

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 709 - WATERWORKS

Water Supplies - Fresh water supplies

241WF - Extension of water supply to Pok Fu Lam areas

Members are invited to recommend to Finance Committee the upgrading of **241WF** to Category A at an estimated cost of \$117.2 million in money-of-the-day prices.

PROBLEM

By end 2002, the existing water supply facilities serving the Pok Fu Lam area will be unable to cope with the anticipated increase in water demand arising from the planned developments¹ in the area.

PROPOSAL

2. The Director of Water Supplies (DWS), with the support of the Secretary for Works (S for W), proposes to upgrade **241WF** to Category A at an estimated cost of \$117.2 million in money-of-the-day (MOD) prices for the provision of additional waterworks facilities to extend fresh water supplies to the new developments in Pok Fu Lam.

PROJECT SCOPE AND NATURE

3. The scope of the project comprises –

/(a)

¹ The types of planned developments in Pok Fu Lam area include housing developments at Telegraph Bay and re-developments in Pok Fu Lam area.

- (a) the construction of Wah Fu fresh water service reservoir with a capacity of 5 000 cubic metres (m³);
- (b) the laying of about 500 metres of fresh water mains of 400 millimetres in diameter connecting the existing trunk mains at Victoria Road to the proposed Wah Fu fresh water service reservoir; and
- (c) the laying of about 2.5 kilometres of fresh water mains of 1 000 millimetres in diameter between Shek Pai Wan Road and southern access road, and between Victoria Road and northern access road, of the Cyberport development at Telegraph Bay.

We plan to commence the construction works in February 2001 for completion in phases by June 2004. We will complete the construction of the Wah Fu fresh water service reservoir and the associated mainlaying in August 2002 to meet the projected demand in 2002. We will complete the mainlaying works as described in paragraph 3(c) above by June 2004 to meet the projected demand beyond 2004. A site plan showing the proposed works is at the Enclosure.

JUSTIFICATION

4. As a result of the existing residential development and planned redevelopment in Pok Fu Lam, we envisage that the population in the area will increase from the current 88 000 to 106 000 by 2007.

5. The fresh water supply system currently serving the Pok Fu Lam area has a capacity of 28 000m³ per day. In view of the phased completion of the planned developments in the area such as certain lots near Victoria Road battery and developments east of Chi Fu Fa Yuen, we envisage that the daily fresh water demand will increase from the current level of 26 900m³ to 28 600m³ at end 2002 and to 34 000m³ by 2007. This will mean a shortfall in fresh water supply of 600m³ per day at end 2002. To address this problem and to meet the projected growth in water demand up to 2007, we plan to provide the additional waterworks facilities described in paragraph 3 above.

FINANCIAL IMPLICATIONS

6. We estimate the capital cost of the proposed works to be \$117.2 million in MOD prices, made up as follows –

/(a)

	\$ million	
(a) Construction of Wah Fu fresh water service reservoir and associated mainlaying	37.0	
(i) civil works	36.0	
(ii) mechanical and electrical works	1.0	
(b) Mainlaying works	59.6	
(c) Environmental mitigation measures	1.8	
(d) Contingencies	9.8	
Sub-total	108.2	(in September 2000 prices)
(e) Provision for price adjustment	9.0	
Total	117.2	(in MOD prices)

7. Subject to approval, we will phase the expenditure as follows -

Year	\$ million (Sept 2000)	Price Adjustment factor	\$ million (MOD)
2001 – 2002	12.8	1.02550	13.1
2002 – 2003	35.9	1.05627	37.9
2003 – 2004	33.1	1.08795	36.0
2004 – 2005	13.8	1.12059	15.5
2005 – 2006	7.4	1.15421	8.5
2006 – 2007	5.2	1.18884	6.2
	108.2		117.2

/8.

8. We have derived the MOD estimates on the basis of the Government's latest forecast of trend labour and construction prices for the period 2001 to 2007. We will implement the works under two re-measurement contracts because the quantities of the works are subject to variation during construction to suit the actual site conditions. We have carried out ground investigation works to gather detailed information on soil components and the alignment of existing utilities in order to reduce the uncertainty in respect of ground conditions. We will not provide for price adjustment in the contract for the works described in paragraphs 3(a) and 3(b) above because the contract period will not exceed 21 months. We will provide for price adjustment in the contract for the works described in paragraph 3(c) above because the contract period will exceed 21 months.

