For discussion
on 17 March 2017

Legislative Council Panel on Transport
461TH – Central Kowloon Route – Main Works

PURPOSE

This paper seeks Members' views on the funding proposal for upgrading **461TH** – Central Kowloon Route (CKR) – Main Works to Category A.

PROJECT SCOPE AND NATURE

2. The proposed scope of works under the project includes –

(a) construction of a dual three-lane road tunnel of approximately 3.9 kilometres (km) connecting the Yau Ma Tei (YMT) Interchange and Kai Tak Interchange;

(b) construction of approach roads to the proposed tunnel portals of approximately 3.4 km in total length;

(c) construction of three ventilation buildings and one administration building;

(d) reconstruction of Gascoigne Road Flyover (GRF) (Kansu Street Section) of approximately 300 metres (m) to the west of Nathan Road;

(e) installation of noise mitigation facilities including noise barriers of about 1 705 m and noise enclosures of about 1 140 m;

(f) reprovisioning of affected public facilities, including YMT Public Library, YMT Jade Hawker Bazaar, YMT Methadone Clinic, YMT Dermatology Clinic and YMT Maternal and Child Health Centre;

(g) installation of a traffic control and surveillance system (TCSS);

(h) associated electrical and mechanical (E&M) works, civil works, drainage, waterworks, landscaping works, slope and geotechnical works; and

(i) implementation of an environmental monitoring and audit (EM&A) programme for the works mentioned in items (a) to (h) above.

The overall layout plan, cross-sections and artistic impressions of the proposed project are at **Enclosure 1**. Subject to funding approval of the Finance Committee (FC) in this legislative year, the project can commence in the third quarter of 2017 and be completed in around 2025.

JUSTIFICATION

3. Currently the east-west traffic movements across central Kowloon are primarily served by Lung Cheung Road, Boundary Street, Prince Edward Road West, Argyle Street, Waterloo Road, GRF and Chatham Road North. These roads are already operating close to the full capacity at peak hours. Traffic congestion also poses difficulties to traffic from the side roads turning into these major corridors, and thus spreading the traffic congestion to adjacent areas. With the gradual completion of new development projects in east and west Kowloon such as the West Kowloon Cultural District and Kai Tak Development (KTD), the traffic flow along these roads will continue to increase and the traffic situation will deteriorate seriously if appropriate improvement measure is not carried out timely.

4. The proposed CKR connects the YMT Interchange in West Kowloon with the Kai Tak Interchange in East Kowloon[1], diverting the traffic along the major east-west corridors in Kowloon to relieve the existing traffic congestion and cope with future traffic demand. The CKR will mainly be formed by tunnel and the three ventilation buildings will be equipped with air purification system to filter at least 80% of the nitrogen dioxide and respirable suspended particulates in the exhaust of the traffic in tunnel, which helps reduce the air pollution generated by vehicles in districts along the alignment.

---

[1] The proposed CKR is one of the main components of Route 6 linking the West Kowloon and Tseung Kwan O. Route 6 is about 12.5 km in length and the other components of Route 6 include Trunk Road T2 under planning and the Tseung Kwan O – Lam Tin Tunnel (TKO-LTT) under construction.

5. With the implementation of the proposed project, the projected volume/capacity (v/c) ratios[2] during peak hours will be improved with details as follows –

Road Link	**v/c ratio during peak hours in 2026**	
	Without the project	**With the project**
Lung Cheung Road	1.2	1.0
Boundary Street	1.3	0.9
Prince Edward Road West	1.1	0.8
Waterloo Road	1.2	1.1
Argyle Street	1.2	0.8
Chatham Road North	1.3	1.1

6. Without the implementation of the proposed project, the number of overloaded signal-controlled junctions along major east-west corridors in central Kowloon (including Boundary Street, Prince Edward Road West, Argyle Street, Waterloo Road and Chatham Road North) will increase from eight in 2012 to 18 in 2026 according to the results of the traffic survey conducted in 2012. The projected reserve capacity[3] (RC) of critical junctions during peak hours are as follows –

Critical Junctions	**RC of major junctions in 2026**	
	Without the project	**With the project**
Argyle Street / Sai Yee Street	-23%	-10%
Boundary Street /Waterloo Road	-13%	9%
Prince Edward Road West / Waterloo Road	-19%	5%
Austin Road / Chatham Road South / Cheong Wan Road	-20%	-11%
Chatham Road North / Wuhu Street	-40%	6%

[2] A volume/capacity (v/c) ratio equals to or less than 1.0 is considered acceptable. A v/c ratio between 1.0 and 1.2 indicates a manageable degree of congestion. A v/c ratio above 1.2 indicates more serious congestion.

[3] The performance of a traffic signalised junction is indicated by its reserve capacity (RC). A positive RC indicates that the junction is operating with spare capacity. A negative RC indicates that the junction is overloaded, resulting in traffic queues and longer travel time.

7. Upon commissioning of the CKR, it is estimated that the journey time between Yau Ma Tei and Kowloon Bay during peak hours would take around 5 minutes, saving about 25 minutes in comparison with the journey time without the CKR. The CKR can also serve as an additional major east-west corridor, strengthening the robustness of the overall road network in central Kowloon. It can serve as a reliable alternative route to divert eastbound and westbound traffic in central Kowloon when there are major emergency incidents on other major east-west corridors or under inclement weather.

FINANCIAL IMPLICATIONS

8. We estimate the cost of the proposed project to be $42,363.9 million in money-of-the-day (MOD) prices (please see paragraph 19 below), with breakdown as follows –

			$ million
(a)	Tunnel construction works		13,306.0
	(i) Underground tunnel	9,336.4	
	(ii) Underwater tunnel	2,910.9	
	(iii) Tunnel related structures	1,058.7	
(b)	Tunnel E&M works		1,977.7
	(i) Tunnel ventilation works	846.5	
	(ii) Air purification system	484.4	
	(iii) Other associated E&M systems	646.8	
(c)	Road works		4,519.2
	(i) Depressed roads	1,969.3	
	(ii) Underpass	224.4	
	(iii) At-grade roads	650.1	
	(iv) Viaducts	1,453.4	
	(v) Footbridge	71.0	
	(vi) Other associated roadworks	151.0	
(d)	Retaining walls and slope works		35.6

			$ million	
(e)	Administration and ventilation buildings		2,072.2	
	(i) Administration building	453.3		
	(ii) Ventilation buildings	1,618.9		
(f)	Noise mitigation measures		2,144.7	
	(i) Noise barriers	234.8		
	(ii) Noise enclosures	1,146.3		
	(iii) Landscaped decks	763.6		
(g)	Reprovisioning of affected public facilities		684.9	
(h)	Landscaping works		877.3	
(i)	TCSS		292.0	
(j)	Consultants' fee		141.2	
	(i) Contract administration	52.8		
	(ii) Management of resident site staff (RSS)	56.0		
	(iii) EM&A programme	32.4		
(k)	Remuneration of RSS who monitor the works		1,962.4	
(l)	Electrical and Mechanical Services Trading Fund (EMSTF)[4]		54.5	
(m)	Contingencies		1,608.4	
	Sub-total		29,676.1	(in September 2016 prices)
(n)	Provision for price adjustment		12,687.8	
	Total		42,363.9	(in MOD prices)

[4] Upon its establishment from 1 August 1996 under the Trading Funds Ordinance, the EMSTF charges government departments for design and technical consultancy services for E&M installation. The services rendered for this project include checking consultants' submissions on all E&M installations and providing technical advice on all E&M works and their impacts on the project.

9. The tunnel construction works described in paragraph 8(a) above cover the cost for an approximately 3.9 km-long tunnel (of which approximately 3.5 km is an underground tunnel and approximately 0.4 km is an underwater tunnel[5]) and three access shafts[6]. The cost also covers associated utilities diversion works, road pavement and implementation of temporary traffic measures.

10. The tunnel E&M works described in paragraph 8(b) above cover the cost for the provision of the tunnel ventilation system, air purification system inside the three tunnel ventilation buildings, and other associated E&M systems such as tunnel power supply system, tunnel fire protection system and central control and monitoring system for operation of tunnel ventilation and other E&M facilities etc.

11. The road works described in paragraph 8(c) above cover the cost for the construction of approximately 3.4 km of approach roads including depressed road, underpass, at-grade road and viaduct. It also covers the cost of demolition of two existing subways at YMT and KTD, construction of a footbridge across Kai Fuk Road at KTD, reconstruction of approximately 300 m long GRF (Kansu Street Section) and the associated utilities diversion works, road pavement, provision of street furniture, ancillary traffic facilities, drainage, waterworks and temporary traffic measures.

12. The items described in paragraph 8(d) above cover the cost for the construction and modification of retaining walls and slopes arising from the site formation works of the ventilation buildings, access roads and other ground-level structures.

