For discussion **PWSC(2017-18)22**
on 18 October 2017

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 711 – HOUSING
Transport – Roads
868TH – Road Improvement Works at Ma On Shan, Sha Tin

Members are invited to recommend to the Finance Committee the upgrading of **868TH** to Category A at an estimated cost of $587.7 million in money-of-the-day prices.

PROBLEM

We need to provide infrastructure to support the proposed public housing developments at Ma On Shan Road and Hang Tai Road in Sha Tin.

PROPOSAL

2. The Director of Highways, with the support of the Secretary for Transport and Housing, proposes to upgrade **868TH** to Category A at an estimated cost of $587.7 million in money-of-the-day (MOD) prices for the road improvement and associated works at Ma On Shan in Sha Tin.

/ PROJECT …..

PROJECT SCOPE AND NATURE

3. The scope of the proposed works under **868TH** comprises –

(a) realignment of a section of Hang Tai Road of about 400 metres long;

(b) construction of a slip road of about 100 metres long between Hang Tai Road and Ma On Shan Road northbound;

(c) installation of noise barriers of about 150 metres long, and construction of a bus stop at Ma On Shan Road northbound;

(d) widening of a section of Ma On Shan Road southbound of about 500 metres long, construction of a bus stop and a vehicular ingress/egress for the proposed public housing development;

(e) realignment of a section of Sai Sha Road of about 150 metres long;

(f) junction improvement works at Hang Shun Street/Hang Tak Street/A Kung Kok Street; and

(g) associated works including geotechnical, water supply, drainage, sewerage, public lighting facilities, traffic aids and landscaping works.

A site plan of the proposed road improvement works is at Enclosure.

4. Subject to the funding approval of the Finance Committee by end 2017, we plan to commence the construction works in mid 2018 for completion in late 2021.

/ **JUSTIFICATION** …..

JUSTIFICATION

5. To meet the increasing demand for public housing, Hong Kong Housing Authority (HA) has planned to implement the public housing developments at Ma On Shan Road and Hang Tai Road in Sha Tin. These developments will provide about 2 100 flats and 1 900 flats for populations of about 6 400 and 4 900 respectively. Construction works for the public housing developments at Ma On Shan Road and Hang Tai Road are scheduled to commence in early 2018 for completion in early 2022 and end 2024 respectively.

6. To provide land for the public housing development at Hang Tai Road, we need to realign a section of the Hang Tai Road to vacate the land of that road section. In addition, to support the public housing development at Ma On Shan Road, we propose to widen a section of Ma On Shan Road southbound to provide vehicular ingress/egress and pedestrian crossing facilities for the development. According to the Transport Planning and Design Manual, sufficient distance between this proposed vehicular ingress/egress and the junction to Sai Sha Road should be maintained. Thus, we propose to realign a section of Sai Sha Road. Furthermore, to cater for the anticipated increase in traffic flow, we propose to modify the existing road junction at Hang Shun Street/Hang Tak Street/A Kung Kok Street, for increasing the capacity of the road junction.

7. To address the anticipated increase in traffic flow and demand for public transport arising from the public housing developments, we propose to install noise barriers at Ma On Shan Road northbound to reduce the road traffic noise impact, and to construct a new bus stop on each bound of Ma On Shan Road for the provision of additional public transport facilities for the residents. In addition, to strengthen the pedestrian connectivity, we propose to provide pedestrian crossing facilities at the improved road sections for the provision of safe and convenient routes for the residents' access to nearby facilities.

8. To tie in with the population intake of the public housing developments, there is a need to commence the proposed works in mid 2018 for sectional and overall completion by mid 2020 and late 2021 respectively. To this end, the Government plans to entrust the design and construction of the proposed works to HA, so as to allow better coordination of the proposed works and the public housing developments to ensure timely completion of the proposed works. Upon completion, the transport infrastructure facilities will be handed over to relevant government departments for management and maintenance.

/ FINANCIAL …..

FINANCIAL IMPLICATIONS

9. We estimate the capital cost of the project to be $587.7 million in MOD prices (please see paragraph 10 below), broken down as follows –

				$ million	
(a)	Construction works			386.7	
	(i)	Roadworks	194.0		
	(ii)	Retaining wall	15.2		
	(iii)	Noise barriers	56.9		
	(iv)	Sign gantries	27.1		
	(v)	Drainage and sewerage	49.6		
	(vi)	Waterworks	29.1		
	(vii)	Landscaping works	14.8		
(b)	On-cost payable to HA[1]			61.1	
(c)	Contingencies			44.8	
			Sub-total	492.6	(in September 2017 prices)
(d)	Provision for price adjustment			95.1	
			Total	587.7	(in MOD prices)

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[1] This is the estimated cost (an assumed rate of 15.8% of the estimated construction cost) to be charged by HA for the design and construction of the project.

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

Year	$ million (Sept 2017)	Price adjustment factor	$ million (MOD)
2018 – 2019	56.5	1.05125	59.4
2019 – 2020	105.6	1.10907	117.1
2020 – 2021	105.6	1.17007	123.6
2021 – 2022	105.6	1.23003	129.9
2022 – 2023	62.5	1.29154	80.7
2023 – 2024	56.8	1.35611	77.0
	492.6		587.7

11. 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 2018 to 2024. Subject to funding approval, HA will deliver the proposed works under a standard re-measurement contract. The contract will provide for price adjustments.

