

Information Note - TPB Hearing for Representations and Comments on the
Draft Kennedy Town & Mount Davis OZP No. S/H1/20

Ground Decontamination Work at the Sites of Ex-Kennedy Town Incineration
Plant/Abattoir and Adjoining Area

Background

The Government needs to carry out ground decontamination works at the ex-Kennedy Town Incineration Plant (KTIP) and ex-Kennedy Town Abattoir (KTA) and adjoining area (the Site), with a total area of 3.2 hectares, before it is developed for other uses.

2. The scope of the ground decontamination works comprises:-
 - (a) removal of remaining disused structures within the ex-KTIP and ex-KTA sites as well as other structures at the temporary refuse collection point (RCP), the temporary public car park, the Cadogan Street Temporary Garden (CSTG) and Sai See Street within the Site;
 - (b) carrying out ground decontamination works; and
 - (c) in-situ reprovisioning of a temporary public car park and a temporary RCP within the Site¹.
3. A site plan showing the boundary of the proposed works and the locations of the reprovisioned facilities are at **Enclosures 1 and 2** respectively.
4. The KTIP ceased to operate in 1993 and the KTA was closed in 1999. The Government decided in 1999 to re-develop the Site and the Civil Engineering and Development Department (CEDD) was commissioned to undertake the decommissioning of these facilities and the associated ground decontamination works. The project is a designated project under Schedule 2 to the Environmental Impact Assessment (EIA) Ordinance (Cap. 499) and an Environmental Permit (EP) is required for the project. The EIA report on the project and the supplementary EIA on the ground decontamination works were approved by the Director of Environmental Protection (DEP) in April 2002 and April 2015 respectively.

¹ If on-site reprovisioning of the CSTG together with RCP and public car park is required before their demolition or removal, the decontamination works will take at least 13 years to complete. In view of the substantially longer construction period which will increase the nuisance to the public, on-site reprovisioning of CSTG during decontamination was not recommended. The recommended 7-year implementation option with on-site reprovisioning of the RCP and public car park was supported by the Central & Western District Council in March 2015.

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5. The EIA reports and the site investigation indicate that the underground soil within the Site, which includes the CSTG, has been contaminated with heavy metals and hydrocarbons which have exceeded the relevant standards. Decontamination works for the underground soil at the Site are therefore required. The aforementioned two EIA reports² concluded that the environmental impact of the decontamination project can be controlled to within the criteria under the EIA Ordinance and the Technical Memorandum on EIA Process.
6. The Government originally planned to commence the ground decontamination works immediately after completion of the demolition works within the ex-KTIP and ex-KTA sites. However, it was subsequently decided in December 2006 that the ex-KTIP and ex-KTA sites would be used as a temporary works area for the construction of the West Island Line (WIL) after completion of the demolition works in 2009. The demolition works were completed in 2009 and the ex-KTIP and ex-KTA sites were then handed over to MTR Corporation Limited and Highways Department (HyD) for the provision of WIL works area and a maintenance depot respectively. As a result, the ground decontamination works (the remaining part of the decommissioning project under the EIA Ordinance) have not commenced yet. The MTRC subsequently returned the WIL works area to the Government in January 2016. HyD has also removed the maintenance depot and temporarily retained the site as its storage area before commencement of the proposed works. Therefore, the Government plans to commence the proposed works as early as practicable.
7. To eliminate the health risks posed by contaminated soil and prepare the Site for future development for optimal land utilization, the Government's decontamination works will cover all areas of the Site as a whole, including the CSTG given the proximity of the Site within a dense urban area. According to the findings of the approved EIA reports, the underground soil within the Site (including CSTG) contains contaminants which have exceeded the relevant standards. Hence, it is imperative to eliminate any potential risk caused by the contamination, improve the

² The EIA reports are available in the website of Environmental Protection Department below :
Register No. AEIAR-058/2002:
http://www.epd.gov.hk/eia/register/report/eiareport/eia_0642001/index.htm; and
Register No. AEIAR-188/2015:
http://www.epd.gov.hk/eia/register/report/eiareport/eia_2262014/HTML/index.htm

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local environment and pave way for long term development in the area.

