

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 707 – NEW TOWNS AND URBAN AREA DEVELOPMENT

Hong Kong Island and Islands Development

Civil Engineering – Land development

706CL - Improvement to existing roads and drains in Cheung Chau old town – stage 2

Members are invited to recommend to Finance Committee the upgrading of **706CL** to Category A at an estimated cost of \$83.9 million in money-of-the-day prices.

PROBLEM

Most of existing roads in Cheung Chau old town are not accessible by emergency vehicles and the existing drainage and sewerage systems are inadequate to meet the current demand.

PROPOSAL

2. The Director of Territory Development (DTD), with the support of the Secretary for Housing, Planning and Lands, proposes to upgrade **706CL** to Category A at an estimated cost of \$83.9 million in money-of-the-day (MOD) prices for construction of roads, stormwater drains and sewers in Cheung Chau old town.

/PROJECT

PROJECT SCOPE AND NATURE

3. The scope of **706CL** comprises –
 - (a) construction of a road about 200 metres (m) long and 4.5m wide connecting On Wing Centre and Wo Shun Lane;
 - (b) re-construction and widening of about 190m of Kwok Man Road to 4.5m wide;
 - (c) re-construction of about 950m of Peak Road and provision of vehicle passing bays;
 - (d) construction of stormwater drains and sewers; and
 - (e) landscaping works associated with the roadworks mentioned in items (a) to (c) above.

_____ A site plan showing the proposed works is at Enclosure 1. We plan to start construction in July 2004 for completion in August 2007.

JUSTIFICATION

4. Since early 1980's, we have provided engineering infrastructure to serve Cheung Chau mainly in the formed and reclaimed areas. This includes typhoon shelter, piers, roads along the coast, sewage treatment works, etc. However, for Cheung Chau old town, inadequate infrastructure remains a problem. In particular, most of the existing roads in the old town area are narrow and not accessible by the standard fire fighting appliances. The Director of Fire Services considers it essential to provide emergency vehicular access in the populated old town area for fire fighting and rescue purposes. In this connection, we propose to construct a new 4.5m wide road connecting On Wing Centre and Wo Shun Lane and, widen Kwok Man Road to 4.5m and re-construct Peak Road.

5. The sewage treatment works at Cheung Chau has been in operation since 1985. It serves mainly the new developments on the island. Many areas in the old town are still not connected to the sewage treatment works. We propose to construct sewers in the old town area to convey sewage to the sewage treatment works.

6. The existing stormwater drains in the old town area are mostly under capacity, resulting in frequent flooding at Nam She Tong and Tai Tsoi Yuen during heavy rainstorms. The proposed drainage works in these areas will alleviate the flooding problem. We will design the proposed drainage works with a capacity to withstand rainstorms with a 50-year return period¹.

FINANCIAL IMPLICATIONS

7. We estimate the capital cost of the project to be \$83.9 million in MOD prices (see paragraph 8 below), made up as follows –

| | | \$ million | |
|-----|--------------------------------|-------------------|----------------------------------|
| (a) | Earth works | 3.0 | |
| (b) | Roadworks | 15.4 | |
| (c) | Drainage and sewerage works | 50.8 | |
| (d) | Landscaping works | 0.9 | |
| (e) | Consultants' fees for | 8.0 | |
| | (i) construction stage | 1.2 | |
| | (ii) resident site staff costs | 6.8 | |
| (f) | Contingencies | 7.9 | |
| | Sub-total | 86.0 | (in September 2003 prices) |
| (g) | Provision for price adjustment | (2.1) | |
| | Total | 83.9 | (in MOD prices) |
| | | | /Due |

¹ "Return period" is the average number of years during which a certain severity of flooding will occur once, statistically. A longer return period means a rarer chance of occurrence of a more severe flooding.

Due to insufficient in-house resources, DTD proposes to engage consultants to supervise the works. A breakdown by man-months of the estimate for the consultants' fees is at Enclosure 2.

