

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

### **HEAD 711 – HOUSING**

#### **Water Supplies – Combined fresh/salt water supply**

#### **126WC – Water supply to housing development at Anderson Road**

Members are invited to recommend to Finance Committee –

- (a) the upgrading of part of **126WC**, entitled “Mainlaying within development at Anderson Road”, to Category A at an estimated cost of \$103.8 million in money-of-the-day prices for the laying of water mains within the development at Anderson Road; and
- (b) the retention of the remainder of **126WC** in Category B.

### **PROBLEM**

We need to carry out water mainlaying works to provide water supply to the development at Anderson Road (DAR) in East Kowloon.

**/PROPOSAL .....**

## PROPOSAL

2. The Director of Water Supplies, with the support of the Secretary for Transport and Housing, proposes to upgrade part of **126WC** to Category A at an estimated cost of \$103.8 million in money-of-the-day (MOD) prices for the laying of water mains to serve the development of public housing, other government, institution or community facilities and district open spaces at Anderson Road.

## PROJECT SCOPE AND NATURE

3. The part of **126WC** we now propose to upgrade to Category A comprises -

- (a) laying of about 4 800 metres (m) of fresh water mains of diameters ranging from 300 millimetres (mm) to 900 mm; and
- (b) laying of about 4 800 m of salt water mains of diameters ranging from 150 mm to 400 mm.

— A site plan showing the details of the proposed works to be part-upgraded is at Enclosure 1.

4. We plan to commence the proposed works in December 2010 for completion in March 2014.

5. The remainder of **126WC** provides other facilities necessary to complete the water supply system to serve the DAR. It comprises the construction of a fresh water service reservoir, a salt water service reservoir, a fresh water pumping station, installation of pumpsets, and laying of about 300 m of fresh water mains of diameters ranging from 300 mm to 900 mm and about 1 000 m of salt water mains of diameters ranging from 250 mm to 400 mm.

## JUSTIFICATIONS

6. Civil Engineering and Development Department (CEDD) is responsible for implementing the site formation and associated infrastructure works under **566CL** "Development at Anderson Road". Upon completion, the proposed development will provide public housing of about 16 100 flats for a population of about 48 000, in phases between 2015 and 2016. To meet the water demand arising from the DAR, we need to construct the water supply facilities described in paragraphs 3 and 5 above.

/7. ....

7. As the proposed mainlaying works described in paragraph 3 above fall within the project boundary of **566CL** and to avoid interface problems arising from having two contractors working on the same site, we have incorporated the proposed mainlaying works into the site formation and associated infrastructure contract to be awarded by CEDD under **566CL**. The contract is scheduled to commence in January 2008.

## FINANCIAL IMPLICATIONS

8. We estimate the capital cost of the proposed water mainlaying works to be \$103.8 million in MOD prices (see paragraph 9 below), made up as follows –

	<b>\$ million</b>
(a) Mainlaying	79.4
(b) Environmental mitigation measures	0.7
(c) Consultants' fees	8.1
(i) contract administration	0.5
(ii) resident site staff costs	7.6
(d) Contingencies	8.8
Sub-total	97.0 (in September 2007 prices)
(e) Provision for price adjustment	6.8
Total	103.8 (in MOD prices)

We propose to engage consultants to undertake contract administration and site supervision of the proposed water mainlaying works, which are entrusted to CEDD for implementation under **566CL** (see paragraph 7 above). A detailed breakdown of the estimates for consultants' fees by man-months is at Enclosure 2.

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

/2010 – 2011.....

Year	\$ million (Sept 2007)	Price Adjustment Factor	\$ million (MOD)
2010 – 2011	0.3	1.02775	0.3
2011 – 2012	10.0	1.03803	10.4
2012 – 2013	40.0	1.05619	42.3
2013 – 2014	30.0	1.07732	32.3
2014 – 2015	10.0	1.09886	11.0
2015 – 2016	6.7	1.12084	7.5
	97.0		103.8

10. We have derived the MOD estimates on the basis of the Government's latest forecast of the trend rate of change in the prices of public sector building and construction output for the period from 2010 to 2016. We tendered the mainlaying works through a standard remeasurement contract under **566CL** because the quantities of works may vary depending on actual ground conditions. The contract will provide for price adjustment because the construction period will exceed 21 months.

11. We estimate the annual recurrent expenditure arising from the project to be about \$0.28 million.

12. The proposed works by itself would lead to an increase in the production cost of water by about 0.06% in real terms by 2016<sup>1</sup>.

## **PUBLIC CONSULTATION**

13. We consulted the Kwun Tong District Council through an information paper in June 2007 about the proposed mainlaying works within the project boundary of **566CL**. Members had no objection to the proposed works.

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<sup>1</sup> The increase in the production cost of water is calculated at the present price level and on the assumption that the water demand remains static during the period from 2007 to 2016.

