

Agreement No. CE 8/2012 (HY)

# Flyover from Kwai Tsing Interchange Upramp to Kwai Chung Road

## Environmental Impact Assessment Executive Summary



**AECOM**

AECOM Consulting Services Limited

June 2015



土木工程拓展署  
Civil Engineering  
and Development  
Department

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## **1. INTRODUCTION**

- 1.1.1 Transport Department (TD) has reviewed the traffic conditions of Tsuen Wan Road (TWR) near Kwai Tsing Interchange (KT I/C) and considered that a section of the southbound carriageway of TWR between KT I/C and Kwai Chung Road (KCR) would deteriorate due to congestion occurs during peak hours in the future years. TD considers that there is a need to implement the Project to improve the road section to cope with future traffic growth.
- 1.1.2 According to the Traffic Impact Assessment carried out under this Project, the section of the southbound carriageway of TWR between KT I/C and KCR is currently operating marginally above capacity in the morning peak hours and it is envisaged that the congestion would continue to worsen in the future years. The Traffic Impact Assessment has confirmed that with the introduction of an additional traffic lane (i.e. the Project), this section of the southbound carriageway of TWR would be operating within capacity in both the morning and evening peak hours in all design years.
- 1.1.3 The new additional traffic lane (Bridge H) is a designated project under Item A.8 of Part I, Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO): "A road or railway bridge more than 100m in length between abutments".
- 1.1.4 In addition, there would be modification of existing slip road (Bridge G), which however would not cause any environmental impact likely to affect existing or planned community, or environmental sensitive uses in the vicinity, in particular it would not induce adverse noise impact during operational phase in view of the reduced traffic and hence mitigation measure for Bridge G is anticipated not necessary. Referring to section 6.1 of Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM), the modification of existing slip road (Bridge G) would not be classified as "material" change" under the EIAO.
- 1.1.5 AECOM Consulting Services Limited (formerly URS Hong Kong Ltd or Scott Wilson Ltd) was commissioned by the Civil Engineering and Development Department (CEDD) to undertake the Environmental Impact Assessment (EIA) Study of the Project.

## 2. PROJECT DESCRIPTION

### 2.1 Proposed Road Works

- 2.1.1 To fulfil the future demand and to prevent traffic congestion in the future during peak traffic flow hours, the recommended road alignment Option 2A is proposed. An additional southbound lane (a separated viaduct) is introduced on TWR and connected to the existing lane on the west side of KCR with design speed of 70 km/hr.
- 2.1.2 The proposed road works is shown in **Figure 1.1**. The basis of design for this proposed flyover is to utilise the remaining capacity currently available on the two segregated KCR carriageways.
- 2.1.3 In addition, a second structure (approximately 150m long) along the nearside lane of TWR near existing KT I/C upramp is required to achieve widening at the east side of TWR.
- 2.1.4 Associated works in the following areas have been identified:
- Existing footbridge NF303 is to be demolished and be re-provided;
  - Existing Public Works Regional Laboratory will be affected;
  - Existing drainage reserve zone positioned alongside TWR will be affected;
  - Existing bus stop outside subway NS10A is to be relocated; and
  - Minor modification to the existing Kwai Chung Road involves removal of the existing planter, breaking and reinstating Kwai Chung Road with the new road marking.

### 2.2 Consideration of Alternative Schemes

- 2.2.1 The potential road improvement options have been considered under this section. Two improvement options, namely Option 1 and Option 2, were identified in the EIA Study Brief. Option 1 introduces an additional southbound lane from KT I/C upramp which connects to the existing downslope segment of KCR upramp. Option 2 introduces an additional southbound lane on the west side of TWR and this lane is connected to the existing lane on the west side of KCR. Another improvement option, Option 3, which is based on widening along both nearside and offside lanes of TWR, has been identified under this Project. By improving the road geometry of three options to achieve a design speed of 70km/hr matching the speed limit on the existing TWR, and to merge either the KCR upramp or the two segregated lanes on KCR for utilization of the remaining capacity currently available, Option 1A, Option 2A, Option 2B and Option 3A have been developed. The alignments of all options are shown in **Figures 2.1 and 2.2**.
- 2.2.2 The road improvement options are evaluated by assessing different viewpoints including the considerations of the traffic and operation standards, engineering designs, environmental and other aspects. Options 1, Option 1A and Option 2B are screened out and considered as infeasible schemes based on the criteria of compliance with the weaving requirements, Transport Planning and Design Manual (TPDM) standards and feasibility assessment on the proposed bridge scheme. Option 3 and Option 3A are least preferable in the alignment evaluation in view of larger work areas near the noise and air sensitive receivers, higher costs and longer construction periods.

2.2.3 **Option 2A - Separate Viaduct on West Side of TWR (Design Speed 70km/hr)** is considered as the recommended road alignment option. The result is based on the overall ranking of viewpoints determined. Option 2 is similar to Option 2A except the design speed and the width of the bridge. The evaluation shows Option 2A may have better air quality under a higher vehicle speed scenario during operation phase.

## **2.3 Works Programme**

2.3.1 Construction of the Project under the recommended road alignment Option 2A shall be commenced tentatively in 2018 and complete in 2021.

## **2.4 Approach to Environmental Impact Assessment**

2.4.1 The EIA process provides a means of identifying, assessing and reporting the environmental impacts and benefits of the project. It is an iterative process that has been followed in parallel with the design process to identify the potential environmental effects of various design options, and develop alternatives as well as mitigation measures to be incorporated into the design, construction and operation of the Project. CEDD has also come up with measures that can avoid some potential environmental impacts, while others are minimised or mitigated to acceptable levels.

### **3. KEY FINDINGS OF ENVIRONMENTAL IMPACT ASSESSMENT**

#### **3.1 Air Quality Impact**

##### *Construction Phase*

- 3.1.1 Potential air quality impacts arising from the construction of the Project would mainly be related to dust nuisance from excavation, material handling and wind erosion of the site. As no massive earthworks and excavation works are required during the construction of the Project, and dust suppression measures as stipulated under the Air Pollution Control (Construction Dust) Regulation, and good site practices should be implemented to further minimise the construction dust generated, significant adverse air quality impact arising from the fugitive dust is not anticipated.

##### *Operation Phase*

- 3.1.2 The potential impacts arising from the background pollutant levels within and adjacent to the Project area, vehicle emissions from open road networks and chimney emissions from the nearby factories were assessed. The results of the operational air quality impact assessment related to vehicular emissions indicated no exceedance of respirable suspended particulates (RSP), fine suspended particulates (FSP) as well as NO<sub>2</sub> hourly average concentration criterion is anticipated. Some air sensitive receivers (ASRs) would exceed annual average NO<sub>2</sub> concentration limit in air quality objectives (AQOs), under both “Without Project” and “With Project” scenarios, which was mainly resulted from the high background pollutants’ concentrations in this district. Marine emission rather than vehicular emission is concluded to be the major contributor to the high background level in most areas, due to the pollutants emitted from the Kwai Chung Container Terminal nearby.
- 3.1.3 Comparison study between the two scenarios has been conducted. Results concluded that some environmental benefits would be contributed by the Project to the existing environment, which is mainly due to the improvement of traffic flow and vehicles travelling speed after the implementation of the proposed Project. As a result, the project is not anticipated in causing any adverse air quality impact and in fact will bring about improvements in terms of air quality impacts to the nearby sensitive receivers, as compared to the existing and future baseline conditions.

