

**For discussion
on 28 April 2015**

Legislative Council Panel on Development

PWP Item No. 570CL Ground Decontamination Works at the Site of Ex-Kennedy Town Incineration Plant/Abattoir and Adjoining Area

PURPOSE

This paper seeks Members' support for the proposal to upgrade **570CL** to Category A, at an estimated cost of \$1,111.9 million in money-of-the-day (MOD) prices, for the ground decontamination works at the site of ex-Kennedy Town Incineration Plant (KTIP) and ex-Kennedy Town Abattoir (KTA) and the adjoining area (the Site).

PROJECT SCOPE AND NATURE

2. The scope of **570CL** comprises –
 - (a) removal of remaining disused structures within the Site, a temporary refuse collection point (RCP), a temporary public car park, the Cadogan Street Temporary Garden, and Sai See Street;
 - (b) carrying out ground decontamination works;
 - (c) implementation of environmental mitigation measures and an environmental monitoring and audit (EM&A) programme for the works in (a) and (b) above; and
 - (d) in-situ reprovisioning of a temporary public car park and a temporary RCP.
3. Site plans showing the boundary of the proposed works and the locations of the reprovisioned facilities are at Enclosures 1 and 2 respectively.
4. Subject to funding approval of the Finance Committee (FC), we plan to commence the proposed works in late 2015 for completion in late 2022.

JUSTIFICATION

5. The KTIP ceased to operate in March 1993. The KTA was closed in December 1999. The ex-KTIP and ex-KTA sites have been temporarily used as West Island Line (WIL) works area and for accommodating a maintenance depot of the Highways Department (HyD) since 2009. Other existing uses on the Site include a short-term bus depot, temporary RCP, a temporary public car park, the Cadogan Street Temporary Garden, etc.

6. According to the Environmental Impact Assessment (EIA) and site investigation, the underground soil of the Site is contaminated with heavy metals and hydrocarbons. As a result, ground decontamination works are required before the Site can be developed for other uses. The proposed decontamination works at the Site are scheduled to commence upon the return of the WIL works area to the Government by the MTR Corporation Limited and the removal of the maintenance depot of HyD in the fourth quarter of 2015¹ to facilitate future development at the Site.

7. Site investigation indicated that contaminated soil is scattered over the Site at different depths. We will dig up, sort and treat the soil on-site, and use the treated soil to backfill the excavations subsequently. To maintain the services of the temporary public car park and RCP to the public, the Site will be cleaned up in sequence to allow their in-situ reprovisioning during the decontamination.

8. In view of insufficient in-house resources, we propose to engage consultants to undertake the contract administration and site supervision for the proposed works.

¹ The removal of the maintenance depot of HyD is excluded from the scope of **570CL**. The removal works will be conducted by the term contractor of HyD.

FINANCIAL IMPLICATIONS

9. We estimate the capital cost of 570CL to be \$1,111.9 million in MOD prices, broken down as follows –

	\$ million	
(a) Removal of remaining disused structures	11.8	
(b) Earthworks	246.1	
(i) excavation	176.0	
(ii) backfilling	70.1	
(c) Treatment of soil contaminated with heavy metals and/or hydrocarbons	376.2	
(d) Environmental mitigation measures and EM&A programme	15.1	
(e) In-situ re-provisioning of facilities	26.5	
(i) a temporary public car park	1.5	
(ii) a temporary RCP	25.0	
(f) Consultants' fees for	7.3	
(i) contract administration	5.8	
(ii) management of resident site staff	1.5	
(g) Remuneration of resident site staff	68.5	
(h) Contingencies	<u>65.7</u>	
	Sub-total	817.2 (in September 2014 prices)
(i) Provision for price adjustment	<u>294.7</u>	
	Total	1,111.9 (in MOD prices)

PUBLIC CONSULTATION

10. We consulted the Food, Environment, Hygiene & Works Committee of the Central and Western District Council on the proposed works on 30 May 2013 and 26 March 2015 respectively. Members in general did not object to the proposed works, and asked for more environmental mitigation measures as well as community liaison efforts during the decontamination period.

