

Your Ref : (21) in EP2/N7/A/52 Ax(1) Pt.18
Our Ref : (CV/2013/08)/M45/200/H00965

13 January 2016

By Hand

Environmental Impact Assessment Ordinance Register Office
Environmental Protection Department
27/F, Southorn Centre,
130 Hennessy Road,
Wanchai, Hong Kong

Attn.: Mr. Charles Pang

Dear Sirs,

Contract No. CV/2013/08
Liantang / Heung Yuen Wai Boundary Control Point
Site Formation and Infrastructure Works – Contract 6


Environmental Permit No. EP-404/2011/C
Condition 3.2 – Waste Management Plan (Rev. 3)

I refer to your above referenced letter dated 17 December 2015 provided with a comment on the Waste Management Plan for the captioned Contract submitted on 19 November 2015. In response to the comment and with reference to Condition 3.2 of the Environmental Permit (EP) No. EP-404/2011/C for the captioned Project, and on behalf of the Permit Holder, Civil Engineering and Development Department (CEDD), I would like to submit three hard copies of the revised Waste Management Plan (Rev. 3) for the Project titled "Liantang / Heung Yuen Wai Boundary Control Point and Associated Works", which had been certified by the ET Leader and verified by the IEC for your approval.

Please be advised that the Waste Management Plan has been prepared in accordance with ETWB TC(W) No. 19/2005 "Environmental Management on Construction Sites" and I have no further comment on the submitted Waste Management Plan (Rev. 3).

Should you have any queries, please contact the undersigned or our Mr. Perry Yam at 2171 3350.

Yours faithfully,


Simon Leung
Chief Resident Engineer
AECOM Asia Co. Ltd.

Encl.

c.c. CEDD/BCP	- Attn: Mr. Chris Wong / Mr. Steve Lo	- 1 hard copy
AECOM	- Attn: Mr. Francis Leong / Mr. Pat Lam	- 1 CD copy
SMEC(IEC)	- Attn: Mr. Antony Wong	- 1 CD copy
AUES(ET)	- Attn: Mr. T. W. Tam	- 1 CD copy
CCKJV	- Attn: Mr. Vincent Chan	- w/o encl.

SL/GW/PY/tc

Our Ref: TCS00694/13/300/L0105

AECOM
8/f Grand Central Plaza, Tower 2
138 Shatin Rural Committee Road
Shatin, Hong Kong

Attn: Mr. Simon Leung

13 January 2016
By E-mail

Dear Sir,

Re: CEDD Contract CV/2013/08
Liantang/Heung Yuen Wai Boundary Control Point Site Formation and
Infrastructure Works – Contract 6
Waste Management Plan (Revision 03)

I refer to the Waste Management Plan (Revision 03) and “response-to-comments from EPD” submitted by CRBC-CEC-Kaden JV (Contractor of Contract 6) on 11 and 12 January 2016, please note that we have no adverse comment on this submission. We herewith certify the captioned submission accordance with *Condition 3.2* of Environmental Permit (EP) No. EP-404/2011/C.

Should you have any queries, please feel free to contact the undersigned at Tel: 2959-6059 or Fax: 2959-6079 or E-mail: twtam@fordbusiness.com.

Yours sincerely,
For and on Behalf of
Action-United Environmental Services & Consulting



T. W. Tam
Environmental Team Leader
TW/nh

cc CRBC-CEC-Kaden JV (Contractor of C6) Mr. Vincent Chan by e-mail
SEMC (IEC) Mr. Antony Wong by e-mail



Unit A-C, 27/F Ford Glory Plaza
37-39 Wing Hong Street
Cheung Sha Wan, Kowloon, Hong Kong
T +852 3995 8100 F +852 3995 8101 E hongkong@smec.com
www.smec.com

13 January 2016

Our ref: 7076192/L19845/RV/AB/AW/FL/rw

AECOM
8/F, Grand Central Plaza, Tower 2
138 Shatin Rural Committee Road
Shatin, N.T.

By Email & Post

Attention: Mr Simon LEUNG

Dear Sirs

Agreement No. CE 45/2008 (CE)
Liantang/Heung Yuen Wai Boundary Control Point and Associated Works
Independent Environmental Checker – Investigation
Waste Management Plan of Contract 6 (CV/2013/08)

With reference to the Waste Management Plan (WMP) Revision 3 provided to us on 12 January 2016, please be noted that we have no adverse comments on the captioned submission. We herewith verify the WMP of Contract 6 (CV/2013/08) of the captioned Project in accordance with Condition 3.2 of Environmental Permit No. EP-404/2011/C.

Thank you for your attention and please do not hesitate to contact the undersigned on tel. 3995 8120 or by email to antony.wong@smec.com; or our Mr Francis LEE on tel. 3995 8144 or by email to francis.lee@smec.com.

Yours faithfully
for and on behalf of
SMEC Asia Limited

Antony WONG
Independent Environmental Checker

cc	CEDD/BCP	-	Mr C S LAU	by fax: 3547 1659
	AECOM	-	Mr Pat LAM/ Mr Perry YAM	by email
	CCKJV	-	Mr Vincent CHAN	by email
	AUES	-	Mr TW TAM	by email

Contract No: **CV/2013/08**

Project Title:

**Liantang/Heung Yuen Wai Boundary Control Point
Site Formation and Infrastructure Works – Contract 6**

Waste Management Plan

Document No:

Revision: 03

Date: 5 January 2016

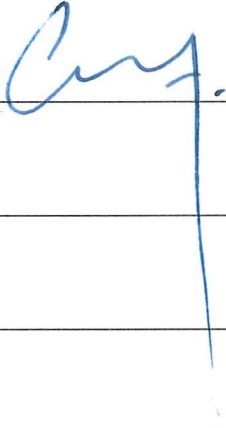
Waste Management Plan

Document No:

Revision: 03

Date: 5 January 2016

Endorsed By:

Position	Signature	Name	Date
Site Agent		Vincent Chan	5 January 2015

Checked by:

Position	Signature	Name	Date
Senior Safety and Environmental Manager		Alex Lam	5 January 2015

Prepared by:

Environmental Officer		K.M. LUI	5 January 2016
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Contract No: CV/2013/08

Project Title: Liantang/Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works – Contract 6

Response-to-Comments from IEC Dated on 10 November 2015

Item No.	Comment	Response
1	Section 1 – Please refer to the latest version of EP (EP-404/2011/C)	Noted and amended.
2	Section 1.5.3 – “Environmental Guidelines for Planning in Hong Kong. Hong Kong Planning Standards and Guidelines (1990)” is an old name. Moreover, HKPSG are regularly updated. Therefore, “Chapter 9 Environment of the Hong Kong Planning Standards and Guidelines” is more appropriate.	Noted and amended.
3	Section 1.5.3 – WBTC No 29/2000 WMP has been replaced by ETWB-TCW 19/2005 Environmental Management on Construction Site. Since ETWB-TCW 19/2005 is listed, please delete WBTC No 29/2000.	Noted and amended.
4	Table 1 – this WMP will be filed at EPD’s EIA Registry which can be reviewed by the public. Therefore, please review whether providing the mobile phone numbers in Table 1 contradicts privacy.	All personal contact numbers in this WMP have been removed.
5	Section 4.5.1 – Please clarify if asbestos containing materials (ACM) will be generated. If yes, please include ACM because ACM is also classified as chemical waste under the Waste Disposal (Chemical Waste) (General) Regulation and its handling, collection, transportation and disposal is controlled by the legislation. Please also including the handling, packaging, labelling, storage and transportation and disposal of asbestos waste in the WMP, since special treatment is needed for asbestos waste.	A subsection named “Asbestos Containing Materials Handling, Collection, Transportation and Disposal” has been added under Section 4.5.1.
6	Section 4.5.1 – Please review and clarify if there are any training of site personnel in proper waste management and chemical handling procedures will be provided.	A subsection named “Training” has been added under Section 4.5.1.
7	Section 4.5.1 – Please clarify if good quality containers compatible with the chemical wastes will be used, and incompatible chemicals will be stored separately.	Noted and clarified in subsection named “Storage” under Section 4.5.1.

