

CHAPTER 1

Architectural Services Department

Administration of building works under term contracts

**Audit Commission
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This audit review was carried out under a set of guidelines tabled in the Provisional Legislative Council by the Chairman of the Public Accounts Committee on 11 February 1998. The guidelines were agreed between the Public Accounts Committee and the Director of Audit and accepted by the Government of the Hong Kong Special Administrative Region.

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ADMINISTRATION OF BUILDING WORKS UNDER TERM CONTRACTS

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PART 1: INTRODUCTION

1.1 This PART describes the background to the audit and outlines the audit objectives and scope.

Maintenance, refurbishment and minor building works

1.2 One of the functions of the Architectural Services Department (ArchSD) is to provide professional and project management services for the maintenance and refurbishment of government buildings and facilities (Note 1). The works can be classified into the following three categories:

- (a) routine and emergency maintenance services (see para. 1.3);
- (b) refurbishment of government buildings (see para. 1.4); and
- (c) minor building works (see para. 1.5).

Routine and emergency maintenance services

1.3 The ArchSD provides routine and emergency maintenance services for government buildings and facilities (e.g. fixing water seepage and conducting emergency repairs in a government building). The cost of the services (\$469 million in 2007-08) is funded under ArchSD departmental vote.

Refurbishment of government buildings

1.4 Refurbishment works include renewing or replacing building installations (e.g. electrical wiring and drainage pipes) and redecoration of buildings (e.g. repainting walls). The cost of the services (\$1,485 million in 2007-08) is funded under a block vote (Head 703, Subhead 3004GX) of the Capital Works Reserve Fund (CWRF — Note 2) which is approved by the Finance Committee (FC) of the Legislative Council. According

Note 1: *Government buildings include government office buildings, quarters and civic centres. Government facilities include public swimming pools, playgrounds and public toilets. The ArchSD also provides maintenance services to subvented schools.*

Note 2: *The CWRF was set up in April 1982 for financing the Public Works Programme and the acquisition of land.*

to Financial Circular No. 2/2007 of June 2007, the ArchSD is required to prepare an annual programme of works for the approval of the Financial Services and the Treasury Bureau (FSTB). The Director of Architectural Services is authorised to approve expenditure for a project **not exceeding \$21 million**.

Minor building works

1.5 **Minor building works** include alteration, addition (e.g. construction of public toilets), **improvement** (e.g. improvements to public markets) **and fitting-out works**. The cost of the services (\$625 million in 2007-08) is funded under a block vote (Head 703, Subhead 3101GX) of the CWRF. The approving authorities are as follows:

- (a) on the advice of the Accommodation Strategy Group (ASG — Note 3), a Deputy Secretary of the FSTB is authorised to approve a project not exceeding \$21 million;
- (b) for fitting-out works in newly allocated or leased premises, the Government Property Administrator may approve a project not exceeding \$14 million; and
- (c) for minor building works other than those in newly allocated or leased premises, the Director of Architectural Services, on the advice of the Minor Building Works Committee (Note 4), is authorised to approve a project not exceeding \$14 million. The Assistant Director (Property Services) and the Senior Property Services Managers of the ArchSD are authorised to approve a project not exceeding \$1.4 million and \$0.1 million respectively.

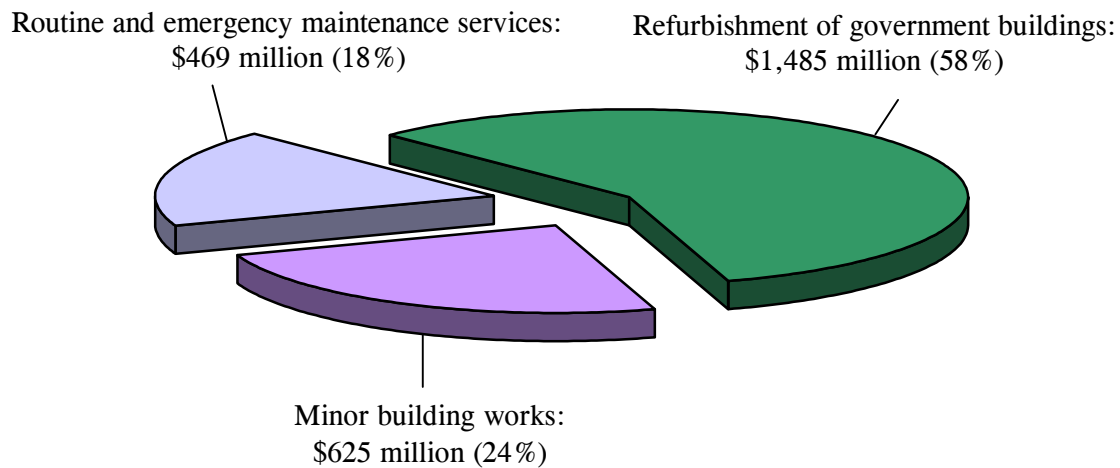
Annual expenditure

1.6 In 2007-08, the ArchSD incurred \$2,579 million in carrying out maintenance, refurbishment and minor building works (see Figure 1) involving 360,000 works orders. The works were mainly carried out by ArchSD term contractors.

Note 3: *The ASG is chaired by a Deputy Secretary of the FSTB. Its members include the Director of Architectural Services, the Government Property Administrator and a Principal Assistant Secretary of the FSTB.*

Note 4: *The Committee is chaired by the Director of Architectural Services and its members include senior staff of the ArchSD and the Government Property Agency.*

Figure 1
**Expenditure on maintenance,
refurbishment and minor building works
(2007-08)**



Source: ArchSD records

Term contracts

1.7 A term contract covers specific areas of works, normally extending over a period of 18 months to three years, during which the ArchSD issues works orders to the contractor detailing the works to be carried out. Most term contracts are re-measurement contracts (Note 5).

Valuation of works

1.8 The ArchSD publishes a “Schedule of Rates for Term Contracts for Building Works” (hereinafter referred to as the **Schedule of Rates**) which forms a part of a term contract. For each work item in the Schedule, a unit rate is estimated by the ArchSD. The works would be measured in accordance with the specifications stated in the Schedule. For work items not included in the Schedule of Rates, the ArchSD would process the work items as **non-schedule items** under the terms and conditions of the contract.

Note 5: *These are contracts under which payments are made based on the quantities of works performed.*

Director of Audit's Report on maintenance and refurbishment of government buildings and facilities

1.9 In 2005, the Audit Commission (Audit) conducted a review of the maintenance and refurbishment of government buildings and facilities by the ArchSD, and the results were included in Chapter 3 of the Director of Audit's Report No. 44 of March 2005. Audit made a number of recommendations for improvement. The ArchSD accepted the audit recommendations and subsequently implemented them.

Audit review

1.10 The 2005 Audit Review focused on the measurement and payment for works orders under term contracts. With a view to identifying room for improvement in other aspects of term contract management (see para. 1.11), Audit has recently conducted a review to examine the ArchSD's administration of building works carried out under term contracts. The review covered 17 term contracts which expired between December 2004 and September 2008. Details are shown in Appendix A.

1.11 The review focused on the following areas:

- (a) use of Schedule of Rates for awarding term contracts (PART 2);
- (b) management of non-schedule items (PART 3);
- (c) monitoring of works (PART 4);
- (d) management of fitting-out works (PART 5); and
- (e) implementation of two minor works projects (PART 6).

Audit has found areas where improvements can be made by the ArchSD in administering term contracts. Audit has made a number of recommendations to address the issues.

Acknowledgement

1.12 Audit would like to acknowledge with gratitude the full cooperation of the staff of the ArchSD and the Government Property Agency (GPA) during the course of the audit review.

PART 2: USE OF SCHEDULE OF RATES FOR AWARDING TERM CONTRACTS

2.1 This PART examines the ArchSD's use of the Schedule of Rates for awarding term contracts for building works.

Schedule of Rates

2.2 The ArchSD publishes the Schedule of Rates (see para. 1.8) every three years with amendments issued periodically. The Schedule of Rates includes a set of General Regulations and Special Conditions governing the execution of work and payment for work performed. It also lists out the ArchSD's estimated rates (**schedule rates**) for different work items. Every three years, the ArchSD conducts a review of the Schedule of Rates and publishes a new one. During a review, the ArchSD:

- (a) revises the schedule rates for work items based on latest market prices after making adjustments (see para. 2.3);
- (b) removes obsolete work items; and
- (c) introduces new work items.

2.3 In 2000, an ArchSD consultant (Consultant A) completed a review of the compilation of the Schedule of Rates. The ArchSD accepted for implementation the following procedures for updating the schedule rate of **an existing work item** and determining that of a **new work item**:

- (a) *Estimating the basic rate.* This is based on quotations obtained from contractors, manufacturers or suppliers. The rate reflects the total cost of materials, labour and plants required for the execution of a work item;
- (b) *Determining the adjusted basic rate.* The ArchSD makes adjustments to the estimated basic rate of a work item, taking into account a contractor's need to comply with the General Regulations and Special Conditions. Further adjustments are made to take account of the need to handle difficult and complicated work, having regard to the relevant rates obtained in recent tender exercises; and

- (c) **Arriving at the schedule rate of a work item.** A flat rate of 15%, which aims to cover the contractor's site oncost, overhead cost and profit, is added to the adjusted basic rate to arrive at the rate of a work item in the Schedule of Rates.

2.4 The Schedule of Rates published in October 2006 (2006 Schedule of Rates) comprises the following two volumes:

- (a) **Volume 1 on builder's work** (Note 6). The Volume contains 4,500 work items grouped under 30 trade sections; and
- (b) **Volume 2 on building services work** (Note 7). The Volume contains 5,500 work items grouped under 16 trade sections.

Tender and contract percentages

2.5 The Schedule of Rates can be downloaded from ArchSD website and is available for sale. In the tender documents for a term contract, the ArchSD includes estimated values of works to be performed under relevant trade sections of the Schedule. Tenderers are requested to indicate in the tender documents "plus" or "minus" percentages (hereinafter referred to as **tender percentages**) for individual trade sections of the Schedule of Rates. The sum of the tender prices for all the trade sections (Note 8) would become the tenderer's total tender price. The ArchSD awards a term contract to a tenderer after evaluating the tender prices, capability and past performance of all tenderers.

2.6 After the award of a contract, the tender percentages proposed by the successful tenderer become part of the contract (hereinafter referred to as **contract percentages**). During the contract period, the ArchSD issues works orders to a term contractor specifying details of the works to be carried out. Upon satisfactory completion of works under a works order, the ArchSD pays the contractor by reference to the relevant schedule rates and the contract percentages.

Note 6: *Builder's work mainly involves structural and finishing work such as excavation, brickwork, masonry, carpentry, glazing, painting and carpeting.*

Note 7: *Building services work mainly involves installation and operation of mechanical, electrical and safety systems such as air-conditioning systems and fire services systems.*

Note 8: *For example, during the tender for a maintenance term contract, a tenderer may indicate a "+20%" in the electrical installation section of the tender document with an estimated work value of \$10 million. The tender price for that trade section would become \$12 million.*

Adjustments to estimated basic rates

2.7 As mentioned in paragraph 2.3(b) and (c), the ArchSD makes adjustments to the estimated basic rates to arrive at the rates of work items in the Schedule. Of the 10,000 work items included in the 2006 Schedule of Rates (see para. 2.4), Audit randomly selected 400 items (4%) to examine the ArchSD's adjustments made to the estimated basic rates. The results are shown in Table 1.

Table 1
Adjustments to estimated basic rates
for determining the rates in the 2006 Schedule of Rates

	Builder's work items	Building services work items
Total number of items in the 2006 Schedule of Rates	4,500	5,500
Number of items selected for audit examination	200 (4.4% of 4,500)	200 (3.6% of 5,500)
<i>Audit observations</i>		
(a) Adjustment percentage added for compliance with the General Regulations and Special Conditions (see para. 2.3(b))	2% to 7%	0% to 16%
(b) Adjustment percentage added for handling difficult and complicated work, by reference to relevant rates obtained in recent tender exercises (see para. 2.3(b))	0% to 69%	N/A (Note 2)
(c) Adjustment percentage added for site oncost, overhead cost and profit (see para. 2.3(c))	15%	15%
(d) Total adjustment percentage added over estimated basic rate	17% to 100% (Note 1)	15% to 33% (Note 3)

Source: ArchSD records and Audit analysis

Note 1: Among Audit's samples, the lowest total adjustment percentage was 17% and the highest percentage was 100%.

