

**For discussion
on 7 January 1998**

PWSC(97-98)99

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 704 - DRAINAGE

Environmental Protection - Sewerage and sewage treatment

**New Items - High Priority Programme of the Sewage Strategy :
completion of works and payments of contractual obligations
outstanding upon the closure of the Sewage Services Trading
Fund**

Members are invited to recommend to Finance Committee the creation and direct inclusion of 24 new items in Category A and two items in Category D at a total estimated cost of \$3,011.3 million in money-of-the-day prices for completion of works and payments of contractual obligations which will be outstanding upon the closure of the Sewage Services Trading Fund.

PROBLEM

On 19 November 1997, the Provisional Legislative Council approved the closure of the Sewage Services Trading Fund (SSTF) with effect from 31 March 1998. We need an alternative source of funding after 31 March 1998 to complete existing projects in the High Priority Programme of the Sewage Strategy (HPP) currently funded from the SSTF.

/PROPOSAL.....

PROPOSAL

2. The Director of Drainage Services (DDS), with the support of the Secretary for Works, proposes to create and include 24 new items directly in Category A and two items directly in Category D at a total estimated cost of \$3,011.3 million in money-of-the-day (MOD) prices for completion of works and contractual obligations outstanding upon the closure of the SSTF.

PROJECT SCOPE AND NATURE

3. The HPP comprises -

- (a) Stage I of the Strategic Sewage Disposal Scheme (SSDS);
- (b) Tsuen Wan/Kwai Tsing Sewerage Master Plan;
- (c) Northwest Kowloon Sewerage Master Plan;
- (d) North and South Kowloon Sewerage Master Plan (Stage I);
- (e) East Kowloon Sewerage Master Plan;
- (f) Chai Wan and Shau Kei Wan Sewerage Master Plan;
and
- (g) Tseung Kwan O Sewerage Master Plan (minor works).

4. Under the SSDS Stage I, we constructed the Stonecutters Island Sewage Treatment Works (SCISTW) and planned to construct six deep underground sewage tunnels to convey waste-water from the existing preliminary sewage treatment works in six catchment areas to Stonecutters Island. Due to the unsatisfactory progress and the contractor's failure in proceeding with the tunnelling works with due diligence, we re-entered the work sites in December 1996 and awarded a completion contract in July 1997 for the two western sewage tunnels under the SSTF capital funds. As regards the completion works for the remaining four eastern sewage tunnels, Finance Committee approved on 12 December 1997 the direct inclusion of a new item under the Capital Works Reserve Fund (CWRF) (Item **286DS** "Strategic Sewage Disposal Scheme Stage I:

/completion.....

completion of sewage tunnel system from Chai Wan and Tseung Kwan O to Kwun Tong and from Kwun Tong to Stonecutters Island”). We have also made good progress in implementing the Sewerage Master Plans. A schedule showing the latest expenditure forecast for committed projects under the HPP is at Enclosure 1.

5. This proposal covers the completion works for the remaining committed projects under Stage I of the SSDS and the Sewerage Master Plans outlined at Enclosure 2. (This excludes the Tseung Kwan O Sewerage Master Plan (minor works) which will be processed under a separate Public Works item **4214DS** “Tseung Kwan O Sewerage for villages”).)

JUSTIFICATION

6. With the closure of the SSTF on 31 March 1998, DDS will not be able to make further payments unless an alternative source of funding is available. To meet the contractual obligations and to enable the completion of HPP projects under construction, we propose to fund the outstanding works mentioned in paragraph 5 above from the CWRP after 31 March 1998.

