

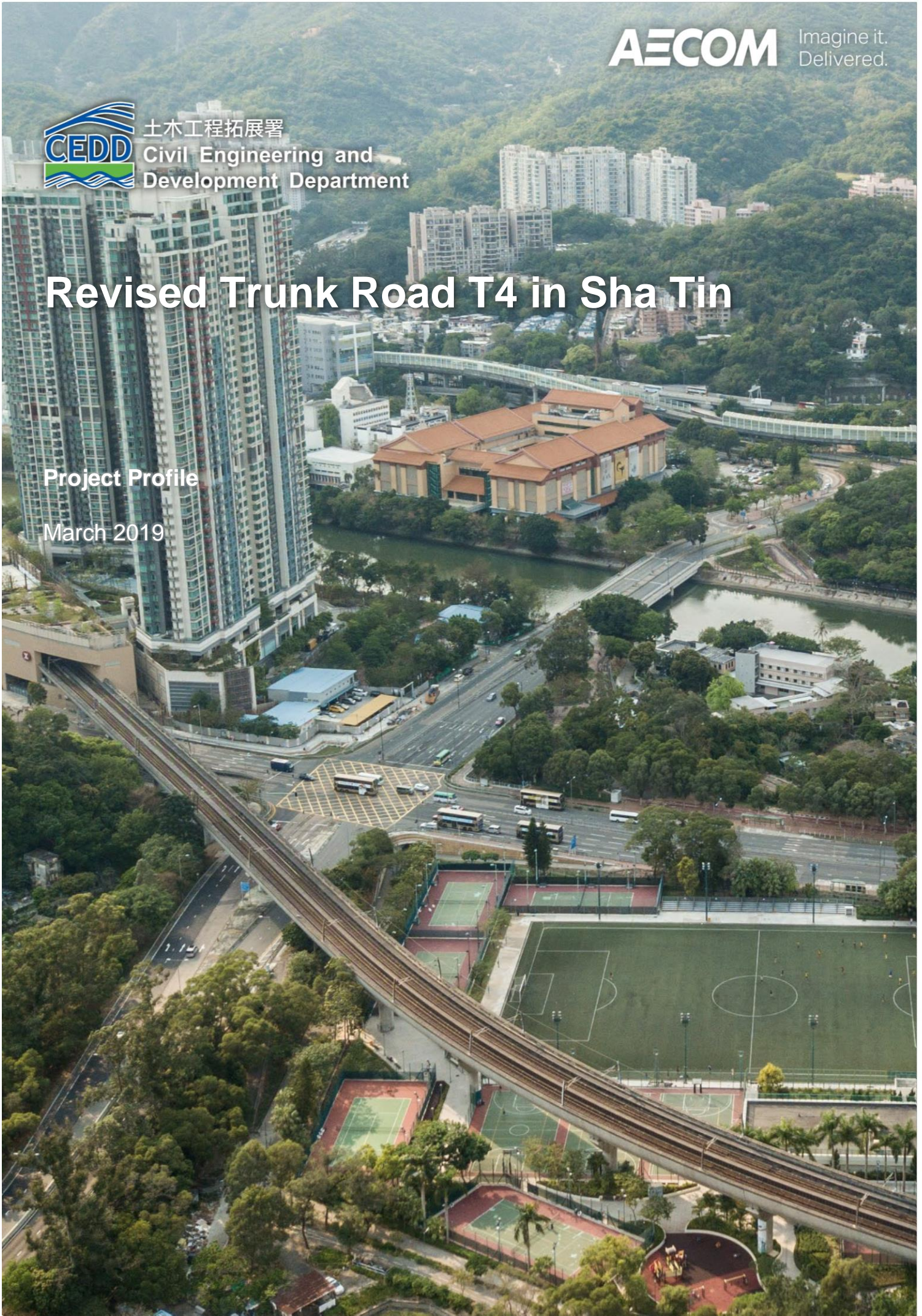


土木工程拓展署
Civil Engineering and
Development Department

Revised Trunk Road T4 in Sha Tin

Project Profile

March 2019



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18 March 2019

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18 March 2019

AECOM ASIA COMPANY LIMITED

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1 BASIC INFORMATION

1.1 Project Title

- 1.1.1 The title of the Project is “Revised Trunk Road T4 in Sha Tin” (hereafter referred to as the Project).

1.2 Purpose and Nature of the Project

- 1.2.1 The proposed Trunk Road T4 is part of the strategic road network connecting Sha Tin Road with Tsing Sha Highway and Shing Mun Tunnel Road. Currently, the traffic between Ma On Shan and Tsuen Wan / West Kowloon have to travel through Tai Po Road (Sha Tin section) and other local roads in Sha Tin. Trunk Road T4, as a strategic route connecting Ma On Shan with Tsing Sha Highway and Shing Mun Tunnel, would serve as a bypass to Tai Po Road (Sha Tin section) and other district distributor roads, and provide a direct connection for through traffic between Tai Wai and Ma On Shan by-passing the busy Sha Tin Town Centre area. Hence, Trunk Road T4 will not only greatly improve the local junction capacity by attracting traffic between Ma On Shan and Tsuen Wan / West Kowloon away from the local network but also help relieve traffic congestion on Tai Po Road (Sha Tin section).
- 1.2.2 An Environmental Impact Assessment (EIA) study brief for the Trunk Road T4 project (Study Brief No. ESB-094/2001) was issued in January 2002 by the Director of Environmental Protection in respect of a previous road alignment option. Based on this study brief, the EIA report for Trunk Road T4 (EIA Report No. AEIAR-084/2005) was approved by Environmental Protection Department (EPD) under the Environmental Impact Assessment Ordinance (EIAO) in May 2005.
- 1.2.3 In October 2006, upon receipt of support from the Traffic and Transport Committee (T&TC) of the Sha Tin District Council (STDC), Trunk Road T4 was gazetted under the Roads (Works, Use and Compensation) Ordinance. However, during the objection period, more than 800 objections to the gazetted scheme were received. In view of the substantial number of objections, the originally proposed alignments were not adopted. STDC T&TC withdrew support on the Trunk Road T4 project and passed motions that the traffic situation in Sha Tin should be reviewed upon commissioning of Tsing Sha Highway before determining the need for Trunk Road T4.
- 1.2.4 In March 2009, initial results of traffic review were presented to STDC T&TC but they did not support the project. The Trunk Road T4 project was therefore put on hold.
- 1.2.5 In March 2016, consultants were appointed to carry out a feasibility study under Agreement No. CE 71/2015 (HY) to review the traffic situation in Sha Tin, identify the traffic problems and recommend mitigation measures. The feasibility study recommended, amongst other things, that Trunk Road T4 be constructed as a medium-term measures to relieve traffic congestion in Sha Tin. To address the objections received during gazettal, an alternative alignment of Trunk Road T4 (“Revised Trunk Road T4”) is proposed, under which the eastbound viaducts will be shifted away from the Scenery Court, felling or transplanting of the existing Old and Valuable Trees along Chung Ling Road will be avoided, and the proposed viaducts near Sha Tin Tau Village will be revised to depressed roads and underpass. In January 2018, STDC T&TC indicated general support for the Revised Trunk Road T4 scheme.
- 1.2.6 Due to major changes in road alignment, revision in form of structures, additional slip roads, new sensitive receivers and new assessment requirements, it is considered that a fresh EIA study will be required on the Revised Trunk Road T4 scheme in accordance with the Technical Memorandum on EIA Process.

1.3 Name of the Project Proponent

- 1.3.1 The Project Proponent is North Development Office, Civil Engineering and Development Department, HKSAR Government.

1.4 Location and Scale of the Project

- 1.4.1 The location plan and layout plan of the Project are shown on **Figure 1.1** and **Figure 1.2** respectively. The study area for the possible alignment of Revised Trunk Road T4 covers Tai Wai area and Sha Tin Area. The western boundaries of the study area are at Shing Mun Tunnel Road near Peak One and the Tsing Sha Highway near Mei Lam Estate, while the eastern boundaries of the study area are at Lion Rock Tunnel Road near the Riverpark and Sha Tin Road near Pok Hong Estate.
- 1.4.2 The scope of the Revised Trunk Road T4 is to provide a dual 2-lane trunk road of about 2.6km connecting Shing Mun Tunnel Road and Tsing Sha Highway in the northwest with Sha Tin Road in the southeast and mainly comprises:
- (i) Construction of a dual 2-lane flyover of about 150m long across Shing Mun River Channel;
 - (ii) Construction of dual 2-lane depressed roads and underpass of about 600m adjacent to Lion Rock Tunnel Road near Sha Tin Tau Village;
 - (iii) Construction of single/two-lane slip roads of a total length of about 2.6km connecting to Tsing Sha Highway, Shing Mun Tunnel Road, Lion Rock Tunnel Road and Sha Tin Road;
 - (iv) Widening of a section of Sha Tin Road near Pok Hong Estate of about 150m from dual 2-lane to dual 4-lane;
 - (v) Construction of a footbridge with lifts and staircases connecting to the existing subway under Lion Rock Tunnel Road near Sha Tin Tau Village;
 - (vi) Demolition of the existing subway across Che Kung Miu Road near its junction with Lion Rock Tunnel Road and construction of a footbridge with lifts and staircases near this existing subway; and
 - (vii) Installation of noise barriers and enclosure.
- 1.4.3 Subject to the investigation study, there may be refinement of the highway alignments (including the proposed slip roads) within the study area, which will be subject to a variety of factors such as planning and engineering considerations, environmental impacts, traffic impacts, construction programme and costs.

