

**For discussion
On 8 January 2008**

**Legislative Council
Panel on Environmental Affairs**

**Provision of sewerage facilities at
Tai Po Tai Wo Road and Mang Kung Uk in Port Shelter**

PURPOSE

This paper seeks Members' support for the Administration's proposal to upgrade the following two projects to Category A prior to submission to the Public Works Subcommittee for consideration with a view to seeking Finance Committee's funding approval:

- (a) **237DS** – Tai Po Tai Wo Road sewage pumping station and rising mains at an estimated cost of about \$134 million in money-of-the-day (MOD) prices to provide sewerage and sewage pumping facilities in Tai Po;
- (b) **340DS** – Port Shelter sewerage stage 3 – Mang Kung Uk sewerage at an estimated cost of about \$22 million in MOD prices to provide sewerage facilities to Mang Kung Uk and nearby areas.

PROPOSAL AND JUSTIFICATION

237DS – Tai Po Tai Wo Road sewage pumping station and rising mains

2. This project is an integral part of the proposed extension of the existing trunk sewerage system to the unsewered areas of Lam Tsuen Valley and the transfer of the sewage to the Tai Po Sewage Treatment Works for treatment.

3. At present, sewage from village houses in Lam Tsuen Valley is discharged into nearby water bodies after treatment by private treatment facilities, such as septic tanks and soakaway systems. These private treatment facilities in general are not effective in removing pollutants due to their close proximity to watercourses¹ and inadequate maintenance². Their discharge is a source of pollution to the nearby Lam Tsuen River and the receiving water at Tolo Harbour.

¹ Soakaway systems operate by allowing the effluent to percolate through the soil so that pollutants would be removed in a natural manner. However, if a system is located in an area where the underground water table is high such as an area in close proximity to watercourses, it cannot function properly.

² Inadequate maintenance of septic tanks or soakaway systems would affect their pollutant removal efficiency and may even lead to overflow of effluent.

4. To improve the situation and to meet the projected demand for public sewerage in Lam Tsuen Valley and the nearby areas, we propose sewerage works under **237DS** which will serve a total projected population of about 30 000 including the existing and planned developments in the Lam Tsuen Valley, Hong Lok Yuen and Tai Po Tau Shui Wai areas. The facilities will convey the sewage to the Tai Po Sewage Treatment Works for treatment, thereby mitigating water pollution in the Lam Tsuen River and Tolo Harbour in the vicinity and improving the living environment.

5. The scope of works under **237DS** comprises –

- a) construction of a new sewage pumping station near Tai Po Tau Shui Wai;
- b) construction of about 3 kilometres (km) of twin rising mains from Tai Po Tau Shui Wai to the Tai Po Industrial Estate;
- c) construction of about 400 metres (m) of gravity sewers near Tai Po Tau Shui Wai;
- d) ancillary works.

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

6. We plan to commence construction in mid 2008 for completion in December 2011.

340DS – Port Shelter sewerage stage 3 – Mang Kung Uk sewerage

7. Mang Kung Uk area is located on Clear Water Bay Peninsula near Hang Hau. At the moment, there is no public sewerage in the area. Sewage generated from this unsewered area is mainly treated and disposed of by means of privately owned septic tank and soakaway systems. These facilities have similar problems to those in the Lam Tsuen Valley as described in paragraph 3 above. Sewage discharged from these unsewered areas is a source of pollution to the existing watercourses and the receiving waters at Tseung Kwan O.

8. To safeguard the water quality of local watercourses and to maintain good water quality in the receiving waters over the long term, we propose to provide a public sewer system to collect and convey the sewage generated from Mang Kung Uk and nearby areas to Tseung Kwan O Sewage Treatment Works via the existing sewerage. The proposed sewer system will serve a planned population of about 3 400 people at Mang Kung Uk area and about 400 people in the nearby areas.

9. The scope of the sewerage works under **340DS** comprises the construction of about 4.2 km of trunk sewers and branch sewers and the ancillary works. A site plan showing the proposed works is at **Enclosure 2**.

10. We plan to commence construction in mid 2008 for completion in late 2010.

FINANCIAL IMPLICATIONS

11. We estimate the capital cost³ of the proposed projects to be about \$156 million in MOD prices made up as follows -

	\$ million (MOD)
(a) 237DS - Tai Po Tai Wo Road sewage pumping station and rising mains	134
(b) 340DS - Port Shelter sewerage stage 3 – Mang Kung Uk sewerage	22
	<hr/>
Total	<u>156</u>

12. There will also be recurrent cost implications estimated to be in the order of \$2.8 million per annum. This estimate is yet to be confirmed, and the final figure will be included in the PWSC papers in due course.

