

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 707 - NEW TOWNS AND URBAN AREA DEVELOPMENT
New Territories East Development
Civil Engineering – Land development
**277CL – Tseung Kwan O development, phase II, remaining engineering
works**

Members are invited to recommend to Finance
Committee –

- (a) the upgrading of part of **277CL**, entitled “Road D1 (section between Road D4 and Road L654) and footbridge linking Areas 45 and 55, Tseung Kwan O”, to Category A at an estimated cost of \$75.3 million in money-of-the-day prices; and
- (b) the retention of the remainder of **277CL** in Category B.

PROBLEM

We need to provide a district distributor road and a footbridge to serve the planned developments around Areas 45, 55 and 65 of Tseung Kwan O (TKO).

/PROPOSAL

PROPOSAL

2. The Director of Territory Development (DTD), with the support of the Secretary for Planning and Lands, proposes to upgrade part of **277CL** to Category A at an estimated cost of \$75.3 million in money-of-the-day (MOD) prices for the construction of a section of Road D1 between Road D4 and Road L654 and a footbridge linking Areas 45 and 55 in TKO.

PROJECT SCOPE AND NATURE

3. The scope of **277CL** covers engineering works associated with the phase 2 development of TKO. Since December 1989, Finance Committee has approved upgrading of parts of **277CL** to Category A (see paragraph 22 below). The remaining works¹ under **277CL** comprise the provision of roads, footbridge, noise mitigation measures, associated drainage, sewerage and landscaping works. The site plan and details of the works are at Enclosures 1 and 2 respectively.

4. The scope of the part of **277CL** we now propose to upgrade to Category A comprises –

- (a) construction of a 500-metre long dual-2 Road D1 between its intersections with Road D4 and Road L654;
- (b) construction of a footbridge across Po Hong Road linking Areas 45 and 55;
- (c) footpaths, cycle tracks, and associated drainage and landscaping works along Road D1;
- (d) provision of noise mitigation measures including about 100 metres (m) of vertical noise barrier and 300 m of cantilever noise barrier along Road D1; and
- (e) environmental monitoring and audit (EM&A) programme for the works mentioned in items (a) to (d) above.

/We

¹ Reclamation in Area 51 was originally part of **277CL**. As the reclamation has been completed by a private developer for a housing development, it is excluded from the remaining works to be retained in Category B.

We plan to start the construction work in December 2002 for completion in August 2004.

5. We will implement the remainder of **277CL**, which comprises decking over Road D4, in stages between 2004 and 2010. This part of the project is to be retained in Category B of the Public Works Programme.

JUSTIFICATION

Road D1 (part) and associated facilities

6. The planned developments at TKO town centre central, namely in Areas 55, 56, 57, 65, 66 and 67, include public and private housing, commercial premises, government, institution and community facilities, and a district open space. To tie in with the above developments, we upgraded part of **277CL** as **492CL** in December 1997 for the construction of engineering infrastructure works in TKO town centre central which include Road D1 (northern part), Road D4, and Roads L651 to L654. We started the works in May 1998 for completion in stages by December 2002. The section of Road D1 proposed in paragraph 4(a) above is an extension of the existing Po Hong Road, and will form part of an essential link between the northern and southern parts of TKO town centre.

7. During the period 1998 to 2001, a number of public housing projects in TKO town centre central, including Beverly Garden in Area 55, Tong Ming Court in Area 57 and Bauhinia Garden in Area 65a were completed. These housing developments accommodate some 36 000 people. Five school projects in Areas 55 and 56 have also been completed. The remaining developments to be completed progressively from end 2002 to 2007 include private housing projects in Areas 55a, 55b, 57a, 57b and 57c, construction of public housing in Area 65b and a school village project in the vicinity of Area 65b. The population intake for the above proposed housing developments is about 37 000. In order to cater for the traffic demand to be generated by the school and housing developments and to improve traffic circulation in the town centre, we plan to start construction works for the proposed section of Road D1 in December 2002 for completion in August 2004.

/Footbridge

Footbridge

8. We also need to construct a footbridge across Po Hong Road to provide a safe pedestrian access linking the residential development in Area 55 to the bus stop on the southbound lane of Po Hong Road and the town park in Area 45. Construction of the footbridge is scheduled to commence in December 2002 for completion in March 2004.