1.5 Number and Type of Designated Project to be covered by the Project Profile

- 1.5.1 The proposed Revised Trunk Road T4 involves the construction and operation of highways and associated slip roads, which is classified as a Designated Project (DP) under the following categories under Part I, Schedule 2 of the EIA Ordinance:
- Item A.1 – A road which is an expressway, trunk road, primary distributor road or district distributor road including new roads, and major extensions or improvements to existing roads
 - Item A.8 – A road or railway bridge more than 100 m in length between abutments
 - Item I.1 – A drainage channel or river training and diversion works with a channel width of more than 100 m
 - Item Q.1 – All projects including new access roads, railways, sewers, sewage treatment facilities, earthworks, dredging works and other building works partly or wholly in an existing or gazetted proposed country park or special area, a conservation area, an existing or gazetted proposed marine park or marine reserve, a site of cultural heritage, and a site of special scientific interest

1.6 Name and Telephone Number of Contact Persons

- 1.6.1 All queries regarding the Project can be addressed to:

Mr. Zorro T Y YUEN	Chief Engineer/N2, CEDD	Tel: 3152 3399
Mr. Haven S F HAR	Senior Engineer/7(N), CEDD	Tel: 3152 3599

2 OUTLINE OF PLANNING AND IMPLEMENTATION PROGRAMME

2.1 Project Planning and Implementation

- 2.1.1 The Revised Trunk Road T4 will be implemented under a PWP item. Consultants have been appointed to carry out the investigation study of the project under Agreement No. CE 8/2018 (HY). Subject to completion of detailed design, contractor(s) will be appointed to carry out the construction works.

2.2 Project Programme

- 2.2.1 Agreement No. CE 71/2015 (HY) – Traffic Review on Major Roads in Sha Tin – Feasibility Study recommends, amongst other things, that construction of Trunk Road T4 be carried out as medium-term measures to relieve traffic congestion in Sha Tin. The tentative time-table of the Project is planned as follows:

Activity	Estimated Time
EIA Study	Q2 2019 to Q2 2020
Statutory Gazette under Roads (Works, Use and Compensation) Ordinance	Q1 2020
Completion of Investigation Study	Q4 2020
Appointment of Consultants for Detailed Design Stage	Q4 2020
Commencement of Construction	2023
Commissioning and Operation	2028

2.3 Interfacing with other Projects

- 2.3.1 Major projects in the vicinity that may have potential interface with the Project have been identified and are listed below:

- Road Widening and Retrofitting Noise Barriers on Tai Po Road (Sha Tin Section)

- 2.3.2 For the Road Widening and Retrofitting Noise Barriers on Tai Po Road (Sha Tin Section) project, there will be potential interface between retrofitting of noise barriers at the section of Tai Po Road (Sha Tin Section) next to the Scenery Court with the construction of viaducts on Revised Trunk Road T4.

3 POSSIBLE IMPACTS ON THE ENVIRONMENT

3.1 Environmental Impacts from the Project

- 3.1.1 The Revised Trunk Road T4 Project would involve land-based construction works, including site clearance, earthworks, piling or foundation works, demolition of existing footbridges and subways, construction of viaducts, depressed roads, underpass, at-grade roads, retaining structures, new footbridge and subways, noise barriers, noise enclosure, diversion of existing storm water drains, sewers, water mains and other utilities, etc.
- 3.1.2 It is anticipated that the surrounding sensitive receivers could be affected by air quality, noise, water quality, waste management, land contamination, ecological, cultural heritage as well as landscape and visual impacts during the construction and operation stages of the project, as detailed in the following sub-sections.

3.2 Air Quality

- 3.2.1 During construction phase, the major construction works carried out would be construction of viaducts, depressed roads, underpass, at-grade roads, retaining structures, demolition of existing footbridges and subways and construction of new footbridge and subways. The potential air quality impacts on air sensitive receivers would be generated from site clearance, earthworks, piling or foundation works, roadworks, and wind erosion of exposed excavated sites and stockpiling areas. The construction dust generating activities would be those associated with demolition and construction works. Other major projects planned in the vicinity of the study area which might cause cumulative construction phase impacts to the environment will also be identified.
- 3.2.2 During operation phase, potential air quality impacts will be associated with the background pollutant concentrations, vehicle emissions from open sections of existing and proposed road networks and industrial emission within the study area. Subject to the investigation study, there will be no ventilation building or plant proposed for the depressed road and underpass sections for dispersal of vehicular emissions.

3.3 Noise

- 3.3.1 During construction phase, potential noise impacts on noise sensitive receivers will be associated with construction activities and generated from the use of powered mechanical equipment (PME) including breakers, excavators, mobile cranes, concrete truck mixers, hauler trucks, graders, asphalt pavers, compressors, etc. The key construction activities which would create noise impact will be site clearance, earthworks, piling or foundation works, demolition of existing footbridges and subways, construction of viaducts, depressed roads, underpass, at-grade roads, retaining structures, new footbridge and subways, etc. The noise impact arising from these construction activities will be mitigated by suitable good site practices and precautionary measures. In order to minimize the impact on the primary distributors and other trunk roads in the vicinity during normal working hours, construction works will be carried out during restricted hours as far as practicable.
- 3.3.2 During operation phase, noise sources will be associated with the traffic using the trunk road, depressed road and underpass. The cumulative noise impact of neighbouring roads such as Shing Mun Tunnel Road, Tsing Sha Highway, Che Kung Miu Road, Tai Po Road (Sha Tin Section), Tai Chung Kiu Road, Lion Rock Tunnel Road and Sha Tin Road would need to be considered.

3.4 Water Quality

- 3.4.1 During construction phase, potential water quality impacts will be from construction site runoff, wastewater from general construction activities, accidental spillage and excavation activities. In addition, the construction of bridge piers across the Shing Mun River Channel and widening of the road carriageway on Sha Tin Road near Pok Hong Estate may affect the Shing Mun River Channel and Kwun Yam Stream respectively.
- 3.4.2 During operation phase, potential water pollution sources would include the road surface runoff from the bridges, depressed roads and underpass, including vehicle dust, tyre scrap or oil to the surrounding waterbodies. Assessment on the impact of the presence of the additional bridge footing on the stream flow would be carried out and mitigation measures would be provided if necessary. Consideration would also be given to the cumulative water quality impacts arising from other interface projects anticipated in operation concurrently.

3.5 Waste Management

- 3.5.1 During construction phase, waste materials generated can broadly be classified into distinct categories based on their nature and disposal options as inert construction and demolition (C&D) materials, non-inert C&D materials, chemical waste and general refuse. The impacts arising from those generated on the Country Park and other areas will also be considered.
- 3.5.2 During operation phase, it is not anticipated that the Project would generate any adverse environmental impact associated with waste.

3.6 Land Contamination

- 3.6.1 During construction phase, potential land contamination impacts will be those associated with the depressed road and underpass sections, encroaching into the green areas near Sha Tin Tau Village and the existing workshops along Lion Rock Tunnel Road near Shing Mun River Channel.
- 3.6.2 During operation phase, it is not anticipated that the Project would have any adverse land contamination impact.

3.7 Ecology

- 3.7.1 During construction phase, anticipated ecological impacts include direct loss of habitat, disturbance to wildlife and vegetation resulting from air and noise pollution, site run-off and human activities associated with the construction works. Impacts stated above would potentially affect patches of natural and semi-natural habitats where bridges/viaducts, underpass and depressed roads pass, viz., the woodland near Tsang Tai Uk and abandoned farmland near Sha Tin Tau, and other sensitive receivers/sites that situated adjacent to the alignment, including plant of conservation importance - Ailanthus Green (*Ailanthus fordii*) in roadside planter, a potential ardeid night roosting site on the banks of Shing Mun River, the Lion Rock Country Park and Kwun Yam Shan Stream. The impact arising from the construction activities on the ecology within the study area will be closely monitored.
- 3.7.2 During operation phase, potential ecological impacts and disturbance to wildlife will include traffic noise and artificial lighting. Noise barriers and noise enclosure on viaducts and depressed roads may affect the flight path of avifauna and increase the chance of bird collision.
- 3.7.3 In addition, special attention would be given to sites with high ecological value (e.g. Lion Rock Country Park and the existing and potential ardeid night roosting sites). Potential direct and indirect impacts arising from the construction and operation of the Revised Trunk Road T4 on these valuable sites would be identified and evaluated comprehensively. Avoidance and other possible measures would be carried out, if necessary, to prevent any unacceptable adverse impacts.

