

## **ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE**

**HEAD 707 - NEW TOWNS AND URBAN AREA DEVELOPMENT**  
**New Territories North Development**  
**Civil Engineering - Land development**  
**278CL - Kau Hui development - engineering works, area 16, Yuen Long**

Members are invited to recommend to Finance  
Committee -

- (a) the upgrading of part of **278CL**, entitled “Kau Hui development - engineering works in area 16, Yuen Long, phase 1”, to Category A at an estimated cost of \$226.4 million in money-of-the day prices; and
- (b) the retention of the remainder of **278CL** in Category B, retitled “Kau Hui development - engineering works in area 16, Yuen Long, phase 2”.

### **PROBLEM**

The villages in Kau Hui, Yuen Long are situated in low lying areas and are prone to frequent flooding during heavy rainstorms. They also lack proper road, drainage and sewage systems.

**/PROPOSAL .....**

## PROPOSAL

2. The Director of Territory Development (DTD), with the support of the Secretary for Planning, Environment and Lands, proposes to upgrade part of **278CL** to Category A at an estimated cost of \$226.4 million in money-of-the-day (MOD) prices for carrying out engineering infrastructure works at Kau Hui, Yuen Long.

## PROJECT SCOPE AND NATURE

3. The scope of **278CL** comprises the construction of roads, drainage and sewerage systems, and formation of about 4.9 hectares of land at Kau Hui, Yuen Long.

4. The part of **278CL** we now propose to upgrade to Category A as phase 1 of the engineering works comprises-

- (a) Road L1, L2 (part), L4, L6, A1, A3 to A5, and carparks;
- (b) drainage and sewerage systems associated with Road L1, L2, L3, L4, L6, A1, A3 and A5, including box culverts, drainage pipes, sewers and a pair of sewage rising mains across the Shan Pui River;
- (c) a stormwater pumping station and a sewage pumping station;
- (d) three public toilets and three refuse collection points;
- (e) associated landscaping works; and
- (f) an environmental monitoring and audit (EM&A) programme for the works mentioned in paragraph (a) to (e) above.

The remaining part of **278CL**, including the formation of about 4.9 hectares of land at Kau Hui, will be retained in Category B.

**/JUSTIFICATION .....**

## JUSTIFICATION

5. Kau Hui is situated in the low-lying flood plain of Yuen Long. Due to the lack of a proper stormwater drainage system, Kau Hui is susceptible to flooding during heavy rainstorms. Part of the reason is that former low lying areas (including much of Nam Pin Wai, Tung Tau Tsuen and Ying Lung Wai), which used to serve as natural flood storage areas, have been utilized for the construction of village houses during the past two decades. This aggravates the flooding problems in the area. To ameliorate the situation, we propose to construct drainage pipes, box culverts and a stormwater pumping station to improve the drainage system.

6. Kau Hui is an old market town with a population of 9 900 people. At present, only a small amount of newly developed village houses within the Kau Hui area are connected to public sewers. More than 90% of the existing population live in houses where sewage is disposed of by means of septic tank and soakaway systems or simply by direct discharge into open ditches, streams and swampy areas. The environment in the area is already poor and will be subjected to additional pressure following the completion of the planned Comprehensive Development Area in the northwestern part of Kau Hui. Under this development, the population in the area will expand to some 12 400 by 2006. In view of this, we propose to construct a sewerage system to convey the sewage collected from Kau Hui to Yuen Long Sewage Treatment Works via sewage rising mains and a sewage pumping station.

7. The existing village access tracks at Kau Hui are narrow and are not properly paved. As a result, they cannot accommodate emergency vehicles. The tracks also have no proper drainage system and are prone to frequent flooding during heavy rainstorms. To improve access to the villages, we intend to construct new roads, emergency vehicular accesses and footpaths. At present, two substandard public toilets and one refuse collection point are located in the vicinity of Nam Pin Wai. These are inadequate to serve the entire Kau Hui area. Therefore we need to provide public toilets, refuse collection points and associated landscape works to improve the environment in the vicinity of Nam Pin Wai.

8. The proposed Road A1, L1 (part) and L2 (part) fall within the site boundary of the West Rail project of the Kowloon Canton Railway Corporation (KCRC). Our construction programme for the works in this area overlaps with the construction period of the West Rail project. In order to avoid interface problems with KCRC contractors and to ensure cost-effectiveness and timely

/completion .....

completion of the works, we will entrust our works within the overlapping area to KCRC for construction in conjunction with the West Rail project. We will reimburse KCRC the cost of the entrusted works plus on-cost.

