Wastewater Treatment Plant

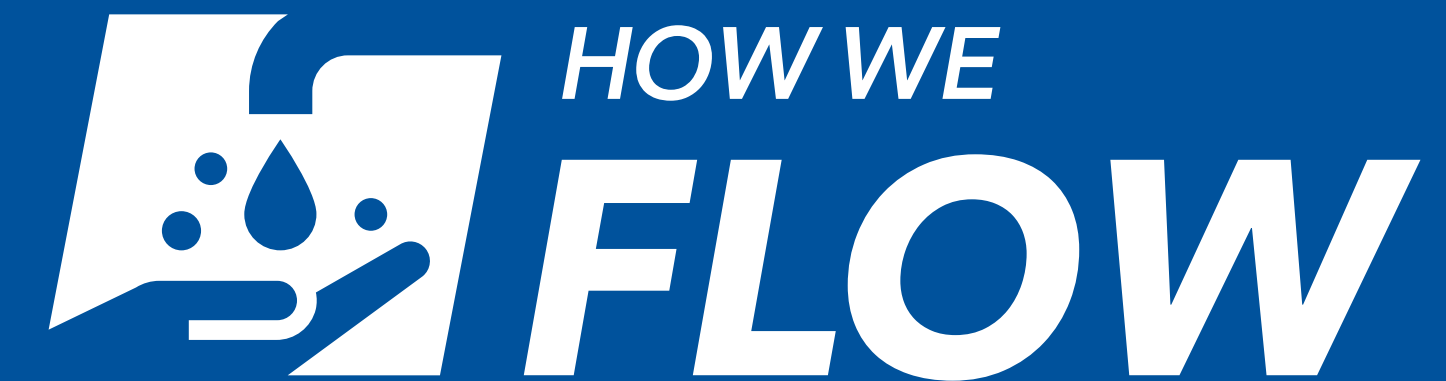
- After Phase 2, based on **Schedule C Class EA requirements**, the Wastewater Treatment Plant will require further evaluation through Phase 3 of the Class EA process.
- The Phase 3 evaluation follows the same process as Phase 2, however, Phase 3 focuses on the detailed evaluation of technologies and design concepts to support the Phase 2 Preferred Solution.





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Phase 3 Alternatives Development and Evaluation - Headworks:

- By 2035, the existing screens will have insufficient capacity to provide full redundancy to meet MECP guidelines. However, both screens operating together have sufficient capacity to meet 2055 PIF.

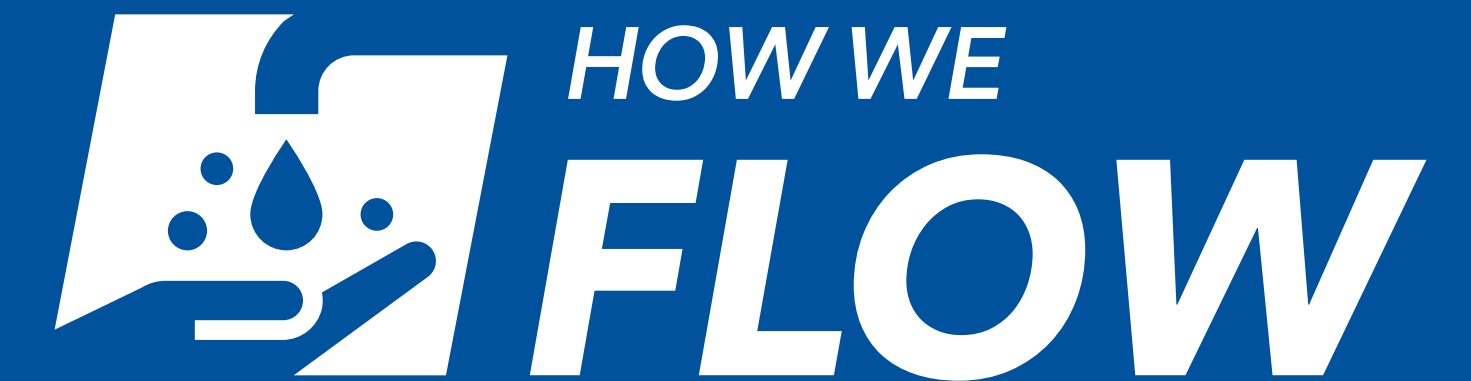
Evaluation Criteria	Description	Rating
Alternative 1: Building expansion – new channel for new screen and grit	• New channel will provide full redundancy for 2055 peak flows and better facilitate maintenance, if one screen needs to be offline. • Expansion will be complex due to the building modifications required to add a new channel. Existing concrete slab and walls will need to be demolished and rebuilt. • Added complexity for flow splitting and to maintain the hydraulic grade line through the new vs. existing channels.	
Alternative 2: Replace existing screens with upsized screens	• Upsizing of screens will provide full redundancy for 2055 peak flows. • Significant capital expenditure for replacement of both screening units with upsized models. Does not take advantage of existing screens' remaining asset life. • Upsized screens will require larger area and possibly larger screening channels than existing screens. Significant cost may be required to increase width of existing channels. • High complexity to ensure uninterrupted flow through Headworks during construction. By-pass systems may be required.	
Alternative 3: Add diversion capabilities for influent forcemain to attenuation, ahead of Headworks	• Flows from Gemmill's Bay Pumping Station would have the ability to be diverted to the attenuation lagoon temporarily. This diversion will only be used when one screen is offline, and when influent wastewater flows exceed the capacity of the remaining online screen. • Maximizes use of existing assets (screens and attenuation pond). • Least costly alternative, involving extension of influent forcemain to attenuation pond and the addition of automatic control valves. • Does not require construction in the Headworks Building or modifications to the existing screening channels. • Minimal disruptions to operations expected during construction. • Alternative implementation is subject to approval by the MECP	