14. We consulted the Housing Panel of the Legislative Council at its meeting on 5 November 2007 in conjunction with **566CL**. Whilst Members did not raise any objection to the proposed works, some expressed concerns on several aspects relating to the overall project at Anderson Road, which included the traffic and environmental impacts, and public safety during construction activities.

## **ENVIRONMENTAL IMPLICATIONS**

15. The proposed works to be part-upgraded under **126WC** is not a designated project under the Environmental Impact Assessment Ordinance (Cap 499). We completed a Preliminary Environmental Review (PER) for **126WC** in February 2000. The PER concluded and the Director of Environmental Protection agreed that with the implementation of the proposed mitigation measures in the PER, the project will not have any adverse environmental impacts.

16. We will require the contractor to implement measures to control noise, dust and site run-off nuisances to within the established standards and guidelines through stipulating suitable provisions in the relevant contract, such as the use of temporary noise barriers and silenced construction plant to reduce noise generation and water-spraying to reduce emission of fugitive dust. We estimate the costs of implementing the environmental monitoring and mitigation measures for the proposed works under the project to be about \$0.7 million (in September 2007 prices). We have included these costs in the project estimates.

17. We have considered the levels and alignments of the proposed water mains in the planning and design stages to reduce the generation of construction waste where possible. In addition, we will require the contractor to reuse suitable excavated materials on site as far as possible, in order to minimise the disposal of inert construction waste to public fill reception facilities<sup>2</sup>. We will encourage the contractor to maximise the use of recycled or recyclable inert construction waste, as well as the use of non-timber formwork to further minimise the generation of construction waste.

18. 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.

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<sup>2</sup> 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.

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.

19. We estimate that the project will generate in total about 40 000 tonnes of construction waste. Of these, we will reuse about 4 700 tonnes (about 11.7%) of inert construction waste on site and deliver about 35 270 tonnes (88.2%) of inert construction waste to other projects or public fill reception facilities for subsequent reuse. In addition, we will dispose of about 30 tonnes (0.1%) 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 about \$1.0 million for this project (based on a unit cost of \$27/tonne for disposal at public fill reception facilities and \$125/tonnes at landfills<sup>3</sup>).

## HERITAGE IMPLICATIONS

20. As the proposed works under **126WC** (part-upgrade) will be implemented within the project boundary of **566CL**, the mainlaying project by itself will not affect all declared monuments, graded historic buildings and sites of archaeological interests.

## LAND ACQUISITION

21. As the proposed works will be implemented within the project boundary of **566CL**, any private land to be required for **126WC** has been resumed, with site clearance in progress under **566CL**.

## BACKGROUND INFORMATION

22. We upgraded **126WC** to Category B in September 2005.

23. We engaged consultants to carry out the detailed design of the proposed water mains within the development at Anderson Road at a cost of \$1.9 million. We charged this amount to the block allocation **Subhead B100HX**

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<sup>3</sup> 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/m<sup>3</sup>), nor the cost to provide new landfills (which is likely to be more expensive) when the existing ones are filled.

“Minor housing development related works, studies and investigations for items in Category D of the Public Works Programme”. We have completed the detailed design for the proposed works.