7. As the SSTF is funded by a capital injection from the Capital Investment Fund (CIF), DDS will return any residual capital in the SSTF to the CIF upon the closure of the SSTF in accordance with the resolution setting up the CIF. Taking into account the payments to be made by the SSTF before 1 April 1998, we estimate that the balance of the capital funds as at 31 March 1998 will be in the region of \$2,553.7 million, made up as follows -

	\$ million
Initial capital injection to SSTF from CIF	6,800.0
Interest earned on unspent balances to 31 March 1998	1,091.0
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	7,891.0

/Less

Less payments made up to 31 March 1998	(5,337.3)
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Balance as at 31 March 1998	2,553.7
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FINANCIAL IMPLICATIONS

8. We estimate the capital cost of the outstanding contractual commitments to be \$3,011.3 million in MOD prices (see paragraph 9 below) made up as follows -

	\$ million
Latest approved project estimates for all HPP projects	8,348.6
Less payments which will have been made by 31 March 1998	(5,337.3)
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Outstanding commitment as at 31 March 1998	3,011.3
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The outstanding commitment, if expressed at current prices, does not exceed the remaining balance of the SSTF capital funds as at 31 March 1998.

9. Subject to approval, we will phase expenditure as follows -

Year	\$ million (Dec 1996)	Price adjustment factor	\$ million (MOD)
1998 - 99	581.8	1.16358	677.0
1999 - 2000	865.1	1.26830	1,097.2
2000 - 01	417.6	1.38244	577.3

2001 - 02	205.6	1.50686	309.8
2002 - 03	170.5	1.64248	280.0
2003 - 04	39.1	1.79030	70.0
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	2,279.7		3,011.3
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10. We have derived the MOD prices on the basis of the Government forecasts of trend labour and construction prices for the period between 1998 and 2004. Under the trading fund arrangements, a Works Committee chaired by the Secretary for Works performs functions similar to those of PWSC to approve project estimates and variations thereto, authorise invitations to tender and provision of funds for each project in the HPP. All project estimates have been approved by the Works Committee.

11. With the full commissioning of the SCISTW, we estimate the additional annually recurrent costs of HPP to be \$300.3 million. These are mainly for the operation and maintenance of SCISTW.

12. In view of the expected increase in operating costs of the SCISTW, the Administration is currently considering a level of subsidy from public funds which will reduce the impact on sewage charges. A number of options are being studied and the relevant Panels will be consulted before any decision is made.

PUBLIC CONSULTATION

13. We consulted the Environmental Affairs Panel on 19 September 1997, and the Advisory Committee on the Environment on 22 September 1997, on the proposal to fund the outstanding contractual obligations of the HPP from CWRP. We have also consulted the Planning, Lands and Works Panel on 18 December 1997 on this proposal and the Panel had no objection to the proposal.

14. As the current proposal does not affect the scope of the HPP, we do not consider it necessary to carry out further public consultation.

ENVIRONMENTAL IMPLICATIONS

15. The Consultants completed a full Environmental Impact Assessment (EIA) Study for the SSDS Stage I which was endorsed by the Advisory Council on the Environment in June 1996. The study concluded that during the construction stage, the environmental impacts could be mitigated to within established standards and guidelines. Upon commissioning, the Scheme will bring substantial improvements to water quality in the main Harbour areas. Further EIA studies conducted during the detailed design stage also confirmed the conclusion. We will continue to implement mitigation measures identified during construction and operation to keep environmental impacts within established guidelines and standards.

16. For the works under the various Sewerage Master Plans, the Director of Environmental Protection has carried out Environmental Reviews and concluded that the works would have no adverse impacts during operation. We have controlled and will continue to control dust, noise and run-off nuisances within established guidelines and standards during construction through implementation of mitigation measures in the relevant contracts.

LAND ACQUISITION

17. The proposal does not have land implications. All the necessary land has already been acquired.

BACKGROUND INFORMATION

18. On 4 February 1994, Finance Committee approved a capital injection of \$6,800 million from the CIF to the SSTF which was established, by resolution of the Legislative Council made under the Trading Funds Ordinance, on 11 March 1994. The capital injection and any interest on unspent balances were to enable the SSTF to meet the MOD costs of the SSDS (Stage I) and the six related Sewerage Master Plans which together comprise the HPP.

19. On 19 November 1997, the Provisional Legislative Council passed a resolution under the Trading Funds Ordinance to close the SSTF on 31 March 1998.