ENVIRONMENTAL IMPLICATIONS

11. The project is a designated project under Schedule 2 of the Environmental Impact Assessment Ordinance (Cap. 499) and an Environmental Permit (EP) is required for the ground decontamination works. On 1 April 2015, the EIA report for the project was approved under the EIA Ordinance. The EIA report concluded that the environmental impact of the project can be controlled to within the criteria under the EIA Ordinance and the Technical Memorandum on EIA Process.

12. We shall implement the measures recommended in the approved EIA report. The key measures during the ground decontamination works include control on total active area (i.e. with paved material removed for excavation works) at any one time over the entire project site; installation of activated carbon filter in the outlet of biopile for removing volatile organic compounds 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 runoff from the project site; adoption of good site practices for construction dust control; and compensatory tree planting along the proposed future waterfront promenade. We estimate the cost of implementing the environmental mitigation measures to be \$15.1 million (in September 2014 prices). We have included this cost in the overall project estimate.

13. At the planning and design stages, we have considered minimising the generation of construction waste as far as possible through the design of decontamination works. In addition, we will require the contractor to reuse inert construction waste (e.g. treated soil) on site or in other suitable construction sites as far as possible, in order to minimise the disposal of inert construction waste at public fill reception facilities². We will encourage the contractor to maximise the use of recycled or recyclable inert construction waste and the use of non-timber formwork to further reduce generation of construction waste.

14. At the construction stage, we will require the contractor to submit for approval a plan setting out the waste management measures, which will include appropriate mitigation measures to avoid, reduce, reuse and recycle inert construction waste. We will ensure that the day-to-day operations on site comply with the approved plan. We will require the contractor to separate the inert portion from the non-inert construction waste on site for disposal at appropriate facilities. Besides, we will control the disposal of inert and non-inert construction waste at public fill reception facilities and landfills respectively through a trip-ticket system.

15. We estimate that the proposed works will generate about

² Public fill reception facilities are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N). Disposal of inert construction waste in public fill reception facilities requires a licence issued by the Director of Civil Engineering and Development.

269 750 tonnes of construction waste in total. Of these, we will reuse about 229 290 tonnes (85.0%) on site and deliver about 40 120 tonnes (14.9%) of inert construction waste to public fill reception facilities for subsequent reuse. We will dispose of the remaining 340 tonnes (0.1%) non-inert construction waste at landfills. The total cost for accommodating construction waste at public fill reception facilities and landfill sites is estimated to be \$1,125,740 for this project (based on a unit charge rate of \$27 per tonne for disposal at public fill reception facilities, and \$125 per tonne for disposal at landfills as stipulated in the Waste Disposal (Charges for Disposal of Construction Waste) Regulation).

HERITAGE IMPLICATIONS

16. The proposed works will not affect any heritage site, i.e. any declared monuments, proposed monuments, graded historic sites or buildings, sites of archaeological interest and government historic sites identified by the Antiquities and Monuments Office.

TRAFFIC IMPLICATIONS

17. The proposed works will not cause any significant traffic impact. Temporary traffic arrangements will be implemented to facilitate the construction works. We will display publicity boards on site giving details of the temporary traffic arrangements and the anticipated completion dates of individual section of works. In addition, we will set up a telephone hotline to respond to public enquiries or complaints.

LAND ACQUISITION

18. The proposed works do not require any land acquisition.

BACKGROUND INFORMATION

19. We engaged consultants to carry out the EIA and site investigation works in September 1999. The cost of these works was \$1.8 million and charged to block allocations **Subhead B100HX** "Minor housing development related works, studies and investigations for items in Category D of the Public Works Programme". We completed the EIA and site investigation works in 2001.

20. We engaged other consultants to carry out the review and detailed design, to prepare the tender documents and to undertake construction supervision of the project in July 2002. The cost of these works is about \$8.5 million and charged to block allocation **Subhead B100HX** "Minor housing development related works, studies and investigations for items in Category D of the Public Works Programme". We completed the detailed design of the proposed works mentioned in paragraph 2 above in 2004.

21. We upgraded **570CL** to Category B in September 2005. We originally planned to commence the ground decontamination works immediately after completion of the demolition works within the KTIP and KTA sites. However, it was subsequently decided in December 2006 that the sites be used as the temporary works area for the construction of the WIL after the completion of the demolition works in 2009.

22. On 22 June 2007, the FC approved the upgrading of part of **570CL** to Category A as **732CL** “Demolition of buildings, structures and chimneys above ground at Kennedy Town incineration plant and abattoir” at an estimated cost of \$66.6 million in MOD prices for the demolition of buildings, structures and chimneys above the existing ground within the KTIP and KTA. The demolition works were completed in 2009.