13. The items described in paragraph 8(e) above cover the cost for building works and building services of the administration building located in KTD and the three ventilation buildings located in YMT, Ho Man Tin and KTD.

14. The noise mitigation measures described in paragraph 8(f) above cover the cost for noise barriers of approximately 1 705 m and noise enclosures of approximately 1 140 m. The layout plan and cross-sections of the noise barriers and noise enclosures are at **Enclosure 2**. The cost also covers the landscaped decks in YMT and Ma Tau Kok (MTK) (but excluding the landscaping works described in paragraph 8(h) above). These landscaped decks will serve as noise mitigation measures as well as amenity and leisure purposes.

---

[5] The section of tunnel in the seabed of the Kowloon Bay is underwater tunnel.

[6] Since the tunnel between Shanghai street of Yau Ma Tei and Ma Tau Wai will be constructed at about 30 to 140 metres below existing ground level within the rock stratum, vertical access shafts will have to be constructed at Yau Ma Tei, Ho Man Tin and Ma Tau Kok for manoeuvring of construction plant and materials required for tunnel construction and the mucking out of the construction and demolition materials.

15. The reprovisioning of affected public facilities described in paragraph 8(g) above cover the cost for the reprovisioning of YMT Public Library, YMT Jade Hawker Bazaar, YMT Methadone Clinic, YMT Dermatology Clinic and YMT Maternal and Child Health Centre. The reprovisioning arrangement of these facilities is detailed at **Enclosure 3**.

16. The landscaping works described in paragraph 8(h) above cover the cost for the landscaping works for landscaped decks in YMT and MTK, MTK waterfront promenade and playground and rest gardens at YMT. These facilities are located at the temporary works areas necessary for the construction of the tunnel and depressed road of CKR, while the landscape decks are noise mitigation facilities. We will carry out the landscaping works on these above-ground space and landscape decks after the tunnel and deck structure are completed.

17. The TCSS described in paragraph 8(i) above cover the cost for Traffic Management Computer, Variable Message Signs, Automatic Incident Detection System, Closed Circuit Television (CCTV) System, a data communication network and the associated cables, accessories and spares, etc., for real-time monitoring of the tunnel traffic condition and facilitating the handling of emergency incidents to ensure safe and efficient operation of the tunnel.

18. A breakdown of the estimated consultants' fees and resident site staff costs by man-months is at **Enclosure 4**.

19. Subject to funding approval in this legislative year, we will phase the expenditure as follows –

Year	**$ million (Sept 2016)**	**Price adjustment factor**	**$ million (MOD)**
2017 – 2018	173.9	1.05750	183.9
2018 – 2019	1,796.8	1.12095	2,014.1
2019 – 2020	2,363.3	1.18821	2,808.1
2020 – 2021	3,014.2	1.25950	3,796.4
2021 – 2022	3,656.3	1.32562	4,846.9
2022 – 2023	4,007.3	1.39190	5,577.8
2023 – 2024	4,022.4	1.46150	5,878.7
2024 – 2025	3,301.9	1.52909	5,048.9
2025 – 2026	2,811.4	1.59790	4,492.3
2026 – 2027	2,467.5	1.66981	4,120.3
2027 – 2028	2,061.1	1.74495	3,596.5
	29,676.1		42,363.9

20. 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 2017 to 2028. We will implement the works through a number of contracts with provision for price adjustment. Depending on the nature and scale of the contracts, we will award at least one contract based on the New Engineering Contract (NEC)[7] form. As for the remaining contracts, they will mainly be awarded based on the conventional re-measurement contract form. The Highways Department (HyD) has already initiated parallel tendering for some construction contracts since January 2017 in order to start the construction works as soon as possible. The contracts will be awarded only after obtaining funding approval from FC.

21. To strengthen cost control, we should reduce unnecessary design and contractual requirements. For this purpose, we have endeavoured to explore various cost saving and risk management measures to reduce the amount of public funds required for the project so that resources can be allocated effectively to other projects in need. However, since the construction period is expected to be more than seven years and the tenders would be invited in batches over a period of five years, the tender prices will be largely affected by the market conditions in the coming five years. The HyD will closely monitor the expenditure situation.

PUBLIC CONSULTATION

22. The HyD completed two phases of public engagement exercise between November 2007 to July 2009 and between December 2012 to March 2013 respectively to collect public views on the CKR project through interview surveys, focus group meetings and public forums. The public engagement exercise reflected that the public generally supported the implementation of the project in order to relieve the traffic congestion at the existing major east-west corridors in Central Kowloon and to cope with traffic demands arising from the various developments in Kowloon.

---

[7] NEC is a suite of contracts developed by the Institution of Civil Engineers, United Kingdom. It is a contract form that emphasizes cooperation, mutual trust and collaborative risk management between contracting parties. As mentioned in LC Paper No. CB(1)452/15-16(03) submitted by Development Bureau (DEVB) to LegCo Panel on Development on the 2016 Policy Agenda, in recent years, DEVB adopted this contract form in some pilot public works projects, which promotes the spirit of contract partnership and reduces contractual risk. DEVB will continue the pilot trial and assess its effectiveness in reducing construction cost.

23. The HyD also consulted the Yau Tsim Mong (YTM) District Council (DC), Kowloon City (KC) DC, Wong Tai Sin (WTS) DC and Kwun Tong (KT) DC between December 2012 and January 2013. Furthermore, the HyD also consulted the Harbourfront Commission in January 2013. The KTDC and KCDC generally supported the project. The WTSDC raised no objection to the project. The YTMDC gave conditional support to the project subject to replacing the semi-enclosure (130m long) along the GRF fronting Blocks 1 and 5 of Prosperous Garden (PG) with a full enclosure (the Central Full Enclosure), and extending the full enclosure along the GRF fronting Blocks 3 and 4 of PG 60m northwards beyond Yaumati Catholic Primary School (the Northern Extension). The YTMDC passed a motion at the meeting on 12 December 2013 for the above requests.

24. We have explained many times that these two full enclosures are not required under the Environmental Permit (EP). In fact, after implementing the mitigation measures recommended in the Environmental Impact Assessment (EIA) report (see **Enclosure 2**), the traffic noise impact on the residents of PG will be improved, and the noise level of around 700 dwellings of the PG residents will be reduced by 10 dB(A) at most and 3 dB(A) on average. Regarding the requests of the residents, the HyD assessed that the implementation of the Central Full Enclosure would render the total length of the fully enclosed road section along the GRF to exceed 230m. It is technically not feasible to accommodate the fire services installation and equipment, including an extensive dynamic smoke extraction system and fire protected escape passage, in the said road section required by the codes of practices for fire safety. The Northern Extension is not within the project scope of CKR. Therefore, based on the principle of prudent use of public funds, there is no justification for accommodating the two requests under the CKR project.

25. We gazetted the road scheme for the proposed works of the project under the Roads (Works, Use and Compensation) Ordinance (Cap. 370) (the Ordinance) on 1 and 8 November 2013. During the statutory period, 344 objections were received, and 81 of them were subsequently withdrawn unconditionally. The reasons for the objections were mainly related to the planning issues related to the project, and the impact of the project on environment, building safety and redevelopment potential. Over 90% of the objections were raised by those who were concerned about the environmental impact of CKR on PG. They worried about the air pollution and noise caused by the busy traffic at GRF and requested the implementation of the Central Full Enclosure and Northern Extension. In respect to the environmental impacts on PG, by implementing the mitigation measures recommended in the EIA report, CKR will comply with the requirements in the EP issued by the Director of Environmental Protection. The HyD had also explained the above to the objectors raising the two requests. Regarding the building safety and

redevelopment potential aspects, majority of the tunnel of CKR will be constructed deep in rock stratum. The construction works will not affect the structural integrity and normal use of the buildings along the alignment of CKR or their redevelopment potentials.

26. Later on, to suit the design developments and to indicate the correct extent of creation of easement and other permanent rights in some land lots, we gazetted the amendment scheme on 27 March and 2 April 2015. Three objections were received during the statutory period. The reasons for the objections were mainly related to the impact of the project on environment, building safety and redevelopment potential. These concerns have been addressed in the impact assessments and design.

27. Having considered the 266 unresolved objections and the above amendments, the Chief Executive-in-Council authorised the proposed works of the project under the Ordinance without modification. The authorisation notice of the project was gazetted on 15 and 22 January 2016.

28. The HyD has consulted the Advisory Committee on the Appearance of Bridges and Associated Structures (ACABAS)[8] on the proposed aesthetic design of the noise barriers, noise enclosures, YMT landscaped deck, viaducts and footbridge of the project. ACABAS accepted the proposed aesthetic design.

