

Welcome to the Expansion of the Rockland Water Treatment Plant and Upgrade of the Caron Booster Pumping Station

Public Information Centre #2

Jacobs

Study Area

The Rockland Water Treatment Plant (WTP) services the Rockland and five hamlets (Clarence Creek, St. Pascal, Hammond, Bourget, and Cheney). The Rockland WTP also supplies water to the Nation Municipality (Limoges) through a Joint Water Use Agreement.

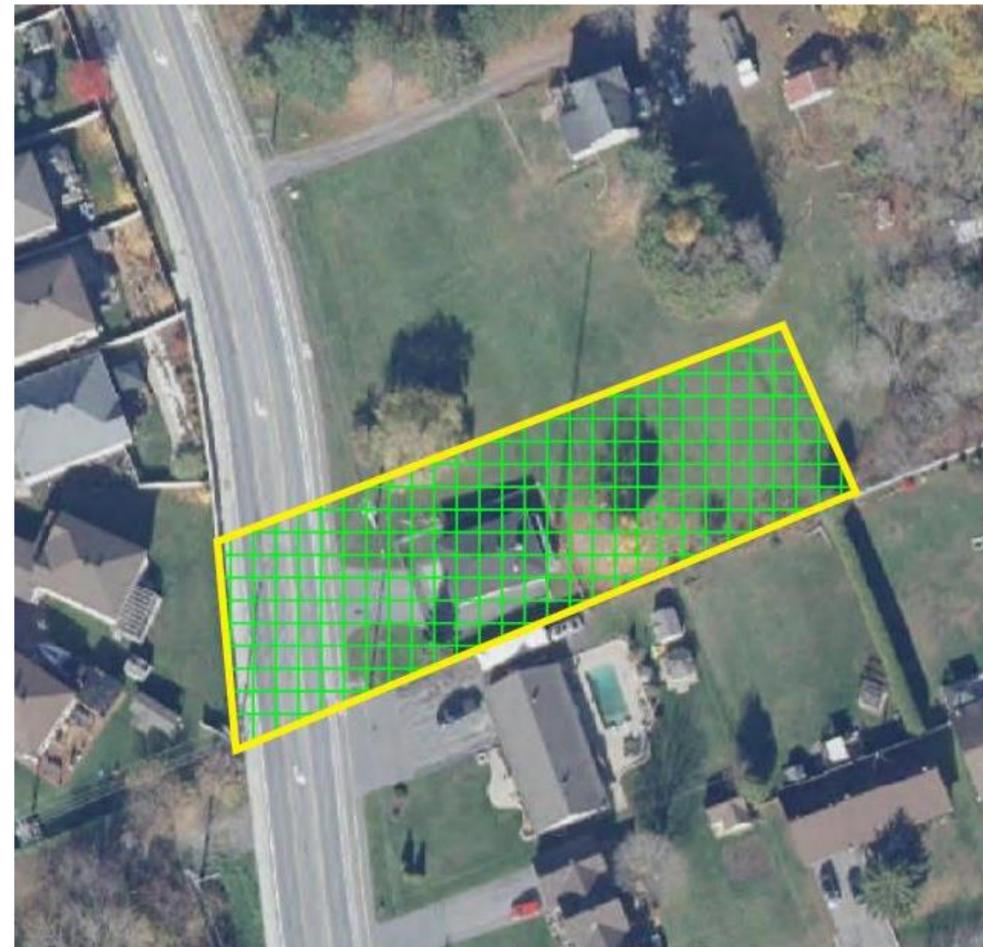
The Caron Booster Pumping Station (BPS) in the distribution system provides pressure to the regional feeder main servicing the five hamlets and Limoges.

The Study Area for this project includes the existing Rockland WTP site and the Caron Booster Pump Station site as illustrated in these figures:

Rockland WTP (147 Edwards St., Rockland, ON)



Caron BPS (1441 Caron St., Rockland, ON)



Existing Facilities

Rockland WTP

- The existing Rockland WTP draws raw water from the Ottawa River and treats it using coagulation, flocculation, sand filtration, and UV/chlorine disinfection
- The WTP has a capacity of 13.5 million litres per day
- The original WTP was built in 1970 but extensively upgraded and expanded in 2002



Caron BPS

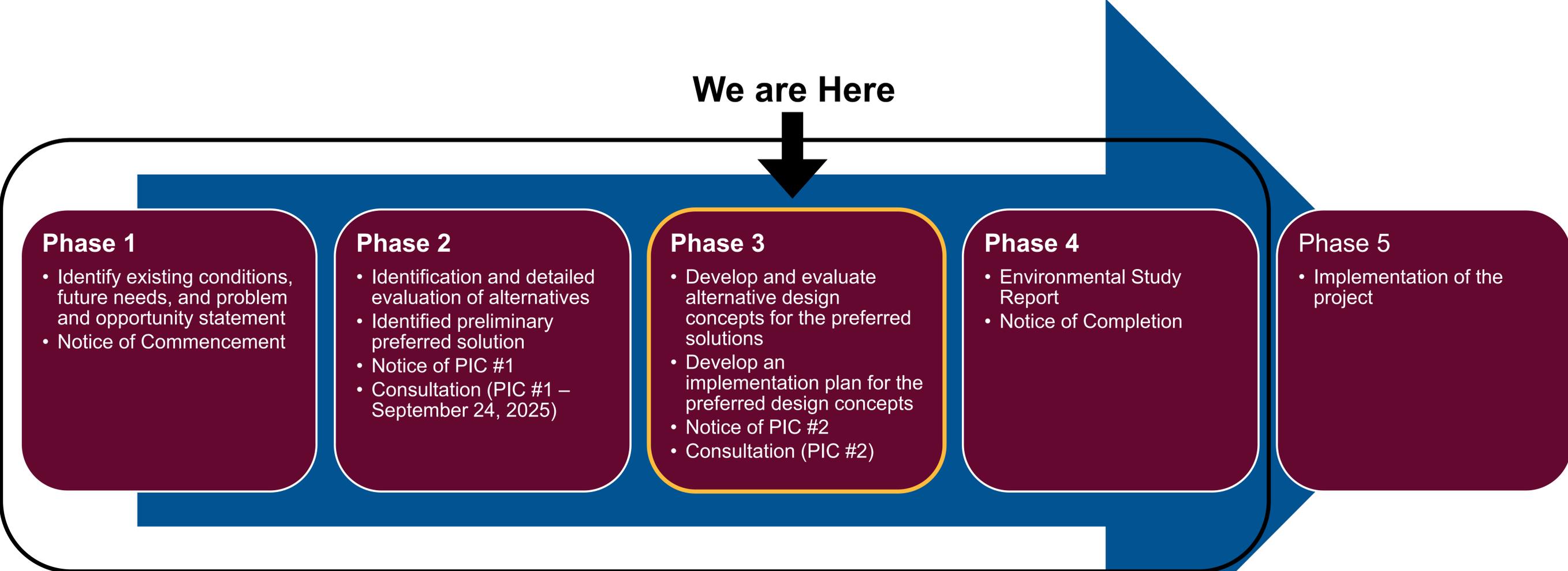
- The existing Caron BPS provides pressure to a regional feeder main servicing the five hamlets (Clarence Creek, St. Pascal, Hammond, Bourget, and Cheney)
- The Caron BPS has a design capacity of 4.0 million litres per day
- The original BPS was built in 2002