23. In the light of the latest guidelines and standards on contaminated land management and the requirements of the EP, we further instructed the consultants to carry out a supplementary EIA on the ground decontamination works and review and update the detailed design and tender documents in October 2012. The cost of these works is \$8.7 million and charged to **Subhead 7100CX** “New Towns and urban area works, studies and investigations for items in Category D of the Public Works Programme”. The consultants completed the supplementary EIA and updated the detailed design of the proposed works mentioned in paragraph 2 above in 2014, and are finalising the tender documents.

24. The proposed works will involve removal of 195 trees, none of which are in the Register of Old and Valuable Trees. The roots of all the 195 trees are contaminated and some of them adhere to the disused structures, rendering them unsuitable for transplantation and obstructive to the demolition and decontamination works. Among the 195 trees, 5 are important trees³ belonging to species listed in the Rare and Precious Plants of Hong Kong. Most of the 5 important trees have poor amenity value, form, health and/or structural condition. In particular, it is assessed that those 5 trees would have an extremely low survival rate after transplanting. All the 195 trees will be removed together with the disused structures. We will incorporate planting proposal of about 195

³ “Important trees” refers to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria –

- (a) trees of 100 years old or above;
- (b) trees of cultural, historical or memorable significance, e.g. Fung Shui trees, trees as landmark of monastery or heritage monument, and trees in memory of an important person or event;
- (c) trees of precious or rare species;
- (d) trees of outstanding form (taking account of the overall tree sizes, shape and any special features), e.g. trees with curtain like aerial roots, trees growing in unusual habitat; or
- (e) trees with a trunk diameter equal to or exceeding 1.0 m (measured at 1.3 m above ground level), or with a height/canopy spread equal to or exceeding 25 m.

The 5 important trees include 3 *Aquilaria sinensis* (土沉香) and 2 *Ailanthus fordii* (常綠臭椿). They are not in the Register of Old and Valuable Trees.

_____ trees as part of the proposed works. Details about the 5 important trees are at Enclosure 3.

EMPLOYMENT OPPORTUNITIES

25. We estimate that the proposed works will create about 210 jobs (165 for labourers and another 45 for professional or technical staff) providing a total employment of 12 700 man-months.

WAY FORWARD

26. Subject to the views of this Panel, we plan to seek funding approval from the Finance Committee after consulting with the Public Works Subcommittee.

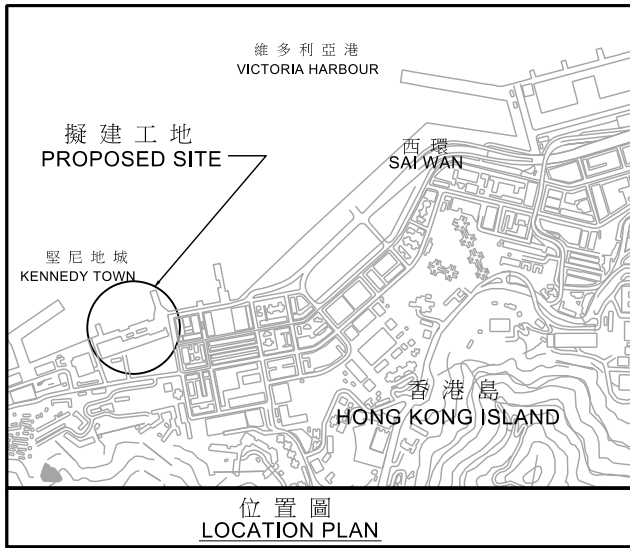
Development Bureau
Civil Engineering and Development Department
April 2015

註NOTES :

