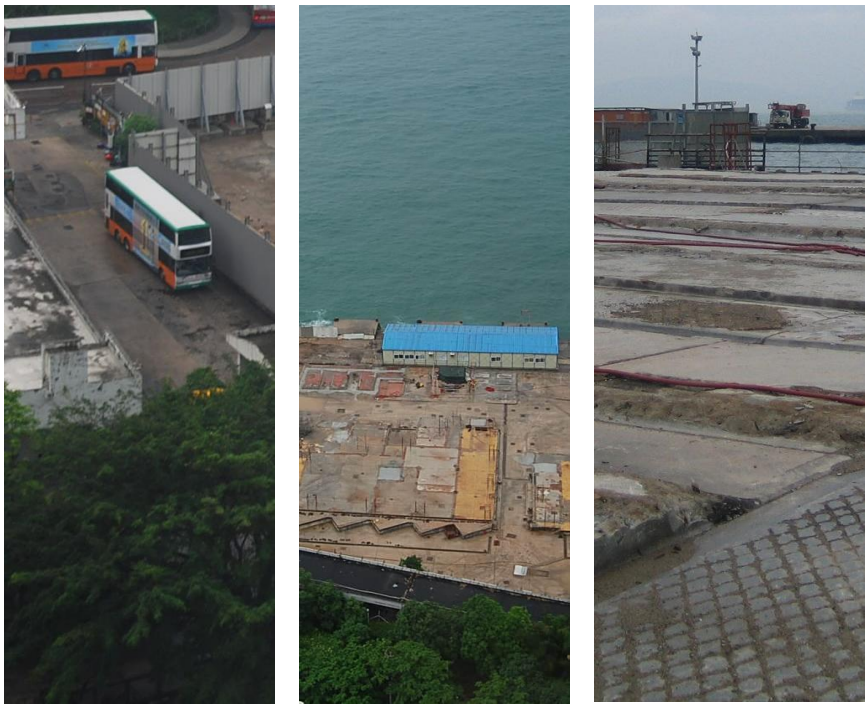


Alternative Ground Decontamination Works at the Proposed Kennedy Town Comprehensive Development Area Site

Environmental Impact Assessment – Executive Summary

January 2015

Civil Engineering and Development Department

Alternative Ground Decontamination Works at the Proposed Kennedy Town Comprehensive Development Area Site

Environmental Impact Assessment – Executive Summary

January 2015

Civil Engineering and Development Department

Mott MacDonald, 20/F AIA Kowloon Tower, Landmark East, 100 How Ming Street, Kwun Tong, Kowloon, Hong Kong
T +852 2828 5757 F +852 2827 1823, W www.mottmac.com

Content

Tables

Figures

1. Introduction

The "Alternative Ground Decontamination Works at the Proposed Kennedy Town Comprehensive Development Area (CDA) site " (hereinafter known as "the Project") is proposed by the Civil and Engineering and Development Department (CEDD). 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 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

A new Environmental Impact Assessment (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 (EIA Register No. AEIAR-058/2002) approved in April 2002; and because the recommended ground decontamination methods in the approved EIA Report are no longer applicable

This Executive Summary presents the key findings of the EIA for the Project as required under the EIAO.

2. Project Description

2.1 Need for the Project

The Project is necessary to prepare the Kennedy Town CDA site for the proposed future land uses.

The environmental benefits of the Project are expected to be the mitigation, avoidance or otherwise reduction in the risk of pollution to air, soil, and water, and associated long-term risks to human health derived from the presence of in-situ contaminated ground at the Kennedy Town CDA site. Therefore, the Project could prepare a risk-free site for future development of Kennedy Town, for example, development of a waterfront promenade etc.

2.2 Project Location and Scale

The Project site is situated next to Victoria Road and Cadogan Street in Kennedy Town and adjacent to Victoria Harbour. The Project site boundary and EIA Study Area are shown in **Figure 2.1**.

