

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 707 - NEW TOWNS AND URBAN AREA DEVELOPMENT New Territories East Development Transport - Roads 741TH – Northern Access to Area 86, Tseung Kwan O

Members are invited to recommend to Finance Committee the upgrading of **741TH** to Category A at an estimated cost of \$114.3 million in money-of-the-day prices for the construction of the Northern Access to Area 86, Tseung Kwan O.

PROBLEM

There is no access road to serve the Public Transport Interchange (PTI) of the Mass Transit Railway (MTR) Tseung Kwan O (TKO) Extension's TKO South Station and the northern part of the proposed development in Area 86, TKO.

PROPOSAL

2. The Director of Civil Engineering and Development (DCED), with the support of the Secretary for Housing, Planning and Lands, proposes to upgrade **741TH** to Category A at an estimated cost of \$114.3 million in money-of-the-day (MOD) prices for the construction of Northern Access to Area 86, TKO.

PROJECT SCOPE AND NATURE

3. The scope of **741TH** comprises –

/(a)

- (a) construction of about 550 metres (m) (including an elevated road section of about 135 m in length and a roundabout) of a two-lane each way carriageway from Wan Po Road to the northern part of Area 86, TKO (hereafter referred as the Northern Access);
- (b) widening of Wan Po Road at its junction with the proposed Northern Access;
- (c) construction of footpaths, retaining walls, slope works, drainage works, waterworks and landscaping works associated with the works mentioned in paragraphs (a) and (b) above;
- (d) construction of about 130 m cantilever noise barriers;
- (e) provision of Low Noise Road Surfacing (LNRS) for about 275 m of both eastbound and westbound carriageways; and
- (f) environmental mitigation measures associated with the works mentioned in paragraphs (a) to (e) above.

A site plan of the proposed works is at Enclosure 1. As the elevated section of the Northern Access will span over the mainline of the MTR TKO Extension, we plan to entrust the construction of the Northern Access and the associated works to MTR Corporation Limited (MTRCL) in order to avoid interface problems with MTRCL's works for the TKO South Station and the PTI and to ensure timely completion of the proposed project. Upon entrustment, we will start the construction of the road works in April 2006 for completion in December 2008. We will construct the noise barriers and apply LNRS in 2012 for completion in 2013 to tie in with the population intake of the adjacent housing development.

JUSTIFICATION

4. The PTI of the TKO South Station TKO Extension in Area 86 will serve as major transit points for commuters to and from nearby areas of TKO who wish to interchange between road-based transport and the railway. MTRCL plans to start the construction works for the new station and the PTI in April 2006 for completion in early 2009 to tie in with the population intake in Area 86. The Northern Access is required to link the PTI to the existing Wan Po Road.

5. Located above the MTR depot in TKO, Area 86 will be developed to accommodate about 21 500 private residential flats for a population of about 57 600. The TKO Area 86 Planning Study completed by the MTRCL in 1998 identified that the Northern Access is required to connect the development with the local road network.

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FINANCIAL IMPLICATIONS

6. We estimate the cost of the project to be \$114.3 million in MOD prices (see paragraph 7 below), made up as follows -

| | \$ million | |
|---|-------------------|----------------------------|
| (a) Roadworks including widening of Wan Po Road | 15.0 | |
| (b) Elevated road structures | 49.9 | |
| (c) Associated footpaths, retaining walls and slope works | 4.5 | |
| (d) Associated drainage works and waterworks | 10.9 | |
| (e) Associated landscaping works | 0.7 | |
| (f) Noise barriers and LNRS | 9.8 | |
| (g) On-cost payable to MTRCL ¹ | 12.7 | |
| (h) Contingencies | 10.4 | |
| | <hr/> | |
| Sub-total | 113.9 | (in September 2005 prices) |
| (i) Provision for price adjustment | 0.4 | |
| | <hr/> | |
| Total | 114.3 | (in MOD prices) |
| | <hr/> | |

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¹ We will pay on-costs for the construction administration and supervision related to the entrusted works at 14% of the estimated construction cost.

