

**For discussion  
On 21 January 2009**

**Legislative Council  
Panel on Environmental Affairs**

**357DS – Sewage interception scheme in Kowloon City**

**PURPOSE**

This paper seeks Members' support for the Administration's proposed funding application to Public Works Subcommittee and Finance Committee for upgrading **357DS** to Category A at an estimated cost of about \$700 million in money-of-the-day (MOD) prices.

**PROPOSAL AND JUSTIFICATION**

2. The Environmental Protection Department commissioned a review, entitled "Review of Central and East Kowloon Sewerage Master Plans (the Review)" in 1999, to assess the adequacy of the sewerage facilities in the areas. The Review was completed in August 2003 and recommended the upgrading of some sewerage facilities as well as the provisioning of new sewerage facilities to improve the existing sewerage and cater for planned developments.

3. The Review identified, among others, that the performance and capacities of the existing trunk sewers along Prince Edward Road East, Olympic Avenue and Sung Wong Toi Road are constrained by the flat and inverted gradients along the sewers. Surcharging and siltation inside the sewers often occur. The situation will be further aggravated with added flows generated from future developments. To remove bottlenecks, the Review recommended diverting the sewage flow from the upstream catchments covering areas of Kowloon City, Lok Fu, San Po Kong and Wong Tai Sin, via a sewage interception scheme directly to the downstream sewerage in Ma Tau Kok. The intercepted sewage will be conveyed to the To Kwa Wan Preliminary Treatment Works via new sewage pumping stations and associated rising mains and sewers within the Kai Tak Development area.

4. The Drainage Services Department employed consultants to carry out the investigation and design of the proposed works in September 2007. The consultants have conducted an overall review of the sewerage in the whole catchment including Kowloon City, Lok Fu, San Po Kong and Wong Tai Sin areas and confirmed the imminent need to implement the sewage interception scheme in Kowloon City. Without improvement, the surcharging and siltation problems will aggravate, and overflow will occur, in particular at sections downstream of future developments. We therefore propose to implement the sewage interception scheme as soon as possible to address the imminent problem.

## **PROJECT SCOPE AND NATURE**

5. The scope of **357DS** comprises –
- a) construction of two new sewage pumping stations at the edge of the Kai Tak Development area adjoining Prince Edward Road East and Olympic Avenue;
  - b) construction of about 1.5 kilometres of twin rising mains from the pumping stations along the edge of the Kai Tak Development area to To Kwa Wan Road;
  - c) construction of about 200 metres of gravity sewers at To Kwa Wan Road; and
  - d) ancillary works such as landscaping works.

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

6. We plan to commence construction in mid 2009 for completion in mid 2012.

## **FINANCIAL IMPLICATIONS**

7. We estimate the capital cost<sup>1</sup> of the proposed works to be about \$700 million in MOD prices.

8. We estimate that the proposed works will create about 380 jobs<sup>1</sup> (310 for labourers and another 70 for professional/technical staff) providing a total employment of 12 400 man-months.

## **PUBLIC CONSULTATION**

9. We consulted the Kowloon City District Council Housing and Infrastructure Committee on 26 June 2008. The Committee supported the implementation of the proposed works.

## **ENVIRONMENTAL IMPLICATIONS**

10. The proposed sewage pumping stations within the Kai Tak Development area are designated projects under the Environmental Impact Assessment

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<sup>1</sup> These are the latest estimates of the capital costs and new job opportunities. We will finalize the project costs and new job opportunities, and include the cost breakdown, prior to submitting the proposals to the PWSC for consideration.

Ordinance (EIAO). We obtained an Environmental Permit (EP) for the construction and operation of the pumping stations on 6 October 2008. We shall implement the mitigation measures set out in the EP. The proposed rising main and gravity sewerage works are not designated projects under EIAO and will not cause long term environmental impact. We have included in the project estimates the cost to implement all necessary measures to mitigate the environmental impacts.

11. For short term impacts during construction, we will control noise, dust and site run-off to levels within the established standards and guidelines through implementation of mitigation measures, such as the use of silenced construction plants to reduce noise generation, water-spraying to reduce emission of fugitive dust, and proper treatment of site run-off before discharge. We will also carry out close site inspection to ensure that these recommended mitigation measures and good site practice are properly implemented on site.

12. We have considered in the planning and design stages ways 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 for backfilling) 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<sup>2</sup>. 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.

13. 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.

14. We estimate that the project will generate in total about 63 200 tonnes of construction waste. Of these, we will reuse about 6 100 tonnes (10%) of inert construction waste on site and deliver 50 800 tonnes (80%) of inert construction waste to public fill reception facilities for subsequent reuse. In addition, we will dispose of 6 300 tonnes (10%) of non-inert construction waste at landfills. The total cost for accommodating the construction waste at public fill reception facilities and landfill sites is estimated to be about \$2.2 million for this project (based on a unit cost of \$27/tonne for disposal at public fill reception facilities and \$125/tonne<sup>3</sup> at

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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.