The Project site has a total area of about 32,000 m^2. The total estimated volume of soil requiring decontamination within the site is projected to be around 112,666 m^3. **Table 2.1** below shows the estimated volume of contaminated soil according to the type of contamination (Heavy Metals, Hydrocarbons, or a mixture of both).

Table 2.1: Estimated Volumes of Contaminated Soil Requiring Excavation and Decontamination, by Type

Soil Type	Description	Vol. (m^3)
Type A	Soil contaminated with Heavy Metals (HM)	57,254
Type B	Soil contaminated with Hydrocarbons (HC)	17,233
Type C	Soil contaminated with both HM and HC	38,179
	Total contaminated soil volume	112,666
	Soil not requiring decontamination (including concrete slab), but needs to be excavated	73,746
	Total excavated soil volume (including concrete slab)	186,412

2.3 Consideration of Ground Decontamination Methods

2.3.1 Comparison of Ground Decontamination Methods

A comparison of the ground decontamination methods is shown in **Table 2.2** and the following paragraphs below.

Table 2.2: Comparison of Ground Dectonamination Methods

	Cost	Duration	Environmental Impact	Suitability HC	Suitability HM	Suitability HM & HC
Biopile	Med	Med	Low	Yes	No	No
Soil Vapour Extraction (SVE)	Med	High	Low	Yes	No	No
Solidification/ Stabilisation (Cement Solidification)	Med	Med	Low	No	Yes	No

	Cost	Duration	Environmental Impact	Suitability HC	Suitability HM	Suitability HM & HC
Thermal desorption	Med	Med	Med	Yes	No	No
Bioventing	Med	High	Med	Yes	No	No
Chemical Methods	High	Low	High	Yes*	Yes*	Yes*
Incineration	Low	Low	High	Yes	No	No
In Ground Containment	Low	Low	Low	No	Not recommended	Not recommended
Soil Washing	High	Med	Med	Yes	Yes	Yes
Windrows	Low	High	High	Yes	No	No
Excavation / Landfill	Low	Low	High	Not recommended	Not recommended	Not recommended

* Dependant on COCs present and specific method(s) adopted.

Excavation and landfill is not consistent with current Hong Kong legislation and guidance and has been excluded. In-ground containment/ capping have also been excluded, as this method would not lead to decontamination of the site, and would prevent the site being approved for development. The applicability and suitability of other decontamination methods are elaborated as follows:

Heavy Metal Contaminated Soils

Cement Solidification, Soil Washing and Chemical methods are applicable for the decontamination of HM contaminated soils.

Soil washing is not preferred, as this method would require large volumes of water in order to treat the high volume of contaminated soils present at the site, and the potential occurrence of associated water resource related environmental impacts.

Chemical methods are also not preferred, as these approaches are not well demonstrated in Hong Kong and would be likely to require highly specialised contractors to carry out the works. As such, the cost of using this approach would be likely to be high, the efficiency of decontamination is uncertain, and the availability of suitable contractors may also be a barrier to implementation.

Among the methods considered, cement solidification is recommended to be the most appropriate alternative based on its technical suitability, and its performance against cost, duration and environmental impact criteria. This method is also considered to be an effective decontamination method that is well established in Hong Kong.

Hydrocarbon Contaminated Soils

Windrows, Biopiling, SVE, Soil Washing, Thermal Desorption, Chemical Method, Incineration and Bioventing have been considered for the decontamination of soils contaminated with HC.

Windrows are not considered to be an appropriate method for the current project, as this method would not effectively control emissions of dust and vapours to air, and contaminated runoff/leachate. Infiltration of rain water/moisture and low/uneven aeration would also be likely to reduce the effectiveness of the process.

Bioventing is a similar process to biopiling, with the material left in-situ. However, this is not preferred as the method is only effective for soils above the water table, is more technically demanding to implement on a large scale, and the effectiveness is difficult to monitor, as the material remains in the ground. Similarly, biopiling is preferred over SVE, as it is a more established method of decontamination in Hong Kong, and the effectiveness of this approach is more easily monitored.