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

| Year | \$ million (Sept 2005) | Price adjustment factor | \$ million (MOD) |
|--------------------------|-----------------------------------|--|-----------------------------|
| 2006 – 2007 | 41.0 | 1.00125 | 41.1 |
| 2007 – 2008 | 46.6 | 1.00125 | 46.7 |
| 2008 – 2009 | 12.4 | 1.00125 | 12.4 |
| 2009 – 2010 | 9.0 | 1.00125 | 9.0 |
| 2010 – 2011 | 0.0 | 1.01627 | 0.0 |
| 2011 – 2012 ² | 4.0 | 1.03659 | 4.1 |
| 2012 – 2013 | 0.9 | 1.05733 | 1.0 |
| | 113.9 | | 114.3 |

8. We have derived the MOD estimates on the basis of the Government's latest forecast of the trend rate of change in the prices of public sector building and construction output for the period 2006 to 2013. MTRCL will tender the proposed works as part of the contract for TKO South Station.

9. We estimate the annual recurrent expenditure arising from this project to be about \$890,000.

PUBLIC CONSULTATION

10. We consulted the Traffic and Transport Committee of Sai Kung District Council on the initial road scheme on 29 November 2001. We consulted the Committee again on 10 December 2004 on the minor amendments³ made to the original road scheme since 2001. Members raised no comments on the minor amendments and supported the proposed road scheme.

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² Expenditure for Year 2011 - 2013 is for the construction of noise barriers and provision of low noise road surfacing.

³ The minor amendments include –

- (i) change from a dual two-lane carriageway to a two-lane each way carriageway;
- (ii) amendment of the road junction design to allow right turn traffic from the Northern Access onto Wan Po Road southbound; and
- (iii) other minor amendments including road widths etc.

11. We gazetted the road scheme under Roads (Works, Use and Compensation) Ordinance on 25 January 2002 and received no objections. The then Secretary for Transport authorised the works on 20 April 2002.

12. We circulated details of the proposed works to the Legislative Council Panel on Planning, Lands and Works on 26 April 2005 and 22 November 2005. We have not received any adverse comments.

ENVIRONMENTAL IMPLICATIONS

13. The project is not a designated project under the Environmental Impact Assessment Ordinance. We conducted a Preliminary Environmental Review (PER)⁴ for the project. The PER indicated that the project would not have significant environmental impact on air and water qualities during operation stage. The PER also indicated that traffic noise mitigation measures would not be required before the relevant phase of housing development in Area 86 is available in about 2013. We plan to construct about 130 m long cantilever noise barriers and apply LNRS for a section of the Northern Access (both eastbound and westbound) in 2012 for completion in 2013, with the foundation works to be carried out at the same time with the road works⁵. The proposed noise barriers will comprise transparent panels mounted on structural steel supports. We will commence the design of the noise barriers at a later stage when the design of the adjacent housing development has been developed in about 2008. The aesthetic design of the noise barriers will be configured to cope with the appearance of the residential towers to minimise visual intrusion. Some 184 units in the planned private housing development would directly benefit from the proposed noise mitigation measures. The capital and maintenance costs of the noise barriers and LNRS are estimated to be \$9.8 million and \$0.16 million per annum respectively. With the implementation of the recommended noise mitigation measures, most noise sensitive receivers (NSRs) will experience overall traffic noise levels below the specified limits with a maximum reduction in noise levels of 4.7 dB(A) except

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at some of the NSRs at the western end of the Northern Access that are expected to experience exceedances of 0.5 -1.5 dB(A) due mainly to traffic noise on the future access ramp to be constructed by MTRCL. The company will provide

⁴ The PER was conducted in accordance with the noise criteria set out in Hong Kong Planning Standards and Guidelines, i.e. 70 dB(A) L10 (1-hr) for domestic premises and 65 dB(A) L10 (1-hr) for education institutions.

⁵ In accordance with ETWB Technical Circular No. 13/2003A, an incremental approach should be adopted in the design and procurement for the provision of noise barriers to dovetail occupation of the planned development. The circular recommends that only the minimum (such as foundation) shall be provided to meet the uncertain development. To avoid road closure and other technical problems, the foundation for the noise barriers needs to be constructed at the same time with the road construction. The provision of superstructure works can be carried out at a later stage according to the timing of the actual occupation of the adjacent development. This is expected to be in year 2012-2013 based on MTRCL's current programme, i.e. 4 to 5 years after completion of the road works. There will be no abortive costs if the foundation and the superstructure works for the noise barriers are being done separately.

appropriate noise mitigation measures to alleviate the traffic noise impact arising from their access ramp.

14. With regard to landfill gas hazard arising from the nearby old landfill site, we will require the contractor to regularly check the landfill gas levels in depressions, trenches and other excavations using portable gas detectors during construction stage. We will implement measures to mitigate the landfill gas hazard including filling up voids around any service ducts, pipes or cables within conduits with gas resistant mastic. We will seal off all ducts, manholes, and chambers from the ground to prevent gas entry and provide vented covers to allow any gas that enters to dissipate harmlessly to atmosphere.

