

**ITEM FOR PUBLIC WORKS SUBCOMMITTEE
OF FINANCE COMMITTEE**

HEAD 709 - WATERWORKS

Water Supplies – Fresh water supplies

204WF – Water supply to remaining remote villages in the New Territories

Members are invited to recommend to Finance Committee –

- (a) the upgrading of part of **204WF**, entitled “Water supply to remaining remote villages in the New Territories (scheme nos. 36D and 49)”, to Category A at an estimated cost of \$24.84 million in money-of-the-day prices; and
- (b) the retention of the remainder of **204WF**, retitled “Water supply to remaining remote villages in the New Territories (scheme nos. 23A, 40 and 50)” in Category B.

PROBLEM

The Ngau Kwu Long, Pak Mong and Tai Ho villages on Lantau Island and the Kau Sai village in Sai Kung are not provided with hygienic and reliable water supply.

/PROPOSAL

PROPOSAL

2. The Director of Water Supplies (DWS), with the support of the Secretary for Works, proposes to upgrade part of **204WF** to Category A at an estimated cost of \$24.84 million in money-of-the-day (MOD) prices to provide metered water supply to the Ngau Kwu Long, Pak Mong and Tai Ho villages under Village Water Supply Scheme No. 36D and the Kau Sai village under Village Water Supply Scheme No. 49.

PROJECT SCOPE AND NATURE

3. The scope of works under **204WF** comprises the extension of treated water supply to nine remote villages under the following Village Water Supply Schemes -

- (a) Scheme no. 23A – Water supply to To Kwa Peng within the Tai Po District;
- (b) Scheme no. 36D – Water supply to Ngau Kwu Long, Pak Mong and Tai Ho within the Islands District;
- (c) Scheme no. 40 – Water supply to Tai Long, Ham Tin and Sai Wan within the Sai Kung District;
- (d) Scheme no. 49 – Water supply to Kau Sai within the Sai Kung District; and
- (e) Scheme no. 50 – Water supply to Ma On Shan Tsuen within the Sha Tin District.

4. The part of **204WF** which we now propose to upgrade to Category A is the Village Water Supply Scheme Nos. 36D and 49 described in paragraph 3 (b) and (d) above. It comprises –

- (a) Scheme No. 36D

laying of about 3 kilometres of fresh water mains of 80 and 150 millimetres in diameter;

/(b)

- (b) Scheme No. 49
 - (i) procurement and installation of pump sets and associated equipment;
 - (ii) laying of about 3.3 kilometres of fresh water mains of 80 millimetres in diameter;
 - (iii) construction of a fresh water tank to provide a storage capacity of 55 cubic metres; and
 - (iv) construction of a fresh water break pressure tank to provide a storage capacity of 15 cubic metres.

JUSTIFICATION

5. The nine remote villages described in paragraph 3 above have a total population of about 2 400. They now obtain their water from streams and wells. In view of the possible pollution of water sources and the outbreak of cholera in recent years, we consider the use of untreated water not healthy and should be replaced by metered water supply as soon as possible. Having considered the condition of the source of local water, population in each of the villages, the cost of providing treated water and the developments in their vicinity, DWS proposes to provide metered water supply to these remote villages in phases.

6. The part we now propose to upgrade to Category A covers four remote villages. These four villages have a total population of about 1 500 with a mean daily fresh water demand of 380 cubic metres.

FINANCIAL IMPLICATIONS

7. We estimate the capital cost of the proposed works to be \$24.84 million in MOD prices, made up as follows –

/(a)

		\$ million	
(a)	Village Water Supply Scheme No. 36D		
	Laying of water mains	5.97	
(b)	Village Water Supply Scheme No. 49		
	(i) Laying of water mains	8.15	
	(ii) Construction of a fresh water tank	3.19	
	(iii) Construction of a fresh water break pressure tank	2.49	
	(iv) Mechanical and electrical works	1.36	
(c)	Environmental mitigation measures	0.05	
(d)	Contingencies	2.12	
	Sub-total	23.33	(in December 1999 prices)
(e)	Provision for price adjustment	1.51	
	Total	24.84	(in MOD prices)

8. Subject to approval, we will phase the expenditure as follows –

Year	\$ million (Dec 1999)	Price Adjustment Factor	\$ million (MOD)
2000 – 2001	0.41	1.00000	0.41
2001 – 2002	16.24	1.04500	16.97
			/2002 – 2003

Year	\$ million (Dec 1999)	Price Adjustment Factor	\$ million (MOD)
2002 – 2003	5.79	1.10770	6.41
2003 – 2004	0.89	1.17416	1.05
	23.33		24.84

9. We derived the MOD estimates on the basis of the Government's latest forecasts of trend labour and construction prices for the period 2000 to 2004. We shall invite tenders for the civil works under a standard remeasurement contract because the quantities of works may vary with actual ground conditions. We shall not allow provision for price adjustment in the contract because the civil works construction period will be less than 21 months. Separately, we will invite tenders for the supply of the new pump sets under a fixed price lump sum contract and will carry out the installation work by utilising in-house resources.