FINANCIAL IMPLICATIONS

9. We estimate the capital cost of the project to be \$75.3 million in MOD prices (see paragraph 10 below), made up as follows –

	\$ million	
(a) Earthworks & retaining walls	4.3	
(b) Roadworks	6.4	
(c) Footbridge	24.5	
(d) Drainage works	3.9	
(e) Landscaping works	1.7	
(f) Noise barriers	21.0	
(g) EM&A programme	0.7	
(h) Consultants' fees for	7.1	
(i) construction stage	0.9	
(ii) resident site staff costs	6.2	
(i) Contingencies	<u>6.9</u>	
Sub-total	76.5	(in September 2001 prices)

/(j)

(j) Provision for price adjustment	(1.2)	
		(in MOD
Total	75.3	prices)

Due to insufficient in-house resources, DTD proposes to engage consultants to supervise the proposed works. A breakdown by man-months of the estimate for consultants' fees is at Enclosure 3.

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

Year	\$ million (Sept 2001)	Price adjustment factor	\$ million (MOD)
2002 – 2003	10.2	0.98625	10.1
2003 – 2004	55.0	0.98378	54.1
2004 – 2005	7.6	0.98378	7.5
2005 – 2006	3.7	0.98378	3.6
	76.5		75.3

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 2002 to 2006. We will tender the proposed works under a fixed-price lump-sum contract because we can clearly define the scope of the majority of the works in advance. The contract will not provide for price adjustments because the contract period will not exceed 21 months.

12. We estimate the annual recurrent expenditure arising from this project to be \$724,500.

/PUBLIC

PUBLIC CONSULTATION

13. We consulted the Traffic and Transport Committee (T&TC) of the Sai Kung District Council (SKDC) on the proposed works on 28 January 1997 and 4 October 2001. The Committee supported the proposal and urged the Government to implement the works as soon as possible.

14. We gazetted the proposed footbridge and the road scheme under Roads (Works, Use and Compensation) Ordinance on 22 August 1997 and 25 January 2002 respectively and received no objection. The Secretary for Transport authorised the works on 6 November 1997 and 26 April 2002 respectively.

15. We circulated an information paper on this proposal to the LegCo Panel on Planning, Lands and Works on 31 May 2002.

ENVIRONMENTAL IMPLICATIONS

16. The proposed Road D1 is designated under Schedule 2 of the Environmental Impact Assessment (EIA) Ordinance and an Environmental Permit is required for its construction and operation stages.

17. We have completed an EIA study for Roads D1, D8 and D10 in TKO which included the proposed works. The EIA report approved under the EIA Ordinance in November 2001 concluded that the environmental impacts of the project could be controlled to within the requirements of the EIA Ordinance and its Technical Memorandum. The key mitigation measures related to the project as recommended in the approved EIA report include –

- (a) noise barriers at appropriate section of the project, as mentioned in paragraph 4(d) above. These measures can protect 465 dwellings and 40 classrooms from traffic noises exceeding the established standards;
- (b) preventive design features (e.g. voids be filled up with gas resistant mastic; ducts, manholes and chambers be sealed off and provided with vented covers) along the road to avoid potential accumulation of landfill gas from the adjacent TKO Stage 1 Landfill;

/(c)

- (c) dense tree and shrub planting in roadside amenity areas. Consideration should be given to designing and using materials to enhance the visual and landscape quality; and
- (d) an EM&A programme.

18. We will incorporate all recommended mitigation measures of the project into the relevant contract for implementation. We will also incorporate into relevant contract suitable measures to control pollution during construction stage. These measures will include frequent watering of the site, the provision of wheel-washing facilities and covering of materials on trucks to reduce emission of dust, the use of silenced construction plant and siting of equipment and mobile noise barriers for controlling construction noise and other procedures as recommended in Environmental Protection Department's Recommended Pollution Control Clauses for Construction Contracts. We have included the costs of landscaping works (\$1.7 million), noise barriers (\$21.0 million) and an EM&A programme (\$0.7 million) in the overall project estimate.

19. We have considered at the planning and design stages ways of optimising the road levels and the formation levels of the landscaping areas to reduce the generation of construction and demolition (C&D) materials as much as possible. We estimate that the project will generate about 4 000 cubic metres (m³) of C&D materials. Of these, we will reuse about 3 200 m³ (80%) on site and dispose of the remaining 800 m³ (20%) at landfills. The notional cost of accommodating C&D waste at landfill sites is estimated to be \$100,000 for this project (based on a notional unit cost² of \$125/m³).