Note 2: For building services work items, no adjustment percentages were added.

Note 3: Among Audit's samples, the lowest total adjustment percentage was 15% and the highest percentage was 33%.

Audit observations and recommendations

Need to issue guidelines on compiling the Schedule of Rates

2.8 According to the ArchSD's existing practice, adjustments are made to the estimated basic rates to arrive at the rates of work items included in the Schedule. For the 2006 Schedule of Rates, the rates included therein were 17% to 100% above the estimated basic rates for builder's work items, and 15% to 33% for building services work items (see Table 1).

2.9 As far as Audit could ascertain, no guidelines had been issued on making adjustments to the estimated basic rates. **In Audit's view, the ArchSD needs to consider issuing guidelines for determining the adjustments.**

Need to document basis for adjustments

2.10 For all the 400 work items reviewed by Audit, Audit could not find records showing the rationale and justifications for the various adjustments made to the estimated basic rates (see items (a) to (c) in Table 1). **In Audit's view, the ArchSD needs to consider documenting the basis for making the adjustments.**

Need to disclose more information to tenderers

2.11 As mentioned in paragraph 2.5, tenderers of term contracts are requested to submit tender percentages by indicating "plus" or "minus" percentages to the rates of work items included in the Schedule. However, Audit notes that the ArchSD does not provide tenderers with information on the adjustments made to the estimated basic rates (see para. 2.7).

2.12 Audit examination of the tenders submitted in December 2003 for eight term contracts revealed that the tender percentages submitted by tenderers varied significantly. The tender percentages are shown in Table 2.

Table 2
Tender percentages submitted in December 2003

Contract	Number of tenderers	Range of tender percentages
A	17	0% to +27%
B	16	0% to +22.9%
C	16	-2.2% to +22.9%
D	16	0% to +21.2%
E	16	-6.9% to +22.6%
F	16	-8.9% to +23.6%
I	16	-14% to +13.8%
J	16	-14% to +13.8%

Source: ArchSD records

2.13 According to the Government Guide to Procurement (Note 9), departments should:

- (a) ensure that procedures and practices for procuring goods and services are clear and transparent, which would facilitate better understanding among suppliers and contractors; and
- (b) provide all necessary information in tender documents, which would encourage submissions of responsive and competitive tenders.

In Audit's view, there are merits to provide tenderers with information on adjustments made to the estimated basic rates to facilitate the submission of competitive tenders.

Note 9: *The Government Guide to Procurement was issued by the FSTB specifying government procurement principles and processes.*

Need to introduce a discount factor for large-scale works

2.14 Work items in the Schedule of Rates are measured based on different units (e.g. per metre, per square metre and per number). During the 2000 review (see para. 2.3), the ArchSD requested Consultant A to examine the introduction of a discount factor for adjusting the schedule rates for large-scale works. Up to January 2009, the discount factor had not been introduced.

2.15 In February 2009, the ArchSD informed Audit that, due to the large number of items contained in the Schedule of Rates, it was not practical to define large-scale works for an individual item. **A contractor carrying out large-scale works (such as tiling works for a swimming pool and surfacing works for a sports centre) may achieve economy of scale in cost (such as less labour and equipment cost per unit of work). In Audit's view, the ArchSD needs to consider introducing a discount factor for the rates of work items for such works.**

Audit recommendations

2.16 **Audit has recommended that the Director of Architectural Services should consider:**

- (a) **issuing guidelines specifying the circumstances under which adjustments should be made to the estimated basic rates for work items in the Schedule of Rates (see para. 2.9);**
- (b) **requiring ArchSD staff to document justifications for making adjustments to the estimated basic rates for determining the schedule rates (see para. 2.10);**
- (c) **providing tenderers with information on the basis of the adjustments made to the estimated basic rates for arriving at the schedule rates (see para. 2.13); and**
- (d) **introducing a discount factor for adjusting the schedule rates for large-scale works (see para. 2.15).**

Response from the Administration

2.17 The **Director of Architectural Services** welcomes the audit recommendations. He has said that:

- (a) although not specifically included in the existing procedures, the ArchSD has an established practice for making adjustments to estimated basic rates for determining rates for work items in the Schedule of Rates. Arrangements will be made to consolidate this practice into guidelines;
- (b) arrangements will be made to document justifications for adjustments to estimated basic rates in future editions. Such adjustments are based on an overall consideration of a number of factors (such as the recent tender price index and market trends, special working conditions of term contracts, reliability of quotations received from suppliers and contractors, and relevant rates obtained from recent tender exercises);
- (c) the ArchSD will provide tenderers with the general factors considered in adjusting the basic rates (to form the schedule rates) in future tender exercises. It is always the ArchSD's practice to provide tenderers with all necessary information in tender documents to encourage submissions of responsive and competitive tenders. Due to the large number of work items contained in the Schedule of Rates, it is impractical to provide tenderers with information on adjustments made to the estimated basic rates for each and every individual item; and
- (d) the ArchSD will consider the feasibility of introducing a discount factor for adjusting the schedule rates for large-scale works in future contracts.

PART 3: MANAGEMENT OF NON-SCHEDULE ITEMS

3.1 This PART examines the ArchSD's management of contractors' works requiring the use of an article, a material, or workmanship which is not provided for in the Schedule of Rates (non-schedule items — see para. 1.8).

Non-schedule items

3.2 Under a term contract, in order to meet work requirements, work items not included in the Schedule of Rates are processed as non-schedule items. There are two Non-schedule Rate Item Assessment Panels (one for maintenance term contracts and the other for "design and build" minor works and fitting-out works term contracts — Note 10) in the ArchSD for considering applications for using non-schedule items in term contracts.

Application for using non-schedule items

3.3 According to the guidelines promulgated by the Non-schedule Rate Item Assessment Panels in March 2004, if it is necessary for a term contractor to use a non-schedule item in carrying out works:

- (a) the responsible ArchSD project officer (Note 11) would submit an application to the ArchSD Quantity Surveying Branch (for builder's work) or the Building Services Branch (for building services work). Among other things, the proposed rate (supported by quotations from suppliers) and the estimated cost of the non-schedule item, and the justifications for using the item, should be included in the application;
- (b) if the Quantity Surveying Branch or the Building Services Branch is satisfied with the information provided in the application, it would submit the application to the relevant Non-schedule Rate Item Assessment Panel for consideration;

Note 10: *The Non-schedule Rate Item Assessment Panels each consists of four professional staff of the ArchSD.*

Note 11: *A project officer, normally a Property Services Manager or a Building Services Engineer, is responsible for administering a works project.*

- (c) if the Assessment Panel is satisfied with the application, it would submit the application to the Assistant Director (Property Services) for approval;
- (d) after approval has been given by the Assistant Director (Property Services), the application would be referred to the Quantity Surveying Branch (for builder's work) or the Building Services Branch (for building services work) for assessing a rate for the non-schedule item (see para. 3.5);
- (e) **the target time for processing a non-schedule item is nine weeks (i.e. the time between the receipt of an application and the granting of approval by the Assistant Director (Property Services)); and**
- (f) **contractors should be instructed not to incorporate non-schedule items into a works order until approval has been given by the Assistant Director (Property Services).**

Rate assessment

3.4 According to the General Regulations of the Schedule of Rates, a non-schedule rate is determined by one of the following methods:

- (a) ***Proportional rate.*** If there is a similar item in the Schedule of Rates, the non-schedule item is assessed at a rate equal to or in proportion to the schedule rate. **This proportional rate is subject to relevant contract percentage adjustments** (see para. 2.6); and
- (b) ***Agreed rate.*** If a similar work item is not available in the Schedule of Rates, the non-schedule rate is agreed between the ArchSD and the contractor. **This agreed rate is not subject to contract percentage adjustments and is applied to one works order only** (Note 12).

Note 12: *In some cases, the ArchSD will apply the agreed rate to other works orders issued under the same term contract. In such cases, the rate of the non-schedule item is known as the star rate.*

- 3.5 According to the ArchSD's existing practice, in agreeing a non-schedule rate:
- (a) the contractor would propose a market rate, which is supported by quotations obtained by him;
 - (b) ArchSD staff would obtain quotations from other suppliers and make reference to relevant rates obtained in recent tenders to assess the reasonableness of the contractor's proposed rate; and
 - (c) a fixed percentage would be added to the market price of the item to cover overhead cost and profits.

Audit observations and recommendations

Need to seek prior approval for using non-schedule items

3.6 The Non-schedule Rate Item Assessment Panels have laid down a guideline that, if it is necessary to use a non-schedule item, a contractor should be instructed not to incorporate such item into a works order until approval has been given (see para. 3.3(f)). Of the 17 term contracts covered in the audit review (see para. 1.10), as at September 2008, approvals had been given for the contractors to use 5,500 non-schedule items. Audit randomly selected three contracts (Contracts D, I and O) for examination of ArchSD staff's compliance with the above-mentioned guideline.

3.7 Audit examination of the application forms for all the 1,327 non-schedule items of the three term contracts revealed that there was room for improvement in the following areas:

- (a) the scheduled commencement dates (or actual commencement dates if the work items had commenced) of works relating to the 1,327 items were not stated in the application forms. Apparently, the Non-schedule Rate Item Assessment Panels approved these non-schedule items without knowledge of the work commencement dates; and
- (b) no explanations/justifications were given in the application forms for any late applications.

3.8 Audit examination of ArchSD records revealed that the applications for 623 non-schedule items (47% of 1,327 items) were submitted for approval after the completion of works under the relevant works orders (see Table 3).

Table 3
Approval for using non-schedule items
(September 2008)

Contract	Application for non-schedule items		
	Total number	Number submitted after completion of works orders	Percentage
	(a)	(b)	(c) = $\frac{(b)}{(a)} \times 100\%$
D	300	181	60%
I	789	273	35%
O	238	169	71%
Overall	1,327	623	47%

Source: ArchSD records

3.9 According to the laid-down guideline, contractors should not incorporate non-schedule items into a works order until approval has been given by the ArchSD (see para. 3.3(f)). As shown in Table 3, there were 623 non-schedule items approval of which had only been given after the completion of works orders. Audit also noted that neither explanations nor justifications for the late applications were stated in the application forms. An example of such cases is shown in Case 1. **Audit considers that the ArchSD needs to strengthen control in this area.**

Case 1

Office accommodation works in Trade Department Tower

- On 9 May 2007, a project officer issued a works order to a term contractor (Contractor A) for carrying out office accommodation works, including installation of air-conditioning systems and fire services systems, in the Trade Department Tower at a cost of \$51,900.
- On 21 May 2007, Contractor A completed the works.
- On 2 January 2008 (seven months after the completion of the works), Contractor A submitted an application together with three suppliers' quotations for the supply and installation of three rows of chilled water fan coils at a cost of \$12,117 as non-schedule items.
- On 8 January 2008, the project officer endorsed the application and passed it to the Building Services Branch for initial rate assessment.
- On 16 January 2008, the Non-schedule Rate Item Assessment Panel endorsed the application and made a recommendation to the Assistant Director (Property Services) for approval.
- On 16 January 2008, the Assistant Director (Property Services) approved the non-schedule items.

Source: ArchSD records

Need to process applications in a timely manner

3.10 The ArchSD has issued guidelines instructing ArchSD staff that applications for using non-schedule items should be processed in a timely manner and the processing should be completed within nine weeks (see para. 3.3(e)). However, Audit examination of the 1,327 non-schedule items (see para. 3.7) revealed that the processing time of 297 items (22%) exceeded the nine-week requirement (see Table 4).

Table 4
Processing time of non-schedule items
(September 2008)

Contract	Number of non-schedule items	Number of non-schedule items processed		
		Within 9 weeks	Between 9.1 and 16 weeks	Over 16 weeks
D	300	257 (85%)	38 (13%)	5 (2%)
I	789	624 (79%)	89 (11%)	76 (10%)
O	238	149 (63%)	55 (23%)	34 (14%)
Total	1,327	1,030 (78%)	182 (14%)	115 (8%)

Source: ArchSD records

3.11 Among the items requiring long processing time, approval for a non-schedule item was given 22 weeks after the application (see Case 2).

