For discussion
on 21 May 2008

PWSC(2008-09)17

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

Head 704 – DRAINAGE
Civil Engineering – Drainage and erosion protection
139CD – Decking of Staunton Creek nullah in Wong Chuk Hang and Fuk Man Road nullah in Sai Kung

Members are invited to recommend to Finance Committee –

(a) the upgrading of part of **139CD**, entitled "Improvement of Fuk Man Road nullah in Sai Kung", to Category A at an estimated cost of $95.8 million in money-of-the-day prices; and

(b) the retention of the remainder of **139CD,** re-titled "Improvement of Staunton Creek nullah in Wong Chuk Hang" in Category B.

PROBLEM

The Fuk Man Road nullah is regarded as an urban eyesore not compatible with the surrounding environment. It is often conceived by the public as an open sewer posing health risks.

/PROPOSAL .....

PROPOSAL

2. The Director of Drainage Services, with the support of the Secretary for Development, proposes to upgrade part of **139CD** to Category A at an estimated cost of $95.8 million in money-of-the-day (MOD) prices for the decking of the open nullah at Fuk Man Road in Sai Kung.

PROJECT SCOPE AND NATURE

3. The scope of the part of **139CD** which we propose to upgrade to Category A comprises –

(a) decking of about 180 metres (m) long and 12 m wide open nullah at Fuk Man Road in Sai Kung;

(b) landscaping works; and

(c) ancillary works including local road junction improvement.

The site plan, schematic section and landscaping plan of the proposed works are at Enclosure 1.

4. We plan to commence construction in December 2008 for completion in November 2011.

JUSTIFICATION

5. To address the problems brought by open nullahs in built-up areas, the Chief Executive announced in his 2005 Policy Address that the Government would deck over 16 sections of nullahs within ten years to improve the living environment. Fuk Man Road nullah is one of the 16 sections. The Fuk Man Road nullah is located within the Sai Kung Town. Except for its downstream section which is covered, the nullah remains open and has been a source of nuisance to nearby residents.

6. To enhance the local environment quality in densely populated urban area, we will incorporate greening works in the project by landscaping the nullah deck and the planned open space adjacent to the nullah. We will also carry out minor road improvement works to the junction of Fuk Man Road and Po Tung Road in association with the construction of the proposed nullah decking works to improve the local traffic condition.

/7. .....

7. Upon completion of the proposed works, the eyesore will be removed and the quality of living environment will be improved as a result of enhanced greening in the area.

FINANCIAL IMPLICATIONS

8. We estimate the capital cost of the proposed works to be about $95.8 million in MOD prices (see paragraph 9 below), made up as follows –

			$ million	
(a)	Construction works		67.5	
	(i) nullah decking	54.8		
	(ii) landscaping works	8.0		
	(iii) ancillary works	4.7		
(b)	Environmental mitigation measures		2.7	
(c)	Consultants' fees for		8.6	
	(i) contract administration	2.3		
	(ii) site supervision	6.3		
(d)	Contingencies		7.9	
		Total	86.7	(in September 2007 prices)
(e)	Provision for price adjustment		9.1	
		Total	95.8	(in MOD prices)

/A .....

A breakdown of the estimates for consultants' fees by man-months is at Enclosure 2.

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

Year	$ million (Sept 2007)	Price adjustment factor	$ million (MOD)
2008 – 2009	7.8	1.02575	8.0
2009 – 2010	22.3	1.06293	23.7
2010 – 2011	27.7	1.10545	30.6
2011 – 2012	24.5	1.14967	28.2
2012 – 2013	4.4	1.19566	5.3
	86.7		95.8

10. We have derived the MOD estimates on the basis of Government's latest forecast of trend rate of change in the prices of public sector building and construction output for the period from 2008 to 2013. We will tender the proposed works under a target cost contract[1]. The contract will provide for price adjustments because the contract period will exceed 21 months.

11. We estimate the annual recurrent expenditure arising from the proposed works to be about $0.7 million.

PUBLIC CONSULTATION

12. We consulted the Sai Kung District Council (SKDC) Food & Environmental Hygiene Committee on 21 August 2007 regarding the proposed works. Members supported the implementation of the proposed works.

/13. .....

