

For information

Legislative Council Panel on Development

326WF – Integration of Lion Rock high level fresh water primary service reservoirs and Tseung Kwan O fresh water primary service reservoir

PURPOSE

This paper briefs Members on the proposal to upgrade **326WF** “Integration of Lion Rock high level fresh water primary service reservoirs and Tseung Kwan O fresh water primary service reservoir” to Category A at an estimated cost of about \$159.7 million in money-of-the-day (MOD) prices.

PROPOSAL

2. The scope of works under **326WF** comprises -

integration of Lion Rock high level fresh water primary service reservoirs with the Tseung Kwan O fresh water primary service reservoir by
 - (a) laying of about 1.4 kilometres fresh water mains of sizes ranging from 600 millimetres (mm) diameter to 1 400 mm diameter in Jordan Valley, Sau Mau Ping and Tseung Kwan O new town; and
 - (b) insitu reprovisioning and uprating of the Shum Wan Shan fresh water pumping station from a capacity of 135 000 cubic metres per day (m³/day) to 350 000 m³/day.

----- A site plan showing the proposed works is at **Enclosure 1**.

3. We plan to start construction in May 2008 for completion in December 2010. The works will be supervised by in-house staff.

JUSTIFICATION

4. At present, fresh water in Kwun Tong and Tseung Kwan O area is supplied by Tseung Kwan O fresh water primary service reservoir and its associated secondary service reservoirs. These service reservoirs are fed by Pak

Kong water treatment works. If Pak Kong water treatment works has to be wholly or partially shut down temporarily in case of emergency, fresh water supply to Kwun Tong and Tseung Kwan O will be disrupted.

5. To enhance the reliability of the supply system, we plan to lay additional fresh water mains and replace existing fresh water mains to integrate Lion Rock high level fresh water primary service reservoirs¹, which are supplied by Sha Tin water treatment works, with the Tseung Kwan O fresh water primary service reservoir. The proposed works also include the insitu reprovisioning and corresponding uprating of the Shum Wan Shan fresh water pumping station to cater for the projected mean daily fresh water demand of Kwun Tong and Tseung Kwan O areas of 260 000 m³ beyond 2011². When the works are completed, Kwun Tong and Tseung Kwan O area can receive fresh water supply from Sha Tin water treatment works via Tseung Kwan O fresh water primary service reservoir during emergency situations.

FINANCIAL IMPLICATIONS

6. We estimate the capital cost of the proposed works to be about \$159.7 million in MOD prices, made up as follows: -

	\$ million
(a) Mainlaying	41.2
(b) Fresh water pumping station	40.3
(c) Electrical and mechanical works	63.5
(d) Environmental mitigation measures	2.3
(e) Contingencies	12.4
Total	159.7 (in MOD prices)

¹ Lion Rock high level fresh water primary service reservoirs include Lion Rock high level fresh water primary service reservoir and Lion Rock high level no. 2 fresh water primary service reservoir.

² To cope with a mean daily fresh water demand of 260 000 m³, we need the capacity of 350 000 m³/day to cater for daily fluctuation and contingency.

ENVIRONMENTAL IMPLICATIONS

7. This is not a designated project under the Environmental Impact Assessment Ordinance (Cap 499). We carried out a Preliminary Environmental Review (PER) in January 2007. The PER concluded and the Director of Environmental Protection agreed that the project would not have any long-term environmental impacts. For short term environmental impacts during construction, we will control noise, dust and site run-off within established standards and guidelines through implementation of environmental mitigation measures, such as frequent watering of site, provision of wheel-washing facilities to reduce emission of fugitive dust and the use of silenced construction plant to reduce noise generation. The incorporation of noise control measures into the pumping station design such as provision of acoustic louvers, silencers, dampers and noise absorptive lining, and limiting the sound power level of the equipment, will reduce the operational noise impact to within acceptable level. Due to the close proximity of the proposed works to several restored landfill sites, we will incorporate passive control systems in the design of the proposed works and follow the standard guidelines for development close to landfills during construction, operation and maintenance to avoid the landfill gas hazard. We have included \$2.3 million (in MOD prices) in the project estimate for implementation of these mitigation measures.

