**For discussion**
**on 25 May 2009**

**Legislative Council**
**Panel on Environmental Affairs**

**346DS – Upgrading of Tuen Mun sewerage, phase 1**

## PURPOSE

This paper seeks Members' support for the Administration's proposal to construct trunk sewers in western Tuen Mun and provide village sewerage for unsewered villages in Tuen Mun and to upgrade part of **346DS**, in mid 2009, to Category A at an estimated cost of about $1,340 million, in money-of-the-day (MOD) prices.

## PROPOSAL AND JUSTIFICATION

2. In January 2003, the Environmental Protection Department completed a review, entitled "Review of Tuen Mun and Tsing Yi Sewerage Master Plans" (the Review), to assess whether the existing sewerage in Tuen Mun catchment has the capacity to cater for the planned developments and forecast population change. The Review recommended, amongst others, construction of sewerage for unsewered villages/areas and planned developments in Tuen Mun to improve the aquatic environment.

3. The Drainage Services Department employed consultants in January 2007 to carry out investigation, design and construction supervision of the sewerage works recommended in the Review. The consultants have ascertained the updated situation by conducting an overall review on the sewerage in Tuen Mun and confirmed an imminent need of the proposed works to tie in with population growth and future developments in the areas. In this connection, the major trunk sewer to be constructed under **346DS** shall be proceeded as soon as possible.

4. The full scope of **346DS** comprises –

(a) the construction of about 8.2 kilometres (km) of trunk sewers in western Tuen Mun and the two associated sewage pumping stations that would convey sewage to the Pillar Point Sewage Treatment Works for treatment; and

(b) the construction of about 52 km of village sewers and associated sewage pumping stations.

A location plan showing the full scope of **346DS** is at **Enclosure 1**. The whole project will benefit about 160 000 people in Tuen Mun, including 26 000 people in various villages.

5. Among the works included under **346DS**, we have completed the design of a trunk sewerage, a new pumping station and village sewerage at Tseng Tau Sheung Tsuen and a part of Tsing Shan Tsuen. These works could now be taken forward to the construction phase of the project. We are proceeding in parallel with the detailed design of other parts of the project. Once the detailed design is ready and the relevant procedures are completed, we will upgrade other parts of the project.

## PROJECT SCOPE AND NATURE

6. The scope of the part of **346DS**, which we propose to upgrade to Category A, comprises –

(a) the construction of about 7.0 km of trunk sewers in western Tuen Mun;

(b) the construction of a new sewage pumping station at the junction of Wong Chu Road and Tsing Wun Road; and

(c) the construction of about 7.0 km of village sewers at Tseng Tau Sheung Tsuen and a part of Tsing Shan Tsuen.

A location plan showing the proposed works is at **Enclosure 2**.

7. We plan to commence construction of the proposed works in end 2009 for completion in mid 2014.

## FINANCIAL IMPLICATIONS

8. We estimate the capital cost[1] of the proposed works to be about $1,340 million in MOD prices.

9. We estimate that the proposed works will create about 377 jobs[1] (303 for labourers and another 74 for professional/ technical staff), providing a total employment of 17 616 man-months.

[1] These are the latest estimates of the capital cost and new job opportunities. We will finalize the project cost and new job opportunities, and include a cost breakdown, prior to submitting the proposal to the Public Works Subcommittee for consideration.

## PUBLIC CONSULTATION

10. We consulted Heung Yee Kuk on the overall village sewerage programme on 27 April 2009. Heung Yee Kuk supported the village sewerage programme, including this project. We further consulted the Tuen Mun District Council on **346DS** on 5 May 2009. The District Council supported the implementation of the project.

## ENVIRONMENTAL IMPLICATIONS

11. The proposed sewage pumping station at the junction of Wong Chu Road and Tsing Wun Road is a designated project under the Environmental Impact Assessment (EIA) Ordinance. Having regard to the project profile, the Director of Environmental Protection is satisfied that the environmental impacts of the proposed sewage pumping station can meet the requirements of the Technical Memorandum on EIA Process. With the consent of the Secretary for the Environment, permission to apply directly for an environmental permit for the sewage pumping station was granted in January 2009. We obtained an environmental permit in February 2009 for the construction and operation of the sewage pumping station. We shall implement the mitigation measures set out in the environmental permit.

