

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

Project Profile

July 2012  
Civil Engineering and Development Department





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Special Duties (Works) Division, 3/F, Civil Engineering and Development Building, 101 Princess Margaret Road, Homantin, Kowloon



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# 1. Basic Information

## 1.1 Project Title

Alternative Ground Decontamination Works at the Proposed Kennedy Town Comprehensive Development Area (KTCDA) Site.

## 1.2 Purpose and Nature of the Project

This Project is to carry out alternative ground decontamination works at the Project site which mainly covers the Kennedy Town Incineration Plant (KTIP), Kennedy Town Abattoir (KTA), Cadogan Street Temporary Garden, a public car park, a refuse collection point, a Highways Department's maintenance depot and a bus depot. The cleaned up site will be handed over to Lands Department (LandsD) for redevelopment. This Project forms part of the "Demolition of Buildings and Structures in the Proposed Kennedy Town Comprehensive Development Area Site" (the Decommissioning Project). The major works of the Decommissioning Project are divided into the following phases, as presented in Table 1.1

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	Civil Engineering and Development Department (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 2014	Mass Transit Railway Corporation Limited (MTRCL)	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.	On-going
Phase 2	From 2014	CEDD	Demolition of remaining structures and ground decontamination works within the Project site.	Design in progress

After completion of the demolition of buildings, structures and chimneys at the KTIP and KTA sites (i.e. Phase 1 Part 1), the sites were handed over to Mass Transit Railway Corporation Limited (MTRCL) in July 2009 and have been used as works area for the West Island Line (WIL) construction (i.e. Phase 1 Part 2). Demolition of remaining structures and ground decontamination works (i.e. Phase 2) will commence when the WIL area and the adjoining areas are returned to Government.

An Environmental Impact Assessment (EIA) was previously conducted for the Decommissioning Project including the ground decontamination works. An EIA Report was then prepared and approved by the Director of Environmental Protection (DEP) on 16 April 2002 under the Environmental Impact Assessment Ordinance (EIA Register No. AEIAR-058/2002, hereafter called "original EIA report"). Furthermore, an Environmental Permit (EP) was issued on 22 May 2002 (Permit No. EP-136/2002) and was subsequently varied. The current EP (Permit No. EP-136/2002/D) was granted on 15 November 2011.

At the time when the original EIA Report was approved in 2002, Hong Kong was still using the Dutch B levels specified under the ProPECC PN3/94 issued by EPD in 1994 to interpret the levels of land contamination. The Environmental Protection Department (EPD) subsequently promulgated the Risk-Based Remediation Goals (RBRGs) in 2007 to replace the outdated Dutch B levels as the new contaminated land assessment standards for Hong Kong. On the other hand, the latest Contamination Confirmatory Investigation (CCI) conducted for the ground decontamination works indicated that the amount of soil requiring remediation would be significantly larger than the quantity as predicted in the original EIA Report. The recommended method of disposal for soil contaminated with hydrocarbon to government landfills in the original EIA Report is therefore no longer applicable. Alternative ground decontamination methods (such as bio-piling and cement solidification) that will enable on-site remediation and reuse of the decontaminated soil will be studied.

In view of the above changes, there is a need to conduct a supplementary EIA for the alternative ground decontamination works. Once the supplementary EIA report is approved by DEP under EIAO, CEDD will make an application for variation to the relevant clause(s) of the current EP prior to commencement of the alternative ground decontamination works on site.

### **1.3 Name of Project Proponent**

Special Duties (Works) Division, Civil Engineering Office, Civil Engineering and Development Department.

### **1.4 Location and Scale of the Project**

The Project site is situated next to Victoria Road and Cadogan Street, Kennedy Town, adjacent to Victoria Harbour, with a site area of about 34,000 m<sup>2</sup>. A location plan of the site is shown in **Figure 1.1**.

### **1.5 Types of Designated Project Involved**

According to Item 3, Part II of Schedule 2 of the EIA Ordinance (Cap. 499), the decommissioning of the municipal waste incinerators is a designated project and an EP is required. The Project is part of the above designated project.