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

| Year | \$ million (Sept. 2003) | Price adjustment factor | \$ million (MOD) |
|-------------|----------------------------|-------------------------------|---------------------|
| 2004 – 2005 | 12.0 | 0.98225 | 11.8 |
| 2005 – 2006 | 46.0 | 0.97734 | 45.0 |
| 2006 – 2007 | 18.0 | 0.97245 | 17.5 |
| 2007 – 2008 | 5.0 | 0.96759 | 4.8 |
| 2008 - 2009 | 5.0 | 0.96638 | 4.8 |
| | 86.0 | | 83.9 |

9. We have derived the MOD estimate on the basis of the Government's latest forecast of trend labour and construction prices for the period 2004 to 2009. We will tender the proposed works under a lump-sum contract with firm bills of quantities because we can clearly define the scope of the majority of the works in advance. The contract will provide for price adjustments as the contract period will exceed 21 months.

10. We estimate the annual recurrent expenditure arising from this project to be \$0.41 million.

PUBLIC CONSULTATION

11. We consulted the Cheung Chau Area Committee and the Islands District Council concerning the proposed works on 11 September 2001 and 15 October 2001 respectively. Both the Council and Committee supported the proposed works.

12. On 28 March 2002, we gazetted the road and sewerage works under the Roads (Works, Use and Compensation) Ordinance (the Ordinance) and the Roads (Works, Use and Compensation) Ordinance as applied by Water Pollution Control (Sewerage) Regulation (the Regulation) respectively. We received 38 objections including one objection representing over 200 objectors. The objections were mainly related to land resumption, especially along Peak Road, and tree felling. After discussions with the objectors, we proposed to modify the road widening at Peak Road by providing vehicle passing bays at suitable locations.

13. After revision of the scope of works, we consulted the Traffic and Transport Committee of the Islands District Council on 2 September 2002. The committee supported the revised road scheme.

14. On 1 November 2002, we gazetted the revised road and sewerage works under the Ordinance and the Regulation respectively and received three objections under the Ordinance and two objections under the Regulation. After our explanation, one objector under the Ordinance and two objectors under the Regulation withdrew their objections on the condition that the drainage alignments at Tai Tsoi Yuen Road and Peak Road be modified to avoid their structures. The remaining two objectors under the Ordinance refused to withdraw their objections. They were concerned about roadworks at Kwok Man Road, which involve clearance of a balcony structure and a small hut, both of which are located on government land. On 16 December 2003, the Chief Executive in Council over-ruled the objections in public interest and authorised the scheme with modifications under the Ordinance and the Regulation. The modifications involve adjustment of the land resumption boundary to minimise the resumption of land at Tai Tsoi Yuen Road and Peak Road.

15. We circulated an information paper to the LegCo Panel on Planning, Lands and Works in January 2004 to brief Members on the proposed works. Members have no comments on the project.

ENVIRONMENTAL IMPLICATIONS

16. The road and sewerage scheme is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). The project will have no long-term adverse environmental impact. To control the short-term dust, noise

/and

and site run-off impacts during construction to within established guidelines and standards, we will incorporate appropriate pollution control clauses in the works contracts for implementation.

17. We will require the contractor to submit a waste management plan for approval. The plan will include appropriate mitigation measures to avoid, reduce, reuse and recycle construction and demolition (C&D) materials, including the allocation of an area for waste segregation. We will require the contractor to ensure that the day-to-day operations on site comply with the approved waste management plan. To further minimise the generation of C&D materials, we will encourage the contractor to use non-timber formwork and recyclable materials for temporary works. We will also require the contractor to separate public fill from C&D waste for disposal at appropriate locations and sort the C&D materials by category on-site to facilitate reuse/recycling of paper/cardboard, timber and metal. We will control the disposal of public fill and C&D waste to designated landfills through a trip-ticket system. We will record the disposal, reuse and recycling of C&D materials for monitoring purposes.

18. At the planning and design stages, we have given due consideration in designing the level and layout of the proposed works and the construction sequence so as to minimise the generation of C&D materials as far as possible. We estimate that the proposed works will generate about 1 600 cubic metres (m³) of C&D materials. Of these, we will reuse about 1 440 m³ (90%) on site and dispose of 160 m³ (10%) at landfills. The notional cost of accommodating C&D waste at landfill site is estimated to be \$20,000 for this project (based on a notional unit cost² of \$125/m³).

