

TO: CITY MANAGER 2001 FEBRUARY 14

FROM: CHIEF INFORMATION OFFICER

SUBJECT: CITY MAPPING SYSTEM UPGRADE

PURPOSE: To request \$375,000 in funding to upgrade the City's mapping system.

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**RECOMMENDATION:**

1. **THAT** a \$375,000 Capital Expenditure Bylaw be brought down for the purchase of computer equipment, software and implementation services.

**REPORT**

**1.0 BACKGROUND**

The 1998 Information Services Strategic Plan identified the need to review and implement a corporate Geographic Information System (GIS) which integrates with corporate data and enables non-technical staff to display and query mapping information on any desktop and potentially the Internet. In 2000, the Burnaby WebMap project team, comprised of staff from Information Services, Engineering, Planning and Building departments, developed a working prototype of a GIS system that utilizes a web browser.

Additional funds are required to build upon this working model and extend GIS access as an Intranet service to all city staff and create an approved subset of this information as an Internet service to the public.

**2.0 ISSUES**

GIS technology is now well established in Burnaby as in other cities. But until now, GIS services have only been accessible to a small number of staff with highly specialized technical skills, and GIS information has not been linked to most of our other corporate databases (property taxes, infrastructure management and permits and applications).

In order to provide the capacity to handle an increased number of internal and external users, an upgrade to the existing ESRI ArcInfo hardware and software is required. The new GIS software has significantly improved functionality and performance capabilities providing increased flexibility, usability and Internet support. The existing hardware is grossly underpowered, and needs to be replaced with new technology, especially to support the increased requirements for Intranet and Internet services.

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### **3.0 ANALYSIS**

As approximately 80 percent of the City's data relates to property, which is spatially located, such as parcels of land or infrastructure etc., there are great potential benefits to be derived from the integration of GIS with corporate data. The benefits include better analysis, improved interpretation and communication of information through a more intuitive and user-friendly form.

Property data is divided into two components, mapping and attribute information. Mapping information is spatial in nature containing parcels, road lines, underground service locations, zoning boundaries, hydrology, etc. Attribute data is the database information contained in taxation, assessments, permits, business licence and infrastructure management systems. A corporate geographic information system linking mapping and attribute data is required to create user friendly access to civic information.

For example, non-technical staff could routinely access address information for local improvement projects. Citizens could access assessment information to make judgements regarding potential appeals, a currently difficult process that is required in a very restricted time frame.

Geographic Information Systems have emerged as a technology to change the way governments, communities and private firms deal with spatial information. Historically, paper maps were created and records were kept in file drawers making it a time consuming and cumbersome job to update and combine the information kept in different forms and places. Today, GIS provides the opportunity to store related corporate information in the one place, creating "intelligent" maps that could be easily updated and modified to meet changing needs. By combining the geographic information from the maps with the attribute information from associated files, a fully developed GIS can manipulate data to undertake a wide range of analyses, evaluations, measurements, comparisons, and simulations permitting them to be displayed in both graphic and statistical form.

### **4.0 IMPLEMENTATION PLAN**

The prototype development phase of the Burnaby WebMap was done last year. This part of the project will be implemented in four phases as follows:

Phase	Task Description	Time to Complete
1	Upgrade Burnaby WebMap servers and utilize consultants to allow additional staff access to Burnaby WebMap	3 months
2	Upgrade GIS server and workstations	3 months
3	Upgrade GIS applications software and utilize consultants so the City can be at the most current level	6 months
4	Implement Burnaby WebMap as an Internet service allowing public access to Burnaby WebMap	3 months

The requested funds will accommodate all four phases of the project.

## 5.0 FINANCING IMPLICATIONS

The following table shows a descriptive breakdown in funding this project:

#	Description	2001 Budget
1	Computer equipment-Burnaby WebMap servers & Oracle licencing	\$175,000
2	ArcInfo Server and Licencing	100,000
3	Consulting training resources for GIS and security	80,000
4	Contingency	20,000
		\$375,000

## 6.0 CONCLUSION

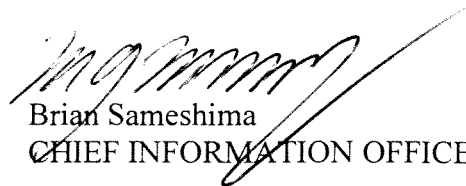
Burnaby has invested considerable time in developing its GIS and corporate information resources over the years. The recommended funding is necessary to integrate GIS and corporate databases.

**7.0 IMPACT**

The impact on future operating budgets is estimated at \$10,000 per year, beginning in 2002 for computer software maintenance and oracle licencing. Funds will be accommodated within existing budgets.

**8.0 FINANCING**

Sufficient Capital Reserves are available and this project is included in the 2001-2005 Capital Budget.

  
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