3.8 Cultural Heritage

- 3.8.1 The latest road alignment will affect a number of built heritage resources identified in the vicinity of the Revised Trunk Road T4 such as Tsang Tai Uk and Li Cottage. In order to minimize the potential indirect impacts to these built heritage resources, suitable mitigation measures will be proposed in the cultural heritage impact assessment.

3.9 Landscape and Visual

- 3.9.1 During construction phase, sources of impact on landscape and visual impacts would include direct impacts such as construction works and indirect impacts such as construction traffic, laying of utilities, temporary site access areas, heavy machinery, increased road traffic congestion, and dust during dry season.
- 3.9.2 The unmitigated landscape impacts will include
- (i) Loss of landscape elements, e.g. trees, shrubland, agricultural land, river channel, stream and natural topography.
- 3.9.3 There would be potential impact on the existing Transportation Corridor Landscape Character Area (LCA) in Shatin.
- 3.9.4 The unmitigated visual impacts will include
- (i) Loss of visual amenity due to removal of trees, shrubs, etc;
 - (ii) Visual appearance of temporary structures prior to full development;
 - (iii) Construction activities on existing available land; and
 - (iv) Obstruction of, or intrusion into the views by the structures of Revised Trunk Road T4.
- 3.9.5 During operation phase, the sources of impacts on landscape would be the operation of Revised Trunk Road T4. Visual impact will be resulted from visual intrusion and obstruction created by the structures of Revised Trunk Road T4 and visual quality and impact to the existing roadside, land uses in the vicinity and natural landscape.

3.10 Hazard to Life

- 3.10.1 The Project would not involve the use of any dangerous goods and there is no store of dangerous goods in significant quantities in the vicinity of the Project site. Hazard to life arising from the construction or operation of the Project is not expected.

3.11 Fisheries

- 3.11.1 There are no Fish Culture Zone and important nursery or spawning area located close to the Project Site and no fisheries resource is identified within the Shing Mun River Channel and Kwun Yam Shan Stream. No impact to fisheries is anticipated from the construction and operation of the Project.

4 MAJOR ELEMENTS OF SURROUNDING ENVIRONMENT

4.1 General

- 4.1.1 The Project area is located in developed areas. It spans along Shing Mun Tunnel Road to Tai Wai, across Shing Mun River Channel, and to the western portion of Sha Tin Road. The Project is surrounded by a combination of transport infrastructure, government facilities and natural landscape.
- 4.1.2 A number of existing and potential environmental sensitive receivers have been identified based on the existing developments in the vicinity. Other potential sensitive receivers will be identified in the EIA study. No planned sensitive receiver is identified. Detailed investigation and surveys will be carried out to assess how they are affected by the Project under this EIA study.

4.2 Air Quality

- 4.2.1 The study area for air quality impact assessment is defined as within 500m from the boundary of the proposed roads. Potential air sensitive receivers that may be affected by the Project will be included in the air quality impact assessment and are as follows:

- In the vicinity of north-west portion of the Project: Residential Land Uses – Mei Chung Court, May Shing Court, Mei Lam Estate, Peak One, Peak House, The Great Hill, Tung Lo Wan Village, The Salvation Army Bradbury Home of Loving Kindness, low rise residential developments at Tai Wai; Educational Institutions – Lock Tao Secondary School, St. Margaret's Girls' College, Buddhist Wong Wan Tin College; Industrial Land Uses – Sunking Industrial Building, San Miguel Industrial Building, Red Box Storage; Clinics – Sha Tin (Tai Wai) Clinic; Place of Worship – ELCHK Church of Living Spirit, The Church of Jesus Christ of Latter-days Saints.
- In the vicinity of Shing Mun River portion of the Project: Residential Land Uses – Scenery Court, Hilton Plaza, The Riverpark, Garden Villa; Government, Institution or Community – HKRC Bradbury Shatin Centre, Hong Kong Heritage Museum; Place of Worship – High Rock Christian Centre, Ecclesia Bible Institute.
- In the vicinity of south-east portion of the Project: Residential Land Uses – Sha Tin Tau Village, Tsang Tai Uk, Fung Shing Court, Tsok Pok Hang San Tsuen, Shui Chuen O Estate, Pok Hong Estate, Tse Uk Village, Fui Yiu Ha New Village; Educational Institutions – Christ College, Island School.

- 4.2.2 The locations of the above potential air sensitive receivers are shown in **Figure 4.1**. The abovementioned air sensitive receivers are not exhaustive and indicative only, more potential air sensitive receivers will be identified in the EIA report. No planned air sensitive receiver is identified.

4.3 Noise

- 4.3.1 Sources of noise impact would include the construction of the proposed roads, and traffic noise arising from operation of these proposed roads. The study area for noise impact assessment is defined as within 300m from the boundary of the proposed roads. Potential noise sensitive receivers that may be affected by the Project will be included in the noise impact assessment and are as follows:
- In the vicinity of north-west portion of the Project: Residential Land Uses – Mei Chung Court, May Shing Court, Mei Lam Estate, Peak One, Peak House, The Great Hill, Tung Lo Wan Village, The Salvation Army Bradbury Home of Loving Kindness, low rise residential developments at Tai Wai; Educational Institutions – Lock Tao Secondary School, St. Margaret's Girls' College, Buddhist Wong Wan Tin College; Clinics – Sha Tin (Tai Wai) Clinic; Place of Worship – ELCHK Church of Living Spirit, The Church of Jesus Christ of Latter-days Saints.

- In the vicinity of Shing Mun River portion of the Project: Residential Land Uses – Scenery Court, Hilton Plaza, The Riverpark, Garden Villa; Place of Worship – High Rock Christian Centre, Ecclesia Bible Institute.
- In the vicinity of south-east portion of the Project: Residential Land Uses – Sha Tin Tau Village, Tsang Tai Uk, Fung Shing Court, Tsok Pok Hang San Tsuen, Shui Chuen O Estate, Pok Hong Estate, Tse Uk Village, Fui Yiu Ha New Village; Educational Institutions – Christ College, Island School.

4.3.2 The locations of the above potential noise sensitive receivers are shown in **Figure 4.2**. The abovementioned noise sensitive receivers are not exhaustive and indicative only, more potential noise sensitive receivers will be identified in the EIA report. No planned noise sensitive receiver is identified.

4.4 Water Quality

4.4.1 The potential water sensitive receivers in the vicinity of the Project include:

- Shing Mun River Channel; and
- Kwun Yam Shan Stream.

4.4.2 The locations of the above potential water sensitive receivers are shown in **Figure 4.3**. No planned water sensitive receiver is identified.

4.5 Ecology

4.5.1 Potential ecological sensitive receivers identified within 500m from the proposed roads in the Project include:

- Lion Rock Country Park;
- Existing and potential ardeid night roosting site on the banks of Shing Mun River Channel;
- Natural and semi-natural habitats adjacent to the road alignment, such as the woodland close to Tsang Tai Uk and the abandoned farmland near Sha Tin Tau;
- Kwun Yam Shan Stream
- Shing Mun River Channel; and
- Sha Tin Park.

4.5.2 The locations of the above potential ecological sensitive receivers are shown in **Figure 4.4**. No planned ecological sensitive receiver is identified.

4.6 Cultural Heritage

4.6.1 Built heritage resources identified within 300m from the proposed roads in the Project include:

- Tsang Tai Uk (Grade 1);
- Li Cottage (Grade 1);
- High Rock Christian Camp (Grade 2);
- Che Kung Temple, Sha Tin (Grade 2);
- Entrance Gate of Chik Chuen Wai (Grade 2);

- Lau Ancestral Hall (Grade 3);
- Ng Yuen (Grade 3); and
- No. 1, 2 and 3, First Street, Tai Wai, Sha Tin (Grade 3).

4.6.2 The locations of the above built heritage resources are shown in **Figure 4.5**. No planned cultural heritage and built heritage resources is identified.

4.7 Landscape and Visual Impact

4.7.1 Due to the linear nature of the proposed development, 100m off-set from the works areas boundary is proposed to be the LIA Study Boundary. VIA Study Boundary shall be defined by the visual envelope of the Project.

4.7.2 Potential landscape resources, landscape character areas and visually sensitive receivers identified in the vicinity of the Project include:

Landscape Resources

- Fung Shui woodlands in Sha Tin Wai;
- Shrubland at the north of Shing Mun Tunnel Road;
- Abandoned Agricultural Land in Sha Tin Tau;
- Natural Hillside at To Fung Shan and Lion Rock Country Park;
- Disturbed Hillslopes downhill of To Fung Shan and downhill of Lion Rock Country Park;
- Shing Mun River Channel;
- Kwun Yam Shan Stream; and
- Amenity Tree Planting along amenity strips of roads.