Class Environmental Assessment (EA) Process

The Project will be completed as a Schedule C Class EA, completing **Phases 1 through 4** of the Class EA process.

We are Here



Identification of Design Alternatives – Intake

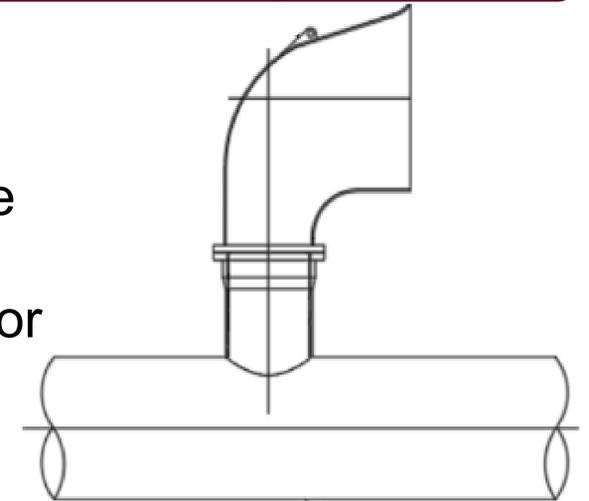
The Rockland Water Treatment Plant intake design alternatives were developed to address the water supply strategies presented in Phase 1 of this Class EA.

Alternative 1: Do Nothing

- Continue to maintain the current intake with no modifications to reduce the velocity through the intake
- Does not allow for growth in Clarence-Rockland or increasing flows to Limoges, and eliminates the opportunity to service neighboring communities

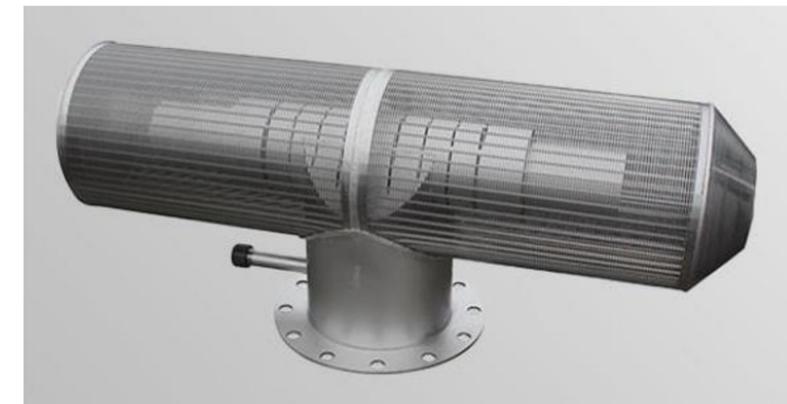
Alternative 2: Bellmouth

- Replaces existing intake structure with a bellmouth structure
- Bellmouth intakes have inverted funnel-shaped inlets that reduce the inlet velocity by increasing the diameter at the inlet opening to reduce the velocity of the water entering the pipe without increasing the size of the intake pipe
- A screen may be required to prevent debris and aquatic species from entering the intake or designed and oriented in the river to avoid drawing fish and debris without the need for screens



Alternative 3: Tee Screen

- Replace existing intake structure with a tee screen
- Tee screens allow raw water to passively flow through the intake pipe while debris and aquatic species are rejected at the point of entry
- This alternative would require an airburst cleaning system which requires addition space at the LLPS for installation of an air compressor



Identification of Design Alternatives – Rockland WTP

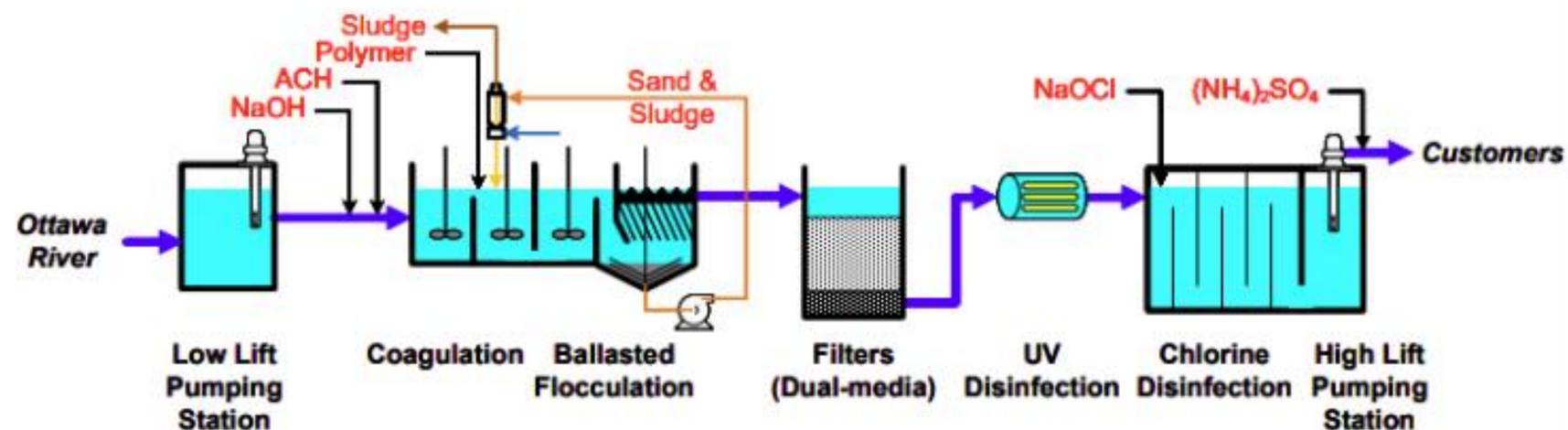
Caron BPS design alternatives were developed to address the preferred alternative identified in Phase 2 of this Class EA for both Servicing Strategy 1 and 2.