### **1.6 Name and Telephone Number of Contact Person(s)**

Enquiries about the Project can be addressed to:

Senior Engineer 2/Special Duties (Works), Civil Engineering Office  
Civil Engineering and Development Department

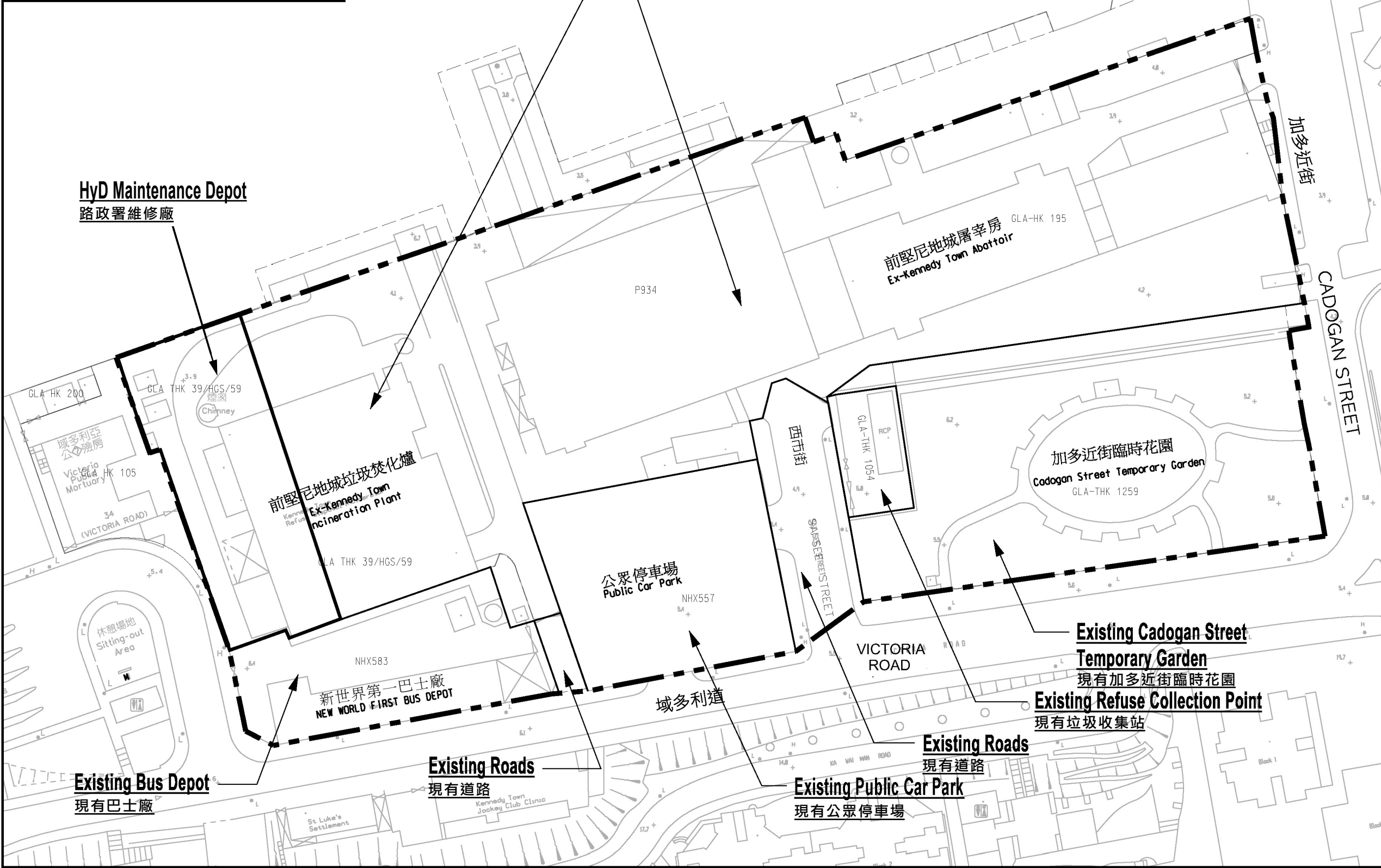
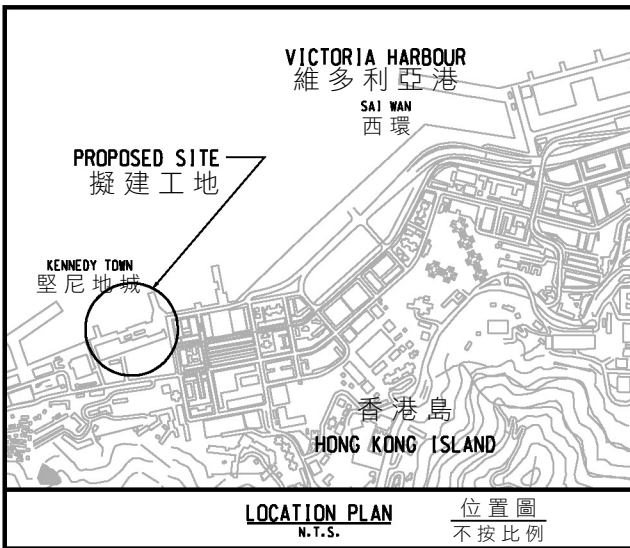
Telephone: 2762 5612  
Fax: 2714 0103