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Phase 3 – Aeration/Anoxic Tanks:

- Anoxic zones require additional capacity by 2035.
- Aeration zones require additional capacity by 2045.

Evaluation Criteria	Description	Rating
Alternative 1: Additional new Aeration Tank	• A new larger aeration tank can be built to the North of the existing aeration tank • Will provide increased additional capacity with the same technology (no added complexity) • Carries higher financial burden due to construction of the new tank • Requires much higher area footprint compared to IFAS • Will consume area available on site that can otherwise be used for upgrades that are required after the next 30 years	
Alternative 2: Integrated Fixed- Film Activated Sludge (IFAS))	• IFAS is a widely used and relatively less complex option for tank retrofits compared to conventional technologies → does not require any new additional area footprint and requires aeration • Media (fixed or floating) will be added into the existing tank • Media offer a stable surface for the bacteria that provide biological treatment → Protects bacteria during high flows • Requires minimal tank modifications; Minimal construction compared to Alternative 1	



Preferred Alternative: IFAS Retrofit into existing tanks

- No new area footprint required, faster implementation timelines
- Provides maximum reuse of existing infrastructure
- Will provide the required long-term biological treatment capacity
- Is more resistant to peak flows (biological washout)
- Moderate complexity and requires operator training

Several possible technologies exist for IFAS and will be evaluated during preliminary design:

- Membrane Aerated Biofilm Reactor (MABR)
- Moving Bed Biofilm Reactor (MBBR)
- Fixed Media
- Mobile Organic Biofilm (MOB)

Phase 3 – Clarifiers:

- Existing clarifiers are undersized for short-term flows and process optimisation is ongoing, to gain additional capacity
- Clarifiers require expansion, particularly to increase peak flow capacity

Evaluation Criteria	Description	Rating
Alternative 1: Process optimisation of existing clarifiers	- Process optimisation can provide some short-term capacity. However, this will not meet long-term needs - There is limited opportunity to optimise the existing clarifiers, since the clarifiers are undersized for short-term flows - Process optimisation alone will not provide long term advantages or the required capacity	
Alternative 2: Twin new clarifiers	- Twining the existing clarifiers to the North of existing clarifiers - Will allow for even flow splitting with low complexity hydraulics - Flow path of water can be redirected with minimal modifications - Will provide increased additional capacity till 2055, of 37.2 Million Litres per day, but peak flow diversion will still be required	
Alternative 3: One new larger clarifier	- Due to the size difference between the tanks, flow splitting between the existing and new tanks will be highly challenging - Flow splitting for one larger clarifier will be complex and will require extensive re-routing - Hydraulic grade line requirements will also be complex	



Preferred Alternative:

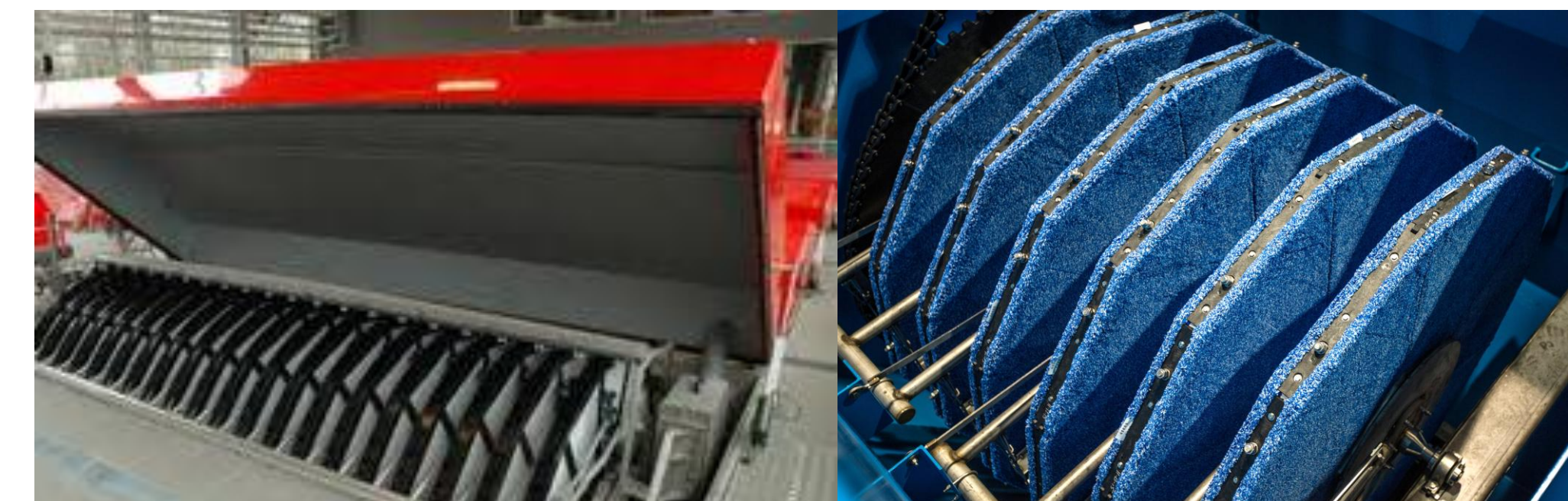
Twin the existing clarifiers

- Requires minimal modifications of flow path
- Sufficient area footprint is available
- Will provide the required short and long-term treatment capacity
- Will require peak flow attenuation through the attenuation pond

Phase 3 - Tertiary Filtration:

- Existing tertiary sand filter units require additional capacity by 2035

Evaluation Criteria	Description	Rating
Option 1: Retrofit Disk Filters into existing sand filter tanks	- Disk Filters have a far lower area footprint compared to sand filters → can be retrofitted into the existing sand filter basins - Retrofit work will be extremely complex, and will require either the wall removal or roof removal - Maintaining tertiary treatment during construction work will be highly challenging - Costly by-pass system may be needed to maintain treatment during construction	
Option 2: New Tertiary/UV Building with Sand filters	- This option will allow for treatment to be maintained via the existing equipment, during construction work of the new tertiary-UV building - Will allow for more flexible design and pipe routing, without area constraints, due to the much lower area constraints in the new building - Sand filters require a much larger area and are generally more complex to operate and maintain compared to disk filters	
Option 3: New Tertiary/UV Building with new Disk filters	- Disk filters can typically handle increased flows in smaller footprint compared to sand filters and offers easier maintenance - Similar to Option 2 above, this option will allow for treatment to be maintained via the existing equipment, during construction work of the new tertiary-UV building - Due to the lower area constraints in the new building and lower footprint needed for disk filters, offers more opportunities for future considerations on area footprint and expansion	



Disk Filter examples (Courtesy of Aqua-Aerobics and Veolia)