Contract No: CV/2013/08

Project Title: Liantang/Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works – Contract 6

8	Section 4.6.1 – Please clarify if the general refuse will be removed away frequently for disposal to reduce odour coming from general refuse.	Noted and amended.
9	Section 4.6.1 – The last bullet – please clarify if any working vessels and barges are used for this contract.	Corresponding statement has been deleted.
10	Section 4.6.3 – If ACM will be generated, please clarify if ACM are also included in the estimated quantities.	Estimation quantity of asbestos containing material has been added.
11	Section 5 – Please advise if there would be dewatering of spoil. If so, please briefly describe how the spoil will be dewatered.	No such process will be carried out.
12	Section 5 – Please review and clarify whether the estimated quantities or the actual quantities will be included in the Monthly Summary for C&D material disposal off the Site.	Actual quantities will be included and the corresponding paragraph has been revised.
13	Section 8 – Please include “To ensure the recommended mitigation measures in the Implementation Schedule of Mitigation Measures of the EM&A Manual is properly implemented.” In the aims and objectives of waste management audit.	Noted and amended.
14	Appendix A – Non-recyclable C&D materials should be properly stored as well. Please amend accordingly.	Noted and amended.

Contract No: CV/2013/08

Project Title: Liantang/Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works – Contract 6

Response-to-Comments from AECOM Dated on 11 November 2015

Item No.	Comment	Response
1	Page 21, 2nd point – the submission date for completed Part 2 should be clarified as “within 1 working day after the records are posted at the EPD website”.	Noted and amended.
2	Please include the video monitoring system specified in the Contract PS Section 25	Noted and included under Section 7.
3	Please include Annex 1 to Appendix C Summary of Follow-up Actions in the ETWB TC No. 19/2005 Environmental Management on Construction Sites in the Plan. May include in Section 8.	Noted and included as Appendix H.

Contract No: CV/2013/08

Project Title: Liantang/Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works – Contract 6

Response-to-Comments from EPD Dated on 17 Dec 2015

Item No.	Comment	Response
1	<p>Condition 3.2 of the captioned EP stipulated that “... <i>The WMP shall describe the arrangements for <u>avoidance, reuse, recovery and recycling, storage, collection, treatment</u> including dewatering of spoil and disposal of different categories of waste to be generated from the construction activities and shall indicate the disposal locations(s) of all surplus excavated spoil and other waste. ...”.</i></p> <p>The current submission has not explicitly indicated how the required <u>avoidance, reuse, recovery and recycling, storage, collection, treatment</u> could be achieved. Please provide further details on these aspects for our further consideration.</p>	<p>A more explicit description has been added in Section 1.4 (P.7 – P.8) and the new six subsections are titled as <u>Avoidance, Reuse, Recovery and Recycling, Storage, Collection and Treatment.</u></p>

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Abbreviations List

C&D	Construction & Demolition
CEDD	Civil Engineering and Development Department
CM	Construction Manager
DDF	Disposal Delivery Form
DRS	Daily Record Summary
EIA	Environmental Impact Assessment
EM&A	Environmental Monitoring & Audit
EO	Environmental Officer
EPD	Environmental Protection Department
EP	Environmental Permit
ER	Engineer Representative
ES	Environmental Supervisor
ET	Environmental Team
ETL	Environmental Team Leader
IEC	Independent Environmental Checker
MTRC	Mass Transit Railway Corporation
PFRF	Public Fill Reception Facility
TKO Area 137	Tseung Kwan O Area 137 Fill Bank
TM38	Tuen Mun Area 38 Fill Bank
TTS	Trip Ticket System
WAC	Waste Acceptance Criteria
NENT	North East New Territories Landfill
WFT	Waste Flow Table
WMP	Waste Management Plan

1 INTRODUCTION

The Waste Management Plan (WMP) has been developed in accordance with clause 3.2 of Environmental Permit EP-404/2011/C for the Civil Engineering and Development Department Contract namely Contract No. CV/2013/08 Liantang/Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works – Contract 6 (hereinafter the Contract).

1.1 Project Description

The Works to be executed under this Contract No. CV/2013/08 include, but not exclusively, the following items:

- (i) construction of an approximately 4.6km long dual two-lane Connecting Road (with about 0.6km of at-grade roads, 3.3km of viaducts and 0.7km of tunnel) connecting the Border Control Point (BCP) with the proposed Sha Tau Kok Interchange and the associated tunnel ventilation buildings;
- (ii) provision of a 1.8 kilometres (km) perimeter road at the proposed BCP;
- (iii) provision of sewage collection, treatment and disposal facilities for the BCP and the resite of Chuk Yuen Village;
- (iv) construction of a pedestrian subway linking the BCP to Lin Ma Hang Road;
- (v) reprovisioning of the affected Wo Keng Shan Road garden and Wo Keng Shan public toilet;
- (vi) construction of associated footpath, slopes, retaining structures, drainage, sewerage, waterworks, landscaping works and other ancillary works;
- (vii) associated environmental mitigation measures, and Environmental Monitoring and Audit (EM&A) programme for the works; and
- (viii) other works which are shown on the Drawings or specified in the Specification or which may be ordered in accordance with the Conditions of Contract.

1.2 Purpose of the Plan

This Waste Management Plan (WMP) aims to describe the arrangements for avoidance, minimization, handling, reuse, recovery and recycling, storage, transportation, collection, treatment and disposal of different categories of waste to be generated from the construction activities of this project. This WMP includes the recommended mitigations measures on waste management as contained as stipulated in EIA report and EM&A Manual.

The main objectives of the WMP include:

- (a) Providing reference to the waste management requirements, both statutory and non-statutory;
- (b) Clarifying the responsibilities of each party on waste management and the personnel within the Contractor's management;
- (c) Establishing the waste management procedures for avoidance, minimization, material reuse/recovery/recycling, collection, transportation, storage and disposal of wastes generated from the activities.

1.3 Environmental Management Policy

An Environmental Management Policy is established to demonstrate the Company's commitment in improving environmental performance. It aims to communicate CRBC-CEC-Kaden JV's mission, vision and beliefs towards the environment to the staff and provides a framework for guiding CRBC-CEC-Kaden JV's ongoing environmental improvement efforts.

The policy will be reviewed by relevant parties periodically and will be displayed on notice boards in languages suitable for the nationality for the workforce.

The Environmental Policy Statement, is listed below:



ENVIRONMENTAL MANAGEMENT POLICY


CRBC-CEC-KADEN Joint Venture (the JV) undertakes CEDD Contract No. CV/2013/08 – Liantang / Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works – Contract 6.

Protecting the environment is the responsibility of every member of the organization. The JV is committed to sustainable construction and minimizing any adverse impact on the environment resulting from its business activities.


The JV is committed to delivering services with minimal impact to the environment through the following principles:

- Focus on prevention of pollution, waste minimization and resource conservation as critical considerations within our core management processes.
- Compliance with applicable contract and legal requirements.
- Regular performance reviews to ensure that environmental objectives and the requirements of Interested Parties are met.
- Provision of staff training to ensure understanding, implementation and development of these principles throughout our business.
- Continual improvement.
- Obtain and renew the necessary environmental licences, registrations and permits and comply with the relevant statutory requirements and licensing standards

All Staff will follow the requirements of the Environmental Management Plan in the performance of their tasks and will ensure this policy is supported and maintained. This policy will be communicated to our client, suppliers, and subcontractors. It will also be made available to the public whenever requested.


