

For discussion
(date to be confirmed)

PWSC(2015-16)27

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 707 – NEW TOWNS AND URBAN AREA DEVELOPMENT

Transport – Roads

861TH – Widening of Tai Po Road (Sha Tin Section)

Members are invited to recommend to the Finance Committee –

- (a) the upgrading of part of **861TH**, entitled “Widening of Tai Po Road (Sha Tin Section) – detailed design and site investigation”, to Category A at an estimated cost of \$43.2 million in money-of-the-day prices; and
- (b) the retention of the remainder of **861TH** in Category B.

PROBLEM

We need to widen Tai Po Road (Sha Tin Section) to meet the anticipated traffic demand.

/PROPOSAL

PROPOSAL

2. The Director of Civil Engineering and Development, with the support of the Secretary for Transport and Housing, proposes to upgrade part of **861TH** to Category A at an estimated cost of \$43.2 million in money-of-the-day (MOD) prices to undertake the detailed design and associated site investigation works for the proposed widening of Tai Po Road (Sha Tin Section) (the Project).

PROJECT SCOPE AND NATURE

3. We propose upgrading part of **861TH** to Category A, comprising –
- (a) detailed design of the works described in paragraph 5 (a) to (d) below;
 - (b) associated site investigation works and supervision; and
 - (c) preparation of tender documents and assessment of tenders for the works described in paragraph 5 (a) to (d) below.

— A plan showing the location of the Project is at Enclosure 1.

4. Subject to funding approval of the Finance Committee, we plan to commence the proposed detailed design and associated site investigation works in end-2015 for completion by end-2017.

5. We will retain the remainder of **861TH** in Category B and will seek funding for these works according to their implementation programme. The scope of the remainder, mainly construction works, comprises –

- (a) widening of Tai Po Road of about 1.1 kilometres between Sha Tin Plaza near Sha Tin Rural Committee Road and Man Wo House of Wo Che Estate near Fo Tan Road from dual-two lane to dual three-lane;
- (b) modification of Sha Tin Rural Committee Road bridge to cater for the widening of Tai Po Road;

/(c)

- (c) modification of the two footbridges across Tai Po Road (Sha Tin Section) near Wo Che Street and near Fung Wo Lane respectively to cater for the widening of Tai Po Road; and
- (d) associated drainage works, landscape works, noise mitigation measures, street lighting works and traffic control and surveillance system.

JUSTIFICATION

6. Tai Po Road (Sha Tin Section) is an important primary distributor road linking the Northeast New Territories with West Kowloon (through Tsing Sha Highway) and Tsuen Wan (through Shing Mun Tunnel).

7. At present, Tai Po Road (Sha Tin Section) between Sha Tin Plaza near Sha Tin Rural Committee Road and Man Wo House of Wo Che Estate near Fo Tan Road is a dual two-lane carriageway. Traffic congestion frequently occurs during afternoon peak hours with the northbound traffic reaching a volume/capacity (v/c) ratio¹ of around 1.24. According to the traffic impact assessment of the investigation study of the Project, it is envisaged that the congestion will worsen with the v/c ratio of the northbound traffic during afternoon peak hours reaching 1.31 in 2021 in view of the continued development in Sha Tin, Tai Po and North districts.

8. Upon the completion of the Project, it is anticipated that the v/c ratios during peak hours at Tai Po Road (Sha Tin Section) will be improved as follows –

/2021

¹ The v/c ratio is an indicator of the performance of a road. A v/c ratio equal to or less than 1.0 means that a road has sufficient capacity to cope with the volume of vehicular traffic and the traffic flow will be smooth. A v/c ratio above 1.0 indicates the onset of congestion; that above 1.2 indicates more serious congestion with traffic speeds deteriorating progressively as a result of further increase in traffic.

Year	v/c ratio without the Project		v/c ratio with the Project	
	a.m. peak hour southbound traffic (toward Kowloon)	p.m. peak hour northbound traffic (toward Tai Po)	a.m. peak hour southbound traffic (toward Kowloon)	p.m. peak hour northbound traffic (toward Tai Po)
2021	1.19	1.31	0.94	0.93
2026	1.22	1.36	0.96	0.96

With regard to the morning traffic from Ma Liu Shui to New Town Plaza about which the public is more concerned, it is estimated that the travelling time can be reduced from 18 minutes to 7 minutes in 2021 upon the completion of the Project.

FINANCIAL IMPLICATIONS

9. We estimate the cost of the proposed detailed design and associated site investigation works to be \$43.2 million in MOD prices (please see paragraph 11 below), broken down as follows –

	\$ million	
(a) Consultants' fees for	21.2	
(i) detailed design and supervision of site investigation works	19.0	
(ii) preparation of tender documents and assessment of tenders	2.1	
(iii) management of resident site staff (RSS) for site investigation works	0.1	
(b) Remuneration of RSS for site investigation works	1.1	
(c) Site investigation works	11.2	
(d) Contingencies	3.4	
	Sub-total	36.9 (in September 2014 prices)
(e) Provision for price adjustment	6.3	
	Total	43.2 (in MOD prices)

10. Due to insufficient in-house resources, the Civil Engineering and Development Department (CEDD) proposes engaging consultants to carry out the detailed design and supervision of site investigation works. A breakdown of the estimates for consultants' fees and RSS costs by man-month is at Enclosure 2.