Soil washing is not preferred for the current project, as this method would require large volumes of water in order to treat the high volume of contaminated soils present at the site, and the potential occurrence of associated water resource related environmental impacts.

Incineration is not preferred for this project, as this method would produce ash residues and require gas treatment system for the volatile heavy metals. Volatile and toxic compounds would be produced if metals react with other elements in the feed stream and results in to high impact to the environment.

Chemical methods are not preferred, as these approaches are not well demonstrated in Hong Kong and would be likely to require highly specialised contractors to carry out the works. As such, the cost of using this approach would be likely to be high, the efficiency of decontamination is uncertain, and the availability of suitable contractors may also be a barrier to implementation.

Thermal Desorption is also not preferred, as biopiling can be more effective at treating contaminants, particularly considering the presence of clays and silts at the site, and also the need to remove coarse-grained materials / rocks.

Among the methods considered, biopiling is recommended to be the most appropriate alternative based on its technical suitability, and its performance against cost, duration and environmental impact criteria. This method is also considered to be an effective decontamination method that is well established in Hong Kong.

Heavy Metals and Hydrocarbon Contaminated Soils

With the same reasons as stated above, method of Biopiling followed by Cement Solidification is recommended for the decontamination of soils contaminated with both HM and HC.

2.3.2 Preferred Scenario of Decontamination Methods

For the three contaminated soil categories within the Project site the preferred decontamination methods are summarised in **Table 2.3**.

Table 2.3: Recommended Ground Decontamination Methods for Contaminated Soil (Preferred Scenario)

Soil Type	Definition of Soil Type	Recommended Decontamination Method	Description
A	Heavy metals contaminated soil	Cement solidification	Ex-situ immobilisation technique which treats contaminated soil by mixing soil with binding agents (i.e. cement) so that the contaminants become physically bound within a stable mass
B	Hydrocarbons contaminated soil	Biopiling	Ex-situ bioremediation method where bacteria is grown in the piled contaminated soil and reduces the concentrations of petroleum constituents
C	Heavy metals and hydrocarbons contaminated soil	Biopiling followed by cement solidification	See descriptions for Types A and B above respectively.

The preferred scenario described in the table above were determined to be the most technologically suitable and cost effective methods of decontamination, and are considered to have relatively low environmental impacts.

2.4 Key Project Components

The Project consists of the following key Project components:

- Excavation – This includes earth lateral support, excavation, and temporary stockpile of excavated soils.
- On-site Decontamination – This includes decontamination of contaminated soil by biopiling and/or cement solidification
- Final site formation – This includes deposition, compaction, surface drainage works and boundary fencing.

As the Project involves mainly ground decontamination, after which the decontaminated site will then be handed over to Lands Department for redevelopment, the Project has no operational phase.

2.5 Reprovisioning Options of Temporary Community Facilities

Three Reprovisioning Options for the existing temporary community facilities (Public Car Park, Refuse Collection Point (RCP) and Garden) within the Project site have been identified as follows.

Reprovisioning Option A – 13-year Project duration, to take place in two stages: Stage 1 involving decontamination of approximately 80% area of the site (the whole site except Cadogan Street Temporary Garden), with on-site reprovisioning (by others) of the existing public car park and RCP; Stage 2 involving decontamination of the remaining area of the site (Cadogan Street Temporary Garden) after construction of the proposed future waterfront promenade at a decontaminated area of the site (by others).

Reprovisioning Option B – 7-year Project duration, involving removal of the existing public car park, temporary garden, and RCP, and decontamination of the whole site in a single stage. Only public car park and RCP would be reprovisioned on-site (by others) during the ground decontamination works.

Reprovisioning Option C – 4.5-year Project duration, involving removal of the existing public car park, temporary garden, and RCP, and decontamination of the whole site in a single stage. There would be no reprovisioning of temporary community facilities under this Option.

The environmental impacts of each of these Reprovisioning Options have been assessed for the Project.