20. We will require the contractor to submit a waste management plan (WMP) to the Engineer for approval. The WMP will include appropriate mitigation measures to avoid, reduce, reuse and recycle C&D materials. We will ensure that day-to-day operations on site comply with the approved WMP. We will require the contractor to reuse the excavated materials on site or on other

/construction

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 higher) when the existing ones are filled. The notional cost estimate is for reference only and does not form part of this project estimate.

construction sites as filling material as far as possible to minimise the disposal of public fill. To further minimise the generation of C&D materials, we will encourage the contractor to use non-timber formwork and recyclable material for temporary works. We will control the disposal of public fill and C&D waste to designated public filling facilities and landfills respectively through a trip-ticket system. We will require the contractor to separate public fill from C&D waste for disposal at appropriate facilities. We will record the disposal, reuse and recycling of C&D materials for monitoring purposes.

LAND ACQUISITION

21. The proposed works do not require any land acquisition.

BACKGROUND INFORMATION

22. We upgraded **277CL** to Category B in April 1988. Since then, Finance Committee has approved the upgrading of various parts of **277CL** to Category A for the reclamation of 79 hectares of land at TKO town centre, the provision of engineering infrastructure at TKO town centre north and TKO town centre central, widening of Wan Po Road and construction of the grade separated interchange T1/P1/P2, as detailed below –

Upgrade to Cat A	PWP Item	Project (Approved project estimate)	Start date	Completion date
Dec 1989	337CL	TKO development, phase II, stage II, engineering works (\$110 million)	June 1990	Feb 1995
June 1992	393CL	TKO development, phase II, stage IIIA, engineering works (\$332 million)	Dec 1992	Dec 1998
June 1993	412CL	TKO development, phase II, remaining reclamation and main drainage works (\$200 million)	June 1994	Dec 1998

/July

July 1995	456CL	TKO development, engineering infrastructure at town centre north (\$385.6 million)	Dec 1995	June 1999
Dec 1997	492CL	TKO development, engineering infrastructure at town centre central and improvements of Wan Po Road (\$577 million)	May 1998	Dec 2002
Jan 2002	770TH	Grade-separated interchange T1/P1/P2, Tseung Kwan O (\$438.6 million)	May 2002	May 2005

23. In February 2000, we engaged consultants to undertake detailed design and investigation for this project and charged the cost of \$2.78 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.

24. We estimate that the project will create some 85 new jobs comprising 18 professional/technical staff and 67 labourers, totalling 1 500 man-months.



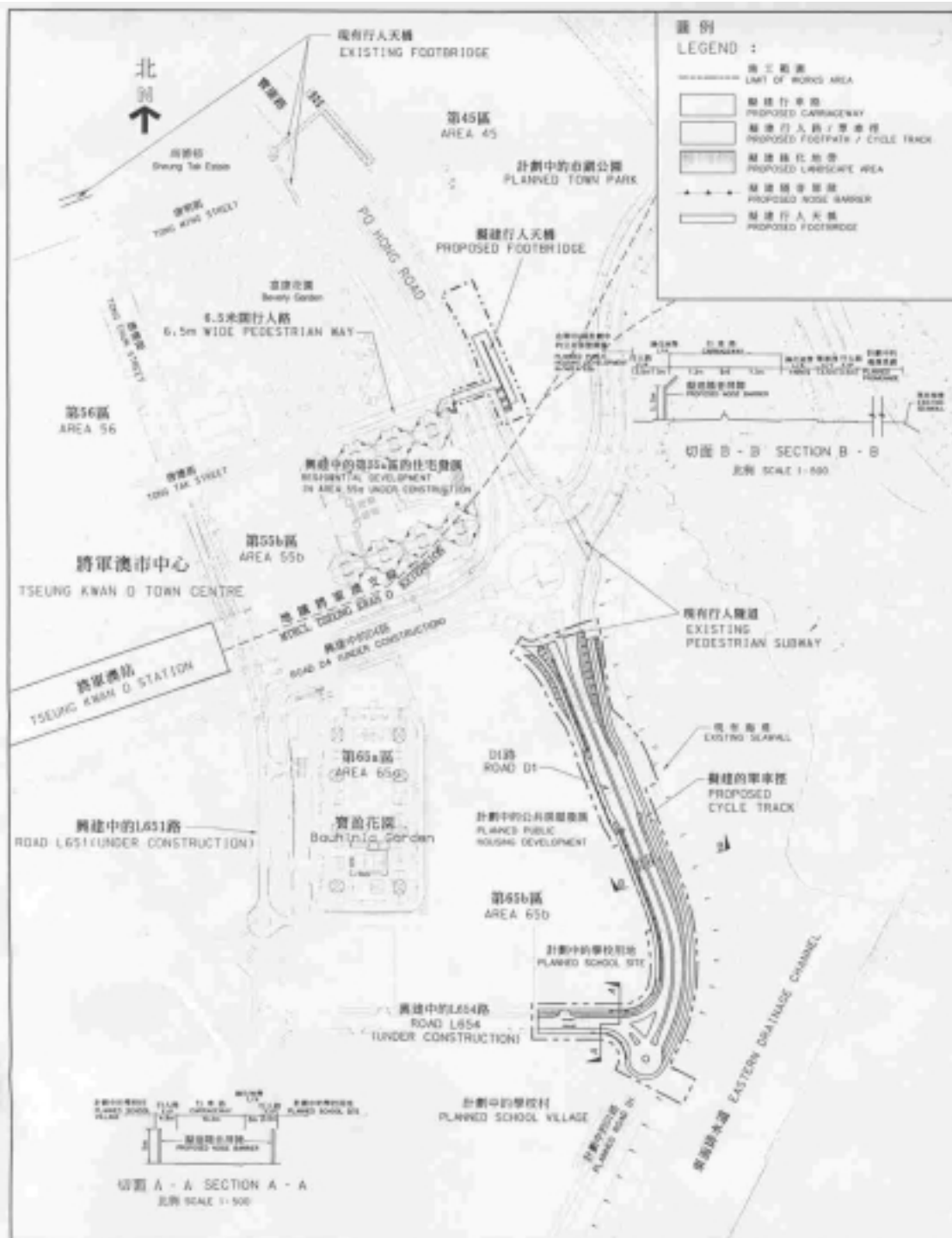
圖例
LEGEND:

- 建議提升為甲級的工程
WORKS PROPOSED TO BE UPGRADDED TO CATEGORY A
- 建議保留為乙級的餘下工程
REMAINING WORKS PROPOSED TO BE RETAINED IN CATEGORY B



索引圖 KEY PLAN A/M SCALE 1 : 15 000

二〇〇二年至二〇〇三年年度工務小組委員會文件 P. W. S. C. SUBMISSION 2002-2003				項目編號 ITEM No. 277GL	
圖則名稱 drawing title 將軍澳發展計劃第 11 期 餘下工程 - 工地圖 TSEUNG KWAN O DEVELOPMENT, PHASE 11, REMAINING ENGINEERING WORKS - SITE PLAN		繪圖 drafter S Y WONG	校對 checker C H LAM	日期 date 26.3.2002	日期 date 24.4.2002
		校核 approved J KWOK	校對 checked Calvin	日期 date 25.4.2002	比例 scale 1 : 20 000
				圖則編號 drawing no. TK 2299	辦事處 office 新界東拓展處 NT EAST DEVELOPMENT OFFICE
				拓展署 TERRITORY DEVELOPMENT DEPARTMENT	



二〇〇二年至二〇〇三年年度工務小組委員會文件 P.W.S.C. SUBMISSION 2002-2003					項目編號 ITEM No. 277CL
圖則名稱 drawing title 將軍澳發展計劃第II期餘下工程 - 平面圖 TSEUNG KWAN O DEVELOPMENT, PHASE II, REMAINING ENGINEERING WORKS - LAYOUT PLAN	繪圖 drawn S K NONG	繪圖 checked C H LAM	日期 date 18-2-02	日期 date 24-4-02	繪圖編號 drawing no. TX2294
	校對 approved J KWOK	日期 date 25-4-02	比例 scale 1 : 3 000	繪圖編號 drawing no. TX2294	新界東拓展處 NT EAST DEVELOPMENT OFFICE 拓展署 TERRITORY DEVELOPMENT DEPARTMENT

277CL – Tseung Kwan O development, phase II, remaining engineering works

Breakdown of the estimates for consultants' fees

			Estimated Man- months	Average MPS* salary point	Multiplier (Note 1)	Estimated fees (\$ million)
Consultants' staff costs						
(a)	Consultants' fees for construction stage (Note 2)					
(i)	contract	Professional	4	–	–	0.6
	administration	Technical	3	–	–	0.1
(ii)	preparation of as-built drawings	Professional	1	–	–	0.1
		Technical	3	–	–	0.1
(b)	Resident site staff costs (Note 3)	Professional	28	38	1.7	2.9
		Technical	100	14	1.7	3.3
Total consultants' staff costs						7.1

* MPS = Master Pay Scale

Notes

1. A multiplier of 1.7 is applied to the average MPS point to estimate the cost of resident site staff supplied by the consultants. (As at 1.4.2001, MPS pt. 38 = \$60,395 per month and MPS pt. 14 = \$19,510 per month.)
2. The consultants' staff cost for construction stage (including contract administration and preparation of as-built drawings) is calculated in accordance with the existing consultancy agreement for the Tseung Kwan O Development Phase II.
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.