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

Year	\$ million (Sep 2014)	Price adjustment factor	\$ million (MOD)
2015-2016	0.7	1.05725	0.7
2016-2017	14.2	1.12069	15.9
2017-2018	16.6	1.18793	19.7
2018-2019	4.3	1.25920	5.4
2019-2020	1.1	1.33475	1.5
	36.9		43.2

12. We have derived the MOD estimates on the basis of the Government's latest set of assumptions on the trend rate of change in the prices of public sector building and construction output for the period from 2015 to 2020. We will tender the proposed detailed design consultancy on a lump sum basis. We will tender the proposed site investigation works under a standard re-measurement contract because the quantity of works involved may vary depending on actual ground conditions. Both contracts will provide for price adjustment.

13. The proposed detailed design and associated site investigation works will not give rise to any recurrent consequences.

/PUBLIC

PUBLIC CONSULTATION

14. CEDD commenced an investigation study for the Project in early-2013. We have subsequently completed a two-stage public engagement exercise, including focus group meetings and a public forum. Taking into account the views collected from the public engagement exercise, environmental impact and engineering considerations, we have formulated a scheme for the Project. CEDD consulted the Traffic and Transport Committee of Sha Tin District Council on 6 January 2015 and obtained its support.

15. We consulted the Advisory Committee on the Appearance of Bridges and Associated Structures (ACABAS)² on the preliminary design of the Project on 19 May 2015. The Committee supported the Project.

16. We consulted the Legislative Council Panel on Transport on the funding application on 20 March 2015. The Panel supported submitting the funding application to the Public Works Subcommittee for examination. Supplementary information on the Project as requested by Members was provided on 19 June 2015.

ENVIRONMENTAL IMPLICATIONS

17. The proposed detailed design and associated site investigation works are not a designated project under the Environmental Impact Assessment (EIA) Ordinance (Cap. 499) and will not cause any long-term environmental impact. We have included in the project estimate the cost of implementing mitigation measures to control short-term environmental impact during the site investigation works.

18. The proposed site investigation works will only generate very little construction waste. We will require the consultants to fully consider suitable measures to minimise the generation of construction waste and to reuse or recycle construction waste as much as possible in the future construction works.

/19.

² The ACABAS, which comprises representatives of the Hong Kong Institute of Architects, the Hong Kong Institution of Engineers, the Hong Kong Institute of Planners, an academic institution, the Architectural Services Department, the Highways Department, the Housing Department and CEDD, is responsible for vetting the design of bridges and other structures associated with the highway system, including noise barriers and enclosures, from the aesthetic and visual impact points of view.

19. The Project is a designated project under Schedule 2 of the EIA Ordinance with an approved EIA report and environmental permit (EP) granted by the Director of Environmental Protection. We will implement the measures recommended in the EIA report and EP under the remainder of **861TH**.

HERITAGE IMPLICATIONS

20. The proposed detailed design and associated site investigation works will not affect any heritage sites, i.e. all declared monuments, proposed monuments, graded historic sites or buildings, sites of archaeological interest and government historic sites identified by the Antiquities and Monuments Office.