LAND ACQUISITION

19. We will resume about 0.22 hectare of agricultural land and 0.06 hectare of building land for the proposed works. The land acquisition and clearance will affect 11 households involving 30 persons and 22 temporary structures. Under the existing policy, the Director of Housing will offer eligible families accommodation in public housing. We will charge the land acquisition and clearance costs estimated at \$8.52 million to **Head 701 – Land Acquisition**.

/BACKGROUND

² This 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/m³), nor the cost to provide new landfills (which are likely to be more expensive) when the existing ones are filled. The notional cost estimate is for reference only and does not form part of this project estimate.

BACKGROUND INFORMATION

20. We included **706CL** in Category B in October 2003.

21. We have completed the detailed design and site investigation for the proposed works at a cost of about \$4.0 million under the block allocation Subhead **7100CX** “New towns and urban area works, studies, and investigations for items in Category D of the Public Works Programme”.

22. The proposed works will involve transplanting of two trees and felling of 11 trees within the project site. All trees to be transplanted or felled are not important trees³. We will incorporate planting proposals as part of the project, including estimated quantities of about 11 trees and 500 m² of grassed area.

23. We estimate that the project will create some 70 jobs comprising 20 professional/technical staff and 50 labourers, totalling 1 800 man-months.

Housing, Planning and Lands Bureau
January 2004

³ Important trees include trees on the Register of Old and Valuable Trees, and any other trees which meet one or more of the following criteria –

- (a) trees over 100 years old;
- (b) trees of cultural, historical or memorable significance;
- (c) trees of precious or rare species;
- (d) trees of outstanding form; or
- (e) trees with trunk diameter exceeding one metre (measured at one metre above ground level).

**706CL – Improvement to existing roads and drains in Cheung Chau
old town – stage 2**

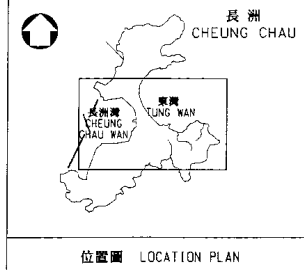
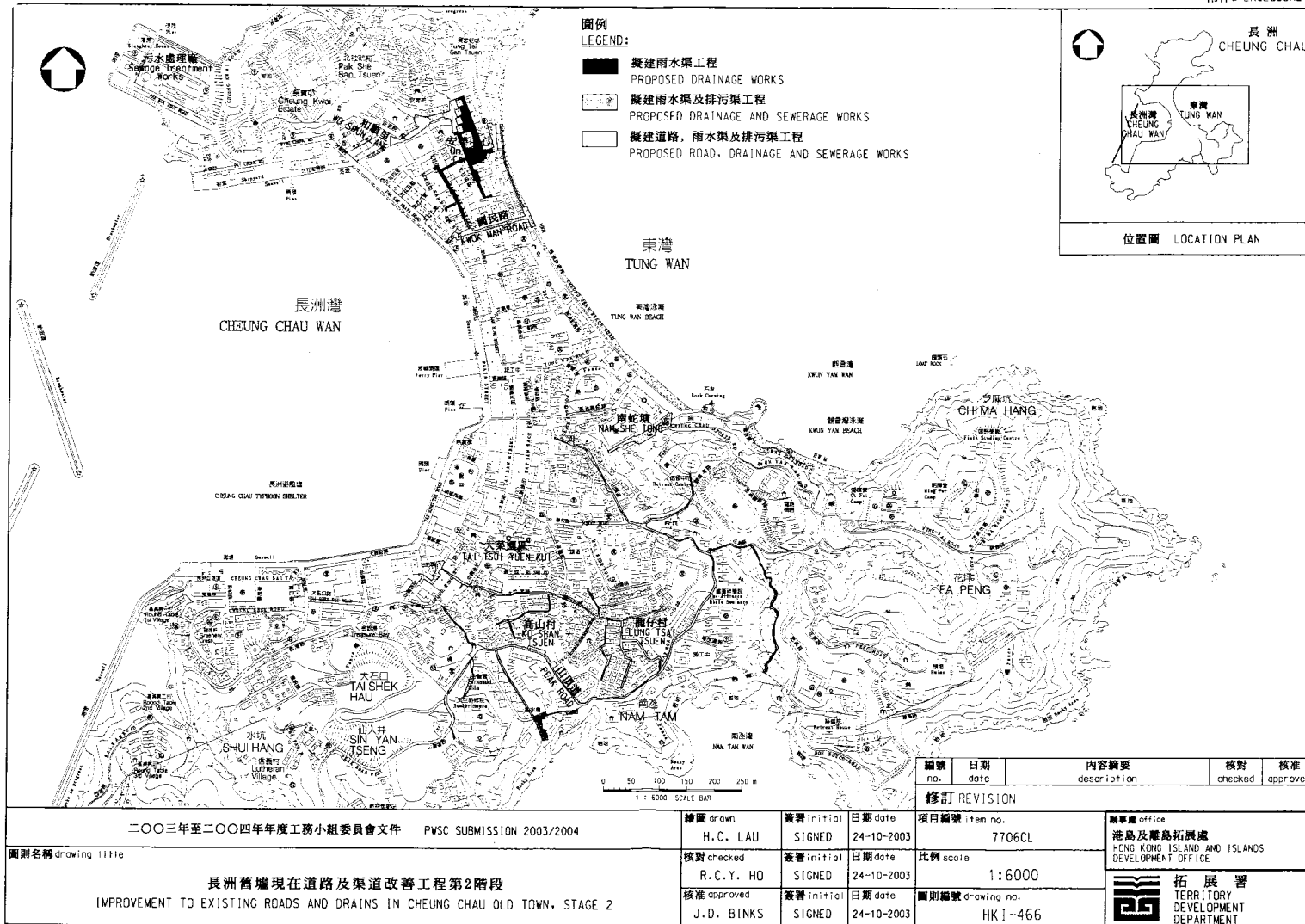
Breakdown of the estimate for consultants' fees