ENVIRONMENTAL IMPLICATIONS

29. The project is a designated project under Schedule 2 of the EIA Ordinance (Cap. 499) and an EP is required for the construction and operation of the project. After public inspection and consultation with the Advisory Council on the Environment, the EIA report for the project was approved by the Environmental Protection Department with conditions[9] in July 2013 and the EP was issued under the EIA Ordinance in August 2013. The EIA report concluded that the environmental impact of the project can be controlled to within the criteria under the EIA Ordinance and the Technical Memorandum on the EIA Process.

---

[8] The Advisory Committee on the Appearance of Bridges and Associated Structures comprises representatives of the Hong Kong Institute of Architects, the Hong Kong Institution of Engineers, the Hong Kong Institute of Planners, the Hong Kong Institute of Landscape Architects, academic institutions, the Architectural Services Department, the HyD, the Housing Department and the Civil Engineering and Development Department. It is responsible for vetting the design of bridges and other structures associated with the public highway system, including noise barriers and enclosures, from the aesthetic and visual impact points of view.

[9] The conditions include setting up community liaison groups and incorporating more innovative and greening features for the landscape decks and ventilation buildings.

30. The HyD shall implement the mitigation measures and EM&A programme recommended in the approved EIA report. For the construction phase, the recommended mitigation measures mainly include adoption of quieter equipment, movable temporary noise barriers and noise insulation materials to minimize construction noise impact; regular water spraying for dust control; control of dredging and filling rates for marine construction with deployment of silt curtains to minimize water quality impact; and setting up of community liaison groups to handle enquiries and complaints. For the operation phase, the mitigation measures mainly include adoption of an air purification system to filter at least 80% of the nitrogen dioxide and respirable suspended particulates away from vehicular exhaust of the traffic in tunnel before discharging to the atmosphere vide ventilation buildings; installation of noise barriers and noise enclosures; and tree planting, provisioning of landscaped decks and improving the landscaping of the ventilation buildings. We have included the cost of about $2,661.5 million (in September 2016 prices) in the overall project estimate for the implementation of the environmental mitigation measures (including air purification systems) and EM&A programme.

31. At the planning and design stages, the HyD has considered all the proposed works and construction sequences to reduce the generation of construction waste where possible. In addition, the HyD will require the contractors to reuse inert construction waste (e.g. materials excavated within site area for backfilling use) on site or in other suitable construction sites as far as practicable, in order to minimise the disposal of inert construction waste to public fill reception facilities[10]. The HyD will require the contractors to maximise the use of recycled or recyclable inert construction waste, as well as encourage the use of non-timber formwork to further minimise the generation of construction waste.

32. At the construction stage, the HyD will require the contractors to submit for approval a plan setting out the waste management measures. The plan will include appropriate mitigation measures to avoid and reduce the generation of inert construction wastes, and to reuse and recycle such waste. The HyD will ensure that the day-to-day operations on site comply with the approved plan. The HyD will require the contractors to separate inert construction waste from non-inert construction waste on site to facilitate their transportation to appropriate facilities for disposal. The HyD will control the disposal of inert construction waste and non-inert construction waste at public fill reception facilities and landfills respectively for disposal through a trip-ticket system.

---

[10] 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.

33. We estimate that the project will generate in total 7.86 million tonnes of construction waste. Of these, we will reuse 2.51 million tonnes (31.9%) of inert construction waste on site and deliver 5.32 million tonnes (67.7%) of inert construction waste to public fill reception facilities for subsequent reuse. In addition, we will dispose of the remaining 0.03 million tonnes (0.4%) of non-inert construction waste at landfills. The total cost for accommodating construction waste at public fill reception facilities and landfill sites for the project is estimated to be $383.7 million (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).

HERITAGE IMPLICATIONS

34. The HyD has conducted a cultural heritage impact assessment for the project in accordance with the EIA Ordinance. The assessment is included in the approved EIA report.

35. We understand the public aspiration for the preservation of the new wing and old wing of the Yau Ma Tei Police Station (YMTPS). Under the project, the new wing and old wing of the YMTPS, which has been accorded with a Grade 2 historic building status, can both be preserved. The HyD will require the contractors to comply with the requirements on protection and monitoring of the YMTPS as set out in the approved EIA report.

LAND ACQUISITION

36. The project does not require resumption or clearance of private land. However, this project requires creation of rights of temporary occupation of about 3 064 square metres (m^2) of private land and the land occupied by sections of the approach roads within the Western Harbour Crossing tunnel area, and easements and other permanent rights in the underground strata of about 72 041 m^2 of private land.

IMPLICATIONS FOR TREES

37. There are 3 248 trees within the project boundary. Among them, 1 269 trees will be preserved. The project will require removal of 1 978 trees, including 1 858 trees to be felled and 120 trees to be transplanted within the

project boundary. Besides, one important tree[11] will be affected during implementation of the project. A summary of the important tree affected is provided at **Enclosure 5**. The HyD will incorporate planting proposals into the proposed project, including the planting of 1 859 heavy standard trees[12] at various locations and 684 680 shrubs, covering a planting area of about 54 600 m^2.

TRAFFIC IMPLICATIONS

38. The HyD has conducted traffic impact assessment for the project, covering the traffic impact during the construction period. According to the findings of the assessment, with the implementation of appropriate temporary traffic arrangement (TTA), the construction works will not cause significant impact on the traffic network in the area concerned.

39. The HyD will consult the relevant DCs prior to the implementation of major TTAs for the project. A traffic management liaison group comprising representatives of the HyD, the Police, the Transport Department and other concerned Government departments will be established to assess the practicality of the TTAs to be proposed by the contractors.

JOB OPPORTUNITY

40. We estimate that the proposed project will create about 4 800 jobs (900 for professional/technical staff and 3 900 for labourers) providing a total employment of about 390 000 man-months.

---

[11] 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 to or exceeding 1.0 m (measured at 1.3 m above ground level), or with height/canopy spread equal to or exceeding 25 m.

[12] "Heavy Standard Trees" should meet the requirements of height exceeding 3.5m, stem diameter exceeding 75mm, well balanced branching head, etc.

BACKGROUND

41. We upgraded **461TH** to Category B in September 2001.

42. In April 1998, the FC approved the upgrading of **582TH** "Central Kowloon Route – consultants' design fees and site investigations" to Category A and approved the increase in funding in April 2007 for the consultancy study and site investigations at an estimated cost of $192.3 million in MOD prices. The HyD engaged consultants in August 2007 and June 2011 to carry out the investigation and design of the CKR respectively. The detailed design of the project has been largely completed.

43. The HyD completed two phases of public engagement exercise between November 2007 to July 2009 and between December 2012 to March 2013 respectively. The HyD also consulted the YTMDC, KCDC, WTSDC and KTDC between December 2012 and January 2013. Furthermore, the HyD consulted the Harbourfront Commission in January 2013.

44. Since construction of the proposed CKR will require occupation of the YMTPS, to ensure that the services of the police station will be maintained during construction of the CKR, the FC approved in June 2013 the funding application of **277LP** "Reprovisioning of Yau Ma Tei Police Station". The reprovisioning works commenced in 2013 and was completed in January 2016.

45. Since the Yaumatei Specialist Clinic Extension (YMTSCE) and the Yau Ma Tei Multi-storey Carpark (YMTMCP) have to be demolished to make way for the construction of the CKR, reprovisioning of the clinic and the government offices in YMTMCP will be required. The FC approved the funding application of **71MM** "Reprovisioning of Yaumatei Specialist Clinic at Queen Elizabeth Hospital" and **74KA** "Construction of West Kowloon Government Offices" in June 2013 and June 2015 respectively. The reprovisioning works of the Yaumatei Specialist Clinic commenced in 2013 and are being reprovisioned in the new building in Queen Elizabeth Hospital in stages starting from 12 December 2016. The construction of West Kowloon Government Offices commenced in 2015 and is anticipated to be completed in 2019.