Landscape Character Area

4.7.3 The proposed Trunk Road is located along existing Transportation Corridor Landscape Character Area (LCA) in Shatin. This LCA is characterised by linear landscapes, whose major features are the highways and railways that define them, but which also include flyovers, noise barriers, signage gantries, interchanges, traffic islands, footbridges as well as associated miscellaneous roadside land uses. It is anticipated that there would not be significant adverse impact on this LCA due to the proposed development.

Visually Sensitive Receivers

- Residential Estates and Schools in Jat Min Chuen, Pok Hong Estate, Fung Shing Court, Sun Tin Wai Estate, Chun Shek Estate and Mei Lam Estate ;
- Developments at To Fung Shan, including Peak One, Peak House, The Great Hill, The Salvation Army Bradbury Home of Loving Kindness, Harmony Lodge and low-rise residential developments;
- Sha Tin Tau;
- Lei Uk Tsuen;
- Tsang Tai Uk;

- Hong Kong Heritage Museum;
- The Riverpark;
- Schools and Clinic along Man Lai Road;
- Industrial Estates along Shing Chuen Road;
- Church of Latter Day Saints;
- Sha Tin Park;
- Hilton Plaza and New Town Plaza;
- Low-rise residential developments in Tai Wai;
- Footpath and footbridge along Shing Mun River Channel;
- High Rock Christian Camp; and
- Tung Lo Wan Village.

4.7.4 The location of most of the above potential landscape resources, landscape character areas and visually sensitive receivers are shown in **Figure 4.6**. No planned landscape resource, landscape character area and visually sensitive receiver is identified.

4.8 Hazard to Life

4.8.1 The Project would not involve the use of any dangerous goods and there is no store of dangerous goods in significant quantities in the vicinity of the Project site. Hazard to life arising from the construction or operation of the Project is not expected.

4.9 Fisheries

4.9.1 There are no Fish Culture Zone and important nursery or spawning area located close to the Project Site and no fisheries resource is identified within the Shing Mun River Channel and Kwun Yam Shan Stream. No impact to fisheries is anticipated from the construction and operation of the Project.

5 ENVIRONMENTAL PROTECTION MEASURES TO BE INCORPORATED IN THE DESIGN AND ANY FURTHER ENVIRONMENTAL IMPLICATIONS

5.1 Mitigation Measures for the Project

5.1.1 Practicable and effective mitigation measures will be adopted during the construction and operation phases of the Project to minimize environmental impacts to the environmental sensitive receivers.

5.2 Air Quality

5.2.1 To minimise air quality impact to the identified air sensitive receivers, the following mitigation measures will be proposed.

5.2.2 During the construction phase, dust mitigation measures as stipulated in the Air Pollution Control (Construction Dust) Regulation (Cap. 311R) will be implemented to control fugitive dust emission. Possible key measures include:

- Regular watering on all exposed and unpaved surface, particularly during dry weather;
- Frequent watering for dusty construction areas and areas close to the air sensitive receivers;
- Minimisation of temporary storage of stockpiles on site;
- Covering of all excavated or stockpile of dusty materials by impervious sheeting or spraying with water to maintain the entire surface wet;
- Setting up of wheel washing facilities at the exits of construction sites;
- Covering of dusty materials on vehicles leaving the construction sites; and
- Implementing dust suppression measures.

5.2.3 Requirements stipulated in the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation will also be followed to control potential emissions from non-road mobile machinery.

5.2.4 During the operation phase, subject to the investigation study, the following measures will be considered to minimize air quality impacts on the nearby air sensitive receivers:

- Provision of buffer area between the sources and the receivers; and
- Location of portals of underpass away from the air sensitive receivers.

5.3 Noise

5.3.1 During the construction phase, possible key measures to mitigate construction noise impacts on nearby noise sensitive receivers include:

- Use of quiet plants, silencers or mufflers on construction equipment;
- Use of movable and temporary barriers to screen off noise from construction plant or noisy operations;
- Installation of temporary noise screening structures or purpose-built noise barriers along the site boundary;

- Adoption of good site practices such as locating noisy equipment and activities at farthest practicable distance, scheduling noisy activities to minimise noise exposure, carrying out proper maintenance of construction plant, devising quiet methods of working, and carrying out regular noise monitoring; and
- Proper planning of construction vehicle travelling routes.

5.3.2 During the operation phase, the following measures will be considered to minimize traffic noise impacts on the nearby noise sensitive receivers:

- Noise barriers, low noise surface materials, noise enclosure, landscape deck, depressed road / underpass design may be required along some sections on the trunk road and slip roads for reducing traffic noise impact during the operation phase.

5.4 Water Quality

5.4.1 During the construction phase, possible key measures to minimize water quality impact on nearby water sensitive receivers include:

- Mitigation measures and good site practices should be implemented in accordance with ProPECC PN 5/93 "Drainage Plans subject to Comment by the Environmental Protection Department" and ProPECC PN 1/94 "Construction Site Drainage";
- Implementation of drainage and recommended pollution control clauses for construction contracts, and guidelines under Environment, Transport and Works Bureau Technical Circular (Works) (TCW) No. 5/2005 Protection of Natural Stream / Rivers from Adverse Impact arising from Construction Works;
- Collection of construction surface runoff for treatment by properly maintained silt trap and oil interceptor to remove oil, lubricants, grease, silt, grit and debris, etc. to ensure compliance with the Water Pollution Control Ordinance (Cap. 358);
- Covering of open stockpiles of materials with tarpaulin or similar fabric during rainstorms; and
- Mobile toilets or other appropriate means to store sewage before disposal through licensed collection agent or discharging to communal sewerage system.

5.4.2 During the operation phase, the following measures will be adopted to minimize water quality impacts on the nearby noise sensitive receivers:

- Proper drainage systems with silt traps and oil interceptors for collection and removal of silt/grit and oil before discharging should be installed, maintained and cleaned at regular intervals.
- A contingency plan should be developed for accidental spillage.

5.5 Waste Management

5.5.1 During the construction phase, possible key measures to reduce C&D materials, chemical waste, general refuse, etc. for off-site disposal include:

- Sorting and reuse on site as far as practicable;
- Handling by registered and licensed waste hauliers under Waste Disposal Ordinance (Cap. 354) and Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354C);
- Nomination of an approved person for waste management;
- Separation of chemical wastes for handling and treatment at licensed facilities;

- Proper record system for wastes generated, recycled and disposed of;
- Trip Ticket System in accordance with Development Bureau Technical Circular No. 6/2010 Trip Ticket System for Disposal of Construction & Demolition Materials;
- Waste Management Plan in accordance with ETWB TCW No. 19/2005 Environmental Management on Construction Sites;
- Segregation of different types of waste for storage;
- Recycling of unused chemicals with remaining functional capacity;
- Use of non-timber formwork; and
- Proper storage and site practices.

5.5.2 As Revised Trunk Road T4 is a trunk road for use by road traffic, it is anticipated that waste impact during the operation phase would be extremely small.

5.6 Ecology

5.6.1 Encroachment within ecological sensitive site (i.e. Lion Rock Country Park) or important habitat for fauna and flora will be avoided as far as practicable. Other potential direct and indirect impacts will also be avoided, wherever possible. Where avoidance is inapplicable, the following mitigation measures will be considered to minimize the ecological impact:

- Confining construction works to a specific area or season,
- Using alternative design or construction methods,
- Transplanting flora species of conservation importance,
- Compensation for unavoidable habitat loss on a “like for like” basis.

5.6.2 Good site practices and mitigation measures aiming to reduce impacts from air, water and noise pollution will also minimise potential indirect impact to ecological resources.

5.7 Cultural Heritage

5.7.1 A Cultural Heritage Impact Assessment will be carried out to assess the potential direct and indirect impacts on cultural heritage. Impacts on cultural heritage will be avoided as far as practicable. If found unavoidable, mitigation measures to minimise the direct and indirect impacts on cultural heritage will be proposed and implemented with prior agreement with the Antiquities and Monuments Office.

5.8 Landscape and Visual

5.8.1 Mitigation measures to minimise environmental impact during both the construction and operation phases should be comprehensively reviewed for both landscape and visual aspects. Possible key measures to reduce potential landscape and visual impacts include:

5.8.2 During the construction phase,

- Existing trees which are within project boundary but not likely to be affected by the proposed works will be preserved in-situ in accordance with latest guidelines issued by DEVB;
- Minimise disturbance to existing developed area and significant landscape resources;

- Optimise construction activities, e.g. minimising extent of temporary works area;
- Erect hoardings at the interface between the construction site and the existing area;
- Minimise construction periods; and
- Establish early the planting area and carry out advance planting of vegetation on landscape sensitive receivers.