#### **3.2 Noise Impact**

##### *Construction Phase*

- 3.2.1 Potential construction noise impacts would be mainly due to road works and construction of noise screening structures, affecting the noise sensitive receivers (NSRs) in the vicinity of the work areas. Unmitigated construction noise levels at the representative NSRs would be in the range of 61 to 81 dB(A). With the adoption of quiet powered mechanical equipment, movable noise barriers, noise jackets, mufflers, limiting the number of plants operated concurrently as well as good site practices, the noise levels at all representative receivers are predicted to comply with the construction noise standard. The only exception refer to Lai King Catholic Secondary School (NSR3) and Hong Kong Examinations and Assessment Authority (HKEAA) Lai King Assessment Centre (NSR9), which exceedance of noise criterion by 2 to 5 dB(A) during examination period in some months would occur.

The Contractor shall liaise with the school representative(s) to obtain the examination schedule, and to avoid noisy construction activities during school examination periods to further minimize the construction noise impact to those NSRs.

### ***Operation Phase***

3.2.2 In the operational noise impact assessment, potential traffic noise impact to the identified NSRs within the 300m study area have been evaluated based on the worst case traffic flow in Year 2036. Referring to section 6.1 of the EIAO-TM, modification of existing slip road (Bridge G) would not be classified as “material change” under the EIAO thus only the new flyover, Bridge H, is classified as a DP Road in traffic noise assessment.

3.2.3 The unmitigated traffic noise levels at the identified NSRs would range from 55 to 84 dB(A). It was predicted that the traffic noise levels arising from the Project at some NSRs exceed the EIAO criteria. As a result, direct noise mitigation measures such as cantilevered noise barriers, vertical noise barrier and low noise road surfacing have been proposed for the mitigation of adverse noise impact due to the DP roads. Although the overall noise levels at these NSRs would still exceed the relevant noise criteria, the traffic noise contribution from the DP Road to the overall noise levels would be negligible and the traffic noise levels from the DP Road itself would not exceed the noise limit with the proposed mitigation measures. Traffic noise impact due to the Project is therefore insignificant. Noise exceedances at the representative NSRs, if any, are due to the existing roads. **Figure 3.1** and **Figure 3.2** show the location and sections of proposed mitigation measure respectively while **Figure 3.3** shows photomontages of those proposed noise barriers.

### **3.3 Water Quality Impact**

3.3.1 Potential water pollution sources have been identified as construction site run-off, sewage from workforce, and potential risk of chemical spillage. Adverse residual impacts would not be anticipated with the implementation of adequate mitigation measures including the of the construction site practices in accordance with the Environmental Protection Department’s Practice Note on Construction Site Drainage (ProPECC PN 1/94), provision and management of portable toilets on-site, and preventive measures to avoid accidental chemical spillages.

3.3.2 During the operation phase, a surface water drainage system with silt traps and road gullies would be provided and properly maintained to collect runoff from the roads during periods of rain. With surface runoff controlled by best management practice and maintenance of drainage system by Highway Department regularly, no adverse impact is anticipated.

### **3.4 Waste Management Implication and Land Contamination**

3.4.1 The Project is likely to result in the generation of a variety of wastes and require the management and disposal of Construction and Demolition (C&D) material, C&D waste, marine sediment, chemical waste and general refuse during construction. Provided that the wastes are managed using approved methods and recommended good site practices, no unacceptable adverse environmental impacts will be envisaged.

3.4.2 The Public Works Regional Laboratory of Tsuen Wan (Laboratory) under TWR has been



identified as a chemical waste producer, which is a potential contaminated land use within the project boundary. The land allocatee shall be responsible for the land contamination assessment of the Laboratory Site and ensure the Laboratory Site is free from contamination at the expiry of the government land allocation and therefore any land contamination concern arising from past activities would have been remediated prior to the construction of the works.

- 3.4.3 With implementation of good site practice, land contamination at the Site arising from construction and operation phases of the Project as road upgrading works is not envisaged. No adverse environmental impacts on land contamination for the Project are anticipated.

### **3.5 Landscape and Visual Impacts**

- 3.5.1 The baseline study identified 16 key landscape resources (LRs), 8 key landscape character areas (LCAs) and 33 visually sensitive receivers (VSRs) that representing four VSR categories. Their sensitivities were then assessed. The study predicted that in the absence of mitigation measures during construction, there are potential landscape and visual impacts for LR2: Tree Planting at Kwai Chung Road Interchange Area, LCA3: Residential at Lower Level of Lai King Hill, LCA6: Kwai Chung Road Interchange Area, R5: Lai King Estate North, R5A: Lai King Estate South, R6: Yin Lai Court, R7: Highland Park, O4: Polyclinic & Special Educational Services, O5: Lai King Catholic Secondary School, O6: Ever Gain Plaza, O8: Lingnan Dr. Chung Wing Kwong Memorial Secondary School, O10: Lai King Assessment Centre, L1: Kwai Shun Street Playground, T1: Open Storage Area Car Park Users, T2: Pedestrians travelling on Street Level under Kwai Chung Road Interchange, T3: Commuters on Tsuen Wan Road/Kwai Chung Road, T4 Commuters at Lai King Bus Terminus and T5: Commuters on MTR. During operation, without mitigation measures, potential landscape and visual impacts are also experienced by LR2, LCA6, R5, O5, T1, T2 and T3.
- 3.5.2 To mitigate the potential landscape and visual impacts, recommended mitigation measures during construction phase include decorative screen hoarding, night time lighting control at construction sites, and re-instating of disturbed landscape area. Mitigation measures during operation phase include incorporating various design features such as choices of material, colour and shape for the carriageway design, using flowering and colourful foliage shrubs species for roadside planting, and streetscape enhancement.
- 3.5.3 With implementation of the recommended mitigation measures, it is anticipated that the potential landscape impacts of major LR and LCAs (i.e. LR2, LCA3 and LCA6) during construction will be mitigated to moderately to slightly levels. By Day 1 of operation, all potential landscape impacts will be insubstantial with the exception of slightly on LR2. By Year 10 of operation, with the establishment of the shrubs planting and landscape treatment, LR2 will have insubstantial impact and LCA6 is considered to have slightly beneficial.
- 3.5.4 Potential visual impacts with mitigation measures will be mainly insubstantial for the VSRs at a distance away from the construction site. For those VSRs with close proximity to the construction works (i.e. R5, R5A, R6, R7, O4, O5, O6, O8, O10, L1, T1, T2, T3, T4 and T5), the potential visual impacts will be mitigated to slightly level. By Day 1 of operation, R5, O5, T1, T2 and T3 will experience slightly impacts. With the establishment of mitigation measures in the area, by Year 10 of operation, T1 and T2 will have slightly beneficial impact while all others will have insubstantial impact.

### **3.6 Landfill Gas Hazard**

- 3.6.1 As the works area of the Project does not fall within 250m consultation zone of the restored Gin Drinkers Bay Landfill, LFG hazard assessment is considered not necessary. No LFG hazard impact is anticipated.

### **3.7 Impact on Cultural Heritage**

- 3.7.1 No cultural heritage resource was identified within the Assessment Area of the Project. Therefore, no impacts to cultural heritage are expected to be anticipated during both construction and operational phases of the Project.