[1] Target cost contract means that the contractor will tender for a target price, which includes the contractor's estimate of construction cost, overheads and profit. The contractor will share the cost savings if the actual cost of works is below the target price or the cost excess vice versa according to a pre-determined share percentage with the Employer. The Employer's share of cost excess is capped at 10% above the target price.

13. We gazetted the proposed works under the Foreshore and Sea-bed (Reclamations) Ordinance (Chapter 127) on 7 December 2007 and did not receive any objection. The works was authorised on 5 March 2008.

14. We consulted the Legislative Council Panel on Development on the proposed works by circulation of an information paper on 16 April 2008. Members raised no objection to the proposed works.

ENVIRONMENTAL IMPLICATIONS

15. The proposed works is not a designated project under the Environmental Impact Assessment Ordinance. We completed an Environmental Study (ES) for the proposed works in December 2007 and concluded that the project would not cause any long term adverse environmental impacts. We will incorporate the ES recommendations into the works contract for implementation.

16. 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, frequent cleaning and water-spraying the site to reduce emission of dust, and the provision of wheel-washing facilities to avoid the escape of soil and dust from the site. We will also carry out regular site inspections to ensure that these recommended mitigation measures and good site practices will be properly implemented. We have included $2.7 million (in September 2007 prices) in the project estimates for implementation of the environmental mitigation measures.

17. We have considered ways in the planning and design stages to reduce the generation of construction waste where possible. For example, we have adopted standardised sections of reinforced concrete structures to minimise the use of formwork and will retain the existing nullah walls to minimise excavation and demolition of existing structures. In addition, we will require the contractor to reuse inert construction waste (e.g. the excavated material as filling material) on site or in other suitable construction sites as far as possible, in order to minimise the disposal of inert construction waste to public fill reception facilities[2]. We will encourage the contractor to maximise the use of recycled and recyclable inert construction waste, as well as the use of non-timber formwork to further minimise the generation of construction waste.

/18. .....

---

[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.

18. 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.

19. We estimate that the project will generate in total about 5 630 tonnes of construction waste. Of these, we will reuse about 1 000 tonnes (18%) on site and deliver about 2 180 tonnes (39%) of inert construction waste to public fill reception facilities for subsequent reuse. In addition, we will dispose of about 2 450 tonnes (43%) of non-inert construction waste at landfills. The total cost for accommodating construction waste at public fill reception facilities and landfill sites is estimated to be about $0.4 million for this project (based on a unit cost of $27/tonne for disposal at public fill reception facilities and $125/tonne at landfills[3]).

HERITAGE IMPLICATIONS

20. The project will not affect any heritage site, i.e. all declared monuments, proposed monuments, graded historic sites/buildings, sites of archaeological interests and Government historic sites identified by the Antiquities and Monuments Office.

TRAFFIC IMPACTS

21. We have carried out a traffic impact assessment for the proposed works, which concluded that the proposed works would not cause any significant traffic impact. The improvement works to the junction at Fuk Man Road and Po Tung Road were supported by SKDC Food & Environmental Hygiene Committee on 21 August 2007 and agreed by the Transport Department.

LAND ACQUISITION

22. The proposed works does not involve any land acquisition.

/BACKGROUND .....

---

[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.

BACKGROUND INFORMATION

23. We included **139CD** in Category B in September 2005.

24. In October 2006, we engaged consultant to undertake surveys, site investigation, traffic impact assessment and design for the works under **139CD** at a cost of $9.15 million in MOD prices. We have charged this amount to block allocation **Subhead 4100DX** "Drainage works, studies and investigations for items in Category D of the Public Works Programme". We have substantially completed the detailed design of the proposed works in paragraph 3 above. The design of the other nullah, namely Staunton Creek nullah in Wong Chuk Hang, is in progress.

25. Of the 45 trees within the project boundary, 40 trees will be preserved. The proposed works will involve the felling of five trees. All trees to be felled are not important trees[4]. We will incorporate planting proposal as part of the project, including estimated quantities of 40 trees, 3 400 shrubs and 140m^2 of grassed area.

26. We estimate that the proposed works will create about 50 jobs (40 for labourers and another 10 for professional/technical staff) providing a total employment of 1 450 man-months.