13. We estimate that the proposed projects will create some 90 jobs³ comprising 13 professional/technical staff and 77 labourers, providing a total employment of 2 662 man-months.

PUBLIC CONSULTATION

237DS – Tai Po Tai Wo Road sewage pumping station and rising mains

14. We presented our proposal to implement this project to the Environment, Housing and Works Committee of Tai Po District Council on 16 March 2007. The Committee supported the proposal. We also consulted the Tai Po Rural Committee in July 2007 and they expressed no objection to the project. We also obtained support from the locals including the Village Representatives and villagers of Tai Po Tau Shui Wai for the proposed works.

³ 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.

340DS – Port Shelter sewerage stage 3 – Mang Kung Uk sewerage

15. We presented our proposal for these works together with other proposed works in Port Shelter to the Sai Kung Rural Committee in September 2001 and the Hang Hau Rural Committee in October 2001. They both supported the implementation of the project.

16. We consulted the Hang Hau Rural Committee and Food and Environmental Hygiene Committee of Sai Kung District Council on the proposed sewerage works under **340DS** on 29 March 2006 and 25 October 2006 respectively. The two Committees supported the implementation of the proposed sewerage works.

ENVIRONMENTAL IMPLICATIONS

17. For **237DS**, only the proposed pumping station near Tai Po Tau Shui Wai is a designated project under the Environmental Impact Assessment Ordinance (EIAO). We have assessed its potential environmental impacts and concluded that it will not cause long-term adverse environmental impact. We will apply for the environmental permit from the EPD. To enhance the environmental performance of the proposed pumping station, we will install a forced ventilation system equipped with a de-odourizer.

18. The proposed sewerage under **340DS** is not a designated project under the EIAO. We have conducted a Preliminary Environmental Review for the project, which concluded that there will be no significant environmental impact arising from the operation and maintenance of the sewer.

19. For short term impacts during construction caused by the projects **237DS** and **340DS**, we will control noise, dust and site runoff to levels within established standards and guidelines through the implementation of mitigation measures, such as the use of quiet construction equipment to reduce noise, water-spraying to reduce dust generation, 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.

20. We have considered in the planning and design stages ways to reduce the generation of construction waste where possible. We will require the contractor to reuse inert construction waste, e.g. excavated soil, and demolished concrete on site as far as possible, in order to minimize the disposal of inert construction waste to the 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.

21. 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, 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 whenever practicable to separate on site the inert portion from the non-inert portion of construction waste 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.

22. We estimate that the two proposed projects will generate in total about 51 500 tonnes of construction waste. Of these, we will reuse about 25 900 tonnes (50%) of inert construction waste on site, and deliver 24 500 tonnes (48%) of inert construction waste to public fill reception facilities⁴ for subsequent reuse. In addition, we will dispose of 1 100 tonnes (2%) 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 \$800,000 for these projects (based on a unit cost of \$27/tonne for disposal at public fill reception facilities and \$125/tonne⁵ at landfills).