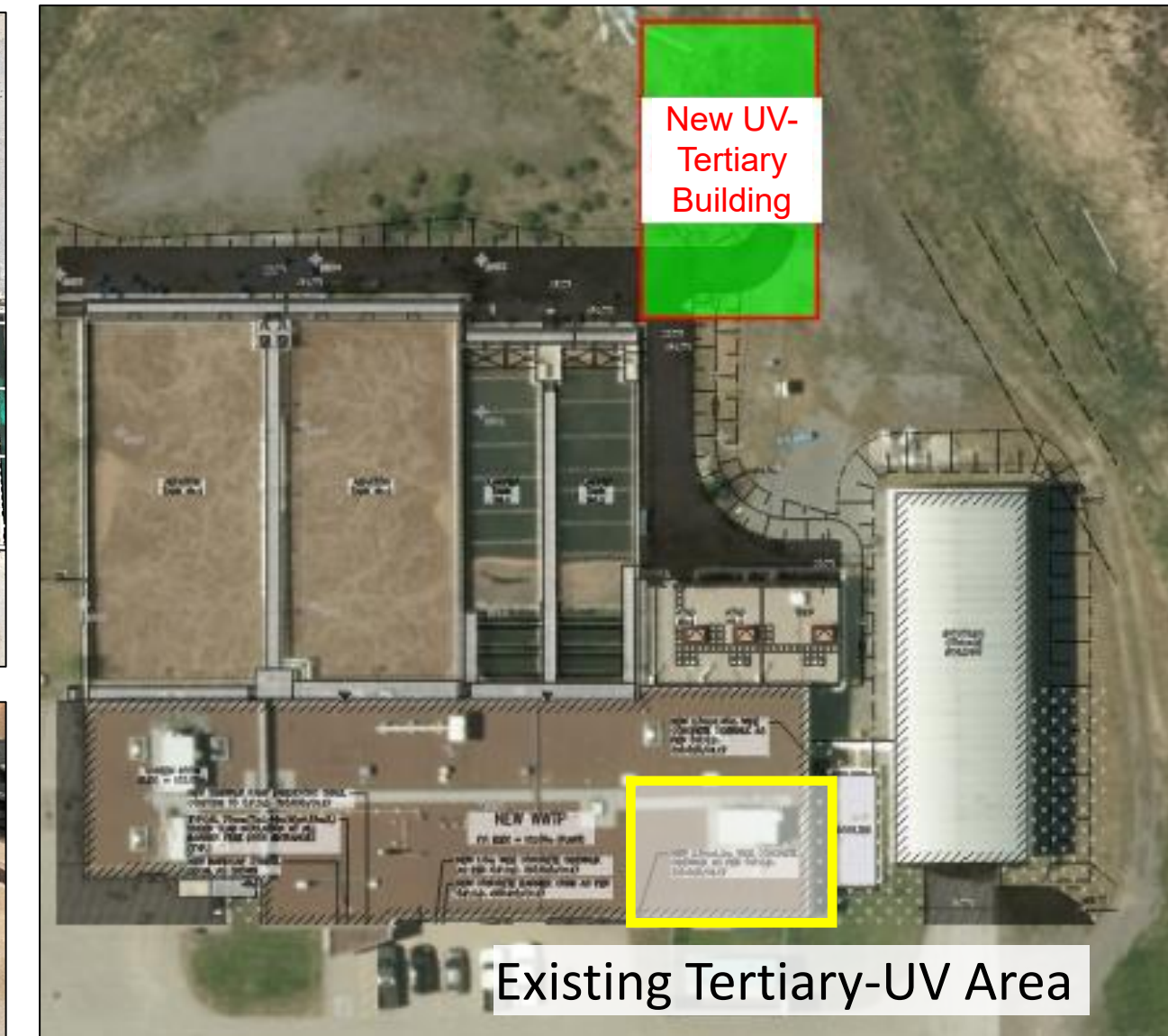
Preferred Alternative: **New Tertiary/UV Building with new Disk filters)**

- Well-established technology; Requires much smaller area footprint than sand filtration; Lower complexity of operation and maintenance
- Will allow treatment to be maintained during construction work for upgrades

Phase 3 – Disinfection:

- Existing Ultraviolet (UV) disinfection units require additional capacity by 2035