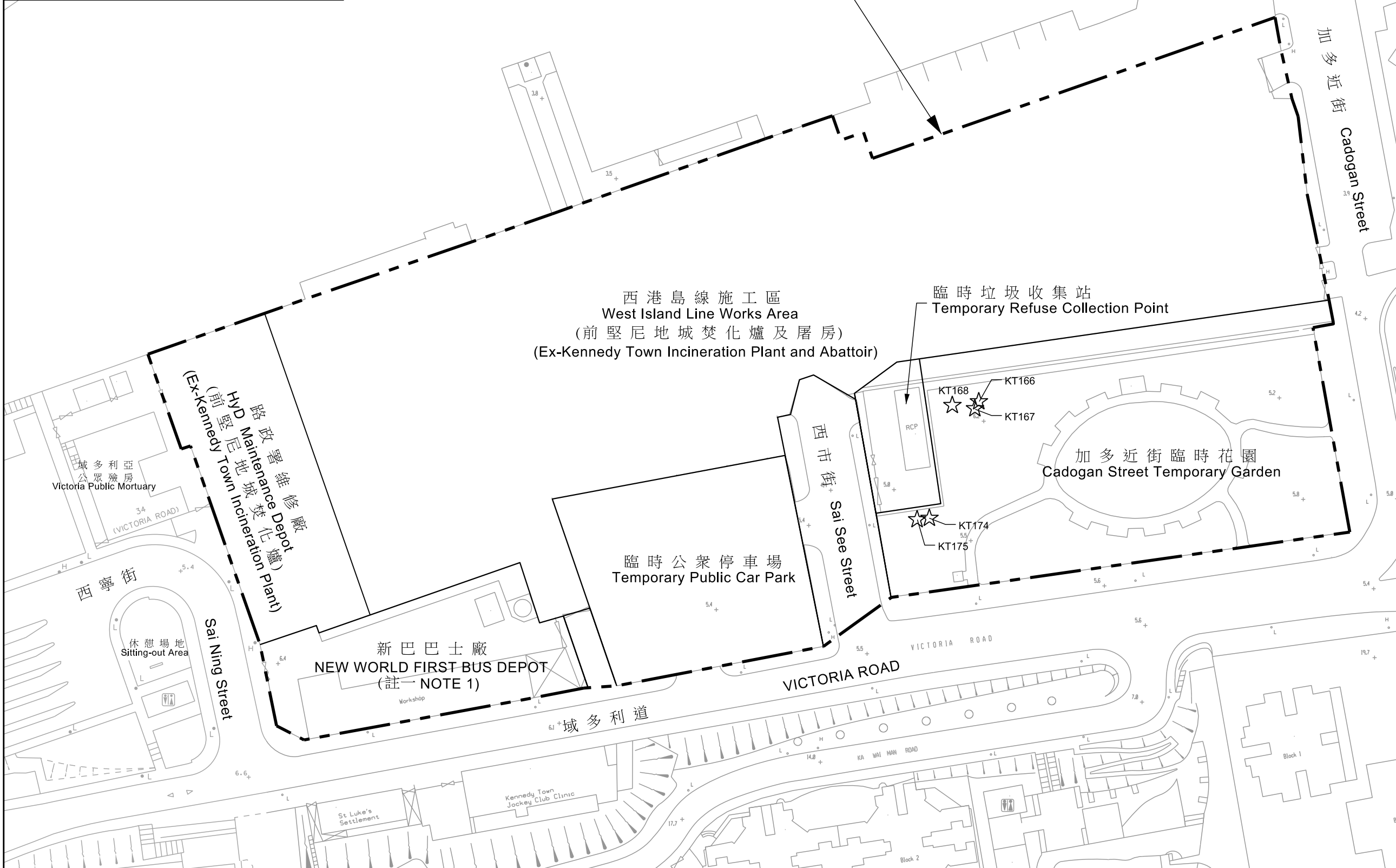
1. THE REMOVAL OF NEW WORLD FIRST BUS DEPOT IS EXCLUDED FROM THE SCOPE OF 570CL. THE REMOVAL WORKS WILL BE CONDUCTED AND FUNDED BY THE NEW WORLD FIRST BUS SERVICES LIMITED.
- 一. 工程計劃570CL號的範圍並不包括新巴士廠拆除工程。新巴士廠拆除工程由新世界第一巴士服務有限公司負責進行及支付款項。

圖例 LEGEND :

- 土地除污工程範圍
GROUND DECONTAMINATION WORKS BOUNDARY
- ☆ 受影響的重要樹木位置
LOCATION OF IMPORTANT TREE AFFECTED



