For discussion
on 22 January 2018

Legislative Council
Panel on Environmental Affairs

4390DS — Rehabilitation of trunk sewers in Tuen Mun

PURPOSE

This paper seeks Members' views on our proposal to upgrade **4390DS – Rehabilitation of trunk sewers in Tuen Mun** to Category A at an estimated cost of $806.6 million in money-of-the-day (MOD) prices, to rehabilitate the existing trunk sewers to prevent breakage and leakage of sewage in Tuen Mun.

PROJECT SCOPE

2. The proposed scope of works under **4390DS** comprises –

(a) the rehabilitation of about 4.2 kilometres (km) of sewage box culvert along Tin Hau Road and Lung Mun Road;

(b) the rehabilitation of about 360 metres (m) of sewers across Tuen Mun River Channel and associated chamber modification works;

(c) the construction of about 600 m of sewers along Tin Hau Road and across Tuen Mun River Channel; and

(d) ancillary works[1].

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

[1] Ancillary works include the utility diversion, manhole construction, temporary closure and reinstatement of carriageways/footpaths/open space necessary for completion of the proposed works.

JUSTIFICATIONS

3. The existing sewerage system collecting and transferring sewage from central Tuen Mun to Pillar Point Sewage Treatment Works has been in continuous service for more than 30 years. It comprises about 4.2 km of an underground sewage box culvert along Tin Hau Road and Lung Mun Road, and about 360 m of sewers across Tuen Mun River Channel at two locations. Recent inspections revealed that this sewerage system is in poor structural conditions with a high risk of collapse, which may result in road subsidence and overflow of raw sewage that would be detrimental to public road safety and the environment.

4. We propose to conduct structural repair and install internal lining to rehabilitate and strengthen the existing sewage box culvert and sewers. To facilitate these works, we also propose to construct about 600 m of diversion sewers for arranging the temporary diversion of sewage from this sewerage system. These diversion sewers will be retained for permanent use to enhance the future operational flexibility of the sewerage system. Trenchless technologies and no-dig methods will be used as far as possible to reduce road excavation works and traffic impact.

5. Subject to the approval of the Finance Committee (FC), we aim to commence the proposed works in the fourth quarter of 2018 for completion in the first quarter of 2023.

FINANCIAL IMPLICATIONS

6. We estimate the total capital cost of the proposed works as detailed in paragraph 2 above to be $806.6 million in MOD prices.

PUBLIC CONSULTATION

7. We consulted the Environment, Hygiene and District Development Committee of the Tuen Mun District Council on 17 July 2015, 10 September 2015 and 20 May 2016. The Committee supported the proposed works.

ENVIRONMENTAL IMPLICATIONS

8. The proposed works are not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). The Drainage Services Department completed a Preliminary Environmental Review (PER) for the proposed works in February 2016. The PER concluded and Director of Environmental Protection agreed that with appropriate mitigation measures, the proposed works would not have any long-term adverse environmental impact. We have included in the project estimate of the proposed works the cost for implementation of the environmental mitigation measures.

9. For the construction phase, we will control noise, dust and site run-off nuisance to within the established standards and guidelines through the implementation of the recommended mitigation measures in the relevant contract. These include the use of silenced construction equipment and temporary noise barriers to reduce noise impact. In addition, water-spraying to the construction site will be applied regularly to minimise emission of fugitive dust, and on-site treatment of site run-off will be carried out to minimise potential water quality impact. We will also carry out regular site inspections to ensure that these recommended mitigation measures and good practices will be properly implemented on site.

10. At the planning and design stages, we have considered ways to reduce generation of construction waste where possible including the use of trenchless construction method to minimise the extent of excavation and the avoidance of demolition of existing structures as far as practicable. In addition, we will request the contractors to reuse inert construction waste (e.g. excavated soil) on site or in other suitable construction sites as far as possible, in order to minimise the need for disposal of inert construction waste to the public fill reception facilities (PFRF)[2]. We will encourage the contractors to maximise the use of recycled or recyclable inert construction waste, and the use of non-timber formwork to further reduce the generation of construction waste.