2.6 Concurrent and Interfacing Projects

The following potential concurrent and interfacing projects under planning have been identified and included in the assessment for the Project:

- Residential Development at the Ka Wai Man Road and Ex-Mount Davis Cottage Area
- Reprovisioning of Kennedy Town Saltwater Pumping Station
- Development within the Kennedy Town CDA site (for Reprovisioning Option A only).

3. Summary of the Environmental Impact Assessment

3.1 Air Quality and Health Impact

The effects to air quality from Project activities were assessed under the three Reprovisioning Options. Total Suspended Particulate (TSP), Respirable Suspended Particulates (RSP), Fine Suspended Particles (FSP) and Heavy Metals (HM) and Hydrocarbon (HC) concentrations were modelled using the Fugitive Dust Model (FDM) and ISCST3 models. For fugitive dust impact assessment, the hypothetical Tier 1 screening scenario (for hourly TSP, daily RSP/FSP and annual RSP/FSP) with the assumption of 100% active area at all times and the Tier 2 modelling scenario (for annual RSP) which also had conservative assumptions, e.g. active areas are located closest to ASR assessed for annual RSP averages, are very conservative approaches, the results of which can represent any of three Reprovisioning Options for different sequencing and phasing of the works. With implementation of the recommended mitigation measures, i.e. dust suppression by regular water spraying as well as the relevant control requirement as stipulated in *Air Pollution Control (Construction Dust) Regulation*, it has been assessed that even under the very conservative modelling approach there would not be non-compliance at the ASRs with any Air Quality Objectives for RSP/ FSP or the TSP criterion for any of three Reprovisioning Options.

In addition, the cumulative maximum concentrations of all identified Toxic Air Pollutants (TAPs) (hydrocarbon and heavy metals) have been assessed for different modelling scenarios that represent different excavation rates under the three Reprovisioning options. The predicted cumulative maximum concentrations for all non-criteria pollutants under each of the three Reprovisioning Options are lower than their corresponding reference values and therefore the associated non-carcinogenic health risks are considered to acceptable. The total incremental lifetime cancer risks associated with the KTCDA ground decontamination works have been estimated as 3.14×10^{-7} to 3.99×10^{-7} for the three Reprovisioning options. In other words, there would be less than four in ten million cancer risks associated with the heavy metal and hydrocarbon emissions from the Project, which is well below the risk guideline value of one in million. Hence, the incremental cancer risks due to the Project are considered to be negligible.,

3.2 Noise Impact

The noise impact from Project activities, taking into account other potential concurrent projects, were assessed under the three Reprovisioning Options. Having exhausted practicable mitigation measures in the form of quiet plant, movable noise barrier and insulting fabric, the construction noise levels at most of the representative Noise Sensitive Receivers (NSR) are predicted to comply with the noise standards stipulated in the EIAO-TM.

Residual construction noise impact was predicted at one representative NSR of educational use. However, this NSR has already been implemented with noise insulation works and therefore significant noise impact is not anticipated during the carrying out of the Project. Notwithstanding this, it is recommended that particularly noisy activities should be scheduled to avoid examination periods of the educational NSR as far as practicable.

3.3 Water Quality Impact

Potential water quality impact would be generated from site run-off, sewage from workforce, and generation of wastewater from various Project activities. With the implementation of the recommended mitigation measures, no adverse water quality impact from the Project works is anticipated.

3.4 Waste Management Implications

Wastes generated by the Project are likely to include construction and demolition (C&D) material from site clearance within the Project boundary, chemical waste from the maintenance of plant and equipment, as well as general refuse from the workforce. Provided that these identified waste arisings are handled, transported and disposed of using approved methods, and that the recommended good site practices are strictly followed, significant adverse environmental impacts would not be expected during the Project works.

3.5 Land Contamination

The land contamination assessment has been carried out which included a review of historical/ current land uses, desktop review and site inspection. Other relevant information was also collected from related Government Departments during this assessment.