5.8.3 During the operational phase, subject to the investigation study, the following measures will be considered to minimize landscape and visual impacts:

- Trees will be planted as visual barriers, where appropriate;
- Tree transplanting and compensatory planting will partially mitigate the impact to the existing trees/woodland;
- Road structures such as bridges and underpass will be designed with considerations and suitable measures to minimise the visual impact of the road corridor;
- An elevated landscaped deck will serve as part of a semi-enclosure noise barrier and also as a public open space; and
- The visual impact of noise barriers including noise enclosure will be mitigated by appropriate detailed design, including use of transparent panels, provision of planting on and adjacent to the noise barriers, appropriate colour selection of panels and supporting structures, as well as design of supporting structures to incorporate a high level of quality and aesthetics.

5.9 Hazard to Life

5.9.1 The Project would not involve the use of any dangerous goods and there is no store of dangerous goods in significant quantities in the vicinity of the Project site. Hazard to life arising from the construction or operation of the Project is not expected. Specific mitigation measures is not required.

5.10 Fisheries

5.10.1 There are no Fish Culture Zone and important nursery or spawning area located close to the Project Site and no fisheries resource is identified within the Shing Mun River Channel and Kwun Yam Shan Stream. No impact to fisheries is anticipated from the construction and operation of the Project. Specific mitigation measures is not required.

5.11 Further Implication – Public Consultation to Date

5.11.1 STDC T&TC was consulted on the latest findings and recommendations on the Revised Trunk Road T4 on 21 February 2019. Further consultation with STDC T&TC will be made prior to gazettal of the finalized Trunk Road T4 scheme.

6 USE OF PREVIOUSLY APPROVED EIA REPORTS

6.1.1 The EIA report for the Trunk Road T4 was approved by EPD in May 2005 (Register No.: AEIAR-084/2005). However, due to major changes in road alignment, revision in the form of structures, additional slip roads, new sensitive receivers and new assessment requirements for the Revised Trunk Road T4, a fresh EIA study is considered required.

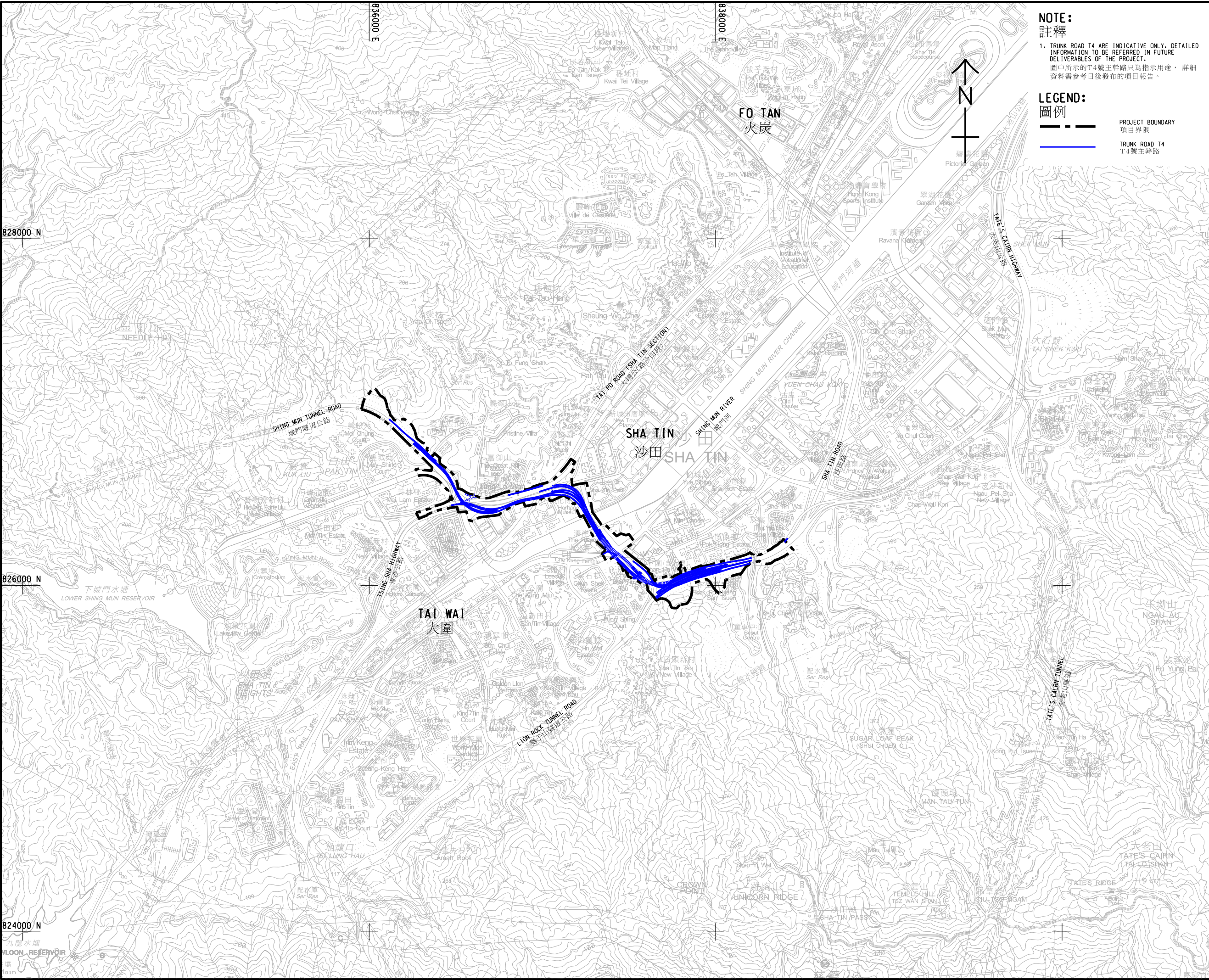
6.1.2 Reference would be made to the following previously approved EIA reports within the study area:

- Trunk Road T4
(Register No.: AEIAR-084/2005)
- Sha Tin New Town - Stage II Trunk Road T3 (Tai Wai)
(Register No.: EIA-143/BC)
- Widening and Reconstruction of Tai Po Road (Sha Tin Section)
(Register No.: AEIAR-020/1999)

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Figures

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NOTE:
註釋

1. TRUNK ROAD T4 ARE INDICATIVE ONLY. DETAILED INFORMATION TO BE REFERRED IN FUTURE DELIVERABLES OF THE PROJECT.
圖中所示的T4號主幹路只為指示用途，詳細資料需參考日後發布的項目報告。

LEGEND:
圖例

PROJECT BOUNDARY
項目界限


TRUNK ROAD T4
T4號主幹路

AECOM

PROJECT
項目

**REVISED TRUNK ROAD T4
IN SHA TIN**
沙田T4號主幹路優化方案

CLIENT
業主

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STATUS
階段

SCALE
比例

A3 1 : 20000

DIMENSION UNIT
尺寸單位

METRES

KEY PLAN
索引圖

PROJECT NO.
項目編號

60579757

AGREEMENT NO.
協議編號

CE8/2018 (HY)

SHEET TITLE
圖紙名稱

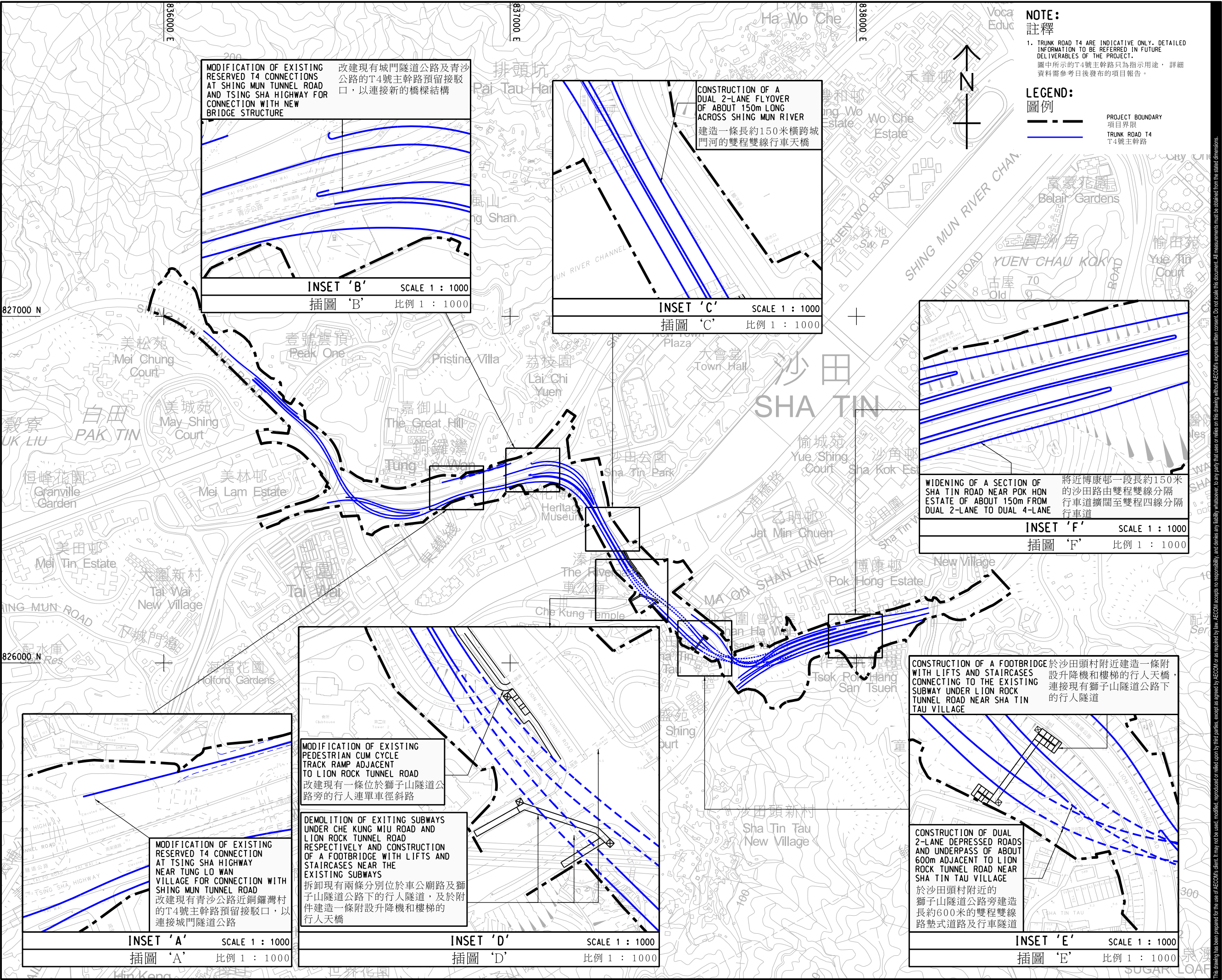
REVISED TRUNK ROAD T4
LOCATION PLAN
T4號主幹路優化方案位置圖