15. We will implement suitable measures to control pollution arising from construction. These measures will include frequent watering of the site, provision of wheel-washing facilities, covering of materials on trucks and using silenced construction plant.

16. We have considered suitable measures in the planning and design stages to reduce the generation of construction and demolition (C&D) materials where possible. In addition, we will require the contractor to reuse inert C&D materials (e.g. excavated material) on site or in other suitable construction sites as far as possible, in order to minimise the disposal of C&D materials to public fill reception facilities. We will encourage the contractor to maximise the use of recycled or recyclable C&D materials, as well as the use of non-timber formwork to further minimise the generation of construction waste.

17. We will also require the contractor to submit a waste management plan (WMP) for approval. The WMP will include appropriate mitigation measures to avoid, reduce, reuse and recycle C&D materials. We will ensure that the day-to-day operations on site comply with the approved WMP. We will control the disposal of public fill, C&D materials and C&D waste to public fill reception facilities, sorting 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.

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18. We estimate that the project will generate about 49 200 tonnes of C&D materials. Of these, about 15 000 tonnes (30.5 %) will be used on site, and 27 800 tonnes (56.5 %) will be delivered to public fill reception facilities⁶ for subsequent reuse. In addition, we will dispose of 6 400 tonnes (13.0 %) at landfills. The total cost for accommodating C&D materials at public fill reception facilities and landfill sites is estimated to be \$1,550,600 for this project (based on an unit cost of \$27/tonne for disposal at public fill reception facilities and \$125/tonne⁷ at landfills).

LAND ACQUISITION

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

BACKGROUND INFORMATION

20. We included **741TH** entitled “Tseung Kwan O Town Centre Link” in Category B in December 1999. The original scope of **741TH** covered two phases. Phase 1 comprised the works described in paragraph 3 above. Phase 2 was an extension of Phase 1 to link with the TKO Town Centre South area. On 27 April 2001, Finance Committee approved the upgrading of part of **741TH** to Category A as **753TH** entitled “Tseung Kwan O Town Centre Link phase 2 – consultants’ fees and site investigation” for the detailed design and site investigation works for Phase 2. The Civil Engineering and Development Department subsequently commissioned the “Feasibility Study for Further Development of TKO” (the Study) in July 2002. Given the findings of which might affect the planning and design of local road network, we have put on hold works under **753TH**. The Study, completed in early 2005, indicated that phase 2 would not be required following the decision to create a traffic-free zone at the Town Centre South area. We revised the scope of **741TH** by deleting the works under Phase 2 and re-titled **741TH** as “Northern Access to Area 86, Tseung Kwan O”.

21. In March 2000, we engaged consultants to undertake detailed design and investigation for phase 1 and charged the cost of \$3.0 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 had completed the detailed design and drawings.

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⁶ Sorting facilities and public fill reception facilities are specified in Schedule 3 and Schedule 4 respectively of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation. Disposal of public fill in public fill reception facilities requires a licence issued by the Director of Civil Engineering and Development.

⁷ 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 is likely to be more expensive) when the existing ones are filled.

