

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 705 - CIVIL ENGINEERING

Environmental Protection – Sewerage and Sewage Treatment

349DS – Redevelopment of the Ocean Park – complementary public works on sewerage upgrading

Members are invited to recommend to Finance Committee the upgrading of **349DS** to Category A at an estimated cost of \$22.6 million in money-of-the-day prices for the design and construction of sewerage upgrading works at Wong Chuk Hang area.

PROBLEM

Some existing public sewers at Wong Chuk Hang area do not have adequate capacity to handle the anticipated increase in the sewage flows arising from the Redevelopment of the Ocean Park (the Redevelopment).

PROPOSAL

2. The Director of Civil Engineering and Development, with the support of the Secretary for Economic Development and Labour, proposes to upgrade **349DS** to Category A at an estimated cost of \$22.6 million in money-of-the-day (MOD) prices for the design and construction of sewerage upgrading works at Wong Chuk Hang area to meet the demand generated by the Redevelopment.

/PROJECT

PROJECT SCOPE AND NATURE

3. The scope of the proposed sewerage upgrading works comprises –
- (a) construction of an additional gravity sewer of about 1 500 meters (m) with 450 millimeters (mm) diameter in Nam Long Shan Road;
 - (b) replacement of about 500 m of an existing 300 mm to 375 mm diameter gravity sewer by new gravity sewer ranging from 450 mm to 600 mm in diameter in the section of Wong Chuk Hang Road near Ocean Park; and
 - (c) ancillary works including drainage works and road reinstatement works associated with the sewerage upgrading works mentioned in items (a) and (b) above.
4. We plan to start the construction works in early 2007 for completion in end 2008. A site plan showing the locations of the proposed works is at Enclosure.

JUSTIFICATION

5. Tourism is one of Hong Kong's key economic pillars. The Government is committed to developing new tourism products and enhancing existing facilities to sustain the long-term development of the tourism industry in Hong Kong. In February 2005, Ocean Park Corporation (OPC) submitted the Redevelopment proposal to the Government for consideration. On 25 October 2005, Executive Council endorsed the Redevelopment proposal. On 16 December 2005, Finance Committee endorsed the \$5.55 billion funding arrangement of the Redevelopment.

6. The Redevelopment will be carried out in phases, with Phase 1 targeted for completion by the end of 2008 and Phase 2 in 2010. The Redevelopment identified that some existing public sewers at Wong Chuk Hang area built many years ago would not be able to cope with the anticipated increase in the sewage flows due to the Redevelopment¹. In order to meet the Phase 1 completion of the Redevelopment, we plan to complete the proposed works by 2008.

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¹ Upon completion of the redevelopment, the peak sewerage flow will be about 2.8 times more than the overall capacity of these existing public sewers.

7. To ensure that the sewerage will be adequate to meet the demand generated by the Redevelopment, OPC will have to upgrade at its own cost the existing sewerage within the Ocean Park upstream of the proposed works. In order to expedite the proposed sewerage upgrading works to tie in with OPC's programme of the Redevelopment, and to ensure a more coordinated implementation approach to minimize the possible impact on traffic, disruption to operation of the Ocean Park and inconvenience to the visitors during construction, we intend to entrust the design, construction and supervision of works to OPC. The entrustment arrangement will avoid interface problems and ensure compatibility of design and better control on the programme and progress of works.

8. If we do not implement the proposed works, sewage generated from the Redevelopment may overflow during peak flow conditions.

FINANCIAL IMPLICATIONS

9. We estimate the capital cost of the project to be \$22.6 million in MOD prices (see paragraph 10 below), made up as follows –

	\$ million	
(a) Construction of about 2.0 km of sewers	15.1	
(b) Ancillary works	1.9	
(c) Environmental mitigation measures	0.3	
(d) On-cost ² payable to OPC,	2.9	
(e) Contingencies	1.6	
Sub-total	21.8	(in September 2005 prices)
(f) Provision for price adjustment	0.8	
Total	22.6	(in MOD prices)

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² Subject to further negotiation with OPC, an on-cost at 16.5% of the value of the entrusted works (i.e. items (a), (b) and (c) of paragraph 9) will be payable to OPC for undertaking the design, project management and construction supervision of the entrusted works.