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



Figure 1.1: Project Site Plan



Notes: 註釋:

LEGEND 圖例

--- BOUNDARY OF THE PROJECT SITE  
工程項目工地範圍

Client 委託機構

**CEDD** CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT  
土木工程拓展署

Consultant 顧問

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

Project 工程項目

ALTERNATIVE GROUND DECONTAMINATION WORKS AT THE PROPOSED KENNEDY TOWN COMPREHENSIVE DEVELOPMENT AREA SITE  
堅尼地城綜合發展區替代土地除污工程

Title 名稱

PROJECT SITE PLAN  
施工位置圖

Scale 比例  
1 : 500

Drawing No. 圖則編號  
FIGURE 1.1 圖 1.1

## 2. Outline of Planning and Implementation Programme

### 2.1 Project Planning and Implementation

As the Project Proponent, CEDD assumes overall responsibility for the Project. Consultants will be engaged by CEDD to conduct the supplementary EIA for the alternative ground decontamination works.

### 2.2 Project Timetable

The proposed supplementary EIA is scheduled to commence in late 2012 and is anticipated to be completed in end 2013. The tentative commencement date of the alternative ground decontamination works is 2014.

### 2.3 Interactions with Broader Programme Requirements or Other Projects

Nil.

## 3. Possible Impact on the Environment

### 3.1 General

As the Project involves mainly remediation of contaminated soil, after which the cleaned up site will then be handed over to LandsD for redevelopment, any potential environmental impacts will occur during only the construction phase of the Project, as described below. The Project has no operational phase.

The following environmental impact descriptions are based on the possible ground decontamination methods (such as biopiling and cement solidification) which may be employed during construction works. In general, the biopiling process consists of the following steps: excavation of contaminated soil; setting up and covering of the biopile; operation of biopile; backfilling of remediated soil; and decommissioning of biopile facilities. The main steps of the cement solidification process are: excavation of contaminated soil; setting up and operation of the cement solidification plant; backfilling of remediated soil; and decommissioning of the plant.

### 3.2 Air Quality

During the construction phase, the main air quality impact that may arise is fugitive dust emissions resulting from construction activities such as excavation, stockpiles, the movement of vehicles, biopiling, cement solidification plant and/or rock crusher (if required), and the activities of other plant during loading and unloading operations. Other possible air quality impacts (such as odour and gaseous emissions) will be identified in the supplementary EIA.