Wang Yanhua – Director
China Road and Bridge Corporation

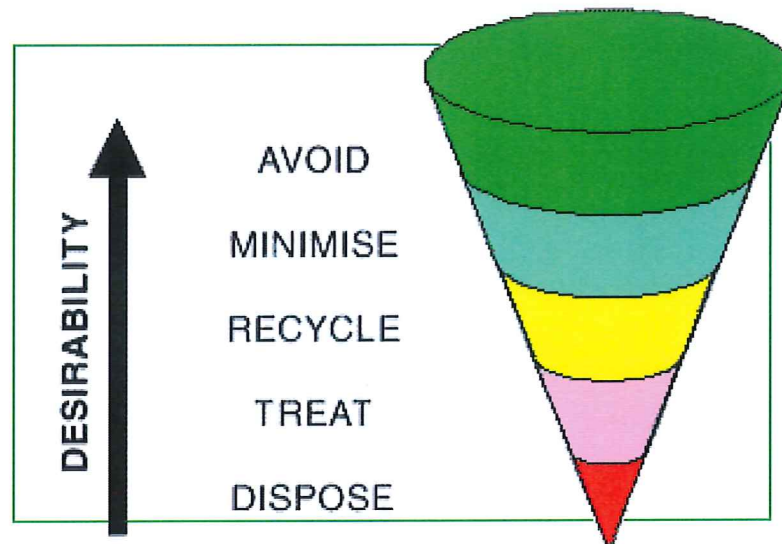

Terry Cage – Director
Continental Engineering Corporation


Wilfred SO – Director
Kaden Construction Limited

1.4 The Waste Management Policy

To demonstrate the Project Team's commitment on the continual improvement of our waste management performance, an Environmental Management Policy includes the waste management has been established. It aims to communicate CRBC-CEC-Kaden JV waste management mission, vision and beliefs to the staff and public, it also provides a framework in guiding the project team the basic requirements to be achieved in waste management.

The hierarchy is illustrated below. It attempts to evaluate waste management practices and selects the best practical option since conceptually it makes sense to avoid producing a waste rather than developing extensive treatment schemes. Good planning and site management practices also help minimizing over ordering or misuse of construction materials. The overall objective is to reduce and minimize the amount of wastes generated, hence reducing the costs of waste handling and disposal.



http://www.epd.gov.hk/epd/misc/cdm/management_intro.htm

The six major waste management principles are listed below:

Avoidance

CCKJV will take following actions as to avoid and minimize waste generation. Construction works are planned discreetly so as to avoid unnecessary activities. Low waste technology will be applied whenever possible. Pre-cast/pre-fabricated construction components will be used. Bulk purchasing of materials will be avoided and just-in-time ordering will be adopted. Electronic communication and filing will be applied so as to minimize paper usage, printing and photocopying. Plants and devices will be maintained regularly so as to minimize repurchasing. Site promotion and training will be conducted so that waste avoidance awareness of site personnel can be enhanced.

Reuse

Excavated soil could be reused within the project or in other contract and please refer to Section 4.4 for detailed procedures. Single-side-printed paper will be reused. Site office fabrications will be reused in constructing installations of other projects. Containers will be reused as temporary site office or materials storage chamber. CCKJV will reuse as much reusable materials as possible so as to minimize amount of disposal.

Recovery and Recycling

Used paper will be recycled and collection bags will be provided at different area of site. Felled trees will be collected and some will be recovered into furniture. Plastic bottles will be recycled. Expired or damaged safety helmet will be recycled. CCKJV will identify potential recoverable and recyclable wastes from waste generated in site and carry out corresponding recovering or recycling procedures.

Storage

C&D waste will be sorted and stored separately at different storage areas. Non-inert C&D waste will be stored in storage tanks and will be covered with tarpaulin sheet in temporary holding area. Inert waste will be stored on the hardstanding and covered with tarpaulin sheet in temporary holding area. Please refer to Section 4.1 – 4.4 for detailed procedures.

Chemical waste will be stored in chemical waste chamber. Please refer to Section 4.5 for detailed procedures.

Collection

Waste materials will be sorted at production source. CCKJV will provide sufficient waste disposal points and regular collection of waste. Sorted waste materials will be centralized and collected by corresponding contractors. Please refer to Section 4 for detailed procedures regarding to waste collection.

Treatment

All waste removed from site requiring treatment will be transported to approved facilities. Inert waste will be transported to TM38 Fill Bank. Non-inert waste will be transported to NENT. Slurry will be transported to TKO137 Fill Bank.

1.5 Regulations and Guidelines

1.5.1 General

Various types of wastes would be generated during the course of the Project and each waste type requires different approach for management and disposal as stipulated in the waste legislation and guidelines. The relevant statutory and non-statutory requirements regarding waste management are summarized in the sections below.

1.5.2 Statutory Requirements

The following legislation relates to the handling, treatment and disposal of wastes in Hong Kong, and would be observed with regard to all wastes generated and requiring disposal, where applicable:

- The Waste Disposal Ordinance (Cap 354)
- The Waste Disposal (Chemical Waste) (General) Regulation (Cap 354)
- The Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap 354)
- The Land (Miscellaneous Provisions) Ordinance (Cap 28)
- The Dumping at Sea Ordinance (Cap 466)
- The Public Health and Municipal Services Ordinance (Cap 132) - Public Cleansing and Prevention of Nuisances (Urban Council) and (Regional Council) By-Laws
- Summary Offences Ordinance (Cap 228)
- Other relevant regulations

1.5.2.1 The Waste Disposal Ordinance (WDO)

The Waste Disposal Ordinance (WDO) prohibits the unauthorized disposal of waste. Construction waste is not directly defined in the WDO, but is considered to fall within the category of “trade waste.” Under the WDO, wastes can only be disposed of at sites licensed by EPD.

1.5.2.2 The Waste Disposal (Chemical Waste) (General) Regulation

Under the Waste Disposal (Chemical Waste) (General) Regulation all producers of chemical wastes (including asbestos) must register with EPD and treat their wastes either utilizing on-site plant licensed by EPD, or arranging for a licensed collector to take the wastes to a licensed facility. The regulation also prescribes the storage facilities to be provided on site, including labeling and warning signs, and requires the preparation of written procedures and training to deal with emergencies such as spillages, leakages, or accidents arising from the storage of chemical wastes.

1.5.2.3 The Waste Disposal (Charges for Disposal of Construction Waste) Regulation

The current policy related to the dumping of C&D material is documented in the Works Branch Technical Circular No. 2/93, ‘Public Dumps’. Construction and demolition materials that are wholly inert, namely public fill, should not be disposed of to landfill, but taken to public filling areas, which usually form part of reclamation schemes.

Under the WDO and the Charging Regulation, wastes can only be disposed of at designated waste disposal facilities licensed by EPD. For construction work with a value of more than HK\$1M, the main contractor is required to establish a billing account at EPD before transporting the construction waste to the designated waste disposal facilities (e.g. landfill, public fill etc.). The vessels for delivering construction waste to public fill reception facility would need prior approval from EPD. Breach of these regulations can lead to a fine and/or imprisonment.

1.5.2.4 The Land (Miscellaneous Provisions) Ordinance

The Land (Miscellaneous Provisions) Ordinance requires that dumping licences be obtained by individuals or companies who deliver public fill to public filling areas. The Civil Engineering & Development Department (CEDD) issues the licences under delegated powers from the Director of Lands.

1.5.2.5 The Public Health and Municipal Services Ordinance (Cap 132) - Public Cleansing and Prevention of Nuisances (Urban Council) and (Regional Council) By-Laws

The Public Cleansing and Prevention of Nuisances By-Laws provide further controls on the illegal tipping of wastes on unauthorized (unlicensed) sites.

1.5.2.6 Related Licences and Permits

The Contractor would obtain all necessary permits and licenses under these ordinances including, but not limited to:

- Registration as a Chemical Waste Producer under the Waste Disposal Ordinance (Cap 354);
- Public Dumping License under the Land (Miscellaneous Provisions) Ordinance (Cap 28);

- Registration as a Waste Producer under the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap 354).