8. We have considered the alignment of the water mains, the layout and foundation level of the proposed pumping station in the planning and design stages to reduce the generation of construction waste where possible. In addition, we will require the contractor to reuse inert construction waste (e.g. excavated soil) on site or in other suitable construction sites as far as possible, in order to minimize the disposal of inert construction waste to public fill reception facilities. We will encourage the contractor to maximize the use of recycled or recyclable inert construction waste, as well as the use of non-timber formwork to further minimize the generation of construction waste.

9. We will also require the contractor to submit for approval a plan setting out the waste management measures, which will include appropriate mitigation means to avoid, reduce, reuse and recycle inert construction waste. We will ensure that the day-to-day operations on site comply with the approved plan. We will require the contractor to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. We will control the disposal of inert construction waste and non-inert construction waste to public fill reception facilities and landfills respectively through a trip-ticket system.

10. We estimate that the project will generate in total about 19 600 tonnes of construction waste. Of these, we will reuse about 6 400 tonnes (32.7%) of inert construction waste on site, deliver 12 800 tonnes (65.3%) of inert

construction waste to public fill reception facilities³ for subsequent reuse. In addition, we will dispose of about 400 tonnes (2.0%) of non-inert construction waste at landfills. The total cost for accommodating construction waste at public fill reception facilities and landfill sites is estimated to be \$0.4 million for this project (based on a unit cost of \$27/tonne for disposal at public fill reception facilities and \$125/tonne⁴ at landfills).

11. Of the 359 trees within the project boundary, 323 trees will be preserved. It is estimated that the proposed construction works will involve the removal of 36 trees including 30 trees to be felled and 3 trees to be transplanted elsewhere and 3 trees to be replanted within the project site. All trees to be removed are considered not to be important trees⁵. We have adjusted the alignment of new water mains to keep the felling of trees to a minimum. We will incorporate planting proposals as part of the project, including estimated quantities of 59 trees.

HERITAGE IMPLICATIONS

12. No heritage site (i.e. all declared monuments, graded buildings and sites of archaeological interests) will be affected by the project.

TRAFFIC IMPLICATIONS

13. To minimize possible disruption to traffic during construction, we have completed the traffic impact assessment (TIA) for the proposed works. The TIA has concluded that the proposed works would not cause unacceptable traffic impact. During construction, we will maintain smooth traffic flow through

³ Public fill reception facilities are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation. Disposal of inert construction waste in public fill reception facilities requires a licence issued by the Director of Civil Engineering and Development.

⁴ This estimate has taken into account the cost for developing, operating and restoring the landfills after they are filled and the aftercare required. It does not include the land opportunity cost for existing landfill sites (which is estimated at \$90/m³), nor the cost to provide new landfills (which is likely to be more expensive) when the existing ones are filled.

⁵ An “important tree” refers to trees on the Register of Old and Valuable Trees, and any other trees that meet one or more of the following criteria:

- (a) trees of 100 years old or above;
- (b) trees of cultural, historical or memorable significance e.g. Fung Shui trees, trees as landmark of monastery or heritage monument, and trees in memory of important persons or events;
- (c) trees of precious or rare species;
- (d) trees of outstanding form (taking account of overall trees sizes, shape and any special features), e.g. trees with curtain like aerial roots, trees growing in unusual habitat; or
- (e) trees with trunk diameter equal or exceeding 1.0 m (measured at 1.3 m above ground level), or with height/canopy spread equal or exceeding 25 m.

implementing temporary traffic management measures, and will display notice boards on site to explain the reason of temporary traffic arrangements and the expected completion date of the concerned section of works. In addition, we will set up telephone hotlines for public enquiries or complaints. We will arrange to carry out construction works in busy road sections in non-peak hours.

PUBLIC CONSULTATION

14. We consulted the Traffic and Transport Committee of the Kwun Tong District Council on the proposed works on 6 September 2007. The Committee supported the works.

LAND ACQUISITION

15. The project does not require any land acquisition.

JOB CREATION

16. We estimate that the proposed works will create about 90 jobs (78 for labourers and another 12 for professional/technical staff) providing a total employment of 2 400 man-months.