Evaluation Criteria	Description	Rating
Option 1: Retrofit UV into the existing UV infrastructure	- Wall removal will be required to add new UV units to the existing UV area, due to lack of area availability - Will have high complexity to implement, due to the need to remove the existing building's wall, and excavation to expand the UV train outwards - Maintaining tertiary treatment during construction work will be highly challenging - Costly by-pass system may be needed to maintain treatment during construction	
Option 2: New Tertiary/UV Building	- New and upsized UV units will ensure smooth operations in the short and long-term - Will also allow for good planning consideration for plant expansion beyond the current planning period (to 2055) - This option will allow for treatment to be maintained via the existing equipment, during construction work of the new tertiary-UV building - Will allow for more flexible design and pipe routing, without area constraints, due to the much lower area constraints in the new building - Tie in for the outfall is anticipated to have low complexity	

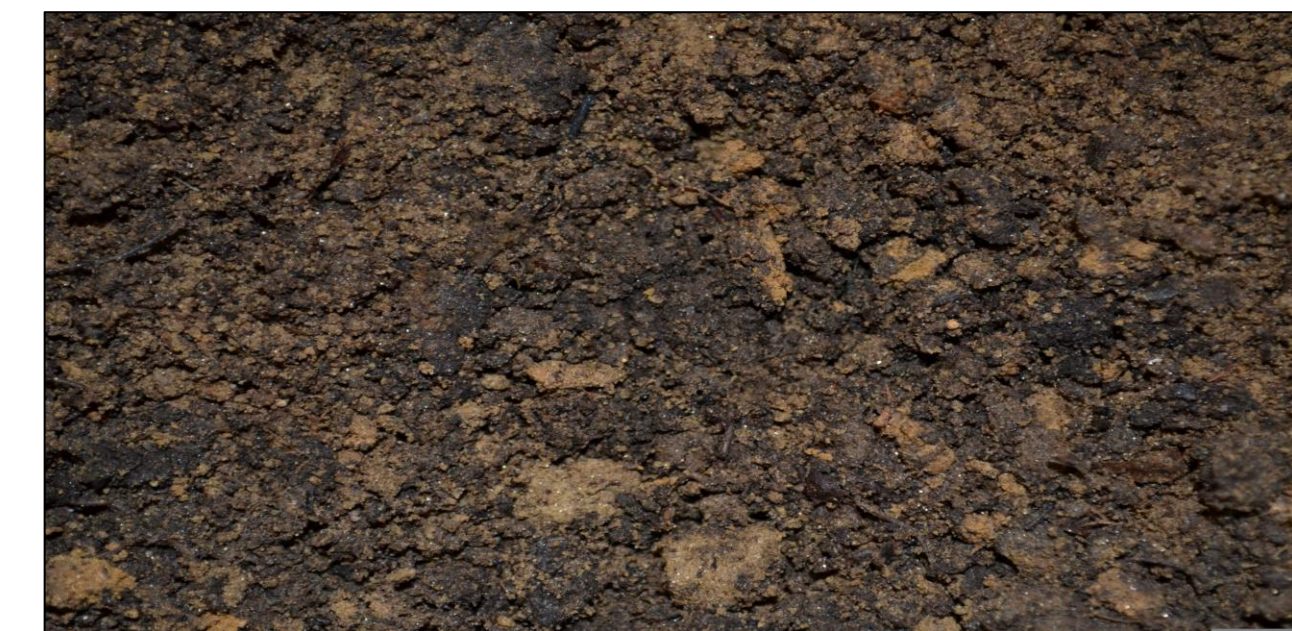


Preferred Alternative: **New Tertiary/UV Building- with new** **Disk filters)**

- Sufficient area footprint is available
- Does not require extensive modification of existing building including wall removal
- Will allow treatment to be maintained during construction work for upgrades
- Will provide the required short and long-term treatment capacity

Phase 3 – Solids Stabilization

- Solids treatment includes the sludge stabilisation process via the existing Autothermal thermophilic digestion (ATAD)
- The ATAD has adequate capacity until 2055 (end of life) → assuming optimal operations, since system currently has opportunities for improvement