Works Bureau
December 1997

(JJ222)

Enclosure 1 to PWSC(97-98)99

Expenditure Forecast for Committed Projects under the High Priority Programme

(in MOD Prices)

SSTF Item No.	Title	APE (\$M)	Expenditure (\$M)						
			Funded from SSTF	Funded from CWRP					
			Cumulative expenditure up to 31.3.1998	98/99	99/00	00/01	01/02	02/03	03/04 and after
001SS	Strategic Sewage Disposal Scheme Stage I: Principal Collection and Treatment System - Advance Works	560.0	528.9	6.0	25.1	-	-	-	-
002SS	Strategic Sewage Disposal Scheme Stage I: Chemical Dosing Facilities	148.0	108.8	8.0	31.2	-	-	-	-
003SS	Tsuen Wan, Kwai Chung and Tsing Yi Sewerage: Stage I Phase II and Stage II Works	442.0	366.6	40.0	23.6	2.0	9.8	-	-
004SS	North West Kowloon Sewerage, Stage III Phase II	960.0	0.0	100.0	200.0	200.0	200.0	190.0	70.0
005SS (Cat. D)	North and South Kowloon Sewerage: Stage I Remaining Works	13.7	8.7	3.0	2.0	-	-	-	-
006SS	East Kowloon Sewerage, Stage II	262.0	99.5	40.0	62.5	60.0	-	-	-
007SS	Chai Wan and Shau Kei Wan Sewerage	32.0	24.4	1.0	6.6	-	-	-	-
008SS	Chai Wan and Shau Kei Wan Sewerage: Site Investigation (Note 1)	0.1	0.1	-	-	-	-	-	-
009SS	East Kowloon Sewerage Improvements and Pollution Control, Stage II - Consultants' Fees and Investigations	18.0	3.8	0.1	-	14.1	-	-	-
010SS	Strategic Sewage Disposal Scheme Stage I: Sewer Tunnel System from Chai Wan and Tseung Kwan O to Kwun Tong (Note 2)	345.0	308.7	8.0 (Note 2)	28.3 (Note 2)	-	-	-	-
011SS	Strategic Sewage Disposal Scheme Stage I: Stonecutters Island Sewage Treatment Works Sludge Treatment Facilities	298.0	254.3	9.0	34.7	-	-	-	-
012SS	Strategic Sewage Disposal Scheme Stage I: Stonecutters Island Sewage Treatment Works - Sedimentation Tanks (Civil Works)	364.5	340.0	3.0	21.5	-	-	-	-
013SS	Strategic Sewage Disposal Scheme Stage I: Pumping Stations E&M Equipment	456.0	241.7	60.0	74.3	80.0	-	-	-
014SS	Strategic Sewage Disposal Scheme Stage I: Stonecutters Island Sewage Treatment Works - Pumping Stations, Buildings and Site Development	386.0	288.7	30.0	67.3	-	-	-	-
015SS	Strategic Sewage Disposal Scheme Stage I: Upgrading Existing Preliminary Treatment Works	860.0	625.9	40.0	114.1	80.0	-	-	-
016SS	Strategic Sewage Disposal Scheme Stage I: Sedimentation Tanks E&M Equipment	419.0	293.9	30.0	85.1	10.0	-	-	-
017SS	Strategic Sewage Disposal Scheme Stage I: Sewer Tunnel System from Kwun Tong and Kwai Chung to Stonecutters Island	435.0	395.6	8.0 (Note 2)	31.4 (Note 2)	-	-	-	-
018SS	Strategic Sewage Disposal Scheme Stage I: Construction Supervision of the Main Works	610.0	491.8	80.0	38.2	-	-	-	-

