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REPORT TO PENINSULA RECREATION COMMISSION MEETING OF THURSDAY, FEBRUARY 27, 2025

SUBJECT Energy Recovery Project Update

ISSUE SUMMARY

To provide a project update on the energy recovery project and to seek direction regarding next steps.

BACKGROUND

In 2019, the Capital Regional District (CRD) Board identified Climate Action & Environmental Stewardship as a priority for the region and approved a motion to declare a climate emergency, committing to limit global warming to 1.5°C above pre-industrial levels. This declaration was followed by the approval of the renewed Climate Action Strategy (the strategy) in October 2021. A key commitment of this strategy is the reduction of corporate greenhouse gas (GHG) emissions of 45% by 2030, from a 2007 baseline.

The strategy identified the installation of an energy recovery system at Panorama Recreation (Panorama) as a critical action (4-4) under Goal 4: Low-Carbon and Resilient Buildings and Infrastructure.

Panorama is the largest GHG emitter in the CRD portfolio, accounting for 33% of total CRD facility emissions, and is the second-largest energy user, accounting for 15% of all energy used for CRD facilities. The CRD is committed to taking a leadership role by reducing the carbon emission and energy usage of its buildings to achieve the CRD's GHG reduction targets.

In January 2023, the Peninsula Recreation Commission (the Commission) recommended "That the 2023 Capital Plan be amended to allow \$2.4 million for the Heat Recovery Plant project to be debt financed."

Project Update

The energy recovery project consists of two phases: phase one being the replacement of the arena dehumidifier and phase two being the design, installation and integration of a heat recovery plant that will provide low-cost heat to drive much of the dehumidification process.

Phase one was completed in the summer of 2024 and the dehumidifier is currently running solely on electricity while we await phase two of the project.

Polar Engineering has completed detailed design of phase two. The design includes the installation of a site-specific heat pump to take waste heat from the ammonia plant and use it to run the dehumidifier, run a new make-up air handler for the pool changerooms, preheat domestic hot water, heat the tennis facility, provide heat to the pool heating loop and air conditioning to the arenas and pool in the summer. An invitation to tender was issued for the supply and installation

of the fully designed system, which closed November 29, 2024. Two bids were received, but both were over budget.

ALTERNATIVES

Alternative 1

The Peninsula Recreation Commission recommends to the Capital Regional District Board: That the Saanich Peninsula Recreation Services Capital Plan be amended to include additional funding of \$1,700,000 for Project 19-15 Heat Recovery Plant, funded by grants \$800,000 and capital reserves \$900,000.

Alternative 2

That staff be directed to work with CRD Engineering and the project consultants to rescope the project to determine priority components and/or to develop further phasing of the project to complete what can be done within the existing approved budget.

IMPLICATIONS

Alignment with Board & Corporate Priorities

Reducing GHG emissions is embedded in the Climate Action & Environment Board and Corporate Priorities and aligns with the climate emergency declared by the CRD board in 2019.

Alignment with Existing Plans & Strategies

An integral goal of the 2021 Climate Action Strategy is the reduction of the CRD's corporate GHG emissions, with a target of 45% reduction by 2030, and achieving net-zero by 2050. The energy recovery project at Panorama is identified in the strategy as a critical action of the defined pathway towards the GHG reduction goals, slated for 2024. The project is also listed as sub-action (4-4d) of the strategy: "Install an Energy Recovery System at Panorama Recreation".

Environmental & Climate Action

The energy recovery project will mark a significant step towards reducing the CRD's use of fossil fuels and mitigating GHG emissions. The project demonstrates the CRD's leadership and commitment to environmental stewardship and will help contribute to the overall well-being of our surroundings and community.

Financial Implications

The current \$2.4 million budget previously approved by the Commission is debt financed. An increase to budget in the amount of \$1.7 million will be required to complete the whole project, for a total project budget of \$4.1 million. Approximately \$900,000 could come from the reserve fund, and \$800,000 to \$900,000 from grants is available if the whole project is completed. CRD Engineering and Climate Action have supported Panorama by applying for and administering external grants for this project. The current 2025 reserve balance is \$4.1 million, with \$1.5 million projected expenditures for the year. Within the current five-year budget plan, and prior to the requirement for additional funding for this project, the reserve balance is projected to be \$1.7 million. Should the Commission choose to proceed with Alternative 1, the reserve balance at the end of the current five-year budget will be approximately \$800,000 to \$900,000. This project

will address lifecycle replacement of several components of the system but is generally focused on improving the overall efficiency of the system to reduce emissions and energy usage.

Staff are currently analyzing and will continue to seek options to mitigate the overall impact on the reserve budget. This may include savings from current projects and/or recently completed projects, seeking further grant opportunities for this project and/or for other upcoming projects, rescoping upcoming projects and/or deferring projects to outside of the current five-year capital budget.

Specific examples of mitigation efforts currently under review include:

- Approximately \$120,000 of remaining funds from several recently completed and closed capital projects, such as the arena A dressing room heating, building exhaust system upgrades and electric vehicle charging units.
- Approximately \$60,000 in projects that have been planned and budgeted for but will be addressed through the completion of the whole energy recovery project, such as the funding allocated toward the pool changeroom HVAC unit replacement.
- Grant funding for arena LED lighting upgrades may equate to approximately 50% grant funding for this \$130,000 project for both arenas.
- Analysis and rescoping of the leisure pool filter room flooring replacement project scheduled for Spring 2025 may result in approximately \$50,000 in savings.

Although not confirmed at the time of the development of this report, the above-listed examples provide approximately \$290,000 in funding back to reserves. Staff are confident that further mitigation strategies can be found with a realistic goal of minimizing the overall impact on the reserve balance at the end of five years by 50% to realize a balance of approximately \$1,200,000 to \$1,300,000 in the reserve budget.

The completion of this project, in whole or in part, will generate operational budget savings due to the reductions in usage of electricity and natural gas. The heat recovery process and improved efficiency of the system will reduce annual utility usage and thus costs. Following information from the engineering consultants, Polar Engineering, it is estimated that completion of the whole project will lead to annual utility cost savings of approximately \$125,000. With respect to Alternative 2, completion of part of the project at this time, which would necessitate the inclusion of a site-specific heat pump, will lead to annual utility savings of approximately \$110,000. The annual utility savings from the remaining components then equates to approximately \$15,000 annually.

Service Delivery Implications

The energy recovery project is scheduled to be completed during off seasons to minimize disruptions to users.

CONCLUSION

The Panorama Recreation Centre, a significant contributor to greenhouse gas (GHG) emissions and energy usage in the CRD portfolio, is undergoing an energy recovery project to reduce its carbon footprint. Phase one involved replacing the arena dehumidifier, while phase two focuses on designing and installing the heat recovery plant. The project aligns with the CRD's Climate Action Strategy, aiming to reduce corporate greenhouse gas emissions by 45% by 2030, and is a defined action in the strategy. The project requires an increase in funding to fully complete.

RECOMMENDATION

The Peninsula Recreation Commission recommends to the Capital Regional District Board:
That the Saanich Peninsula Recreation Services Capital Plan be amended to include additional funding of \$1,700,000 for Project 19-15 Heat Recovery Plant, funded by grants \$800,000 and capital reserves \$900,000.

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