

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 707 – NEW TOWNS AND URBAN AREA DEVELOPMENT Civil Engineering – Land development 710CL – Hung Shui Kiu development, stage 2 – widening of Tin Ha Road and Tan Kwai Tsuen Road

Members are invited to recommend to Finance Committee the upgrading of **710CL** to Category A at an estimated cost of \$106.0 million in money-of-the-day prices for the widening of Tin Ha Road and Tan Kwai Tsuen Road at Hung Shui Kiu.

PROBLEM

We need to widen the existing sub-standard Tin Ha Road (THR) and Tan Kwai Tsuen Road (TKTR) so as to improve road safety.

PROPOSAL

2. The Director of Civil Engineering and Development, with the support of the Secretary for Development, proposes to upgrade **710CL** to Category A at an estimated cost of \$106.0 million in money-of-the-day (MOD) prices for the widening of THR and TKTR at Hung Shui Kiu.

PROJECT SCOPE AND NATURE

3. The scope of **710CL** comprises –

- (a) widening of a section of THR of about 1.2 kilometres (km) long between Ping Ha Road and San Lee Uk Tsuen to a standard 7.3 metres (m) wide two-way two-lane single carriageway with associated footpaths of 2 m to 2.5 m in width;
- (b) widening of a section of TKTR of about 550 m long between Castle Peak Road – Hung Shui Kiu and the road bend near Meadowlands to a standard 7.3 m wide two-way two-lane single carriageway with associated footpaths of not less than 2.1 m in width;
- (c) construction of box culverts at the widened THR; and
- (d) ancillary works including drainage and landscaping works, environmental mitigation measures, traffic aids, road lighting and re-provisioning of refuse collection points.

Site plans with sections showing the proposed works are at Enclosure 1. Subject to the funding approval by the Finance Committee (FC), we plan to commence the proposed works in August 2012 for completion in February 2015.

JUSTIFICATION

4. The existing section of THR between Ping Ha Road and San Lee Uk Tsuen is sub-standard, with a carriageway width of 6.3 m on average. Being used heavily by articulated vehicles accessing the adjacent back up areas for containers, the sub-standard section of THR poses severe danger to the pedestrians. The existing section of TKTR between Castle Peak Road – Hung Shui Kiu and the road bend near Meadowlands is also sub-standard with a carriageway width of 6.5 m on average. The existing footpaths at some parts of TKTR are as narrow as 0.8 m. This causes great difficulties to the manoeuvring of refuse collection vehicles, coaches and other heavy vehicles accessing adjacent open storage areas and factories, and poses danger to the pedestrians.

5. In view of the undesirable conditions of THR and TKTR and local residents' strong appeal for immediate improvements, we propose to widen two sections of the roads and the road bend near Meadowlands up to the current road design standard in order to enhance road safety.

6. Furthermore, we propose to take the opportunity to improve the capacity of the underground drains of THR through construction of box culverts at the widened road section of THR, so as to alleviate the flooding problems at San Uk Tsuen and San Sang Tsuen adjacent to THR.

FINANCIAL IMPLICATIONS

7. We estimate the capital cost of the project to be \$106.0 million in MOD prices (please see paragraph 8 below), broken down as follows –

	\$ million	
(a) Road works	23.7	
(b) Construction of box culverts	19.2	
(c) Associated drainage works	12.8	
(d) Landscaping works	5.2	
(e) Environmental mitigation measures	1.5	
(f) Associated traffic aids, road lighting, re-provisioning of refuse collection points and ancillary works	11.8	
(g) Consultants' fees for	1.2	
(i) contract administration	0.5	
(ii) management of resident site staff	0.7	
(h) Remuneration of resident site staff	9.0	
(i) Contingencies	8.4	
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Sub-total	92.8	(in September 2011 prices)
(j) Provision for price adjustment	13.2	
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Total	106.0	(in MOD prices)
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We have engaged consultants to carry out detailed design and tendering of the proposed works. Owing to insufficient in-house resources, we propose to engage consultants to undertake contract administration and site supervision of the proposed works. A breakdown of the estimate for the consultants' fees and resident site staff costs by man-months is at Enclosure 2.

8. Subject to FC's approval, we will phase the expenditure as follows –

Year	\$ million (Sept 2011)	Price adjustment factor	\$ million (MOD)
2012 – 2013	10.6	1.05375	11.2
2013 – 2014	35.6	1.11171	39.6
2014 – 2015	38.1	1.17285	44.7
2015 – 2016	8.5	1.23736	10.5
	92.8		106.0

9. 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 for public sector building and construction output for the period 2012 to 2016. Subject to funding approval, we will deliver the works under a standard re-measurement contract because the quantities of works may vary depending on actual site conditions. The contract will provide for price adjustment.