Case 2

Refurbishment works at Old Ping Shan Police Station

- On 2 September 2005, a project officer issued a works order to a term contractor (Contractor B) for carrying out refurbishment works at a cost of \$1.5 million at Old Ping Shan Police Station. Works included the replacement of boundary fencing, landscaping and other external works.
- On 9 June 2006, Contractor B proposed to carry out an impact assessment for the drainage works at a cost of \$96,600.
- On 20 June 2006, Contractor B submitted an application for using the non-schedule item, together with three quotations from specialist contractors.
- On 23 June 2006, the project officer endorsed the application and passed it to the Quantity Surveying Branch for initial rate assessment.
- On 30 November 2006, the Non-schedule Rate Item Assessment Panel endorsed the application and made a recommendation to the Assistant Director (Property Services) for approval.
- On 30 November 2006, the Assistant Director (Property Services) approved the item.
- On 11 December 2006, the rate assessment was finalised.
- On 16 June 2007, Contractor B completed the works.

Source: ArchSD records

3.12 In response to Audit's enquiry, in March 2009, the ArchSD informed Audit that:

- (a) it was the ArchSD's target to complete the process of applications for using non-schedule items within nine weeks. Nevertheless, there were cases where the quality of contractors' supporting documentation and justification for using non-schedule items were inadequate. Extended time was therefore required to handle these cases. The contractors had been instructed to improve the quality of their submissions; and
- (b) Case 2 involved site works in a graded historical building. Extended time was required to check and ensure that the proposed works would not adversely affect the building.

3.13 **Audit considers that the ArchSD should ask its staff to comply with the requirement of finalising within nine weeks the processing of applications for using non-schedule items.**

Need to issue guidelines for assessing non-schedule rates

3.14 According to the ArchSD's existing practice, an agreed non-schedule rate is assessed based on:

- (a) the market rate proposed by a contractor which is supported by quotations (see para. 3.5(a)); and
- (b) ArchSD staff's assessments by reference to other quotations and relevant rates obtained in recent tender exercises (see para. 3.5(b)).

Audit selected all the 42 non-schedule rates for builder's work items under Contract A and all the 29 non-schedule rates for builder's work items under Contract J for examination (Note 13). **There were inconsistencies in the number of quotations obtained by contractors, and also in the number of quotations obtained by ArchSD staff themselves.** Details are shown in Table 5.

Note 13: *Building services work items under the two contracts were not selected because most of them were of low values.*

Table 5
Number of quotations obtained for assessing non-schedule rates
(April 2004 to March 2007)

Contract	Number of non-schedule rates	Number of quotations obtained by contractor	Number of quotations obtained by ArchSD staff
A	42	0 for 1 rate 1 for 38 rates 3 for 3 rates	0 for 32 rates (Note 1) 1 for 3 rates 2 for 6 rates 3 for 1 rate
J	29	0 for 2 rates 1 for 19 rates 3 for 8 rates	0 for 11 rates (Note 2) 1 for 8 rates 2 for 4 rates 3 for 6 rates

Source: ArchSD records

Note 1: For 14 non-schedule rates under Contract A, the ArchSD did not seek quotations because these rates had been assessed before.

Note 2: For 2 non-schedule rates under Contract J, the ArchSD did not seek quotations because these rates had been assessed before.

3.15 Audit considers that the ArchSD needs to issue guidelines to ensure consistency (such as the number of quotations required) in the assessment of non-schedule rates.

Need to adopt a consistent approach in applying a fixed percentage to market prices

3.16 As mentioned in paragraph 3.5(c), in agreeing a non-schedule rate, a fixed percentage is added to the market price of the item to cover overhead cost and profits. Audit examination of the 17 term contracts revealed that, having regard to the nature of the contracts, the ArchSD adopted different approaches in determining the percentages, as follows:

- (a) for the ten maintenance contracts (Contracts A to J), the ArchSD added 15% to the market prices for determining the rates. The percentage was neither specified in the contracts nor agreed with the contractors after the award of the contracts; and
- (b) for the remaining seven design and build minor works and fitting-out works term contracts (Contracts K to Q), the ArchSD added the contract percentages to the market prices for determining the rates. The contract percentages were based on the contractors' tender percentages and ranged from 0% to +12% (see Table 6).

Table 6

Adjustment percentages for non-schedule rates

Contract	Adjustment percentage
Minor works term contract	
K	+5%
L	+5%
M	+5%
N	0%
Fitting-out works term contract	
O	+5%
P	+12%
Q	+5%

Source: ArchSD records

3.17 **Audit considers that there is a need for the ArchSD to adopt a consistent approach in determining the adjustment percentages for non-schedule rates.** In Audit's view, there are merits to use the competitive tendering approach in determining the adjustment percentages for maintenance term contracts.

Need to agree non-schedule rates promptly

3.18 For non-schedule items, the ArchSD needs to agree the rates with contractors. Audit conducted an examination of 40 works orders (each with an estimated cost of \$500,000 to \$11 million) issued under the seven design and build minor works and fitting-out works term contracts (Note 14). The examination revealed that the non-schedule rates for 17 works orders (43% of 40 works orders) were agreed more than six months after the completion of works. **Audit considers that the ArchSD should take measures to ensure that non-schedule rates are agreed promptly.**

Need to strengthen control over use of non-schedule rates

3.19 According to the ArchSD's existing practice, the use of non-schedule rates is monitored by the Contract Management Committee set up in the Property Services Branch of the ArchSD. As far as Audit could ascertain, the ArchSD does not compile reports showing the number and details of non-schedule rates used in term contracts. **Audit considers that such reports would facilitate the ArchSD's monitoring of the use of non-schedule rates and updating of the Schedule of Rates.**

Audit recommendations

3.20 **Audit has recommended that, in administering the use of non-schedule items in a term contract, the Director of Architectural Services should:**

- (a) **issue guidelines asking ArchSD staff to:**
 - (i) **state the commencement dates of works in applications for using non-schedule items (see para. 3.7(a)); and**
 - (ii) **provide explanations and justifications for late applications for using non-schedule items (see para. 3.9);**
- (b) **ask ArchSD staff to comply with the guideline on finalising within nine weeks the processing of applications for using non-schedule items (see para. 3.13);**

Note 14: *These 40 works orders were issued between January 2003 and May 2007, and their accounts were finalised more than six months after the submission of dimension books (which recorded measurement of works executed for payment purposes).*

- (c) **issue guidelines on assessing non-schedule rates, including the number of quotations required (see para. 3.15);**
- (d) **consider adopting the competitive tendering approach in determining the adjustment percentages for non-schedule rates under maintenance term contracts (see para. 3.17);**
- (e) **issue guidelines asking ArchSD staff to agree non-schedule rates with contractors promptly (see para. 3.18); and**
- (f) **consider compiling reports showing the number and details of non-schedule rates used (see para. 3.19).**

Response from the Administration

3.21 The **Director of Architectural Services** welcomes the audit recommendations. He has said that:

- (a) although the information on commencement dates of works is not required under the current procedures for processing applications for using non-schedule items, the ArchSD agrees to include such information for improvement purposes;
- (b) the ArchSD has instructed contractors to improve the quality of submissions and has reminded staff to process the applications within the stipulated time;
- (c) although not specifically included in existing procedures, the ArchSD has an established practice for assessing non-schedule rates. Arrangements will be made to consolidate this practice into guidelines;
- (d) the ArchSD will consider adopting the competitive tendering approach in determining the adjustment percentages used in design and build term contracts for maintenance term contracts as well;
- (e) it is always the ArchSD's practice to agree non-schedule rates with contractors promptly. However, it will require longer processing time to reach such agreements with difficult contractors; and
- (f) the Contract Management Committee of the ArchSD prepares ad hoc reports for monitoring the use of non-schedule items. The ArchSD agrees to compile regular reports to further facilitate the monitoring of the use of non-schedule rates.

PART 4: MONITORING OF WORKS

4.1 This PART examines the ArchSD's monitoring of works carried out by term contractors.

Authentication of building materials and products

4.2 In relation to the use of building materials and products under a term contract, the General Regulations of the Schedule of Rates stipulate that:

- (a) the onus of proof rests with the contractor to identify the properties, standards and origins of materials/products used, and provide the necessary certificates, guarantees and warranties; and
- (b) for proprietary works the patent of which is owned or controlled by a supplier or a contractor, the contractor should provide test certificates, the manufacturer's guarantees and warranties, if any.

Audit observations and recommendations

Need to tighten control over submission of authentication documents

4.3 The accounts of some works orders were finalised more than six months after the submission of dimension books. Audit randomly selected 60 such works orders (each with a value between \$500,000 and \$11 million) issued under two maintenance term contracts (Contracts I and J) and four design and build minor works term contracts (Contracts K, L, M and N) for examination. Audit noted that:

- (a) of the 60 works orders, the project officers of 19 needed to follow up with the contractors for providing the authentication documents after completion of works;
- (b) among the 19 works orders, the contractors of 9 subsequently provided the ArchSD with the authentication documents required;
- (c) in one works order, the ArchSD made a deduction from the payment as the contractor did not provide the authentication documents (see Appendix B); and

- (d) for the remaining 9 works orders, as at December 2008, the ArchSD was following up with the contractors on the submission of the certificates.

4.4 In response to Audit's enquiry, in March 2009, the ArchSD informed Audit that:

- (a) there were cases (such as the case shown in Appendix B) that the contractors had failed to submit all the authentication documents required at the construction stage. The ArchSD subsequently required the contractors to submit the outstanding documents at the account finalisation stage;
- (b) the roofing system referred to in Appendix B was accepted because the product was in compliance with the performance specifications; and
- (c) in view of the large number of works orders issued for maintenance works (over 300,000 a year), the ArchSD considered that it would not be practical to require contractors to submit authentication documents for each and every works order. The current arrangement was to require the contractors to submit authentication documents for commonly used proprietary products at the commencement of term contracts. The ArchSD would explore the best possible approach including the feasibility, practicality and contractual implications of specifying in works orders the documents required, where necessary, at the time of placing the orders.

4.5 As laid down in the General Regulations, the ArchSD has the right to ask contractors to provide authentication documents (see para. 4.2(a)). For proprietary works, contractors are explicitly required to provide the authentication documents (see para. 4.2(b)). However, for works other than proprietary works, there may also be instances where the relevant authentication documents are required. **To ensure that quality materials or products are used in works, particularly those which may affect building safety, Audit considers that, for works orders requiring the submission of authentication documents, the ArchSD needs to:**

- (a) **specify in the works order the documents required at the time of placing the order;**
- (b) **promptly follow up with the contractor on the submission of the authentication documents; and**
- (c) **ask ArchSD staff not to accept building materials or products if the required authentication documents have not been provided.**

Need to maintain summary records of authentication of building materials or products

4.6 Records of requests for authentication documents and subsequent follow-up actions were kept in individual project files. The responsible project officers needed to take follow-up action on the submission of authentication documents based on their own bring-up arrangements. As far as Audit could ascertain, no summary records were kept indicating:

- (a) items requiring authentication;
- (b) items which had been satisfactorily authenticated; and
- (c) authentication documents obtained.

In order to ensure that ArchSD requests for authentication documents are followed up in a timely and proper manner, Audit considers that there are merits for keeping the summary records.

Audit recommendations

4.7 **Audit has recommended that, to ensure that quality materials or products are used in works projects in future, particularly those relating to building safety, the Director of Architectural Services should:**

- (a) **consider specifying in a works order the authentication documents to be provided by the contractor at the time of placing the order (see para. 4.5(a));**
- (b) **issue guidelines asking ArchSD staff to promptly follow up with the contractor on the submission of authentication documents (see para. 4.5(b));**
- (c) **ask ArchSD staff not to accept building materials or products if the required authentication documents have not been provided (see para. 4.5(c)); and**
- (d) **maintain summary records of authentication documents required and the progress of submission of the documents (see para. 4.6).**

Response from the Administration

4.8 The **Director of Architectural Services** welcomes the audit recommendations. He has said that:

- (a) the ArchSD will explore the feasibility, practicality and contractual implications of specifying in a works order the authentication documents required; and
- (b) upon completion of the study, appropriate guidelines and summary records of authentication documents will be prepared.

Use of building materials and building services equipment

4.9 In November 2007, the ArchSD implemented two web-based computer systems, namely the Building Materials Database System for recording details of building materials, and the Building Services Equipment and Materials Database System for recording details of building services equipment/materials used in capital works and minor works projects. The information stored in the two systems is shared among ArchSD staff for reference purposes.