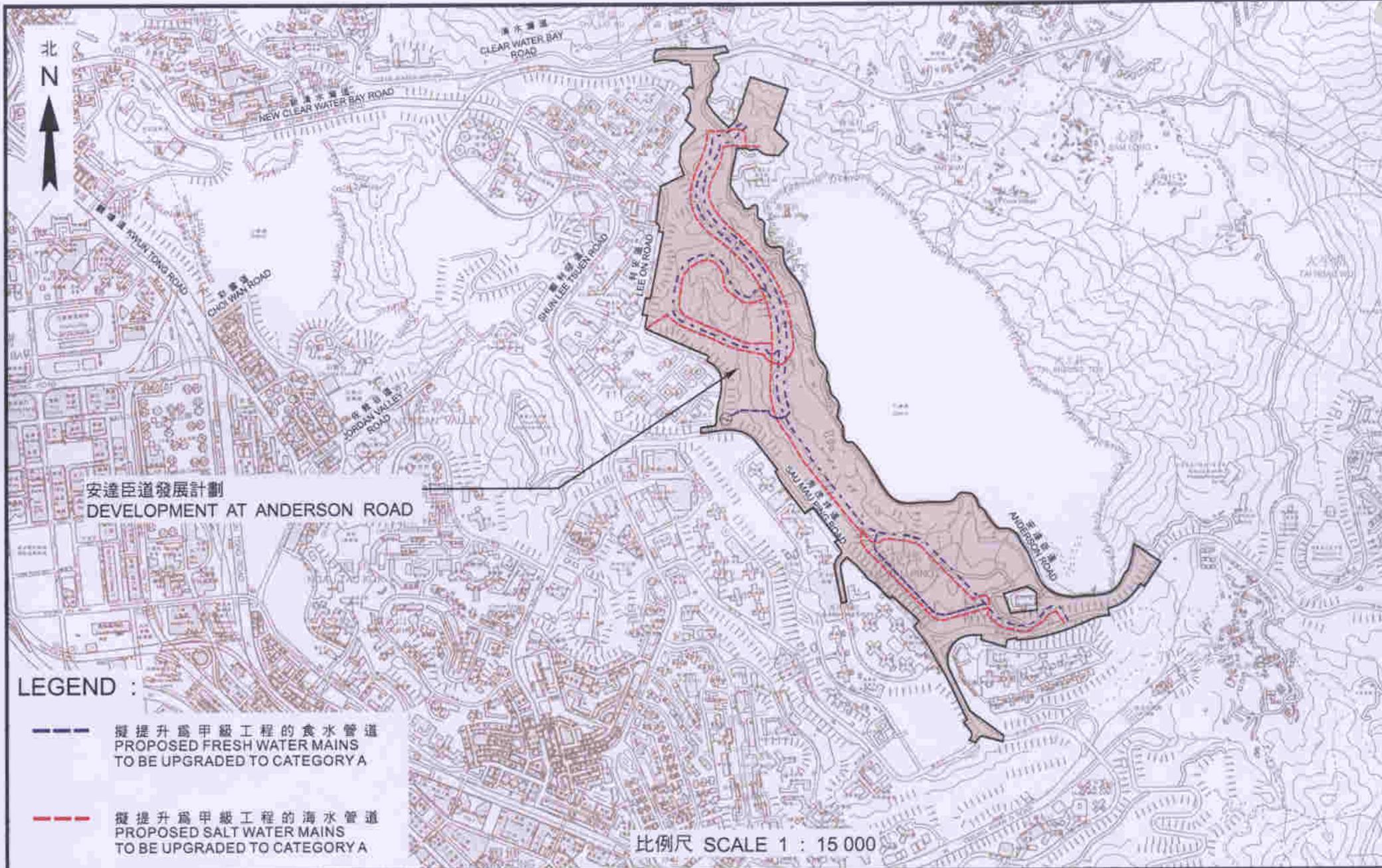
24. We plan to engage consultants to carry out the design and site investigations for the remainder of **126WC** under the block allocation **Subhead B100HX** "Minor housing development related works, studies and investigations for items in Category D of the Public Works Programme". We aim to start the construction of these remaining works in 2012 for completion by 2014.

25. The mainlaying project by itself will not involve any tree removal or planting proposal.

26. We estimate that the proposed works will create about 45 jobs (36 for labourers and another nine for professional/technical staff) providing a total employment of 1 600 man-months.

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Transport and Housing Bureau  
November 2007



安達臣道發展計劃  
DEVELOPMENT AT ANDERSON ROAD

LEGEND :

- 擬提升為甲級工程的食水管  
PROPOSED FRESH WATER MAINS  
TO BE UPGRADED TO CATEGORY A
- 擬提升為甲級工程的海水管  
PROPOSED SALT WATER MAINS  
TO BE UPGRADED TO CATEGORY A

比例尺 SCALE 1 : 15 000

核准 APPROVED  
*Snap*  
總工程師/顧問工程師 CE/CM (Ag)  
27/9/2007

工務計劃項目第126WC號 (提升為甲級工程的部分) -  
安達臣道發展項目範圍內的水管敷設工程  
PWP ITEM NO. 126WC (PART UPGRADING) -  
MAINLAYING WITHIN DEVELOPMENT AT ANDERSON ROAD

 水務署  
WATER SUPPLIES DEPT.  
草圖編號 SKETCH NO. SK 62007 / 081

**Enclosure 2 to PWSC(2007-08)56**

**126WC – Water supply to housing development at Anderson Road  
(part-upgrade)**

**Breakdown of the estimate for consultants' fees (in September 2007 prices) –**

<b>Consultants' staff costs</b>		<b>Estimated man-months</b>	<b>Average MPS* salary point</b>	<b>Multiplier (Note 1)</b>	<b>Estimated fee (\$million)</b>
(a) Contract administration (Note 2)	Professional	-	-	-	0.4
	Technical	-	-	-	0.1
(b) Resident site staff (Note 3)	Professional	33	38	1.6	3.0
	Technical	151	14	1.6	4.6
				<b>Total</b>	<b>8.1</b>

\*MPS = Master Pay Scale

**Notes**

1. A multiplier of 1.6 is applied to the average MPS point to arrive at the cost of resident site staff supplied by the consultants (As at 1 April 2007, MPS point 38 = \$56,945 per month and MPS point 14 = \$18,840 per month).
2. The consultants' staff costs for contract administration is calculated in accordance with the existing consultancy agreement for the provision of contract administration for **568CL**. The assignment will only be executed subject to Finance Committee's approval to upgrade the proposed works to Category A.
3. The consultants' staff costs for site supervision are based on the estimate prepared by the Director of Water Supplies. We will only know the actual man-months and actual fees after completion of the works.