Alternative 1: Do Nothing

- Continue to maintain and rehabilitate existing facility based on the state of assets in the Clarence-Rockland Water Master Plan and scoping study
- Does not allow for growth in Clarence-Rockland or increasing flows to Limoges, and eliminates the opportunity to service neighboring communities

Alternative 2: Ballasted Flocculation and High-Rate Sedimentation

- ActiFlo ballasted flocculation is the pre-treatment process currently used at the Rockland WTP for coagulation, flocculation and high-rate sedimentation
- This alternative includes the addition of two or three new ActiFlo treatment units for Servicing Strategy 1 or 2, respectively, operating in parallel with design capacities of 6.75 ML/d each
- As there is insufficient space at the Low Lift Pumping Station (LLPS) to accommodate new pumps for the capacity upgrade, this alternative requires a similar LLPS be constructed adjacent to the existing with three new low lift pumps with design capacities of 10.25 MLD

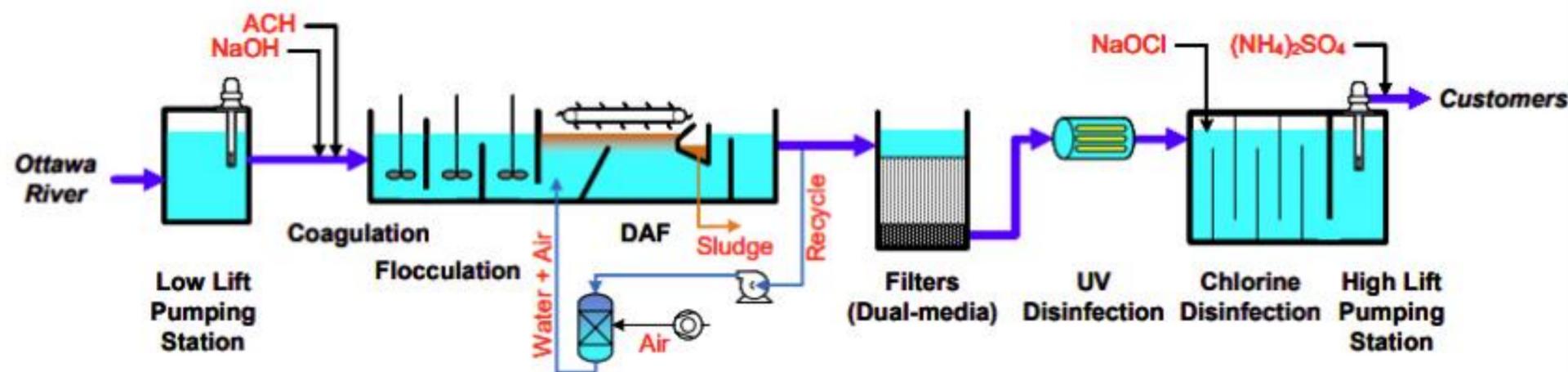


Identification of Alternatives – Rockland WTP (continued)

Caron BPS design alternatives were developed to address the preferred alternative identified in Phase 2 of this Class EA for both Servicing Strategy 1 and 2.

Alternative 3: Dissolved Air Flotation (DAF)

- DAF is a compact clarification process that utilizes dissolved air to remove suspended, coagulated and flocculated organic matter from the raw water and causes sludge to float on top of the basin
- Typically consists of a coagulation or flash mix basin, flocculation basin, and DAF flotation and skimming cell, with associated dissolved air generating the recirculation systems.
- This alternative includes the addition of two or three new High-rate DAF units for Servicing Strategy 1 or 2, respectively, operating in parallel with design capacities of 6.75 ML/d each.
- As there is insufficient space at the LLPS to accommodate new pumps for the capacity upgrade, this alternative requires a similar LLPS be constructed adjacent to the existing with three new low lift pumps with design capacities of 10.25 MLD



Identification of Design Alternatives – Caron BPS

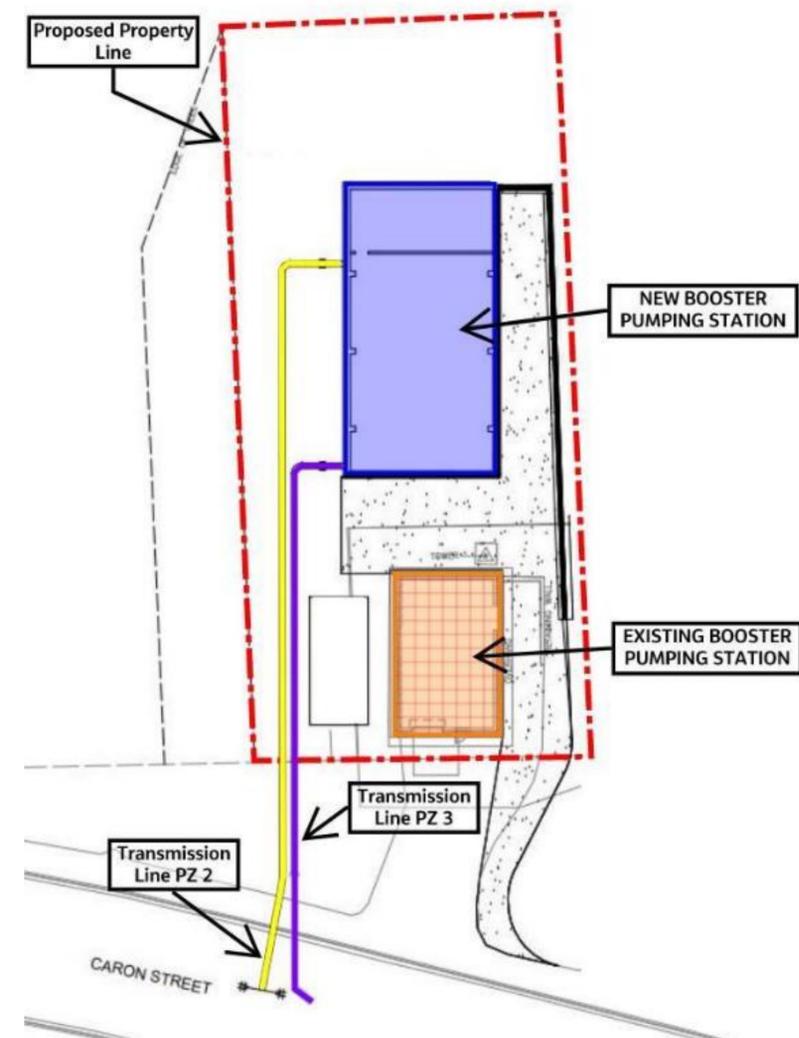
Caron BPS design alternatives were developed to address the preferred alternative identified in Phase 2 of this Class EA for both Servicing Strategy 1 and 2.