4.10 As required under ArchSD Operational Instruction No. 03/2007 of November 2007:

- (a) site staff should upload details of materials or products onto the related computer systems (Note 15);
- (b) the responsible project officer should check and endorse/confirm online the materials or product details;
- (c) during the course of a project, project team members may input their feedback and comments on the quality of materials or products into the related systems;
- (d) upon project completion, project team members should input their feedback and comments on the quality of materials or products into the related systems;
- (e) one week before the expiry of the defect liability period, the project officer should input his feedback and comments into the related systems; and
- (f) project team members should refer any special or unsatisfactory observations, through their senior officers, to relevant specialist groups for investigation.

Note 15: *For minor works projects, only information of proprietary materials with a value exceeding \$200,000 per item would be uploaded onto the systems.*

Audit observations and recommendations

Need to comply with operational guidelines

4.11 According to ArchSD Operational Instruction No. 03/2007, the responsible project officer should check and endorse/confirm online the materials or product details input by site staff into the Building Materials Database System and the Building Services Equipment and Materials Database System (see para. 4.10(b)). **However, Audit examination revealed that such endorsements or confirmations were not made in the two systems.**

4.12 Upon completion of a project and one week before the expiry of the defect liability period, the project team members should input their feedback and comments on the quality of materials or products into the related computer systems (see para. 4.10(d) and (e)). **However, Audit examination revealed that, as at December 2008, such feedback or comments were not input into the two computer systems.**

4.13 In February 2009, the ArchSD informed Audit that, since the systems were launched in November 2007, most works projects (especially capital works projects) which commenced after November 2007 had not been completed. **Audit considers that the ArchSD should ask its staff to comply with the requirement of inputting feedback or comments into the computer systems.**

Audit recommendations

4.14 **Audit has recommended that, in monitoring the use of building materials and building services equipment in a works project in future, the Director of Architectural Services should ask ArchSD project teams to comply with the requirements of inputting into the computer systems:**

- (a) **information on endorsements of materials and product details (see para. 4.11); and**
- (b) **feedback and comments on the quality of materials and products used upon project completion (see para. 4.13).**

Response from the Administration

4.15 The **Director of Architectural Services** welcomes the audit recommendations. He has said that:

- (a) input of data about the feedback and comments on the use of materials and products into the computer systems is progressing smoothly; and
- (b) the ArchSD will ensure that project officers will meet the requirement of inputting data promptly upon completion of projects.

Finalisation of accounts of works orders

4.16 In the review conducted in 2005 (see para. 1.9), Audit reported that, after receiving dimension books submitted by term contractors, the ArchSD took a long time in checking the contractors' claimed works values and issuing tentative offers of assessed values to the contractors for agreement. The ArchSD accepted the audit recommendation of taking prompt action on the issue.

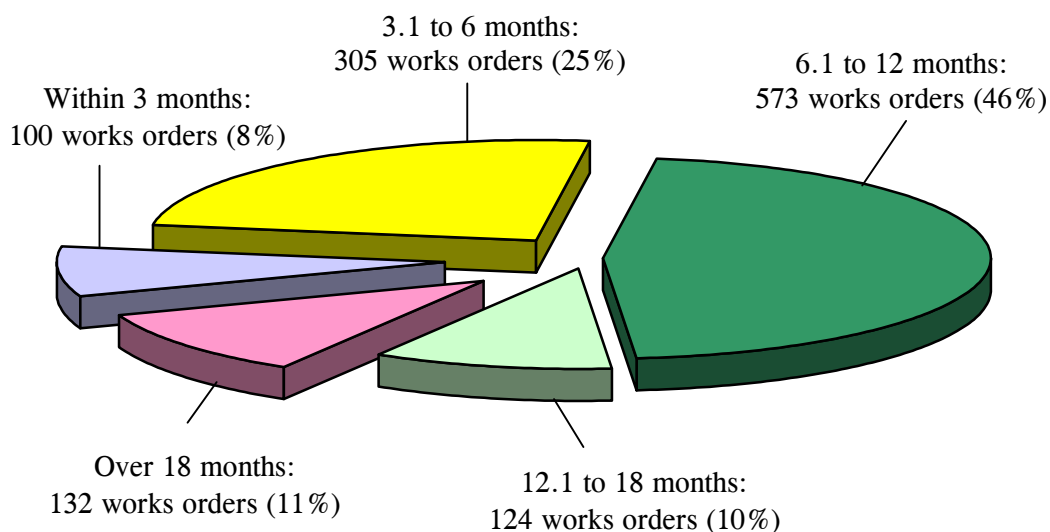
Audit observations and recommendation

Need to finalise accounts of works orders promptly

4.17 Audit randomly selected three term contracts (Contracts J, K and O) and examined all the 1,234 works orders (each with a value between \$100,000 and \$13.5 million). **Audit found that the ArchSD took a long time to issue tentative offers to the contractors for finalising the accounts of some works orders.** Details are shown in Figure 2.

Figure 2

**Time taken for issuing tentative offers
of assessed values of works orders
(18 August 2008)**



Source: ArchSD records

Note: The time taken was measured from the date of submission of the dimension books.

4.18 In February 2009, the ArchSD informed Audit that:

- (a) some of the above-mentioned tentative offers were revised tentative offers issued after taking into account contractors' disagreement to the earlier ones; and
- (b) to avoid contract disputes, the ArchSD revised tentative offers after considering contractors' justifications.

Audit recommendation

4.19 **Audit has recommended that the Director of Architectural Services should take measures to promptly issue tentative offers for finalising accounts of works orders (see para. 4.17).**

Response from the Administration

4.20 The **Director of Architectural Services** welcomes the audit recommendation. He has said that the ArchSD will take proactive measures to issue tentative offers promptly, although accounts with disputes require longer processing time for settlement.

Client satisfaction surveys

4.21 In December 2005, the ArchSD accepted for implementation the recommendation of its Working Group on Enhancement of Customer Services (Note 16) on conducting client satisfaction surveys. The surveys would be conducted on randomly selected works orders (with a value exceeding \$10,000) issued under maintenance term contracts (excluding those relating to slope works or redecoration of government quarters). In conducting a survey, the client would be invited to complete a client satisfaction survey form covering three aspects, namely:

- (a) services provided by ArchSD staff (with seven sub-aspects);
- (b) services provided by contractors (with seven sub-aspects); and
- (c) overall aspect of works.

For each aspect or sub-aspect of work, the client would be invited to indicate his level of satisfaction with the services provided by selecting one of the following six ratings: **“Totally satisfied”, “Very satisfied”, “Satisfied”, “Dissatisfied”, “Very dissatisfied” and “Totally dissatisfied”**.

4.22 The Technical Assurance Audit (TAA) Team of the Property Services Branch is responsible for carrying out client satisfaction surveys (see para. 4.21). The survey results are submitted to the Computer and Quality Management Group of the Property Services Branch which conducts analyses of the results and submits reports to the Working Group on Enhancement of Customer Services.

Note 16: *The Working Group, headed by a Chief Property Services Manager, is responsible for formulating measures and guidelines for enhancing work delivery and customer services.*

4.23 The Working Group on Enhancement of Customer Services set the following guidelines on the conduct of client satisfaction surveys:

- (a) if a works order received a “Dissatisfied” grade or below in one or more of the sub-aspects of work, the Computer and Quality Management Group would issue an exception report to the responsible project officer for review and follow-up action;
- (b) the project officer would carry out a review and submit the review findings, reasons for dissatisfaction and proposed remedial action to the Computer and Quality Management Group; and
- (c) the review findings would be considered by the Working Group for introducing improvement measures.

The Computer and Quality Management Group suggested that a project officer should take follow-up action regarding an exception report and **provide feedback to the client within 14 days upon receipt of the report.**

Audit observations and recommendations

Audit examination

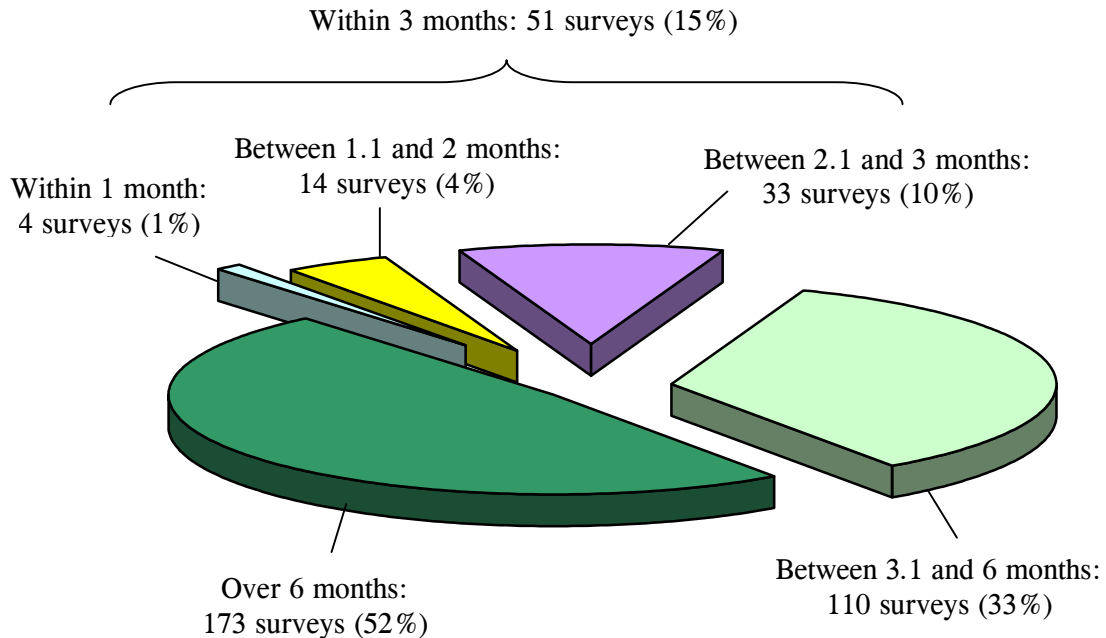
4.24 Audit selected all the client satisfaction surveys on 334 works orders conducted during the period July to October 2007 for examination. Of the 334 works orders, 332 (99%) received a “Satisfied” or above grade in the overall aspect of work, and 41 (12%) received a “Dissatisfied” grade or below in one or more of the sub-aspects of work (see para. 4.23(a)). The major areas with room for improvement as indicated in the client satisfaction surveys included workmanship, response time and tidiness of sites.

Need to conduct client satisfaction surveys in a timely manner

4.25 Audit examination revealed that, of the 334 client satisfaction surveys conducted, only 51 (15%) were conducted within three months after completion of the works (see Figure 3).

Figure 3

**Client satisfaction surveys conducted after completion of works
(July to October 2007)**



Source: ArchSD records

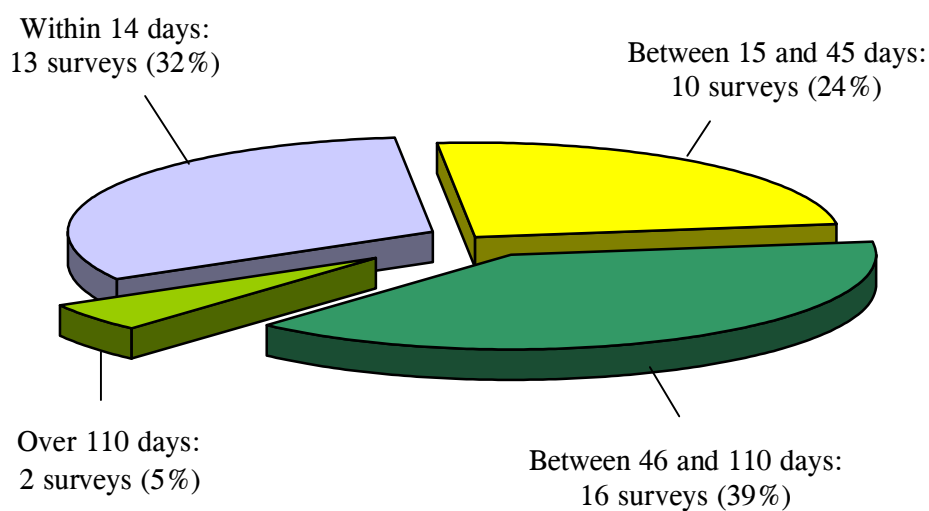
4.26 As clients may have difficulties in recalling the quality of services provided some months after the completion of works, Audit considers that the ArchSD needs to conduct client satisfaction surveys as soon as possible after completion of works.