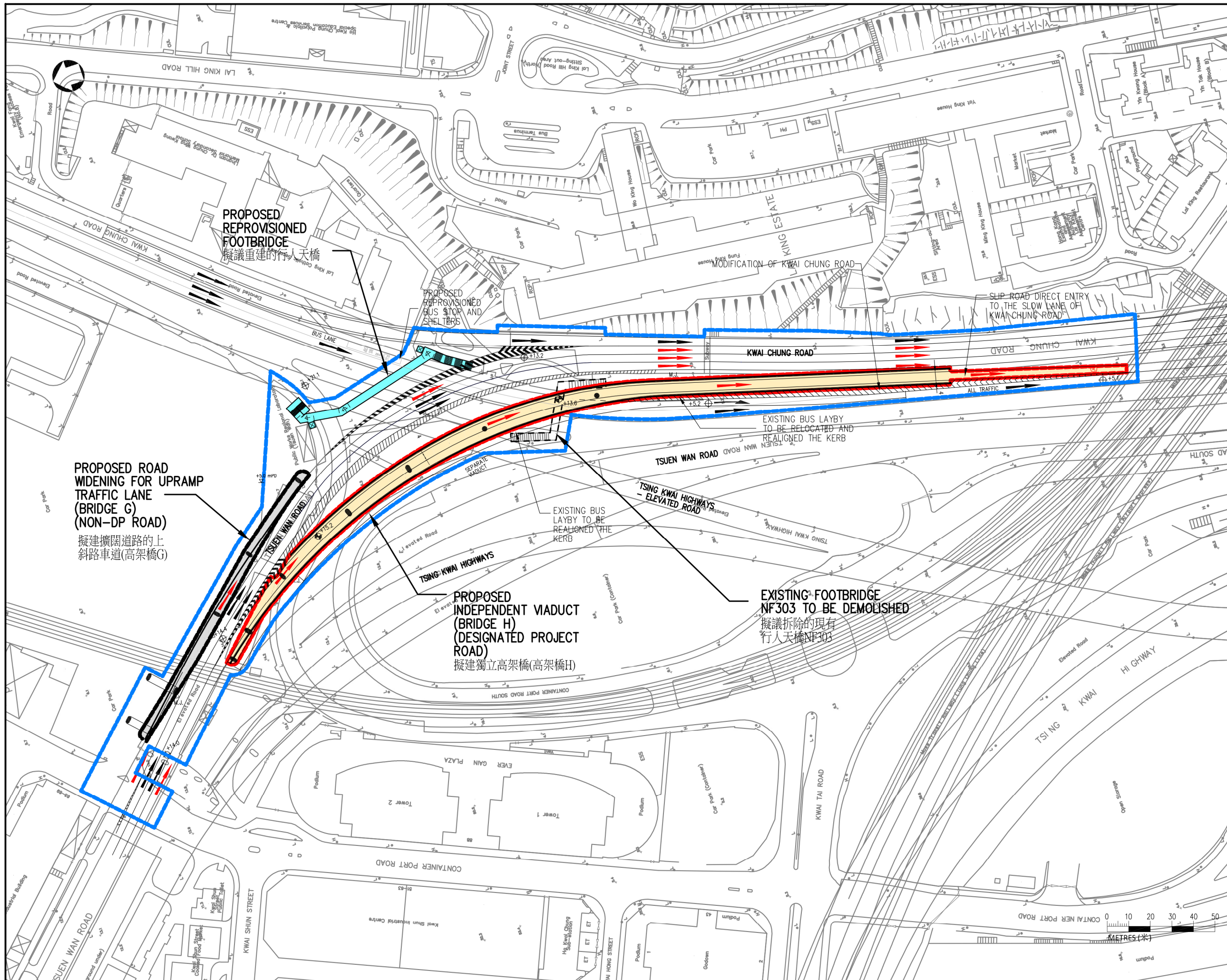
### **3.8 Environmental Monitoring and Audit**








- 3.8.1 Environmental monitoring and audit (EM&A) is recommended for construction and operational noise. Regular site inspection/audit is also recommended for: i) dust, water quality, waste management and landscape and visual during construction phase; and ii) implementation of landscaping measures during operation phase. Details of recommended mitigation measures, monitoring procedures and locations are included in a stand-alone EM&A Manual. This will enable the Contractor to obtain early warning on potential adverse impacts from the works and take necessary action to reduce impacts in specific areas if the monitoring results are found to be close to the criteria.

### **3.9 Overall Conclusion**

- 3.9.1 The EIA has been conducted based on the latest and best available information. The findings of this EIA have provided information on the nature and extent of environmental impacts arising from construction and operation of the Project. The EIA has, where appropriate, identified mitigation measures to ensure compliance with environmental legislation and standards.
- 3.9.2 In conclusion, the Project would comply with the environmental standards and legislation with the implementation of the proposed mitigation measures during the construction and operation phases. The EIA has demonstrated that the Project will not result in any adverse environmental impacts and in fact will bring about improvements in terms of air quality impacts to the nearby sensitive receivers, as compared to the existing and future baseline conditions. Environmental monitoring and audit mechanisms have been recommended for the construction and operation of the Project, where necessary, to verify the effectiveness of the recommended mitigation measures.

**FIGURE**



- LEGEND:**
-  PROPOSED WIDENING OF BRIDGE DECK / ABUTMENT  
擬議擴闊的橋面/橋台
  -  PROPOSED VIADUCT  
擬建的高架橋
  -  PROPOSED REPROVISIONED FOOTBRIDGE  
擬議重建的行人天橋
  -  PROJECT BOUNDARY  
工程界限
  -  EXISTING TRAFFIC DIRECTION (ONE ARROW REPRESENTS ONE LANE)  
現有行車方向(每一箭咀代表一條行車線)
  -  OPTION 2A: ROUTING  
方案2A: 行車路線
  -  PROPOSED COLUMN  
擬議橋墩

**PROPOSED ROAD WIDENING FOR UPRAMP TRAFFIC LANE (BRIDGE G) (NON-DP ROAD)**  
擬建擴闊道路的上斜路車道(高架橋G)

**PROPOSED REPROVISIONED FOOTBRIDGE**  
擬議重建的行人天橋

**PROPOSED INDEPENDENT VIADUCT (BRIDGE H) (DESIGNATED PROJECT ROAD)**  
擬建獨立高架橋(高架橋H)

**EXISTING FOOTBRIDGE NF303 TO BE DEMOLISHED**  
擬議拆除的現有行人天橋NF303

Rev	Date	Description	Drawn	Checked

**土木工程拓展署**  
**CEDD Civil Engineering and Development Department**

OFFICE: NEW TERRITORIES NORTH AND WEST DEVELOPMENT OFFICE

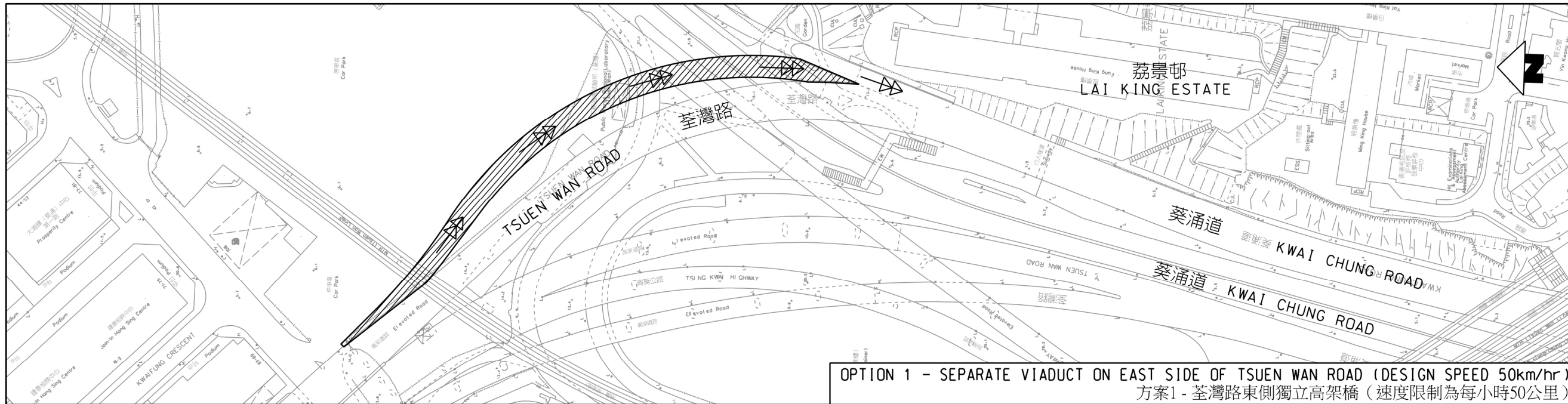
AGREEMENT NO. CE 8/2012 (HY)  
FLYOVER FROM KWAI TSING INTERCHANGE UPRAMP TO KWAI CHUNG ROAD - INVESTIGATION