10 We estimate the additional annually recurrent expenditure arising from the proposed works to be \$420,000.

11. This project by itself will lead to an increase in water charges by a maximum of 0.02% in real terms by 2004¹.

PUBLIC CONSULTATION

12. We consulted Mui Wo Rural Committee on the Village Water Supply Scheme No. 36D in December 1999. The Committee supported the proposed scheme.

/13.

¹ The increase in water charges is calculated on the assumption that the demand remains static during the period from 1999 to 2004 and the amount of government subsidy to the waterworks operations is to be contained at the present level.

13. We consulted the Sai Kung District Council on the Village Water Supply Scheme No. 49 in January 2000. The Council supported the proposed scheme.

ENVIRONMENTAL IMPLICATIONS

14. The project will not cause long term environmental impact. We will design the fresh water tank and fresh water break pressure tank such that the level of noise during their operation complies with the established criteria, standards and guidelines. For short term construction impacts, standard pollution measures² would be sufficient to mitigate the impacts. We have included in the project the cost of implementing these mitigation measures (\$0.05 million in December 1999 prices) and will incorporate these requirements into the works contract for implementation.

15. At the planning and design stages of this project, we have given due consideration to designing the level, orientation, and dimension of the proposed fresh water tank and fresh water break pressure tank to minimize the quantity of the construction and demolition materials (C&DM) to be generated. To further minimize the generation of C&DM, we will encourage the contractor to use steel instead of timber in formwork and temporary works. Most of the C&DM generated at the construction stage will be excavated material which can be reused on-site as backfilling material. We will deliver the surplus public fill (about 1 500 cubic metres (m³)) to the designated public filling facilities for reclamation purpose. The remaining C&D waste (about 600m³) will need to be disposed of at landfill. We shall require the contractor to submit a waste management plan with appropriate mitigation measures, including the allocation of an area for waste segregation on-site to facilitate reuse/recycling of C&DM, for approval. We shall ensure that the day-to-day operations on-site comply with the waste management plan. We shall implement a trip-ticket system to control the proper disposal of C&DM and shall record the reuse, recycling and disposal of C&DM for monitoring purpose.

LAND ACQUISITION

16. The proposed works do not require land acquisition.

/BACKGROUND

² The standard pollution measures include wheel washing facilities, de-silting traps, the use of silenced plant and other procedures as recommended in the Environment Protection Department's Recommended Pollution Control Clauses.

BACKGROUND INFORMATION

17. We upgraded **204WF** to Category B in September 1995.

18. DWS has substantially completed the detailed design for the proposed fresh water tank, fresh water break pressure tank and mainlaying works using in-house staff resources. We plan to start the proposed works in end 2000 for completion by end 2002.

19. We are continuing with the design works for the remaining part of **204WF**. We plan to upgrade the remaining water supply schemes to Category A in 2001 for completion of works in early 2004.

20. We estimate that the project will create some 30 new jobs comprising 5 professional or technical staff and 25 labourers during the construction period.

Works Bureau
April 2000

(PWSC0240/WIN9)



現有的滘西洲食水泵房
EXISTING KAU SAI CHAU
FRESH WATER PUMP HOUSE

擬建的滘西洲食水供水缸
PROPOSED KAU SAI CHAU
FRESH WATER TANK

擬建的滘西洲食水減壓配水缸
PROPOSED KAU SAI CHAU FRESH WATER
BREAK PRESSURE TANK

圖例 LEGEND :

-  擬敷設的食水管
PROPOSED FRESH WATER MAIN
-  現有的食水管
EXISTING FRESH WATER MAIN
-  滘西洲公共高爾夫球場
KAU SAI CHAU PUBLIC GOLF COURSE

比例尺 SCALE 1 : 25 000

工務計劃項目第204WF號 — 新界餘下偏僻村落供水計劃
計劃編號49 - 西貢區內滘西供水計劃

P.W.P. ITEM NO.204WF — WATER SUPPLY TO REMAINING REMOTE VILLAGES IN THE NEW TERRITORIES

(甲級工程) SCHEME NO 49 - WATER SUPPLY TO KAU SAI WITHIN THE SAI KUNG DISTRICT

(二之一)
(SHEET 1 OF 2)



水務署
WATER SUPPLIES DEPT.

草圖編號
SKETCH NO.

03799 / 129 / 001



大蠔灣
TAI HO WAN

白芒
PAK MONG

牛牯壆
NGAU KWU LONG

大蠔
TAI HO

圖例 LEGEND :

- 擬敷設的食水管道
PROPOSED FRESH WATER MAIN
- 現有的食水管道
EXISTING FRESH WATER MAIN

比例尺 SCALE 1 : 10 000

核准 APPROVED

 署理總工程師/設計 CE / Des(Ag)
 18 / 2 / 2000

工務計劃項目第204WF號 — 新界餘下偏僻村落供水計劃
 計劃編號36D - 離島區內牛牯壆, 白芒及大蠔供水計劃
 P.W.P. ITEM NO.204WF — WATER SUPPLY TO REMAINING REMOTE VILLAGES IN THE NEW TERRITORIES
 SCHEME NO 36D - WATER SUPPLY TO NGAU KWU LONG, PAK MONG AND TAI HO
 (甲級工程) (CAT 'A' Submission) (二之二) (SHEET 2 OF 2)

 水務署
 WATER SUPPLIES DEPT.
 草圖編號 SKETCH NO. 03799 / 129 / 002