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<u>Figure 1.1</u>	Location of the Project & Interfacing Projects
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1 Introduction

1.1 Project Background

- 1.1.1.1 The objective of Route 11 (Section between Yuen Long and North Lantau) (hereinafter named as the Project) is to enhance the connectivity between the Northwest New Territories (NWNT) and North Lantau to meet the future traffic demands generated by the future developments in both regions and also the increasing cross-boundary activities. Route 11 will be a strategic highway to support the proposed developments in the NWNT. It will also provide the third vehicular access to Lantau in addition to the existing Lantau Link (LL) and the Tuen Mun-Chek Lap Kok Link (TM-CLKL).
- 1.1.1.2 In September 2021, Highways Department (HyD) commissioned Arup to carry out Agreement No. CE 13/2021 (HY) Route 11 (Section between Yuen Long and North Lantau) - Investigation to examine and review the Preferred Alignment for the Project, formulate a Recommended Alignment developed under the feasibility study for the Project, and work out the preliminary design details of the Recommended Alignment of Route 11 and the associated works.

1.2 Description of the Project

- 1.2.1.1 The Project will have a total length of approximately 12km, covering areas in Lam Tei, So Kwun Wat, Tai Lam, Tsing Lung Tau and North Lantau. The alignment of the Project is shown in **Figure 1.1**. It is aiming to avoid the aboveground construction of roads and associated aboveground works inside the Tai Lam Country Park. The works within Tai Lam Country Park will be the underground tunnelling works.
- 1.2.1.2 The scope of the Project is to provide connection roads (in form of open roads, tunnels, viaducts and a suspension bridge) to enhance the connectivity between NWNT and North Lantau. The scope of the Project comprises the following key elements:
- a) construction of Lam Tei Quarry Interchange, which comprises slip roads and viaducts, connecting the proposed Lam Tei Tunnel to Kong Sham Western Highway, Yuen Long Highway and the proposed Tuen Mun Bypass (under separate project);
 - b) construction of Lam Tei Tunnel, which is an approximately 4.2 km long dual 3-lane carriageway tunnel, connecting the proposed Lam Tei Quarry Interchange and So Kwun Wat Interchange;
 - c) construction of So Kwun Wat Interchange, which comprises slip roads and viaducts, connecting the proposed Lam Tei Tunnel, So Kwun Wat Link Road and the Tai Lam Chung Tunnel (North Section);
 - d) construction of So Kwun Wat Link Road, which comprises an approximately 2.0 km long dual 2-lane carriageway tunnel and associated slip roads and viaducts, connecting to Tuen Mun Road (TMR) and So Kwun Wat Road, and the proposed So Kwun Wat Interchange;

- e) construction of Tai Lam Chung Tunnel (North Section) which is an approximately 0.4km long dual 4-lane carriageway tunnel, a viaduct crossing Tai Lam Chung River, and Tai Lam Chung Tunnel (South Section) which is another tunnel to the east of Tai Lam Chung River and an approximately 1.7km long dual 4-lane carriageway tunnel, connecting the proposed So Kwun Wat Interchange and Tsing Lung Tau Interchange;
- f) construction of Tsing Lung Tau Interchange, which comprises slip roads, viaducts and tunnel, connecting the proposed Tai Lam Chung Tunnel (South Section) and Tsing Lung Bridge to TMR;
- g) construction of Tsing Lung Bridge, which is an approximately 1.9 km long dual 4-lane carriageway suspension bridge, crossing over the Ha Pang Fairway and connecting the proposed Tsing Lung Tau Interchange and North Lantau Interchange, with reclamation of approximately 2.2 ha for construction of bridge tower at Tsing Lung Tau;
- h) construction of North Lantau Interchange, which comprises slip roads, viaducts and tunnels, connecting Tsing Lung Bridge to North Lantau Highway, LL, the proposed Road P1 (under separate project), the proposed Tsing Yi-Lantau Link (under separate project) and the proposed Hong Kong Island West-Northeast Lantau (HKIW-NEL) Link (under separate project);
- i) re-alignment of an approximately 1.4 km long section of TMR at Tsing Lung Tau;
- j) modification / realigning of the existing interchanges / roundabouts / roads, where appropriate (e.g. widening of an approximately 0.4 km long Tai Lam Chung Road);
- k) reprovision / modification of existing bridges, underpasses, footbridges, access roads, crossings affected;
- l) construction of associated administration buildings, ventilation buildings;
- m) construction of temporary explosive magazines in Lam Tei Quarry, Siu Lam and Pillar Point; and
- n) associated geotechnical works, ground investigation (GI) works, drainage works, natural terrain hazard mitigation works, sewerage works, traffic aids, directional signs, street lightings, Traffic Control and Surveillance System, Electrical and Mechanical (E&M) works, environmental mitigation measures, landscaping works, Vessel Impact Protection System, dehumidification systems for cables and decks, and services systems for inspection, maintenance, structural health monitoring and management of the suspension bridge.