**PROPOSED ROAD WORKS**  
擬議道路工程

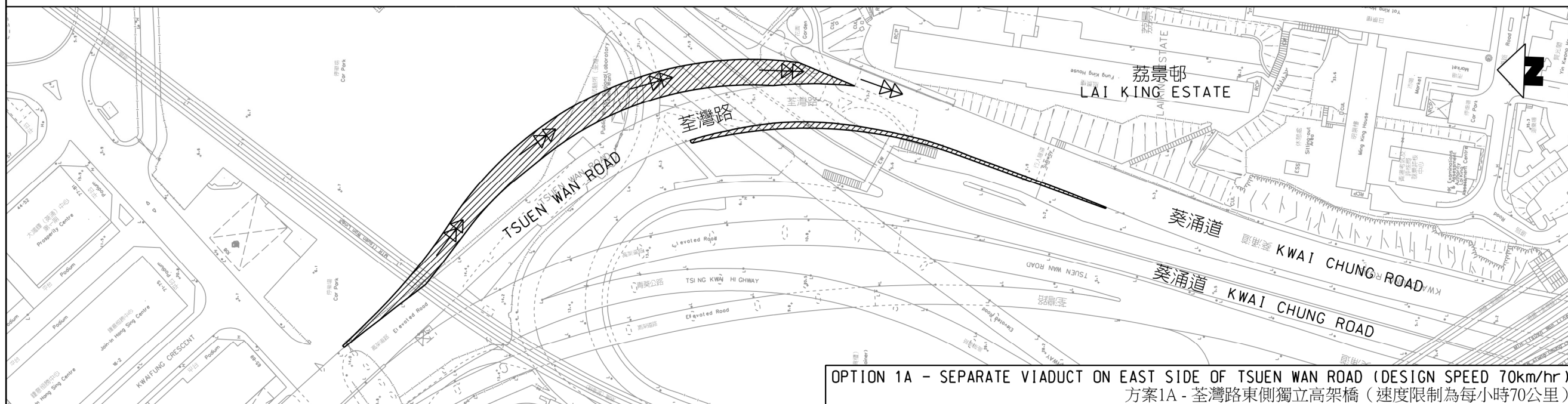
Drawing No. **FIGURE 1.1 (圖 1.1)**

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Approved	ICWR	Date	12/11/14	Status	FINAL		

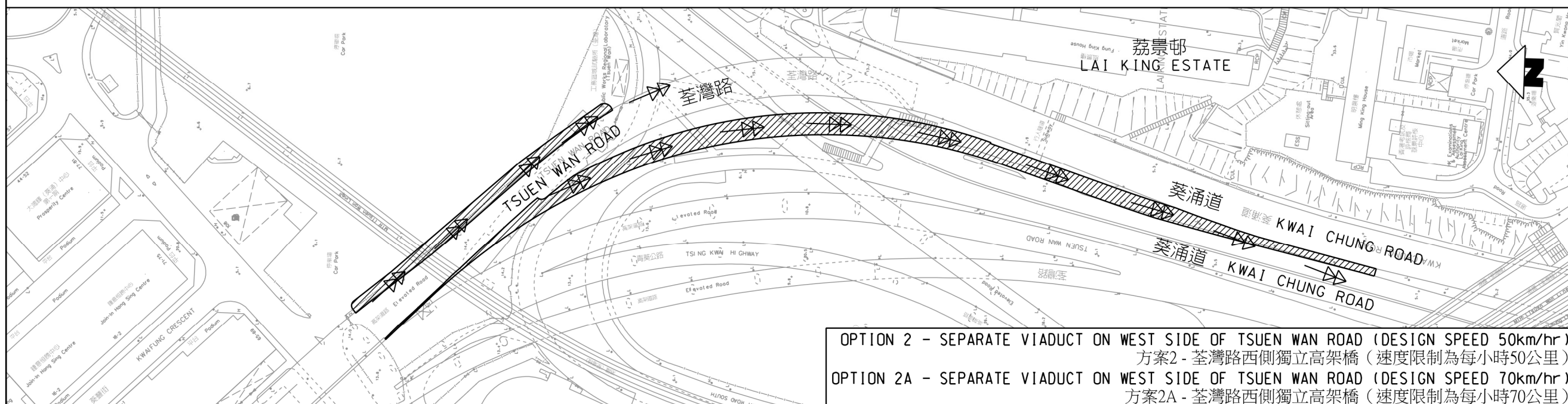
**AECOM**



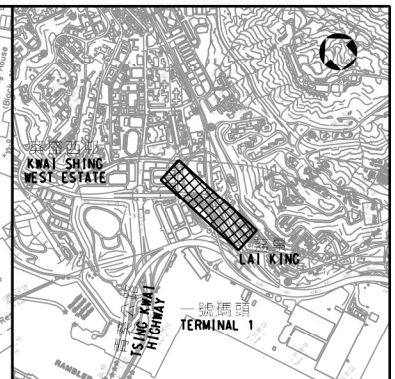
OPTION 1 - SEPARATE VIADUCT ON EAST SIDE OF TSUEN WAN ROAD (DESIGN SPEED 50km/hr)  
 方案1 - 荃灣路東側獨立高架橋 (速度限制為每小時50公里)



OPTION 1A - SEPARATE VIADUCT ON EAST SIDE OF TSUEN WAN ROAD (DESIGN SPEED 70km/hr)  
 方案1A - 荃灣路東側獨立高架橋 (速度限制為每小時70公里)



OPTION 2 - SEPARATE VIADUCT ON WEST SIDE OF TSUEN WAN ROAD (DESIGN SPEED 50km/hr)  
 方案2 - 荃灣路西側獨立高架橋 (速度限制為每小時50公里)  
 OPTION 2A - SEPARATE VIADUCT ON WEST SIDE OF TSUEN WAN ROAD (DESIGN SPEED 70km/hr)  
 方案2A - 荃灣路西側獨立高架橋 (速度限制為每小時70公里)