10. We estimate the annual recurrent expenditure arising from the proposed works to be \$0.55 million.

PUBLIC CONSULTATION

11. We consulted the Ha Tsuen Rural Committee on the proposed works for THR on 5 May 2011, and the Ping Shan Rural Committee on the proposed works for TKTR on 19 May 2011. We also consulted the Traffic and Transport Committee (T&TC) of Yuen Long District Council (YLDC) on 26 May 2011 on the proposed works for both THR and TKTR. Members of the rural committees and the T&TC of YLDC supported the project and urged for its early implementation.

12. We gazetted the proposed works for THR and TKTR under the Roads (Works, Use and Compensation) Ordinance (Cap 370) on 8 July 2011 and 22 July 2011 respectively. No objection was received.

13. The Secretary for Transport and Housing authorised the proposed works for THR and TKTR without modification. The notices of authorisation of the proposed works for THR and TKTR were gazetted on 23 September 2011 and 7 October 2011 respectively.

14. We circulated to the Legislative Council Panel on Development an information paper on the proposed works on 8 December 2011. Members raised no objection to the proposal.

ENVIRONMENTAL IMPLICATIONS

15. This is not a designated project under the Environmental Impact Assessment Ordinance (Cap 499). We have conducted a preliminary environmental review (PER) for the project. The Director of Environmental Protection agrees with the conclusion of the PER that the project would not cause any long-term adverse environmental impact with implementation of mitigation measures.

16. We will incorporate into the works contract the environmental mitigation measures recommended in the PER to control the environmental impacts arising from the proposed construction works to within established standards and guidelines. These measures include paving all temporary accesses with concrete and frequent cleaning and watering of the site to reduce dust nuisance; the use of quiet construction plant and temporary movable noise barriers to mitigate the noise generated from construction activities; and adoption of the “Code of Practice on Good Management Practice to Prevent Violation of the Noise Control Ordinance (Cap 400) (for Construction Industry)” published by the Environmental Protection Department. For mitigating traffic noise impact on the sensitive receivers along TKTR, we will consider providing low-noise road surfacing. We have included \$1.5 million (in September 2011 prices) in the project estimate for implementation of the above environmental mitigation measures including an environmental monitoring and audit programme to be included in the works contract.

17. We have considered the levels and layout of the proposed works and construction sequence at the planning and design stages to reduce generation

of construction waste where possible. In addition, we will require the contractor to reuse inert construction waste (e.g. excavated soil) on site or in other suitable construction sites as far as possible, in order to minimise the disposal of inert construction waste to public fill reception facilities. We will encourage the contractor to maximise the use of recycled or recyclable inert construction waste, and the use of non-timber formwork to further minimise the generation of construction waste.

18. At the construction stage, we will require the contractor to submit for approval a plan setting out the waste management measures, which will include appropriate mitigation means to avoid, reduce, reuse and recycle inert construction waste. We will ensure that the day-to-day operations on site comply with the approved plan. We will require the contractor to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. We will control the disposal of inert construction waste and non-inert construction waste to public fill reception facilities and landfills respectively through a trip-ticket system.

19. We estimate that the project will generate in total about 47 100 tonnes of construction waste. Of these, we will reuse about 4 700 tonnes (10%) of inert construction waste on site and deliver 40 000 tonnes (85%) of inert construction waste to public fill reception facilities¹ for subsequent reuse. We will dispose of the remaining 2 400 tonnes (5%) of non-inert construction waste at landfills. The total cost for accommodating construction waste at public fill reception facilities and landfill sites is estimated to be \$1.4 million for this project (based on a unit cost of \$27 per tonne for disposal at public fill reception facilities and \$125 per tonne² at landfills).

HERITAGE IMPLICATIONS

20. The proposed works will not affect any heritage site, i.e. all declared monuments, proposed monuments, graded historic sites/buildings, sites of archaeological interest and Government historic sites identified by the Antiquities and Monuments Office.

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¹ Public fill reception facilities are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation. Disposal of inert construction waste in public fill reception facilities requires a license issued by the Director of Civil Engineering and Development.

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 per cubic metre (m³)), nor the cost to provide new landfills (which is likely to be more expensive), when the existing ones are filled.