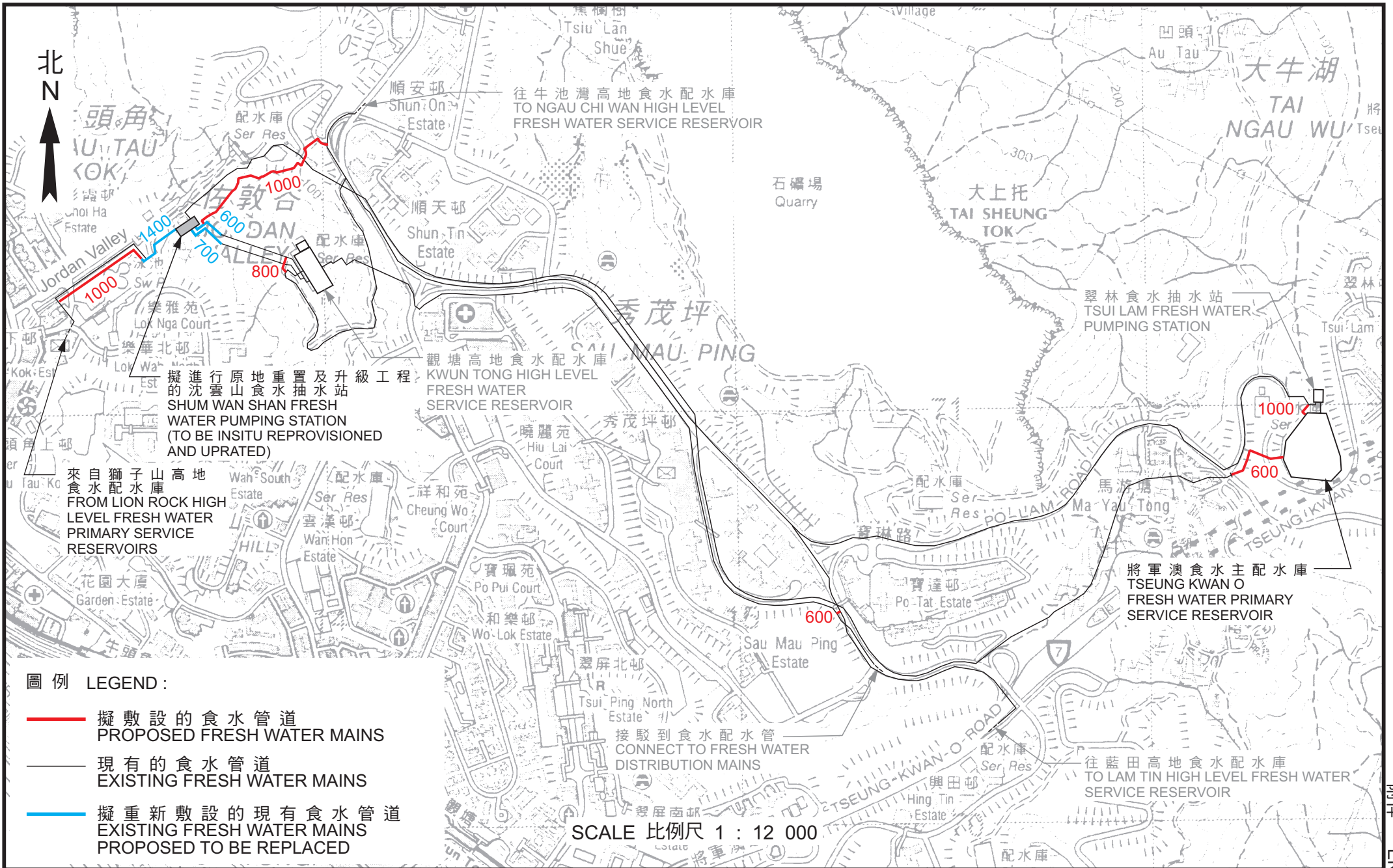
BACKGROUND

17. The project **326WF** was included in Category B in October 2004.

WAY FORWARD

18. We intend to submit our proposal of upgrading **326WF** to Category A for consideration by the Public Works Sub-committee in December 2007 with a view to seeking funding approval from the Finance Committee.

Development Bureau
November 2007



核准 APPROVED

總工程師/設計 CE / DES

15/11/2007

工務計劃項目第 9326WF 號 — 連接獅子山高地食水主配水庫及將軍澳食水主配水庫的工程
P.W.P. ITEM NO. 9326WF — Integration of Lion Rock high level fresh water primary service reservoirs and
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水務署
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