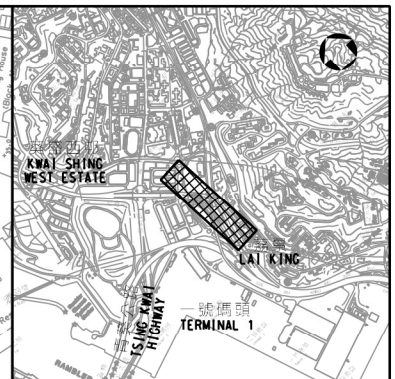
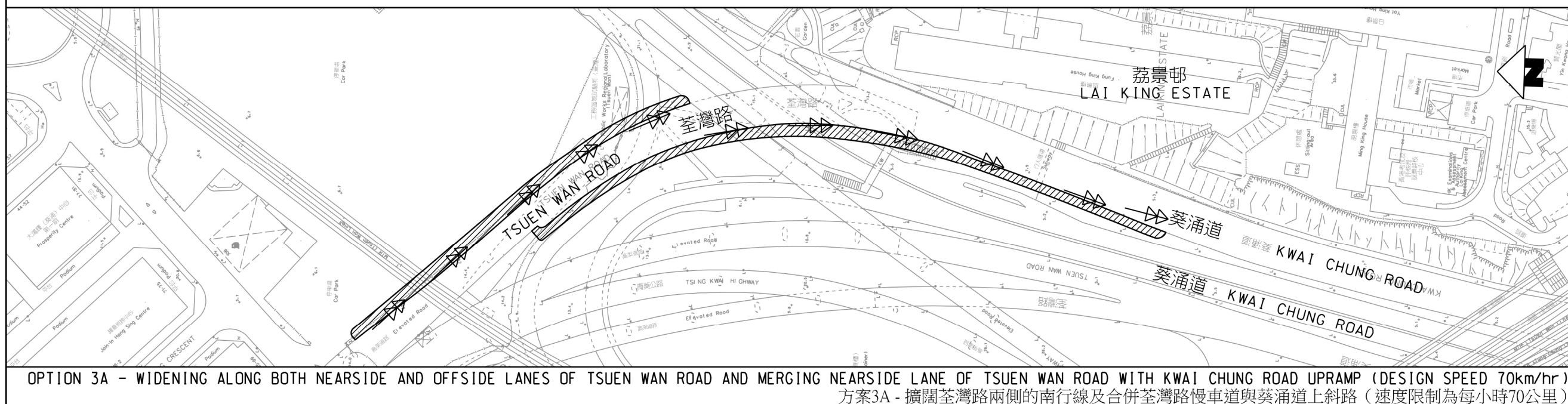
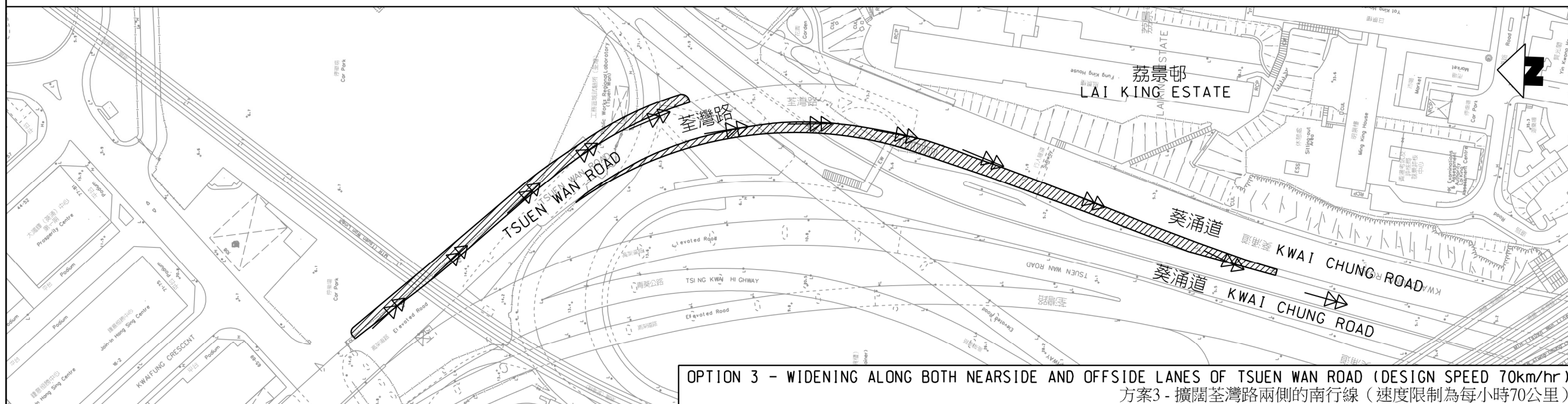
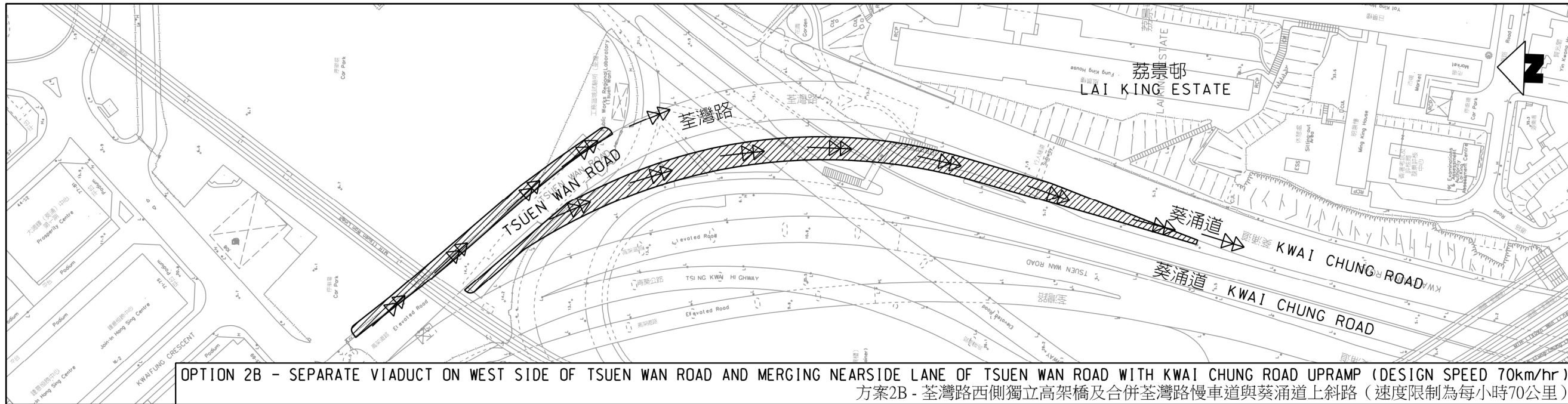
KEY PLAN 位置圖  
 SCALE 1 : 50000 比例 1 : 50000

- LEGEND: 圖示:
- TRAFFIC DIRECTION 行車方向
  - PROPOSED ROAD 擬建道路

Rev.	Date	Description	Drawn	Checked

土木工程拓展署  
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 FLYOVER FROM KWAI TSING INTERCHANGE UP-RAMP TO KWAI CHUNG ROAD - INVESTIGATION  
 ROAD ALIGNMENT OPTIONS (SHEET 1 OF 2)  
 道路走線方案 (第一頁,共二頁)  
 Drawing No. 圖則編號: FIGURE 2.1 (圖 2.1)  
 Designed 設計: AYNS  
 Drawn 繪圖: HAX  
 Checked 校核: AYNS  
 Scale 比例: 1:2000 (A3)  
 Approved 批准: KLC  
 Date 日期: 02/14  
 Status 狀況: PRELIMINARY