1.3 Environmental Impact Assessment Study Brief

- 1.3.1.1 In accordance with the requirements of Section 5(1) of the Environmental Impact Assessment Ordinance (EIAO), a Project Profile (No. PP-637/2022) for the Project was submitted to the Director of Environmental Protection (DEP) for application for an Environmental Impact Assessment (EIA) Study Brief (SB) on 20 January

2022. Pursuant to Section 5(7)(a) of the EIAO, the DEP issued a SB (No.: ESB-352/2022) dated 25 February 2022 for the EIA Study.

1.4 Designated Projects

1.4.1.1 The Project would consist of the following Designated Projects (DPs) under Part I, Schedule 2 of the EIAO.

Table 1.1 List of Designated Projects

Item No.	Designated Project	Designated Project Element under the Project
Part I, Schedule 2 of the EIAO		
A.1	A carriageway for motor vehicles that is an expressway, trunk road, primary distributor road or district distributor road.	The Route 11 mainline and the connecting roads to Kong Sham Western Highway, Yuen Long Highway, Tuen Mun Road, North Lantau Highway and Lantau Link are proposed as expressway, except the tunnel sections are proposed as trunk road.
A.7	A road tunnel or railway tunnel more than 800 m in length between portals.	The proposed tunnels, namely Lam Tei Tunnel, So Kwun Wat Link Road and Tai Lam Chung Tunnel (South Section) of approximately 4.2km, 2.0km and 1.7km respectively, are proposed.
K.10	A depot for the storage of, or manufacturing plant for the manufacture of, explosives (as defined by section 2 of the Dangerous Goods Ordinance (Cap. 295)).	There are 3 temporary explosive magazines ^[1] in Lam Tei Quarry, Siu Lam and Pillar Point proposed for overnight storage of explosives for tunnel construction.
Q.1	All projects involving earthworks partly or wholly in an existing country park.	The proposed Lam Tei Tunnel, So Kwun Wat Link Road and Tai Lam Chung Tunnel (South Section) will be running beneath Tai Lam Country Park.

Note:

[1] The 3 temporary explosive magazines sites are shared-use with the planned Tuen Mun Bypass.

1.5 Objective of the EIA Study

1.5.1.1 According to Section 1.5 of the EIA SB (No.: ESB-352/2022), the purpose of this EIA study is to provide information on the nature and extent of environmental impacts arising from the construction and operation of the Project and associated works that will take place concurrently. This information will contribute to decisions by the Director on:

- (i) the overall acceptability of any adverse environmental consequences that are likely to arise as a result of the Project;
- (ii) the conditions and requirements for the detailed design, construction and operation of the Project to mitigate against adverse environmental consequences wherever practicable; and
- (iii) the acceptability of residual impacts after the proposed mitigation measures are implemented.

