

**For discussion
on 22 December 2003**

**Legislative Council
Panel on Environmental Affairs**

**4143DS - Central, Western and Wan Chai West sewerage,
stage 2 phase 2B works**

PURPOSE

This paper seeks Members' views on the Administration's proposal of submitting the remainder of Public Works Item **4143DS**, retitled "Central, Western and Wan Chai West sewerage – stage 2 phase 2B works", to the Public Works Subcommittee (PWSC) for consideration.

BACKGROUND

2. The Central, Western and Wan Chai West Sewerage Master Plan (SMP) is one of the 16 SMPs developed by the Administration to identify the sewerage infrastructure necessary for meeting population demand and improving water quality in coastal waters. The Central, Western and Wan Chai West SMP study was completed in August 1993 and a package of sewerage improvement works was identified to improve and upgrade the sewerage system in the areas so as to meet future development needs.

3. Given the existing dense development, coupled with the heavily trafficked and narrow roads in these areas, phased construction is required to avoid creating severe disruption to residents and traffic. The Central, Western and Wan Chai West sewerage improvement works are thus implemented in two stages as follows –

Stage 1

- (i) construction of about 5.9 kilometres (km) of trunk sewers along the coastal areas;
- (ii) construction of two pumping stations at the existing Central and Wan Chai East sewage screening plants; and
- (iii) upgrading and improvement of about 19 km of branch sewers on the hillside in the upper catchment, e.g. the Mid-levels.

Stage 2

(a) phase 1

construction of about 5.4 km of sewers from 225 millimetres (mm) to 1 350 mm in diameter.

(b) phase 2A

- (i) construction of about 600 metres (m) of new sewers from 300 mm to 800 mm in diameter for connecting sewers at the upper catchment to the trunk system;
- (ii) upgrading and rehabilitation of about 6.9 km of old sewers from 225 mm to 1 200 mm in diameter with insufficient capacity and ageing problems;
- (iii) rectification of expedient connections¹ in old sewers; and
- (iv) decommissioning of Wan Chai West sewage screening plant.

(c) phase 2B

The last package of the sewerage improvement works recommended under the Central, Western and Wan Chai West SMP study. The scope of the proposed works is set out in paragraph 5 below.

4. The stage 1 works started in July 1996 and most works have been completed except the Central sewage screening plant which is targeted for completion in end 2004. Construction of the stage 2 phase 1 and stage 2 phase 2A works commenced in October 2001 and November 2002 respectively and will be completed in January 2005 and February 2006 correspondingly.

¹ Expedient connections are improper connections which divert foul sewage flows into storm drains and storm-water flows into foul sewers. Through these connections, foul sewage can flow into the storm-water drainage system and pollute environmental waters. Storm-water will also enter the sewerage system through these connections and reduce the capacity of the sewage collection and treatment system.

PROPOSAL AND JUSTIFICATIONS

5. The scope of the proposed stage 2 phase 2B works comprises -
- (a) upgrading and rehabilitating about 9.5 km of older sewer from 225 mm to 1350 mm in diameter with insufficient capacity and ageing problem; and
 - (b) rectification of expedient connections in old sewers.

The construction works will commence in May 2004 for completion in May 2008. A site plan showing the indicative locations of the proposed works is at **Enclosure**.

6. The proposed works are required given that the majority of the sewers in the Central and Western areas were built several decades ago and need replacement. Some of the sewers have to be upgraded in these districts to cope with the additional sewage flows from the new developments. These developments include the Kennedy Town New Praya Project of the Urban Renewal Authority (for completion by 2005), the residential development sites at Kwun Lung Lau (for completion by 2005 and 2010) and Lung Wah Street (for completion by 2007), and the Police Married Quarters at Ka Wai Man Road (for completion by 2014), with an estimated total residential population of 31 000.

7. We estimate that the project will create some 125 jobs comprising 25 professional/technical staff and 100 labourers, totalling 4600 man-months.

FINANCIAL IMPLICATIONS

8. We estimate the capital cost² of the proposed stage 2 phase 2B works to be \$234.4 million in money-of-the-day (MOD) prices, made up as follows -

	\$ million
(a) Construction of about 9.5 km of sewers	199.2 ³

² This is the latest estimate. We are finalizing the cost estimates and there may be some adjustments in our submission to the PWSC for consideration.