Development Bureau
May 2008

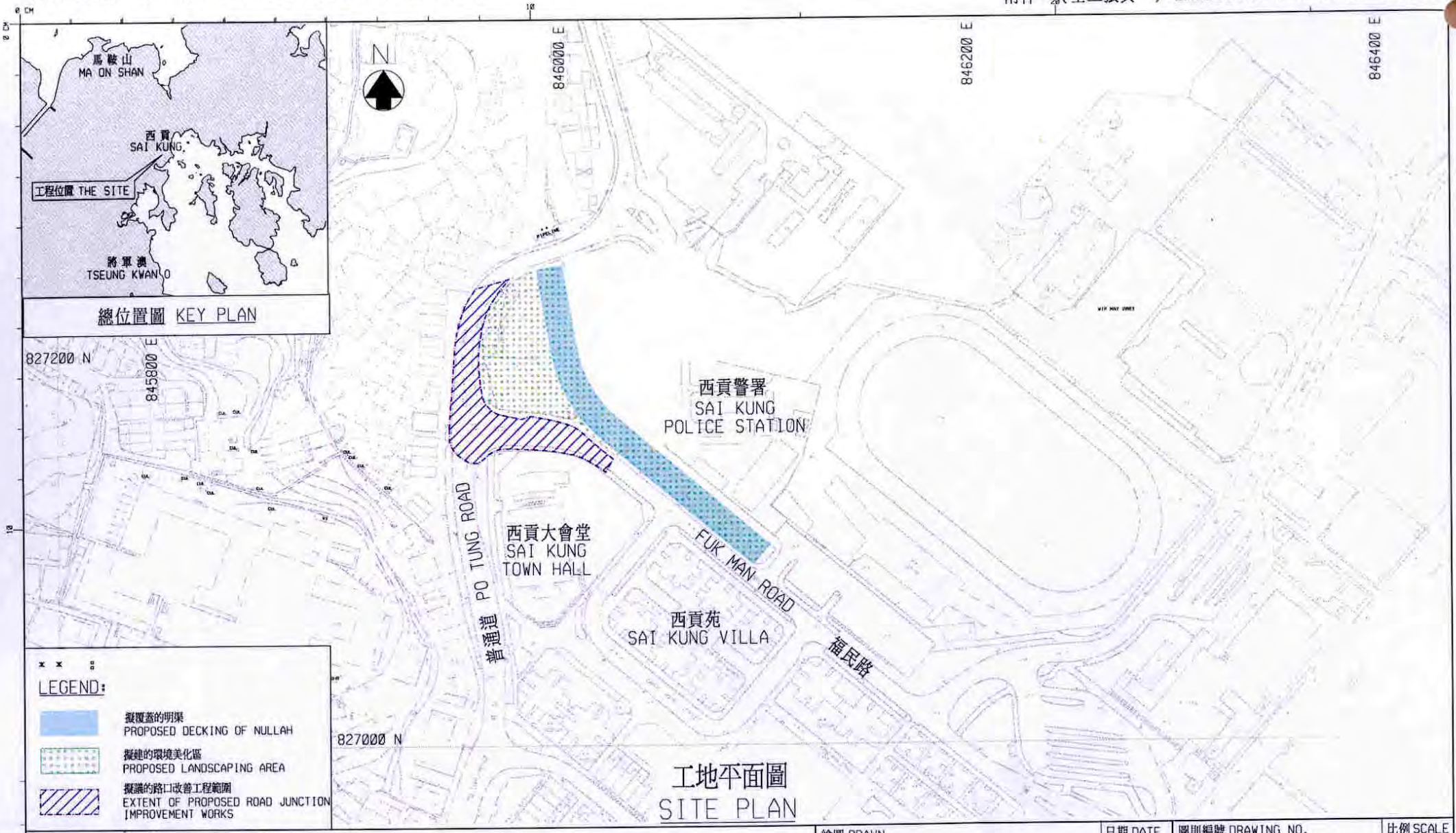
---

[4] "Important trees" refer to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria –

(a) trees over 100 years old or above;
(b) trees of cultural, historical or memorable significance e.g. Fung Shui trees, trees as landmark of monastery or heritage monument, and trees in memory of important persons or event;
(c) trees of precious or rare species;
(d) trees of outstanding form (taking account of overall tree sizes, shape and any special features) e.g. trees with curtain like aerial roots, trees growing in unusual habitat; or
(e) trees with trunk diameter equal or exceeding 1.0 m (measured at 1.3 m above ground level), or with height/canopy spread equal or exceeding 25 m.