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

Year	\$ million (Sept. 2005)	Price adjustment factor	\$ million (MOD)
2006 - 2007	1.0	1.01500	1.0
2007 - 2008	10.8	1.03023	11.1
2008 - 2009	7.0	1.04568	7.3
2009 - 2010	3.0	1.06136	3.2
	21.8		22.6

11. We have derived the MOD estimate on the basis of Government's latest forecast of trend rate of change in the prices of public sector building and construction output for the period from 2006 to 2010.

12. We estimate the annual recurrent expenditure arising from this project to be about \$170,000.

PUBLIC CONSULTATION

13. We consulted the Southern District Council on the proposed works on 16 March 2006. Members supported the implementation of the proposed works. To minimize the possible disruption to localized traffic and the associated environmental impacts arising from construction, we will implement necessary temporary traffic management and appropriate mitigation measures, and will maintain close liaison with affected parties during construction.

14. We consulted the Legislative Council Panel on Economic Services on the proposed works on 24 April 2006. Members supported the implementation of the proposed works but requested additional information on the adequacy of the sewerage system in the Wong Chuk Hang area in view of the proposed new developments in the area.

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15. The Environmental Protection Department advised that all the proposed sewerage upgrading works in the Wong Chuk Hang area identified under the Sewerage Master Plan Study for Aberdeen, Ap Lei Chau and Pok Fu Lam have been substantially completed. Together with the completion of the complementary public works for Ocean Park's redevelopment, the sewerage system in the area will have sufficient capacity to meet the Redevelopment and the existing and planned developments identified which include the recent applications for hotel/residential developments in the Wong Chuk Hang area. Notwithstanding this, the need for further sewerage upgrading in the area due to any future development requirements, such as major tourism projects, will be kept under review.

ENVIRONMENTAL IMPLICATIONS

16. This sewerage upgrading is not a designated project under the Environmental Impact assessment (EIA) Ordinance (Cap. 499). The project will not cause long term environmental impacts. We have included in the project estimates the cost to implement suitable mitigation measures to control short term environmental impacts. For reference, whilst not within this project, the Redevelopment is a designated project under the EIA Ordinance. OPC is preparing an EIA report to meet the requirements of the EIA Ordinance.

17. We have considered ways in the planning and feasibility stages to reduce the generation of construction and demolition (C&D) materials where possible. In addition, we will require the contractor to reuse inert C&D materials on site or in other suitable construction sites as far as possible, in order to minimize the disposal of C&D materials to public fill reception facilities. We will encourage the contractor to maximize the use of recycled or recyclable C&D materials, as well as the use of non-timber in formwork to further minimize the generation of construction waste.

18. We will also require the contractor to submit a waste management plan (WMP) for approval. The WMP will include appropriate mitigation measures to avoid, reduce, reuse and recycle C&D materials. We will ensure that the day-to-day operations on site comply with the approved WMP. We will control the disposal of public fill and C&D waste to public fill reception facilities and landfills respectively through a trip-ticket system. We will require the contractor to separate public fill from C&D waste for disposal at appropriate facilities. We will record the disposal, reuse the recycling of C&D materials for monitoring purposes.

19. We estimate that the project will generate about 10 500 tonnes of C&D materials. Of these, we will reuse about 5 000 tonnes (48%) on site, deliver 4 500 tonnes (43%) to public filling reception facilities³ for subsequent reuse. In addition, we will dispose of 1 000 tonnes (9%) at landfills. The total cost for accommodating C&D materials at public fill reception facilities and landfill sites is estimated to be \$0.25 million for this project (based on a unit cost of \$27/tonne for disposal at public fill reception facilities and \$125/tonne⁴ at landfills).