Public Consultation

8. During the process, the Government has consulted the Central & Western District Council (C&WDC) on the proposed decontamination works several times. In July 2006, the Food, Environment, Hygiene and Works Committee (FEHWC) of the Central and Western District Council (C&WDC) passed a motion strongly demanding the Government to carry out both the demolition works and the ground decontamination works in one-go. The decontamination works was also supported in the C&WDC meeting in March 2015. Recently, a few C&W DC Members expressed concern over the demolition of the existing CSTG for the proposed works and the planned private housing development thereat. In response to the above concern, the Government attended the meeting of FEHWC of C&W DC in October 2016 to explain in detail the need of the proposed works at the Site (including the CSTG) to remove any potential risk due to the contamination and prepare the Site for future development.

9. Apart from the C&WDC, the Government has also met, informed and consulted other relevant stakeholders on the ground decontamination works several times to understand their concern and explain the objective and need of the ground decontamination works. The details of such meetings/consultations are tabulated below:-

Stakeholders	Dates
SKH Lui Ming Choi Memorial Primary School	January 2017
Public forums organised by members of C&WDC and/or the public	November 2016 June 2015 April 2015
Harbourfront Commission	February 2016
District Affair Forums organised by the Merton Owners' Committee	January 2016 May 2015 December 2014 November 2013
Case Conference in December 2015 with LegCo members arranged by the Legislative Council Secretariat, and meeting in November 2015 with LegCo member and members of the public	December 2015 November 2015
LegCo Public Works Sub-Committee	June 2015

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Stakeholders	Dates
LegCo Panel on Development	April 2015

Environmental Impact Assessment

Site Investigation

10. To assess the condition of the ground contamination, a total of 189 site investigation (SI) boreholes (including 18 SI boreholes at CSTG) were carried out at the Site by CEDD in 2000 and 2003 as sampling points to identify the type, extent and concentration of contaminants in the underground soil. The number of the sampling points has exceeded the minimum requirement specified in "Practice Guide for Investigation and Remediation of Contaminated Land" published by the Environmental Protection Department (EPD) and is adequate to ascertain the overall condition of the contaminants in the underground soil.

11. Subsequently, 4 additional SI boreholes were carried out by CEDD within the bus depot area in 2013 in order to assess the potential additional contamination caused by the continued operation of the ex-bus depot of New World First Bus after 2003. The results of these 4 boreholes indicated the presence of heavy metals and hydrocarbons with concentrations in exceedance of the threshold values. The additional SI carried out in 2013 did not show that the contaminants within the Site have reduced in amount. Rather, these results confirmed the existence of the contaminants exceeding the relevant standards and ground decontamination works are required.

Key Findings

12. The results of the EIA and the site investigation indicated that the underground soil within the Site (including CSTG) has been contaminated by heavy metals (including lead, arsenic, mercury, etc.) and hydrocarbons (including Benzo(a)pyrene, Benzo(b)fluoranthene, etc.) which have exceeded the standards specified in the "Guidance Manual for Use of Risk-Based Remediation Goals for Contaminated Land Management"³ issued by EPD. The total volume of

³ Risk-based remediation goals have been developed as threshold contaminant concentrations, below which hazards or risks to human health arising from exposure to soil are considered minimal. (Source: EPD's "Guidance Manual for Use of Risk-Based Remediation Goals for Contaminated Land Management")

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contaminated soil is about 110,000 cubic metres (including about 20,000 cubic metres at CSTG) and the contaminants are located at various depths down to maximum 12 metres at the Site (maximum 9 metres at CSTG).