ADVICE SOUGHT

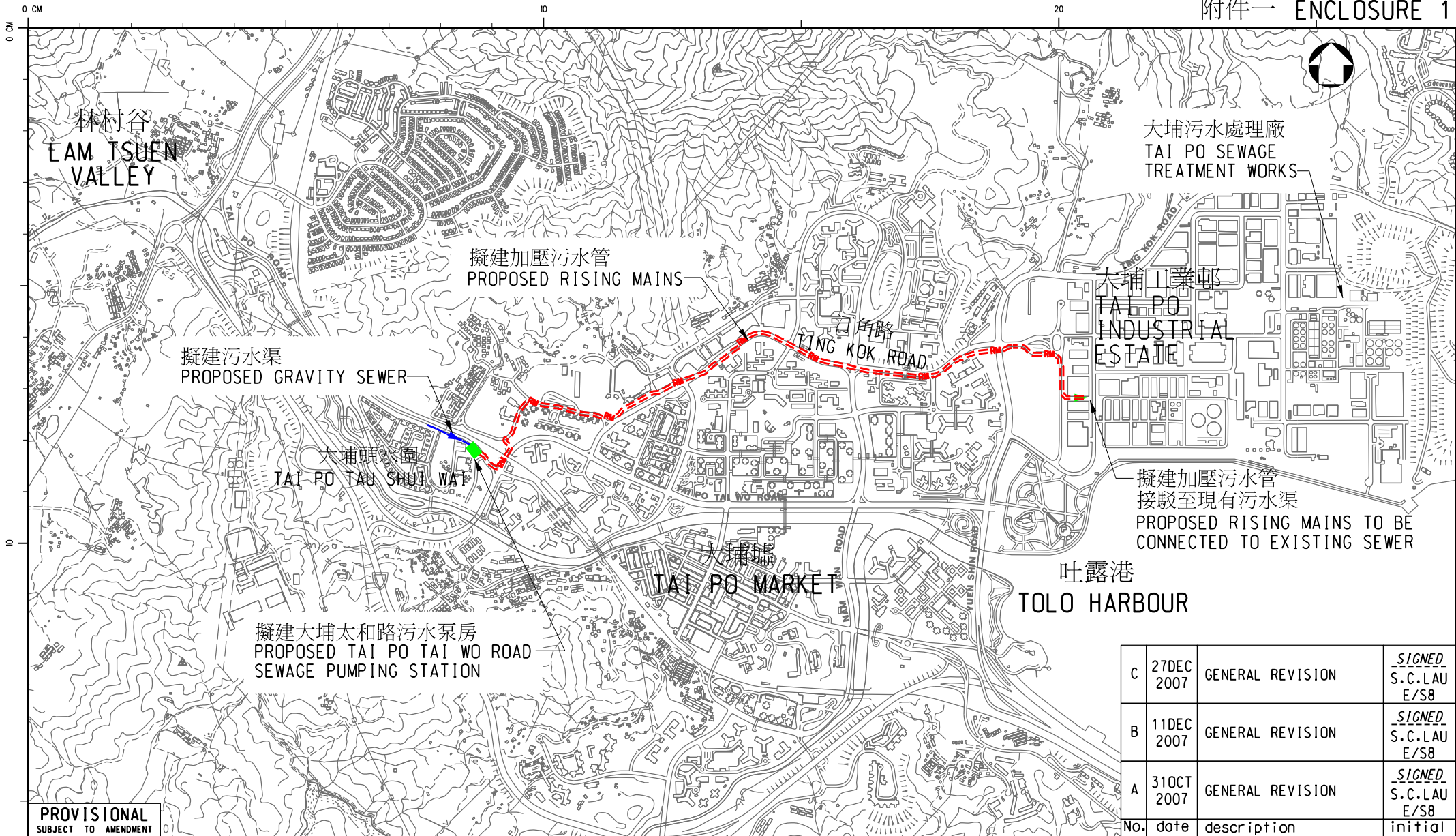
23. Members are invited to support the Administration's proposal to upgrade the following two projects to Category A for consideration by the Public Works Subcommittee, with a view to seeking funding approval by the Finance Committee.

- (a) **237DS** – Tai Po Tai Wo Road sewage pumping station and rising mains at an estimated cost of about \$134 million in MOD prices to provide sewerage and sewage pumping facilities in Tai Po;
- (b) **340DS** – Port Shelter sewerage stage 3 – Mang Kung Uk sewerage at an estimated cost of about \$22 million in MOD prices to provide sewerage facilities to Mang Kung Uk and nearby areas.

Environmental Protection Department
January 2008

⁴ 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.

⁵ 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.



C	27DEC 2007	GENERAL REVISION	<u>SIGNED</u> S.C.LAU E/SB
B	11DEC 2007	GENERAL REVISION	<u>SIGNED</u> S.C.LAU E/SB
A	31OCT 2007	GENERAL REVISION	<u>SIGNED</u> S.C.LAU E/SB
No.	date	description	initial

PROVISIONAL
SUBJECT TO AMENDMENT

drawing title
工務計劃項目第 237DS 號 -
大埔太和路污水泵房及加壓污水管
PWP ITEM No. 237DS-
TAI PO TAI WO ROAD SEWAGE PUMPING STATION
AND RISING MAINS