西貢福民路明渠改善計劃
IMPROVEMENT OF FUK MAN ROAD NULLAH IN SAI KUNG

附件一(全三張其一) ENCLOSURE 1 (SHEET 1 OF 3)



總位置圖 KEY PLAN

LEGEND:

- 擬覆蓋的明渠 PROPOSED DECKING OF NULLAH
- 擬建的環境美化區 PROPOSED LANDSCAPING AREA
- 擬議的路口改善工程範圍 EXTENT OF PROPOSED ROAD JUNCTION IMPROVEMENT WORKS

工地平面圖
SITE PLAN

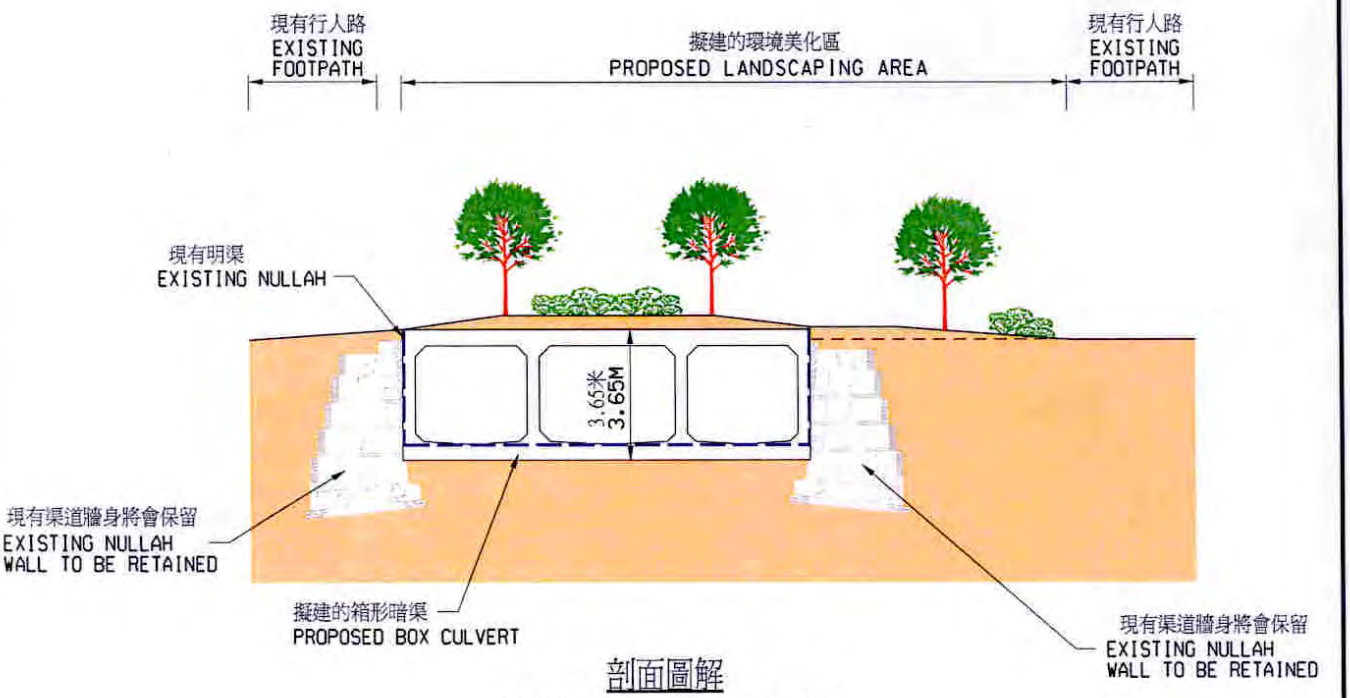
圖則名稱 DRAWING TITLE
工務工程計劃編號 139CD -
黃竹坑香葉道明渠及西貢福民路明渠覆蓋工程
PWP ITEM NO. 139CD -
DECKING OF STAUNTON CREEK NULLAH IN WONG CHUK HANG AND FUK MAN ROAD NULLAH IN SAI KUNG

繪圖 DRAWN	H.K. LAI	日期 DATE 23 APR 08
核對 CHECKED	L.F. TAI	日期 DATE 23 APR 08
審核 APPROVED	K.F. TAM	日期 DATE 23 APR 08
部門 OFFICE	排水工程部 DRAINAGE PROJECTS DIVISION	