1.5.3 Non-statutory Regulations

The following guidelines related to waste management and disposal would be adhered to during construction of the Project:

- Waste Disposal Plan for Hong Kong (1989), Planning, Environmental and Lands Branch Government Secretariat;
- Chapter 9 (Environment) of Hong Kong Planning Standards and Guidelines;
- New Disposal Arrangements for Construction Waste, EPD and CEDD (1992);
- Code of Practice on the Packaging, Labelling and storage of Chemical Wastes EPD (1992);
- Code of Practice on the Handling, Transportation and Disposal of Asbestos Waste, EPD;
- Works Branch Technical Circular No. 12/2000, Fill Management, Works Bureau, HKSAR Government;
- Environment, Transport and Works Bureau Technical Circular (Works) No. 34/2002, Management of Dredged/Excavated Sediment, Environment, Transport and Works Bureau, HKSAR Government;
- Works Branch Technical Circular, 32/92, the Use of Tropical Hard Wood on Construction Site, Works Branch, Hong Kong Government;
- Works Branch Technical Circular No. 2/93, Public Dumps, Works Branch, Hong Kong Government;
- Works Branch Technical Circular No. 16/96, Wet Soil in Public Dumps, Works Branch, Hong Kong Government;
- Works Bureau Technical Circular NO. 4/98 and No.4/98A, Use of Public Fill in Reclamation and Earth Filling Projects, Works Bureau, HKSAR Government;
- Works Bureau Technical Circular No. 5/98, On-site sorting of Construction Waste on Demolition Site, Works Bureau, HKSAR Government;
- Environment, Transport and Works Bureau Technical Circular (Works) No. 33/2002, Management of Construction and Demolition Material including Rock, Environment, Transport and Works Bureau, HKSAR Government;
- Waste Reduction Framework Plan, 1998 to 2007, Planning, Environment and Lands Bureau, Government Secretariat, 5 November 1998;
- Works Bureau Technical Circular No. 6/2002 and 6/2002A, Enhanced Specification for Site Cleanliness and Tidiness, Works Bureau, HKSAR Government;

- Works Bureau Technical Circular No. 25/99, 25/99A and 25/99C, Incorporation of Information on Construction and Demolition Material Management in Public Works Sub-committee Papers, Works Bureau, HKSAR Government;
- A Guide to the Registration of Chemical Waste Producers;
- A Guide to the Chemical Waste Control Scheme;
- Works Bureau Technical Circular NO. 6/2010, Trip Ticket System for Disposal of Construction & Demolition Materials; and
- Environment, Transport and Works Bureau Technical Circular (Works) No. 19/2005 Environmental Management on Construction Site.

2. SITE ORGANIZATION AND STAFF DUTIES

2.1 Organization Structure

The organization structure for waste management is outlined in **Figure 1**. This chart outlines the overall site management in relation to waste management and environmental issues. Details on the roles and responsibilities of staffs responsible for implementation of the waste management plan are outlined below.

2.2 Roles and Responsibilities

CRBC-CEC-Kaden JV has appointed the Environmental Officer as the senior staff member fully responsible for implementing and overseeing the operation of the WMP. And the Site Agent, Construction Team Leader, Senior Foremen and Foremen are appointed a worker at each exit from the Site for the purpose of ensuring that every truck carrying C&D materials leaving the Site bears a duly completed, signed CHIT.

2.2.1 Project Director (PD)

The Project Director has responsibility for coordinating all environmental matters and reporting on these to the CRBC-CEC-Kaden JV. Supervisory Board is responsible for all aspects of environmental issues within the project.

2.2.2 Site Agent (SA)

The Site Agent is also responsible for ensuring commitment and assigning resources to

provide an effective environmental management program in the workplace. The Site Agent will also attend the Site Safety and Environmental Management Committee Meeting and the Site Safety and Environmental Committee Meeting if required.

2.2.3 Construction Team Leader (CTL)

The Construction Team Leader (CTL) is a senior staff on site report to the Project Director has the responsibility to coordinate all instruct environmental matters on site with all relative authorities. CTL is also responsible for all site operations, management of environmental issues, staff supervision, control, coordination & planning, external liaison as well as implementing and monitoring necessary corrective actions. CTL is working full-time on the site.

The Construction Team Leader will also carry out immediate action to rectify any non-compliance of environmental requirements as well as handle any complaints received from the public.

Construction Team Leader has the responsibility to coordinate all environmental matters on site areas and to report these to the Site Safety and Environmental Committee, CEDD, EPD and Engineer's Representatives. The Construction Team Leader is also responsible for ensuring commitment to environmental performance is fulfilled and assigning adequate resources and facilities. With the assistance of the Environmental Officer, he would also oversee the implementation and performance of the WMP. The Construction Team Leader reports to the Site Agent. He would assume environmental duties on site and ensure that works are executed in accordance with the WMP. He will arrange regular site inspections with the Environmental Officer.

2.2.4 Environmental Officer (EO)

The Environmental Officer (EO) will be appointed on site for the overall coordination, monitoring and overseeing the performance and implementation of the WMP for the Contract. The Environmental Officer directly reports to the Site Agent.

The responsibilities of the Environmental Officer are also included as follows:

- Review the Site Management Plan for Implementation of TTS and ensure works to be executed in accordance with the plan;
- Monitor and control the works including those of subcontractors to ensure

- compliance with specified requirements;
- Assist in handling any complaints received; and
- Ensure regular environmental monitoring is carried out, and that all environmental monitoring results are recorded.

2.2.5 Environmental Engineer (EE)

Environmental Engineer will assist the Environmental Officer in carrying out day-to-day WMP implementation. The responsibilities are also as follows:

- Preparing specific training with regard to the WMP to supervisory staff as well as sub-contractors' employees;
- Reporting to the Environmental Officer regarding non-compliance of any waste management issues;
- Liaising with licensed chemical waste collector to collect chemical waste produced on site.
- Promoting awareness of the objectives and measures of the WMP by means of on-site bulletin board and posters; and
- Verifying and investigating the complaints received;
- Attend the regular site inspections to provide Environmental Officer with the information on site.

2.2.6 Environmental Supervisor (ES)

Environmental Supervisor (ES) is responsible for the implementation of this WMP with the assistance of the foreman. They are also responsible for:

- Co-operate with the Environmental Officer to rectify any Non-conformances being identified;
- Attend environmental meetings whenever necessary;
- Carry out ad hoc environmental site inspections when deficiencies are being found; and
- Assist with Environmental Officer on any environmental accidents like chemical spillage.

2.2.7 Senior Foremen/ Foremen

The Senior Foremen/ Foremen are responsible for site supervision and coordination of

the works as well as implementation of any remedial actions or environmental protection measures as directed by the CTL/ EO.

The Senior Foremen/ Foremen are also responsible for:

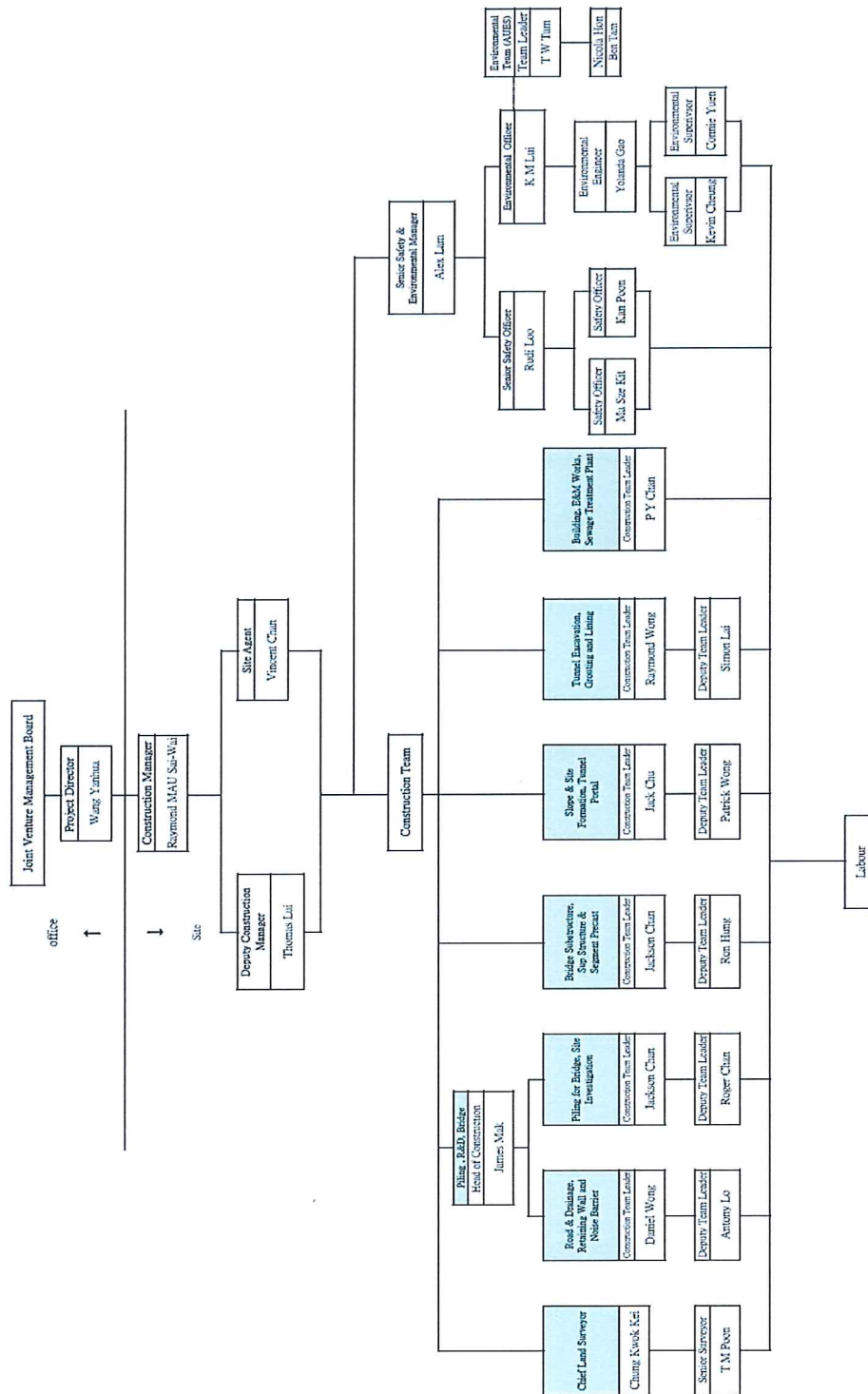
- Assist in the daily implementation of the WMP including to ensure all waste is sorted, segregated, recycled or reused when applicable;
- Ensure the trip-ticket system is followed and all appropriate paperwork to be collected and signed off; and
- Ensure waste is avoided and/ or minimised as much as practically possible.

2.2.8 Workers

The workers are responsible to carry out the waste management practice. They are obligated to carry out the works like:

- Sorting of different types of wastes;
- Collection of wastes from each working sites to the temporary storage area/ designated fill banks/ landfills;
- General site cleaning; and
- Attend waste management training organized by the Environmental Officer following this site management plan.

Figure 1: The Organization Structure for Site Management Plan



Contract No.: CV/2013/08
 Liantang/Heung Yuen Wai Boundary Control Point
 Site Formation and Infrastructure Works - Contract 6
 Organization Chart (11.11.2015)

Name	Post
Wang Yan Hua	Project Director
Raymond Mau	Construction Manager
Thomas Lui	Deputy Construction Manager
Vincent Chan	Site Agent
James Mak	Head of Construction (Piling, R&D, Bridge)
Jackson Chan	Construction Team Leader (Bridge Substructure, Superstructure & Segment Precast)
Daniel Wong	Construction Team Leader (Road & Drainage, Retaining Wall and Noise Barrier)
Raymond Wong	Construction Team Leader (Tunnel Excavation, Grouting and Lining)
Jack Chu	Construction Team Leader (Slope & Site Formation, Tunnel Portal)
PY Chan	Construction Team Leader (Ventilation Building, E&M Works, Sewage Treatment Plant)
Alex Lam	Senior Safety & Environmental Manager
KM Lui	Environmental Officer
Yolanda Gao	Environmental Engineer
Connie Yuen	Environmental Supervisor
Kevin Cheung	Environmental Supervisor

Table 1: Designated Persons for Implementation of the Trip Ticket System in site level.

3 SITE SPECIFIC WASTE MANAGEMENT

3.1 Waste Policy Principles

Refer to hierarchy abovementioned in Section 1, a further explanation of the hierarchy of waste management on site is detailed below.

3.1.1 Hierarchy of Waste Management

Key to waste management is to reduce the amount of waste generated from the work site. Waste management options would be exercised in accordance with the hierarchy

stipulated in the following table:

Avoidance and Minimization	Avoid and minimize waste through careful planning and design works.
Reuse	Reuse construction waste such as excavated material, used wooden plants and ferric materials.
Recovery and Recycle	Undertake on-site or off-site waste recycling.
Treatment and Disposal	Properly treat and dispose of waste in accordance with legislative requirements, guidelines and good practices.

Table 2: Hierarchy of Waste Management

In the context of waste reduction, environmentally responsible purchasing would involve the introduction of practices that discourage unnecessary purchases and encourage the purchase of products with reduced packaging, increased durability and materials with high recycled content, such as, recycled paper, steel and other raw construction materials.

Waste minimization is best achieved through careful planning, design and supervision. Good management practices would reduce and prevent large amount of waste generated. Raw materials would be managed from the first instance before they are ordered and delivered to the site. Good estimation and planning would minimize the amount of raw materials wasted. The generation of waste would be controlled at source.

3.2 Waste Reduction

Specific measures will be implemented to reduce the generation of waste materials, and thus minimize the amount of waste disposal to landfills. The measures will include:

- Sorting on site to recover the inert portion of C&D materials;
- Recover all metallic waste for recycling;
- Recover all cardboard and paper packaging, and properly stockpile them in dry and covered condition to prevent cross contamination;
- Use of the materials (such as formworks and hoardings) in the construction would be calculated before purchasing in order to minimize waste generation.
- Use of metal formworks and hoardings, and they would be recycled after demolition on site as far as it can before disposal.

4 WASTE MANAGEMENT PROCEDURES

The quantities of disposal C&D materials will be recorded under the barcode trip ticket system by using the “CHIT”. In addition, the filled “CHIT” will also be presented to the landfill site as part of the system for the disposal charging scheme which had already been officially effective in January 2006. Waste transaction records could be obtained either in the waste disposal facilities right after the transaction or retrieved from the EPD bill statement each month.

4.1 Acceptance Criteria for the Government Disposal Facilities

According to the Gazette Notice G.N.4278 dated 9 July 2010, the new WAC (as Tabulated below) became effective from 29 December 2010.

Vehicle Type	Waste Depth	Weight Ratio ^(note)	Designated Facility
Non-demountable Vehicle	Over 1.5m	No restriction	Landfill
	1.5m or below	0.20 or below	
		Over 0.20	Sorting Facility
Demountable Vehicle	Over 1m	No restriction	Landfill
	1m or below	0.25 or below	
			Over 0.25

Table 3: New Waste Acceptance Criteria

CRBC-CEC-Kaden JV will comply with the acceptance criteria laid down by the operators of the corresponding fill bank(s) and landfill(s), as outlined below:

4.1.1 Acceptance Criteria for Fill Banks (Tuen Mun Area 38 Fill Bank or Tseng Kwan O Area 137 Fill Bank)

- The Truck Driver should bear a duly completed and signed CHIT;
- The dump truck should also have a valid Dumping Licence issued by CEDD, dump trucks without Dumping Licences will be rejected;
- The inert C&D materials to be delivered to the fill bank(s) should be in accordance with the conditions stipulated in the Dumping Licence;
- Any over-sized inert C&D materials should be broken down to less than 250mm in size so as to facilitate its reuse by other reclamation or earth-filling projects;
- The C&D materials to be disposed should consist entirely of inert construction waste (i.e. 100% inert construction waste); and

4.1.2 Acceptance Criteria for NENT Landfill (Northeast New Territories Landfill)

- The Truck Driver should bear a duly completed and signed CHIT;
- The dump truck should also have a valid Dumping License issued by CEDD, dump trucks without Dumping Licenses will be rejected;
- The non-inert C&D waste to be delivered to the landfills should be in accordance with the conditions stipulated in the Dumping License;
- Construction waste containing not more than 50% by weight of inert C&D waste (Gazette Notice G.N. 4278 published on 9 July 2010);
- For a load of C&D waste not consisting entirely of bamboo, plywood or timber delivered by a vehicle, the weight of the waste divided by the permitted gross vehicle weight of the vehicle must not greater than 0.25 for goods vehicle with demountable skip and 0.2 for other types of vehicle (Gazette Notice G.N. 4278 published on 9 July 2010);
- Mixed C&D materials should be sorted at source to reduce the inert content as far as practicable to meet the above criteria before they are delivered to landfills;
- C&D waste delivered for landfill disposal should contain no free water and the liquid content will not exceed 70% by weight; and
- At least one week's notice, including contractors name and contact details etc, will be submitted to the EPD before starting to deliver the C&D waste to the landfills. EPD will be informed of any subsequent change to the disposal programme.

