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Figure

Figure 1.1 Location of Project Site and Its Environs

1. INTRODUCTION

1.1 Project Background

- 1.1.1 The Drainage Services Department (DSD) completed the “Stormwater Drainage Master Plan Study in Sai Kung, East Kowloon and Southern Lantau” (DMP Study) in September 2000. The DMP Study identified deficiencies and flooding problems in the existing drainage systems in Sai Kung, East Kowloon and Southern Lantau. Drainage improvement works (including improvement works at the three bends at Tai Tei Tong River, construction of Luk Tei Tong Bypass Channel, bypass box culvert and floodwalls for Pak Ngan Heung River and U-channel at Ling Tsui Tau) have been completed by DSD Contract DC/2006/11 – Drainage Improvement in South Lantau in 2010.
- 1.1.2 Despite the drainage improvement in South Lantau completed in 2010, the Review of Drainage Master Plan in Lantau and the Outlying Islands – Feasibility Study (the DMP Review Study) completed by DSD in 2018 revealed that the drainage provisions in some areas in Mui Wo, including Tai Tei Tong, Luk Tei Tong, Nam Bin Wai, Ma Po Tsuen, Ling Tsui Tau and Chung Hau (hereafter refer to “the concerned area”) could not meet the current standard, taking cognisance of the topography, existing drainage capacity and updated hydrological statistics. The inadequate drainage are mainly caused by the under capacity of Tai Tei Tong River and the adverse effect of tidal backwater affecting low topography areas adjacent to the existing rivers. The flooding incident in Mui Wo recorded during the red rainstorm warning in May 2015, typhoon *Hato* in August 2017 and typhoon *Mangkhut* in September 2018 corroborated the above findings.
- 1.1.3 To relieve the flood risk at Mui Wo, the DMP Review Study has proposed drainage improvement measures in a combination of different approaches including diversion, pumping, drainage upgrading and river reprofiling.
- 1.1.4 Binnies Hong Kong Limited (Binnies) was commissioned by DSD to carry out an investigation of the “Drainage Improvement Works in Mui Wo” (hereafter refer to “the Project”) in July 2021 and propose design scheme for the above-mentioned drainage improvement measures.
- 1.1.5 The proposed design scheme should effectively mitigate the flood risk while land requirement for project implementation has been kept minimal. Upon completion of the drainage improvement measures, the flood protection standard in the areas concerned will be upgraded to meet the requirements in the current DSD’s Stormwater Drainage Manual and the flood risks of the low-lying areas in Mui Wo thereon can be significantly relieved.
- 1.1.6 Location of the project site and its environs of the preferred scheme are shown in **Figure 1.1**.

1.2 Need of the Project

- 1.2.1 Although drainage improvement works at Tai Tei Tong River was previously completed in 2010 under DC/2006/11, the works was confined at three bottlenecks of the river and the drainage capacity of Tai Tei Tong River remain inadequate.

- 1.2.2 The DMP Review Study completed in 2018 revealed that the drainage provisions at the Tai Tei Tong, Luk Tei Tong, Nam Bin Wai, Ma Po Tsuen, Ling Tsui Tau and Chung Hau could not meet the latest flood protection standard, taking cognisance of the topography, existing drainage capacity and updated hydrological statistics.
- 1.2.3 Flooding incidents recorded in Mui Wo during the red rainstorm warning in May 2015, typhoon *Hato* in August 2017 and typhoon *Mangkhut* in September 2018 corroborated the above findings in DMP Review Study.
- 1.2.4 Based on the above consideration, this Project is necessary to be implemented so as to upgrade the drainage provisions at Tai Tei Tong, Luk Tei Tong, Nam Bin Wai, Ma Po Tsuen, Ling Tsui Tau and Chung Hau to meet the standards in the latest DSD's Stormwater Drainage Manual and help safeguard the livelihood of existing and future development along the river.

1.3 EIA Study Brief

- 1.3.1 DSD submitted a Project Profile (PP-610/2020) for the Project to the Director of Environmental Protection (DEP) on 2 September 2020.
- 1.3.2 Pursuant to section 5(7)(a) of the Environmental Impact Assessment Ordinance (EIAO), the DEP issued an EIA Study Brief (ESB-334/2020) to DSD to carry out an EIA study.

1.4 Purpose and Approach of the EIA Study

- 1.4.1 The Project is a designated project by virtue of Item C.12(a)(iii) of Schedule 2, Part I of the EIAO, which specifies "*A dredging operation which is less than 500 m from the nearest boundary of an existing or planned bathing beach*".¹
- 1.4.2 As the Project requires dredging operation within 500m boundary of an existing bathing beach (i.e. Silver Mine Bay Beach) during the construction and operation phase of the Project. Environmental Permit (EP) will be required during the construction and operation of the Project. The overall objectives of the EIA Study are:
- (a) to provide information on the nature and extent of environmental impacts arising from the construction and operation of the Project and the related activities taking place concurrently;
 - (b) to recommend appropriate mitigation measures to control the potential environmental impacts so that it complies with the requirements of the Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM); and
 - (c) to confirm the environmental acceptability of the Project.

¹ Based on the latest information during the preparation of this EIA, the EIAO (Amendment of Schedule 2 and 3) Order 2023 (Order) is expected to be effective on June 30, 2023. The Project is still a designated project by virtue of Item C.12(a)(iii) under the proposed amendment of Schedule 2 and 3 to the Ordinance and the scope of this EIA study remains unchanged.

- 1.4.3 The specific objectives of the EIA Study described in the EIA Study Brief No. ESB-334/2020 are listed below:
- (a) to describe the Project and associated works together with the requirements and environmental benefits for carrying out the proposed project;
 - (b) 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;
 - (c) to identify and quantify emission sources and determine the significance of impacts (noise, water, etc.) on sensitive receivers and potential affected uses;
 - (d) to identify and quantify potential waste management issues and impacts arising as a result of the construction and operation activities of the Project;
 - (e) to identify and quantify any potential losses or damage to flora, fauna and natural habitats;
 - (f) to identify and evaluate any potential landscape and visual impacts and to propose measures to mitigate these impacts;
 - (g) to identify any negative impacts on sites of cultural heritage and to propose measures to mitigate these impacts;
 - (h) 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;
 - (i) to investigate the feasibility, effectiveness and implications of the proposed mitigation measures;
 - (j) 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;
 - (k) 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;
 - (l) to design and specify the environmental monitoring and audit requirements; and
 - (m) to identify any additional studies necessary to implement the mitigation measures of monitoring and proposals recommended in the EIA report.

1.5 Organization of this Report

1.5.1 The remainder of this EIA report is organised as follows:

- Section 2 – Presents a description of the design and construction of the Project;
- Section 3 – Presents the air quality impact assessment;
- Section 4 – Presents the noise impact assessment;
- Section 5 – Presents the water quality impact assessment;
- Section 6 – Presents the waste management implication;
- Section 7 – Presents the ecological impact assessment;
- Section 8 – Presents the landscape and visual impact assessment;
- Section 9 – Presents the cultural heritage impact assessment;
- Section 10 – Describes the requirements for environmental monitoring and audit;
- Section 11 – Summarizes the environmental outcomes associated with the Project; and
- Section 12 – Summarizes the conclusions of this EIA Study.