Need to promptly take follow-up action on exception reports

4.27 For a works order receiving a “Dissatisfied” grade or below in one or more of the sub-aspects of work, the responsible project officer should provide feedback to the client within 14 days upon receipt of an exception report from the Computer and Quality Management Group (see para. 4.23). Audit examination revealed that, of the 41 works orders receiving a “Dissatisfied” grade or below (see para. 4.24), in only 13 cases (32%), the responsible project officers provided feedback to clients within 14 days upon receipt of the exception reports. Details are shown in Figure 4.

Figure 4

**Feedback to clients after receiving exception reports
(July to October 2007)**



Source: ArchSD records

4.28 **Audit considers that the ArchSD needs to ask its staff to take prompt action on exception reports issued by the Computer and Quality Management Group.**

Need to conduct client satisfaction surveys on minor works and fitting-out works

4.29 As at September 2008, client satisfaction surveys conducted by the ArchSD covered works orders issued under maintenance term contracts (see para. 4.21). However, no satisfaction surveys were conducted for works orders issued under minor works and fitting-out works term contracts. **In Audit's view, the ArchSD needs to conduct satisfaction surveys for such works orders.** Audit notes that the values of works orders issued under minor works and fitting-out works term contracts are usually higher than those under maintenance term contracts.

Need to take action on contractors with persistent unsatisfactory performance

4.30 For a works order receiving a “Dissatisfied” grade or below in one or more of the sub-aspects of work relating to the contractor’s service, the responsible project officer would issue a letter to the contractor concerned informing him of the client’s feedback and requesting him to make improvement in future works. Between September 2005 and October 2007, the ArchSD conducted client satisfaction surveys on 1,981 works orders. Of these 1,981 works orders:

- (a) 1,924 (97%) received a “Satisfied” grade or above in the overall aspect of the contractor’s service; and
- (b) 307 (15%) received a “Dissatisfied” grade or below in one or more of the sub-aspects relating to the contractor’s service.

4.31 Audit noted that clients’ feedback on the contractors’ services was not reflected in the contractors’ quarterly performance reports. **Audit considers that the ArchSD needs to take action to improve the performance of those contractors whose work is persistently below client expectations. For example, in future tender exercises, the ArchSD may consider taking into account the survey results on the performance of these contractors.**

Audit recommendations

4.32 **Audit has recommended that, in administering a term contract in future, the Director of Architectural Services should:**

- (a) **conduct client satisfaction surveys as soon as possible after the completion of works (see para. 4.26);**
- (b) **ask ArchSD staff to take prompt follow-up action on exception reports issued by the Computer and Quality Management Group (see para. 4.28);**
- (c) **conduct client satisfaction surveys on works orders issued under minor works and fitting-out works term contracts (see para. 4.29); and**
- (d) **take necessary action to improve the performance of contractors whose work is persistently below client expectations (see para. 4.31).**

Response from the Administration

4.33 The **Director of Architectural Services** welcomes the audit recommendations. He has said that:

- (a) the ArchSD will arrange as far as practicable the conduct of client satisfaction surveys within three months after receiving a completion report of a works order;
- (b) the ArchSD has stipulated a time-frame for taking follow-up action when issuing exception reports to project officers. The officers' supervisors will be alerted to follow up directly with the officers for prolonged cases;
- (c) since November 2008, the ArchSD has conducted client satisfaction surveys on works orders issued under design and build minor works and fitting-out works term contracts; and
- (d) the ArchSD has repeatedly instructed contractors to improve performance on certain sub-aspects which were found "Dissatisfied" (such as site tidiness). Since November 2008, the survey results have been provided to ArchSD contract administrators of term contracts for follow-up actions in contractor performance reporting.

PART 5: MANAGEMENT OF FITTING-OUT WORKS

5.1 This PART examines the ArchSD's management of fitting-out works carried out for government accommodation newly allocated/leased (Note 17).

Fitting-out works

5.2 The GPA is responsible for allocating accommodation in joint-user buildings or leased premises to user departments, and for approving their furniture and equipment requirements. Upon the allocation of accommodation, a user department would, in consultation with the ArchSD, determine the fitting-out requirements and the estimated cost, and submit an application to the GPA for allocation of fund (Note 18). Subsequently, the ArchSD will carry out the fitting-out works for the department.

5.3 The cost of the above-mentioned fitting-out works is funded under a block vote (Head 703, Subhead 3101GX) of the CWRP (see para. 1.5). In 2007-08, the expenditure of such fitting-out works amounted to \$61 million.

Estimates for fitting-out works

5.4 The ArchSD is responsible for preparing the Annual Estimates for Head 703, Subhead 3101GX of the CWRP. The GPA provides a lump sum estimate for fitting-out works projects in newly allocated/leased premises in the ensuing year to the ArchSD for preparing the Annual Estimates for the subhead. The Annual Estimates for fitting-out works include projects brought forward from previous years.

Note 17: *This audit does not cover fitting-out works for new government buildings as their costs are funded under the related CWRP project votes.*

Note 18: *The GPA has been delegated the authority to approve funding for fitting-out works in newly allocated/leased premises of up to \$14 million for each item. For funding exceeding \$14 million and up to \$21 million, the FSTB's approval is required.*

Audit observations and recommendation

Room for improvement in preparing fitting-out works estimates

5.5 Audit conducted an analysis of the estimated and actual expenditures of fitting-out works for the three years from 2005-06 to 2007-08. The results are shown in Table 7.

Table 7

**Estimated and actual expenditures of fitting-out works
(2005-06 to 2007-08)**

	2005-06 (\$ million)	2006-07 (\$ million)	2007-08 (\$ million)
Estimated expenditure	169.5	92.8	100.3
Actual expenditure	59.1	55.0	61.2

Source: ArchSD records

5.6 As shown in Table 7, the actual expenditures of fitting-out works were significantly lower than the estimated ones. For example, in 2005-06, the actual expenditure of \$59.1 million only accounted for 35% of the estimated expenditure of \$169.5 million. **Audit considers that there is a need to improve the accuracy of the estimates of fitting-out works.**

Audit recommendation

5.7 **Audit has recommended that the Director of Architectural Services should take measures to improve the accuracy of the estimates of fitting-out works (see para. 5.6).**

Response from the Administration

5.8 The **Director of Architectural Services** welcomes the audit recommendation. He has said that:

- (a) the estimated expenditure in the Annual Estimates is an annual forecast of the value of fitting-out works to be carried out in the next financial year. The actual expenditure depends upon the fitting-out works that will actually be proposed by user departments and subsequently approved in that year, apart from the value of fitting-out works brought forward from the previous year; and
- (b) the ArchSD will arrange discussions with the relevant parties with a view to improving the accuracy of the estimates of fitting-out works.

Carrying out of fitting-out works

5.9 As laid down in ArchSD Accounting Circular No. 2/2002 of June 2002, regarding fitting-out works for newly allocated office accommodation:

- (a) a user department should forward layout plans and fitting-out requirements to the ArchSD for vetting **within three weeks** after acceptance of accommodation;
- (b) the user department and the ArchSD should reach agreement on the layout plans and fitting-out requirements **within two weeks** after the department's submission of the layout plans; and
- (c) the GPA should work on the basis that the ArchSD would take over the accommodation for carrying out fitting-out works **within two months** after acceptance of the accommodation by the department.

Audit observations and recommendations

5.10 In the three years from 2005-06 to 2007-08, 81 fitting-out works projects were approved. Of these 81 projects, 22 (27%) took more than six months to commence works after allocation/handing over of the accommodation to departments. In response to Audit's enquiry, in March 2009, the ArchSD informed Audit that:

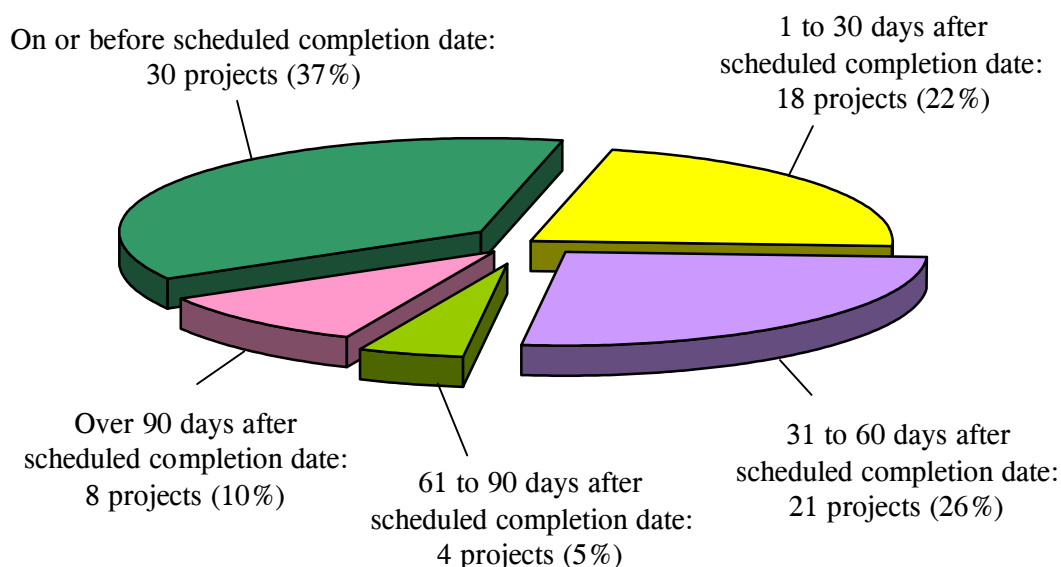
- (a) for normal office fitting-out works, the time-frame of finalising all fitting-out requirements could normally be met; and

- (b) for specialist accommodation or when there were changes in user requirements and constraints (e.g. landlords' consent required for fitting-out works), more time would be required in finalising the fitting-out requirements.

5.11 Audit examination revealed that, of the 81 projects, only 30 (37%) were completed on or before the scheduled completion dates (see Figure 5).

Figure 5

**Time taken for completion of fitting-out works projects
(2005-06 to 2007-08)**



Source: ArchSD records

5.12 Of the eight projects completed over 90 days after the scheduled completion dates, extensions of time were granted to the contractors of seven projects (i.e. the projects were completed within the approved extended completion dates), and liquidated damages were imposed on the contractor of one project for the late completion of works. In response to Audit's enquiry, in March 2009, the ArchSD informed Audit that:

- (a) the scheduled completion dates as shown in Figure 5 were the time given to the contractors to complete the works under normal work conditions. This was normally the shortest time possible to complete the works; and

- (b) unexpected situations (e.g. changes in user requirements, restrictions on noisy work imposed by user departments, restrictions on working hours required by private building management companies and delays caused by landlords' sub-contractor work) were outside contractors' control. The contractors were entitled to extensions of time under the contracts.

Audit examination of two fitting-out projects

5.13 Audit selected for examination the following two fitting-out projects which took a long time to complete after the acceptance of the accommodation by departments:

- (a) ***Project A: Fitting-out project at Cornwall House, Tai Koo Place*** (with a floor area of 1,046 square metres) for the Hong Kong Film Archive of the Leisure and Cultural Services Department (LCSD). This project consisted of specialist works for fitting-out a cold store for archive films. After completing the fitting-out works, the accommodation was handed over to the LCSD 27 months after allocation by the GPA (or 24 months after the accommodation was available for fitting-out works). Details are given in Appendix C; and
- (b) ***Project B: Fitting-out project at the Tsuen Wan Government Offices*** (with a floor area of 497 square metres) for the Land Information Centre and the Survey and Mapping Office of the Lands Department (LandsD). This project, which included a 24-hour air-conditioned room for housing computer servers, was carried out in two phases. After completing the fitting-out works, the accommodation was handed over to the LandsD 20 months after the allocation of the accommodation by the GPA (also 20 months after the accommodation was available for fitting-out works). Details are given in Appendix D.

5.14 ***Need to promptly submit fitting-out requirements.*** The time taken for the user departments to provide layout plans and fitting-out requirements to the ArchSD after acceptance of accommodation was four months for Project A and three months for Project B. This exceeded the three-week requirement (see para. 5.9(a)). **Audit considers that the ArchSD should remind user departments of the need to comply with the three-week requirement for submitting layout plans and fitting-out requirements.**

5.15 ***Need to promptly finalise fitting-out requirements.*** The time taken for the ArchSD to agree the layout plans and fitting-out requirements with the user departments after submission of the requirements was 11 months for Project A and 8 months for Project B. This exceeded the two-week requirement (see para. 5.9(b)).