Evaluation Criteria	Description	Rating
Option 1: Upsizing of ATAD	• Much more complex system, but operations staff are highly familiar with the system • Will require upsizing to meet increased future flows • Produces Class A biosolids, when operated optimally • Requires high heat to be maintained, and requires more complex equipment and is energy intensive • Requires far lower extent of modifications to existing operations and treatment train	
Option 2: Replace ATAD with Aerobic Digestion	• Operations staff will require training for new technology • Well established technology • Has lower heating requirements • Requires high amounts of aeration and is energy intensive • Requires more extensive modifications to existing operations and treatment train	

Preferred Alternative (see note): Upsizing of ATAD

- Requires some modifications of flow path
- Sufficient area footprint is available
- Will provide the required long-term treatment capacity, with the least modifications to existing system

NOTE: Technology review → recommended to be undertaken by **2045** to assess and confirm if ATAD still the preferred technology for solids stabilization

Phase 3 – Solids Dewatering

- Solids treatment includes the sludge dewatering process → Remove liquids from sludge, to optimise volume and facilitate easier transportation of biosolids
- Existing dewatering system → Fournier Press, has adequate capacity until 2055 (end of life)
- Based on current projections, replacement is anticipated only after 2055 or end of life of equipment

Evaluation Criteria	Description	Rating
Option 1: Replace Fournier Press with Centrifuge	• Well-established treatment technology • Will require operator training • Has high energy requirements, and is more energy intensive than Fournier Press • Produces good quality end product (cake) • Is more operator intensive and has more operational and maintenance requirements	
Option 2: Use existing Fournier Press	• Is the existing treatment system, and operations staff are highly familiar with the technology • Upsizing will be through the addition of treatment units, only if required after 2055 • Technology has good scalability • Does not require modification of existing flow path or treatment train • Produces good quality end product (cake)	



Centrifuge and Fournier Press examples
(Courtesy of Alfa Laval and Fournier Industries)

Preferred Alternative (see note): Fournier Press

- Has low complexity for integration with existing system
- Has good scalability, and can be implemented with a phasing approach, based on actual capacity required, if required after 2055

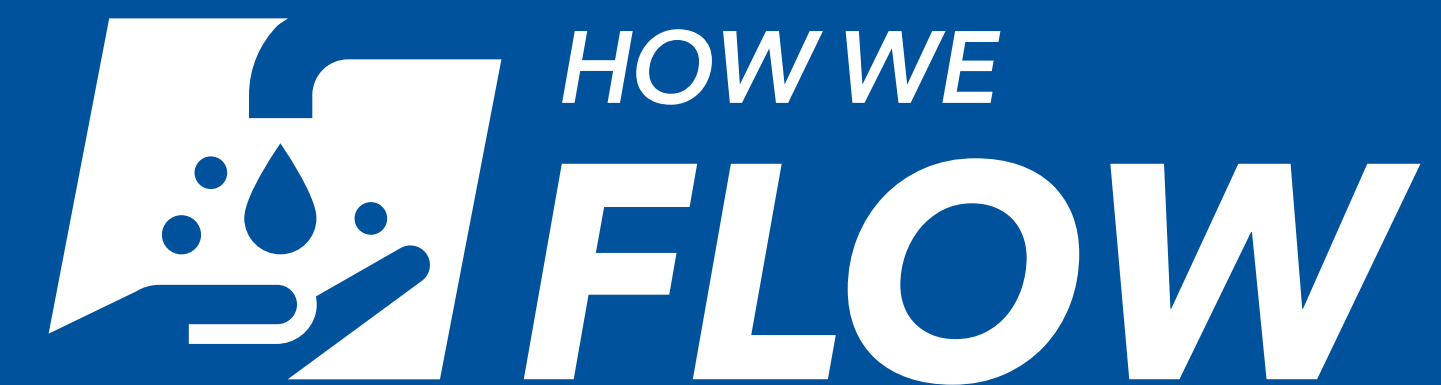
NOTE: Technology review → recommended to be undertaken by **2045** to assess and confirm if the Fournier Press still the preferred technology for solids dewatering



