

FINANCE AND CIVIC DEVELOPMENT COMMITTEE

*HIS WORSHIP, THE MAYOR
AND COUNCILLORS*

SUBJECT: SOLAR HEATING STUDY FOR EILEEN DAILLY POOL

RECOMMENDATIONS:

1. THAT Council authorize staff to submit an application to the Vancity/Real Estate Foundation of B.C. Green Building Grant in the amount of \$30,000 to fund a solar heating feasibility study for Eileen Dailly Pool.
2. THAT Council forward this report to the Parks, Recreation and Culture Commission and the Environment Committee for information purposes.

REPORT

The Finance and Civic Development Committee, at its meeting held on 2005 September 13, received and adopted the *attached* report outlining a feasibility study for solar water heating for Eileen Dailly Pool.

Solar water heating offers significant potential energy savings for many City facilities. The study at Eileen Dailly could be a pilot project, and if successful could be used to profile this technology to both public and private developers in the Greater Vancouver Regional District and British Columbia.

Respectfully submitted,

Mayor Derek Corrigan
Chair

Councillor Dan Johnston
Vice Chair

Councillor Nick Volkow
Member

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| COPY: CITY MANAGER ASSIST. CHIEF BUILDING INSP. DIRECTOR FINANCE DIRECTOR PLNG. & BLDG. DIRECTOR ENGINEERING DIRECTOR PARKS |
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TO: CHAIR AND MEMBERS
FINANCE COMMITTEE 2005 August 31

FROM: MAJOR CIVIC BUILDING PROJECT CO-
ORDINATING COMMITTEE **FILE:** 31000-40
Reference: Green Roofs

SUBJECT: SOLAR HEATING STUDY FOR EILEEN DAILY POOL

PURPOSE: To outline a feasibility study for solar water heating for Eileen Dailly Pool

RECOMMENDATIONS:

1. **THAT** staff be authorized to submit an application to the Vancity/Real Estate Foundation of B.C. Green Building Grant in the amount of \$30,000 to fund a solar heating feasibility study for Eileen Dailly Pool.
2. **THAT** this report be forwarded to the Parks, Recreation & Culture Commission and the Environment Committee for information purposes.

REPORT**1.0 INTRODUCTION**

Over the last two years, the City, together with our partner Honeywell, has been engaged in the EnergyFit Program. The program includes several comprehensive energy retrofit projects to civic facilities, as well as a staff energy awareness campaign. The total investment package of \$6.3 million has a simple pay-back period of 11 years, based on 2004 energy costs.

In line with the our energy conservation measures, a new opportunity has come forward to research the benefits of installing solar water heating in Eileen Dailly Pool in Burnaby Heights. The purpose of this report is to seek Council's support to pursue a study into the feasibility of solar water heating at Eileen Dailly Pool, concurrent with pursuing a Green Building grant from Vancity/Real Estate Foundation of B.C. to fund the study.

2.0 SOLAR WATER POOL

Solar water heating is a common and efficient means of heating water for domestic, institutional, and commercial purposes, particularly in jurisdictions that are off the energy

grid. The technology involves attaching solar panels to a building roof which captures the sun's energy and heats water within the facility. A sensor detects changes in temperature and tells an automatic controller when there is enough energy available to work efficiently.

As energy costs have risen, and technology has improved, payback periods have decreased significantly, bringing this technology into the mainstream. For example in fall of 2003, the Vancouver International Airport Authority added a solar-powered hot water heating system in the airport's domestic terminal building. The system was designed to save nearly \$90,000 and 8,570 gigajoules (approximately 2.4 million kWh) annually, with a payback period of 5 years (based on 2003 energy costs). The District of Hope has installed solar water heating on an outdoor pool, and is now looking to also retrofit indoor pools. Residential applications within the City of Burnaby include the Cranberry Commons Co-housing project in Burnaby Heights.

3.0 EILEEN DAILLY POOL

Running aquatic centres can be very energy intensive. Energy is needed to heat water for swimming pools and showers, in addition to energy used for lighting, heating and ventilating spaces. Eileen Daily Pool consumes the most energy per square foot of any City facility. As part of the City EnergyFit Building Retrofit program, over \$750,000 of energy conservation measures have been invested in the facility, including a thermal pool cover for the leisure pool, energy-efficient boilers, lighting upgrades and the installation of sensors and computerized controls for heating, cooling, and ventilation.

Staff believe that significant additional energy savings may be obtainable through solar water heating – potentially for both domestic and pool heating purposes. This technology was not reviewed during the original energy retrofit program. Staff recommend engaging a consultant to undertake a research and design study to review engineering feasibility, confirm the design and aesthetics, and quantify costs and payback period of solar water heating for Eileen Dailly Pool. The cost of this study would not exceed \$30,000. The results of this study would be returned to the Finance and Civic Development Committee, with recommendations on how to proceed.

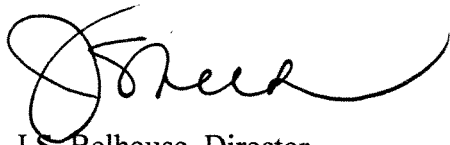
4.0 FINANCING

Funding for the proposed feasibility study will be sought through the Vancity/Real Estate Foundation of B.C. Green Building Grant. The grant provides funds up to \$50,000 for building renovations/retrofits to existing buildings; and policy/design/research or regulatory changes that advance green building development and practice. This consultant's review meets the grants terms of reference and the City's objectives for energy conservation. Based on the results of the study, the City can better determine if we wish to proceed with solar water heating for Eileen Dailly Pool. Should the grant application be successful, it is proposed that the project be bridge funded, in the interim,

by casino gaming funds, which would be reimbursed once grant funding is provided. If the grant application is not successful, then staff would inform Council of other possible options to pursue the proposed feasibility study.

5.0 CONCLUSION

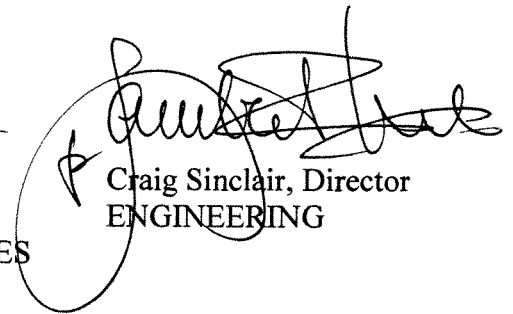
Solar water heating offers significant potential energy savings for many City facilities. The study at Eileen Dailly could be a pilot project, and if successful could be used to profile this technology to both public and private developers in the Greater Vancouver Regional District and British Columbia.



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PLANNING AND BUILDING



Kate Friars, Director
PARKS, RECREATION
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Copied to: City Manager
Assistant Chief Building Inspector
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