SSTF Item No.	Title	APE (\$M)	Expenditure (\$M)						
			Funded from SSTF	Funded from CWRP					
				Cumulative expenditure up to 31.3.1998	98/99	99/00	00/01	01/02	02/03
019SS	North West Kowloon Sewerage : Stage II and Stage III Phase I	214.3	139.6	10.0	64.7	-	-	-	-
020SS	East Kowloon Sewerage: Stage I Phase II - Rehabilitation of Kwun Tong Road Sewers	90.7	65.3	15.0	10.4	-	-	-	-
021SS	Strategic Sewage Disposal Scheme Stage I Outfall	560.0	442.4	20.0	53.7	43.9	-	-	-
022SS	Strategic Sewage Disposal Scheme Stage I: Construction of Sludge Transfer Facilities and Supply of Sludge Containers	52.0	28.3	8.0	15.7	-	-	-	-
023SS (Cat. D)	Strategic Sewage Disposal Scheme Stage I: Pilot Plant Study on Chemical Dosing and Disinfection	13.5	11.5	-	2.0	-	-	-	-
024SS	Strategic Sewage Disposal Scheme Stage I: Baseline Monitoring and Performance Verification	36.6	9.6	3.9	5.8	7.3	10.0	-	-
025SS	Strategic Sewage Disposal Scheme Stage I: Environmental Impact Assessment Study	68.3	57.0	10.0	1.3	-	-	-	-
026SS	North West Kowloon Sewerage, Stage III Phase II: Consultants' fees and Investigations	22.5	8.4	4.0	10.1	-	-	-	-
027SS	Project Management Cost (Note 3)	131.4	131.4	-	-	-	-	-	-
028SS	Strategic Sewage Disposal Scheme Stage I: Completion of Sewer Tunnel System from Kwai Chung to Stonecutters Island	550.0	62.4	140.0	87.6	80.0	90.0	90.0	-
	Tseung Kwan O Sewerage (minor works) (Note 4)	-	-	-	-	-	-	-	-
	Total	8,348.6	5,337.3	677.0	1,097.2	577.3	309.8	280.0	70.0
			expenditure after March 1998	3,011.3					

Note

- Item 008SS can be completed before the closure of the SSTF on 31.3.98.
- The expenditure under Item 010SS and 017SS to be incurred in 1998/99 and 1999/2000 is to cover the legal expenses for resolution of the contractual dispute.
- Item 027SS covers the cost of managing the HPP. Expenses after the closure of the SSTF on 31.3.98 will be absorbed under Head 39 (Drainage Services Department) of the General Revenue Account.
- It has been decided that instead of carrying out time-consuming minor initial works, the whole project will be implemented under a separate Public Works item **4214DS** "Tseung Kwan O Sewerage for Villages", which has been included in Category B of CWRP on 21 August 1997.

Committed Projects under the High Priority Programme to be transferred to CWRP (Note 1)