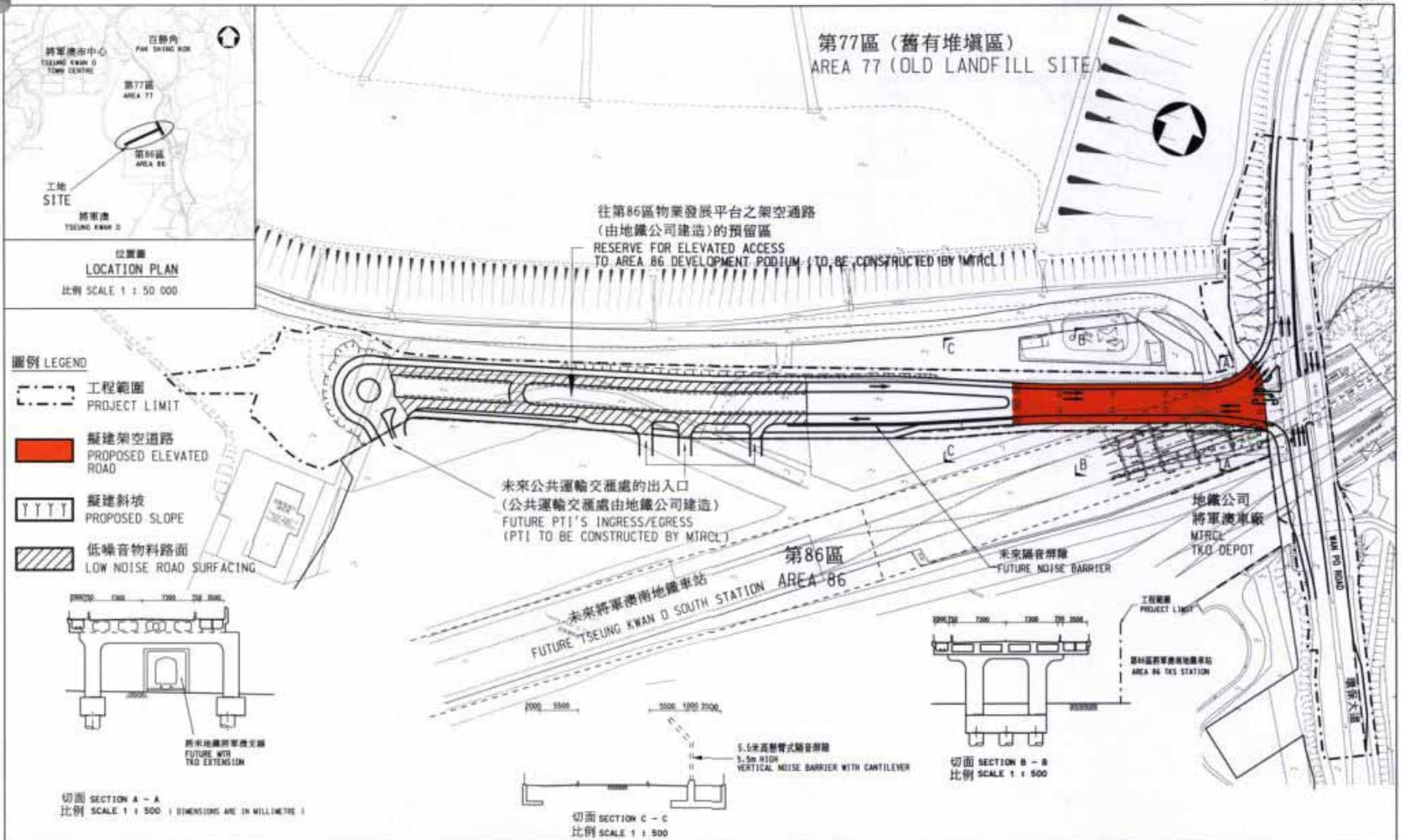
22. The proposed construction works will involve removal of 74 trees including 68 trees to be felled and six trees to be transplanted elsewhere. All trees to be removed are not important trees⁸. We will incorporate planting proposals as part of the project, including estimated quantities of 3 380 trees, 17 170 shrubs and 4 000 square metres of grassed area.

23. We estimate that the proposed works will create about 100 jobs (80 for labourers and another 20 for professional/technical staff) providing a total employment of 2 500 man-months.

Housing, Planning and Lands Bureau
Civil Engineering and Development Department
December 2005

⁸ Important trees refers to trees on the Register of Old and Valuable Trees, and any other trees which meet one or more of the following criteria:-

- (a) over 100 years old;
- (b) cultural, historical or memorable significance e.g. Wishing tree, Fung Shui tree, tree as landmark of monastery or heritage monument, and trees in memory of an important person or event;
- (c) precious or rare species, i.e. trees which have only small numbers of individuals occurring in Hong Kong e.g. Teak, Ginkgo and could be introduced or native species;
- (d) 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) with trunks diameter exceeding one metre (measured at one metre above ground level).



二〇〇五年至二〇〇六年度工務小組委員會文件 P.W.S.C. SUBMISSION 2005-2006

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| 圖則名稱 drawing title 將軍澳第86區北面通道 NORTHERN ACCESS TO AREA 86, TSEUNG KWAN O | 繪圖 drawn W K LEUNG | 簽署 Initial SIGNED | 日期 date 24.11.2005 | 項目編號 item no. 741TH | 辦事處 office 新界東拓展處 NEW TERRITORIES EAST DEVELOPMENT OFFICE |
| | 核對 checked C W MOK | 簽署 Initial SIGNED | 日期 date 24.11.2005 | 比例 scale 1 : 2000 | |
| | 核准 approved W T YEUNG | 簽署 Initial SIGNED | 日期 date 24.11.2005 | 圖則編號 drawing no. TK2307 | 土木工程拓展署 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT |

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