12. We estimate the annual recurrent expenditure arising from the proposed works to be about $14.9 million.

PUBLIC CONSULTATION

13. We consulted the Development and Housing Committee (DHC) of Sha Tin District Council (STDC) on the proposed works on 3 March 2016 and submitted supplementary information to the DHC on 5 May 2016. Members had no objection to the proposal.

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14. We gazetted the proposed works under the Roads (Works, Use and Compensation) Ordinance (Cap. 370) on 18 November 2016. We have received one objection regarding the location of the proposed pedestrian crossing facilities and the proposed taxi stand during the statutory objection period. The objector withdrew the objection unconditionally after discussion with the Government. The authorisation notice was subsequently gazetted on 16 June 2017.

15. We consulted the Advisory Committee on the Appearance of Bridges and Associated Structures (ACABAS)[2] on 17 January 2017 and 21 March 2017. The Committee considered the design of the proposed noise barriers and retaining wall acceptable.

16. We consulted the Legislative Council Panel on Housing on the proposed works on 6 February 2017. Members supported submitting the funding proposal to the Public Works Subcommittee for consideration. Supplementary information requested by the Members was submitted to the Panel on 16 May 2017.

ENVIRONMENTAL IMPLICATIONS

17. The project is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). We have undertaken to carry out an Environmental Review (ER) for the project. The ER has concluded that with the implementation of the recommended measures including roadside barriers and low noise road surfacing, the project will not cause any long-term adverse environmental impacts. We have included in the project estimates the cost to implement suitable mitigation measures to control potential environmental impacts.

18. During construction, HA will request the contractor to control noise, dust, and site run-off nuisances to within established standards and guidelines through the implementation of mitigation measures in the relevant contract. These include the use of silencers, mufflers, acoustic lining or shields for noisy construction activities, frequent cleaning and watering of the site, and the provision of wheel-washing facilities.

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[2] ACABAS, comprising representatives of the Hong Kong Institute of Architects, the Hong Kong Institution of Engineers, the Hong Kong Institute of Planners, the Architectural Services Department, the Highways Department, the Housing Department, the Civil Engineering and Development Department, and architectural or relevant faculties from local institutions, 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. At the planning and design stages, HA has considered measures, such as optimising the roadworks design to reduce the generation of construction waste where possible. In addition, HA 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 at public fill reception facilities[3]. HA will encourage the contractor to maximise the use of recycled or recyclable inert construction waste and the use of non-timber formwork to further reduce the generation of construction waste.

20. At the construction stage, HA 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. HA will ensure that the day-to-day operations on site comply with the approved plan. HA will require the contractor to separate the inert construction waste from non-inert construction waste on site for disposal at appropriate facilities. Besides, HA will control the disposal of inert and non-inert construction waste at public fill reception facilities and landfills respectively through a trip-ticket system.

21. HA estimates that the proposed works will generate 47 000 tonnes of construction waste in total. Of these, HA will reuse 13 900 tonnes (29.6%) of inert construction waste on site and deliver 13 700 tonnes (29.1%) of inert construction waste to public fill reception facilities for subsequent reuse. HA will dispose of the remaining 19 400 tonnes (41.3%) 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 about $4.85 million for this project (based on a unit charge rate of $71 per tonne for disposal at public fill reception facilities and $200 per tonne at landfills as stipulated in the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N)).

TRAFFIC IMPLICATIONS

22. HA has conducted traffic impact assessment for the project, covering the potential traffic impact during the construction period. According to the findings of the assessment, with the implementation of appropriate temporary traffic arrangement (TTA), the project would not cause significant impact to the traffic network in the area concerned.

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3 Public fill reception facilities are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N). Disposal of inert construction waste in public fill reception facilities requires a license issued by the Director of Civil Engineering and Development.

23. HA will implement TTA, involving lane closures, traffic diversions and other arrangements, to facilitate the construction works. To minimise the adverse traffic impact of the works on the existing road network in the area, HA will, as far as possible, maintain the same number of traffic lanes in each direction of the existing carriageway during peak hours of the construction period.

24. HA will consult the STDC prior to the implementation of major TTA. HA will regularly report to the STDC on the planning and operation of the TTA.

HERITAGE IMPLICATIONS

25. The project will not affect any heritage site, 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

26. The project does not require land acquisition.

BACKGROUND INFORMATION

27. We upgraded **868TH** to Category B in September 2014. The detailed design of the proposed works has been completed. We engaged HA to undertake the environmental review, engineering studies and site investigation for the proposed works at an estimated cost of $9.3 million under the block allocation **Subhead B100HX** "Minor housing development related works, studies and investigations for items in Category D of the Public Works Programme".

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28. Of the 559 trees within the project site, 209 trees will be preserved. The proposed project will involve removal of 350 trees, including 229 trees to be felled and 121 trees to be transplanted elsewhere. All trees to be removed are not important trees[4]. We will incorporate planting proposals as part of the project, including planting of 499 trees and about 83 600 shrubs.