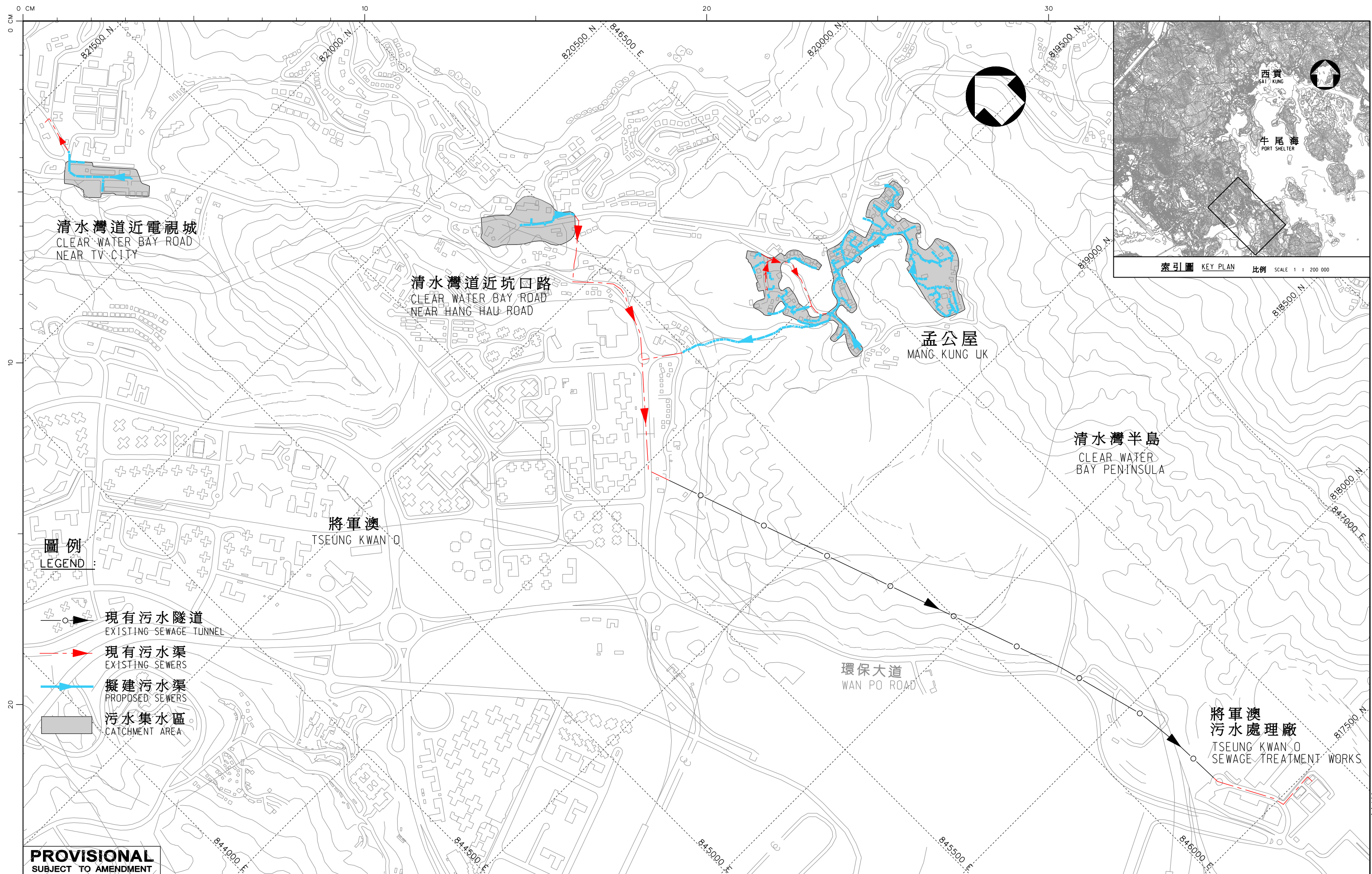
drawn	<i>SIGNED</i>	S. C. TAM	date 25OCT2007
checked	<i>SIGNED</i>	S. C. LAU	date 25OCT2007
approved	<i>SIGNED</i>	H. S. KAN	date 25OCT2007
office	SEWERAGE PROJECTS DIVISION		

drawing no.
DDN/237DS1/8116C
scale
1:20000

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DRAINAGE SERVICES DEPARTMENT
GOVERNMENT OF THE
HONG KONG
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PROVISIONAL
SUBJECT TO AMENDMENT

圖則名稱 drawing title
工務計劃項目第340DS號 - 牛尾海污水收集系統第3階段工程 - 孟公屋污水收集系統
 PWP ITEM No. 340DS - PORT SHELTER SEWERAGE STAGE 3 - MANG KUNG UK SEWERAGE

繪畫 drawn	SIGNED K. F. NG	日期 date	07NOV2007
核對 checked	SIGNED W. Y. HO	日期 date	24DEC2007
批核 approved	SIGNED C. M. CHAN	日期 date	27DEC2007
部門 office	污水工程部 SEWERAGE PROJECTS DIVISION		

圖則編號 drawing no.	DDN/340DS/8057	比例 scale	1 : 10 000 OR AS SHOWN
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附件二
ENCLOSURE 2