12. Apart from the proposed sewage pumping station, the other proposed works mentioned in paragraph 6 above are not designated projects under the EIA Ordinance. We have completed a Preliminary Environmental Review for the other proposed works and concluded that the works would not cause any long term adverse environmental impacts.

13. For short term impacts during construction of the proposed works under **346DS**, 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 regular site inspections to ensure that these recommended mitigation measures and good site practice are properly implemented on site.

14. We have considered in the planning and design stages ways to reduce generation of construction waste where possible, including optimization of the sewerage design to minimize the extent of excavation and to avoid as far as practicable demolition of existing structures. 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[2]. 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.

15. 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.

16. We estimate that the proposed works will generate in total about 349 300 tonnes of construction waste. Of these, we will reuse about 201 900 tonnes (58%) of inert construction waste on site and deliver 144 600 tonnes (41%) of inert construction waste to public fill reception facilities for subsequent reuse. In addition, we will dispose of 2 800 tonnes (1%) 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 $4.3 million for this project (based on a unit cost of $27/tonne for disposal at public fill reception facilities and $125/tonne[3] at landfills).

## ADVICE SOUGHT

17. Members are invited to support the Administration's proposal to construct trunk sewers in western Tuen Mun and provide village sewerage for the unsewered villages and areas in Tuen Mun and upgrade part of **346DS** to Category A at an estimated cost of about $1,340 million in MOD prices, for consideration by the Public Works Subcommittee in June 2009 with a view to seeking funding approval by the Finance Committee in July 2009.

Environmental Protection Department
May 2009

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[2] 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.

[3] The 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 $90/m$^3$), nor the cost to provide new landfills (which is likely to be more expensive) when the existing ones are filled.

附件一
Enclosure 1

圖例：
LEGEND :

346DS 的整體工程計劃的範圍
FULL SCOPE OF 346DS

將建造的污水收集系統工程
SEWAGE WORKS TO BE CONSTRUCTED

將建造的污水泵房
SEWAGE PUMPING STATION TO BE CONSTRUCTED

在該鄉村範圍內將建造污水渠
VILLAGE AREAS INSIDE WHICH SEWERS TO BE LAID

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西坑尾
SAI HANG MEI

九園頂
KU YUEN TUNG

紫田村
TSZ TIN TSUEN

蒲下
PO TONG HA

小坑村
SIU HANG TSUEN

荃園村
TSOI YUEN TSUEN

福亨下村
FUK HANG TSUEN (LOWER)

福亨上村
FUK HANG TSUEN (UPPER)