- 5.16 In response to Audit's enquiry, in February 2009, the GPA informed Audit that:
- (a) for Project A, the GPA had addressed the user requirements before allocation as the ArchSD's advice had been sought on whether Cornwall House was considered technically feasible to meet the LCSD's requirements;
 - (b) for Project B, the fire safety issue was a common architectural consideration for new fitting-out cases. Also, the technical issue of high electrical load requirements for computer servers was common for building services works;
 - (c) in allocating the accommodation in both cases, the GPA had reminded the user departments to consider the additional recurrent cost if 24-hour air-conditioning was required; and
 - (d) in general, before allocating premises to user departments, the GPA had ascertained the user requirements including any special ones. The GPA also invited the user departments to ascertain whether the premises were suitable and acceptable. Depending on the types of premises, the ArchSD was invited to join the site inspections. If the new premises did not meet the requirements, the GPA would not allocate the premises to the users.
- 5.17 In March 2009, the ArchSD informed Audit that:
- (a) the works for Projects A and B were not simply general office fitting-out projects, but involved construction of film workshops with a cold store and a large-scale server room respectively; and
 - (b) in both projects, the works were unusual for general office accommodation. The projects required the establishment of detailed requirements with user departments, lengthy discussions (including preparation of optional and revised schemes to incorporate the requirements within the constraints of the existing building design) and significant work on electrical and mechanical designs.
- 5.18 **Audit considers that the ArchSD, in coordination with user departments, needs to take measures to ensure that fitting-out requirements are finalised as soon as practicable.**

Audit recommendations

5.19 **Audit has recommended that, in managing fitting-out works in future, the Director of Architectural Services should:**

- (a) **remind user departments of the need to provide layout plans and fitting-out requirements to the ArchSD within three weeks after acceptance of accommodation (see para. 5.14); and**
- (b) **in coordination with user departments, take measures to finalise layout plans and fitting-out requirements as soon as practicable (see para. 5.18).**

Response from the Administration

5.20 The **Director of Architectural Services** welcomes the audit recommendations. He has said that:

- (a) the ArchSD will arrange discussions with the relevant parties with a view to reviewing and improving the existing procedures for fitting-out works; and
- (b) ArchSD Accounting Circular No. 2/2002 of June 2002 (see para. 5.9) will be reviewed.

5.21 The **Director of Leisure and Cultural Services** has taken note of the audit recommendations in paragraph 5.19 and will endeavour to speed up any similar work in future. He has said that, for Project A:

- (a) the LCSD accepted the offer of allocation of accommodation at Cornwall House on 30 November 2005. Subsequently, the first portion of the accommodation (previously occupied by the Registration and Electoral Office) was handed over to the LCSD on 6 January 2006 and the second portion (previously occupied by the Independent Commission Against Corruption) on 28 February 2006. As the LCSD was not allowed access to view the second portion of the accommodation when it was occupied by the Independent Commission Against Corruption, the LCSD was unable to draw up the layout and fitting-out requirements before 28 February 2006;

- (b) the accommodation was to be converted into a collection store cum workshop for processing film and film-related artefacts of the Hong Kong Film Archive. This was not a general office project and it took the LCSD some time to sort out the technical details. As such, the proposed layout plan and the fitting-out requirements were only submitted to the ArchSD on 18 April 2006; and
- (c) it was the LCSD's wish to have the facility ready as soon as possible and it had accorded priority to this project. However, converting an office area into a film workshop involved more technical issues and time.

5.22 The **Director of Lands** agrees with, and will abide by, the three-week requirement as mentioned in paragraph 5.9(a) in carrying out fitting-out projects. She has said that, for Project B:

- (a) the LandsD accepted the allocation on 7 August 2006 and provided layout plans and fitting-out requirements to the ArchSD on 1 November 2006; and
- (b) the long time taken in providing the layout plans and fitting-out requirements was owing to:
 - (i) the accommodation allocated to the LandsD was located on three separate floors (i.e. 12th, 24th and 25th floors of the Tsuen Wan Government Offices). It took the LandsD some time to carry out internal consultation and formulate the fitting-out requirements; and
 - (ii) between August and October 2006, there were lengthy discussions among the LandsD, the ArchSD and the GPA on the design of the fire-safety exits on the 12th and 25th floors. The LandsD also needed to seek specific advice from the Fire Services Department.

PART 6: IMPLEMENTATION OF TWO MINOR WORKS PROJECTS

6.1 This PART examines the implementation of two minor works projects under ArchSD term contracts, namely the construction of an annex building to Tai Lung Veterinary Laboratory and the inscription of “Heart Sutra” on wood columns at Ngong Ping, with a view to identifying room for improvement in project administration.

Annex building to Tai Lung Veterinary Laboratory

6.2 Between October 2000 and December 2001, the Tai Lung Veterinary Laboratory in Sheung Shui was constructed to replace the Castle Peak Veterinary Laboratory at a cost of \$46 million. The Laboratory consists of two storeys with a total floor area of 1,110 square metres. It is operated by the Agriculture, Fisheries and Conservation Department (AFCD).

Funding for the project

6.3 In July 2004, in order to meet the demand for veterinary testing for diseases of birds, animals and fishes, the AFCD planned to construct a new annex building (with a floor area of 420 square metres) to the Tai Lung Veterinary Laboratory for accommodating additional laboratories and other facilities. The ASG suggested that funding application for the project should be submitted in October 2004.

6.4 On 28 October 2004, after consulting the ArchSD, the AFCD submitted an application to the ASG to seek endorsement of funding of \$14.5 million (which was based on a unit rate comparable to that of the existing laboratory) for carrying out the works as a Category D project (Note 19) to be funded under Head 703, Subhead 3101GX of the CWRP. In the application, the AFCD said that:

- (a) there was a substantial increase in the workload for testing of avian influenza, and other bird, animal and fish disease diagnosis since the completion of the Tai Lung Veterinary Laboratory;
- (b) there was an urgent need to provide new laboratories to meet the increased workload;

Note 19: *Category D projects are projects funded under block votes of the CWRP.*

- (c) in the accreditation assessments of the Tai Lung Veterinary Laboratory, the National Association of Testing Authorities of Australia commented that the veterinary laboratories were crowded; and
- (d) the construction works would commence in November 2005 for completion in October 2006.

6.5 On 2 November 2004, after consulting the ArchSD, the AFCD submitted the schedule of accommodation to the Property Vetting Committee (PVC — Note 20) for approval. Subsequently, the FSTB, the GPA and the AFCD exchanged correspondence to clarify the schedule. On 22 February 2005, the PVC approved the schedule of accommodation. In March 2005, the ArchSD submitted a project feasibility study report to the ASG. On 2 June 2005, on the advice of the ASG, the FSTB approved funding for the project at a revised estimate of \$14.05 million.

Carrying out of the works

6.6 In November 2005, the ArchSD prepared a preliminary design for the project. In January 2006, the ArchSD prepared a revised design (based on detailed operation requirements of the AFCD) with an estimated cost of \$16.64 million, exceeding the approved estimate of \$14.05 million and the then financial ceiling of a Category D project of \$15 million. In May 2006, the ArchSD advised the AFCD of possible items for omitting from the provisions in order to meet the budget limit and a revised programme (with works to commence in March 2007 for completion in April 2008). In August 2006, after the AFCD's deletion of some facilities from the original plan, the ArchSD revised the design with an estimated cost of \$13.6 million.

6.7 In February 2007, the ArchSD invited tenders for the works. In March 2007, the ArchSD received 13 tenders. The lowest tender sum was \$19.3 million, which exceeded the financial ceiling of a Category D project. In April 2007, the ArchSD advised the AFCD of either trimming certain facilities for commencing works in May 2007, or applying for separate funding from the FC. In May 2007, the ArchSD cancelled the tender exercise. With the agreement of the AFCD to further reduce some of the facilities, in May 2007, the ArchSD issued a works order at an estimated cost of \$13.7 million to a minor works term contractor to carry out the works. In the works order, a built-in cold room was deleted from the project.

Note 20: *The PVC, chaired by the Assistant Director (Architectural) of the ArchSD, includes members from the ArchSD, the GPA and the FSTB.*

6.8 In November 2007, the ceiling of a Category D project was revised from \$15 million to \$21 million. In May 2008, the AFCD sought endorsement from the ASG to increase the project estimate from \$14.05 million to \$16.5 million to include additional facilities such as a built-in cold room. In September 2008, on the advice of the ASG, the FSTB approved the increase in project estimate. In December 2008, the works were substantially completed. A photograph of the annex building is shown in Photograph 1.

Photograph 1

Annex building to Tai Lung Veterinary Laboratory



Source: Photograph taken by Audit on 22 January 2009

Audit observations and recommendations

Need to promptly complete works projects

6.9 In late 2004, the AFCD informed the ASG and the PVC that there was an urgent need for carrying out the project. **The project was substantially completed in December 2008, 26 months later than the scheduled completion date in October 2006.** The key events of the projects included:

- (a) 7 months for funding approval of the project (see paras. 6.3 to 6.5);

- (b) 8 months for revising the works design to meet the approved project estimate (see para. 6.6); and
 - (c) 3 months for inviting tenders, assessing tenders received and cancelling the tender exercise (see para. 6.7).
- 6.10 In response to Audit's enquiry, in March 2009, the ArchSD informed Audit that:
- (a) the AFCD submitted the funding application to the ASG in October 2004, and then the proposed schedule of accommodation to the PVC for vetting in November 2004. On receiving the PVC's approval of the schedule of accommodation in February 2005, the funding application was further processed by the ASG. The ASG had reminded bureaux and departments in September 2005 to clear all major issues of proposed projects, including the approval of schedule of accommodation, before submitting the formal funding application;
 - (b) the AFCD had to take time to consider the items to be deleted. The ArchSD had provided very close advisory service to the AFCD on the cost implications before coming up with the revised design and cost estimate; and
 - (c) the ArchSD had reminded the AFCD in October 2004 of the need to seek the PVC's approval for the schedule of accommodation.
- 6.11 In March 2009, the FSTB informed Audit that:
- (a) in general, it was normal for user departments to submit schedules of accommodation in good time to the PVC before submission of funding applications to the ASG so as to allow sufficient processing time for the PVC. Once a project is selected by the ASG for further processing, the project proponent is normally expected to submit a funding application within several weeks with all preparatory procedures completed, including the vetting of the schedule of accommodation; and
 - (b) the ASG had all along been requesting project proponents to complete all preparatory administrative procedures, which included schedules of accommodation approval, before submitting funding applications, and to ensure that the planning of the relevant projects is sufficiently mature.

6.12 According to the Accommodation Regulations, schedules of accommodation must be approved by the PVC for departmental specialist accommodation before funds are sought for any proposed additional accommodation. Audit considers that, in implementing a project in future, there is a need for user departments to submit the schedule of accommodation to the PVC for approval as soon as practicable.

Need to critically examine cost estimates for projects

6.13 Before November 2007, the financial ceiling of a project (i.e. Category D project) to be funded under Head 703, Subhead 3101GX of the CWRP was \$15 million. For a project with an estimated cost exceeding this financial ceiling (i.e. Category A project), funding approval from the FC was needed.

6.14 In August 2006, the ArchSD revised the project design of January 2006 by deleting some works items (see para. 6.6). In April 2007, the ArchSD advised the AFCD of the need to apply for funding from the FC for this project if the estimate could not be contained within the financial ceiling of a Category D project. In May 2007, the ArchSD cancelled the tender exercise because the lowest tender sum received was \$19.3 million. Subsequently, the ArchSD issued a works order (with a built-in cold room deleted) at an estimated cost of \$13.7 million for carrying out the works. Nevertheless, after the revision of the financial ceiling of a Category D project (see para. 6.8), in May 2008, the ArchSD revised the project scope and the project estimate was revised from \$14.05 million to \$16.5 million. The increase was to cover the cost of additional works items, including the built-in cold room originally included in the works design of January 2006.

6.15 In response to Audit's enquiry, in March 2009, the Development Bureau informed Audit that:

- (a) Environment, Transport and Works Bureau Technical Circular (Works) No. 4/2006 on "Delivery of Capital Works Project" was issued, setting out guidelines and procedures for expeditious delivery of projects in the Capital Works Programme. The ArchSD had also in place a set of comprehensive project management and contract administration manuals to provide guidance to its staff in delivering public works projects, including minor works projects, to meet the set project objectives (i.e. on time, within the approved budget and to the agreed quality standard);

- (b) when the ASG issued call memoranda for annual bids for Head 703 Subhead 3101GX, and standard memoranda to proponents of selected projects, it would remind departments of the need to submit approved schedules of accommodation before submitting funding applications to the ASG; and
- (c) works departments were aware of the financial ceiling of Category D projects and had established their own cost estimation and control mechanisms.