### 3.3 Construction Noise

During the construction phase, the main potential source of noise impact is from the operation of biopiling, cement solidification plant and/or rock crusher (if required) at the construction site. Major construction activities that will involve the use of powered mechanical equipment (PME) include excavation and remediation of underground contaminated soil, and removal of spoil and backfilling.

### 3.4 Water Quality

During the construction phase, potential sources of water pollution include construction site runoff, drainage diversion, sewage effluent from the construction workforce and accidental spillage of chemicals/wastes. Wastewater discharges from the construction site may contain suspended solids and chemicals such as oils, solvents and cement-derived materials which should be properly handled or treated.

### 3.5 Waste Management

During the construction phase, the main types of waste that will be generated include construction and demolition (C&D) materials and waste, excavated materials, chemical waste and general refuse.

### **3.6 Land Contamination**

As far as the Project site is concerned, it is considered that the previous site investigation (SI) data is still valid and sufficient for the contaminated land assessment and remediation either based on Dutch B levels or RBRGs. No additional SI is required except a few boreholes at the bus depot as the vehicle maintenance activities there may have caused further land contamination. However, the extent of further contamination at the bus depot is to be assessed during the supplementary EIA process.

During the construction phase, it is anticipated that excavation, remediation works such as cement solidification for heavy metal contamination and biopiling for hydrocarbon contamination and backfilling of the underground contaminated soil after proper remediation will be conducted entirely within the Project site.

### **3.7 Landscape and Visual**

During the construction phase, the presence of stockpiled materials and construction plant in works sites will be the potential sources of unsightly visual appearance. However, the visual impact will be temporary and will be minimized as far as practicable. Some trees, shrubs and groundcover planting located within the Project site may be removed to facilitate the alternative ground decontamination works. The completion of the Decommissioning Project will end up with the complete removal of the visual image of all existing buildings and structures within the Project site, leaving the site at original ground level.

### **3.8 Ecology**

During the construction phase, the urban park habitat and vegetation within the Project site may be disturbed. The ecological impacts of construction works on other urban park habitat and roadside trees in the vicinity of the Project site are expected to be negligible.

### **3.9 Cultural Heritage**

During the construction phase, the major works will consist of soil remediation including excavation and operation of the biopiling and cement solidification plant at the construction site. The resulting impact on built heritage resources (listed in Section 4.1.6) is not expected given their distance away from the works sites.

## 4. Major Elements of the Surrounding Environment

### 4.1 Existing and Planned Sensitive Receivers

Existing sensitive receivers which might be affected by the Project are outlined below. No planned sensitive receiver is identified at this stage, exhaustive review will be performed during EIA stage. The Project has no operation phase, therefore, no operation sensitive receiver will be identified.

#### 4.1.1 Air Quality

Existing air sensitive receivers (ASRs) surrounding the Project site include mainly residential buildings, educational institutions, a medical clinic, a neighbourhood elderly centre, public garden and sitting-out areas, a public mortuary, a godown and a wharf.

#### 4.1.2 Noise

Existing noise sensitive receivers (NSRs) in the vicinity of the site include the residential developments, educational institutions, a medical clinic and a neighbourhood elderly centre.

#### 4.1.3 Water Quality

The main water sensitive receivers (WSRs) surrounding the Project site are a number of seawater (salt water) intakes along the waterfront of Victoria Harbour.

#### 4.1.4 Landscape and Visual

The current landscape setting within the Project site mainly comprises works areas and open-air temporary land uses. Some trees, shrubs and groundcover planting are found within the Project site, mainly at the temporary garden.

The surrounding landscape resources consist of mainly developed areas and some trees to the west and south, and a water body (Victoria Harbour) to the north.

#### 4.1.5 Ecology

Within the Project site, two habitats are identified, which include urban park and developed area. The urban park habitat is located at the temporary garden at Cadogan Street. Individual trees are also found in a small area near the bus depot and public car park. These areas are the main areas of potential ecological value. The rest of the Project site area consists of concrete paved open-air temporary land uses with no ecological significance.

