

**HEC Sub-committee on
Wan Chai Development Phase II Review**

**Consultants' findings on
Trunk Road Alignments and Harbour-front Enhancement**

Introduction

1. Following the Sub-committee's endorsement of the report of the Expert Panel on Sustainable Transport Planning and Central-Wan Chai Bypass (Expert Panel) and expressing support to the construction of a Central-Wan Chai Bypass at the Sub-committee meeting on 12 December 2005, the consultants for Wan Chai Development Phase II (WDII) Review (Consultants) submitted four papers, namely Deep Tunnel Option; Inland Alignments for the Trunk Road; Slip Roads 1, 2 and 3 at Wan Chai North; Slip Road 8 at Causeway Bay; and "No-reclamation" Alignments for the Trunk Road, for consideration by the Sub-committee at the meeting on 9 March 2006.
2. Members of the Sub-committee asked for further information on the overall Trunk Road design including horizontal and vertical alignments and harbour-front enhancement ideas. The Consultants have subsequently prepared a comprehensive report presenting their findings on their preliminary assessment on possible trunk road alignments and its construction forms. Several ideas, with the Trunk Road and harbour-front enhancement planned holistically, together with their pros and cons, are also presented for the Sub-committee's further consideration.
3. A copy of the Consultants' report is at **Appendix 1** for Members' consideration. Major points of the Consultants' report are summarized below.

Consultants' Preliminary Assessment on Possible Trunk Road Alignments and Construction Forms

Trunk Road Routings

4. The Consultants concluded that the only feasible Trunk Road routing is one along the foreshore of Wan Chai and Causeway Bay. "Offshore" and "inland" routings as alternatives have been examined but were found not feasible as they are constrained by existing developments and essential public service infrastructures.

Need for Reclamation

5. All schemes for the Trunk Road alignment through the WDII project area will require reclamation. In the west, the Trunk Road will extend the tunnel to be constructed within the Central Reclamation Phase III (CRIII) area eastward to pass above the existing tunnel structure of the MTR Tsuen Wan Line as passing underneath it is not feasible. At the crossing point, the Trunk Road tunnel structure will be above sea level and hence requires reclamation. The slip roads at Wan Chai North will also require reclamation as they rise above seabed to their portals at ground level. In the east, the Trunk Road needs to connect to the existing Island Eastern Corridor (IEC) flyover. If the Trunk Road is to be built in the form of tunnel, the transition from tunnel to flyover will require reclamation for the ground level tunnel portal construction.
6. The idea of constructing the Trunk Road by tunnel boring machine (Deep Tunnel Option) with a view to avoiding or minimizing reclamation has also been explored. It was found that the extent of reclamation required would be more than constructing the Trunk Road tunnel by the cut-and-cover method. Because of the big level difference, Slip Road 8 at Causeway Bay could not be provided, resulting in a functionally inferior Trunk Road. The Consultants suggested that there is no justification to pursue the Deep Tunnel Option.
7. Having also examined and studied other ideas submitted or suggested by members of the public so far, the Consultants concluded that reclamation could not be completely avoided, i.e., there is no feasible "no-reclamation" alignment option.

Trunk Road Construction Forms

8. Two forms for constructing the Trunk Road, namely the tunnel option and the flyover option, have been examined by the Consultants.
9. For the tunnel option, three variations, as described below, together with their corresponding harbour-front enhancement ideas are presented in the Consultants' report. Figures showing these three variations are at **Appendix 2**.
 - (a) Variation 1 - extends the tunnel to be constructed under CRIII eastward to pass underneath the existing rock anchors of the Cross Harbour Tunnel (CHT) portal structure, and continues the tunnel to the east of the Causeway Bay Typhoon Shelter (CBTS) and connects to the northern side of the existing IEC.
 - (b) Variation 2 - extends the tunnel to be constructed under CRIII eastward to pass underneath the CHT at a position to the south of that in Variation 1 to avoid the rock anchor zone, and continues the tunnel to the east of the CBTS and connects directly into the IEC by reconstructing a section of the existing IEC and realigning Victoria Park Road (VPR).
 - (c) Variation 3 – similar to Variation 2 except that the tunnel passes underneath the rock anchors of the CHT portal as in Variation 1.
10. Under the flyover option considered by the Consultant, the tunnel to be constructed under CRIII will be extended eastward, and will rise up onto an elevated road structure at the waterfront opposite to the Wan Chai Sports Ground. Figure showing this option is at **Appendix 3**.
11. A comparison between the tunnel option, using tunnel Variation 1 described above, and the flyover option is given in Table 4.2 of the Consultants' report. Among other points, the Consultants pointed out that the capital and annual recurrent costs will be higher for the tunnel option.
12. The Protection of the Harbour Ordinance requires the Harbour to be protected and preserved as a special public asset and a natural heritage of Hong Kong people. Therefore, the Consultants suggested that when examining options for the Trunk Road, the one that may serve best to protect and preserve the Harbour should be identified. For the flyover option, the land formation by physical reclamation together

with the water areas of the Harbour affected by flyover structures should be taken into account. Their conclusion is that the affected area of the Harbour under the flyover option will be more than the tunnel option.

13. The Consultants are of the view that the tunnel option would serve better to protect and preserve the Harbour. Several key issues are highlighted as follows:

- the affected area of the Harbour under the flyover option will be more,
- the flyover option will have more visual impact and impact on existing traffic and highway structure, and
- the flyover option will limit the opportunities for harbour-front enhancement and improvement to access to harbour-front.

14. A detailed comparison between the three tunnel variations is provided in Table 4.1 of the Consultants' report. Several key points are highlighted as follows:

	Variation 1	Variation 2	Variation 3
Area of permanent reclamation	Least	Largest	
Impact to existing traffic	Least	Major disruption (at IEC, VPR and CHT)	Major disruption (at IEC and VPR)
Impact to existing highway structures		Extensive demolition and reconstruction of existing highway structures	Extensive demolition and reconstruction of existing highway structures
Disturbance to Victoria Park (including either transplanting or felling of mature trees in the area concerned)		Significant	Significant

Harbour-front enhancement	Achievable	Achievable	Achievable
Waterfront promenade along CBTS		wider	wider
Construction costs and annual recurrent costs	Lowest	Highest	

Ground Level Highway Infrastructure

15. An assessment on the effect of the associated ground level highway infrastructure, especially those two sets of slip roads and Road P2, following the Harbour Planning Principles (HPPs) developed by the HEC has been conducted and the Consultants concluded that these highway infrastructures would not compromise harbour-front planning.

Advice Sought

16. Members are requested to consider and comment on the Consultants' report.

Attachment

Appendix 1 - Consultants' Report on Trunk Road Alignments & Harbour-front Enhancement

Appendix 2 - Figures on variations of Trunk Road tunnel option

Appendix 3 - Figure on Trunk Road flyover option

Secretariat,
HEC Sub-committee on WDII Review
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