4.2 Procedures of the Trip Ticket System

CRBC-CEC-Kaden JV will implement a Trip Ticket System (TTS) to track the disposal of C&D materials. Under the TTS, each truck carrying C&D materials leaving the Site for a disposal ground will bear a duly completed CHIT.

The Trip Ticket System will be executed according to the following procedures:

- The Senior Foremen/ Foremen will arrange the C&D waste to be sorted on site. He will also check the total actual amount of cumulated C&D waste after the completion of the particular works in the working area;
- If the sorted C&D waste is less than 1/3 of truckload, then the C&D waste will be transferred to the temporary holding area in CRBC-CEC-Kaden JV Works Area for temporary stockpiling. The C&D waste will be sorted and stored separately into

- different storage areas;
- Non-inert C&D waste will be stored in storage tanks properly covered with tarpaulin sheeting in the temporary holding area. Inert C&D materials will be stored on the ground properly covered with tarpaulin sheeting in the temporary holding area. Larvicidal oil or larvicide will be applied onto the stored C&D waste, if necessary;
 - For every 7 days or one truckload collected, the stored non-inert C&D waste in the temporary holding area will be transferred to the designated landfills after the DDF has been received from the Engineer's Representative;
 - For every 14 days or one truckload collected, the stored inert C&D waste in the temporary holding area will be transferred to the designated fill banks.
 - If the sorted C&D waste is more than 1/3 of truckload, then the Foreman will arrange disposal of the C&D waste to designated fill banks/ landfills after the Disposal Delivery Form (DDF) has been received from the Engineer's Representative;
 - For each truckload of C&D materials leaving the working area/ temporary holding area to the designated fill banks/ landfills, the truck driver must bear a duly completed, signed CHIT;
 - The truck will proceed to the disposal ground as stipulated in the CHIT. The truck driver will present the CHIT to the reception facility operator. If the C&D waste accords with the acceptance criteria, disposal of the C&D waste will be permitted and the facility operator will give the truck driver a transaction receipt and stamped CHIT;
 - The truck driver will present the CHIT at the in-weighbridge officially. If the vehicle load is accepted, the CHIT is deemed to be used and the in-weight would be recorded on the "Transaction Record Slip";
 - If the truck driver was instructed by the reception facility operator to go to the sorting facility. The driver will need return back to the site and report to the Senior Foreman/ Foremen. No driver is allowed to go to sorting facility without Senior Foreman/ Foremen permission or instruction;
 - The truck driver will then return the transaction receipt and the stamped CHIT to CRBC-CEC-Kaden JV as soon as possible. All CHIT and the transcription are to be return to the Environmental Officer;
 - CRBC-CEC-Kaden JV will maintain a daily record disposal of C&D materials from the Site including details of the C&D waste, the truck number, departure time, etc, and should check against the Engineer's Representative records as soon as possible and notify the Engineer's Representative in case any discrepancy is noted;
 - A daily record of disposal of C&D materials from the Site will be maintained, the

- record includes the details of the C&D materials, the truck number, departure time, etc., using the Daily Record Summary (DRS);
- The duly completed Part 1 of the DRS would be submitted promptly to the Engineer's Representative;
 - For disposal at government disposal facilities, CRBC-CEC-Kaden JV will check the information recorded in the DRS against the disposal records in CEDD's website (http://www.cedd.gov.hk/eng/services/trip_ticket/index.html) or EPD's website (<http://www.epd.gov.hk/epd/misc/cdm/trip.htm>) and complete Part 2 of the DRS for submission to the Engineer's Representative within 1 working day after the records are posted at the EPD website; and
 - Where an irregularity is observed or where requested by the Engineer's Representative under special circumstances, CRBC-CEC-Kaden JV will submit to the Engineer's Representative within 5 working days after the recorded date of disposal the supporting evidence such as duly stamped CHIT and/or the transaction receipt (where relevant) to confirm proper completion of the delivery trips in question, or within 2 working days after the Engineer's Representative has requested for such evidence, whichever is later. A fax copy of the CHIT and transaction receipt is acceptable, unless otherwise directed by the Engineer. CRBC-CEC-Kaden JV will maintain all records on the CHIT for at least one year or other period as may be directed by the Engineer's Representative.

4.3 Measures to Avoid Leakage in Waste Transportation

- All of the dump trucks used would be equipped with mechanical covers in which maintained in a good condition.
- In order to minimize the leaking of material from the dump trucks, no material should be stored higher than the trail board.
- Deposited silt and wastes on all dump trucks' wheels and bodies should be properly washed off by wheel washing facilities before leaving the constructions sites.
- CRBC-CEC-Kaden JV will provide wheel washing facilities on site at the site entrance.

4.4 Disposal of C&D Materials to Alternative Disposal Ground(s)

Where CRBC-CEC-Kaden JV has identified a project that can be an alternative disposal ground, CRBC-CEC-Kaden JV will provide a detailed description of the alternative disposal ground, including location, lot number (where appropriate) and location plan(s)

to the Engineer to request for his written approval.

Where the alternative disposal ground is a private construction project, CRBC-CEC-Kaden JV will submit a letter from the Authorized Person of the development (as defined under the Building Ordinance) to confirm that:

- The C&D materials for use in the development is acceptable;
- The use of land so formed by the C&D materials is in conformity with the statutory town plan/ lease conditions;
- The Engineer's Representative are allowed to enter the alternative ground to conduct inspection where necessary; and
- The estimated quantity and type of C&D materials to be used in the construction works and the approximate delivery programme, together with the name, post and specimen signature of the competent person to sign the CHIT/ internal trip ticket stipulated in G.S. Clause 25.25(6)(a)(ii).

Where the alternative disposal ground is a private land but not a construction site, CRBC-CEC-Kaden JV will submit a letter from the relevant authorities, such as the Lands Department and the Planning Department, to confirm that the suitability of the alternative disposal ground in receiving the proposed amount of C&D materials for use, and a written consent from the landowner.

Where the alternative disposal ground is a government project, CRBC-CEC-Kaden JV will submit written consent from the project office of the alternative disposal ground to use the C&D materials generated from the Site, and to confirm the estimated quantity and type of C&D materials required and the approximate delivery programme.

A system for transmitting disposal records from the alternative disposal ground will be submitted to the Engineer's Representative for approval before disposal to the alternative ground starts.

4.5 Chemical Waste/ Hazardous Waste Handling and Disposal

4.5.1 Chemical Waste Handling and Disposal

Chemical waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, will be handled in accordance with the Code of

Practice on the Training, Packaging, Labelling and Storage of Chemical Wastes as follows:

Training

Waste and chemical handling training will be given to workers. Only competent and trained workers will be assigned to handle chemical waste. Only Registered Asbestos Contractor will be appointed to handle Asbestos Containing Materials.

Packaging

Chemical waste will be packed and held in containers of suitable design and construction so as to prevent leakage, spillage or escape of the contents under normal conditions of handling, storage and transport.

Containers used for the storage of chemical wastes will:

- Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed;
- Have a capacity of less than 450 litres unless the specifications have been approved by the EPD; and
- Display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Regulations.

Labelling

Every container of chemical waste will bear an appropriate label which will contain the particulars details. The waste producer will ensure that the information contained on the label is accurate and sufficient so as to enable proper and safe handling, storage and transport of the chemical waste.