SHEET NUMBER
圖紙編號

FIGURE 1.1 圖 1.1

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AECOM

PROJECT
項目

REVISED TRUNK ROAD T4
IN SHA TIN
沙田T4號主幹路優化方案

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SCALE
比例
A3 1 : 10000
DIMENSION UNIT
尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO.
項目編號

60579757

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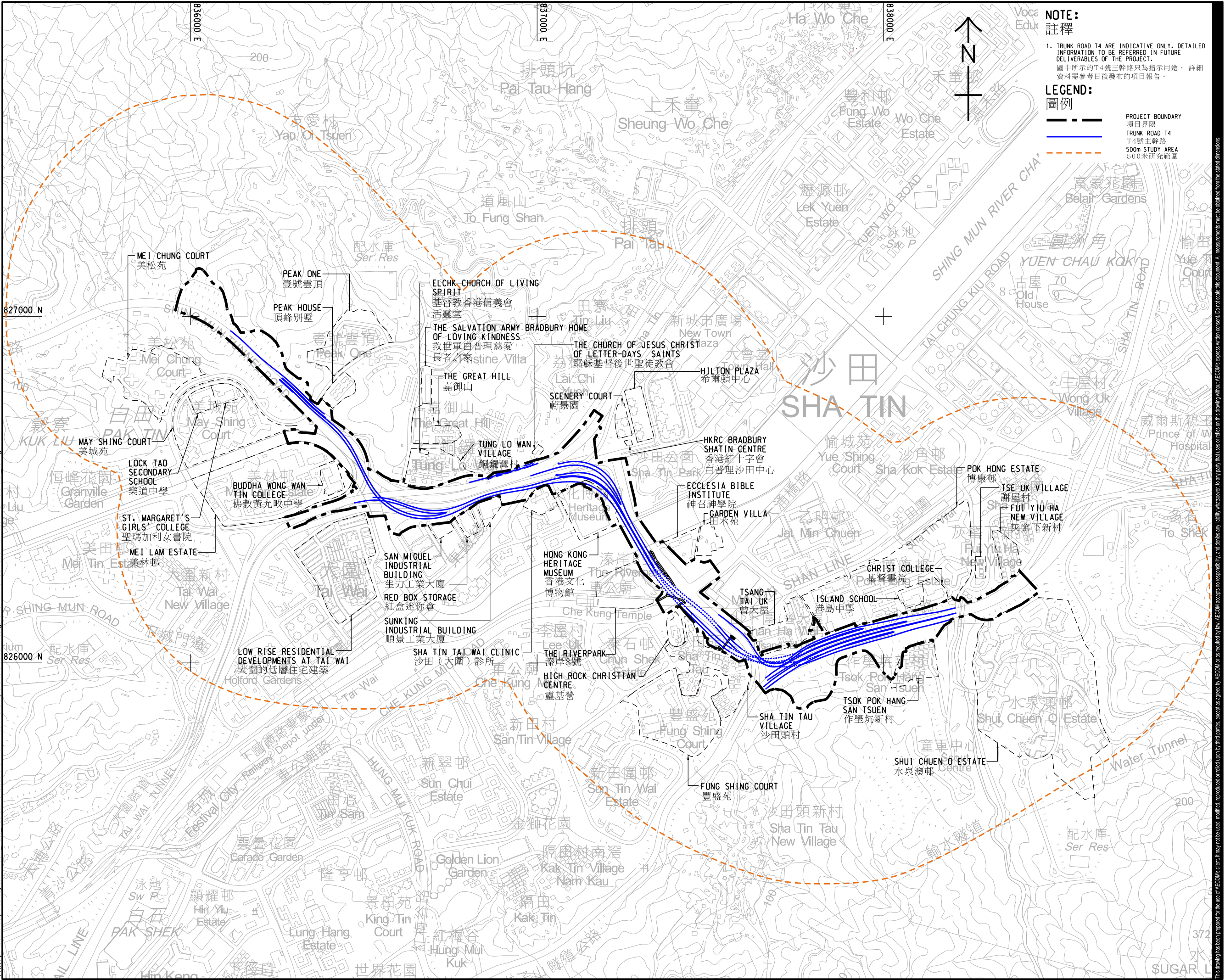
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REVISED TRUNK ROAD T4
LAYOUT PLAN
T4號主幹路優化方案平面圖

SHEET NUMBER
圖紙編號

FIGURE 1.2 圖 1.2

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註釋

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LEGEND:
圖例


PROJECT BOUNDARY
項目界限
TRUNK ROAD T4
T4號主幹路
500m STUDY AREA
500米研究範圍

AECOM

PROJECT
項目

**REVISED TRUNK ROAD T4
IN SHA TIN**
沙田T4號主幹路優化方案

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SCALE
比例
A3 1 : 10000

DIMENSION UNIT
尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO.
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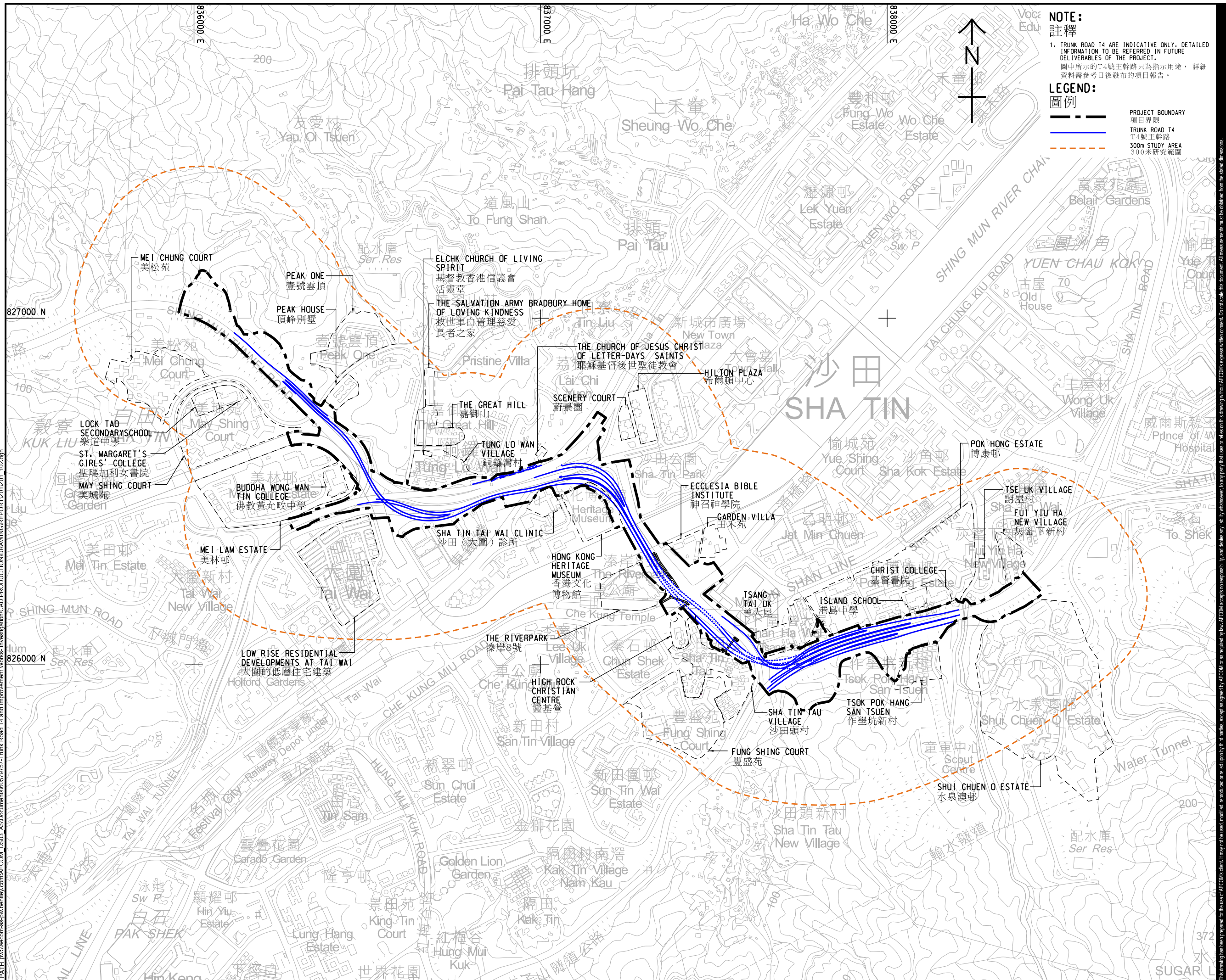
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REVISED TRUNK ROAD T4 -
POTENTIAL AIR SENSITIVE
RECEIVERS
T4號主幹路優化方案 -
潛在空氣敏感受體