LAND ACQUISITION

21. The proposed detailed design and associated site investigation works do not require any land acquisition.

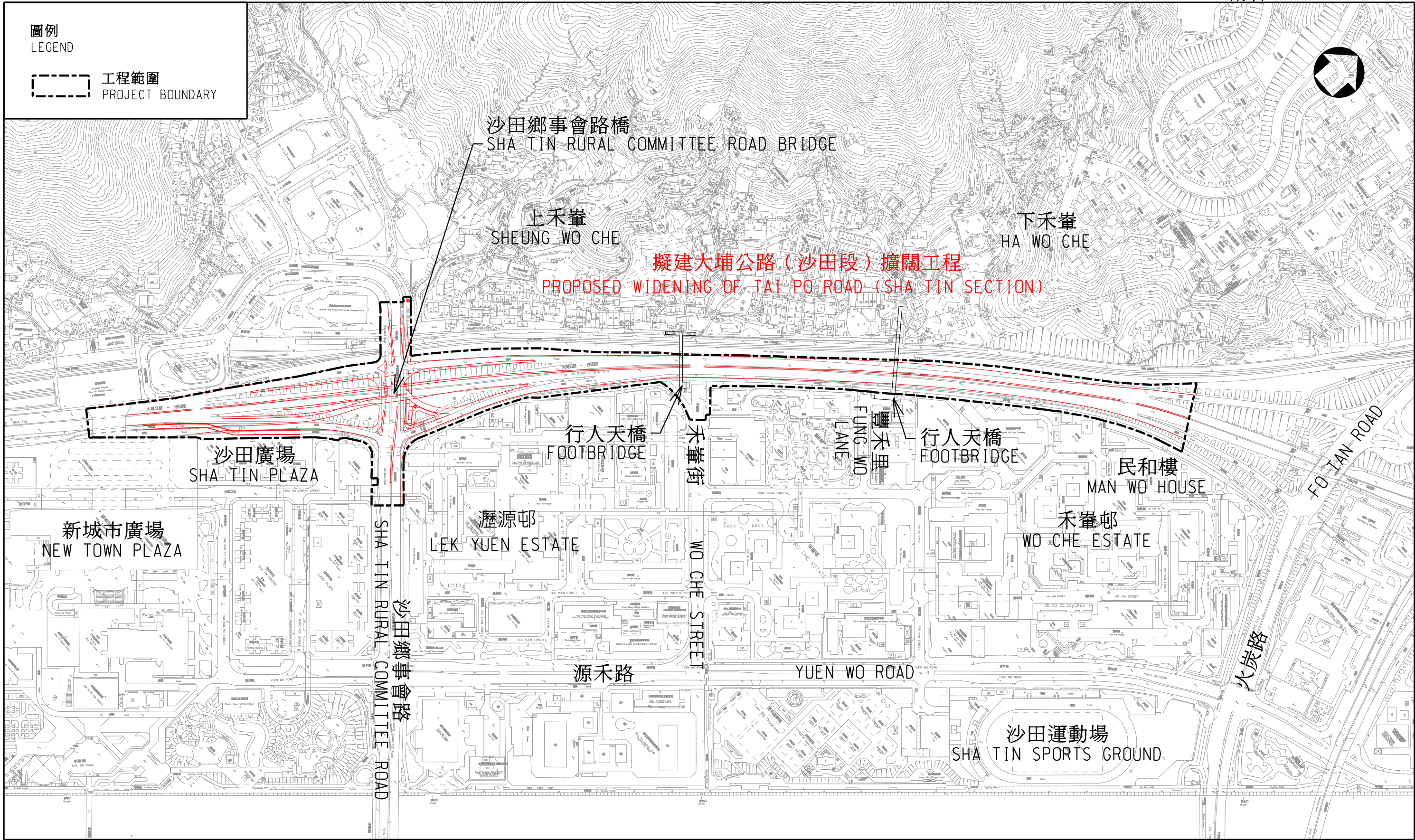
BACKGROUND INFORMATION

22. We upgraded **861TH** to Category B in September 2012.

23. We engaged consultants to carry out an investigation study for the Project at an estimated cost of \$9 million in March 2013. The cost was charged 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 relevant investigation works have been completed.

24. The proposed detailed design and associated site investigation works will not involve any tree removal or planting proposals. We will require the consultants to take into consideration the need for tree preservation during the detailed design stage of the Project and incorporate tree planting proposals in the construction phase.

25. We estimate that the proposed detailed design and associated site investigation works will create about 18 jobs (six for labourers and another 12 for professional or technical staff) providing a total employment of 302 man-months.



工務小組委員會文件 PUBLIC WORKS SUBCOMMITTEE SUBMISSION

圖則名稱 drawing title 大埔公路 (沙田段) 擴闊工程 WIDENING OF TAI PO ROAD (SHA TIN SECTION)	繪圖 drawn H K TSANG	簽署 initial 日期 date 13.5.2015	項目編號 item no. 861TH	辦事處 office 新界東拓展處 NEW TERRITORIES EAST DEVELOPMENT OFFICE
	核對 checked K C YAN	簽署 initial 日期 date 13.5.2015	比例 scale 1:4 000 @ A3	
	核准 approved T S LI	簽署 initial 日期 date 13.5.2015	圖則編號 drawing no. CDESHT0008	 土木工程拓展署 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

861TH (Part) – Widening of Tai Po Road (Sha Tin Section)

Breakdown of estimates for consultants' fees and resident site staff costs
(in September 2014 prices)

			Estimated man- months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee (\$ million)
(a) Consultants' fees for						
(i)	detailed design and supervision of site investigation works ^(Note 2)	Professional	112	38	2.0	16.0
		Technical	62	14	2.0	3.0
(ii)	preparation of tender documents and assessment of tenders ^(Note 2)	Professional	11	38	2.0	1.6
		Technical	10	14	2.0	0.5
					Sub-total	21.1
(b)	Resident site staff (RSS) costs ^(Note 3)	Professional	6	38	1.6	0.7
		Technical	13	14	1.6	0.5
					Sub-total	1.2
Comprising –						
(i)	consultants' fee for management of RSS for site investigation works					0.1
(ii)	remuneration of RSS responsible for site investigation works					1.1
					Total	22.3

* MPS = Master Pay Scale

Notes

1. A multiplier of 2.0 is applied to the average MPS salary point to estimate the full staff costs of consultants' staff, including overheads and profit, as the staff will be employed in the consultants' offices. A multiplier of 1.6 is applied to the average MPS salary point to estimate the cost of RSS supplied by the consultants (as at now, MPS point 38 = \$71,385 per month and MPS point 14 = \$24,380 per month).
2. The actual man-months and fees will only be known after we have selected the consultants through the usual competitive fee bidding system.
3. The actual man-months and fees will only be known after completion of the site investigation works.