



Hamilton

DUNDAS WASTEWATER TREATMENT PLANT (WWTP) UPGRADES

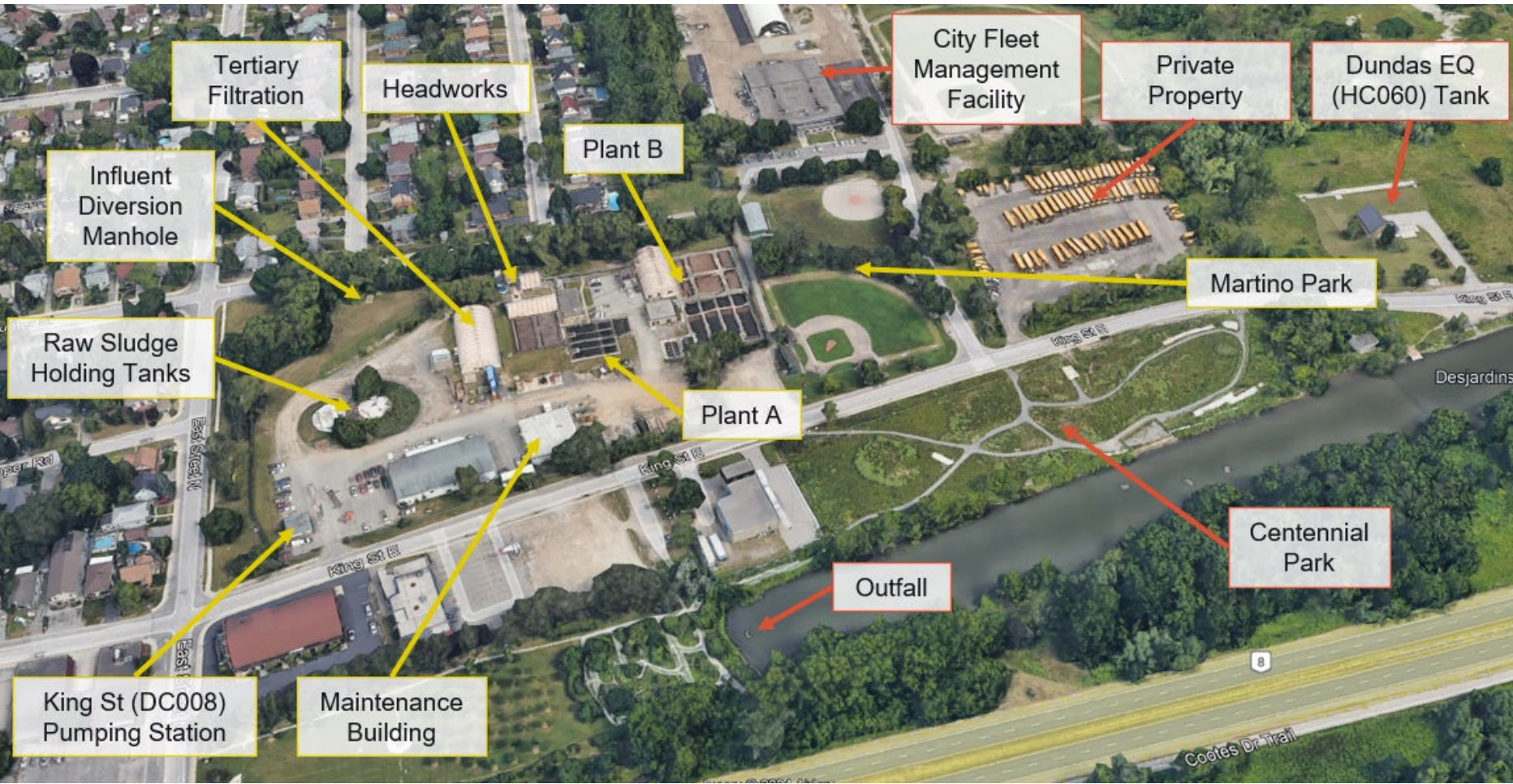
September 30, 2024

Dundas WWTP Upgrades Report PW24059

Summary Report PW24059 Recommendations:

- Budget for the Dundas Wastewater Treatment Plant (WWTP) improvements be **increased by \$110M** in the recommended 2025 Water, Wastewater and Stormwater Rate Budget to fully fund the Dundas WWTP Upgrades.
- **Two new permanent Full-Time** Equivalents in the Hamilton Water Division be approved and funded from the capital project ID, to deliver the Dundas WWTP Upgrades.
- Staff be authorized and directed to **pursue the acquisition of property** within the Dundas area to replace the Martino Memorial Park amenities that will be repurposed to accommodate the Dundas WWTP Upgrades.