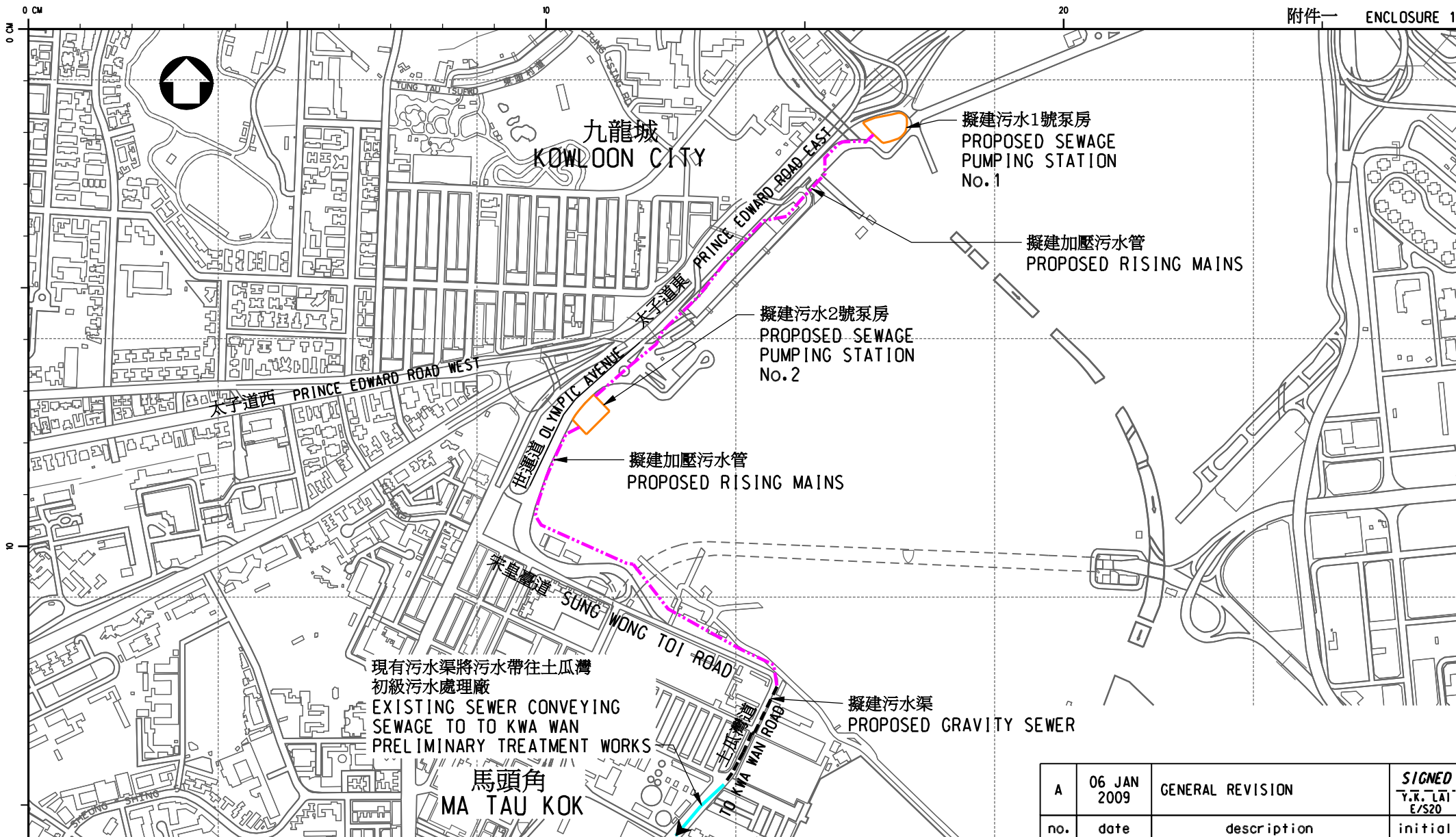
<sup>3</sup> This estimate has taken into account the cost for developing, operating and restoring the landfills after they are filled and the aftercare required. It does not include the land opportunity cost for existing landfill sites (which is estimated at \$90/m<sup>3</sup>), nor the cost to provide new landfills, (which is likely to be more expensive) when the existing ones are filled.

landfills).

### **ADVICE SOUGHT**

15. Members are invited to support the Administration's proposal to upgrade the project **357DS** to Category A at an estimated cost of about \$700 million in MOD prices for consideration by the Public Works Subcommittee with a view to seeking funding approval by the Finance Committee in April 2009.

Environmental Protection Department  
January 2009



現有污水渠將污水帶往土瓜灣  
初級污水處理廠  
EXISTING SEWER CONVEYING  
SEWAGE TO TO KWA WAN  
PRELIMINARY TREATMENT WORKS

no.	date	description	initial
A	06 JAN 2009	GENERAL REVISION	SIGNED Y.R. LAI E/S20

**drawing title**  
 工務計劃項目 357DS -  
 九龍城污水截流計劃  
 PWP ITEM No. 357DS -  
 SEWAGE INTERCEPTION SCHEME IN KOWLOON CITY

**drawn** SIGNED Y. K. FAN  
**checked** SIGNED Ir Y. K. LAI  
**approved** SIGNED Ir Y. F. KAN  
**office** SEWERAGE PROJECTS DIVISION

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