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REPORT
2005 October 17

CITY OF BURNABY

ENVIRONMENT COMMITTEE

HIS WORSHIP, THE MAYOR
AND COUNCILLORS

RE: GREEN ROOF PERFORMANCE MONITORING AT ELECTRONIC ARTS

RECOMMENDATION:

1. **THAT** Council receive this report for information purposes.

REPORT

The Environment Committee, at its Open meeting held on 2005 October 11, received and adopted the *attached* report advising of a funding award obtained by the City and BCIT to monitor the stormwater performance of the new 15,418 sq. ft. extensive green roof at Electronic Arts.

Respectfully submitted,

Councillor D. Johnston
Chair

Councillor P. Calendino
Vice Chair

Councillor C. Redman
Member

:COPY – CITY MANAGER
DIRECTOR PLANNING & BUILDING
DIRECTOR ENGINEERING

City of Burnaby

Meeting 2005 Oct 11

COMMITTEE REPORT

TO:	CHAIR AND MEMBERS ENVIRONMENT COMMITTEE	**DATE:**	2005 October 12
FROM:	DIRECTOR PLANNING AND BUILDING	**FILE:** *Reference:*	PL 31000-40 *Green Roof*

SUBJECT: **GREEN ROOF PERFORMANCE MONITORING AT ELECTRONIC ARTS**

PURPOSE: To update the Committee and Council on a funding award for monitoring green roof performance at the new expanded Electronic Arts campus.

RECOMMENDATION:

1. **THAT** the Committee forward a copy of this report to Council for information purposes.

REPORT

1.0 INTRODUCTION

The following report updates the Committee and Council on a funding award obtained by the City and BCIT to monitor the stormwater performance of the new 15,418 sq. ft. extensive[1] green roof at Electronic Arts.

2.0 BCIT CENTRE FOR THE ADVANCEMENT OF GREEN ROOF TECHNOLOGY

As the Committee will recall from the May 2005 tour of the BCIT Great Northern Way Campus, BCIT is home to the Centre for the Advancement of Green Roof Technology (CAGRT). CAGRT is monitoring the performance of extensive, non-accessible green roofs, in order to identify opportunities and constraints to expand this technology into the British Columbia and Canadian market. CAGRT has been awarded a national research award, and is also coordinating a series of multi-agency working groups addressing technical issues, policy constraints and opportunities, marketing opportunities, and education and outreach. City staff are participating in some of these working groups.

3.0 ELECTRONIC ARTS GREEN ROOF

In 2004, the City approved the rezoning and development (Rezoning Reference #03-33) of an expanded campus for Electronic Arts at Discovery Place, near BCIT. The new building is a

1 There are two basic types of green roof systems: extensive and intensive. Both provide environmental benefits. Extensive green roofs are not designed for public access and are characterized by their low weight, low capital cost and minimal maintenance. The light-weight growing medium varies in depth between 3-6 inches, providing an extreme desert-like microclimate for the selected alpine or desert plants. Intensive roofs are designed to be accessible, and so are characterized by greater weight, higher capital costs (including building structure), more plantings (including, trees and shrubs) and higher maintenance requirements. The growing medium ranges in depth from 6-20 inches.

Leadership in Energy and Environmental Design (LEED) silver - certified green building and includes two types of green roofs. There is a 15,418 sq.ft. non-accessible, 6-inch thick, extensive green roof over the motion capture studio, and a series of accessible intensive green roof gardens over the rest of the buildings. The development also takes advantage of the roof above the under ground parking garage for an artificial soccer pitch.

4.0 GREEN ROOF REGIONAL INFRASTRUCTURE NETWORK

While there are numerous intensive green roofs in the City and Region (e.g., Metrotown, Brentwood), non-accessible extensive green roofs, such as the motion capture roof are still relatively rare. CAGRT is seeking to monitor four extensive roof case studies, to identify how different roof designs and locations affect stormwater management performance. These case-studies will form a Green Roof Regional Infrastructure Network (RIN). Candidate sites identified to date include a new BCIT building on the Burnaby Campus (also including photovoltaic energy cells on the roof), Electronic Arts, the new Vancouver Convention Centre, and the Seymour-Capilano Filtration Plant.

During the rezoning process, the City worked with Electronic Arts and BCIT to include the extensive green roof in the RIN to monitor real-time stormwater performance. Electronic Arts will be the first commercial office building, the first building in Burnaby, and the first LEED standard green building in the Network to include extensive green roofs.

While BCIT research staff are available to process monitoring data, monitoring equipment needed to be purchased. City staff have assisted BCIT in seeking funds and in summer 2005 submitted a joint proposal with BCIT to the GVRD Stormwater Interagency Liaison Group (SILG) for $29,000 over 2 years. The year one funding application ($16,000) was successful, with year two funding application ($13,000) to be reviewed in 2006.

5.0 CONCLUSIONS

Over many years, the City has been a successful partner with BCIT on many research and student projects. The Electronic Arts Green Roof research project is another opportunity for the City, BCIT, and private business to work collaboratively to benefit industry, the community, the environment, and regulatory agencies. Staff will report back to the Committee on the results of the monitoring performance studies.

J.S. Belhouse
DIRECTOR PLANNING AND BUILDING

RW:jc

cc: City Manager
Director Engineering

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