## FINANCIAL IMPLICATIONS

9. We estimate the capital cost of the project to be \$226.4 million in MOD prices (see paragraph 10 below), made up as follows -

	\$ million
(a) Roadworks and associated drainage works	24.0
(b) Box culverts and stormwater pumping station	94.5
(c) Sewerage works and sewage pumping station	36.5
(d) Three public toilets and three refuse collection points	7.5
(e) Landscaping works	4.0
(f) Environmental monitoring and audit (EM&A) programme	2.6
(g) Consultants' fees for -	16.1
(i) construction stage	2.0
(ii) resident site staff costs	14.1
(h) On-cost <sup>1</sup>	3.2

/(i) .....

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<sup>1</sup> We will pay an on-cost of 11.6% of the construction cost of entrusted works to KCRC for project management and associated costs. We will not apply the full 16.5% on-cost as KCRC is not required to carry out the design work for this project. The investigation and design for the proposed works were carried out by TDD's consultants.

(i) Contingencies	18.8	
	207.2	(at December 1998 prices)
Sub-total		
(j) Provision for price adjustment	19.2	
	226.4	(in MOD prices)
Total		

Owing to insufficient in-house resources, DTD proposes to engage consultants to carry out the construction supervision work, except for the part of the works entrusted to KCRC. A breakdown by man months of the estimate for the consultants' fees is at the Enclosure.

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

Year	\$ million (Dec 1998)	Price adjustment factor	\$ million (MOD)
1999 - 2000	2.9	1.02625	3.0
2000 - 2001	83.5	1.06217	88.7
2001 - 2002	75.2	1.09934	82.7
2002 - 2003	41.6	1.13782	47.3
2003 - 2004	4.0	1.17765	4.7
	207.2		226.4

11. We have derived the MOD estimate on the basis of the Government's latest forecast of trend labour and construction prices for the period from 1999 to 2004. We will tender the civil engineering works under a standard remeasurement contract because the works involve extensive earthworks in constructing the foundation for the drainage systems and the road embankments, the quantities of which may vary according to the actual ground conditions. The

/contract .....

contract will provide for price adjustments as the contract period will exceed 21 months. We will tender the electrical and mechanical works separately under a lump-sum contract because we can clearly define the scope of the works. For the road and drainage works to be entrusted to KCRC, KCRC will tender the works as part of a contract for West Rail Yuen Long station.

12. We estimate the annually recurrent expenditure of the proposed works to be \$6.87 million.

### **PUBLIC CONSULTATION**

13. We consulted the Shap Pat Heung Rural Committee on 18 April 1997 and the Yuen Long District Board on 24 April 1997. Members of the Rural Committee and District Board supported the proposed works.

14. We gazetted the road scheme of the project under the Roads (Works, Use and Compensation) Ordinance on 31 October 1997 and received 20 objections. The objectors were concerned about the resumption of their land and the environmental impacts arising from the proposed roadworks. We had a series of discussions with the objectors. While 12 objectors subsequently withdrew their objections, the remaining eight refused to do so. On 10 November 1998, the Chief Executive in Council overruled these objections in the public interest and authorised the proposed roadworks with modifications to the resumption limit.

### **ENVIRONMENTAL IMPLICATIONS**

15. We completed the Environmental Impact Assessment (EIA) for Yuen Long Kau Hui Development in November 1992. Since the Director of Environmental Protection considered that the subsequent changes in the Kau Hui Layout Plan were substantial, we carried out a review of the EIA for the phase 1 works. We completed the review in February 1998, which concluded that the project would not have long term environmental impact. Moreover, the sewage pumping station described in paragraph 4(c) above constitutes a designated project under Schedule 2 of the Environmental Impact Assessment (EIA) Ordinance and an environmental permit is required for the construction and operation of the project. We have included in the project estimates the cost of implementing the EM&A programme (\$2.6 million) and necessary mitigation measures to control short term environmental impacts.

## LAND ACQUISITION

16. We will resume about 3.7 hectares of agricultural land and about 849 square metres of building land for the proposed works. The land acquisition and clearance will affect 131 households involving 313 persons and 273 structures. The Director of Housing will rehouse eligible clearerees in public housing in line with the existing policy. We will charge the costs of land acquisition and clearance, estimated at \$ 306 million, to **Head 701** - Land Acquisition.

## BACKGROUND INFORMATION

17. We upgraded **278CL** to Category B in February 1995.

18. In September 1997, we engaged consultants to undertake investigation and design for the proposed works and charged the cost of \$3.7 million to the block allocation **Subhead 7100CX** "New towns and urban area works, studies and investigations for items in Category D of the Public Works Programme". The consultants have completed the detailed design and drawings.