Background – Dundas WWTP



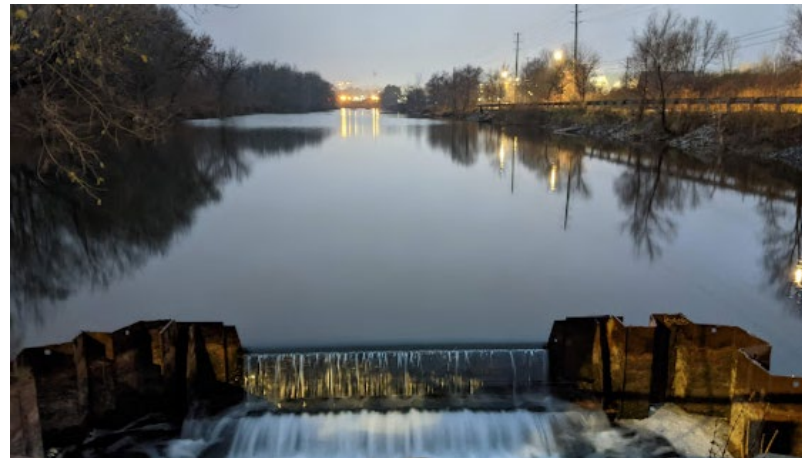
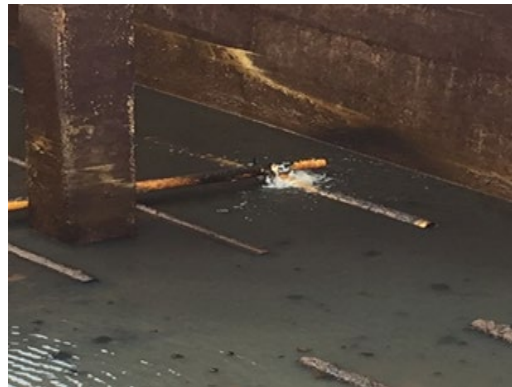
Recent Studies – Dundas WWTP Upgrades

Studies supporting the planning phase:

1. Preliminary Asset Replacement Study For the Future Use of the Dundas WWTP (CIMA 2015)
 - Condition asset valuation
 - Best Available Technologies
 - Potential Effluent Requirements
 - Overall upgrading plan
2. Conceptual Design Dundas WWTP Upgrades (CIMA 2024)
 - Effluent Quality improvements
 - Wet weather capacity
 - Replacing aged equipment and processes

Dundas WWTP Upgrades

- **Upgrades Objectives:**
 - ❖ Environmental stewardship
 - ❖ Aging infrastructure renewal
- **Estimated Project Schedule:**
 - Design 2025-2027
 - Construction 2028-2033
- **Estimated Project Cost Estimate:**
 - \$252M



Dundas WWTP Upgrades - Objectives

ENVIRONMENT

- Commitment to Environmental Stewardship and Hamilton Harbour Remedial Action Plan (HHRAP).
- Recognize and protect the uniqueness and significance of Cootes Paradise Marsh for Fish, Bird and Wildlife habitat.
- HHRAP supports Dundas WWTP effluent quality targets for restoration goals.
- Low effluent total phosphorus (0.05 mg/L).
- Leveraging technology to achieve future treated objectives.