Based on the findings of the site appraisal on the existing and historical land uses in the EIA Study Area, the presence of potential land contamination and groundwater impacts associated with the proposed Project works has been identified and assessed. Areas within the Study Area with contaminated soil exceeding certain Risk-Based Remediation Goals (RBRGs) have been identified. Additional site Investigation (SI) has been conducted, and the laboratory results are provided. The estimated volumes of soil to be excavated and decontaminated are calculated based on an evaluation of the results of the original EIA study SI, previous SI and additional SI. Treatment of contaminated soil by cement solidification and/ or biopiling has been recommended, depending on the types of contaminants found in the soil in each designated grid.

Sensitive receivers, health and safety risks and migration pathways associated with the proposed decontamination works have been identified, and mitigation measures for handling of contaminated materials and regular site audits are recommended to minimise the potential adverse impacts on sensitive receivers' health and safety.

3.6 Ecological Impact

The habitat of the whole Project site and the nearby area is a developed area which is heavily disturbed. Patches of trees are found within the Cadogan Street Temporary Garden while some individual trees are scattered over the remaining areas of the Project site. Although four individuals of the protected plant species *Aquilaria sinensis* were recorded within the Project site, they were not naturally occurring but instead being planted on a contaminated site. No adverse ecological impact is therefore anticipated for the felling of this small number of planted *Aquilaria sinensis* and other planting in the developed area.

Owing to the low ecological value of developed area within the Project site and the commonness of the recorded fauna which are adaptive to similar habitats in the vicinity, no potential adverse ecological impact is identified resulting from the Project under any of the three Reprovisioning Options. Nevertheless, compensatory tree planting will be provided; recommendation concerning the inspection of the possibility of active bird nest and bat roost present within the Project site prior to site clearance works has been made as ecological precautionary measure.

3.7 Fisheries Impact

It is identified that no fish pond is present within the Project site or in the vicinity, and no marine fish culture zone is present within the Victoria Harbour Phase Three Water Control Zone. Only capture fisheries

activities are recorded at the offshore water of Kennedy Town. Port Survey results showed that the offshore water of Kennedy Town had low fisheries production.

The Project will not directly affect any fishing or aquaculture activities, fisheries resources or habitats, or aquaculture sites. No potential adverse fisheries impact is identified resulting from the Project as no marine works or potential adverse deterioration of marine water quality is predicted under the three Reprovisioning Options.

3.8 Landscape and Visual Impact

With the implementation of proposed mitigation measures, the anticipated landscape impacts are generally slight negative under Reprovisioning Option A, and moderate negative under Reprovisioning Options B and C during the carrying out of the Project due to the unavoidable removal of the existing Cadogan Street Temporary Garden (Landscape Resource 1) and removal of roadside vegetation (Landscape Resource 2) for the proposed decontamination works within the Project site. However, the predicted impact will be temporary. Compensatory tree planting with a minimum ratio of 1:1 in terms of quantity in the proposed future waterfront promenade will be provided.

The Project site after decontamination will be handed over to Lands Department for future development with potential overall landscape improvement. The overall residual landscape impact in year 10 following completion of the Project is therefore considered to be insubstantial under Reprovisioning Option A when the compensatory tree planting in the proposed future waterfront promenade will have already reached a size that could largely compensate for the loss of the felled trees, and slight negative under Reprovisioning Options B and C when compensatory tree planting in the proposed future waterfront promenade will have become mature. Overall, in terms of Annex 10, Clause 1.1 (c) of the EIAO – TM, the landscape impacts are acceptable with mitigation measures.

3.9 Summary of Key Environmental Outcomes

A summary of key environmental outcomes for Reprovisioning Options A, B and C is presented in **Table 3.1**.