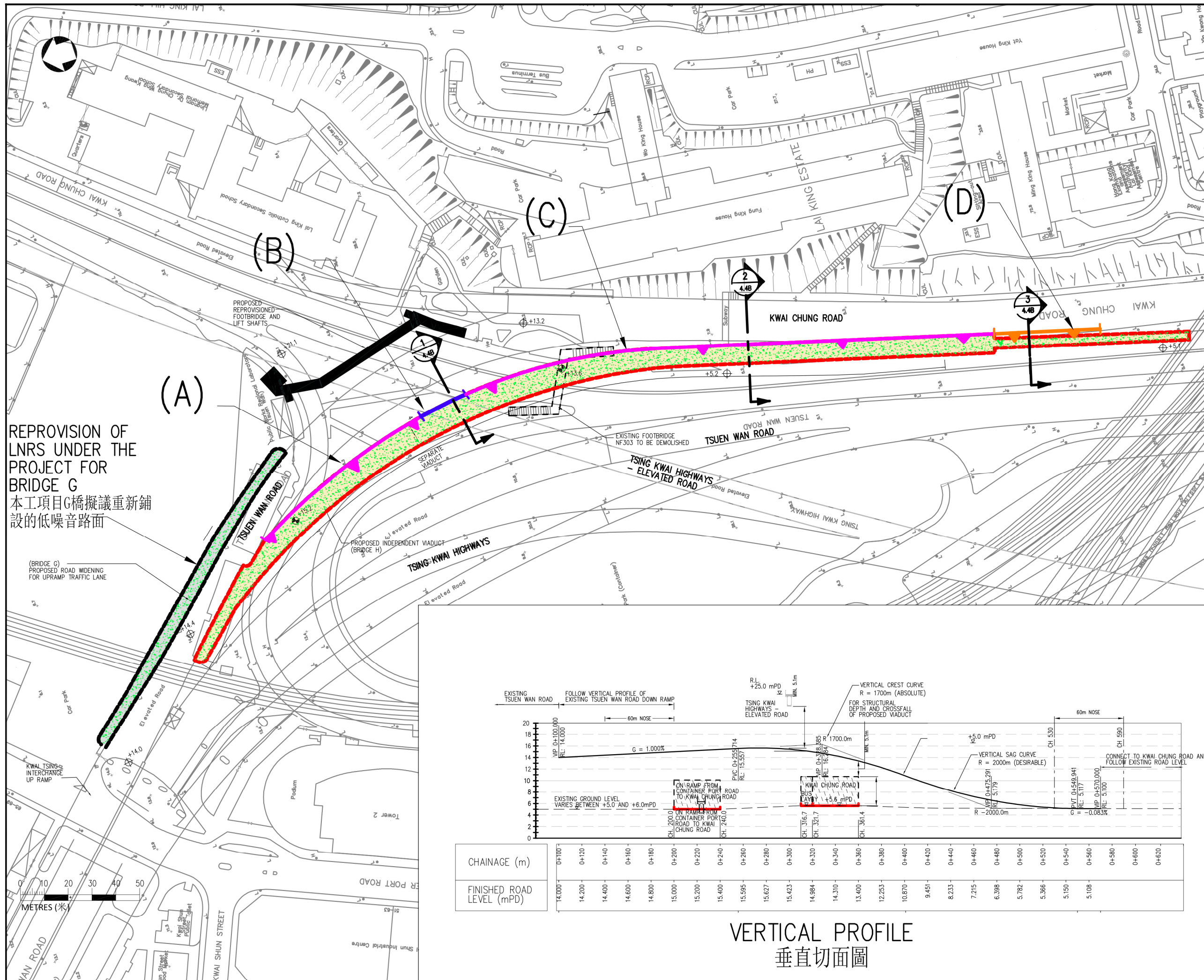
KEY PLAN 位置圖  
 SCALE 1 : 50000 比例 1 : 50000

- LEGEND: 圖示:
- TRAFFIC DIRECTION 行車方向
  - PROPOSED ROAD 擬建道路

Rev.	Date	Description	Drawn	Checked

土木工程拓展署  
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 AGREEMENT NO. CE 8/2012 (HY) FLYOVER FROM KWAI TSING INTERCHANGE UPRAMP TO KWAI CHUNG ROAD - INVESTIGATION  
 ROAD ALIGNMENT OPTIONS (SHEET 2 OF 2)  
 道路走線方案 (第二頁, 共二頁)  
 Drawing No. 圖號: FIGURE 2.2 (圖 2.2)  
 Designed 設計: AYNS 繪圖: HAX 校核: AYNS 比例: 1:2000 (A3)  
 Approved 批准: KLC 日期: 02/14 狀態: PRELIMINARY





- LEGEND:**
- PROPOSED WIDENING OF BRIDGE DECK / ABUTMENT  
擬議擴闊的橋面/橋台
  - PROPOSED VIADUCT  
擬建的高架橋
  - PROPOSED REPROVISIONED FOOTBRIDGE  
擬議重建的行人天橋
  - PROJECT BOUNDARY  
工程界限
  - PROPOSED 5.5M VERTICAL BARRIER(B)  
擬建的5.5米高垂直式隔音屏障
  - PROPOSED 5.5M WITH 2.5M CANTILEVERED BARRIER(A/C)  
擬建的5.5米高2.5米臂長的懸臂式隔音屏障
  - PROPOSED 5.5M WITH 3.5M CANTILEVERED BARRIER(D)  
擬建的5.5米高3.5米臂長的懸臂式隔音屏障
  - PROPOSED LOW NOISE ROAD SURFACING  
擬議鋪設的低噪音路面