圖則編號 DRAWING NO. 圖一 FIGURE 1

比例 SCALE NTS

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



剖面圖解
SCHEMATIC SECTION

LEGEND 圖例 :

擬種植的樹木及灌木
PROPOSED TREES AND
SHRUBS TO BE PLANTED

圖則名稱 DRAWING TITLE

工務工程計劃編號 139CD -
黃竹坑香葉道明渠及西貢福民路明渠覆蓋工程

PWP ITEM NO. 139CD -
DECKING OF STAUNTON CREEK NULLAH
IN WONG CHUK HANG AND
FUK MAN ROAD NULLAH IN SAI KUNG

繪圖 DRAWN	H.K. LAI	日期 DATE	23 APR 08
核對 CHECKED	L.F. TAI	日期 DATE	23 APR 08
審核 APPROVED	K.F. TAM	日期 DATE	23 APR 08

部門 OFFICE 排水工程部
DRAINAGE PROJECTS DIVISION

圖則編號 DRAWING NO. 圖二 FIGURE 2
比例 SCALE NTS

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

西貢福民路明渠改善計劃
IMPROVEMENT OF FUK MAN ROAD NULLAH IN SAI KUNG

環境美化平面圖
LANDSCAPING PLAN

1 帆船形涼亭
PAVILION IN THE FORM OF A SHIP'S BRIDGE

2 帆狀拉力結構
TENSION STRUCTURE IN THE FORM OF SAIL

3 呈海浪形狀的草坪及灌木
WAVY LAWN AND SHRUB

4 呈船身形狀的花棚
TRELLIS IN THE FORM OF A SHIP'S HULL

5 現有樹木
EXISTING TREE

6 船狀花槽
BOAT SHAPE PLANTER

呈船身形狀的花棚
TRELLIS IN THE FORM OF A SHIP'S HULL

帆船形涼亭
PAVILION IN THE FORM OF A SHIP'S BRIDGE

LEGEND 圖例:

- 現有樹木 EXISTING TREE
- 擬種植樹木 PROPOSED TREE
- 現有植物 EXISTING VEGETATION
- 擬種植的灌木及草坪 PROPOSED SHRUBS AND GRASSED AREA

圖則名稱 DRAWING TITLE
工務工程計劃編號 139CD -
黃竹坑香葉道明渠及西貢福民路明渠覆蓋工程
PWP ITEM NO. 139CD -
DECKING OF STAUNTON CREEK NULLAH IN WONG CHUK HANG AND FUK MAN ROAD NULLAH IN SAI KUNG

繪圖 DRAWN	T.M. LEE	日期 DATE 23 APR 08
核對 CHECKED	L.F. TAI	日期 DATE 23 APR 08
審核 APPROVED	K.F. TAM	日期 DATE 23 APR 08
部門 OFFICE	排水工程部 DRAINAGE PROJECTS DIVISION	

圖則編號 DRAWING NO. 圖三 FIGURE 3
比例 SCALE NTS

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

4139CD – Decking of Staunton Creek nullah in Wong Chuk Hang and Fuk Man Road nullah in Sai Kung

Breakdown of the estimates for consultants' fees

Consultants' staff costs			**Estimated man-months**	**Average MPS* salary point**	**Multiplier** (Note 1)	**Estimated fee ($ million)**
(a)	Contract administration (Note 2)	Professional	—	—	—	1.7
		Technical	—	—	—	0.6
(b)	Site supervision by resident site staff of the consultants (Note 3)	Professional	36	38	1.6	3.3
		Technical	101	14	1.6	3.0
					Total consultants' staff costs	8.6

* MPS = Master Pay Scale

Notes

1. A multiplier of 1.6 is applied to the average MPS point to estimate the cost of resident site staff supplied by the consultants. (As at 1 April 2007, MPS Pt. 38 = $56,945 per month and MPS Pt. 14 = $18,840 per month.)

2. The consultants' staff cost for contract administration are based on the lump sum fees calculated in accordance with the consultancy agreement which the Director of Drainage Services has agreed with the consultants undertaking the design and construction of the project. The construction phase of the assignment for the proposed works will only be executed subject to Finance Committee's approval to upgrade the proposed works to Category A.

3. We will only know the actual man-months and actual costs for site supervision after completion of the works.