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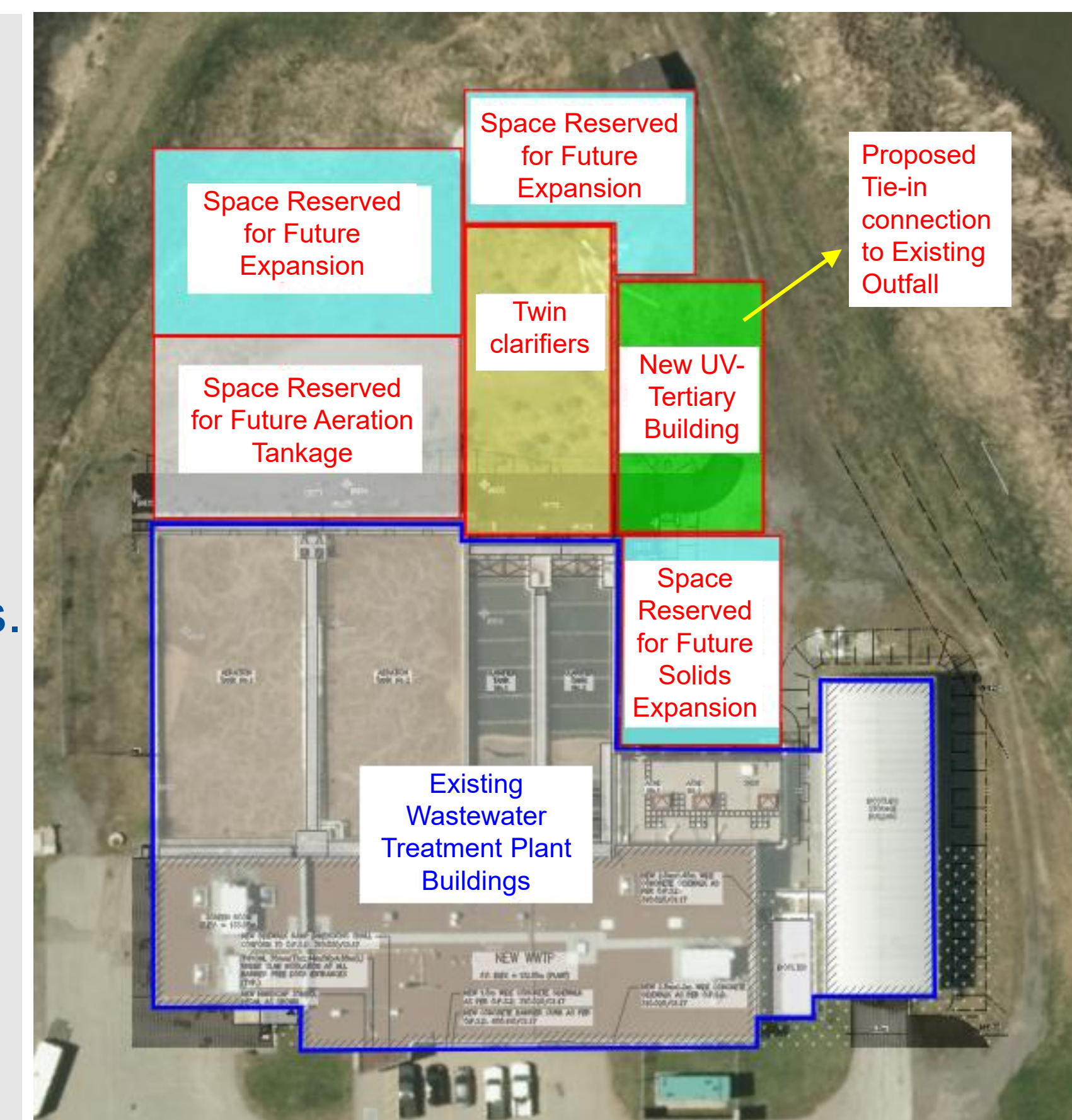
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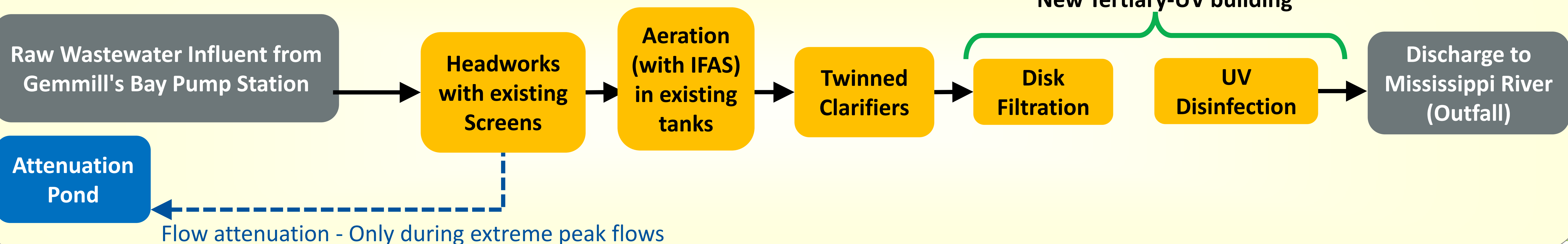