Rev	Date	Description	Drawn	Checked

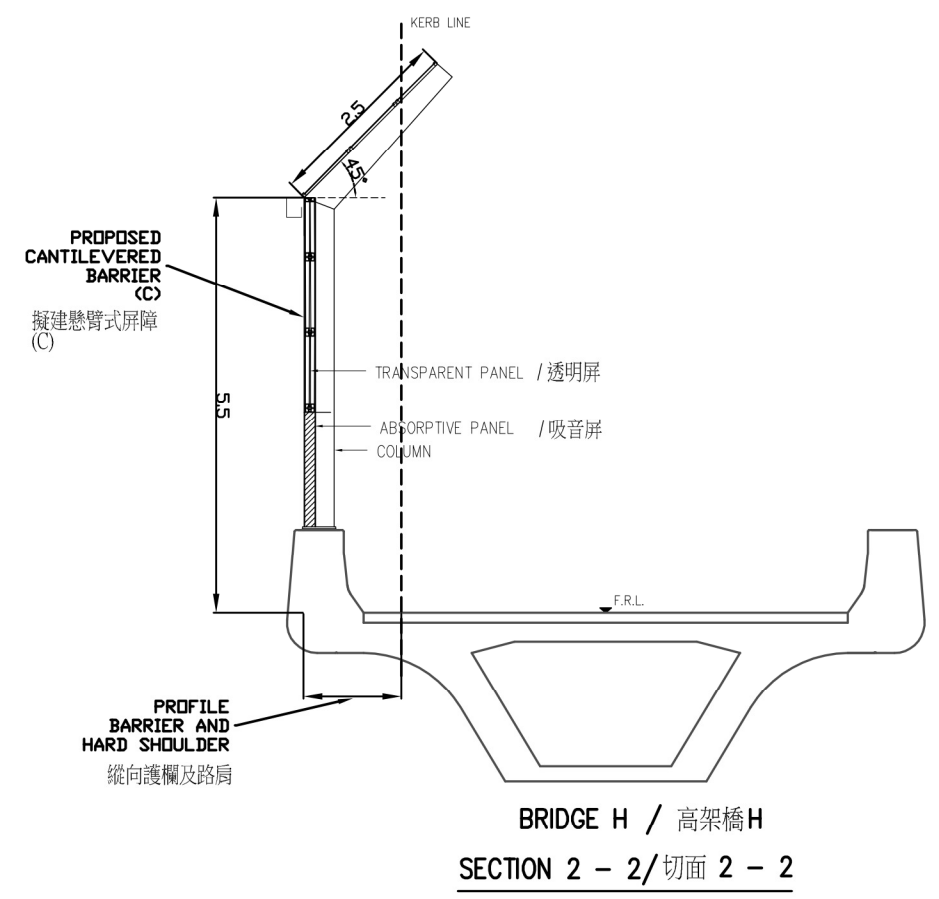
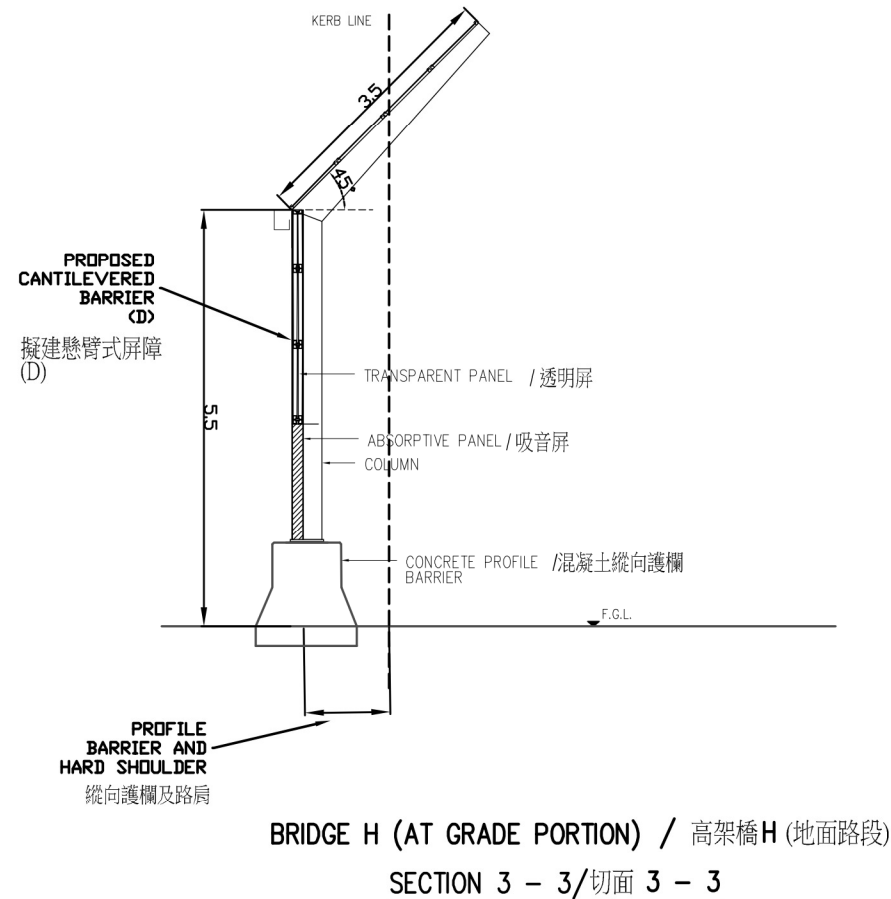
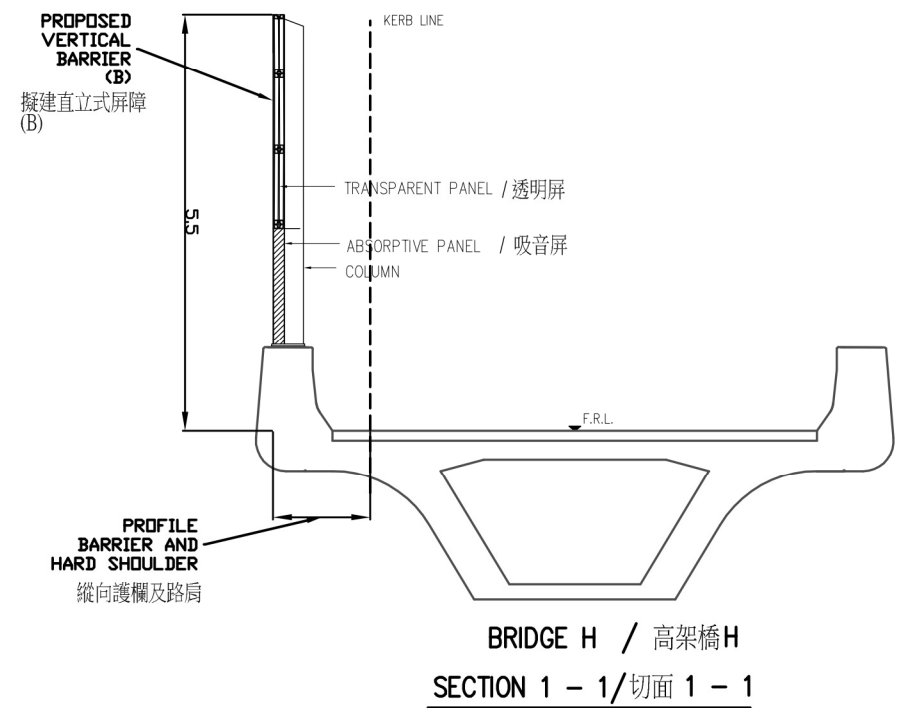
**CE 8/2012 (HY)**  
 FLYOVER FROM KWAI TSING INTERCHANGE UP RAMP TO KWAI CHUNG ROAD - INVESTIGATION

**EXTENT OF PROPOSED NOISE MITIGATION MEASURES**  
 擬議噪音緩解措施的範圍

**FIGURE 3.1 (圖 3.1)**

Designed	SL	Drawn	SL	Checked	MSP	Scale	AS SHOWN
Approved	ICWR	Date	2/9/2014	Status			FINAL

**AECOM**



NOTE:  
1. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN METERS  
2. SCHEMATIC SECTIONS ARE INDICATIVE ONLY; DETAILS TO BE DETERMINED DURING DETAILED DESIGN STAGE

Rev.	Date	Description	Drawn	Checked

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CEDD Civil Engineering and Development Department