Table 3.1: Summary of Key Environmental Outcomes for Reprovisioning Options A, B and C

Issue	Environmental Impact for Reprovisioning Option A	Environmental Impact for Reprovisioning Option B	Environmental Impact for Reprovisioning Option C
Air Quality and Health Impact	Hydrocarbon emissions show the worst case pollutant to be benzo(a)pyrene which is predicted to be up to 82% of the relevant criteria for the conservative worst case at external Air Sensitive Receivers (ASRs) in Stage 1. Benzo(a)pyrene which is predicted to be up to 77% of the relevant criteria for the conservative worst case for internal planned ASRs in Stage 2. It has been assessed that there would be no exceedance of any of the relevant criteria for dust,	Hydrocarbon emissions show the worst case pollutant to be benzo(a)pyrene which is predicted to be up to 82% of the relevant criteria for the conservative worst case at external Air Sensitive Receivers (ASRs). It has been assessed that there would be no exceedance of any of the relevant criteria for dust, heavy metals or hydrocarbons.	Hydrocarbon emissions show the worst case pollutant to be benzo(a)pyrene which is predicted to be up to 82% of the relevant criteria for the conservative worst case at external Air Sensitive Receivers (ASRs). It has been assessed that there would be no exceedance of any of the relevant criteria for dust, heavy metals or hydrocarbons.

Issue	Environmental Impact for Reprovisioning Option A	Environmental Impact for Reprovisioning Option B	Environmental Impact for Reprovisioning Option C
	heavy metals or hydrocarbons. With implementation of the recommended mitigation measures as well as the relevant control requirement as stipulated in Air Pollution Control (Construction Dust) Regulation, it has been assessed that there would be no exceedance of any of the relevant criteria for dust, heavy metals or hydrocarbons. The human health risks at the identified sensitive receivers were also assessed to be acceptable under the three Reprovisioning Options.		
Noise Impact	Residual noise impact was predicted at one educational Noise Sensitive Receiver (NSR KT-N7), namely "SKH Lui Ming Choi Memorial Primary School", during examination periods. The predicted exceedance for NSR KT-N7 during examination periods is 1-4 dB(A) for a duration of 44 weeks within the 13 years construction period. All practicable mitigation measures including movable barrier, insulating fabric and quiet plants have been proposed and exhausted to minimise the noise impact. In addition, it is noted that noise insulation works have been installed at this school. Therefore, significant noise impact would not be anticipated.	Residual noise impact was predicted at one educational Noise Sensitive Receiver (NSR KT-N7), namely "SKH Lui Ming Choi Memorial Primary School", during examination periods. The predicted exceedance for NSR KT-N7 during examination periods is 1-4 dB(A) for a duration of 19 weeks within the 7 years construction period.	Residual noise impact was predicted at one educational Noise Sensitive Receiver (NSR KT-N7), namely "SKH Lui Ming Choi Memorial Primary School", during examination periods. The predicted exceedance for NSR KT-N7 during examination periods is 1-5 dB(A) for a duration of 13 weeks within the 4.5 years construction period.
Water Impact	With the implementation of the recommended mitigation measures, no adverse water quality impact from the Project works is anticipated for all three Reprovisioning Options.		
Waste Management Implications	Provided that the identified waste arisings are handled, transported and disposed of using approved methods, and that the recommended good site practices are strictly followed, significant adverse environmental impacts would not be expected during the Project works of three Reprovisioning Options.		
Land Contamination	Mitigation measures for handling of contaminated materials and regular site audits are recommended to minimise the potential adverse impacts on workers' health and safety and disposal of potential contaminated materials for the three Reprovisioning Options.		
Ecological Impact	Evaluations of ecological impacts addressed have confirmed there are no adverse ecological impacts resulting from the Project under any of the three Reprovisioning Options.		
Fisheries Impact	Evaluation of fisheries impact addressed has confirmed there is no adverse fisheries impact resulting from the Project under the three Reprovisioning Options.		
Landscape Impact	With the implementation of proposed mitigation measures including the provision of the proposed future waterfront promenade (by others) prior to the removal of the existing Cadogan Street Temporary Garden, the anticipated landscape impacts are generally slight negative during the carrying out of the Project due to the unavoidable removal of the existing Cadogan Street Temporary Garden (LR1) and removal of roadside vegetation (LR2) for the proposed decontamination works. The overall residual landscape impact in year 10 following completion of the Project is considered to be insubstantial when the compensatory tree planting in the proposed future waterfront promenade will have	With the implementation of proposed mitigation measures, the anticipated landscape impacts are generally moderate negative during the carrying out of the Project due to the unavoidable removal of the existing Cadogan Street Temporary Garden (LR1) and removal of roadside vegetation (LR2) for the proposed decontamination works. The overall residual landscape impact is slight negative when compensatory tree planting in the proposed future waterfront promenade will have become mature.	With the implementation of proposed mitigation measures, the anticipated landscape impacts are generally moderate negative during the carrying out of the Project due to the unavoidable removal of the existing Cadogan Street Temporary Garden (LR1) and removal of roadside vegetation (LR2) for the proposed decontamination works. The overall residual landscape impact is slight negative when compensatory tree planting in the proposed future waterfront promenade will have become mature.