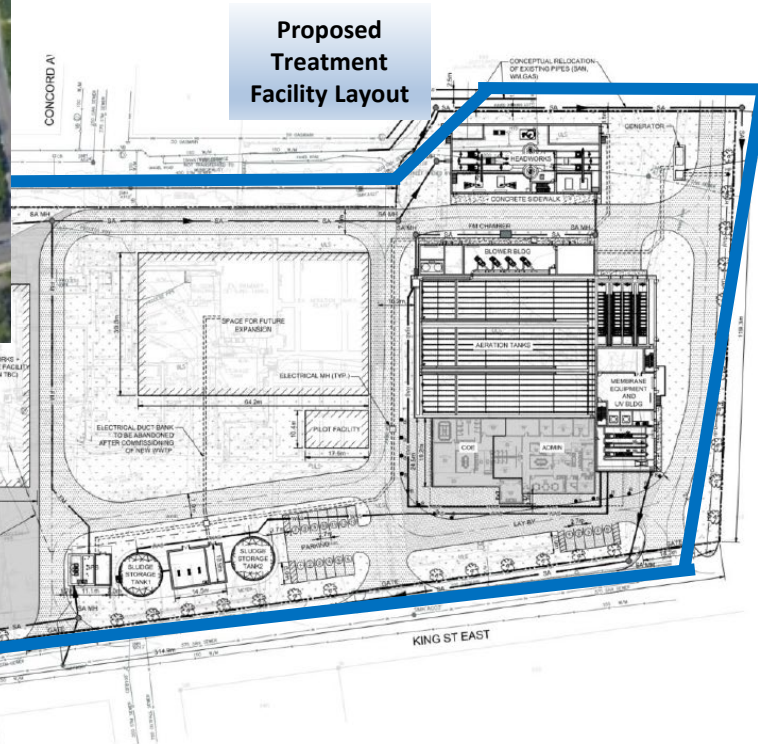


ASSET RENEWAL

- City's Asset Management Plan (2022) rated Dundas WWTP as Poor due to Aging Infrastructure
- Comprehensive capital upgrade plan developed
- Fully restore assets to a condition rating of Good



Dundas WWTP Upgrades – Layout



Dundas WWTP Upgrades – Proposed Layout Rendering



Dundas WWTP Upgrades – Proposed Layout Rendering



Dundas WWTP Upgrades – Resourcing Rationale

Financial	<ul style="list-style-type: none">• Preferred Membrane Bioreactor Facility: cost estimate \$252M• Increase current approved budget from \$142M to \$252M
City Staff Resourcing	<ul style="list-style-type: none">• PW24059 includes recommendations for dedicated Capital staff (Senior Project Manager and Project Manager) to deliver the Dundas WWTP Upgrades.• Funded from the capital project ID.• Total Approximate Annual Investment \$335K.
Project Support	<ul style="list-style-type: none">• Proposed resource structure includes support from Operations, SCADA and Maintenance.• Staff request previously identified for Council in the June 27, 2024, PW Committee Report PW22078(a) support for the Woodward WTP Phase 2A & 2B Upgrades and other large capital upgrades at the City’s wastewater treatment facilities.

Dundas WWTP Upgrades – Evaluation of Feasible Options

- Life cycle assessment compared membrane bioreactor facility with a conventional treatment facility to determine the long-term costs to the City.
- Evaluation criteria included: capacity, treatment performance, facility footprint, opportunity for expansion, construction complexity, initial capital cost and annual O&M cost.
- The **preferred membrane bioreactor facility approach ranked favourably**, with a life cycle cost (30-year Net Present Value) of \$342 million. This total includes a capital cost of \$252 million and an operation and maintenance cost of \$86 million.

Dundas WWTP Upgrades

Recommendations PW24059

- a) That the budget for capital project ID 5161266213 - Dundas WWTP Improvements be increased by \$110M in the recommended 2025 Water, Wastewater, and Stormwater Rate Budget, to fully fund the Dundas Wastewater Treatment Plant upgrades;
- (b) That the Hamilton Water Divisional staff complement be increased by two new permanent Full-Time Equivalents as detailed in Appendix “A” to Report PW24059 to deliver the Dundas Wastewater Treatment Plant upgrades;
- (c) That the two Full-Time Equivalents identified in recommendation (b) to Report PW24059 be funded from capital project ID 5161266213 - Dundas WWTP Improvements at an approximate annual cost of \$335K; and,
- (d) That staff be authorized and directed to pursue the acquisition of property within the Dundas area to replace the Martino Memorial Park amenities that will be repurposed for the Dundas Wastewater Treatment Plant upgrades, and to meet any other Parks Masterplan requirements in the area if possible, and report back on potential locations, property costs, and required capital investment.



Hamilton

THANK YOU