Storage

The storage area will be specially constructed and bunded, and located close to the source of waste generation. Only compatible containers will be used for chemical wastes storage. The storage area for chemical wastes will:

- Be clearly labelled and used solely for the storage of chemical waste;
- Be enclosed on at least 3 sides;
- Have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20% of the total volume of waste stored in that area, whichever is the greatest;
- Have adequate ventilation;
- Be covered to prevent rainfall entering (water collected with the bund must be tested

and disposed of as chemical waste); and

- Be arranged so that incompatible chemicals are stored separately.

Before reaching 80% capacity of the storage container, licensed waste collectors will be employed to remove the chemical waste.

Transportation and Disposal

After the chemical wastes have been packed, labelled, and stored, the chemical wastes will be transported by licensed waste collectors and disposed of at Chemical Waste Treatment Facility in Tsing Yi or other approved facilities.

Asbestos Containing Material Handling, Collection, Transportation and Disposal

1. Asbestos waste shall be handled in strict accordance with the "Code of Practice on the Handling, Transportation and Disposal of Asbestos Wastes", issued by the Environmental Protection Department and only at the appointed disposal site designated by the Environmental Protection Department.
2. All asbestos waste once generated from abatement activities should be immediately placed into suitably labelled containers, packed and sealed (debris with sharp edges should be first placed in a nylon bag to prevent the plastic bags from being damaged). All bagged waste should first be thoroughly cleaned by wet-wiping and HEPA vacuumed once packed in each work area inside work zone. The bagged waste should then be transferred to the ground and egress the work zone through the decontamination unit where the bagged waste should be cleaned again to a condition of no visible debris.
3. All asbestos waste in sealed bags is to be temporarily stored in a buffer area or secure store within the building and securely locked at a location or placed in sealed container/skip supplied by the Registered Asbestos Contractor. All waste should be transferred to the temporary waste storage area through a barrow lined with 2 layers of polythene sheeting. All asbestos waste generated under particular phase will be transported to the waste store of that phase. After each waste transfer, the entire transportation route shall be thoroughly HEPA vacuumed by asbestos contractor to ensure no debris in any form shall possibly be left in the vicinity of the subject site.
4. The Registered Asbestos Contractor will be required to apply for the necessary "trip ticket" from the EPD at least 10 days prior to dumping asbestos waste at a Government appointed disposal site. This should be done from time to time to avoid any over-accumulation of asbestos waste on site. The Registered Asbestos Contractor shall submit a copy of the trip ticket to the Client for record.

5. The Registered Asbestos Contractor will be responsible for the transport and necessary equipment for asbestos disposal.
6. Water used within the works area and for washing facilities therein shall be collected by means of sumps and pumps and be passed through a filter of the approved type for removal of particles down to 5 micron in suspension before being discharged into the household soil and waste drainage system.
7. The asbestos waste produced at this site shall be Type 1 for all zones. Only licensed waste collector is allowed to deliver the asbestos waste to landfill site for disposal.

4.6 General Refuse

4.6.1 Handling the General Refuse

Measures to be implemented to encourage waste avoidance/ minimization include:

- Reducing the number of photos copies to a minimum and by copying on both sides of paper for internal documents and external documents where appropriate;
- Preventing over-ordering of office equipment and consumables;
- Procuring green office equipment and consumables in terms of energy efficiency, recycled content and durability, etc;
- Deploying sufficient recycle bins in site offices to facilitate collection of recyclables including wasted aluminum cans, plastics bottles and papers;
- Deploying sufficient collection bins with cover at convenient locations at site to facilitate collection of non-recyclable for disposal at landfills; and
- General refuses will be removed frequently for disposal so as to reduce odour generation.

4.6.2 Handling of Construction Runoff and Sewage

During the construction stage, peripheral temporary surface channels will be constructed to collect surface runoff in the construction area for desilting before discharging into the adjacent waters.

The temporary drainage system during the construction phase will be formulated by the CRBC-CEC-Kaden JV to match works and construction programme.

For office area, storm water is collected by surface channel and catchpit and further treated by settlement tank before discharge into existing drainage system nearby. For sewage collection will be by holding tank to be pumped out at regular interval for disposal.

Handling of sewage in terms sewage generated by human, adequate chemical toilets would be provided for collection.

Sufficient numbers of chemical toilets for workers and frontier workforces were placed on works area other than site offices.

4.6.3 Estimate Quantities of C&D Material/ Waste

The following types of waste would be generated from the works areas and the workforce on site.

- C&D Waste/ materials from site clearance;
- Excavated materials from box culvert construction to be re-deposited;
- Chemical waste from maintenance of plant and equipment; and
- General refuse from the workforce on site.

Forecast of Total Quantities of C&D Materials to be Generated from the Contract	Latest Estimate Disposal C&D Quantities
Total Quantity Generated	443.7
Hard Rock & Large Broken Concrete ('000m ³)	194
Reused in the Contract ('000m ³)	62
Reused in other Projects ('000m ³)	177.48
Disposed as Public Fill ('000m ³)	266.22
Imported Fill ('000m ³)	0
Metals ('000kg)	0
Paper/ Cardboard packaging ('000kg)	12
Plastics ('000kg)	0.4
Chemical Waste('000kg)	1
Asbestos Containing Material('000kg)	18
Others e.g. general waste ('000m ³)	80

4.6.4 Use of Timber

CRBC-CEC-Kaden JV aims to avoid, reduce or minimize the use of timber in temporary construction activities. Where the use of timber is unavoidable for temporary works construction processes or activities with an estimated quantity of greater than 5m³, CRBC-CEC-Kaden JV will submit a method statement to the ER for agreement before starting the relevant temporary works. The method statement will include the justifications for the use and the measures taken to minimize the use of timber.

The summary table of timber usage will be updated and submitted to the ER for monitoring and review by not later than the 15th day of each month or, if it is a general holiday, the day following the general holiday, or a day agreed upon with the ER.

The Summary Table for Work Processes or Activities requiring timber for temporary work is attached in **Appendix F** respectively.

4.7 Handling of Recyclables

Before starting the transportation of recyclable materials off site to recycling facilities, CRBC-CEC-Kaden JV will meet with recycling contractors to establish a suitable system for collecting recyclable materials with care.

5 DISPOSAL PROGRAMME

The relevant licensing legislation and licensing/ control requirement is listed in **Section 1** above.

There will be inert C&D materials (comprising soil, broken rock and concrete, etc), non-inert C&D materials and slurry and bentonite generated under Contract No.: CV/2013/08. With reference to the clause 25.25(1) of PS, the designated disposal grounds for mentioned are listed as follows:-

- Inert C&D Materials:
Tuen Mun Area 38 Fill Bank or other disposal grounds as directed by the Engineer

- Slurry and Bentonite
Tseung Kwan O Area 137 Fill Bank
- Non-inert C&D Materials:
North East New Territories Landfill (NENT)

Monthly Summary for C&D material disposal off the Site will be provided to indicate the actual quantities, types of C&D materials and corresponding disposal ground in Waste Flow Table (WFT).

Disposal locations for inert C&D materials would be Tuen Mun Area 38. The non-inert C&D materials would be disposed to NENT landfill. Tseung Kwan O Area 137 Fill Bank is designated for slurry and bentonite disposal.

Wheel washing facilities would be installed at works areas. These facilities would be cleaned at least twice daily.

6 NOTIFICATION TO TRUCK DRIVERS

CRBC-CEC-Kaden JV will write to all truck drivers whom he or his sub-contractor(s) has engaged for removal of C&D materials from the Site and draw their attention to the following particular points:

- Each truck carrying C&D materials leaving the Site for a disposal ground must bear a duly completed CHIT, irrespective of the location and nature of the disposal ground;
- The C&D materials must be disposed of at the disposal ground as stipulated in the CHIT;
- What constitute and improper disposal and that the Public Fill Committee (PFC) will consider revoking the Dumping Licence from the holder of the offending trucks; and
- Truck drivers must bear a valid Dumping Licence that he can apply from the Civil Engineering and Development Department (CEDD).