Decontamination Methods

13. CEDD's Consultants have considered the feasibility of various decontamination methods previously adopted in Hong Kong and overseas. Taking into account various factors such as the types of contaminants, the volume of soil to be treated, the impact of works to the nearby environment, cost and whether the technique adopted in the decontamination methods is well established, it is concluded that the proposed decontamination methods (i.e. cement solidification and biopiling) are practical and viable. The method of cement solidification involves the addition of cement and water to limit the mobility of the heavy metals, whereas the method of biopiling involves heaping contaminated soil into piles (or biopiles) and stimulating aerobic microbial activity within the soil to break down the hydrocarbons by biodegradation through aeration. The proposed decontamination methods have been adopted in Hong Kong and overseas for many years and are considered effective for implementation.

14. During the decontamination works, the contractor will dig up, sort and treat the soil on-site, and then use the treated soil after testing to backfill the excavations.

15. To maintain the services of the temporary public car park and RCP to the public throughout the decontamination period, the sites will be cleaned up in sequence to allow their in-situ reprovisioning during the decontamination.

16. As for the alternative decontamination method by plants/trees as suggested by some members of public, the Consultants suggested that the roots with absorption ability of the contaminants in general could only reach shallow depths (less than 1 m). As the contaminated soil is scattered over the Site with a maximum depth of 12 m (9 m at CSTG) below ground and the volume of contaminated soil is about 110,000 m³ (about 20,000 m³ at CSTG), the above technique is unsuitable for this ground decontamination works project. The Consultants also advised that this method has not been used locally and most of the overseas cases are still at a continuing trial stage; thus the effectiveness of this method has yet to be verified.

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Impact on Trees

17. The Consultants arranged a tree expert to carry out several inspections of the trees within the Site in order to identify the number of trees affected by the decontamination works as well as their species and conditions. None of the affected trees is listed in the Register of Old and Valuable Trees. Based on the results of the inspections, the Consultants completed the impact assessment of the project works on the trees and formulated a compensation proposal.

18. During the assessment of impact on the trees arising from the project, the Consultants also considered the feasibility of retaining or transplanting the trees in the first instance. However, on-site tree preservation is considered impracticable because it necessitates on-site retention of contaminated soil around the tree roots (which contains heavy metals and hydrocarbons), hinders the decontamination works and also defeats the purpose of the decontamination works. As for the feasibility of tree transplantation, the Consultants consider that this arrangement would transfer the contaminated soil within the tree rootball to the soil at the recipient locations, thereby contaminating the recipient site. Thus, it is impracticable as well. Decontamination of the tree rootball by “washing off” the contaminated soil before transplanting the trees to their recipient locations is also considered impracticable as such operation will damage the roots and lower the survival rate of the trees substantially.

19. Based on the above assessment and recommendation, the 195 trees within the Site are proposed to be removed, including three individuals of *Aquilaria sinensis* and two individuals of *Ailanthus fordii*, which are of precious or rare species. Since these two concerned species are commonly cultivated in Hong Kong, the use of these two species for compensatory tree planting is therefore practicable and will be duly considered when formulating the detailed compensatory tree planting plan (planting of about 195 trees).

Impact on Ecology

20. According to the EIA report, CSTG does not have a high ecological value as it is a wholly artificial habitat which is not supporting any significant population of wild fauna or species of conservation importance. Despite the above, precautionary measures will be implemented during the decontamination works. Site inspection to identify whether there are any active bird nests and bat roosts will be carried out prior

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to site clearance works. If any bird nest or bat roost is observed, appropriate measures, e.g. setting up a suitably sized buffer area around the tree to minimize human or machinery disturbance until the nest has been abandoned or the bat has left, will be implemented.

Environmental Mitigation Measures

21. The EIA reports have assessed the impact of the decontamination project on air quality, health, noise and water quality. Based on the results of the assessment, CEDD will implement the required environmental mitigation measures in accordance with the approved EIA reports and the respective Environmental Permit conditions granted under the EIA Ordinance to ensure that the environmental impact of the project can be controlled to within the relevant criteria.