OFFICE  
NEW TERRITORIES NORTH AND WEST DEVELOPMENT OFFICE

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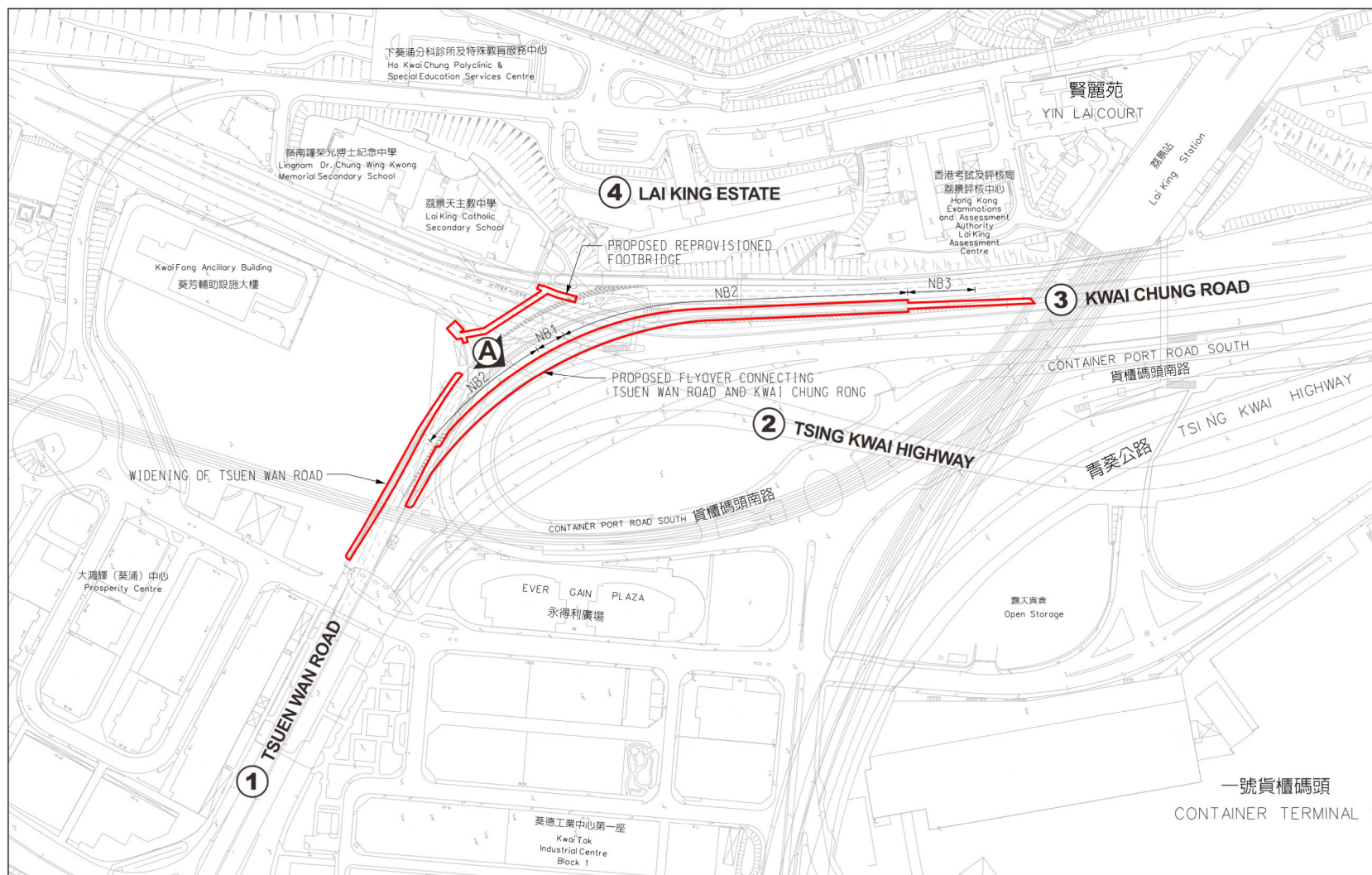
SECTION VIEWS OF PROPOSED VERTICAL AND CANTILEVERED BARRIERS  
擬建直立式及懸臂式隔音屏障的切面圖

Drawing No. / 圖則編號					
Designed / 設計	Drawn / 繪圖	Checked / 校核	MSP	Scale / 比例	N.T.S.
Approved / 批准	ICWR	Date / 日期	12/11/14	Status / 狀態	FINAL

FIGURE 3.2 (圖3.2)

**AECOM**





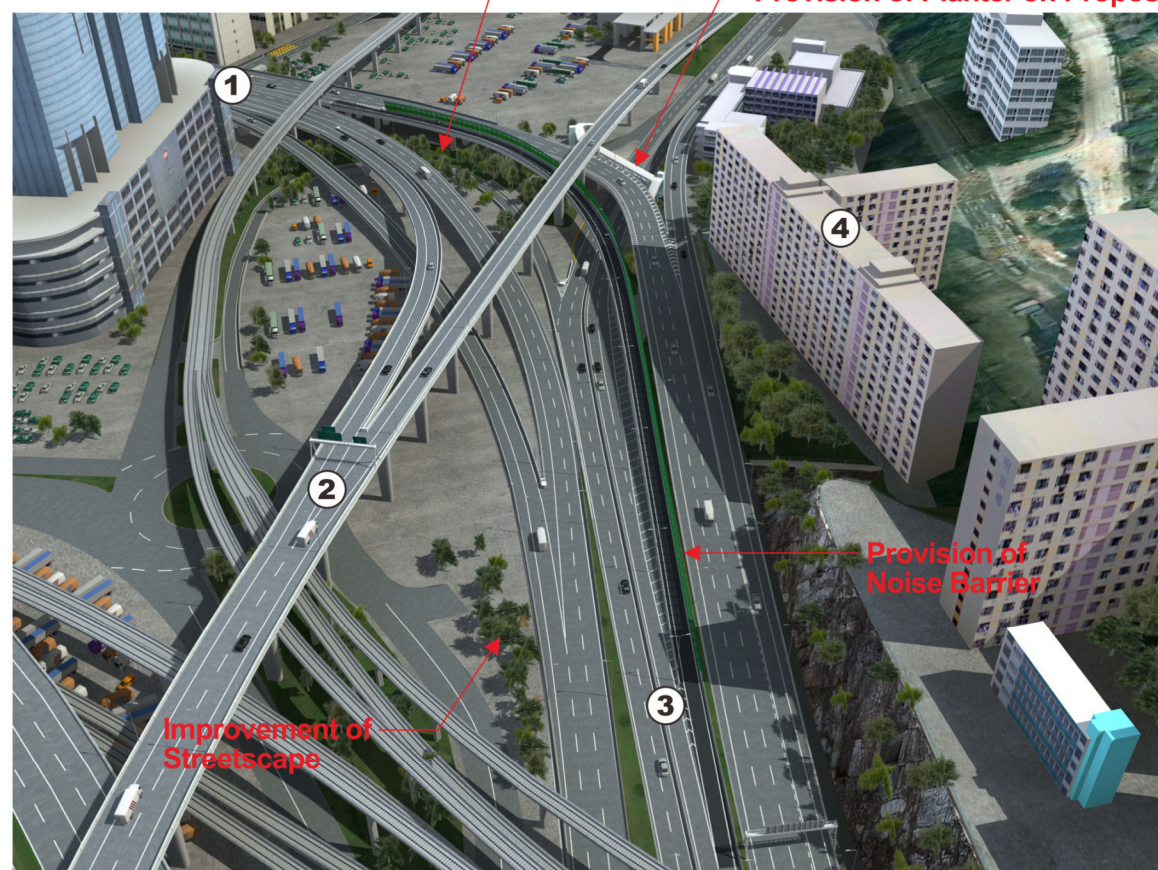
Plan (平面圖)

- LEGEND:
- PROPOSED FLYOVER/  
FOOTBRIDGE  
擬建高架橋/行人天橋
  - PROPOSED NOISE  
BARRIER ON PROPOSED  
FLYOVER  
擬建高架橋上的隔音屏障
  - NB1 5.5M HIGH VERTICAL  
BARRIER  
5.5米高的直立式隔音屏障
  - NB2 5.5M HIGH BARRIER WITH  
2.5M CANTILEVER AT 45°  
5.5米高2.5米長(45度)的懸臂  
式隔音屏障
  - NB3 5.5M HIGH BARRIER WITH  
3.5M CANTILEVER AT 45°  
5.5米高3.5米長(45度)的懸臂  
式隔音屏障

Improvement of Streetscape 街道外貌的改善與綠化

Provision of Planter on Proposed Footbridge 擬建行人天橋上的花槽

Provision of Noise Barrier 擬建隔音屏障



View A (景A)

Overview (全景)

Rev.	Date	Description	Drawn	Checked
A	06/14	AMEND NOISE BARRIER	RCKL	AYNS

CEDD  
Civil Engineering and Development Department

OFFICE  
NEW TERRITORIES NORTH AND WEST DEVELOPMENT OFFICE

AGREEMENT NO. CE 8/2012 (HY)  
FLYOVER FROM KWAI TSING INTERCHANGE UP-RAMP TO KWAI CHUNG ROAD - INVESTIGATION

PHOTOMONTAGES FOR THE PROPOSED NOISE MITIGATION MEASURES  
擬建噪音緩解措施的合成照片

Design No.	FIGURE 3.3 (圖3.3)			
Designed	Drawn	Checked	Scale	
AYNS	HAX	AYNS	1:5000 (A3)	
Approved	Date	Status		
KLC	12/11/14	PRELIMINARY		

AECOM