土地除污工程範圍
Ground Decontamination Works
Boundary



工程名稱 Project Title

工務計劃項目第570CL號
前堅尼地城焚化爐、屠房及毗鄰用地
土地除污工程

PWP ITEM NO. 570CL
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

圖則編號

Plan No.
203204/FIGURE/01

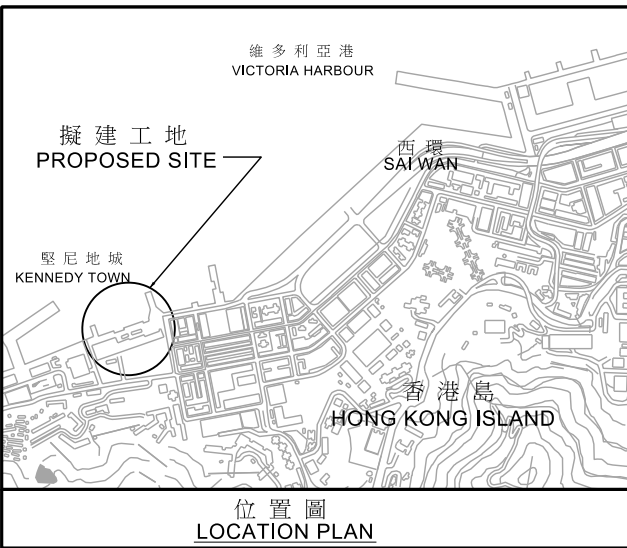
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圖例 LEGEND :

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



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

工程名稱 Project Title
工務計劃項目第570CL號
前堅尼地城焚化爐、屠房及毗鄰用地
土地除污工程
PWP ITEM NO. 570CL
GROUND DECONTAMINATION WORKS
AT THE SITE OF EX-KENNEDY TOWN
INCINERATION PLANT / ABATTOIR
AND ADJOINING AREA

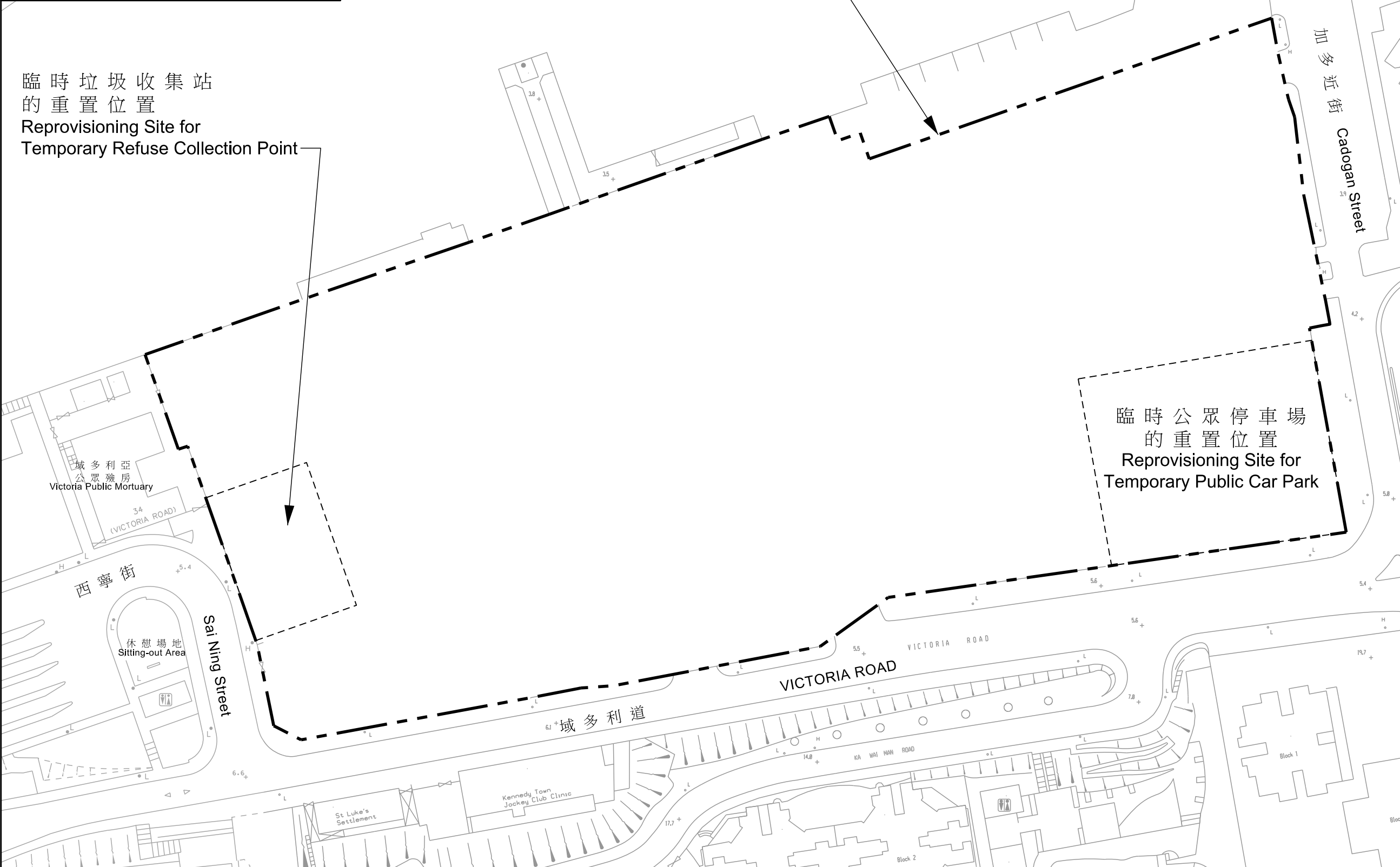
圖則名稱 Plan Title
臨時公眾停車場及
臨時垃圾收集站的重置位置
REPROVISIONING SITES FOR
TEMPORARY PUBLIC CAR PARK AND
TEMPORARY REFUSE COLLECTION
POINT

