

ITEM FOR FINANCE COMMITTEE

CAPITAL WORKS RESERVE FUND HEAD 708 – CAPITAL SUBVENTIONS AND MAJOR SYSTEMS AND EQUIPMENT

Buildings Department

New Subhead “Provision of Electronic Imaging, Storage and Retrieval Service of Building Plans and Documents”

Members are invited to approve a new commitment of \$50.3 million for implementing a computerized Building Records Management System for the electronic imaging, storage and retrieval of all the building plans and related documents kept by the Buildings Department.

PROBLEM

The current paper-based building records management system in the Buildings Department (BD) limits the efficiency and effectiveness of its record viewing and copying service provided to the public.

PROPOSAL

2. The Director of Buildings, with the support of the Secretary for Housing, Planning and Lands, proposes to implement a computerized Building Records Management System (BRMS) in BD with a commitment of \$50.3 million in order to, inter alia, provide more cost-effective and user-friendly record viewing and copying services to the public.

/JUSTIFICATION

JUSTIFICATION

Current Problems

3. BD keeps a repository of the building plans and related documents of existing private buildings in Hong Kong, collectively known as building records. The repository consists of a total volume of 1.16 million paper-based and 0.45 million microfilm-based plans, as well as 12.1 million paper-based and 4.6 million microfilm-based documents. It operates a paper-based building record management system for members of the public to view and obtain certified true copies of such records. An average of about 38 000 applications for the viewing of building records were received per annum in the past two years.

4. There are problems with the paper-based building record management. Apart from the ageing and deterioration of the paper-based building records, the manual retrieval process of building records is both time consuming and labour intensive. In the plan viewing process, the customers need to sort out the records they require from a large bundle of building records. The repeated retrieval of paper records may also cause loss or misplacement.

Trials with Building Records Management System

5. A study carried out by the Business and Services Promotion Unit on the retrieval of building records in January 2000 recommended that BD should digitize the building records and develop a computerized BRMS for more expeditious and quality services.

6. In early 2001, BD started a pilot project for the digitization of building records and setting up of a small-scale BRMS covering initially, Tsim Sha Tsui and Yau Ma Tei districts, and subsequently extended it to Mongkok and Wanchai districts. This pilot BRMS has been open to public access since June 2001.

7. The pilot BRMS has led to a quantum leap in service delivery. Instead of the existing 10-day manual retrieval time for hard copies, there is instant retrieval. Feedback from both building professionals and the public is positive. Electronic imaging has proved to be an extremely effective way of managing building records. The Business Advisory Group (chaired by the Financial Secretary), which has been overseeing the pilot project, considers that the pilot BRMS's capability to retrieve records instantaneously will greatly improve BD's plan retrieval service.

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Proposed Building Records Management System

8. Having reviewed the results of the pilot project, we propose to implement the BRMS to digitize and manage all building records kept by BD. These data include approved plans of building, structural, drainage, site formation and alteration and addition works as well as related reports and calculations. About 1.03 million paper-based and 0.23 million microfilm-based plans, as well as 10.8 million paper-based and 3.7 million microfilm-based documents will be digitized.

Benefits of the Proposed Building Records Management System

9. The proposed BRMS will bring about the following benefits -

(a) ***Improving service***

The existing plan viewing service requires about ten days to retrieve the paper-based building records from the off-site storage centre before customers can sort out the records they require from a large bundle of documents and plans. The BRMS can greatly improve the efficiency of the record retrieval and enquiry processes by enabling instant access to building records by members of the public via workstations in BD's Building Information Centre.

In addition, the BRMS will allow concurrent access to the same record by more than one user, which is impossible under the current paper-based system.

Under the paper-based system, customers need to fill in application forms for the building records they want and ask BD staff to copy the records for them. The BRMS will allow users to place orders on the computer for copying the required plans or documents directly from the system.

(b) ***Cost reduction***

Under the pilot project, the costs of viewing and issuing copies of building records with the BRMS are lower than those with the paper-based system. Thus we estimate that the viewing and copying services will be provided at a lower cost under the computerized BRMS.