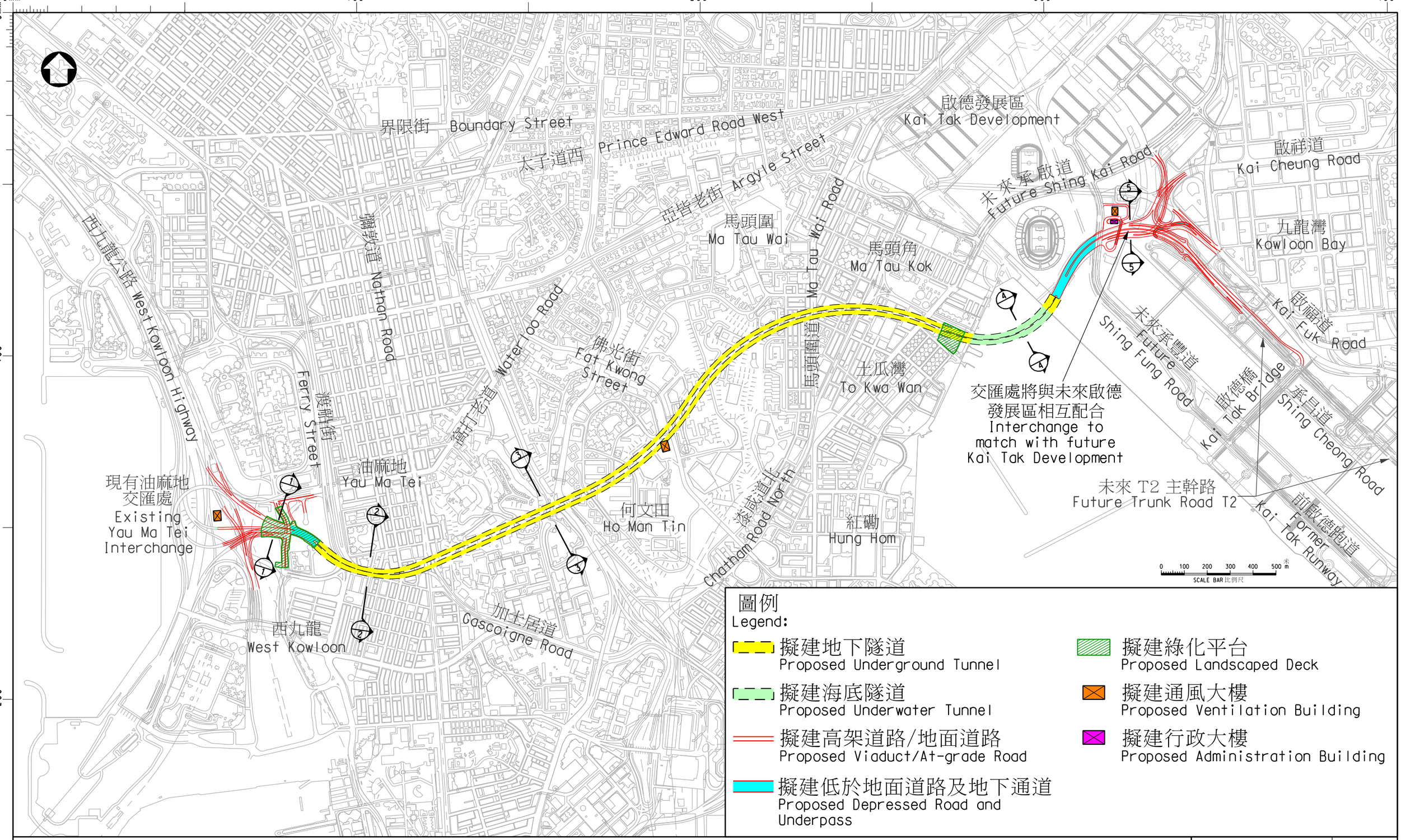
WAY FOWARD

46. We plan to submit the proposal for upgrading the project **461TH** as mentioned in paragraph 2 above to Category A to the Public Works Subcommittee to seek its support, and to seek funding approval from the FC.

ADVICE SOUGHT

47. Members are invited to note the content of this paper and provide valuable comments.

Transport and Housing Bureau
Highways Department
March 2017



圖例 Legend:

- 擬建地下隧道 Proposed Underground Tunnel
- 擬建海底隧道 Proposed Underwater Tunnel
- 擬建高架道路/地面道路 Proposed Viaduct/At-grade Road
- 擬建低於地面道路及地下通道 Proposed Depressed Road and Underpass
- 擬建綠化平台 Proposed Landscaped Deck
- 擬建通風大樓 Proposed Ventilation Building
- 擬建行政大樓 Proposed Administration Building

圖則名稱 plan title

工務計劃項目第6461TH號
中九龍幹線 - 主要工程 - 總平面圖
PWP Item No. 6461TH
Central Kowloon Route - Main Works - General Layout Plan

圖則編號 plan no. HMW6461TH-SK0735

比例 scale 圖示 AS SHOWN

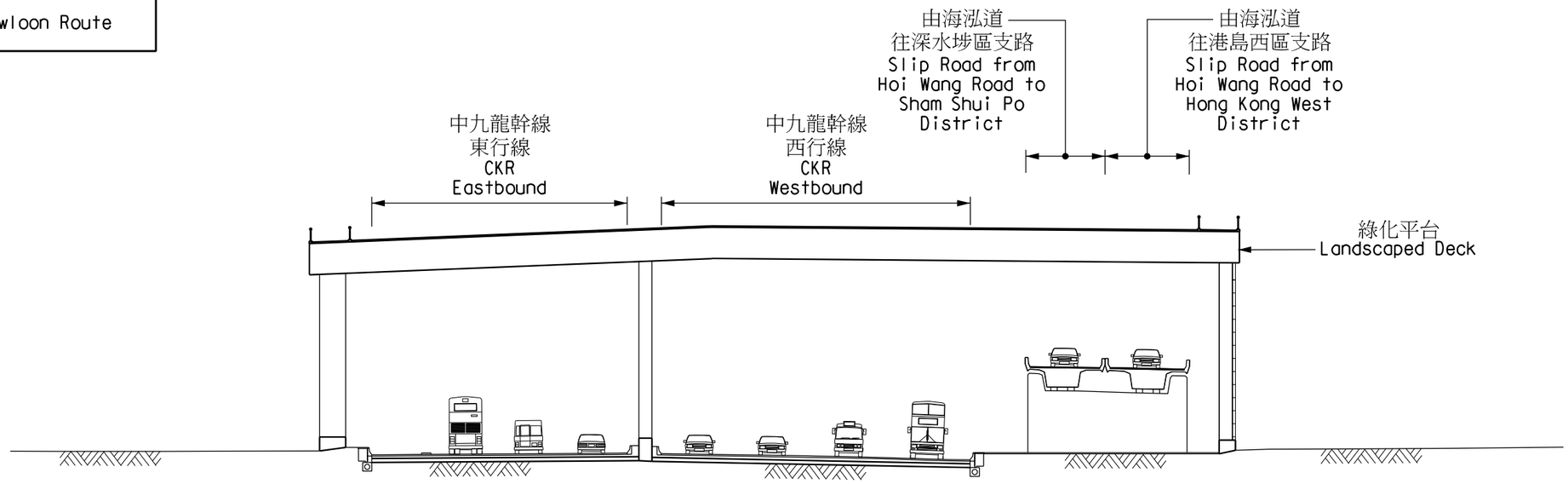
HIGHWAYS DEPARTMENT HONG KONG 香港 路政署

c:\cdms\mw\dms05037\HMW6461TH-SK0735.dgn

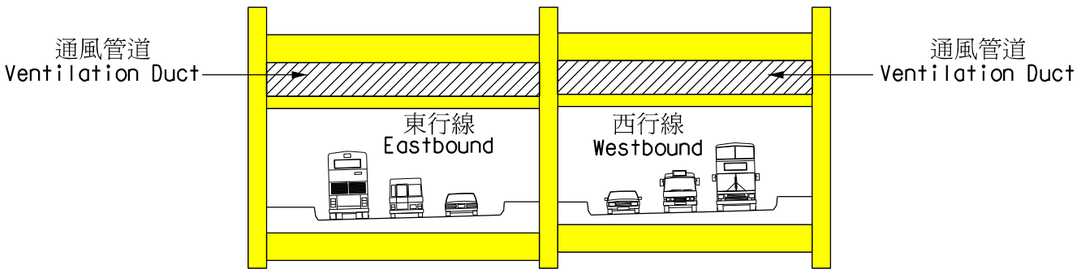
A3 420 x 297

註釋 Note :

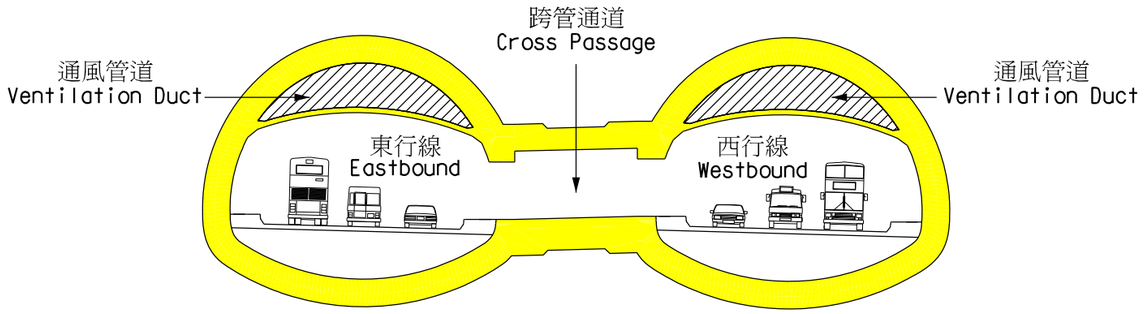
1. CKR 表示中九龍幹線
   CKR stands for Central Kowloon Route