圖則編號
Plan No.
203204/FIGURE/02

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CIVIL ENGINEERING OFFICE

土木工程拓展署
CIVIL ENGINEERING AND
DEVELOPMENT DEPARTMENT



The Five Important Trees

Tree No. ⁽¹⁾	Species		Measurements			Amenity value ⁽²⁾	Form	Health condition	Structural condition	Suitability for transplanting ⁽³⁾		Conservation Status	Recommen-dation	Department to provide expert advice to LandsD
	Scientific name	Chinese name	height (m)	DBH ⁽⁴⁾ (mm)	crown spread (m)	(good / fair / poor)			(high / medium / low)	Remarks	(retain / transplant / fell)			
KT166	<i>Aquilaria sinensis</i>	土沉香	11.3	283	6.2	Poor	Poor	Fair	Poor	Low	<ul style="list-style-type: none"> Contaminated with heavy metal and hydrocarbon Presence of contaminants has an adverse impact on tree health Poor amenity value With poor form and structural condition On slope Codominant stems Unbalanced canopy With included bark Extremely low survival rate after transplanting 	Listed in <i>Rare and Precious Plants of Hong Kong</i> but regarded to be common in Hong Kong and currently not under any particular threat	Fell	Leisure and Cultural Services Depart (LCSD)

Tree No. ⁽¹⁾	Species		Measurements			Amenity value ⁽²⁾	Form	Health condition	Structural condition	Suitability for transplanting ⁽³⁾		Conservation Status	Recommen-dation	Department to provide expert advice to LandsD
	Scientific name	Chinese name	height (m)	DBH ⁽⁴⁾ (mm)	crown spread (m)	(good / fair / poor)				(high / medium / low)	Remarks		(retain / transplant / fell)	
KT167	<i>Aquilaria sinensis</i>	土沉香	10.2	146	4.8	Poor	Poor	Fair	Fair	Low	<ul style="list-style-type: none"> Contaminated with heavy metal and hydrocarbon Presence of contaminants has an adverse impact on tree health Poor amenity value With poor form On slope Unbalanced canopy With dead branches Extremely low survival rate after transplanting 	Listed in <i>Rare and Precious Plants of Hong Kong</i> but regarded to be common in Hong Kong and currently not under any particular threat	Fell	LCSD