³ The cost of implementing the environmental mitigation measures estimated to be about \$2.0 million in September 2003 prices has been included.

(i)	by trenchless method (about 0.3 km)	28.0	
(ii)	by open cut method (about 9.2 km)	171.2	
(b)	Consultants' fees for	20.1	
(i)	contract administration	1.1	
(ii)	site supervision	19.0	
(c)	Contingency	<u>21.9</u>	
	Sub-total	241.2	(in September 2003 prices)
(d)	Provision for price adjustment	<u>(6.8)</u>	
	Total	<u>234.4</u>	(in MOD prices)

9. The proposed works will not give rise to additional recurrent expenditure.

PUBLIC CONSULTATION

10. We consulted the then Central and Western District Board and Wan Chai District Board on **4143DS** (both stage 1 and stage 2 works) in May 1993 and August 1993 respectively. The Central and Western District Board requested to carry out the project immediately while the Wan Chai District Board had no objection to the proposed works. With regard to the implementation of stage 2 works of **4143DS**, we consulted the Central and Western District Council (CWDC) and the Wan Chai District Council on 16 November 2000 and 28 November 2000 respectively. Both Councils had no objection to the implementation of the proposed works. We will further update the CWDC regarding the implementation of the proposed works under this project on 15 January 2004 and will incorporate its latest feedback into our submission to the PWSC.

ENVIRONMENTAL IMPLICATIONS

11. We have completed an Environmental Impact Assessment (EIA) study in May 1996, which concluded that there would be no long-term

environmental impacts exceeding the established criteria. For short-term impacts during construction, we will control noise, dust and site run-off within established standards and guidelines through the implementation of mitigation measures, such as the use of temporary noise barriers and silenced construction plants to reduce noise generation, water-spraying to reduce emission of fugitive dust and strict control on diversion of sewage flows in the works contracts. An environmental monitoring and audit programme would be implemented to ensure compliance with EIA recommendations. For night-works identified as necessary at the Central commercial areas, we will apply for Construction Noise Permits under the Noise Control Ordinance and will restrict the plant type used to minimise the noise level. We will also require the works contractor to submit a waste management plan (WMP) to the Engineer for approval, with appropriate mitigate measures to reduce, reuse and recycle construction and demolition materials (C&DM) as much as possible. We will ensure that the day-to-day operations on site comply with the WMP.

12. We estimate the cost of implementing the environmental mitigation measures to be about \$2.0 million in September 2003 prices, which has been included in the project estimate.