Issue	Environmental Impact for Reprovisioning Option A	Environmental Impact for Reprovisioning Option B	Environmental Impact for Reprovisioning Option C
	already reached a size that could largely compensate for the loss of the felled trees.		

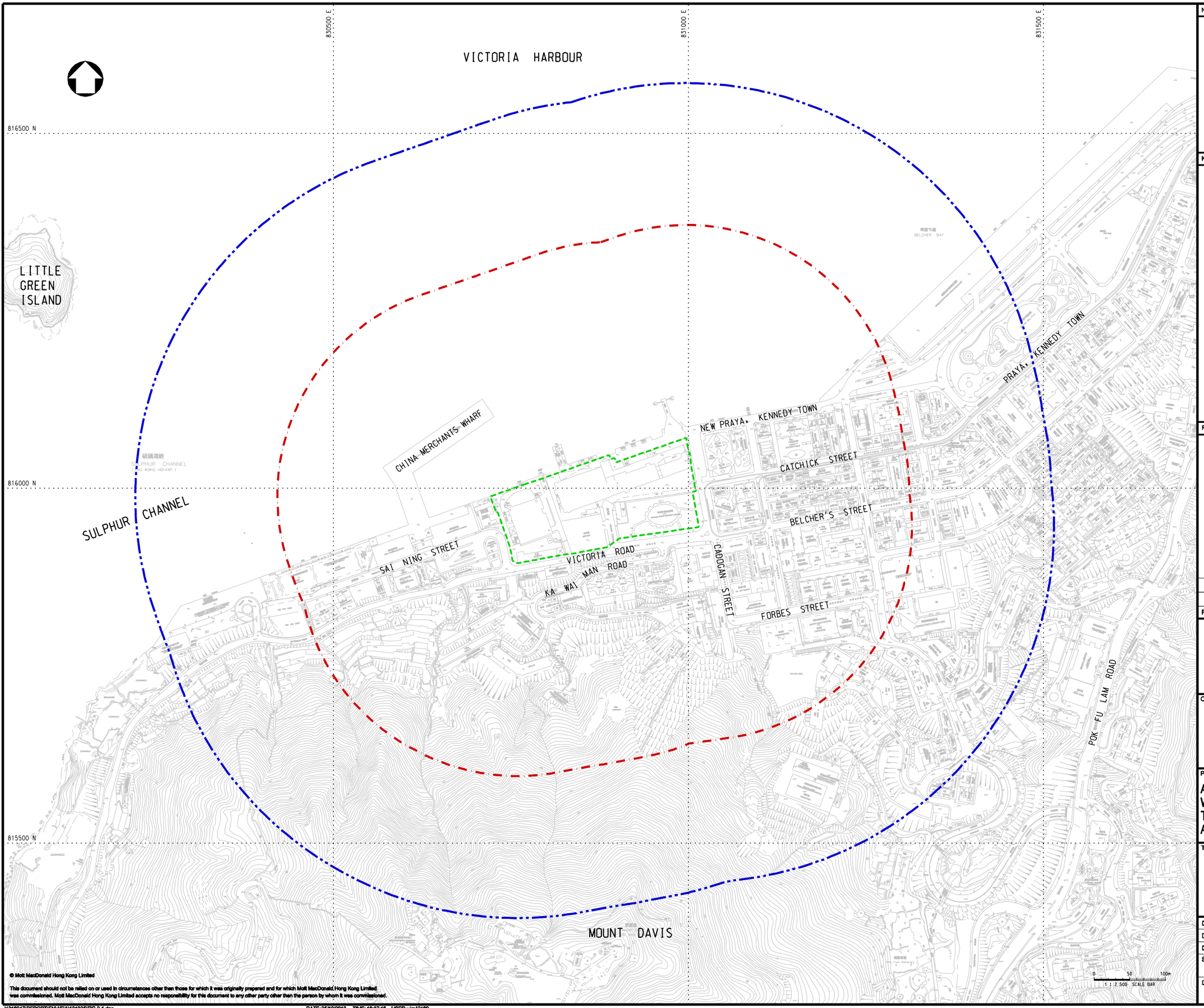
Notwithstanding that all three re-provisioning options have been assessed and confirmed to be environmentally acceptable, Re-provisioning Option A is not quite as environmentally friendly as Options B and C in view of the substantially longer exposure period of potential environmental impacts (such as air quality, noise and health risk) on local residents. Moreover, Re-provisioning Option A would result in a long lead time of site availability for redevelopment there (such as future waterfront promenade). Overall, a re-provisioning option with a shorter programme is more desirable and should be pursued subject to local responses.