Alternative 1: Do Nothing

- Continue to maintain and rehabilitate existing facility based on the state of assets in the Clarence-Rockland Water Master Plan and scoping study
- Does not allow for additional water conveyance to Clarence-Rockland, Limoges, or neighboring communities

Alternative 2: Build New BPS

- Construct a new BPS adjacent to the existing with an additional capacity of 7 or 13 ML/d, increasing the total capacity to 11 or 18 ML/d for Servicing Strategy 1 or 2, respectively
- The new BPS would contain three or four new booster pumps (2 or 3 duty, 1 standby) for Servicing Strategy 1 or 2, respectively, approximately three times the size of the existing, with rated capacities of 5.7 ML/d
- Two new transmission lines leaving the new BPS would supply pressure zones (PZ) 2 (Rockland South) and 3 (the Villages) in addition to the existing transmission line leaving the existing BPS

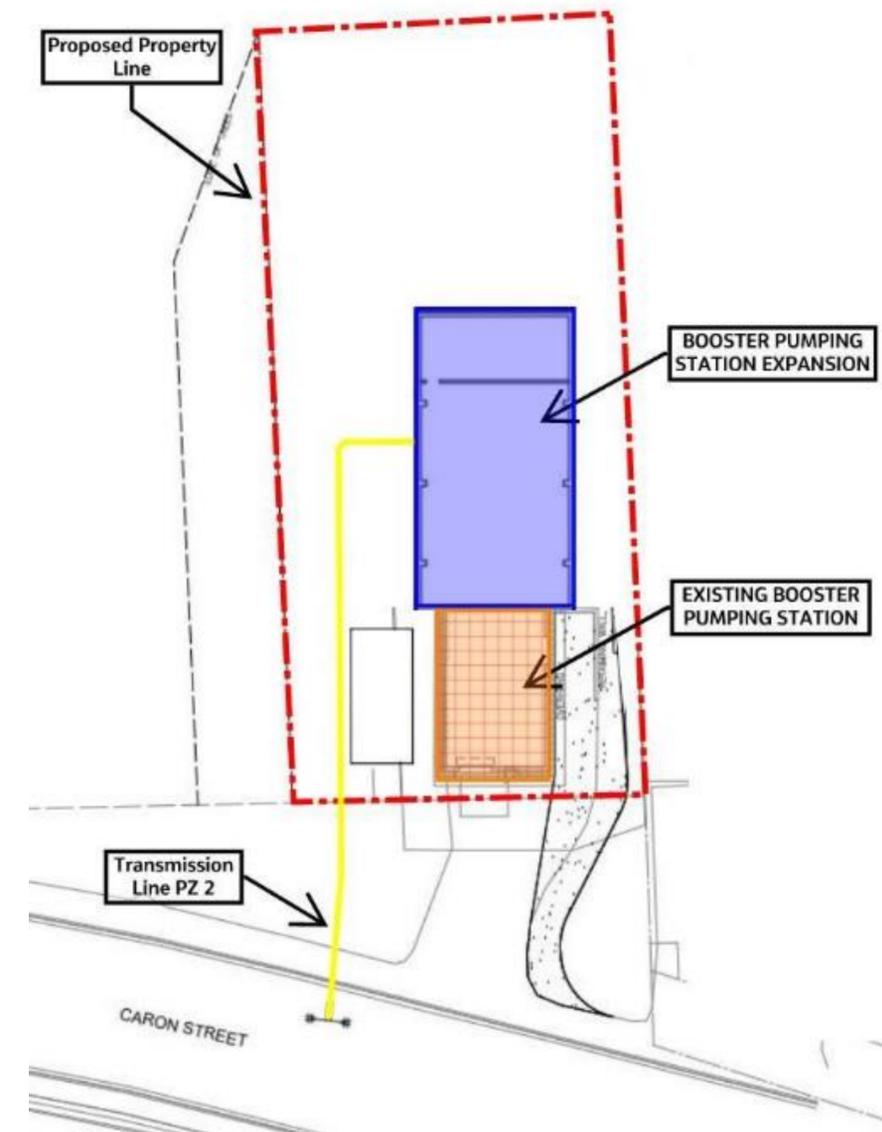


Identification of Alternatives – Caron BPS (continued)

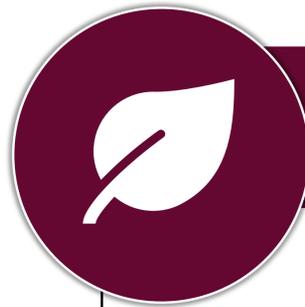
Caron BPS design alternatives were developed to address the preferred alternative identified in Phase 2 of this Class EA for both Servicing Strategy 1 and 2.

