1. Introduction

1.1 Background of the Project

Mott MacDonald Hong Kong Limited (MM) has been commissioned by the Civil and Engineering and Development Department (CEDD) to undertake the detailed design for the Alternative Ground Decontamination Works at the proposed Kennedy Town Comprehensive Development Area (CDA) site (hereafter referred to as "the Project")[1]. The CDA site covers the ex-Kennedy Town Incineration Plant (KTIP), ex-Kennedy Town Abattoir (KTA) and temporary facilities including the Cadogan Street Temporary Garden, a temporary public car park, a bus depot and Refuse Collection Point (RCP).

The Project forms part of the "Demolition of Buildings and Structures in the Proposed Kennedy Town Comprehensive Development Area Site" (the Decommissioning Project) in which the demolition of a municipal incinerator constitutes a designated project under the Item 3 of Part II, Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO). The major works of the Decommissioning Project are divided into the following phases, as presented in **Table 1.1**. This Project is the Phase 2 of the Decommissioning Project.

Table 1.1: Different Phases of the Major Works for the Decommissioning Project

Phase	Period	Management Party	Description	Status
Phase 1 – Part 1	From September 2007 to July 2009	CEDD	Demolition and clearance of all existing chimneys, buildings and ancillary structures above the existing concrete ground slab in the Phase 1 Site area where the former KTIP and KTA are located. The Phase 1 Part 1 also includes the removal of asbestos containing materials and dioxin/furan contaminated wastes within the Phase 1 Site.	Completed
Phase 1 – Part 2	From July 2009 to 2015	Mass Transit Railway Corporation Limited (MTRCL); HyD	Temporary use of the Phase 1 Site for the construction of the West Island Line (WIL) as site office and for the storage of common construction materials, and for Highways Department's maintenance depot.	On-going
Phase 2	From 2015	CEDD	Ground decontamination works within the Project site.	Design in Progress

An Environmental Impact Assessment (EIA) study under Agreement No. CE15/99 (hereafter referred to as the "Original EIA Study") was previously conducted for the demolition of buildings and structures in the proposed Kennedy Town CDA site including the ground decontamination works. The EIA Report (hereafter referred to as the "Approved EIA Report") was approved by the Director of Environmental Protection (DEP) on 16 April 2002 under the EIAO (EIA Register No. AEIAR-058/2002). An Environmental Permit (EP) was then issued and subsequently varied; the current version was issued by EPD on 15 November 2011 (Permit No. EP-136/2002/D).

As per the EP requirements, a Contamination Confirmatory Investigation (CCI) Proposal was submitted to Environmental Protection Department (EPD) in January 2003 to recommend further Site Investigation (SI) including soil sampling and laboratory analysis. In 2003, CCI and laboratory analysis were conducted in the

[1] The subject Project site is currently under a land use review.

Project site to ascertain the extent of land contamination and volume of contaminated soil based on the CCI Proposal. The Final SI Report is dated March 2004 and was submitted to EPD on 14 September 2006. The CCI indicated that the amount of soil requiring remediation would be significantly larger than the quantity as predicted in the approved EIA Report. As such, the recommended ground decontamination methods and related mitigation measures in the approved EIA Report are no longer applicable. Therefore, a new EIA is required for the alternative ground decontamination works.

At the time of approval of the approved EIA Report and the CCI Proposal, Hong Kong was using the Dutch List "B" levels of the Netherlands (hereafter referred to as "Dutch B") which were referenced under the Practice Note for Professional Persons ProPECC PN3/94 "Contaminated Land Assessment and Remediation" (ProPECC PN3/94) issued by EPD in 1994 to interpret the levels of land contamination. In 2007, EPD promulgated the Risk-Based Remediation Goals (RBRGs) to replace Dutch B levels as the new land contamination assessment standards for Hong Kong.

After completion of the CCI, demolition of buildings, structures and chimneys at the KTIP and KTA sites (i.e. Phase 1, Part 1), these two sites were handed over to Mass Transit Railway Corporation (MTRCL) in July 2009 and are presently used as works area for the West Island Line (WIL) construction (i.e. Phase 1 Part 2) and to Highways Department as a maintenance depot. Ground decontamination works (i.e. Phase 2) are proposed to commence when the WIL area and the adjoining areas are returned to Government.