22. The key measures during the ground decontamination works include: control on total active excavation area to about 10% of the area of the Site at any one time in order to minimize dust generation and release of contaminants during excavation; installation of activated carbon filters in the outlet of biopile for removing volatile organic compound emissions during biopile operation; adoption of quieter equipment, movable noise barriers and noise insulating fabric to minimise construction noise impact; control of site surface water run-off from the project site; adoption of good site practices for construction dust control. To further minimize the potential environmental impact, we will also adopt additional mitigation measures including installation of temporary movable barriers and temporary movable canopies at excavation areas and temporary soil stockpiling areas respectively to shield dust and noise and enhance visual impact.

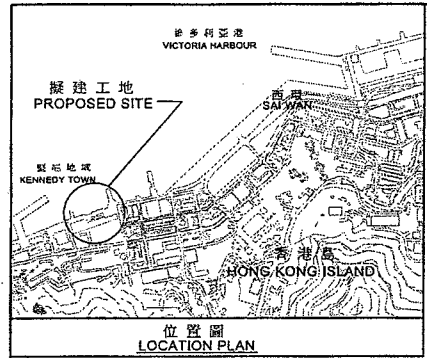
Environmental Monitoring and Audit Programme

23. CEDD will carry out an environmental monitoring and audit programme in accordance with the approved EIA report and relevant EP conditions granted under the EIA Ordinance. Among other things, CEDD will carry out air quality monitoring regularly to measure the concentration of the ambient total suspended particulates at nearby residential developments as well as the concentration of the ambient hydrocarbons at the site boundary and at the discharge vents of the biopiles during the decontamination works. The results of the environmental monitoring will be made available for public inspection. Works liaison group will also be set up by CEDD in the course of works to strengthen community liaison.