Tree No. ⁽¹⁾	Species		Measurements			Amenity value ⁽²⁾	Form	Health condition	Structural condition	Suitability for transplanting ⁽³⁾		Conservation Status	Recommen-dation	Department to provide expert advice to LandsD
	Scientific name	Chinese name	height (m)	DBH ⁽⁴⁾ (mm)	crown spread (m)	(good / fair / poor)				(high / medium / low)	Remarks		(retain / transplant / fell)	
KT168	<i>Aquilaria sinensis</i>	土沉香	11.8	161	3.0	Poor	Poor	Fair	Fair	Low	<ul style="list-style-type: none"> Contaminated with heavy metal and hydrocarbon Presence of contaminants has an adverse impact on tree health Poor amenity value With poor form On slope With stubs, pruned wounds and broken stems Low live crown ratio Extremely low survival rate after transplanting 	Listed in <i>Rare and Precious Plants of Hong Kong</i> but regarded to be common in Hong Kong and currently not under any particular threat	Fell	LCSD

Tree No. ⁽¹⁾	Species		Measurements			Amenity value ⁽²⁾	Form	Health condition	Structural condition	Suitability for transplanting ⁽³⁾		Conservation Status	Recommen-dation	Department to provide expert advice to LandsD
	Scientific name	Chinese name	height (m)	DBH ⁽⁴⁾ (mm)	crown spread (m)	(good / fair / poor)				(high / medium / low)	Remarks		(retain / transplant / fell)	
KT174	<i>Ailanthus fordii</i>	常綠臭椿	12.0	332	6.0	Fair	Fair	Poor	Fair	Low	<ul style="list-style-type: none"> Contaminated with heavy metal and hydrocarbon Presence of contaminants has an adverse impact on tree health With poor health condition Extremely low survival rate after transplanting 	Listed in <i>Rare and Precious Plants of Hong Kong</i> but regarded to be actively propagated and widely cultivated in Hong Kong as roadside trees and ornamental trees	Fell	LCSD
KT175	<i>Ailanthus fordii</i>	常綠臭椿	12.0	310	5.0	Fair	Poor	Fair	Fair	Low	<ul style="list-style-type: none"> Contaminated with heavy metal and hydrocarbon Presence of contaminants has an adverse impact on tree health With poor form Extremely low survival rate after transplanting 	Listed in <i>Rare and Precious Plants of Hong Kong</i> but regarded to be actively propagated and widely cultivated in Hong Kong as roadside trees and ornamental trees	Fell	LCSD

¹ The above trees are not in the Register of Old and Valuable Trees.

² Amenity value of a tree is assessed by its functional values for shade, shelter, screening, reduction of pollution and noise and also its fung shui significance, and classified into the following categories.

Good: important trees which should be retained by adjusting the design layout accordingly.

Fair: trees that are desirable to be retained in order to create a pleasant environment, which includes healthy specimens of lesser importance than “Good” trees.

Poor: trees that are dead, dying or potentially hazardous and should be removed.

³ Assessment has taken into account conditions of the tree at the time of survey (including health, structure, age and root conditions), site conditions (including topography and accessibility), and intrinsic characters of tree species (survival rate after transplanting).

⁴ Diameter at Breast Height (DBH) of a tree refers to its trunk diameter at breast height (i.e. measured at 1.3m above ground level)

Additional Remarks:

1. The trees are in direct conflict with the proposed decontamination works.
2. On-site tree preservation is not recommended because it necessitates on-site retention of contaminated soil (which contains heavy metals and hydrocarbons) and defeats the purpose of the proposed decontamination works.
3. Tree transplantation is considered impracticable because the soil in the rootball is contaminated with heavy metals and hydrocarbons. Tree transplantation will transfer these contaminants to the soil at the recipient locations, thereby contaminating the recipient site.
4. Decontamination of the tree rootball by “washing off” the contaminated soil before transplanting the trees to their recipient locations is also considered impracticable for the following reasons:
 - (a) By washing off all the soil in the rootball, all the micro-organisms associated with the tree roots will be washed away. This will have a serious adverse impact on tree health and substantially reduce the post-transplantation survival rate of the trees.
 - (b) Washing off the soil from the tree roots will not only remove the beneficial micro-organisms associated with the tree roots, but also interrupt the plant hormone secretion of the trees, thereby causing additional impact on tree health.
 - (c) As preparation for transplantation, root pruning operation is necessary. Physical injury and loss of fine roots (which is crucial to water and nutrient absorption) will be unavoidable. Washing off the soil from the pruned rootball will cause further injury to the tree roots, particularly the fine roots, and largely increase the risk of fungal infection. The survival rate of the trees after such operations is therefore expected to be extremely low.
5. The two concerned species *Aquilaria sinensis* and *Ailanthus fordii* 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.