29. We estimate that the proposed works will create about 174 jobs (151 for labourers and 23 for professional/technical staff) providing a total employment of 6 092 man-months.

30. In June 2017, we submitted PWSC(2017-18)15 which invited Members to recommend to the FC the upgrading of **868TH** to Category A. The paper was not discussed by the PWSC during the 2016-17 legislative session. This paper supersedes PWSC(2017-18)15 to update the works programme and phasing of expenditure.

Transport and Housing Bureau
October 2017

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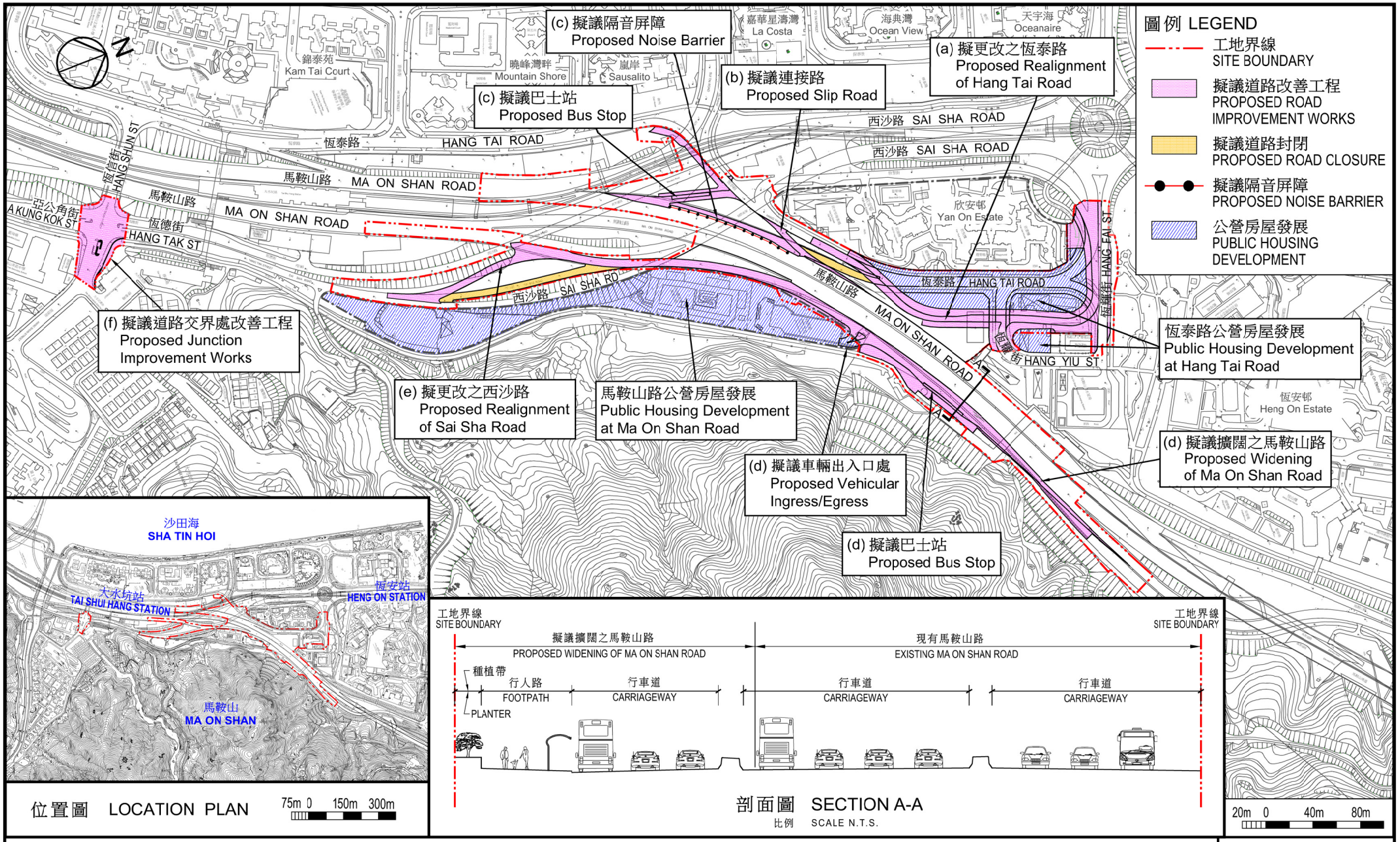
4 "Important trees" refers to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria –

(a) trees of 100 years old or above;
(b) trees of cultural, historical or memorable significance e.g. Fung Shui trees, trees 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 the 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 a truck diameter equal to or exceeding 1.0 metre (measured at 1.3 metres above ground level), or which a height or canopy spread equal to or exceeding 25 metres.

附件
Enclosure



工務計劃項目第 868TH號 - 沙田馬鞍山道路改善工程

PWP ITEM NO. 868TH - ROAD IMPROVEMENT WORKS AT MA ON SHAN, SHA TIN

工地平面圖 SITE PLAN