LAND ACQUISITION

20. This project does not require land acquisition.

BACKGROUND INFORMATION

21. We included the proposed sewerage upgrading works under **349DS** in Category B in April 2006.

22. The proposed project will not involve any tree removal or planting proposals.

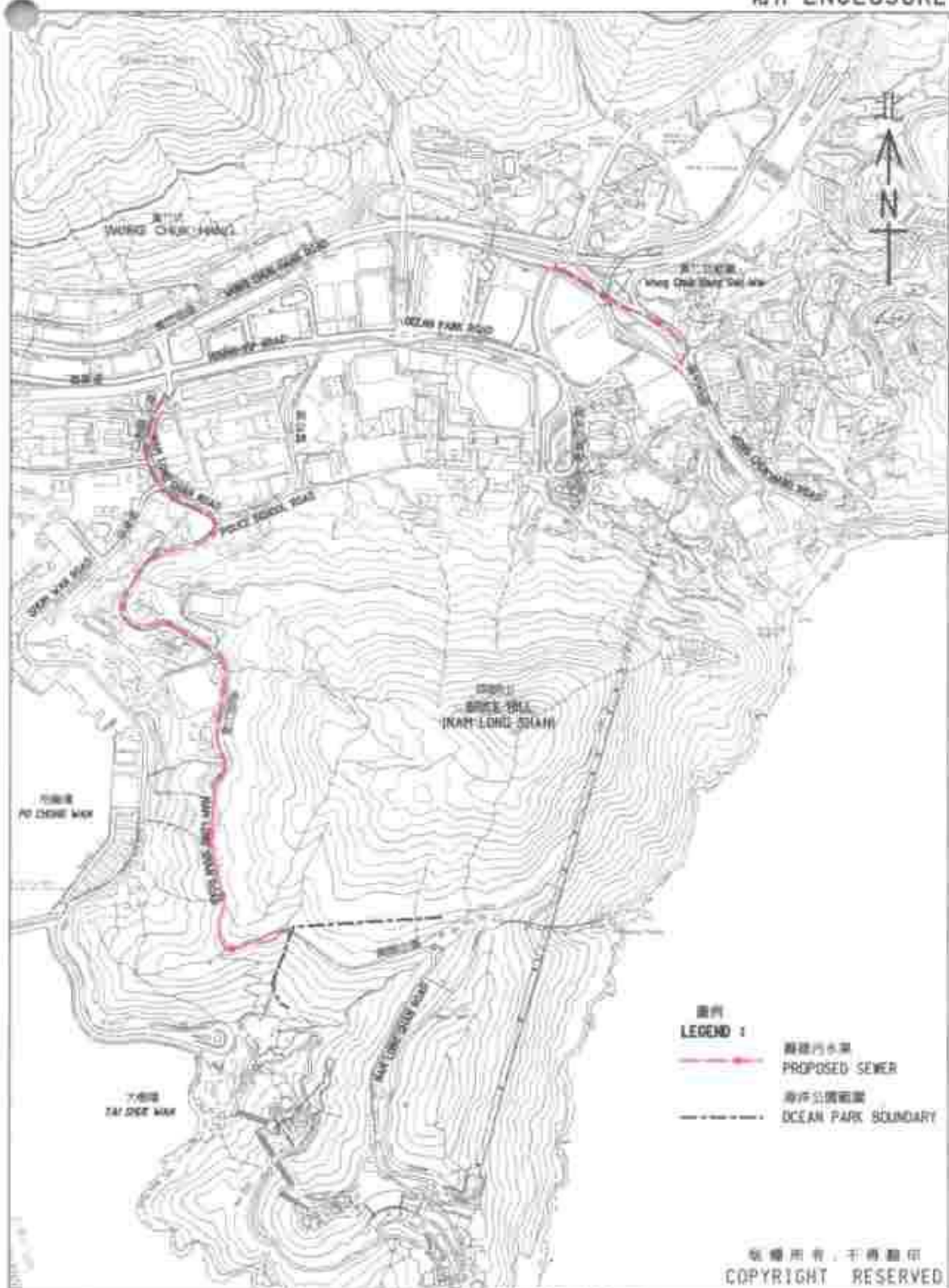
23. We estimate that the proposed works will create about 32 jobs (26 for labourers and another 6 for professional/technical staff) providing a total employment of 500 man-months.

Economic Development and Labour Bureau
April

2006

³ Public fill reception facilities are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation. Disposal of public fill in a 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 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 are likely to be more expensive) when the existing ones are filled.



圖例
LEGEND :
 擬議污水渠
 PROPOSED SEWER
 海洋公園範圍
 OCEAN PARK BOUNDARY

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drawing title 圖則名稱 工務計劃項目第 34905 號 海洋公園的重新發展 - 公共污水收集系統改善配套工程 PMP ITEM NO. 34905 REDEVELOPMENT OF THE OCEAN PARK - COMPLEMENTARY PUBLIC WORKS ON SEWERAGE UPGRADING	name 姓名	initial 簡字	date 日期	drawing no. 圖則編號 SD 2001-108	scale 比例 千分比例 N.T.S.	
	drawn 繪圖	Y.M. Cheung	<i>Y.M.C.</i>			27.4.06
	checked 校核	H.S. Wong	<i>H.S.W.</i>	27.4.06	土木工程拓展署 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT	
	approved 審核	K.H. Li	<i>K.H.L.</i>	27.4.06		
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