Item Description and Project Title	Project Scope	Commence -ment date	Target Completion date	Progress as at 31.10.97
(a) Stage I of SSDS 001SS - Strategic Sewage Disposal Scheme Stage I: Principal Collection and Treatment System - Advance Works (New PWP item no.: 287DS)	Site facilities for Resident Site Staff; excavation of production shafts and pumping station foundation; diaphragm walls; piled foundation for sedimentation tanks	03/94	10/1997 (Actual)	Works Substantially completed
002SS - Strategic Sewage Disposal Scheme Stage I: Chemical Dosing Facilities (New PWP item no.: 288DS)	Provision of chemical dosing facilities at Stonecutters Island Sewage Treatment Works	11/95	01/1998	81% works completed
010SS - Strategic Sewage Disposal Scheme Stage I: Sewer Tunnel System from Chai Wan and Tseung Kwan O to Kwun Tong (New PWP item no.: 304DS)	Sewage tunnel from Chai Wan and Tseung Kwan O to Kwun Tong (Note 2)	01/95	07/2000	(Note 3)
011SS - Strategic Sewage Disposal Scheme Stage I: Stonecutters Island Sewage Treatment Works Sludge Treatment Facilities (New PWP item no.: 305DS)	Provision of sludge treatment facilities at Stonecutters Island Sewage Treatment Works	06/95	10/1997 (Actual)	Works substantially completed
012SS Strategic Sewage Disposal Scheme Stage I: Stonecutters Island Sewage Treatment Works - Sedimentation Tanks (Civil works) (New PWP item no.: 306DS)	Construction of foundation works, structural and site works of the sedimentation tanks at Stonecutters Island Sewage Treatment Works	02/95	06/1997 (Actual)	Works substantially completed
013SS - Strategic Sewage Disposal Scheme Stage I: Pumping Stations E&M Equipment (New PWP item no.: 307DS)	Provision of E&M equipment for pumping stations at the Stonecutters Island STW, Kwun Tong and Tseung Kwan O and a central monitoring and control system	01/95	05/1998	63% works completed
014SS - Strategic Sewage Disposal Scheme Stage I: Stonecutters Island Sewage Treatment Works - Pumping Stations, Buildings and Site Development (New PWP item no.: 308DS)	Construction of pumping stations and buildings at Stonecutters Island and site development facilities	04/95	03/1998	96% works completed
015SS - Strategic Sewage Disposal Scheme Stage I: Upgrading Existing Preliminary Treatment Works (New PWP item no.: 309DS)	Upgrading of existing preliminary treatment works at Chai Wan, Shau Kei Wan, Tseung Kwan O, Kwun Tong, Tsing Yi, Kwai Chung and To Kwa Wan	03/95	04/1998	79% works completed

Item Description and Project Title	Project Scope	Commence -ment date	Target Completion date	Progress as at 31.10.97
016SS - Strategic Sewage Disposal Scheme Stage I: Sedimentation Tanks E&M Equipment (New PWP item no.: 310DS)	Provision of E&M equipment for the sedimentation tanks at the Stonecutters Island Sewage Treatment Works	02/95	04/1998	79% works completed
017SS - Strategic Sewage Disposal Scheme Stage I: Sewer Tunnel System from Kwun Tong and Kwai Chung to Stonecutters Island (New PWP item no.: 311DS)	Sewage tunnel from Kwun Tong and Kwai Chung to Stonecutters Island (Note 2)	01/95	07/2000	(Note 4)
018SS - Strategic Sewage Disposal Scheme Stage I: Construction Supervision of the Main Works (New PWP item no.: 312DS)	Construction supervision of 11 main works contracts of the SSDS Stage I and includes the Consultant's fee for construction supervision and Resident Site Staff costs.	01/95	02/2000	70% works completed
021SS - Strategic Sewage Disposal Scheme Stage I Outfall (New PWP item no.: 315DS)	Construction of a 1740 m long outfall tunnel together with two 3.25 m diameter riser shafts and a 1200 m long diffuser pipeline	04/95	05/1998	96% works completed
022SS - Strategic Sewage Disposal Scheme Stage I: Construction of Sludge Transfer Facilities and Supply of Sludge Containers (New PWP item no.: 316DS)	Provision of sludge handling and transfer facilities at Stonecutters Island Sewage Treatment Works and South East New Territories and West New Territories landfills and supply of 400 numbers of sludge containers	10/95	05/1999	65% works completed
023SS - Strategic Sewage Disposal Scheme Stage I: Pilot Plant Study on Chemical Dosing and Disinfection (Category D)	Pilot plant study on chemical dosing and disinfection	09/95	01/1997 (Actual)	Works Substantially completed
024SS - Strategic Sewage Disposal Scheme Stage I: Baseline Monitoring and Performance Verification (New PWP item no.: 317DS)	Environmental survey and monitoring work to assess impact of the outfall discharge on the marine environment	03/96	02/2000	30% works completed
025SS - Strategic Sewage Disposal Scheme Stage I: Environmental Impact Assessment Study (New PWP item no.: 318DS)	Environmental impact assessment (EIA)	05/96	08/1998	50% works completed
028SS - Strategic Sewage Disposal Scheme Stage I: Completion of Sewer Tunnel System from Kwai Chung to Stonecutters Island (New PWP item no.: 320DS)	Completion of sewer tunnel system from Kwai Chung to Stonecutters Island under the new Contract DC/96/20	07/97	08/1999	7% works completed