9. We estimate the annually recurrent expenditure arising from this project to be \$262,000.

10. The project by itself will lead to an increase in water charges by a maximum of 0.05%² in real terms by 2007.

PUBLIC CONSULTATION

11. We consulted the Southern District Council on 29 June 2000. The Council supported the proposal.

ENVIRONMENTAL IMPLICATIONS

12. DWS completed a Preliminary Environmental Review (PER) for **241WF** in February 1998 and concluded that the project would not have long-term environmental impacts exceeding the established criteria. The Director of Environmental Protection vetted the PER and agreed that an Environmental Impact Assessment would not be necessary. For short-term impacts, DWS will control noise, dust and site run-off during construction to comply with established standards and guidelines through the implementation of mitigation measures in the construction contracts. The cost of implementing these mitigation measures³ is estimated to be \$1.8 million in September 2000 prices. We have included this amount in the project estimate. /13.

² The increase in water charges is calculated on the assumption that the demand remains static during the period from 2001 to 2007 and the amount of Government subsidy to waterworks operations is contained at the present level.

³ The standard pollution control measures include wheel washing facilities, de-silting traps, the use of silenced plant and other procedures as recommended in the Environmental Protection Department's Recommended Pollution Control Clauses.

13. We have considered the levels, orientations, and dimensions of the proposed fresh water service reservoir and the alignment of the proposed water mains at the planning and design stages with a view to minimizing the generation of construction and demolition (C&D) materials. We estimate that about 41 060 m³ of C&D materials will be generated by the project. Of these, about 8 000m³ (19.5%) will be reused on site, 33 000m³ of inert C&D materials (80.4%) will be reused as fill in public filling areas⁴ and 60m³ of C&D wastes (0.1%) will be disposed of at landfills. We will require the contractor to implement necessary measures to minimize the generation of C&D materials and to reuse and recycle such materials as far as possible. We will control the disposal of public fill and C&D materials at designated public filling facilities and landfills respectively through a trip-ticket system. We will record the disposal, reuse and recycling of C&D materials for monitoring purposes.

LAND ACQUISITION

14. The project does not require land acquisition.

BACKGROUND INFORMATION

15. We upgraded **241WF** to Category B in September 1998.

16. We have substantially completed the detailed design for works under **241WF** using in-house resources.

17. We estimate that the proposed works will create some 75 jobs during the construction stage. These comprise nine professional/technical staff and 66 labourers, totalling 2 500 man-months.

Works Bureau
November 2000

(PWSC0314/WIN13)

⁴ A public filling area is a designated part of a development project that accepts public fill for reclamation purposes. Disposal of public fill in a public filling area requires a licence issued by the Director of Civil Engineering.

北 N

食水管道敷設工程
MAINLAYING

擬建的華富食水配水庫及
有關的食水管道
PROPOSED WAH FU FRESH WATER
SERVICE RESERVOIR AND
ASSOCIATED MAINLAYING

食水管道敷設工程
MAINLAYING

摩星嶺
MOUNT DAVIS

域多利道
VICTORIA ROAD

大口環路
SANDY BAY ROAD

沙灣
SANDY BAY

北面通路
NORTHERN
ACCESS ROAD

比例尺 SCALE 1 : 15 000

圖例 LEGEND :

- 現有的食水管道
EXISTING FRESH WATER MAIN
- 擬敷設的食水管道
PROPOSED FRESH WATER MAIN
- 委託數碼港發展商在工務計劃項目
第 7656CL 號項下進行的水管敷設工程
ENTRUSTED MAINLAYING WORKS BEING UNDERTAKEN
BY CYBERPORT DEVELOPER UNDER PWP NO. 7656CL
- 委託拓展署在工務計劃項目第 7653CL 號
項下進行的水管敷設工程
ENTRUSTED MAINLAYING WORKS BEING UNDERTAKEN
BY TDD UNDER PWP NO. 7653CL

域多利道
VICTORIA ROAD

薄扶林道
POK FU LAM ROAD

石牌灣道
SHEK PALWAN ROAD

華富
WAH FU

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南面通路
SOUTHERN
ACCESS ROAD

鋼綫灣數碼港計劃
CYBERPORT DEVELOPMENT
AT TELEGRAPH BAY

核准 APPROVED
Ced
總工程師/設計 CE/DES
31/10/2000

工務計劃項目第241WF號 — 薄扶林區供水系統擴展工程
P.W.P. 241WF — EXTENSION OF WATER SUPPLY TO POK FU LAM AREAS

水務署
WATER SUPPLIES DEPT.
草圖編號 SKETCH NO. SK 62000 / 106A

Enclosure 附件

REF. 620196a.CDR