切面 Section 1-1



切面 Section 2-2



切面 Section 3-3

圖則名稱 plan title

工務計劃項目第6461TH號
中九龍幹線 - 主要工程 - 切面圖

PWP Item No. 6461TH
Central Kowloon Route - Main Works - Cross Sections

圖則編號 plan no.	比例 scale
HMW6461TH-SK0736	示意圖 DIAGRAMMATIC

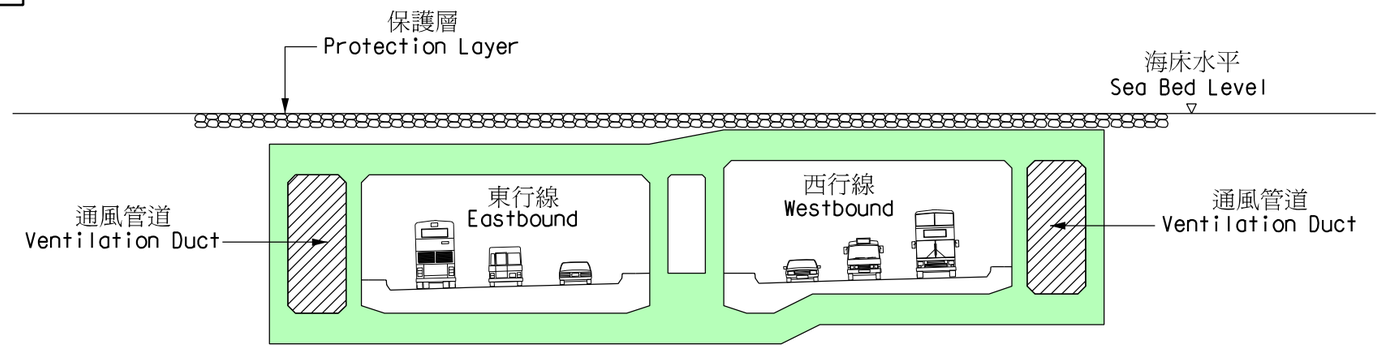
HIGHWAYS DEPARTMENT HONG KONG 香港 路政署

c:\cdms\mw\dms00555\HMW6461TH-SK0736.dgn

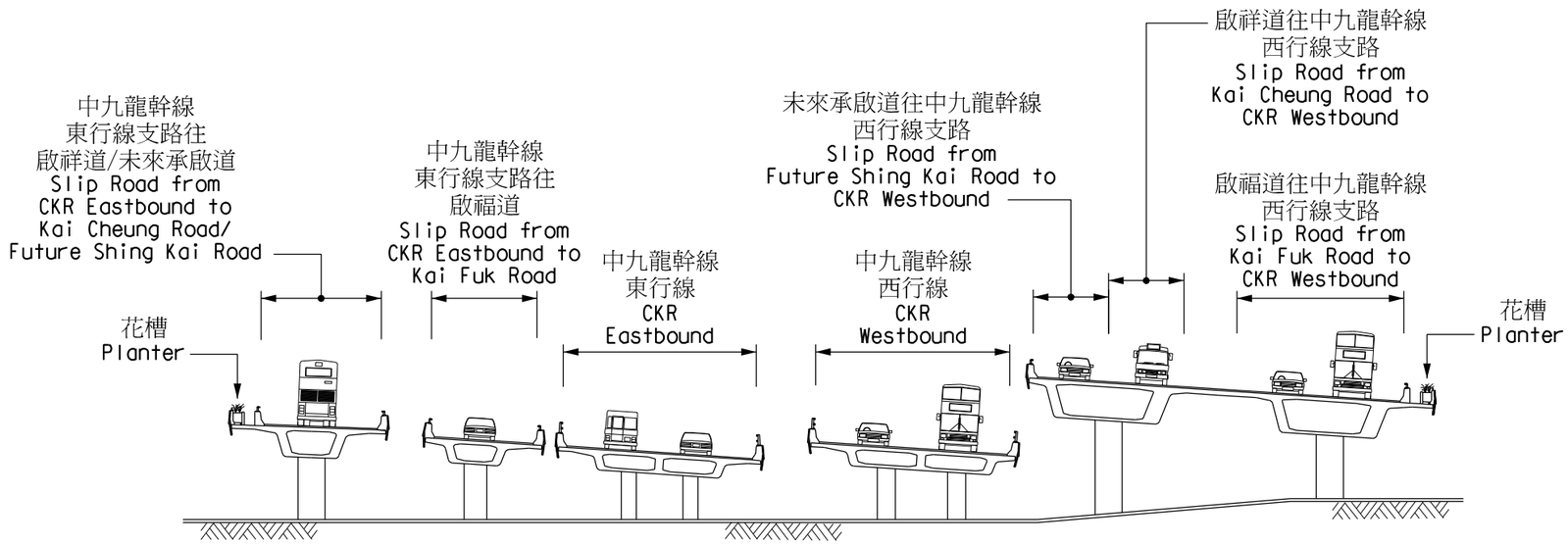
A3 420 x 297

註釋 Note :

1. CKR 表示中九龍幹線
   CKR stands for Central Kowloon Route



切面 Section 4-4



切面 Section 5-5

圖則名稱 plan title

工務計劃項目第6461TH號
中九龍幹線 - 主要工程 - 切面圖
PWP Item No. 6461TH
Central Kowloon Route - Main Works - Cross Sections

圖則編號 plan no.
HMW6461TH-SK0737

比例 scale
示意圖
DIAGRAMMATIC

HIGHWAYS DEPARTMENT HONG KONG 香港路政署

c:\cdms\mw\dms00555\HMW6461TH-SK0737.dgn

A3 420 x 297

油麻地交匯處
Yau Ma Tei Interchange

啟德交匯處
Kai Tak Interchange

建議緩解噪音設施 - 加士居道天橋
Proposed Noise Mitigation Measures - Gascoigne Road Flyover

油麻地綠化平台
Yau Ma Tei Landscaped Deck

註釋 Notes:
構思圖只作展述一般佈局之用，設計因實質需要或須作出修改
Artistic impressions are for general illustration purpose only and design is subject to change to suit site constraints

圖則名稱 plan title

工務計劃項目第6461TH號
中九龍幹線 - 主要工程 - 構思圖
PWP Item No. 6461TH
Central Kowloon Route - Main Works - Artistic Impressions

圖則編號 plan no.
HMW6461TH-SK0738

比例 scale
示意圖
DIAGRAMMATIC

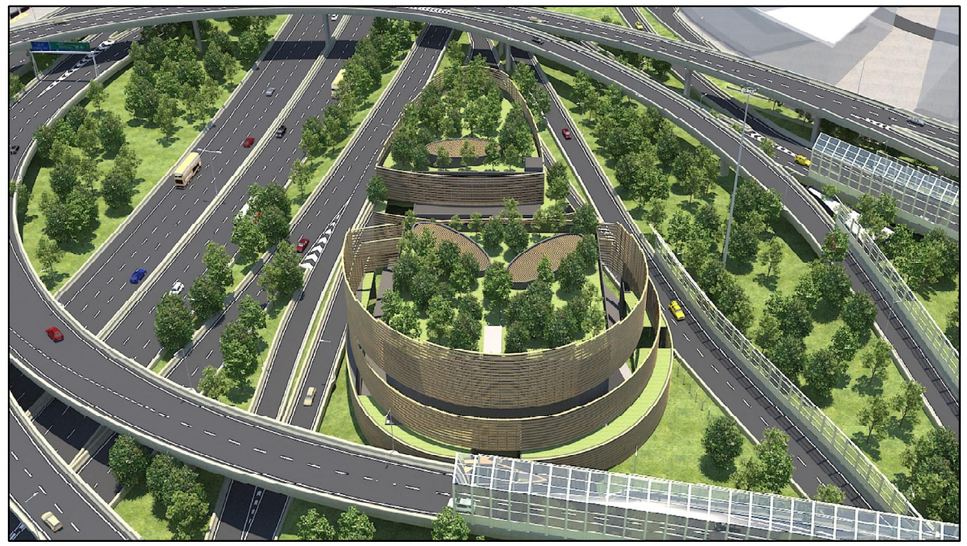
HIGHWAYS DEPARTMENT HONG KONG 路政署 香港

c:\cdms\mw\dms00555\HMW6461TH-SK0738.dgn

A3 420 x 297

行政大樓及啟德通風大樓
Administration Building and Kai Tak Ventilation Building

何文田通風大樓
Ho Man Tin Ventilation Building



油麻地通風大樓
Yau Ma Tei Ventilation Building

註釋 Notes: 構思圖只作展述一般佈局之用，設計因實質需要或須作出修改
Artistic impressions are for general illustration purpose only and design is subject to change to suit site constraints