/(c)

(c) *Facilitating compliance with statutory requirements*

With the BRMS, members of the public can readily check the relevant building records when they need to submit licence applications or carry out alteration and addition works in their premises. This will facilitate compliance with statutory requirements.

(d) *Improving record management*

Deterioration and damage caused by repeated retrieval and handling of paper records have posed serious problems over the legibility of the records. Building records in electronic format do not have the problems of ageing and deterioration. Digitisation of building records is a cost-effective solution for preserving the valuable information contained in paper records.

Apart from the problem of deterioration and damage, repeated retrieval may also cause loss or misplacement of paper records. With the record enquiry function of the BRMS, these problems can be avoided.

With the BRMS and electronic image backup of the building records, the existing stock of paper records could be disposed of, resulting in substantial saving of storage space. The relevant provision empowering the Building Authority to dispose of paper records as proposed in the Buildings (Amendment) Bill 2003 is now undergoing the legislative process.

(e) *Creating Job Opportunities*

It is estimated that the full-scale digitization of building records will create more than 380 job opportunities in the private sector for a period of two to three years.

Cost and Benefit Analysis

10. Upon implementation of the proposed system, we expect to achieve total annual savings of \$8,910,000, made up as follows -

/Realisable

	\$'000
Realisable savings	
(a) Savings in personal emoluments through the deletion of two Clerical Assistant and one Workman posts in the Retrieval Registry of BD	399
(b) Savings in operating costs through the release of 18 temporary clerical staff in the Building Information Centre (BIC) of BD	1,399
(c) Savings in rental charge through the reduction in office accommodation of 423 m ² in BD's Retrieval Registry and BIC	1,542
(d) Savings in rental charge and operating costs through the release of storage space of 2 700m ² in the Records Management Office of Government Records Service Division after the disposal of the existing stock of paper records	5,570
Total	8,910

Encl. 11. A detailed cost-benefit analysis is at the Enclosure. We anticipate that the system will break even in 2015-16, i.e. ten years after full commissioning.

FINANCIAL IMPLICATIONS

Non-Recurrent Expenditure

12. It is estimated that the total non-recurrent cost of the proposed system is \$50.3 million. This comprises \$37.8 million for data conversion and \$12.5 million for the purchase of computer hardware and software, implementation services, site preparation, project administration, etc. A breakdown of the cost estimates is as follows -

/(a)

	2003-04	2004-05	2005-06	Total
	\$'000	\$'000	\$'000	\$'000
(a) Data conversion - digitization of building records	1,660	18,850	17,280	37,790
(b) Hardware and software for BRMS	0	1,702	6,867	8,569
(c) Implementation services	0	298	1,202	1,500
(d) Site preparation	210	0	0	210
(e) Project administration	500	1,000	500	2,000
(f) Contingency	0	100	100	200
Total	2,370	21,950	25,949	50,269
			Say	50,300

13. As regards paragraph 12(a), the total expenditure of \$37,790,000 is for the digitization of existing building records, including 1.03 million paper-based and 0.23 million microfilm-based plans and 10.8 million paper-based and 3.7 million microfilm-based documents.

14. As regards paragraph 12(b), the total expenditure of \$8,569,000 is for the acquisition of computer hardware, software and accessories including database servers, back up servers, peripherals and data communication equipment.

15. As regards paragraph 12(c), the total expenditure of \$1,500,000 is for the acquisition of services for system analysis and design, application development, system implementation, testing and acceptance testing.

16. As regards paragraph 12(d), the total expenditure of \$210,000 is for the equipment set up and site preparation work, including the installation of conduit facilities, data ports and power points for computer equipment.

17. As regards paragraph 12(e), the total expenditure of \$2,000,000 is for the acquisition of services for project management, contract administration and quality checks on data conversion.

18. As regards paragraph 12(f), the total expenditure of \$200,000 represents a contingency on the cost items set out in paragraphs 12(a) to 12(d).