There are other urban parks and roadside trees in the vicinity of the Project site. Similar to the Project site, the trees are mainly ornamental species with limited ecological value. There are wooded areas further south but they are separated from the Project site by developed areas. Their ecological linkage to the site is limited and hence they are unlikely to be affected by the Project.

#### 4.1.6 Cultural Heritage

No sites of cultural heritage are located within the Project site.

The following built heritage resources are located in the vicinity of the Project site:

- SKH St Luke's Settlement Neighbourhood Elderly Centre at No. 47 Victoria Road (Grade 3), about 16m away from the site boundary;
- Arch and Foundation Stone of Tung Wah Smallpox Hospital at Sai Ning Street (non-graded), about 22m away from the site boundary; and
- To Chi Fat She temple near Ka Wai Man Street (non-graded), about 75m away from the site boundary.

There are no known sites of archaeological potential both within and in the vicinity of the Project site.

## 4.2 Major Elements of the Surrounding Environment and Past Land Uses

The existing Project site is surrounded by roads and developed areas (including residential buildings, educational institutions, a medical clinic, a neighbourhood elderly centre, a godown and a wharf) to the west, south and east, and by the open waters of Victoria Harbour (including the marine water body and nearby EPD marine water quality monitoring stations at Victoria Harbour (West), Victoria Harbour (Central) and Stonecutters Island) to the north. Also, the Project site is surrounded by existing urban drainage systems.

The previous land use of the Project site was assessed in the original EIA report. As mentioned in Section 1.2, following completion of Phase 1 Part 1 (i.e. the demolition of buildings, structures and chimneys at the KTIP and KTA sites), the Project site was handed over to MTRCL for WIL construction which is ongoing. The Project site is also temporarily used as garden, HyD maintenance depot, public car park and bus depot, shown in **Figure 1.1**. During MTRCL's occupation of the Project site, no further land contamination is expected except for the bus depot site which remains in operation until now and may have been subjected to further contamination from ongoing vehicle maintenance and activities.

## 5. Environmental Protection Measures to be Incorporated in the Design and any Further Environmental Impacts

### 5.1 Measures to Minimise Environmental Impacts

#### 5.1.1 General

As there will be potential environmental impacts during only the construction phase of the Project, the environmental mitigation measures that would be required during the construction phase are as highlighted below. Where possible, such mitigation measures will be incorporated in the design and scheduling of the Project works and closely monitored during the construction phase. Nevertheless, details of the mitigation measures will be subject to the findings of the supplementary EIA.

#### 5.1.2 Air Quality

During the construction phase, good site practices and relevant control measures (such as water spray and controlled excavation works) as stipulated in the Air Pollution Control (Construction Dust) Regulation and other guidelines/references will be implemented to mitigate the potential air quality impacts. Specific details on the mitigation measures will be subject to the findings of the supplementary EIA and presented in the Environmental Monitoring and Audit (EM&A) Manual of the supplementary EIA Report.

#### 5.1.3 Construction Noise

Various noise mitigation measures may be applied to reduce noise levels during the construction phase. Mitigation measures such as the use of quiet plant, locating noisy PME away from NSRs, scheduling of noisy work activities outside of sensitive hours and use of noise barriers/insulation, will be assessed and implemented as required to ensure construction noise is reduced to acceptable levels. Specific mitigation requirements will be subject to the findings of the supplementary EIA and presented in the Environmental Monitoring and Audit (EM&A) Manual of the supplementary EIA Report.

#### 5.1.4 Water Quality

During the construction phase, mitigation measures for water quality impacts will be implemented in accordance with the Practice Note for Professional Persons on Construction Site Drainage (ProPECC PN 1/94). Special attention will be paid to these measures given the proximity of the Project site to the open waters of Victoria Harbour. Details of the mitigation measures will be subject to the supplementary EIA findings in order to reduce the water quality impacts to acceptable levels.