19. We plan to start the proposed works in December 1999 for completion in stages by May 2002. We will commence the remaining phase 2 works of Kau Hui in July 2002 for completion in June 2004.

20. Parts of Road L2 and L3 are covered by **45TR** - West Rail (phase 1) - essential public infrastructure works for the Yuen Long section. **45TR** was approved by the Finance Committee in July 1999.

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Planning, Environment and Lands Bureau  
October 1999

**278 CL – Kau Hui development – engineering works, area 16, Yuen Long**

**Breakdown of the estimate for consultants' fees**

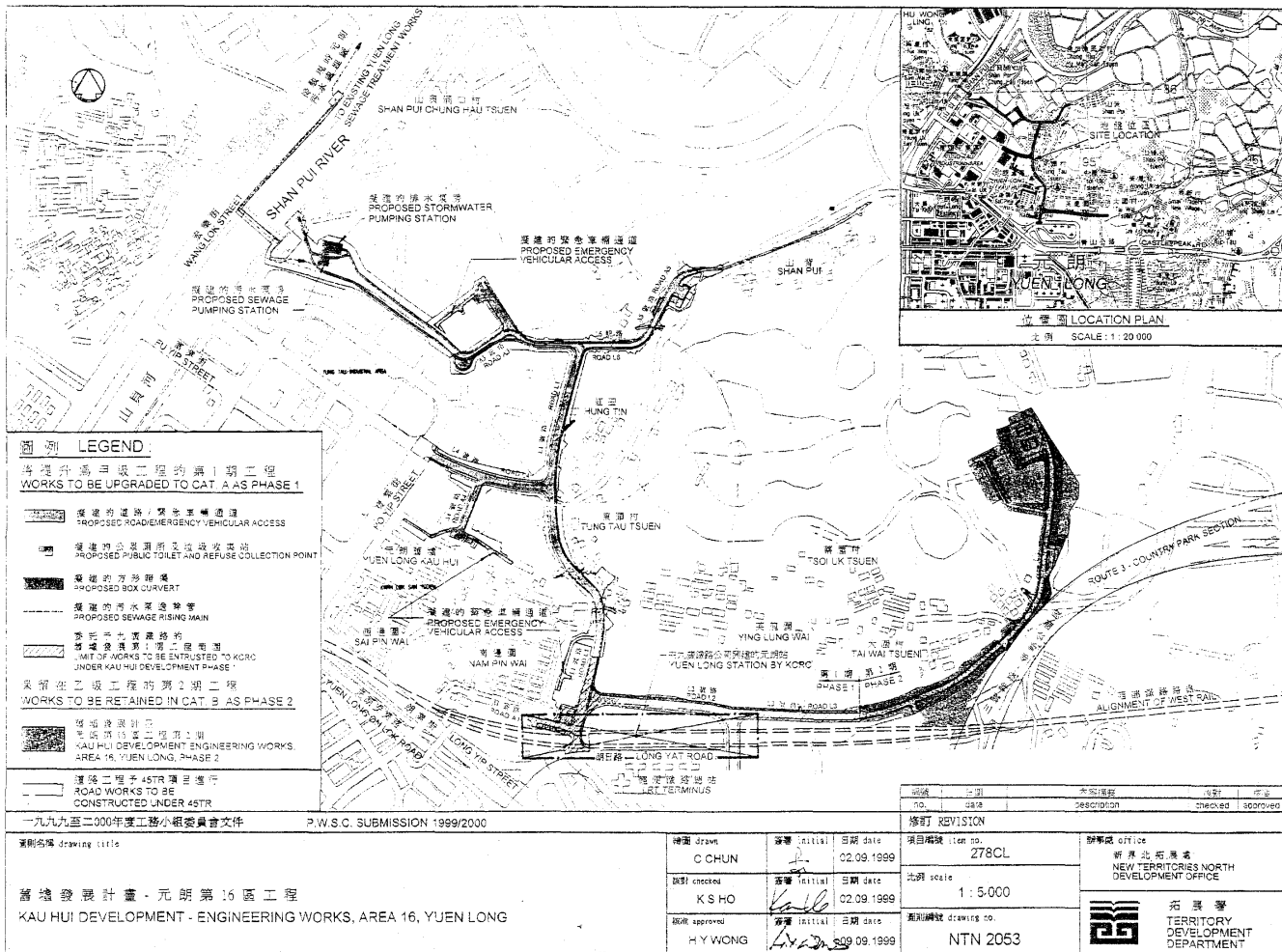
<b>Consultants' staff costs</b>			<b>Estimated man months</b>	<b>Average MPS* salary point</b>	<b>Multiplier factor</b>	<b>Estimated fee (\$ million)</b>
(a) Consultants' fees for construction stage						
(i) contract administration	Professional		10.0	40	2.4	1.5
	Technical		6.0	16	2.4	0.3
(ii) preparation of as-built drawings	Professional		0.7	40	2.4	0.1
	Technical		2.0	16	2.4	0.1
(b) Resident site staff costs	Professional		66.5	40	1.7	7.1
	Technical		196.0	16	1.7	7.0
<b>Total consultants' staff costs</b>						16.1