SHEET NUMBER
圖紙編號

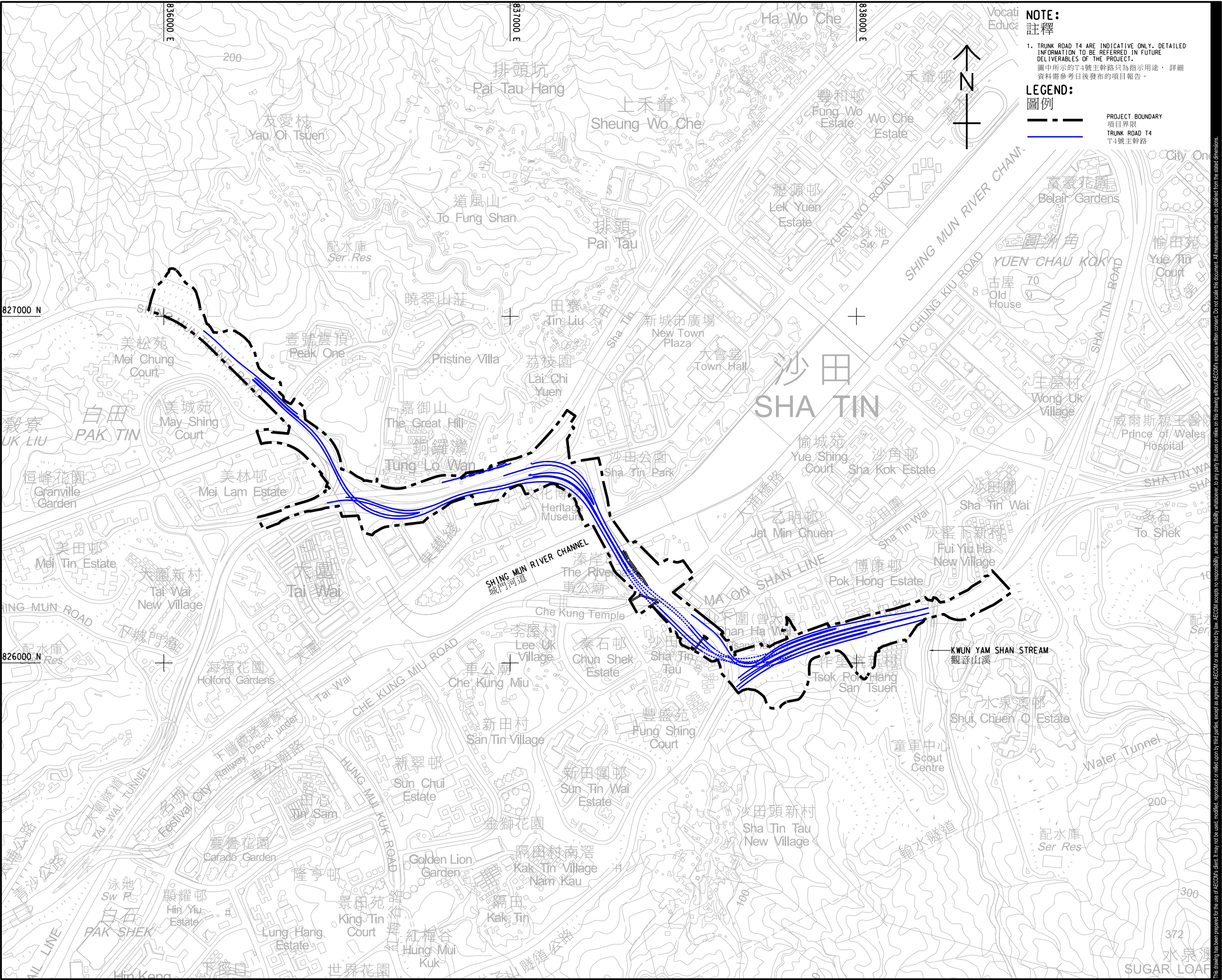
FIGURE 4.1 圖 4.1

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LEGEND:
圖例

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TRUNK ROAD T4
T4號主幹路

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階段

SCALE
比例

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DIMENSION UNIT
尺寸單位

METRES

KEY PLAN
索引圖

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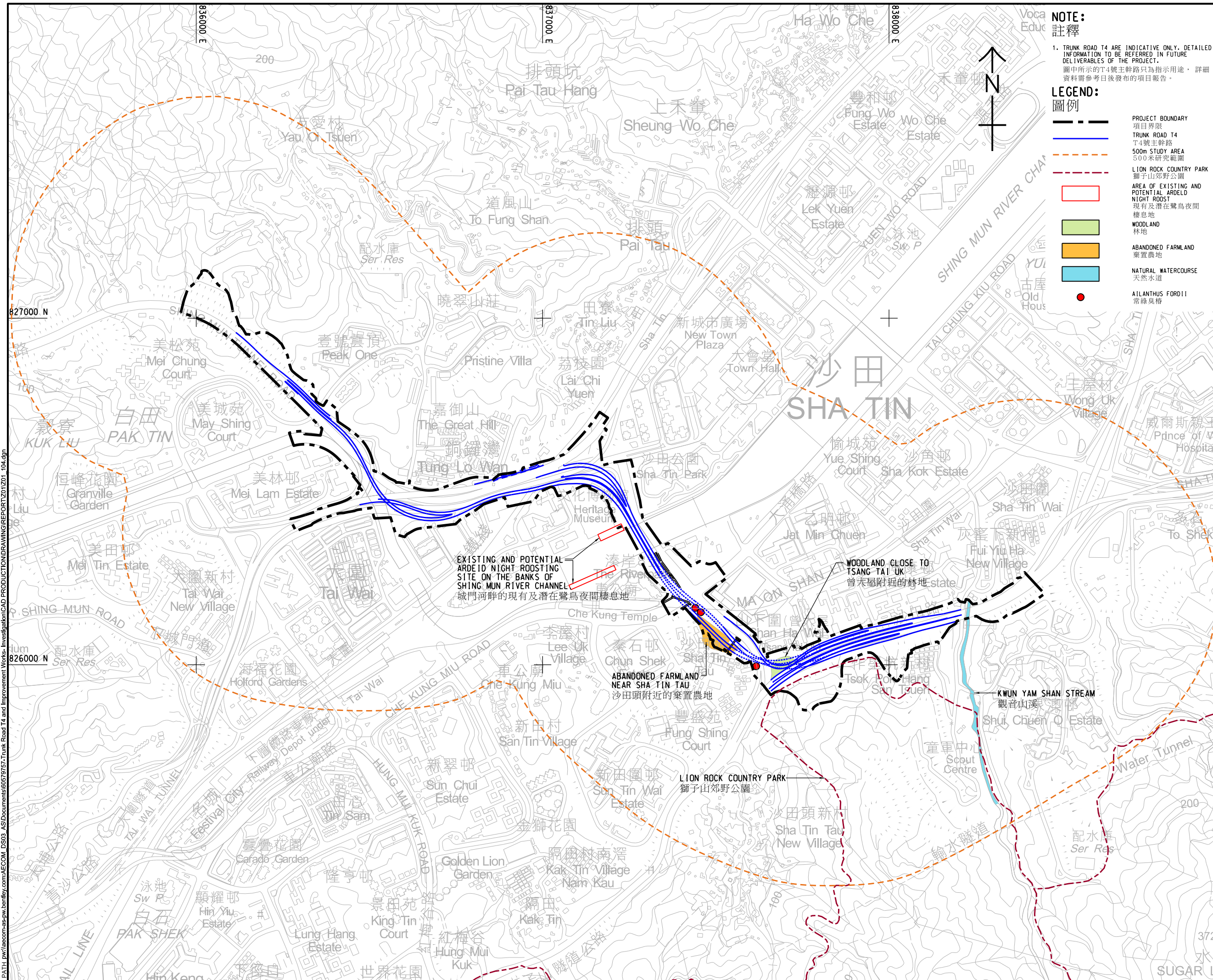
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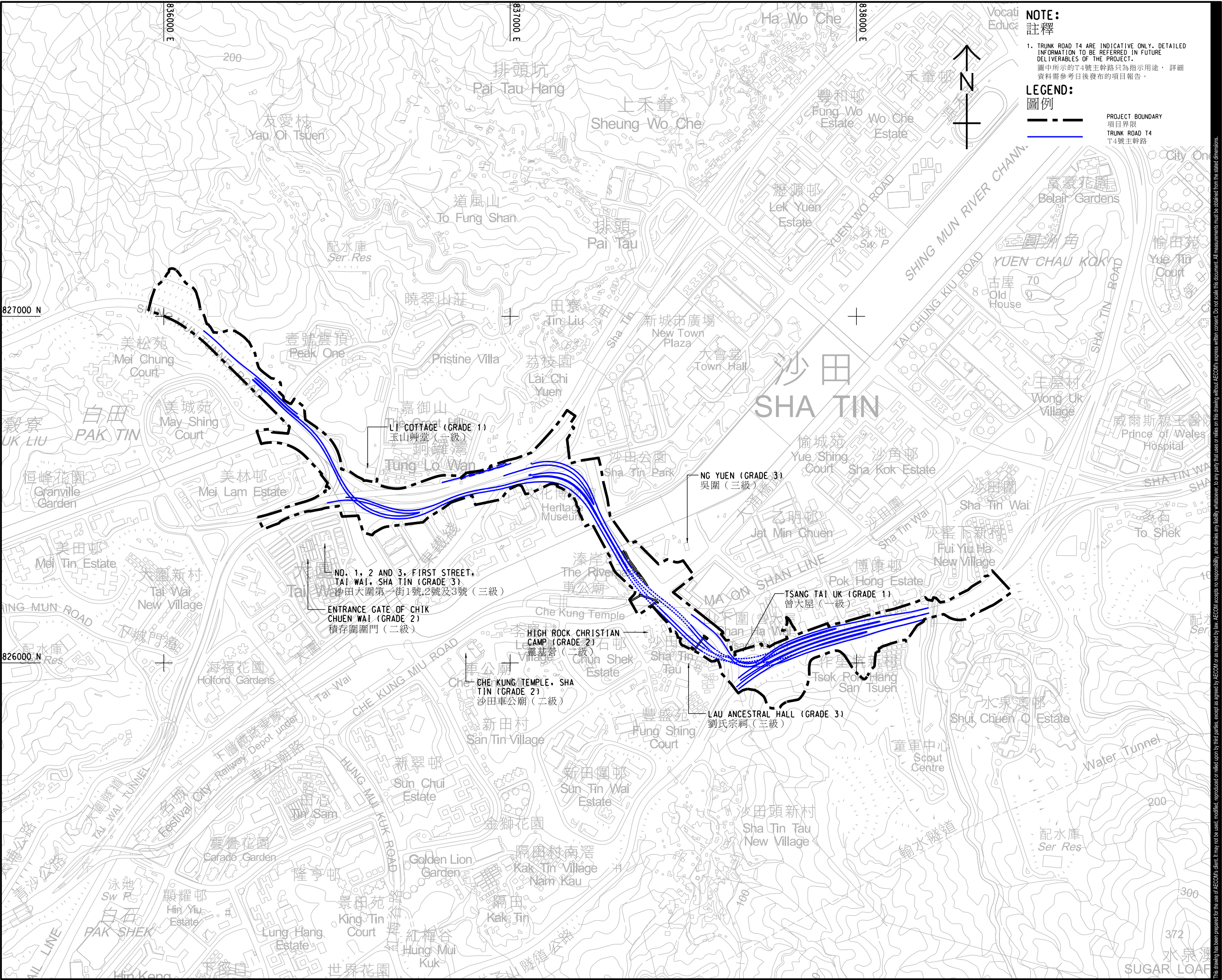
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圖紙名稱

REVISED TRUNK ROAD T4 -