6.16 **Audit considers that departments need to comply with existing circulars and manuals on project delivery. To avoid abortive work, departments also need to critically examine the scope of a minor works project to ensure that its estimate would not exceed the financial ceiling of a Category D project.**

Audit recommendations

6.17 **Audit has recommended that, to improve minor works project management in future, the Secretary for Development should:**

- (a) **remind works departments of the need to comply with existing circulars and manuals on project delivery, particularly of the need to complete projects on time (see para. 6.16); and**
- (b) **in consultation with client bureaux/departments, remind the works departments of the need to critically examine the cost estimates of Category D projects, especially those approaching the financial limit (see para. 6.16).**

Response from the Administration

6.18 The **Secretary for Development** agrees with the audit recommendations.

6.19 The **Director of Architectural Services** welcomes the audit recommendations. He has said that:

- (a) unlike Category A capital works projects where the funding applications were based on completed design drawings and specifications, estimates for Category D project funding applications could only be based on unit rates of similar facilities; and

- (b) for specialist building projects, the ArchSD would collaborate with client departments to clarify the design requirements in greater details as far as possible, in order to ensure that more accurate project estimates are made for funding applications.

6.20 The **Director of Agriculture, Fisheries and Conservation** has said that the AFCD will adhere to the Accommodation Regulations that schedules of accommodation must be approved by the PVC for departmental specialist accommodation, before funds are sought for any proposed additional accommodation (see para. 6.12).

Inscription of Heart Sutra on wood columns at Ngong Ping

Planning for the project

6.21 In June 2002, a scholar donated a piece of calligraphy featuring the Heart Sutra to the Government. The ArchSD, in collaboration with the Tourism Commission, the Hong Kong Tourism Board (Note 21) and the University of Hong Kong, planned to display the calligraphy at Ngong Ping, Lantau Island (**the Heart Sutra Project**).

6.22 In February 2003, in a preliminary project proposal, the ArchSD said that:

- (a) the original idea was carving the calligraphy on natural stones. Having considered the practicality and cost-effectiveness, the ArchSD proposed to carve it on wood columns as a resemblance of early Chinese books;
- (b) for preservation, wood logs should be dried in a kiln for two months before applying preservatives on them; and
- (c) the maintenance works might only require re-coating the wood columns with protective coating annually and inspecting the columns after adverse weather. The annual cost would be less than \$50,000.

Note 21: *The Hong Kong Tourism Board is a subvented organisation formed under the Hong Kong Tourism Board Ordinance (Cap. 302) to promote tourism in Hong Kong.*

6.23 In July 2003, a Project Steering Committee (PSC — Note 22) was set up to provide guidance and direction on implementing the Heart Sutra Project. Under the PSC, a Technical Assessment Panel, comprising representatives from the ArchSD, the LCSD, the Tourism Commission and the University of Hong Kong, was established to address technical issues of the project and to ensure the quality of work. At the first meeting of the PSC held in July 2003, an ArchSD representative said that:

- (a) the ArchSD had sought advice from the Central Conservation Section of the LCSD (which was responsible for conservation of museum artefacts) about maintenance of the wood columns; and
- (b) the Heart Sutra on wood columns could be maintained for more than 50 years.

At the meeting, the PSC agreed that the natural appearance of the wood columns should be retained. The PSC also noted the effect of natural weathering of the columns.

6.24 In August 2003, the Tourism Commission submitted an application to the Minor Building Works Committee (Note 23) for funding approval under Head 703, Subhead 3101GX of the CWRP. It was stated in the application that the project:

- (a) would involve carving the calligraphy of the Heart Sutra onto natural timber logs;
- (b) was scheduled to commence in December 2003 for completion in November 2004; and
- (c) would require an annual maintenance cost of \$50,000 for re-coating the wood columns with protective materials and inspecting their structural integrity after inclement weather.

In November 2003, on the advice of the Minor Building Works Committee, the Director of Architectural Services approved the project at an estimated cost of \$9.5 million. The ArchSD was responsible for implementing the project. The project would involve supplying, carving, and erecting 38 wood columns of 5 to 8 metres in height and 400 to 800 millimetres in diameter.

Note 22: *The PSC was chaired by the Commissioner for Tourism. Its members included representatives from the ArchSD, the AFCD, the donor, the University of Hong Kong and the Hong Kong Tourism Board.*

Note 23: *The Committee is chaired by the Director of Architectural Services and its members include senior staff of the ArchSD and the GPA.*

Carrying out of the project

6.25 Between March and August 2004, the ArchSD:

- (a) awarded a contract for supplying wood columns at a cost of \$2.7 million;
- (b) awarded another contract for carving work at a cost of \$0.8 million; and
- (c) issued a works order for a minor works term contractor to deliver and install the inscribed wood columns at a cost of \$2.5 million.

6.26 In mid-2004, in response to the Technical Assessment Panel's advice, the ArchSD reviewed the merits of applying a new coating material. In November 2004, the Central Conservation Section of the LCSD conducted some tests on the coating material. In December 2004, the ArchSD awarded a contract to a contractor (Contractor D) for carrying out the coating work using the new coating material at a cost of \$132,000.

6.27 In March 2005, the works on the Heart Sutra site (known as the Wisdom Path) were substantially completed (see Photograph 2). In April 2005, the site was handed over to the AFCD for management, which provided cleansing, litter collection and vegetation management services. The ArchSD retained the responsibility for maintaining the wood columns. According to the ArchSD, in June 2005, mould and fungi were found on some of the wood columns. In August 2005, at the ArchSD's request, Contractor D carried out re-coating work at a cost of \$30,000.

Photograph 2

Heart Sutra wood columns of the Wisdom Path



Source: Photograph taken by Audit on 22 January 2009

Re-coating work

6.28 In early 2006, it was found that the bark of some wood columns was deteriorating and the protective coating was not effective in combating infestation by insects and growth of fungi. According to the ArchSD, growth of fungi was found on the bark only, and the carved surface was not affected. In September 2006, after conducting trials, the ArchSD awarded a contract to a contractor (Contractor E) for coating work using another material at a cost of \$468,000. By December 2006, the re-coating work was completed. In July 2008, the ArchSD awarded another contract to Contractor E at a cost of \$600,000 for:

- (a) carrying out monthly surveys on the wood columns until July 2009;
- (b) carrying out improvement works to the nearby drainage system; and
- (c) applying new coating onto wood columns with peel-off surfaces where necessary.

Research study of wood protection

6.29 In October 2006, after discussion with some PSC members, the ArchSD decided that an in-depth study was required to identify better wood preservation methods and materials for the wood columns. As the ArchSD did not have the expertise, it decided to appoint external experts with international experience in preservation of wood columns in outdoor environment, especially with regard to wood in humid tropical environment. In view of the urgency and the expertise required, in January 2007, the ArchSD invited one of the PSC members (Consultant B — who was an expert in the related area) to submit a quotation for conducting the study.

6.30 In March 2007, Consultant B proposed to the ArchSD that the study should be split into two phases (i.e. Phase 1 at a cost of \$300,000 to be completed within 12 months after commissioning the study, and Phase 2 at a cost of \$520,000 to be an optional study after reviewing the Phase 1 results). In April 2007, the ArchSD awarded the study contract to Consultant B, under which Phase 1 would be completed by May 2008, and the commencement date of Phase 2 would be subject to mutual consent. The Phase 1 study commenced in June 2007, and Consultant B submitted a study report to the ArchSD in September 2008.

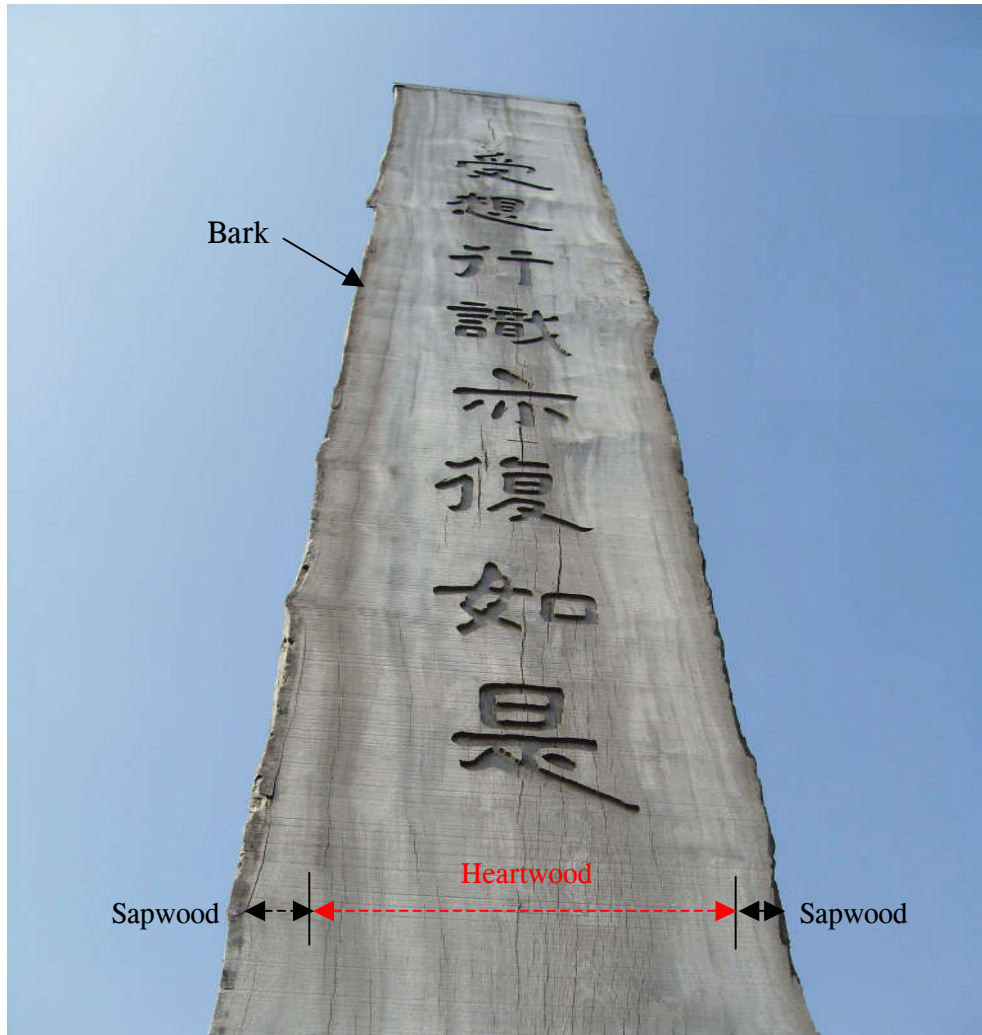
6.31 According to the study report:

- (a) the wood columns had not been dried in a kiln or treated in high temperature (Note 24);
- (b) while the Heart Sutra was inscribed on the inner zone of wood columns which was resistant against infestation (the heartwood — see Photograph 3), the outer zone of the wood columns (the sapwood — see Photograph 3), which was highly susceptible to fungal decay and insect infestation, had not been subject to rigorous preservative treatments; and
- (c) top caps had not been installed to prevent rain water from entering the wood columns.

Note 24: *In February 2009, the ArchSD informed Audit that, according to the records of enquiries with kiln service providers, there was no available kiln large enough for the size of wood columns used in the project. Therefore, no order was issued for kiln-drying.*

Photograph 3

A wood column of the Heart Sutra



Source: Photograph taken by Audit on 22 January 2009

6.32 The study report recommended that:

- (a) the sapwood on the back side of the wood columns should be removed; and
- (b) after removing the sapwood, preservative solution should be sprayed on the heartwood for forming a thin shell of protection against infestation by insects and growth of fungi.

As at February 2009, the ArchSD was considering the recommendations.

Audit observations and recommendations

Need to conduct a thorough study for projects with no past experience

6.33 In February 2003, the ArchSD proposed to carve the Heart Sutra on wood columns instead of stones (see para. 6.22(a)). Between March 2004 and March 2005, the ArchSD's contractors supplied, carved and installed the wood columns at a cost of \$6 million. In November 2004, the Central Conservation Section of the LCSD conducted tests with a view to identifying additional suitable coating materials for the wood columns. Between December 2004 and August 2005, the coating work was carried out. However, it was found that the bark of some wood columns was deteriorating and the protective coating was not effective in combating fungal and insect growth. By December 2006, the re-coating work using another material was completed. In April 2007, the ArchSD appointed Consultant B to carry out a study to identify better wood preservation methodologies and materials.