1.5.1.2 The objectives of the EIA study are as follows:

- (i) to describe the Project and associated works together with the requirements and environmental benefits for carrying out the proposed project;
- (ii) to identify and describe the elements of the community and environment likely to be affected by the Project and/or likely to cause adverse impacts to the Project, including both the natural and man-made environment and the associated environmental constraints;
- (iii) to identify and quantify emission sources and determine the significance of impacts on sensitive receivers and potential affected uses;
- (iv) to identify and quantify potential waste management issues and impacts arising as a result of the construction and operation activities of the Project;
- (v) to identify and quantify contaminated land within any project area for development works, and to propose measures to avoid disposal in the first instance;
- (vi) to identify, evaluate and address any potential ecological impacts arising from the Project including impacts on recognised sites of conservation importance, as well as flora, fauna and natural habitats;
- (vii) to identify, evaluate and address any potential fisheries impacts rising from the Project;
- (viii) to identify any potential landscape and visual impacts and to propose measures to mitigate these impacts;
- (ix) to identify any adverse impacts on cultural heritage and to propose measures to mitigate these impacts;
- (x) to identify potential hazard to life impacts, and to propose mitigation measures to mitigate these impacts;
- (xi) to propose the provision of infrastructure or mitigation measures so as to minimise pollution, environmental disturbance and nuisance during construction and operation of the Project;
- (xii) to investigate the feasibility, effectiveness and implications of the proposed mitigation measures;
- (xiii) to identify, predict and evaluate the residual (i.e. after practicable mitigation) environmental impacts and the cumulative effects expected to arise during the construction and operation phases of the project in relation to the sensitive receivers and potential affected uses;
- (xiv) to identify, assess and specify methods, measures and standards, to be included in the detailed design, construction and operation of the Project which are necessary to mitigate these residual environmental impacts and cumulative effects and reduce them to acceptable levels;
- (xv) to investigate the extent of the secondary environmental impacts that may arise from the proposed mitigation measures and to identify constraints associated with the mitigation measures recommended in the EIA study as well as the provision of any necessary modification;

(xvi) to design and specify the environmental monitoring and audit requirements; and

(xvii) to identify any additional studies necessary to implement the mitigation measures of monitoring and proposals recommended in the EIA report.

1.6 Structure of this EIA Report

1.6.1.1 The structure of this EIA Report is as follows:

Table 1.2 Structure of this EIA Report

Chapter	Title	Aims
1	Introduction	Introduces the project background and the objectives of the report
2	Project Description	Summarises the various alignment options and scope for various environmental aspects Describes relevant main construction/ engineering aspects of the recommended alignment
3	Air Quality Impact	Presents the legislation, methodology, assessment and recommendations for air quality impacts
4	Noise Impact	Presents the legislation, methodology, assessment and recommendations for noise impacts
5	Water Quality Impact	Presents the legislation, methodology, assessment and recommendations for water quality impacts
6	Waste Management Implications	Presents the legislation, methodology, assessment and recommendations for waste management
7	Land Contamination	Presents the legislation, methodology, assessment and recommendations for land contamination
8	Hazard to Life	Presents the legislation, methodology, assessment and recommendations for hazard to life impacts
9	Ecological Impact (Terrestrial and Marine)	Presents the legislation, methodology, assessment and recommendations for ecological impacts
10	Fisheries Impact	Presents the legislation, methodology, assessment and recommendations for fisheries impacts
11	Landscape and Visual Impact	Presents the legislation, methodology, assessment and recommendations for landscape and visual impacts
12	Cultural Heritage	Presents the legislation, methodology, assessment and recommendations for cultural heritage impacts
13	Environmental Monitoring and Audit Requirements	Presents the environmental monitoring and audit requirements and a detailed implementation schedule of the recommended mitigation measures
14	Summary of Environmental Outcomes	Presents a summary of the key environmental outcomes arising from the EIA study
15	Conclusion	Summarises the findings and concludes the overall acceptability of the project

1.6.1.2 An Executive Summary has been prepared as a separate document in both Chinese and English, which contains a summary of the key findings, recommendations and conclusions of the EIA Report. An Environmental Monitoring and Audit (EM&A) Report has also been prepared as separate document, which guides the setup of an EM&A programme to ensure compliance with the EIA study recommendations, to assess the effectiveness of the recommended mitigation measures and to set out the documentation and submission as required.