4. Environmental Monitoring and Audit

An environmental monitoring and audit (EM&A) programme will be implemented during the carrying out of the Project to check the effectiveness of the recommended mitigation measures and compliance with relevant statutory requirements. Details of the EM&A works have been specified in the EM&A Manual. The EM&A Manual contains details of the proposed EM&A requirements, implementation schedule of the environmental protection / mitigation measures, EM&A reporting procedures and complaint handling procedures.

5. Conclusion

This EIA study has identified and assessed the potential environmental impacts that may arise from the carrying out of the Project in accordance with the guidelines of the EIAO-TM and the EIA Study Brief. Cement solidification and biopiling are the preferred decontamination methods for soil contaminated with heavy metals and hydrocarbons respectively. Based on the results of assessments of the three Reprovisioning Options, the EIA study concludes that with implementation of the recommended mitigation measures, the potential impacts arising from the Project are considered to be environmentally acceptable and the Project would be in compliance with the environmental legislation and standards. No significant adverse residual impacts from the Project are anticipated. A comprehensive EM&A programme will be implemented to check the implementation of mitigation measures and environmental compliance.



Notes

Key to symbols

- PROPOSED SITE AREA
- 500m STUDY AREA FOR AIR QUALITY AND WATER QUALITY IMPACT ASSESSMENT
- 300m STUDY AREA FOR NOISE IMPACT ASSESSMENT

Reference drawings

Rev	Date	Drawn	Description	Ch'k'd	App'd
P2	OCT 13	MING	GENERAL REVISION	MR	AFK
P1	MAY 13	MING	FIRST ISSUE	MR	AFK

Mott MacDonald
20/F Two Landmark East
100 How Ming Street
Kwun Tong, Kowloon
Hong Kong
T +852 2828 5757
F +852 2827 1823
W www.mottmac.com.hk

Client

CEDD
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

Project

ALTERNATIVE GROUND DECONTAMINATION WORKS AT THE PROPOSED KENNEDY TOWN COMPREHENSIVE DEVELOPMENT AREA SITE

Title

PROJECT SITE BOUNDARY AND EIA STUDY AREA

Designed	HY		Eng check	SMF	
Drawn	MING		Coordination	SMF	
Dwg check	HY		Approved	AFK	
Scale at A1	1:2500	Status	PRE	Rev	P2

Drawing Number

FIGURE 2.1