6.34 The study report identified some deficiencies of the preservation methodology adopted for the wood columns and made recommendations for improvement (see paras. 6.31 and 6.32).

6.35 In March 2009, the LCSD informed Audit that:

- (a) the LCSD's role was to provide technical advice based on its heritage conservation knowledge. The Central Conservation Section of the LCSD had cautioned the project proponent that the wood columns had to be well-seasoned before use so that they would have the minimal moisture content. The level of moisture content would affect the serviceability, stability and future maintenance of the wood columns; and
- (b) apart from giving technical advice, the Central Conservation Section had conducted ageing and performance tests of the coating samples in its laboratory. The Section had indicated to the project proponent that the tests were only performed under ordinary laboratory conditions and, therefore, the test results had limitations. The wood columns might not survive for a long time under a natural setting.

6.36 **In Audit's view, in carrying out projects in future involving the adoption of a methodology on which the ArchSD does not have past experience, the ArchSD needs to conduct a thorough study.**

Need to resolve the wood preservation problems

6.37 In January 2007, in view of the urgency and expertise required for the wood preservation study, the ArchSD invited Consultant B to submit a quotation. In April 2007, the ArchSD awarded the study contract to Consultant B. The study commenced in June 2007, and a study report was submitted to the ArchSD in September 2008 (see para. 6.30). As at February 2009, the ArchSD was considering the recommendations contained in the study report. **Audit considers that the ArchSD needs to expedite action to resolving the wood preservation problems relating to the Heart Sutra Project.**

Audit recommendations

6.38 **Audit has recommended that the Director of Architectural Services should:**

- (a) **conduct a thorough study before adopting a methodology on which the ArchSD does not have past experience (see para. 6.36); and**
- (b) **take prompt action to resolve the wood preservation problems relating to the Heart Sutra Project (see para. 6.37).**

Response from the Administration

6.39 The **Director of Architectural Services** welcomes the audit recommendations. He has said that:

- (a) the PSC, which steered the project implementation, decided to keep the natural appearance of the wood columns. The ArchSD had, in collaboration with other departments and experts, conducted researches at the design stage on wood preservation with a view to extending the durability of the wood columns; and
- (b) the preservation treatment carried out was practical and effective. No sign of deterioration is noted on the carved surface. The problem lies with the bark which has a weak structure and will peel off naturally. This will not affect the carved surface and the structural integrity of the wood columns.

6.40 The **Commissioner for Tourism** has said that the Tourism Commission will monitor the long-term maintenance of the Wisdom Path by the ArchSD with a view to ensuring the sustainability of the unique tourism attraction.

Appendix A
(para. 1.10 refers)

ArchSD term contracts covered in the audit review

Contract	Contract period	Duration (months)	Estimated contract sum (\$ million)
10 maintenance term contracts			
A	1.4.2004 to 31.3.2007	36	277
B	1.4.2004 to 31.3.2007	36	270
C	1.4.2004 to 31.3.2007	36	293
D	1.4.2004 to 31.3.2007	36	309
E	1.4.2004 to 30.9.2005	18	218
F	1.4.2004 to 30.9.2005	18	201
G	1.7.2002 to 30.9.2005	39	455
H	1.7.2002 to 30.9.2005	39	506
I	1.4.2004 to 31.3.2007	36	346
J	1.4.2004 to 31.3.2007	36	302
4 minor works term contracts			
K	1.1.2003 to 31.12.2005	36	406
L	1.1.2003 to 31.12.2005	36	412
M	1.1.2003 to 31.12.2004	24	373
N	1.1.2003 to 31.12.2004	24	367
3 fitting-out works term contracts			
O	1.6.2004 to 31.5.2007	36	145
P	1.7.2005 to 31.5.2007	23	113
Q	1.6.2003 to 31.5.2005	24	134

Source: ArchSD records

Appendix B
(paras. 4.3(c) and
4.4(a) and (b) refer)

Fire services upgrading works at three government premises

Date	Event
5 November 2003	A project officer issued a works order to Contractor C for carrying out fire services upgrading works at a cost of \$3.6 million at the Pamela Youde Child Assessment Centre, School Dental Clinic and Government Dental Clinic.
15 April 2005	Contractor C completed the works.
27 July 2007	Contractor C submitted dimension books for the works.
29 May 2008	In response to Contractor C's claim for the cost of \$148,000 for proprietary works (see para. 4.2(b)), the ArchSD Quantity Surveying Branch requested the project officer to provide copies of the certificate of origin, certificate of guarantee and certificate of compliance for the roofing system used for the upgrading works.
11 and 24 June 2008	The project officer requested Contractor C to submit copies of the certificates.
3 July 2008	The project officer informed the Quantity Surveying Branch that Contractor C could not provide evidence to prove that the materials were supplied from an authorised manufacturer. As such, the project officer considered that the contractor's claim should be rejected and the contractor's proposed rates based on that of proprietary works should be replaced by other relevant schedule rates.
26 August 2008	With reference to the relevant schedule rates, the ArchSD assessed the cost of the roofing system as \$88,700, which was 40% lower than the original amount of \$148,000 claimed by Contractor C.
<p><i>Audit findings</i></p> <ul style="list-style-type: none"> ◆ <i>The materials used for the roofing system were accepted without a certificate of origin.</i> ◆ <i>The ArchSD only required the contractor to submit the relevant certificates when the contractor claimed the cost of proprietary works (i.e. three years after works completion).</i> 	

Source: ArchSD records

Project A: Fitting-out project at Cornwall House

Date	Event
4 February 2005	The GPA sought advice from the ArchSD on the technical feasibility of accommodating the collections of the Hong Kong Film Archive of the LCSD at 9/F, Cornwall House, Quarry Bay.
7 February 2005	In an internal e-mail, the LCSD noted the need to seek the ArchSD advice on the technical feasibility of the accommodation and to conduct a site visit.
October and November 2005	After exchange of correspondence between the GPA and the LCSD, the LCSD confirmed that the accommodation was suitable.
30 November 2005	The GPA allocated an office with a floor area of 1,046 square metres at Cornwall House to the LCSD. In the memo, the LCSD was advised that it should check with the ArchSD and departments concerned to ascertain whether the LCSD could absorb the additional recurrent costs if 24-hour air-conditioning was required.
6 January 2006	An area of 795 square metres of the site was handed over to the LCSD.
28 February 2006	The remaining area of 251 square metres was handed over to the LCSD.
18 April 2006	The LCSD provided layout plans, fitting-out requirements, and furniture and equipment requirements to the ArchSD.
2 August 2006	The ArchSD informed the LCSD that the responsible project officer had been changed.
29 August 2006	The ArchSD requested the LCSD to confirm the fitting-out works requirements.
14 December 2006	The GPA informed the LCSD that it was unacceptable that the accommodation was not occupied one year after the allocation.
15 December 2006	The LCSD replied to the GPA that the responsible project officer and the contractor were changed. The LCSD also said that it could not absorb the recurrent cost of 24-hour air-conditioning, and it needed to revise the fitting-out requirements.

Appendix C
(Cont'd)
(para. 5.13(a) refers)

Date	Event
2 March 2007	The GPA requested the LCSD to provide information on the progress of the fitting-out works.
12 March 2007	The LCSD replied that the fitting-out requirements were being considered and yet to be confirmed.
13 March 2007	The ArchSD requested the LCSD to submit the design information.
30 March 2007	The layout plans and the fitting-out requirements were confirmed by the LCSD.
25 June 2007	The ArchSD requested the LCSD to provide details of furniture and equipment requirements.
26 June 2007	The GPA advised the LCSD that the accommodation was under-utilised for 18 months and requested it to expedite action. The GPA requested the LCSD to submit the furniture and equipment requirements by 4 July 2007.
3 July 2007	The LCSD submitted the furniture and equipment requirements to the GPA.
12 July 2007	The LCSD submitted additional furniture and equipment information as further requested by the GPA.
20 July 2007	The GPA confirmed the furniture and equipment requirements with the LCSD.
3 August 2007	The GPA approved funding for the project.
13 August 2007	A contractor commenced the fitting-out works.
29 February 2008	The accommodation was handed over to the LCSD for occupation.
<i>Audit findings</i>	
<p>◆ <i>The accommodation was handed over to the LCSD for occupation in February 2008, which was 27 months after allocation by the GPA, or 24 months after the accommodation was available for fitting-out works.</i></p>	

Source: Records of the ArchSD and the GPA

Project B: Fitting-out project at Tsuen Wan Government Offices

Date	Event
7 June 2006	The LandsD requested the GPA to reserve accommodation at Tsuen Wan Government Offices to meet its space requirement.
2 August 2006	The GPA allocated space with a floor area of 497 square metres on the 12th, 24th and 25th floors of Tsuen Wan Government Offices to the LandsD for accommodating its Land Information Centre, and Survey and Mapping Office. (The space was vacant at the time of allocation.)
7 August 2006	The LandsD accepted the allocation.
21 August 2006	The LandsD proposed to exchange its allocated space on the 12th floor with the Labour Department on the 24th floor.
21 August 2006	The Labour Department disagreed with the proposal. The GPA informed the LandsD of the result.
30 August to 1 September 2006	The LandsD, the ArchSD and the GPA exchanged views on a fire safety issue on the 25th floor. The ArchSD advised on 1 September 2006 that the existing fitting-out on the 25th floor would not affect the escape route of tenants.
4 September 2006	The LandsD requested the provision of a second exit on the 12th floor.
5 September 2006	The ArchSD replied that the proposed layout did not comply with fire prevention regulations. The ArchSD later put up two new design proposals on 5 and 8 September 2006 respectively for LandsD's consideration.
8 September to 6 October 2006	The LandsD exchanged views with the ArchSD about the design of fire exits.
1 November 2006	The LandsD provided layout plans and fitting-out requirements to the ArchSD, specifying a 24-hour air-conditioning requirement for 46 servers in a server room on the 24th floor.
29 November 2006	Based on the heat load information, the ArchSD found that the office would not be suitable for housing 46 servers.
21 December 2006	The Electrical and Mechanical Services Department informed the LandsD that an individual 24-hour air-conditioning system for the new server room was more appropriate.

Appendix D
(Cont'd)
(para. 5.13(b) refers)

Date	Event
17 January 2007	The ArchSD said that the electrical load would warrant a major reinforcement of the existing electrical power supply.
27 April 2007	The ArchSD confirmed that it had no further comments on the safety/fire escape requirements on the 25th floor.
20 June 2007	The LandsD provided revised floor plans to the ArchSD and requested it to complete the fitting-out works for the 12th floor first so that the LandsD could move in as soon as possible, while awaiting the completion of the works for the server rooms on the 24th and 25th floors.
19 July 2007	Based on the fitting-out requirements, the LandsD provided the furniture and equipment requirements to the GPA.
24 July 2007	The GPA requested the LandsD to provide additional information on the fitting-out requirements.
9 August 2007	The GPA sent a reminder to the LandsD.
10 August 2007	The GPA sent its initial assessment/request for additional information to the LandsD.
23 August 2007	The LandsD provided the GPA with additional and final requirements.
14 September 2007	The GPA sent its assessment to the LandsD.
19 September 2007	The LandsD agreed with the GPA's assessment.
17 October 2007	The ArchSD sent a funding application to the GPA. It sent further information on 26 October 2007.
1 November 2007	The GPA approved funding for the project.
5 December 2007	The contractor commenced the fitting-out works.
18 April 2008	The accommodation was handed over to the LandsD for occupation.
<i>Audit findings</i>	
◆ <i>The accommodation was handed over to the LandsD for occupation 20 months after allocation by the GPA (also 20 months after the accommodation was available for fitting-out works).</i>	

Source: Records of the ArchSD and the GPA

Appendix E

Acronyms and abbreviations

AFCD	Agriculture, Fisheries and Conservation Department
ArchSD	Architectural Services Department
ASG	Accommodation Strategy Group
Audit	Audit Commission
CWRF	Capital Works Reserve Fund
FC	Finance Committee
FSTB	Financial Services and the Treasury Bureau
GPA	Government Property Agency
LandsD	Lands Department
LCSD	Leisure and Cultural Services Department
PSC	Project Steering Committee
PVC	Property Vetting Committee
PWSC	Public Works Subcommittee
TAA	Technical Assurance Audit