| Consultants' staff costs | | | Estimated man- months | Average MPS* salary point | Multiplier (Note 1) | Estimated fees (\$ million) |
|---------------------------------------|---|--|--------------------------------------|--|--------------------------------|--|
| (a) | Consultants' fees for construction stage (Note 2) | | | | | |
| | (i) | contract administration | - | - | - | 0.6 |
| | | | - | - | - | 0.2 |
| | (ii) | preparation of as-built drawings | - | - | - | 0.2 |
| | | | - | - | - | 0.2 |
| (b) | Resident site staff costs (Note 3) | Professional | 28 | 38 | 1.6 | 2.5 |
| | | Technical | 143 | 14 | 1.6 | 4.3 |
| Total consultants' staff costs | | | | | | <hr/> 8.0 <hr/> |

* 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 1.1.2004, MPS pt. 38 = \$55,993 per month and MPS pt. 14 = \$18,603 per month)
2. The consultants' staff cost for contract administration and preparation of as-built drawings is calculated in accordance with the existing consultancy agreement for design and construction supervision of the improvement to existing roads and drains in Cheung Chau old town.
3. The consultants' staff cost for site supervision is based on estimates prepared by the Director of Territory Development. We will only know the actual man-months and actual costs after completion of the construction works.



圖例
LEGEND:

- 擬建雨水渠工程
 PROPOSED DRAINAGE WORKS
- 擬建雨水渠及排污渠工程
 PROPOSED DRAINAGE AND SEWERAGE WORKS
- 擬建道路, 雨水渠及排污渠工程
 PROPOSED ROAD, DRAINAGE AND SEWERAGE WORKS

| 編號 no. | 日期 date | 內容摘要 description | 核對 checked | 核准 approved |
|-------------|------------|---------------------|---------------|----------------|
| 修訂 REVISION | | | | |

二〇〇三年至二〇〇四年年度工務小組委員會文件 PWSC SUBMISSION 2003/2004

圖則名稱 drawing title

長洲舊墟現在道路及渠道改善工程第2階段
 IMPROVEMENT TO EXISTING ROADS AND DRAINS IN CHEUNG CHAU OLD TOWN, STAGE 2

| | | |
|-------------|------------|------------|
| 繪圖 drawn | 簽署 initial | 日期 date |
| H. C. LAU | SIGNED | 24-10-2003 |
| 核對 checked | 簽署 initial | 日期 date |
| R. C. Y. HO | SIGNED | 24-10-2003 |
| 核准 approved | 簽署 initial | 日期 date |
| J. D. BINKS | SIGNED | 24-10-2003 |

| | |
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| 圖則編號 drawing no. | HK1-466 |

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