11. We will also request the contractors to submit for approval a plan setting out the waste management measures, which will include appropriate mitigation measures 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 request the contractors to separate inert and non-inert construction waste on site for disposal at appropriate facilities. We will control the disposal of inert and non-inert construction waste at PFRF and landfills

[2] PFRF are specified in Schedule 4 of Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N). Disposal of inert construction waste in PFRF requires a licence issued by the Director of Civil Engineering and Development.

respectively through a trip-ticket system.

12. We estimate that the proposed works will generate 34 300 tonnes of construction waste. Of these, we will reuse 21 000 tonnes (61%) on site and deliver 9 500 tonnes (28%) of inert construction waste to PFRF for subsequent reuse. We will dispose of the remaining 3 800 tonnes (11%) of non-inert construction waste at landfills. The total cost for disposal of the aforementioned construction waste at PFRF and landfill sites is estimated to be $1.4 million (based on a unit charge rate of $71 per tonne for disposal at PFRF and $200 per tonne at landfills as stipulated in the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N)).

HERITAGE IMPLICATIONS

13. The proposed works will not affect any heritage site, i.e. all declared monuments, proposed monuments, graded historic sites and buildings, sites of archaeological interest and government historic sites identified by the Antiquities and Monuments Office.

LAND ACQUISITION

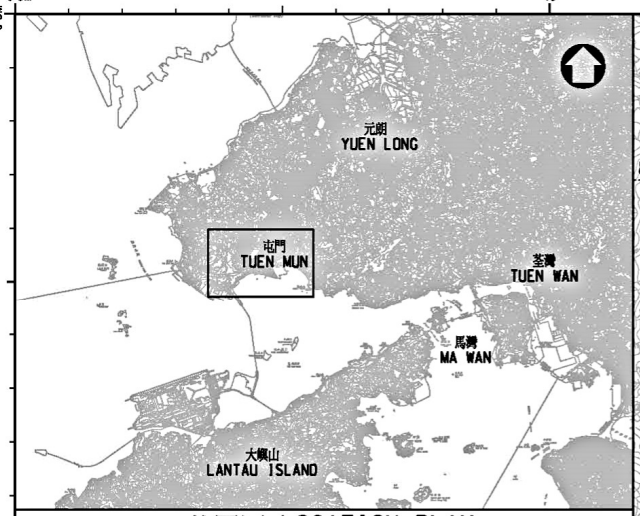
14. Only government lands will be involved for implementation of the proposed works. No land resumption is required.

WAY FORWARD

15. We plan to seek funding approval from the FC for the proposed works under **4390DS** in May 2018 after consulting the Public Works Subcommittee. Members are invited to comment on the proposed funding application.

Environment Bureau
Drainage Services Department
January 2018

附件 一 ENCLOSURE 1



位置圖 LOCATION PLAN

比例 SCALE 1:300 000

828 000 N

826 500 N

825 000 N

811 500 E

813 000 E

814 500 E

816 000 E

天后路
TIN HAU ROAD

屯門市中心
TUEN MUN TOWN CENTER

屯門河
TUEN MUN RIVER CHANNEL

屯義街
TUEN YEE STREET

龍門路
LUNG MUN ROAD

蝴蝶灣泳灘
BUTTERFLY BEACH

白角污水泵房
PAK KOK SEWAGE PUMPING STATION

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

圖例：
LEGEND：

擬修復的現有箱形污水暗渠
EXISTING SEWAGE BOX CULVERT TO BE REHABILITATED

擬建造的污水渠
SEWER TO BE CONSTRUCTED

擬修復的現有橫過屯門河道的污水渠
EXISTING SEWERS ACROSS TUEN MUN RIVER CHANNEL TO BE REHABILITATED

現有的污水處理廠 / 污水泵房
EXISTING SEWAGE TREATMENT WORKS / SEWAGE PUMPING STATION

圖則名稱 drawing title

工務工程計劃編號 4390DS
- 屯門污水幹渠修復工程

PWP ITEM NO. 4390DS
- REHABILITATION OF TRUNK SEWERS IN TUEN MUN

繪畫 drawn	H.Y. LEE	日期 date	07 DEC 2017
核對 checked	H.T. CHUNG	日期 date	07 DEC 2017
批核 approved	H.S. WONG	日期 date	07 DEC 2017
部門 office	工程管理部 PROJECT MANAGEMENT DIVISION		

圖則編號 drawing no. DPM/390DS/0010

比例 scale 1:15000

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

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