In summary, the new EIA is required because the Project includes a significantly larger quantity of soil than the previously predicted amount requiring decontamination in the Original EIA study approved in April 2002; and because the recommended ground decontamination methods in the approved EIA Report are no longer applicable.

1.2 Purpose of the EIA Report

The scope of the EIA covers the carrying out of alternative ground decontamination works at the Project site. The purpose of this EIA Study is to determine the nature and extent of land contamination according to the Risk-Based Remediation Goals (RBRGs) and explore alternative ground decontamination methods and set out the strategy of remediation measures that will enable on-site remediation and reuse of the decontaminated soil.

This EIA Report provides information on the nature and extent of environmental impacts arising from the carrying out of the proposed Project and related activities taking place concurrently and to contribute to decisions on:

- The overall acceptability of adverse environmental consequences that are likely to arise as a result of the Project, as well as other interfacing projects in the vicinity of the Project;
- The conditions and requirements for the detailed design and carrying out of the Project to mitigate against adverse environmental consequences wherever practicable; and,
- The acceptability of residual impacts, if any, after the proposed mitigation measures are implemented.

As per the requirement in Section 3.4 of the EIA Study Brief (No. ESB-252/2012) for the Project, the EIA has been conducted using the best and latest information available during the course of the EIA study. The cumulative environmental impacts from the Project with other interacting projects have been assessed.

The objectives of the EIA study as detailed in the EIA Study Brief are as follows:

- 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 potential 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 the carrying out 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 carrying out 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 and the carrying out 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.

1.3 The Approach

The EIA study addresses the key issues described below, together with any other key issues identified during the course of the EIA study and the cumulative environmental impacts of the Project:

- potential air quality impact and the associated health risks on air sensitive receivers due to the Project and associated works, including construction dust emissions, odour, gaseous emissions as well as released contaminated vapour and particulates etc.;
- potential noise impact on sensitive receivers due to the Project and associated works, including impact from the use of Powered Mechanical Equipment (PME), ground decontamination processes (such as biopiling and cement solidification etc.) and rock crushing (if required);
- potential water quality impact and the associated risks of discharge of potentially contaminated wastewater resulting from the ground decontamination process and surface runoff, if any, due to the Project and associated works, including site runoff, drainage diversion, sewage effluent from the workforce and accidental spillage of chemicals/wastes;
- potential waste management implications arising from the Project;
- land contamination within the Project site and the associated health and safety risks to on-site personnel during the ground decontamination, monitoring and measurements activities;
- potential impact on ecological sensitive areas due to the Project;

- potential fisheries impact due to the Project;
- potential landscape impact, including the impacts on existing trees within the Project site and Cadogan Street Temporary Garden, impacts on landscape resources, such as, shrubs, grassland, water bodies, etc. and impacts on landscape features, such as, parks, public open spaces, amenity areas, etc. due to 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.

1.4 Structure of the EIA Report

After this introductory section, the remainder of this EIA is arranged as follows:

- Section 2 presents a description of the Project;
- Section 3 presents the approach, methodology and findings of the *Air Quality and Health Impact Assessment*;
- Section 4 presents the approach, methodology and findings of the *Noise Impact Assessment*;
- Section 5 presents the approach, methodology and findings of the *Water Quality Impact Assessment*;
- Section 6 presents the approach, methodology and findings of the *Waste Management Implications*;
- Section 7 presents the approach, methodology and findings of the *Land Contamination Assessment*;
- Section 8 presents the approach, methodology and findings of the *Ecological Impact Assessment*;
- Section 9 presents the approach, methodology and findings of the *Fisheries Impact Assessment;*
- Section 10 presents the approach, methodology and findings of the *Landscape Impact Assessment;*
- Section 11 presents the *Environmental Monitoring and Audit Requirements;*
- Section 12 presents the *Summary Information* from the EIA study; and,
- Section 13 presents the *Implementation Schedule*.