LAND ACQUISITION

21. For the proposed works at THR, clearance of 29 563 square metres (m²) of Government Land with 25 non-domestic structures is required without involving any resumption of private lot. A number of Short Term Tenancies, Government Land Licenses and Government Land Allocations will also be affected due to the site clearance works. Clearance of crops, fences, gates and irrigation pipes on Government Land will be required. Ex-gratia allowance will be paid to the affected cultivators in line with established policy. The estimated cost of land clearance is \$312,000, which will be charged to **Head 701 – Land Acquisition**. A breakdown of the estimate for land clearance costs for the proposed works at THR is at Enclosure 3.

22. For the proposed works at TKTR, resumption of two private agricultural lots and one mix lot with a total area of 136 m² is required while no building lot will be affected. There is one non-domestic structure to be cleared within the affected lots. The project also involves clearance of 8 823 m² of Government Land with 49 non-domestic structures. A number of Short Term Tenancies and Government Land Allocations will also be affected due to the site clearance works. Clearance of crops, fences, gates and irrigation pipes on both private land and Government Land will also be required. Ex-gratia allowance will be paid to the affected cultivators in line with established policy. The estimated cost of land resumption and clearance is \$743,000, which will be charged to **Head 701 – Land Acquisition**. A breakdown of the estimate for land resumption and clearance costs for the proposed works at TKTR is at Enclosure 4.

BACKGROUND INFORMATION

23. The widening and reconstruction of TKTR and the northern section of THR were originally under part of a Category B item **225CL** “Yuen Long – Tuen Mun corridor – engineering works for commercial/residential areas at Hung Shui Kiu, Stage II”. The part of works was then put under **710CL** which was included into Category B in October 2004.

24. The originally proposed road scheme of **710CL** comprises: (a) widening of THR from two sub-standard lanes to four standard lanes (14.6 m in total width) between Ping Ha Road and Ha Tsuen Road (with the provision of noise barriers), and from two sub-standard lanes to two standard lanes (10.3 m in total width) between Ha Tsuen Road and San Lee Uk Tsuen; and (b) widening of TKTR from two sub-standard lanes to two standard lanes (7.3 m in total width) together with the widening of footpaths. This road scheme was gazetted under

Cap 370 on 16 May 2008. Since the gazettal, a large number of objections were received, in particular relating to the proposed works at THR. Some of the objections were irresolvable. In end 2008, the Ha Tsuen Interchange Slip Road was open for articulated vehicles to access Kong Shum Western Highway. This Slip Road serves as an additional route for articulated vehicles in the Ha Tsuen area to access Kong Shum Western Highway directly via Ha Tsuen Road and therefore the articulated vehicle traffic problem on the section of THR between Ping Ha Road and Ha Tsuen Road has been relieved. The Transport Department advised that there was no imminent need to widen this section of THR. Therefore, the entire proposed works (i.e. widening of both THR and TKTR) were de-gazetted on 2 July 2010 under Cap 370 upon consulting the Ping Shan Rural Committee, Ha Tsuen Rural Committee and the T&TC of YLDC.

25. The project scope of **710CL** was subsequently revised to what we now propose in this submission taking into account villagers' views on the original road scheme. No objection was received for the revised road schemes at THR and TKTR gazetted on 8 and 22 July 2011 respectively and the works have been authorised subsequently as mentioned above. We have engaged consultants to undertake the detailed design and tendering for the project of the revised scope in August 2011 at an estimated cost of \$2.8 million under 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 detailed design of the project has been substantially completed.

26. Of the 428 trees within the project boundaries of both THR and TKTR, 258 trees will be preserved. The proposed widening works at THR and TKTR will involve the removal of 170 trees including 135 trees to be felled and 35 trees to be replanted within the project site. All trees to be removed are not important trees³. We will incorporate planting proposals as part of the project, including about 57 trees⁴ and 1 600 shrubs.

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³ An "important tree" refers to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria -

- (a) trees of 100 years old or above;
- (b) trees of cultural, historical or memorable significance e.g. Fung Shui tree, tree as landmark of monastery or heritage monument, and trees in memory of an important person or event;
- (c) trees of precious or rare species;
- (d) trees of 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) trees with trunk diameter equal or exceeding 1.0 metre (m) (measured at 1.3 m above ground level), or with height/canopy spread equal or exceeding 25 m.

⁴ The planting of new trees is constrained by limited site area for widening of THR and TKTR in order to minimise the impact on private lots.