TRAFFIC IMPLICATIONS

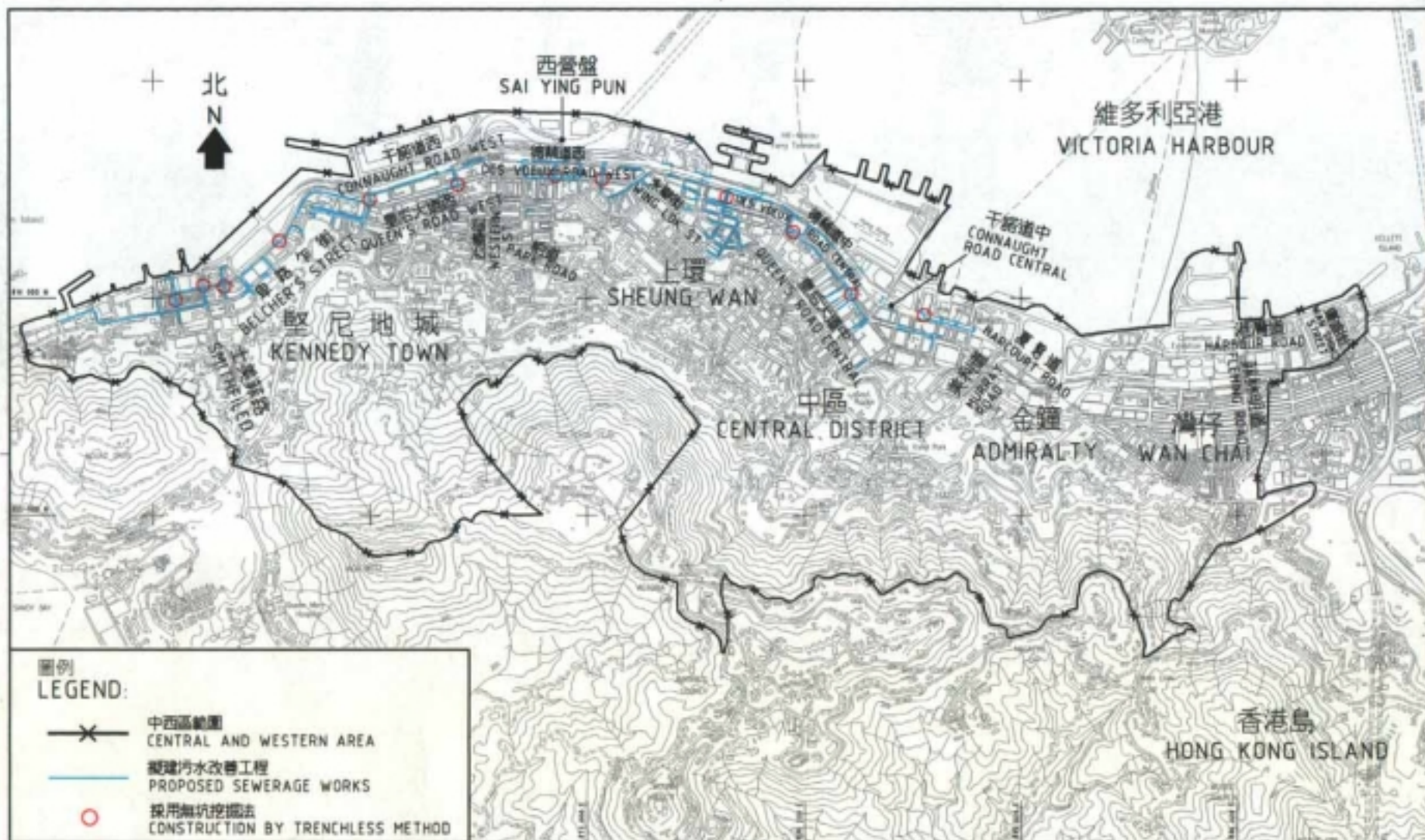
13. To minimize possible disruption to traffic, we have completed the traffic impact assessment for the project and formulated proposed temporary traffic schemes during construction of the sewers. We will maintain smooth traffic flow through temporary traffic management measures as far as possible and display notice boards on site to explain the reason of temporary traffic arrangements and the proposed completion date of the concerned section of works. In addition, telephone hotlines will be set up for the public to make enquiries or lodge complaints. Construction works in busy road sections will be carried out in non-peak hours. We will use the trenchless method⁴ to construct sewers at critical locations such as Des Voeux Road Central, Des Voeux Road West, Connaught Road West and Connaught Road Central and also carry out overnight works in commercial areas, such as road sections of Des Voeux Road Central, Chater Road, Pedder Street and Connaught Road Central to expedite works progress without inducing unacceptable nuisance to the public.

⁴ Trenchless method refers to the use of mirco-tunnelling or boring techniques to construct underground sewers and drain pipes without opening up the road surface along the alignment of the sewers and drains. Although the method, in general, is about four times more expensive than the conventional open cut method, the former method, if feasible, is preferred to for carrying out works at busy road sections since it will greatly reduce the need for road opening thus minimize disruption to traffic during the construction phase.

ADVICE SOUGHT

14. Members are invited to support the Administration in seeking the PWSC to recommend to Finance Committee the upgrading of the remainder of **4143DS** to Category A in February 2004, at an estimated cost of \$234.4 million in MOD prices.

Environment, Transport and Works Bureau
December 2003



圖則名稱 TITLE

工務工程項目 4143DS
 PWP ITEM No. 4143DS
 中西區及灣仔西污水收集系統改善工程第2階段第2B期
 CENTRAL, WESTERN & WAN CHAI WEST SEWERAGE STAGE 2, PHASE 2B

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部門 OFFICE	工程管理部 PROJECT MANAGEMENT DIVISION		

圖則編號 DRAWING NO.	91194/101	圖則比例 SCALE	N.T.S.
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附 件 ENCLOSURE