

1. Introduction

1.1 Background

In the virtue of Category O.8 in Part I Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO), a theme park or amusement park with a site area of more than 20 ha in size is a Designated Project (DP). The Ocean Park is an exempted DP as it was already in operation before the enactment of the EIAO. In the project entitled “Repositioning and Long Term Operation Plan of Ocean Park” (the Repositioning project), it involved construction/modification of existing facilities and expansion of the Ocean Park, which constituted a material change to the exempted DP, and therefore an environmental impact assessment (EIA) was carried out for obtaining an environmental permit (EP) for construction and operation of the Repositioning project under the EIAO. The EP was issued by Environmental Protection Department (EPD) on 28 July 2006, which was subsequently varied in October 2006, November 2010 and December 2013.

Ocean Park Corporation (OPC) plans to establish and operate a proposed development at Tai Shue Wan (TSW) and a Technical Feasibility Study (TFS) for the proposed development including a conceptual design was completed in June 2012. A project information outline was also prepared in March 2013. A portion of this Project area is within the boundary of the Repositioning project while the remaining part of the Project falls within the exempted DP area of Ocean Park. Therefore the current Project constitutes: (a) a material change to the environmental impact of the Repositioning project; and (b) a material change to the exempted DP area of Ocean Park. Both (a) and (b) require an EIA to be conducted under EIAO in order for OPC to apply for an EP for the Project and to surrender the TSW area covered in the EP of Repositioning project.

In August 2013, OPC commissioned Mott MacDonald Hong Kong Limited (MMHK) to carry out the EIA study for the proposed Project at Ocean Park (hereafter referred as “the Project”) for the construction and operation.

The Project Profile for the Project was submitted to EPD on 10 May 2013, and was exhibited for public consultation between 11 May 2013 and 24 May 2013. Public comments on the Project Profile were received and these comments have been addressed in relevant sections of this EIA report as shown in **Appendix 1.1**. On 13 June 2013, EPD issued an EIA Study Brief for the Project (ESB-261/2013).

The issued EIA Study Brief sets out the purposes and objectives of the EIA study, the scope of environmental issues to be addressed, the requirements that the EIA study needs to fulfil, and the necessary procedural and reporting requirements. The designated projects covered and the EIA study requirements are described below.

1.2 Designated Projects under the EIA Ordinance

As stated in the Project Profile and the EIA Study Brief, the Ocean Park is considered as a DP based on item O.8 in Part I of Schedule 2 to the EIAO and exempted under section 9(2) of the EIAO as it was already in operation before the enactment this ordinance. Since the Project involves physical addition and alternation resulting in adverse environmental impacts that constitutes a material change to an exempted DP. A full EIA study to go through the statutory EIA process is therefore required.

1.3 Objectives of the EIA Study

In accordance with Clause 2.1 of the EIA Study Brief, the objectives of the EIA study are:

- to describe the Project and associated works together with the requirements and environmental benefits for carrying out the Project;
- 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;
- to identify and quantify emission sources and determine the significance of impacts on sensitive receivers and potentially affected uses;
- to identify and quantify any potential losses or damage to flora, fauna and natural habitats;
- to propose the provision of infrastructure or mitigation measures to minimise pollution, environmental disturbance and nuisance during construction and operation of the Project;
- to investigate the feasibility, effectiveness and implications of the proposed mitigation measures;
- 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;
- 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;
- to design and specify the environmental monitoring and audit requirements; and
- to identify any additional studies necessary to implement the mitigation measures or monitoring and proposals recommended in the EIA report.

1.4 Scope of the EIA Study

This EIA report addresses all key potential environmental issues associated with the construction and operational phases of the Project, which are as specified under Clause 3.2 of the Study Brief:

- Potential air quality impacts on sensitive receivers due to the construction activities and operation of the Project, if there are any gaseous emissions from the water sterilisation system, as well as induced traffic;
- Potential noise impacts on sensitive receivers due to the construction and operation of the Project, as well as induced traffic;
- Potential water quality impacts and sewerage infrastructure impacts due to the construction and operation of the Project, including the discharges of surface runoff during construction stage; sewage generated from visitor attraction facilities, discharges, if any, containing disinfectants/residue chemicals from the Project pools, surface runoff from landscape areas potentially containing pesticides or fertilizer residues, backwash water produced from water filtration systems, thermal and chemical discharge, if any, from cooling systems, possible sewage overflow and/or emergency bypass, if any, from sewage treatment and disposal within the Project during the operation stage;
- Potential waste management and land contamination implications arising from the Project;

- Potential terrestrial and marine/aquatic ecological impacts due to the construction and operation of the Project, including the loss of habitats, removal of vegetation and disturbance to wildlife, in particular the site clearance for providing land for new developments and construction of EVA road;
- Potential landscape and visual impacts caused by the removal of trees and vegetation, the form and appearance of the Project, as well as night time visual impacts during the night time operation and due to lighting of the Project; and
- Potential cumulative environmental impacts of the Project and associated works, through interaction or in combination with other existing, committed and planned projects in the vicinity of the Project, and that the impacts of these projects may have a bearing on the environmental acceptability of the Project.

1.5 General Approach

The general approach to this EIA study will be conducted in accordance with the requirements of the EIA Study Brief issued by EPD (ESB-261/2013) and the guidelines on assessment methodologies provided in Annexes 12 to 19 of the Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM). The approaches and methodologies adopted for assessment will follow the general description in the relevant technical sections including description of the environment, impact prediction, impact evaluation and impact mitigation.

1.6 Structure of the EIA Report

This EIA report has been structured as follows:

- Chapter 1 – Introduction presents the purpose and scope of the EIA study.
- Chapter 2 – Project Description presents a description of the Project, the need and benefits of the Project, and consideration of alternatives.
- Chapter 3 – Air Quality Impact presents the approach, findings and recommendations from the air quality impact assessment.
- Chapter 4 – Hazard to Life presents the approach, findings and recommendations from the hazard to life impact assessment.
- Chapter 5 – Noise Impact presents the approach, findings and recommendations from the noise impact assessment.
- Chapter 6 – Water Quality Impact presents the approach, findings and recommendations from the water quality impact assessment.
- Chapter 7 – Sewerage and Sewage Treatment Implication presents the approach, findings and recommendations from the sewerage and sewage assessment.
- Chapter 8 – Waste Management Implication presents the approach, findings and recommendations from the waste assessment.
- Chapter 9 – Land Contamination presents the approach, findings and recommendations from the land contamination assessment.
- Chapter 10 – Ecological (Terrestrial and Marine/Aquatic) Impact presents the approach, findings and recommendations from the terrestrial and marine/aquatic ecology impact assessment.

- Chapter 11 – Fisheries Impact presents the approach, findings and recommendations from the fisheries impact assessment.
- Chapter 12 – Landscape and Visual Impact presents the approach, findings and recommendations from the landscape and visual impact assessment.
- Chapter 13 – Environmental Monitoring and Audit Requirements identify and justify the need for EM&A activities during the construction and operation phases.
- Chapter 14 – Conclusions summarises the findings and recommendations from the EIA.
- Chapter 15 - Implementation Schedule of Mitigation Measures summarises the schedule for implementation of mitigation measures specified in chapters 3 to 12.