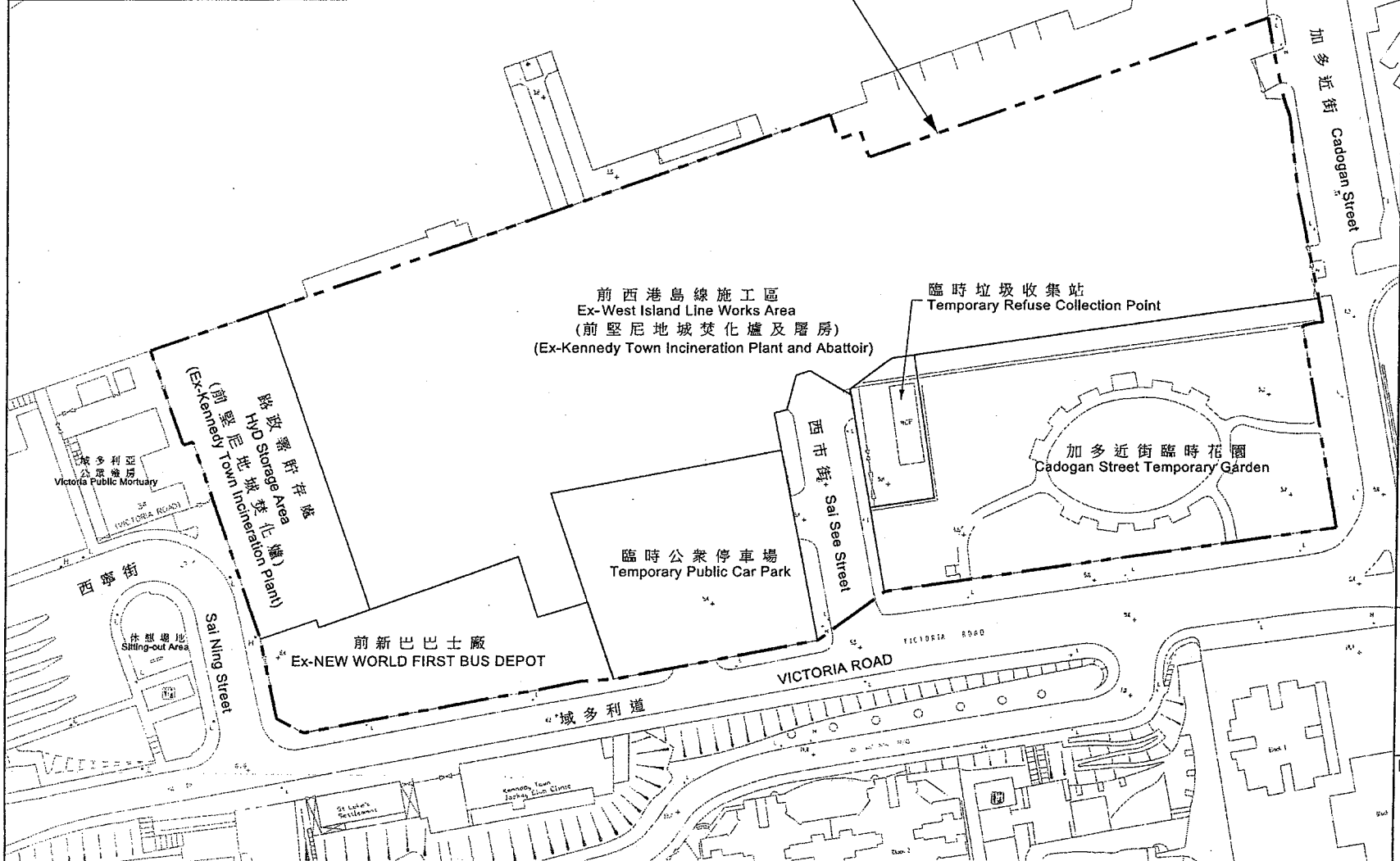
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**Civil Engineering and Development Department
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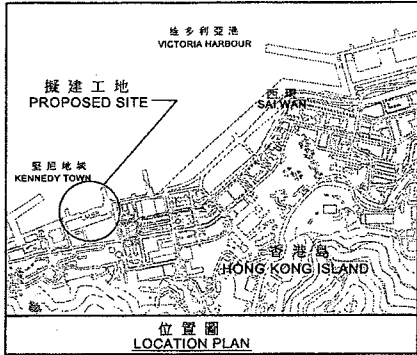
土地除污工程範圍
Ground Decontamination Works
Boundary



圖例 LEGEND :
--- 土地除污工程範圍
GROUND DECONTAMINATION
WORKS BOUNDARY

工程名稱 Project Title
前堅尼地城焚化爐、屠房及毗鄰用地
土地除污工程
GROUND DECONTAMINATION WORKS
AT THE SITE OF EX-KENNEDY TOWN
INCINERATION PLANT / ABATTOIR
AND ADJOINING AREA

圖則名稱 Plan Title
平面圖
SITE PLAN



土地除污工程範圍
Ground Decontamination Works
Boundary

臨時垃圾收集站的
重置位置
Reprovisioning Site for
Temporary Refuse Collection Point

臨時公眾停車場
的重置位置
Reprovisioning Site for
Temporary Public Car Park

圖例 LEGEND :

土地除污工程範圍
GROUND DECONTAMINATION
WORKS BOUNDARY

工程名稱 Project Title

前堅尼地城焚化爐、屠房及毗鄰用地
土地除污工程

GROUND DECONTAMINATION WORKS
AT THE SITE OF EX-KENNEDY TOWN
INCINERATION PLANT / ABATTOIR
AND ADJOINING AREA

圖則名稱 Plan Title

臨時公眾停車場及
臨時垃圾收集站的重置位置
REPROVISIONING SITES FOR
TEMPORARY PUBLIC CAR PARK AND
TEMPORARY REFUSE COLLECTION
POINT