Alternative 3: Expand Existing BPS

- Expand the existing BPS building to include an additional capacity of 7 or 13 ML/d, increasing the total capacity to 11 or 18 ML/d for Servicing Strategy 1 or 2, respectively
- The expanded BPS would contain three or four new booster pumps (2 or 3 duty, 1 standby) for Servicing Strategy 1 or 2, respectively, approximately three times the size of the existing, with rated capacities of 5.7 ML/d
- One new transmission line would leave the existing BPS that supplies PZ-2 (Rockland South)
- Would not allow the existing BPS to maintain operations for portions of the expansion works and construction sequencing would be more difficult as the new BPS pumps are larger and require larger pipes



Decision-Making Process - Criteria



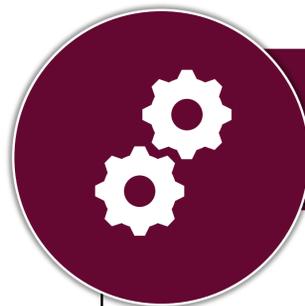
Natural Environment

- Water, soil, and air quality
- Climate change impacts and adaptation



Economic Environment

- Capital cost
- Operations and maintenance cost



Technical Environment

- Integration with existing operations
- Constructability
- Risk and reliability
- Adaptability
- Operation and Maintenance Complexity
- Ability for phased implementation
- Impacts on treated water quality



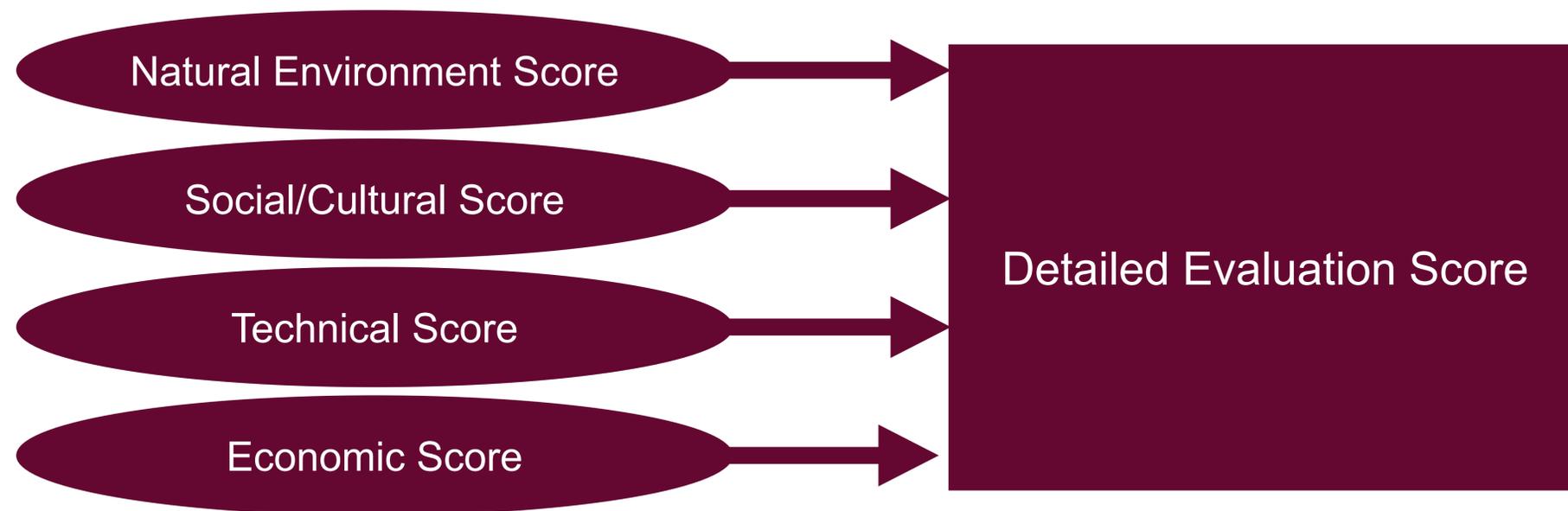
Social/Cultural Environment

- Noise, odour, traffic
- Health and Safety
- Archaeological, built heritage resources, and cultural heritage landscapes
- Private and public land impacts
- Public perception

Decision-Making Process - Scoring

A long-list of alternative solutions was developed and screened as part of the 2021 Water Master Plan. This eliminates alternatives that are not feasible for the Rockland WTP and Caron BPS from consideration. The shortlisted alternatives were identified for further detailed evaluation through this assignment.

The shortlisted alternatives were evaluated against the natural environment, social/cultural, technical, and economic criteria, presenting the “detailed evaluation score” for each alternative.



A performance scale was defined for each criterion including a definition and a performance scale defining how the score for each criterion was applied to each alternative. A rationale was provided to explain the assigned score for each criterion. The performance scale used for this evaluation is generally defined as follows:

- 0 represents the lowest score
- 5 represents the moderate score
- 10 represents the highest score

