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1. Introduction

1.1 Project Background

- 1.1.1.1 The Government proposed the implementation of Tuen Mun Western Bypass (TMWB) and commenced the investigation and preliminary design for TMWB in 2008. Under the original transport infrastructures planning, the TMWB together with Tuen Mun-Chek Lap Kok Tunnel (TM-CLKT), which was commissioned in December 2020, were aimed to provide a direct north-south route linking Kong Sham Western Highway (KSWH), Northwest New Territories (NWNT), Tuen Mun River Trade Terminal, Hong Kong International Airport and the Hong Kong-Zhuhai-Macao Bridge Hong Kong Port.
- 1.1.1.2 To take forward TMWB, the Government consulted Tuen Mun District Council (TMDC) and Yuen Long District Council (YLDC) in July 2016 and September 2016 respectively. The District Council (DC) supported the implementation of TMWB in principle, but some members of TMDC expressed their concern that the connection at Tsing Tin Road might induce adverse air and noise impacts on the area near Kin Sang Estate, Tai Hing Estate and Tuen Mun Hospital. They also were worried about unacceptable congestion at Tuen Mun Road (TMR) (Fu Tei Section) arising from the additional traffic to/from TMWB.
- 1.1.1.3 The Highways Department (HyD) then commenced a further investigation and preliminary design study for TMWB in October 2017. Taking into account the comments from TMDC, HyD deleted the connection at Tsing Tin Road for TMWB. Nonetheless, without this connection, the usage of TMWB, and volume/capacity ratio would drop significantly, making the proposed scheme of TMWB no longer effective in alleviating traffic congestion at TMR (Fu Tei and Town Centre Sections), Wong Chu Road and Lung Fu Road.
- 1.1.1.4 In the 2019 Policy Address, the Government announced that it would re-plan the coastal development of Tuen Mun West. As such, there is a genuine need to review the planning of the future strategic routes and connecting roads within Tuen Mun with a view to meeting the traffic demand of the potential developments in Tuen Mun West.
- 1.1.1.5 The Government subsequently proposed Tuen Mun Bypass (TMB), hereafter called “the Project”, as an alternative highway scheme, to replace the originally proposed TMWB. TMB will not only provide a direct north-south route linking TM-CLKT and Yuen Long Highway (near Lam Tei Quarry), but also further improve the traffic conditions of some local roads in Tuen Mun, including TMR (Fu Tei and Town Centre Sections), Wong Chu Road and Lung Fu Road, with some spare capacity to accommodate the traffic demand from the future developments in Tuen Mun West.
- 1.1.1.6 Some Legislative Council (LegCo) members and the TMDC members have all along expressed concern about the traffic congestion at TMR (Fu Tei and Town Centre Sections), Wong Chu Road and Lung Fu Road, particularly subsequent to the commissioning of TM-CLKT. Therefore, timely implementation of the Project is required.
- 1.1.1.7 HyD and Transport Department (TD) had introduced the proposal of replacing the TMWB by TMB at the meeting with the Traffic and Transport Committee (T&TC) of TMDC in February 2021 and April 2021. Both T&TC of TMDC supported implementation of the Project in lieu of the previously proposed TMWB.

1.1.1.8 A layout plan showing the location of the Project is shown in **Figure 1.1**.

1.2 Description of the Project

1.2.1.1 The Project is to provide a dual two-lane carriageway and associated connections to the TM-CLKT in the south, and the Yuen Long Highway (YLH) and KSWH in the north, of about 10 km long in total. The scope of the Project mainly comprises the following:

- (i) Construction of a road tunnel of about 7.5 km long running through Tuen Mun and Tai Lam Country Park, linking the TM-CLKT and the YLH and KSWH;
- (ii) Construction of tunnel portals and associated facilities at Tuen Mun Area 40 and Lam Tei Quarry;
- (iii) Construction of viaducts / at-grade roads from the southern tunnel portal to the roads under planning near Lung Mun Road/Mong Fat Street, and TM-CLKT at Tuen Mun Area 40;
- (iv) Provision of associated ventilation buildings, administration building and other tunnel operation area;
- (v) Re-provision of facilities affected by the proposed works;
- (vi) Provision of possible adits and associated connection with existing roads;
- (vii) Construction of temporary explosive magazines in Lam Tei Quarry, Siu Lam and Pillar Point; and
- (viii) 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, and services systems for inspection, maintenance.

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-631/2021) for the Project was submitted to the Director of Environmental Protection (DEP) for application for an Environmental Impact Assessment (EIA) Study Brief (SB) on 4 October 2021. Pursuant to Section 5(7)(a) of the EIAO, the DEP issued a SB (No.: ESB-348/2021) dated 9 November 2021 for the EIA Study.

1.4 Designated Projects

1.4.1.1 The Project would consist various Designated Projects (DPs) as listed in **Table 1.1** 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	- The Project is a trunk road which comprises the construction and

Item No.	Designated Project	Designated Project Element under the Project
Part I, Schedule 2 of the EIAO		
	distributor road or district distributor road	operation of a dual two-lane carriageway connecting TM-CLKT in the south and YLH and proposed Lam Tei Interchange (under Route 11) in the north.
A.7	A road tunnel or railway tunnel more than 800 m in length between portals	- The Project comprises the construction of a road tunnel of about 7.5km long.
K.10	A depot for the storage of, or a manufacturing plant for the manufacture of, explosives (as defined by section 2 of the Dangerous Goods Ordinance (Cap. 295))	- There are 3 explosive magazines in Lam Tei, Siu Lam and Pillar Point to be constructed for storage of explosives for tunnel construction (NB these explosive magazines are for shared use with Route 11).
Q.1	All projects involving 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	- The Project comprise the construction of a road tunnel of running through the Tai Lam Country Park and a temporary under adit underneath the edge of Tai Lam Country Park.

1.5 Objectives of the EIA Study

1.5.1.1 According to Section 1.5 of the EIA SB (No.: ESB-348/2021), 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 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 any potential landscape and visual impacts and to propose measures to mitigate these impacts;
- (viii) to identify any adverse impacts on sites of cultural heritage and to propose measures to mitigate these impacts;
- (ix) to identify potential hazard to life impacts, and to propose mitigation measures to mitigate these impacts;
- (x) 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;
- (xi) to investigate the feasibility, effectiveness and implications of the proposed mitigation measures;
- (xii) 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;
- (xiii) to identify, assesses 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;
- (xiv) 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;
- (xv) to design and specify the environmental monitoring and audit requirements; and
- (xvi) 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

Chapter	Title	Aims
2	Project Descriptions	Summarises the various development 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	Landfill Gas Hazard	Presents the legislation, methodology, assessment and recommendations for landfill gas hazard impacts
10	Ecological Impact (Terrestrial)	Presents the legislation, methodology, assessment and recommendations for terrestrial ecological impacts
11	Landscape and Visual	Presents the legislation, methodology, assessment and recommendations for landscape and visual impacts
12	Impact on Cultural Heritage	Presents the legislation, methodology, assessment and recommendations for cultural heritage impacts
13	Environmental Monitoring & Audit	Presents the EM&A 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 in both Chinese and English has been prepared as a separate document.