虎地下村
FU TEI HA TSUEN

TUEN MUN RIVER

屯門河

青山村
TSING SHAN TSUEN

井頭上村
TSENG TAU SHEUNG TSUEN

望后石污水處理廠
PILLAR POINT SEWAGE TREATMENT WORKS

青山灣
CASTLE PEAK BAY

掃管灘
SO KWUN TAN

小秀
SIU SAU

嘉和里
KAR WO LEI

蟠龍半島
BEAULIEU PENINSULA

龍珠島
PEARL ISLAND

小欖村
SIU LAM

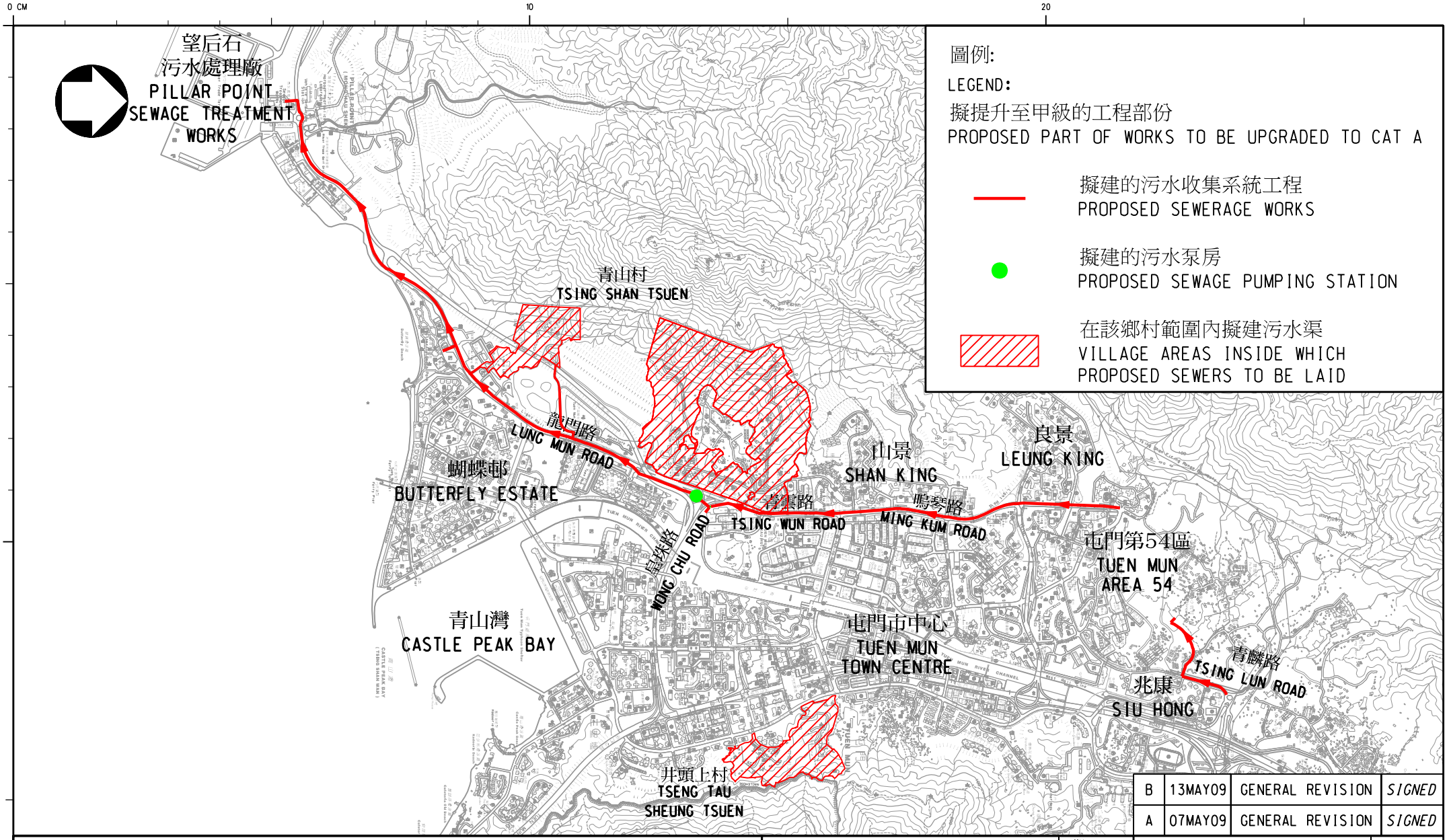
小欖新村
SIU LAM SAN TSUEN

小欖醫院
SIU LAM HOSPITAL

水警基地
MARINE POLICE BASE

大欖涌水塘
TAI LAM CHUNG RESERVOIR

| 圖則名稱 drawing title | 圖則編號 drawing no. | 日期 date | 比例 scale |
|---|---|---|---|
| 工務工程計劃編號 346DS<br>屯門污水收集系統計劃第 1 期<br>PWP ITEM No. 346DS<br>UPGRADING OF TUEN MUN SEWERAGE, PHASE 1 | SIG/346DS/001 | 7 May 2009 | N.T.S. |
| | 環境保護署<br>Environmental Protection Department | | |

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| B | 13MAY09 | GENERAL REVISION | *SIGNED* |
| A | 07MAY09 | GENERAL REVISION | *SIGNED* |

圖則名稱 drawing title

工務工程計劃編號346DS
屯門污水收集系統改善計劃第1期
PWP ITEM No.346DS
UPGRADING OF TUEN MUN SEWERAGE, PHASE 1

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|---|---|---|---|
| 繪畫 drawn | *SIGNED* | C.K.LAM | 日期 date 28APR09 |
| 核對 checked | *SIGNED* | W.H.CHO | 日期 date 05MAY09 |
| 批核 approved | *SIGNED* | K.C.LO | 日期 date 05MAY09 |

部門 office 工程管理部
PROJECT MANAGEMENT DIVISION

圖則編號 drawing no. DPM/346DS/0011B

比例 scale N.T.S.



香港特別行政區政府渠務署
DRAINAGE SERVICES DEPARTMENT
GOVERNMENT OF THE
HONG KONG
SPECIAL ADMINISTRATIVE REGION

ENCLOSURE 2 附件 2

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