圖則名稱 plan title

工務計劃項目第6461TH號
中九龍幹線 - 主要工程 - 構思圖
PWP Item No. 6461TH
Central Kowloon Route - Main Works - Artistic Impressions

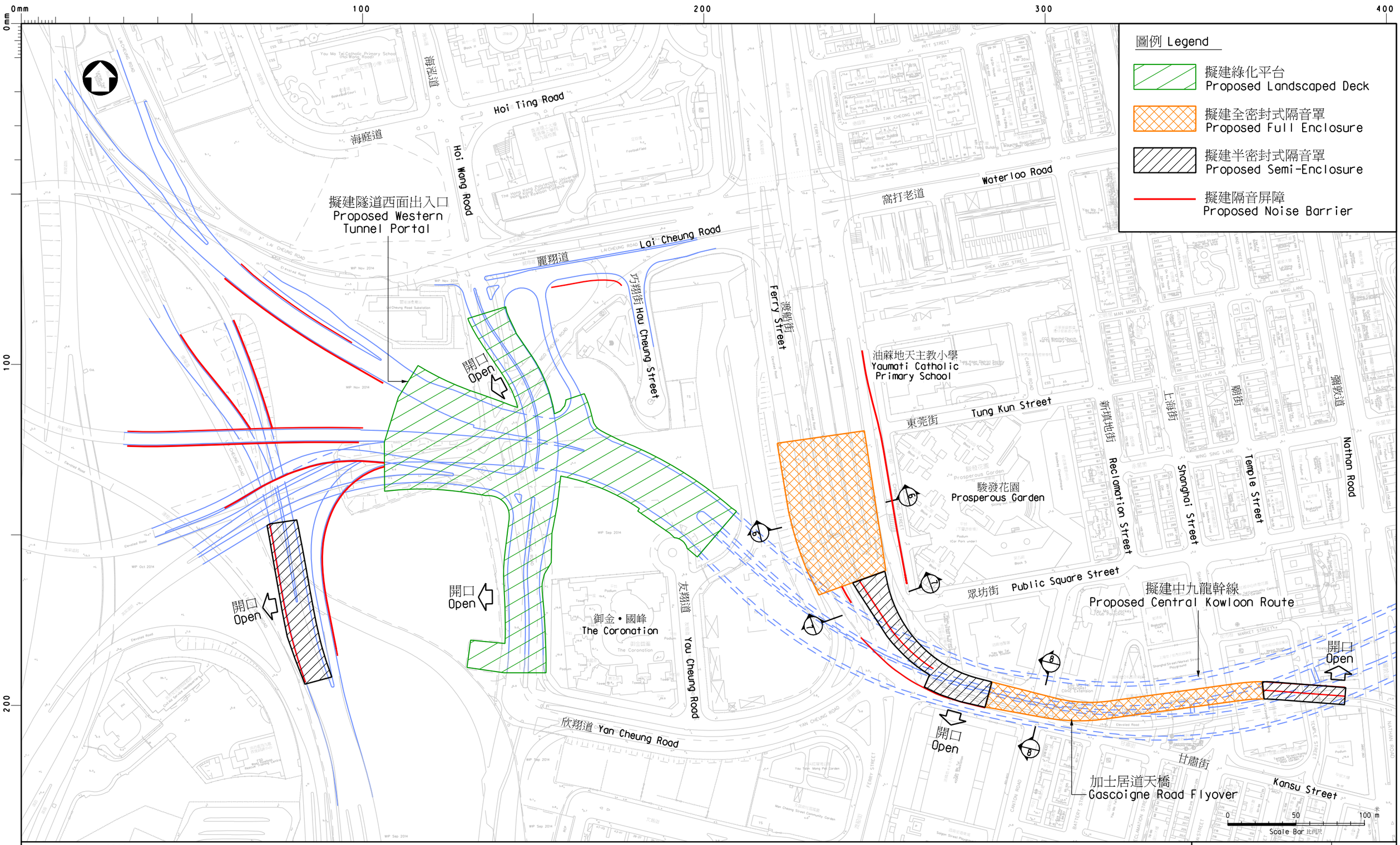
圖則編號 plan no. HMW6461TH-SK0912

比例 scale 示意圖 DIAGRAMMATIC

HIGHWAYS DEPARTMENT HONG KONG 香港路政署

c:\cdms\mw\dms00555\HMW6461TH-SK0912.dgn

A3 420 x 297



圖則名稱 plan title

工務計劃項目第6461TH號
中九龍幹線 - 主要工程 - 建議緩解噪音設施

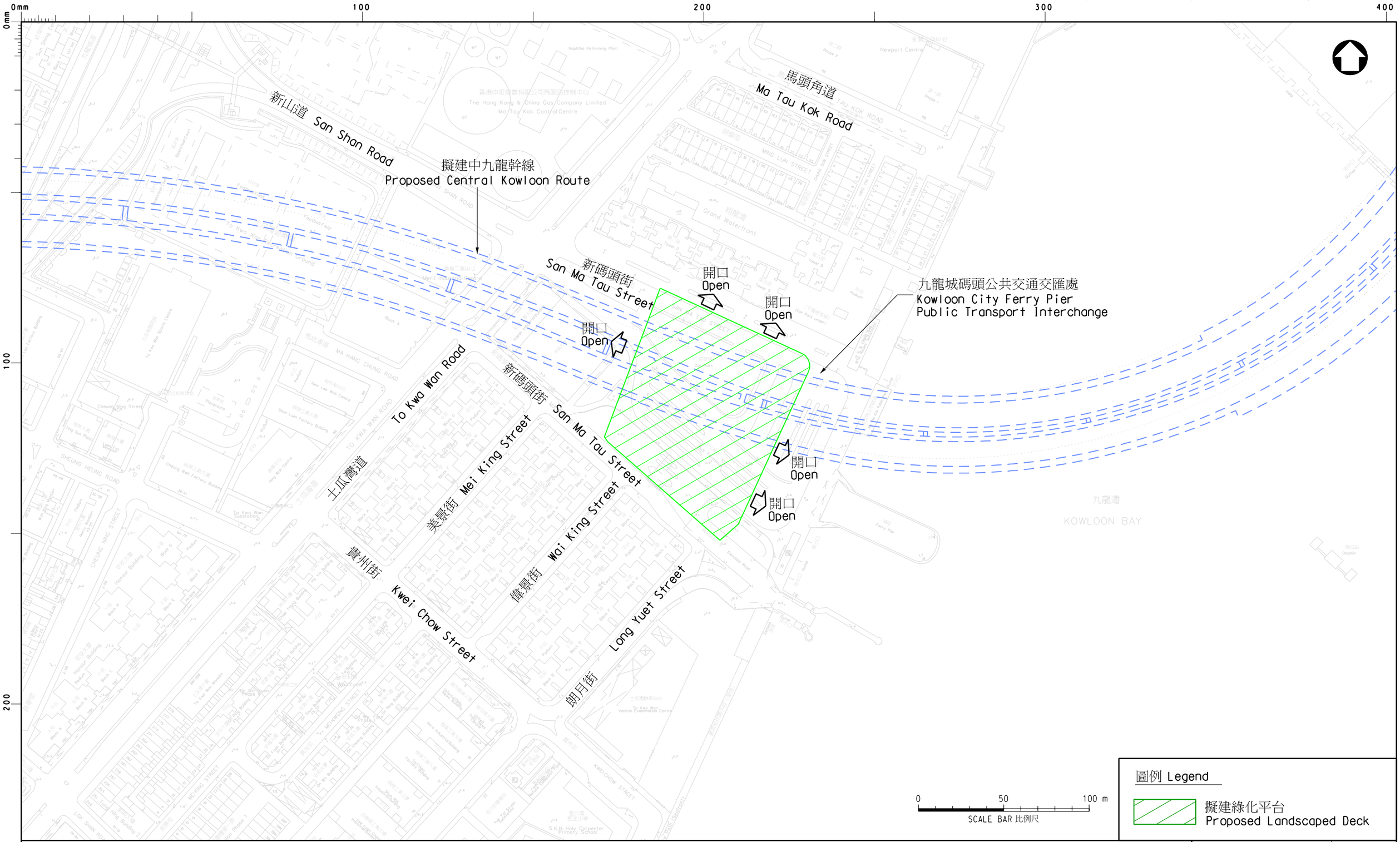
PWP Item No. 6461TH
Central Kowloon Route - Main Works - Proposed Noise Mitigation Measures

圖則編號 plan no.	比例 scale
HMW6461TH-SK0739	圖示 AS SHOWN

HIGHWAYS DEPARTMENT HONG KONG 香港 路政署

c:\cdms\mw\dms05037\HMW6461TH-SK0739.dgn

A3 420 x 297



圖則名稱 plan title

工務計劃項目第6461TH號
中九龍幹線 - 主要工程 - 建議緩解噪音設施
PWP Item No. 6461TH
Central Kowloon Route - Main Works - Proposed Noise Mitigation Facilities