27. We estimate that the proposed works will create about 62 jobs (50 for labourers and another 12 for professional/technical staff) providing a total employment of 1 700 man-months.

Development Bureau
December 2011

Enclosure 2 to PWSC(2011-12)43

710CL – Hung Shui Kiu development, stage 2 – widening of Tin Ha Road and Tan Kwai Tsuen Road

Breakdown of the estimates for consultants' fees and resident site staff costs (in September 2011 prices)

		Estimated man- months	Average MPS* salary point	Multiplier <small>(Note 1)</small>	Estimated fee (\$ million)
(a) Consultants' fees for contract administration <small>(Note 2)</small>	Professional	–	–	–	0.4
	Technical	–	–	–	0.1
				Sub-total	0.5
(b) Resident site staff costs <small>(Note 3)</small>	Professional	46	38	1.6	4.6
	Technical	150	14	1.6	5.1
				Sub-total	9.7
Comprising –					
(i) Consultants' fees for management of resident site staff					0.7
(ii) Remuneration of resident site staff					9.0
				Total	10.2

* MPS = Master Pay Scale

Notes

1. A multiplier of 1.6 is applied to the average MPS salary point to estimate the cost of resident site staff supplied by the consultants. (As at now, MPS salary point 38 = \$62,410 per month and MPS salary point 14 = \$21,175 per month.)
2. The consultants' staff cost for contract administration is calculated in accordance with the existing consultancy agreement for the design and construction of **710CL**. The construction phase of the assignment will only be executed subject to Finance Committee's approval to upgrade **710CL** to Category A.
3. The actual man-months and actual costs will only be known after completion of the construction works.

Enclosure 3 to PWSC(2011-12)43

**710CL – Hung Shui Kiu development, stage 2 – widening of Tin Ha Road
and Tan Kwai Tsuen Road**

**Breakdown of the estimated land clearance cost for the proposed
works at Tin Ha Road**

	\$
(I) Estimated clearance cost	283,498.8
(a) Ex-gratia allowance of crop compensation	158,550.0
(b) Ex-gratia allowance for farm structures and miscellaneous permanent improvements to farms	4,948.8
(c) Ex-gratia allowance for miscellaneous indigenous villager matters e.g. “Tun Fu” ceremony	120,000.0
(II) Contingency Payment	28,349.9
Contingency on the above costs	28,349.9
Total	<u>311,848.7</u>
Say	312,000

Enclosure 4 to PWSC(2011-12)43

710CL – Hung Shui Kiu development, stage 2 – widening of Tin Ha Road and Tan Kwai Tsuen Road

Breakdown of the estimated land resumption and clearance costs for the proposed works at Tan Kwai Tsuen Road

	\$
(I) Estimated resumption cost	644,749.5
Agricultural land ex-gratia compensation	644,749.5
Two agricultural lots and one mix lot (affect agricultural portion only) with a total area of 1 461 ft ² (or 136 m ²) will be resumed	
Area in Zone B resumed: 832 ft ² x \$515.25 / ft ² =	\$428,688.0
Area in Zone C resumed: 629 ft ² x \$343.50 / ft ² =	<u>\$216,061.5</u>
	\$644,749.5
(please see Notes below)	
(II) Estimated clearance cost	30,000.0
Ex-gratia allowance of crop compensation	30,000.0
(III) Interest and Contingency Payment	67,478.2
(a) The interest payment on various ex-gratia compensations for private land	3.2
(b) Contingency on the above costs	67,475.0
Total	<u>742,227.7</u>
Say	743,000

Notes

1. There are four ex-gratia compensation zones, namely Zones A, B, C and D, for land resumption in the New Territories as approved by ExCo in 1985 and 1996. The boundaries of these zones are shown on the Zonal Plan for Calculation of Compensation Rates. The land to be resumed in the project **710CL** is agricultural land within Compensation Zones “B” and “C”.
2. In accordance with G.N. 6195 dated 9 September 2011 on the revised ex-gratia compensation rates for resumed land, the ex-gratia compensation rate of agricultural land for Zones “B” and “C” are 75% and 50% of the Basic Rate at \$687 per square foot, i.e. \$515.25 per square foot (i.e. \$5,546.10 per m²) and \$343.50 per square foot (i.e. \$3,697.40 per m²) respectively.

3. Zonal compensation rates are determined as per the prevailing Zonal Plan for Calculation of Compensation Rates at the time of land resumption and the respective compensation zones within which the resumed land is situated. The application of appropriate zonal rates is subject to endorsement from the Committee on Planning and Land Development.