Item Description and Project Title	Project Scope	Commence -ment date	Target Completion date	Progress as at 31.10.97
(b) Tsuen Wan/ Kwai Tsing SMP 003SS - Tsuen Wan, Kwai Chung and Tsing Yi Sewerage: Stage I Phase II and Stage II Works (New PWP item no.: 289DS)	Improvement of sewerage system in Tsuen Wan and Kwai Chung; construction of Kwai Chung Industrial Wastewater Pumping Station; additional pumps for the existing Tsuen Wan Sewage Pumping Station	11/94	12/2002	85% works completed
(c) North West Kowloon SMP 004SS - North West Kowloon Sewerage, Stage III Phase II (New PWP item no.: 290DS)	Construction of about 21.5 km of sewers ranging from 225 mm to 1350 mm in diameter and rectification of 48 expedient connections in North West Kowloon area	03/98	06/2003	Works not yet started
019SS - North West Kowloon Sewerage: Stage II and Stage III Phase I (New PWP item no.: 313DS)	Replacement of approximately 9.2 km of sewers ranging from 300 mm to 1350 mm in diameter in Lai Chi Kok, Sham Shui Po and Yau Ma Tei	05/95	12/1998	58% works completed
026SS - North West Kowloon Sewerage, Stage III Phase II: Consultants' fees and investigations (New PWP item no.: 319DS)	Consultants' fees for site investigations, EIA and detailed design	04/96	04/1998	38% works completed
(d) North and South Kowloon SMP 005SS - North and South Kowloon Sewerage: Stage I Remaining Works (Category D)	Construction of about 1350 m of 300 mm to 1200 mm diameter new branch sewers in the Ma Tau Kok Area	12/95	04/1998	81% works completed
(e) East Kowloon SMP 006SS - East Kowloon Sewerage, Stage II (New PWP item no.: 301DS)	Construction of about 14 km of 225 mm to 1350mm diameter replacement sewers in the San Po Kong and Kwun Tong industrial area and rectification of about 220 expedient connections	03/96	12/1998	34% works completed
009SS - East Kowloon Sewerage Improvements and Pollution Control, Stage II - Consultants' Fees and Investigations (New PWP item no.: 303DS)	Consultants' fees for site investigations, EIA and detailed design	09/94	03/1996 (Actual)	Works Substantially completed
020SS - East Kowloon Sewerage: Stage I Phase II - Rehabilitation of Kwun Tong Road Sewers (New PWP item no.: 314DS)	Rehabilitation of about 2.9 km of existing sewers, sealing of about 1.6 km of existing sewers and construction of about 610 m of new sewers of size from 1050 mm to 1800 mm	06/95	08/1998	90% works completed

Item Description and Project Title	Project Scope	Commence -ment date	Target Completion date	Progress as at 31.10.97
(f) Chai Wan and Shau Kei Wan SMP				
007SS - Chai Wan and Shau Kei Wan Sewerage (New PWP item no.: 302DS)	Construction of about 1350 m of 300 mm to 600 mm diameter replacement sewers; relining of about 1 km existing sewers in the Chai Wan and Shau Kei Wan area; construction of new sewers for Lai Yue Mun Park	04/95	12/1997	97% works completed

Note

1. As Item 008SS can be completed before the closure of the SSTF on 31.3.98 and further expenses on item 027SS can be absorbed under Head 39 Drainage Services Department after the same date, they are not included in the list.
2. The outstanding commitment under this project comprises only the legal expenses for dispute resolution with the defaulting contractor.
3. The original tunnel contract was re-entered on 4.12.1996. The outstanding tunnel works will be completed under PWP Item **286DS**.
4. The original tunnel contract was re-entered on 4.12.1996. The outstanding tunnel works will be completed under SSTF Item 028SS and PWP Item **286DS**.