\* MPS = Master Pay Scale

**Notes**

1. A multiplier factor of 2.4 is applied to the average MPS point to arrive at the full staff costs including the consultants' overheads and profit, as the staff will be employed in the consultants' offices. A multiplier factor of 1.7 is applied to the average MPS point in the case of site staff supplied by the consultants. (At 1.4.98, MPS pt. 40 = \$62,780 p.m. and MPS pt. 16 = \$21,010 p.m.)
2. The figures given above are based on estimates prepared by the Director of Territory Development. The consultancy works for this project have been included as part of an existing consultancy agreement for the development of Yuen Long District (Stage 1).





**圖例 LEGEND**

將提升為B級工程的第1期工程  
WORKS TO BE UPGRADED TO CAT. A AS PHASE 1

擬建的道路 / 緊急車輛通道  
PROPOSED ROAD/EMERGENCY VEHICULAR ACCESS

擬建的公眾廁所及垃圾收集站  
PROPOSED PUBLIC TOILET AND REFUSE COLLECTION POINT

擬建的方格涵渠  
PROPOSED BOX CULVERT

擬建的雨水泵送站  
PROPOSED STORMWATER PUMPING STATION

擬建的污水渠管  
PROPOSED SEWAGE RISING MAIN

擬建的緊急車輛通道  
PROPOSED EMERGENCY VEHICULAR ACCESS

擬定交還港鐵公司興建的界限  
LIMIT OF WORKS TO BE ENTRUSTED TO KCRC UNDER KAU HUI DEVELOPMENT PHASE 1

保留在B級工程中的第2期工程  
WORKS TO BE RETAINED IN CAT. B AS PHASE 2

擬於45TR項下進行的道路工程  
ROAD WORKS TO BE CONSTRUCTED UNDER 45TR

編號	日期	更改描述	校對	批准
NO.	DATE	DESCRIPTION	CHECKED	APPROVED

一九九九年九月二二〇〇年工程小組委員會文件 P.W.S.C. SUBMISSION 1999/2000	<table border="1"> <tr> <td>繪圖 drawn</td> <td>簽署 initial</td> <td>日期 date</td> <td>項目編號 item no.</td> <td>辦事處 office</td> </tr> <tr> <td>C CHUN</td> <td>[Signature]</td> <td>02.09.1999</td> <td>278CL</td> <td rowspan="2">新界北拓展處 NEW TERRITORIES NORTH DEVELOPMENT OFFICE</td> </tr> <tr> <td>校對 checked</td> <td>簽署 initial</td> <td>日期 date</td> <td>比例 scale</td> </tr> <tr> <td>K S HO</td> <td>[Signature]</td> <td>02.09.1999</td> <td>1:5000</td> </tr> <tr> <td>核准 approved</td> <td>簽署 initial</td> <td>日期 date</td> <td>圖則編號 drawings no.</td> <td rowspan="2">地政署 TERRITORY DEVELOPMENT DEPARTMENT</td> </tr> <tr> <td>H Y WONG</td> <td>[Signature]</td> <td>09.09.1999</td> <td>NTN 2053</td> </tr> </table>	繪圖 drawn	簽署 initial	日期 date	項目編號 item no.	辦事處 office	C CHUN	[Signature]	02.09.1999	278CL	新界北拓展處 NEW TERRITORIES NORTH DEVELOPMENT OFFICE	校對 checked	簽署 initial	日期 date	比例 scale	K S HO	[Signature]	02.09.1999	1:5000	核准 approved	簽署 initial	日期 date	圖則編號 drawings no.	地政署 TERRITORY DEVELOPMENT DEPARTMENT	H Y WONG	[Signature]	09.09.1999	NTN 2053
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圖則名稱 drawing title  
 舊墟發展計劃 - 元朗第 16 區工程  
 KAU HUI DEVELOPMENT - ENGINEERING WORKS, AREA 16, YUEN LONG