

**COMMUNICATION 134060**

Received From: Ross Rankin, Property and Project Manager  
Addressed To: Committee of the Whole  
Date: June 6, 2023  
Topic: Arena Side Stream Brine Filter Kits

**SUMMARY**

The purpose of this report is to request funds for the supply and installation of two (2) Arena Side Stream Brine Filter Kits to remove the excess sediment in the cold brine for the Refrigeration Plant at the Carleton Place Arena.

**BACKGROUND**

The standard annual maintenance program for an Arena refrigeration plant is referred to as a Customer Service Agreement (CSA) with a Refrigeration Contractor. This agreement has three (3) components: the refrigeration plant start up, mid-season inspection and shutdown. Each one of these components has specific tasks to be completed which includes testing of the equipment safety and refrigerants.

The Town entered into a CSA with CIMCO in 2023. During the mid-season inspection, samples of Ethylene Glycol, compressor coolant, and Calcium Chloride (known as Brine), and under ice floor coolant were taken and analysed. Following the mid-season inspection, adjustments were recommended.

In 2021, CIMCO was contracted to complete an analysis of the Brine and Ethylene Glycol was introduced during the Condenser replacement in 2022. The areas for immediate action were the PH level, Freeze Point and Inhibitor Concentration. CIMCO was contracted to supply and install the required chemicals per the recommendations, which were covered through operating funds.

The 2023 analysis identified an improvement in the areas which had previously been identified in 2021 which requires minor adjustments to the chemicals to meet the required targets. The chemical adjustments will be completed using operating funds. Sediment removal is one area that needs to be addressed as the reading is required to be 0 yet in 2021 it was 50 pounds/1000 gallons and this year it was 40 pounds/1000 gallons.

**COMMENTS**

The sediment will accumulate to the 1-inch piping walls at the return bends and will narrow or reduce the flow of refrigerant and eventually require premature replacement of the system. To remove the sediment, there is a requirement to install two (2) side stream brine filter kits; one (1) for each Arena.

The Refrigeration Plant is currently shut down and will be started up on June 23, 2023 for the upcoming season. Staff is requesting approval to have the work completed prior to the Refrigeration Plant start up.

**FINANCIAL IMPLICATIONS**

The total cost for the supply and install of the side stream brine filter kits is \$10,483.00 plus HST which is not included in the Recreation and Culture Department's 2023 capital budget. As a result, the budget deviation will need to be taken from the year end surplus, if any or from the Administrative reserve.

**STAFF RECOMMENDATION**

THAT Council authorize staff to proceed with the supply and installation of two (2) side stream brine filter kits, one (1) for each of Arenas 1 and 2 at a cost of \$10,483.00; and

THAT the budget deviation be taken from the year end surplus, if any or from the Administrative reserve.

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