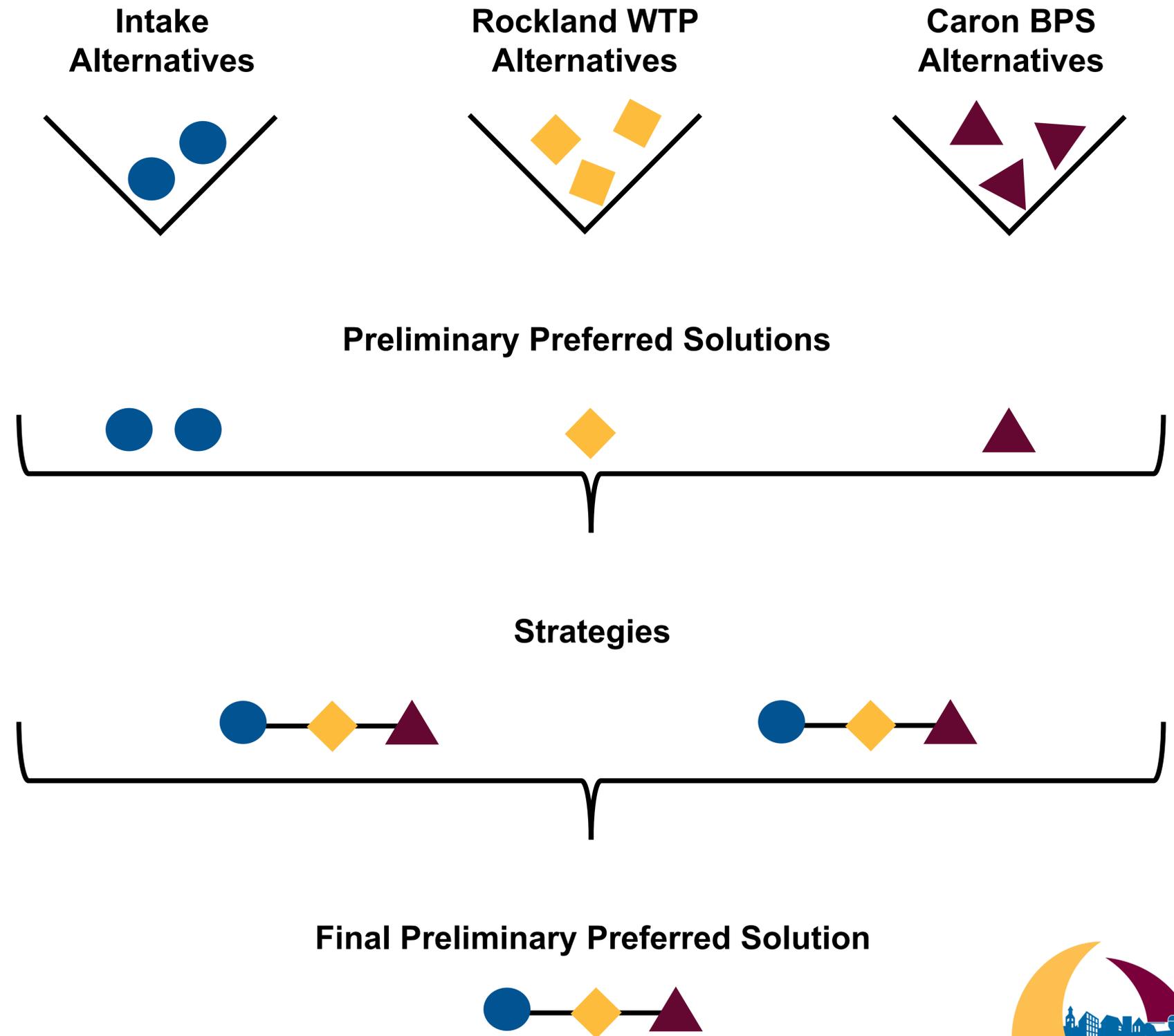
Decision Making Process

The short list of alternative solutions were assessed in the detailed evaluation phase.

This includes the identification of:

- The preliminary preferred solutions for each location
- The combined strategies using the preferred solutions

The outcome of the detailed evaluation phase is a single final preliminary preferred solution.

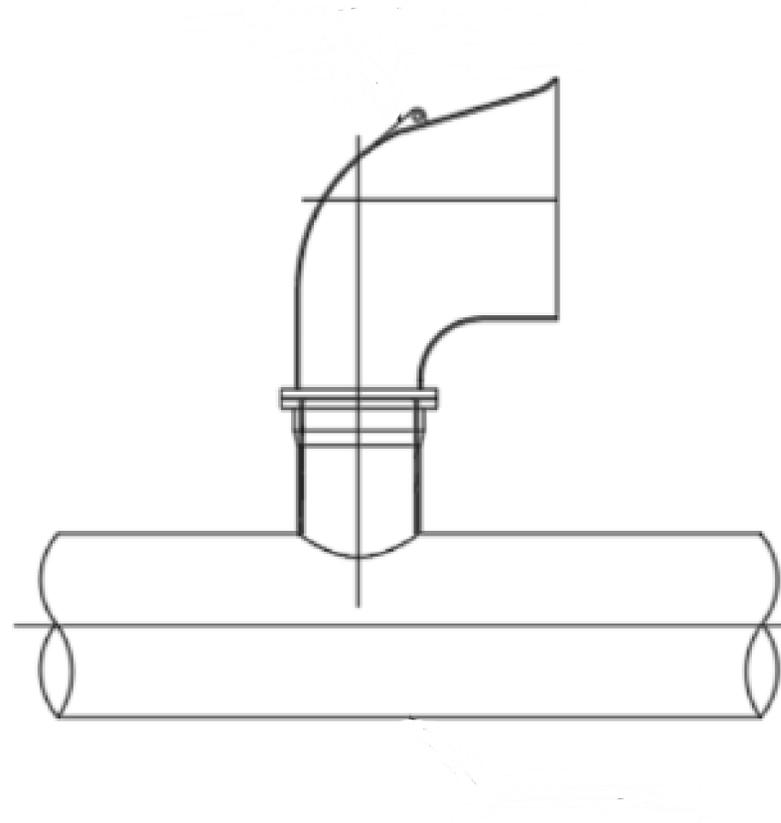


Preliminary Preferred Alternative – Rockland WTP Intake

Alternative 2: Bellmouth

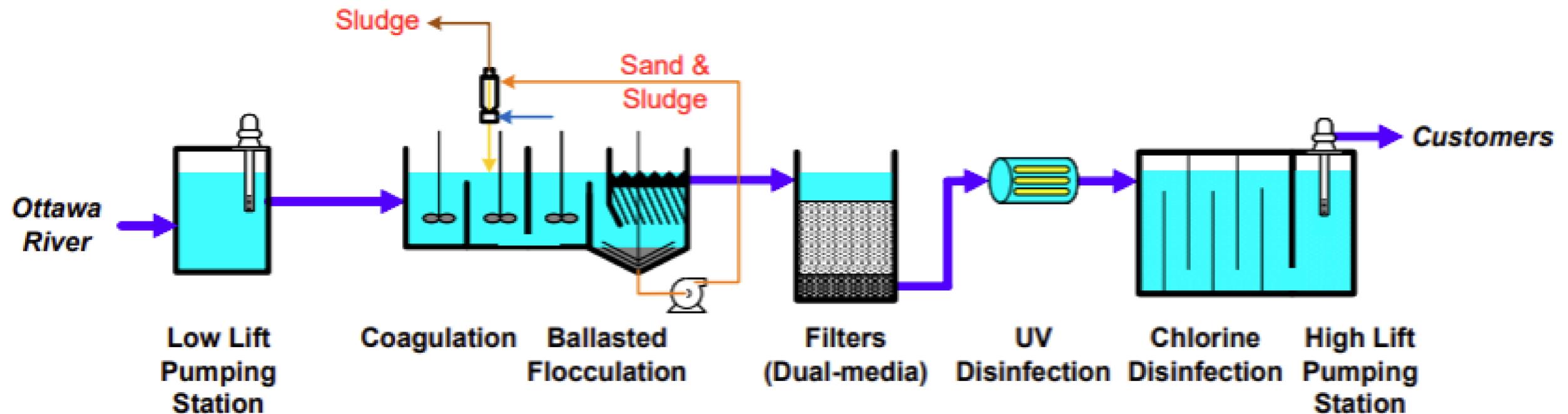
The advantages of the preferred alternative include the following:

- The modified intake will serve the current servicing area of Clarence-Rockland and Limoges and provides the opportunity to service neighboring communities through reducing the velocity at the mouth of the intake
- Relatively simple to implement
- Operation and maintenance will be relatively simple as air compressors are not required
- Minimal risk of blockage



Preliminary Preferred Alternative – Rockland WTP

Alternative 2: Ballasted Flocculation and High-Rate Sedimentation

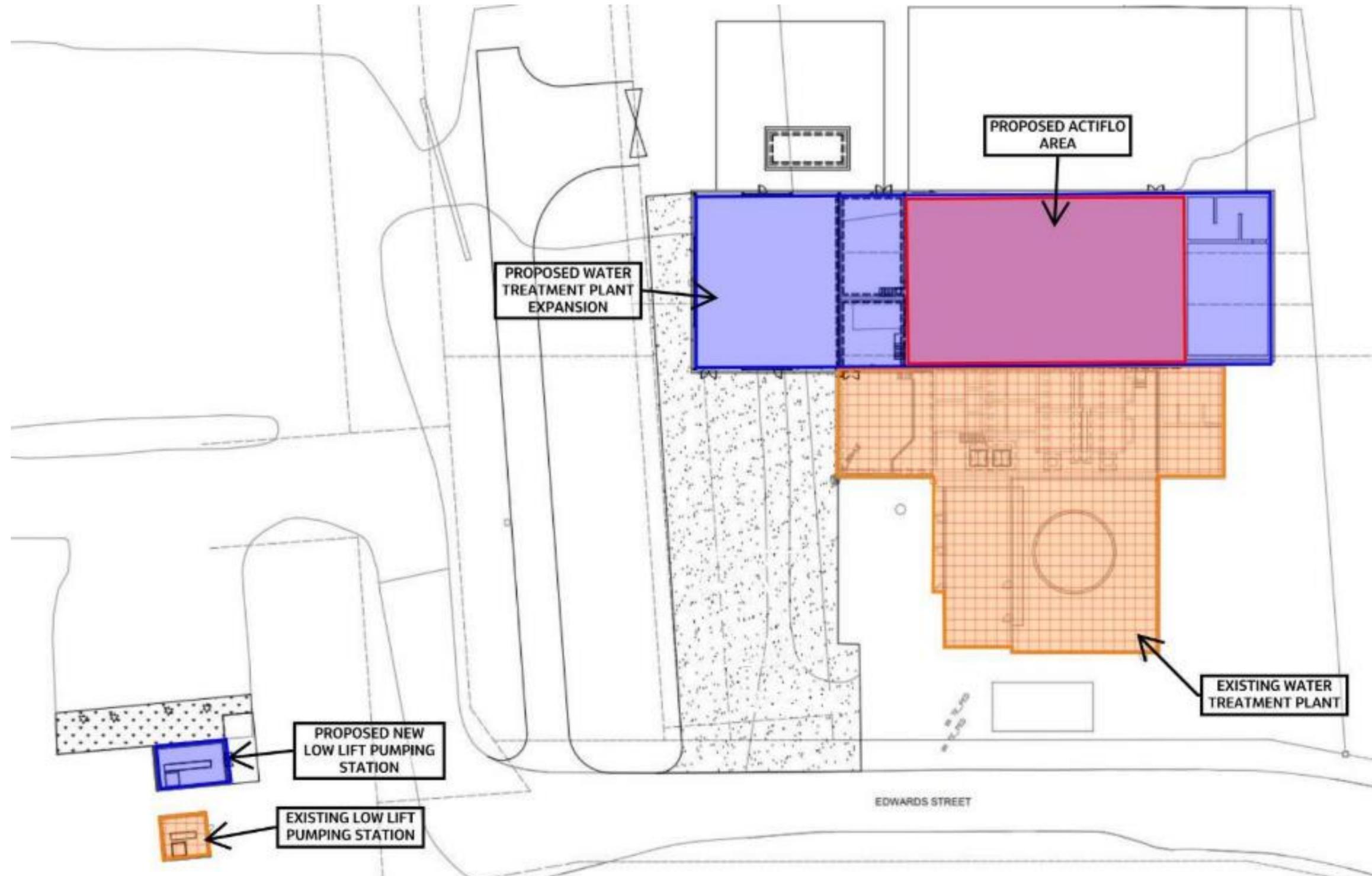


The advantages of the preferred alternative include the following:

- The expanded Rockland WTP will serve the current servicing area of Clarence-Rockland and Limoges and provides the opportunity to service neighboring communities.
- The alternative involves expanding the facility using the same process trains of similar size, therefore simplifying the integration to the existing treatment process (ex. same backwash pumps and blowers can be used).
- This alternative can be implemented in phases and includes provisions for future expansions.
- Operation and maintenance of the expanded facility will be relatively simple as the operations staff at the facility are familiar with the equipment.

Rockland WTP Proposed Site Plan

The expanded portion of the WTP building will include the new pretreatment processes, filters, chlorine contact tank, secondary reservoir, electrical room, mechanical room, and chemical room. The total footprint estimate for the new WTP building is approximately 1,050 and 1,100 square meters for Servicing Strategy 1 and Servicing Strategy 2. The footprint estimate for the new LLPS is approximately 50 square meters.