圖則編號 plan no.
HMW6461TH-SK0740

比例 scale
圖示 AS SHOWN

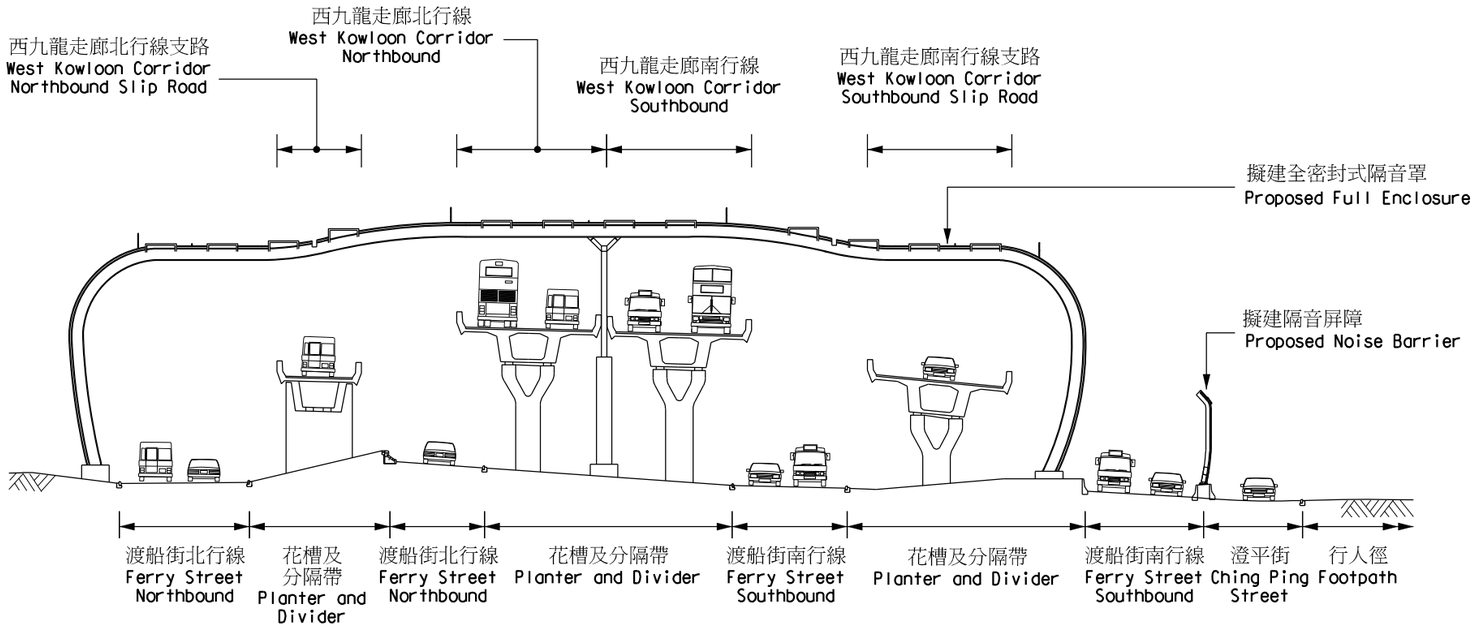
HIGHWAYS DEPARTMENT HONG KONG 香港 路政署

c:\cdms\mw\dms05037\HMW6461TH-SK0740.dgn

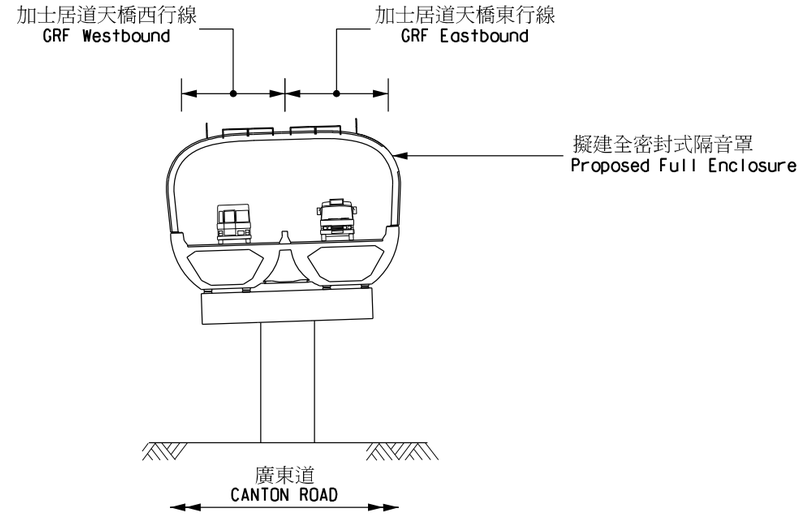
A3 420 x 297

註釋 Note：

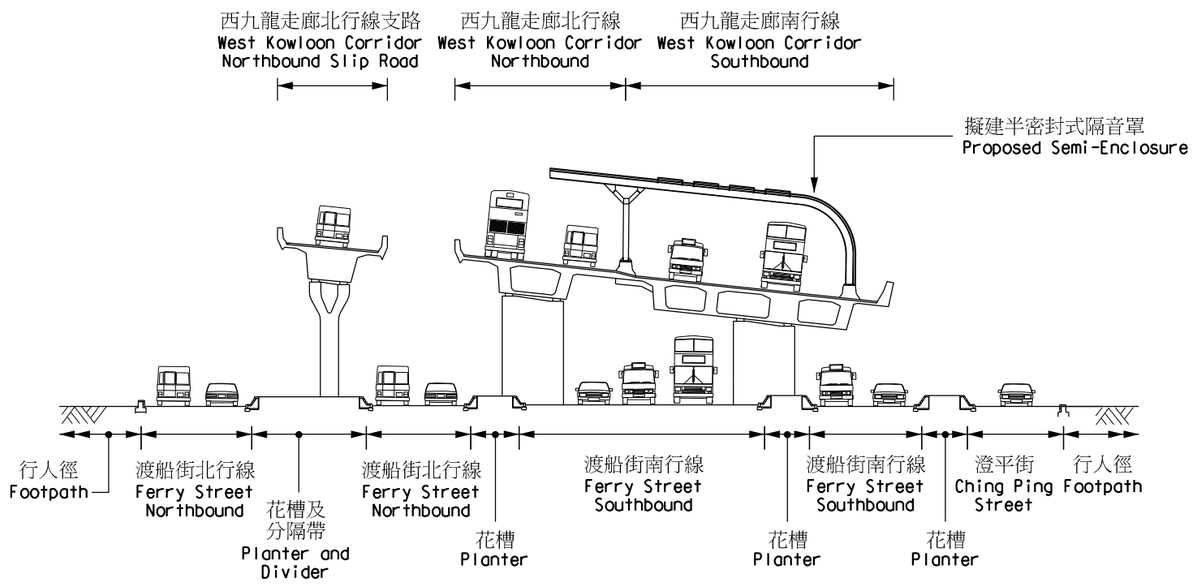
1. GRF 表示加士居道天橋
   GRF stands for Gascoigne Road Flyover



切面 Section 6-6



切面 Section 8-8



切面 Section 7-7

圖則名稱 plan title

工務計劃項目第6461TH號
中九龍幹線 - 主要工程 - 切面圖

PWP Item No. 6461TH
Central Kowloon Route - Main Works - Cross Sections

圖則編號 plan no.
HMW6461TH-SK0741

比例 scale
示意圖 DIAGRAMMATIC

HIGHWAYS DEPARTMENT HONG KONG 路政署 香港

c:\cdms\mw\dms00555\HMW6461TH-SK0741.dgn

A3 420 x 297

Enclosure 3

461TH – Central Kowloon Route – Main Works
Reprovisioning Arrangement of Affected Public Facilities

OVERVIEW

A section of the Central Kowloon Route (CKR) tunnel of about 400 m long will be constructed at the section of Kansu Street between Hoi Wang Road and Nathan Road. Several public facilities along the tunnel alignment will need to be reprovisioned to facilitate the construction works. We have formulated the reprovisioning arrangements. These arrangements have been widely discussed by the public in the two phases of public engagement exercise between November 2007 to July 2009 and between December 2012 to March 2013 respectively. We have enhanced the reprovisioning arrangements taking into account the public views and the public generally support the enhanced proposals.

REPROVISIONING OF AFFECTED PUBLIC FACILITIES TO BE FUNDED BY 461TH (SEE ATTACHED DRAWING IN ENCLOSURE 3)

Yau Ma Tei Public Library

2. Subject to the construction programme, the Yau Ma Tei Multi-storey Carpark (YMTMCP) will be demolished about three years after the commencement of the works. The Yau Ma Tei (YMT) Public Library in YMTMCP will be temporarily relocated to the rest area at the south of Henry G. Leong Yau Ma Tei Community Centre and accommodated in the same temporary building with the YMT Jade Hawker Bazaar (JHB). Upon completion of the works, the YMT Public Library will be relocated into a new building to be constructed at the original site of the YMTMCP.