POTENTIAL WATER SENSITIVE
RECEIVERS
T4號主幹路優化方案 -
潛在水質敏感受體
SHEET NUMBER
圖紙編號

FIGURE 4.3 圖 4.3



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LEGEND:
圖例

PROJECT BOUNDARY
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TRUNK ROAD T4
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DIMENSION UNIT
尺寸單位

METRES

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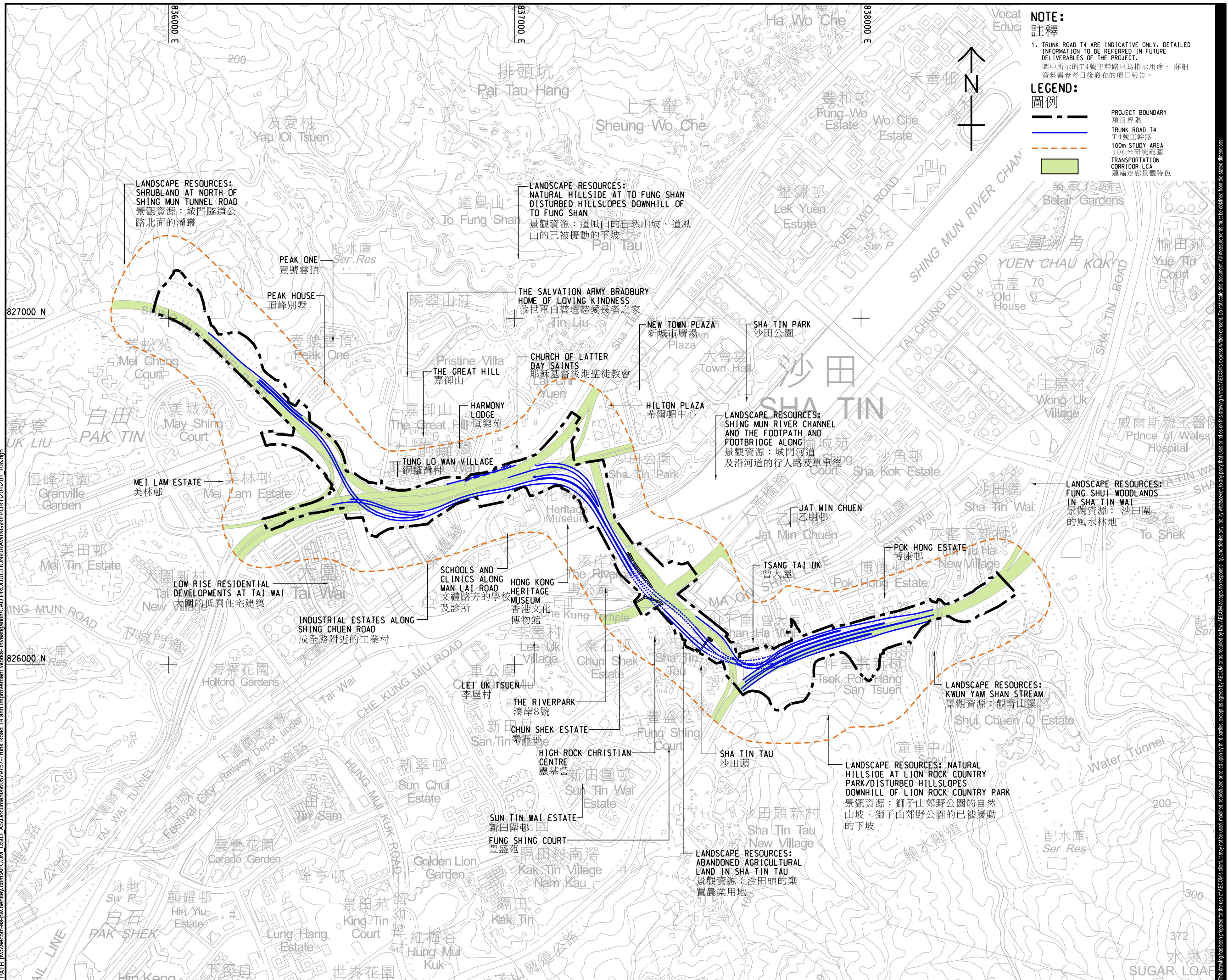
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REVISED TRUNK ROAD T4 -
CULTURAL HERITAGE RESOURCES
T4號主幹路優化方案 -
文化遺產資源

SHEET NUMBER
圖紙編號

FIGURE 4.5 圖 4.5



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FIGURE 4.6 圖 4.6