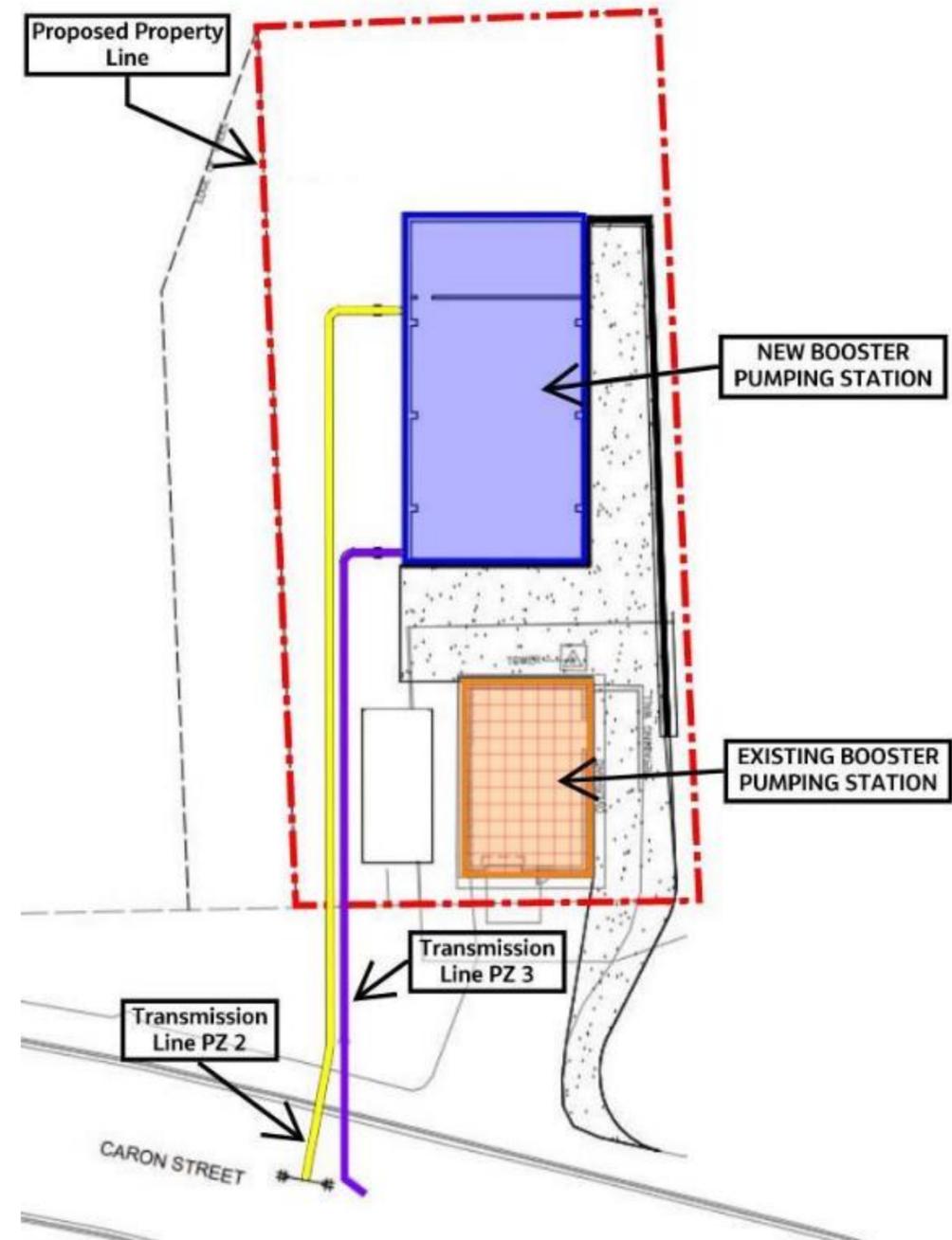


Preliminary Preferred Alternative – Caron BPS

Alternative 3: Build New BPS

The advantages of the alternative include the following:

- This alternative increases the rated capacity of the Caron BPS to service the existing customers and provides additional capacity to service growth in Limoges
- The existing BPS would maintain in operation for all of the expansion works
- Construction sequencing would not be affected as the new, bigger pumps would not need to be tied into the existing



Supporting Studies – Key Findings

To define existing conditions, assess expansion alternatives and establish appropriate mitigation measures for potential expansion impacts, several supporting studies were initiated.

Air and Noise Study



- Proposed expansions are not expected to contribute materially to increases in air emissions and will not result in an increase in noise.
- Construction noise impacts are anticipated to be temporary and limited.

Natural Features Study



- One non-evaluated wetland (not officially scored by the Minister of Natural Resources) occurs within the Rockland WTP and Caron BPS 120 m adjacent lands.
- Six species at risk were identified in the 120 m adjacent lands of the Rockland WTP expansion area and one in the 120 m adjacent lands of the Caron BPS expansion area.
- Mitigation measures will be included in the detailed design to minimize impacts on these areas.

Cultural Heritage Assessment



- The Cultural Heritage Evaluation Report is underway.
- Provides information regarding built heritage studies to determine whether a site has cultural heritage value in relation to provincial legislation and local policies.

Archaeological Assessment



- Stage 1 and 2 archaeological assessments are underway.
- Stage 1 consists of a background study and property inspection used to determine the potential for archaeological resources.
- Stage 2 consists of a property assessment and field work to test for the presence of significant archaeological resources.



Anticipated Project Implementation Timeline



Next Steps

Thank you for your interest in the Expansion of the Rockland WTP and Upgrade of the Caron BPS project.

Your feedback is an important part of the EA process and will be considered in completing the Environmental Study Report.

- To receive email updates as the project progresses, subscribe to <https://www.clarence-rockland.com/en/city-hall/plans-reports-studies/expansion-rockland-water-treatment-plant> or provide your contact information (name and email) to the contacts below.
- In the next phase of the project, we will develop an Environmental Study Report and make it publicly available for review and input in Spring 2026.

Charles Bonneau

Coordinator, Capital Projects
City of Clarence-Rockland
1560 Laurier St.
Rockland, ON, K4K 1P7
T: 613-446-6022 x2425
cbonneau@clarence-rockland.com

Andre Bourque, P.Eng.

Project Manager
Jacobs
1565 Carling Avenue, Suite 200
Ottawa, ON, K1Z 8R1
T: 613-762-9723
CR.WaterSupply@jacobs.com

Jacobs