Yau Ma Tei Jade Hawker Bazaar

3. The YMTJHB will be demolished during the construction of the project. In January 2013, we had a focus group meeting with operators

of the YMTJHB. At that time, operators of YMTJHB requested that the two existing bazaars should be temporarily reprovisioned on a single site. Therefore, the two bazaars will be temporarily relocated to the rest area at the south of Henry G. Leong Yau Ma Tei Community Centre and accommodated in the same temporary building with the YMT Public Library. The Highways Department will continue to liaise with the Food and Environmental Hygiene Department, Planning Department and the relevant stakeholders on permanent reprovisioning of the YMTJHB.

Yaumatei Specialist Clinic Extension (Department of Health's Facilities)

4. Subject to the construction programme, Yaumatei Specialist Clinic Extension (YMTSCE) will be demolished about two years after the commencement of the works. The facilities of Department of Health within the YMTSCE including the Dermatological Clinic and the Methadone Clinic will be reprovisioned in the adjacent Yau Ma Tei Jockey Club Polyclinic. The Maternal and Child Health Centre will be temporarily reprovisioned in a temporary building at Yau Cheung Road in Yau Ma Tei. The Food and Health Bureau and Department of Health plan to permanently reprovide the Maternal and Child Health Centre within the proposed Community Health Centre at the ex-Mong Kok Market site. The service of the clinic will not be affected during the reprovisioning period.

REPROVISIONING OF AFFECTED PUBLIC FACILITIES FUNDED BY OTHER PROJECTS

277LP "Reprovisioning of Yau Ma Tei Police Station" (FC approved the funding application in June 2013)

5. The tunnel of the CKR will pass underneath part of the new wing, kitchen, laundry and carpark of the YMT Police Station (YMTPS). The YMTPS will be occupied as works site when CKR construction works are in progress, but both the old wing and new wing of the YMTPS can be preserved while the kitchen, laundry and carpark will be demolished. To ensure that the existing services of the police station will be maintained during construction, the police station has already been

relocated to a new YMTPS in May 2016 at Yau Cheung Road. Besides, the operation of the Police Reporting Centre in the YMTPS will be maintained.

71MM "Reprovisioning of Yaumatei Specialist Clinic at Queen Elizabeth Hospital" (FC approved the funding application in June 2013)

6. The facilities of Hospital Authority within the Yaumatei Specialist Clinic, namely, Ear, Nose and Throat Specialist Clinic (including Speech Therapy and Audiology services), Child Psychiatric Outpatient Clinic, Child Psychiatric Day Hospital, Renal Dialysis Centre and Geriatric Day Hospital (including Community Geriatric Assessment service) are being reprovisioned and commissioned in stages in the new building in the Queen Elizabeth Hospital starting from 12 December 2016.

74KA "Construction of West Kowloon Government Offices" (FC approved the funding application in June 2015)

7. The offices of Social Welfare Department, Lands Department and Transport Department inside the YMTMCP will be reprovisioned in the West Kowloon Government Offices.

圖例 Legend :

- 擬建綠化平台 Proposed landscaped deck
- 設施永久重置地點 Permanent reprovisioning site
- 設施臨時重置地點 Temporary reprovisioning site

於中九龍幹線主要工程內重置的現有設施 -
Existing facilities to be reprovisioned in Central Kowloon Route - Main Works -

- 油麻地玉器市場 Yau Ma Tei Jade Hawker Bazaar
- 油麻地多層停車場(油蔴地公共圖書館) Yau Ma Tei Multi-storey Carpark (Yau Ma Tei Public Library)
- 油麻地專科診所新翼 Yaumatei Specialist Clinic Extension
  - 衞生署設施(母嬰健康院除外)將重置於油麻地賽馬會分科診所
    Department of Health's facilities (except Maternal and Child Health Centre) to be reprovisioned at Yau Ma Tei Jockey Club Polyclinic
  - 母嬰健康院將臨時在油麻地友翔道的臨時建築物內重置
    The Maternal and Child Health Centre will be temporarily reprovisioned in a temporary building at Yau Cheung Road in Yau Ma Tei

擬建中九龍幹線 Proposed Central Kowloon Route

油麻地賽馬會分科診所 Yau Ma Tei Jockey Club Polyclinic

梁顯利油麻地社區中心 Henry G. Leong Yau Ma Tei Community Centre

臨時母嬰健康院 Temporary Maternal and Child Health Centre

臨時油蔴地公共圖書館及玉器市場 Temporary Yau Ma Tei Public Library cum Jade Hawker Bazaar

SCALE BAR 比例尺 0 15 30 45 60 75 m

圖則名稱 drawing title

工務計劃項目第6461TH號
現有位於油麻地內受中九龍幹線影響設施及建議重置地點位置圖

PWP Item No. 6461TH
Locations of Affected Existing Facilities and Proposed Reprovisioning Sites in Yau Ma Tei Area

圖則編號 drawing no. HMW6461TH-SK0742

比例 scale 圖示 AS SHOWN

HIGHWAYS DEPARTMENT HONG KONG 路政署 香港

c:\cdms\mw\dms05037\HMW6461TH-SK0742_20160407.dgn

A3 420 x 297

Enclosure 4

461TH – Central Kowloon Route – Main Works

Breakdown of estimates for consultants' fees and resident site staff costs (in September 2016 prices)

			Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee ($ million)
(a)	Consultants' fees for contract administration (Note 2)	Professional	-	-	-	39.6
		Technical	-	-	-	13.2
					Sub-total	52.8
(b)	Resident site staff costs(Note 3)	Professional	8 182	38	1.6	1,012.2
		Technical	23 553	14	1.6	1,006.2
					Sub-total	2,018.4
	Comprising –					
	(i) consultants' fee for managing resident site staff					56.0
	(ii) remuneration of resident site staff					1,962.4
(c)	Environmental Monitoring and Audit programme	Professional	-	-	-	10.8
		Technical	-	-	-	21.6
					Sub-total	32.4
					Total	**2,103.6**

* MPS = Master Pay Scale

Notes

1. A multiplier of 1.6 is applied to the average MPS point to estimate the cost of resident site staff supplied by the consultants (At present, MPS salary point 38 is equivalent to a monthly salary of $77,320 and MPS salary point 14 is equivalent to a monthly salary of $26,700).

2. The consultants' staff cost for contract administration is calculated in accordance with the existing consultancy agreement for the design and construction of the project. The construction phase of the assignment in respect of works will only be executed subject to FC's approval to upgrade the project to Category A.

3. The actual man-months and actual costs will only be known after completion of the construction works.

Enclosure 5

461TH – Central Kowloon Route – Main Works
Summary of "important tree" affected

Project No. : 461TH **Project Title : Central Kowloon Route – Main Works**

Tree ref. no.	Species		Measurements			Amenity value[1]	Form	Health condition	Structural condition	Suitability for transplanting[2]		Conservation status[3]	Recommendation	Department to provide expert advice to LandsD	Additional Remarks
	Scientific name	Chinese name	Height (m)	DBH[4] (mm)	Crown spread (m)	(Good/Fair/Poor)				(High/ Medium /Low)	Remarks		(Retain/ Transplant/ Fell)		
T1094	*Ficus elastica*	印度橡樹	16	1,470	9	Good	Fair	Fair	Fair	Low	Preparation of intact and sufficient-sized root ball not practical; Tree already with non-recoverable structural problem such as leaning and girdling roots.	No	Fell	Leisure and Cultural Services Department	Interface with the foundation works at Yau Ma Tei Police Station. Low survival rate after transplanting for reasons mentioned in the "Remarks" column.

[1] Amenity value of the tree is assessed by its functional value for shade, shelter, screening, reduction of pollution and noise and also its fung shui significance, and classified into the following categories-

Good: Important trees which should be retained by adjusting the design layout accordingly.
Fair: Trees that are desirable to be retained in order to create a pleasant environment, which includes healthy specimens of lesser importance than "Good" trees.
Poor: Trees that are dead, dying or potentially hazardous and should be removed.

[2] Assessment has taken into account conditions of the tree at the time of survey (including health, structure, age and root conditions), site conditions (including topography and accessibility) and intrinsic characters of tree species (survival rate after transplanting).

[3] Conservation status is based on the rarity and protection status of the species under relevant ordinances in Hong Kong, such as Rare and Precious Plants of Hong Kong, the International Union for Conservation of Nature Red List of Threatened Species and the Forests and Countryside Ordinance.

[4] Diameter at Breast Height (DBH) of a tree refers to its trunk diameter at breast height (i.e. measured at 1.3 m above ground level).