#### 5.1.5 Waste Management

During construction phase, measures that may be implemented to manage the waste generated from the Project site include preparation of a Waste Management Plan, on-site sorting and reuse of C&D materials, implementation of a trip-ticket system and appropriate handling, storage and disposal of chemical waste in accordance with the Waste Disposal (Chemical Waste) (General) Regulations.



### **5.1.6 Land Contamination**

This Project will include the carrying out of appropriate remediation measures for the contaminated land within the Project site. It is anticipated that contaminated soils be excavated, remediated and backfilled in the same area from which they originate. The findings, remediation procedures and mitigation measures will be formulated in a detailed Contamination Assessment Plan, Contamination Assessment Report (CAR) and Remediation Action Plan (RAP) in a format to be agreed by EPD, and will form part of the supplementary EIA Report.

Reference will be made to the current EPD publications relating to contaminated land management, including:

- Guidance Note for Contaminated Land Assessment and Remediation (2007);
- Guidance Manual for Use of Risk-based Remediation Goals for Contaminated Land Management (2007); and
- Practice Guide for Investigation and Remediation of Contaminated Land (2011).

### **5.1.7 Landscape and Visual**

Visual impacts from the alternative ground decontamination works will be of short duration. Fences will be erected along boundary of construction sites to minimize the impact. Furthermore, site cleanliness will be maintained and stockpiling of materials will be properly controlled to alleviate visual impact. Trees will be preserved as far as practicable, compensatory planting will be proposed based on the Tree Survey findings if tree removal is necessary.

### **5.1.8 Ecology**

As the proposed project site is within an urban environment, the ecological importance of the area is not expected to be significant. Ecological mitigation measures are unlikely needed.

### **5.1.9 Cultural Heritage**

Since only remediation works will be conducted within the Project site, no mitigation measures relating to cultural heritage are required.

## **5.2 Possible Severity, Distribution and Duration of Environmental Effects**

The Project consists only of construction phase with no operation phase. As the Project involves mainly remediation of contaminated soil with possible ground decontamination methods (such as biopiling and cement solidification), after which the cleaned up site will then be handed over to LandsD for redevelopment. Therefore, with the implementation of all mitigation measures recommended in the supplementary EIA Report, any severity, in the environmental effects outlined in Section 3 is expected to be negligible, and their distribution and duration, if any, are expected to be confined to the construction phase.

## **5.3 Further Implications**

### **5.3.1 Public Consultation**

CEDD reported to the Food, Environment, Hygiene and Works Committee (FEHWC) of the Central and Western District Council (C&WDC) the progress of the Decommissioning Project in July 2006. Members passed a motion strongly requesting the Government to carry out the demolition and ground decontamination works at the KTCDA site in one-go.

In consideration of the high priority given to the West Island Line (WIL) project, the C&WDC, at its informal meeting in November 2006, requested CEDD to carry out the demolition of former KTIP and KTA first, deferring the ground decontamination works at the KTCDA site to after the completion of the WIL project.

CEDD will consult the FEHWC on the proposed ground decontamination works and demolition of remaining structures at the KTCDA site. The supplementary EIA report on alternative ground decontamination works will be exhibited for public inspection under EIAO.

## 6. Use of Previously Approved EIA Reports

The following EIA report previously approved under the EIAO contains information that is applicable to this Project:

- Demolition of Buildings and Structures in the Proposed Kennedy Town Comprehensive Development Area Site (approved in April 2002).

Details of the previously approved EIA report are summarised in Table 6.1.

Table 6.1: Summary of Previously Approved EIA Reports of Relevance to this Project

Title and EIA Register No.	Date of Approval	Relevance to this Project
Demolition of Buildings and Structures in the Proposed Kennedy Town Comprehensive Development Area Site (AEIAR-058/2002)	16 Apr 2002	This was the original approved EIA conducted for the Decommissioning Project, covering the same project site. Some of the identified sensitive receivers and findings, particularly for air quality, noise, water quality and land contamination would be relevant to this project.