Recurrent Expenditure

19. The estimated recurrent expenditure for maintaining and operating the proposed system is \$3.2 million per annum. BD will absorb all the recurrent expenditure of the BRMS from within its existing resources. A breakdown is as follows -

	2004-05	2005-06	2006-07 and annually thereafter
	\$'000	\$'000	\$'000
(a) On-going digitization of new building records	0	135	540
(b) Hardware and software maintenance	731	975	1,950
(c) Consumables	205	410	410
(d) Operation support services	300	300	300
Total	1,236	1,820	3,200

20. As regards paragraph 19(a), the annual expenditure of \$540,000 is for the on-going digitization of new building records.

21. As regards paragraph 19(b), the annual expenditure of \$1,950,000 is for the hire of services to support the operation of BRMS and maintenance for the computer hardware and software.

22. As regards paragraph 19(c), the annual expenditure of \$410,000 is for the acquisition of consumables such as toner and paper for laser printers, and disks and tapes for backup purpose.

23. As regards paragraph 19(d), the annual expenditure of \$300,000 is for the hiring of one contract information technology staff in BD to provide on-going system support.

Implications on Fees and Charges

24. Based on the pilot project of the BRMS, the costs of viewing and copying of building records are lower than those with paper-based and microfilm-based systems, thus enabling the relevant fees to be set at a lower level. Upon implementation of the full scale BRMS, BD will conduct a costing exercise to ascertain the actual cost of the services provided and will adjust the fee levels, if necessary, based on the cost recovery principle.

Implementation Plan

25. We estimate that the proposed system will be completed by December 2005. The proposed implementation plan is as follows -

	Activity	Target completion date
(a)	Tendering	January 2004
(b)	Team formation	February 2004
(c)	System roll-out of BRMS	July 2004
(d)	Completion of full-scale digitization of building records	December 2005
(e)	Full-scale operation of BRMS	December 2005

/BACKGROUND

BACKGROUND INFORMATION

26. Building records provide essential information such as the approved layout, means of escape pattern and structural design of buildings. They are important references for business operators, building professionals, government departments and members of the public for such purposes as licence applications, the removal of unauthorized building works and the applications for approval of building works involving existing private buildings.

27. Subsequent to a study on the building plans retrieval process carried out by the Business and Services Promotion Unit in January 2000, BD has launched a pilot electronic imaging project to revamp the storage and retrieval processes of the approved plans. The success of the pilot project has confirmed the merits of implementing a full scale BRMS.

28. We informed the Legislative Council Panel on Planning, Lands and Works of the proposed project through the circulation of an information paper on 6 June 2003. Members raised no objection to this proposal.

Housing, Planning and Lands Bureau
June 2003

**Cost and Benefit Analysis of the
Provision of Electronic Imaging, Storage and Retrieval Services
of Building Plans and Documents for BD**

	Cashflow (\$'000)													
	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	Total
COST														
Non-recurrent														
Expenditure	2,370	21,950	25,949											50,269
Sub-total	2,370	21,950	25,949											50,269
Recurrent														
Expenditure	0	1,236	1,820	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200	35,056
Sub-total	0	1,236	1,820	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200	35,056
Total Cost	2,370	23,186	27,769	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200	85,325
BENEFITS														
Realisable savings	0	0	427	7,124	8,910	8,910	8,910	8,910	8,910	8,910	8,910	8,910	8,910	87,741
Total Benefits	0	0	427	7,124	8,910	8,910	8,910	8,910	8,910	8,910	8,910	8,910	8,910	87,741
Net benefits	(2,370)	(23,186)	(27,342)	3,924	5,710	5,710	5,710	5,710	5,710	5,710	5,710	5,710	5,710	2,416
Cumulative benefits	(2,370)	(25,556)	(52,898)	(48,974)	(43,264)	(37,554)	(31,844)	(26,134)	(20,424)	(14,714)	(9,004)	(3,294)	2,416	