Summary: Proposed design concept

- **Technical and operational aspects:** Proposed retrofit upgrades → sized for future peak flows, and feasible to achieve the required increase in capacity for the Municipality's short-and long-term needs
 - **Socio-culturally:** Impacts on surroundings (air, noise, odour) expected to be temporary, and only during construction. Minor increase in air emissions and noise from increased truck movements during operations.
 - **Natural Environment:** No impacts expected on source water quality or species at risk. No tree removal. Land is already disturbed, hence, only minor impacts foreseen during construction.
 - **Economically:** No additional land acquisition required. Maximum reuse of existing assets via this proposed design concept. Phased retrofit approach to reduce financial burden and verify actual flows.
- Total estimated capital costs for this alternative, based on a phased approach are:
- **2035-2040: Headworks, Clarifiers and new tertiary-UV building : \$30M**
 - **2040-2045: Aeration (IFAS) upgrades: \$15M**
 - **2045-2055: Municipality to re-evaluate preferred solids treatment in 2045**
(Budget of 200,000 for an evaluation study)
 - **NOTE:** These costs are high level estimates and are subject to change based on actual costs during the design and tender stages



Preferred Treatment Train

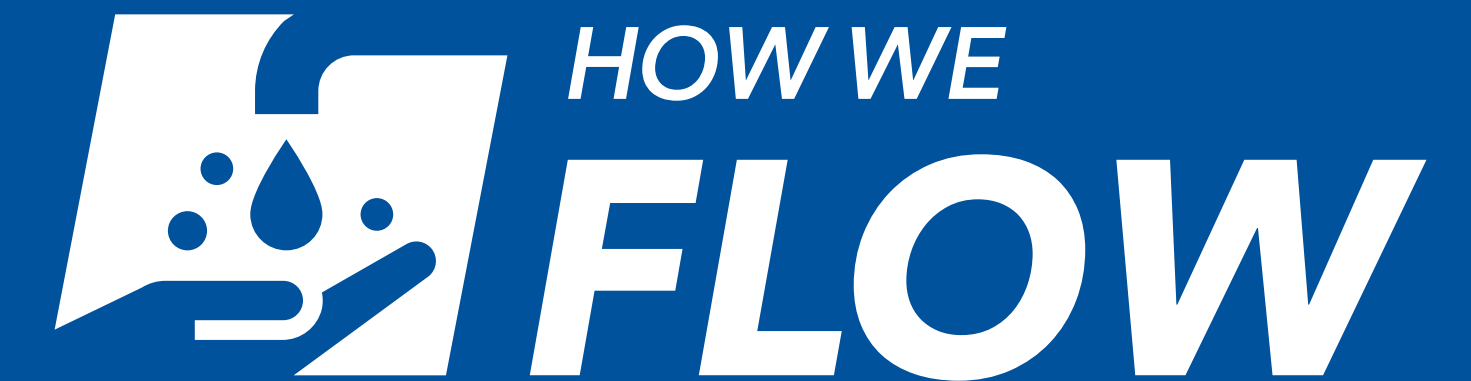




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Let Us Know What You Think!

The space below is for your comments or questions.

Public and Stakeholder Engagement Roadmap:

- Develop a Public/Agency Engagement Plan (complete).
- Identify stakeholders, mandatory contacts and other interested parties (ongoing).
- Issue notices by mail and email, and in the Municipality's newsletter, social media, and website for:
 - Commencement and Public Information Centre No.1 (complete)
 - Public Information Centre No. 2 (complete)
 - Public Information Centre No. 3 (Today)
 - Completion

For More Information:

To provide comments, preserve appeal rights, and to stay updated, please visit:

www.mississippimills.ca/en/MM2048.aspx

