Community Services
Staff Report

REPORT NO:	CS-2024-23
TO:	Council
SUBMITTED BY:	Chris Catania, Director of Community Services
PREPARED BY:	Chris Catania, Director of Community Services
REVIEWED BY:	Greg Clark, Acting Chief Administrative Officer
DATE:	September 23, 2024
SUBJECT:	Wilmot Recreation Complex Refrigeration Plant Replacements and Enhancement Strategy

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RECOMMENDATION:

THAT Report CS-2024-23, Wilmot Recreation Complex Refrigeration Plant Replacements and Enhancement Strategy be received for information; and

THAT Council receive an update on the Wilmot Recreation Complex Refrigeration Plant Replacements and Enhancement Strategy; and

THAT Council authorize a 2025 Capital Project in the amount of $700,000 to replace both Shell and Tube Chillers and Condenser components within the Wilmot Recreation Complex Refrigeration Plant as described in this report, funded from the Infrastructure Renewal Capital Reserve Fund (6125).

SUMMARY:

This report provides Council with an update related to the Wilmot Recreation Complex Ice Plant replacement and enhancement strategy and seeks Council approval for a capital project to replace the shell and tube chillers and condenser components within the Wilmot Recreation Complex refrigeration plant in the 2025 Capital Budget.

BACKGROUND:

Original plan to replace all components at time of potential additional ice surface

Both the Wilmot Recreation Complex Chiller components and condenser for the Schout and Optimist ice surfaces are now 17 years old and approaching the end of their asset service life. Community Services facilities staff were originally planning the complete replacement of all refrigeration components 1) Shell and Tube Chillers, 2) Shared Condenser Tower and 3) Compressors with a potential larger facility expansion project over the next 4-6 years that would potentially add a third ice surface to the Wilmot Recreation Complex. The draft Community Services Master Plan identifies the need to explore for an additional ice surface and timing with these asset replacements may not be feasible.

Responsible asset replacements

The Wilmot Recreation Complex is in the seventeenth year of operations. Staff, in collaboration with Ammonia/Refrigeration Engineers, regulatory agencies, and experienced field technicians, have developed a systematic intervention program to address the aging and worn components of the arena infrastructure ensuring suitable maintenance, repair, and replacement strategies are implemented to mitigate risks of malfunction or failure.

The intervention strategies for 2024 are addressing end of life assets, the increase in maintenance issues, after-hours service calls, and system difficulties that disrupt regular ice usage. In 2024, Council approved replacing specific assets of the refrigeration plant including: Arena Building Automation System and system backup, Glycol Cooling Plate, and Brine Pump.

REPORT:

Staff re-examined the replacement and enhancement plan and considered some recent industry best practice updates

Community Services staff conducted a thorough plant assessment for operational integrity by licensed TSSA refrigeration mechanics and refrigeration engineers. Based on some recent changes to industry best practices it is now recommended that shell and tube chiller and condenser replacements occur at a maximum of 20 years. However, during the refrigeration plant assessment, evidence of corrosion with both shell and tube chillers and leaking of the condenser has shortened their 20 year asset life. The plant assessment confirmed the compressors if meticulously maintained could be replaced further out within up to 10 years with continued routine maintenance and inspections annually.

Minimizing risk, potential down-time, and maintenance costs

The Wilmot Recreation Complex refrigeration plant is a TSSA regulated plant. The refrigeration plant does contain Ammonia Gas which can present a health and safety risk. Staff continues to safely operate the plant with routine maintenance and inspection. Advancing the replacement

of the shell and tube chillers as well as the condenser will further reduce risk including; health and safety, potential plant failure, down-time, loss of revenue and the potential of significant maintenance costs.

Advancing replacements ahead of 2025 Budget process

Staff are presenting this pre 2025 budget request to ensure adequate timing is in place for procurement and long lead delivery of these assets that can take up to 25 weeks from order. Off-peak season for asset replacements on the refrigeration plant and any necessary shutdowns occur in the Spring when demand for ice is at it's least and typical ice user seasons have come to an end. If approved, staff endeavor to release tender documents and specifications for procurement immediately with award no later than November 2024, and work commencing in May 2025 through to the end of June 2025. If staff proceeded during the scheduled budget process, the timing for this work would be forced to wait till Spring of 2026.

This work involving replacement of major refrigeration components requires a full ice plant shutdown taking a better part of 4-6 weeks. Annually, the Wilmot Recreation Complex each Spring only removes one (1) ice pad for this off-peak time, still allowing programming and service delivery of at least one (1) ice pad year round. Therefore, staff are advising not to delay or spread out these replacements over multiple years, as this strategy would be more disruptive to users and further loss of revenue from Spring permitting. Staff believe advancing these replacements one time in 2025, even though disrupts a minimum of programming and permitting, will provide only one year of downtime, not multiple years.

ALIGNMENT WITH THE TOWNSHIP OF WILMOT STRATEGIC PLAN:

- Quality of Life through Recreation and Leisure Opportunities
- Responsible Governance through Fiscal Responsibility
- Responsible Governance through Infrastructure Investments

FINANCIAL CONSIDERATIONS:

Table 1 includes a budget estimate for the Shell and Tube Chiller and Condenser Replacements for both the Schout and Optimist ice surfaces.

Table 1 – Wilmot Recreation Complex Shell and Tube Chillers and Condenser Replacements. All figures exclude non-recoverable HST.

Item	Estimated Budget
Replacement Shell and Tube Chillers with Plate and Frame Chillers	$350,000
Replacement Evaporative Condenser	$300,000

Contingency	$50,000
Total	$700,000
Funding Source Infrastructure Renewal Capital Reserve Fund	**$700,000**

Operational Impacts for 2025 include a revenue deficit of $60,000, decrease of $25,000 in utilities and staffing for a net deficit of $35,000 in the Wilmot Recreation Complex budget.

ATTACHMENTS:

N/A