The Flow Chart of the Trip Ticket System and the notification to truck drivers and the receipt form is attached in **Appendix A** and **B** respectively.

7 WASTE MANAGEMENT RECORDS

The CHIT will be used for each and every vehicular trip transporting construction and demolition (C&D) material off site.

Prior to the vehicle leaving the site, the Engineer's Representative will insert the date, time of departure, vehicle licence plate number, designated public filling facility/ landfill, and other information as required. The form will be carried on board the vehicle at all times throughout the vehicular trip.

A comprehensive register of the CHIT issued will be maintained and available for inspection by the Engineer's Representative upon request. The following records will be kept for monitoring of the CHIT issued:-

Daily Record Summary (DRS) and the Waste Flow Table (WFT) should be completed and submitted to the Engineer's Representative for record. A sample of DRS and WFT, please refer to **Appendix C** and **D** respectively.

Waste Flow Table – Monthly

Record of the quantities of C&D materials generated each month will be maintained using the monthly summary Waste flow Table (WFT). CRBC-CEC-Kaden JV will complete and submit the monthly summary WFT to the Engineer by not later than the 15th day of each month follows the reporting month, or if it is a General Holiday, the day following the General Holiday, or a later date as agreed by the Engineer.

Waste Flow Table – Yearly

The estimated quantities of C&D materials to be generated each year from the site will be summarised using the yearly summary WFT. The WFT will be updated on a half-yearly basis and submit to the Project Proponent by not later than 1st of June and December of each year, or if it is a General Holiday, the day following the General Holiday, throughout the construction period in order to account for the revised works programme and latest outturn on the quantities of C&D materials generated from the site.

These summaries shall also be made available to ETL and IEC

Specific trip ticket and records for internal transfer of C&D materials and imported fill materials will also be kept for monitoring whatever necessary.

For recyclable materials, CRBC-CEC-Kaden JV's Representative will record the quantities of all the recyclable materials before removal off the Site by the recycling contractors, and include the details in the WFT for submission to the Engineer's Representative.

Video Monitoring System

In order to ensure proper disposal of C&D materials, enhancement measures to further improve the TTS recording system, a video recording system shall be installed and disposal shall be checked against survey record. Pursuant to PS Clause 25.25(6) (g), video recording system is required to be installed at each vehicular exit/entrance to record all truck leaving the Site. CRBC-CEC-Kaden JV will also check the disposal records against the video records to ensure the proper disposal of C&D materials. Following essential features are needed to fulfill:

- The video cameras used in the system shall be high resolution, lowlight and colour type;
- Power back up shall be provided to cater for accidental breakdown of the power supply to the system;
- Video captured by the system shall be recorded continuously without break except with the agreement of the Engineer or in the month during which there is no disposal of C&D materials off the Site for the entire month;
- Video shall be captured in a format acceptable to the Engineer;
- The registration mark of each vehicle leaving the site shall be recorded; and
- The loading conditions of dump trucks including empty trucks shall be captured.
- Post sufficient notices at conspicuous positions to notify the workers, drivers and staff about the purpose of the video recording system in accordance with data protection principles set out in the Personal Data (Privacy) Ordinance. The sample of notification of video recording system for dump trucks is shown in Appendix G.

8 WASTE MONITORING AND AUDIT

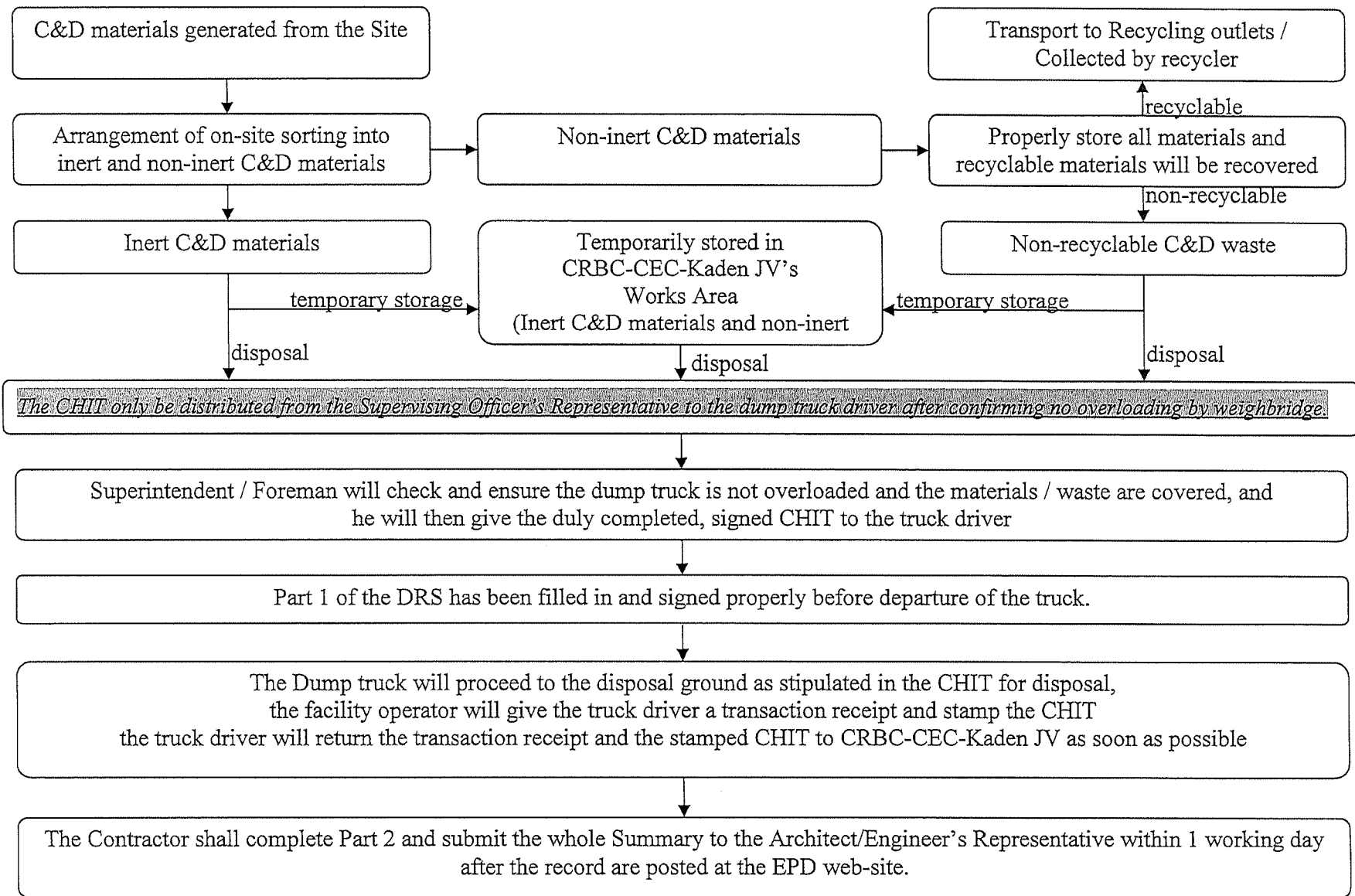
The aims and objectives of waste management audit are:

- To ensure that the waste arising from works are handled, stored, collected, transported and disposed of in an environmentally acceptable manner;
- To ensure that the handling, storage, collection and disposal of waste arising from the demolition works comply with the relevant requirements under the Waste Disposal Ordinance and its regulations, and this WMP;
- To ensure recommended mitigation measures in the Implementation Schedule of Mitigation Measures of the EM&A Manual is properly implemented; and
- To encourage the reuse and recycling of materials.

The ET, with assistance from the Site Agent would audit the waste management practices during the weekly environmental site inspection to evaluate the overall performance of the implementation of the WMP and ensure the appropriate control measures are properly implemented. Observations and findings identified by the ET during weekly inspection shall be rectified by the CRBC-CEC-Kaden JV. Sample weekly environmental site inspection report is shown in Appendix H.

Appendix A

Flow Chart of the Trip Ticket System



Appendix B

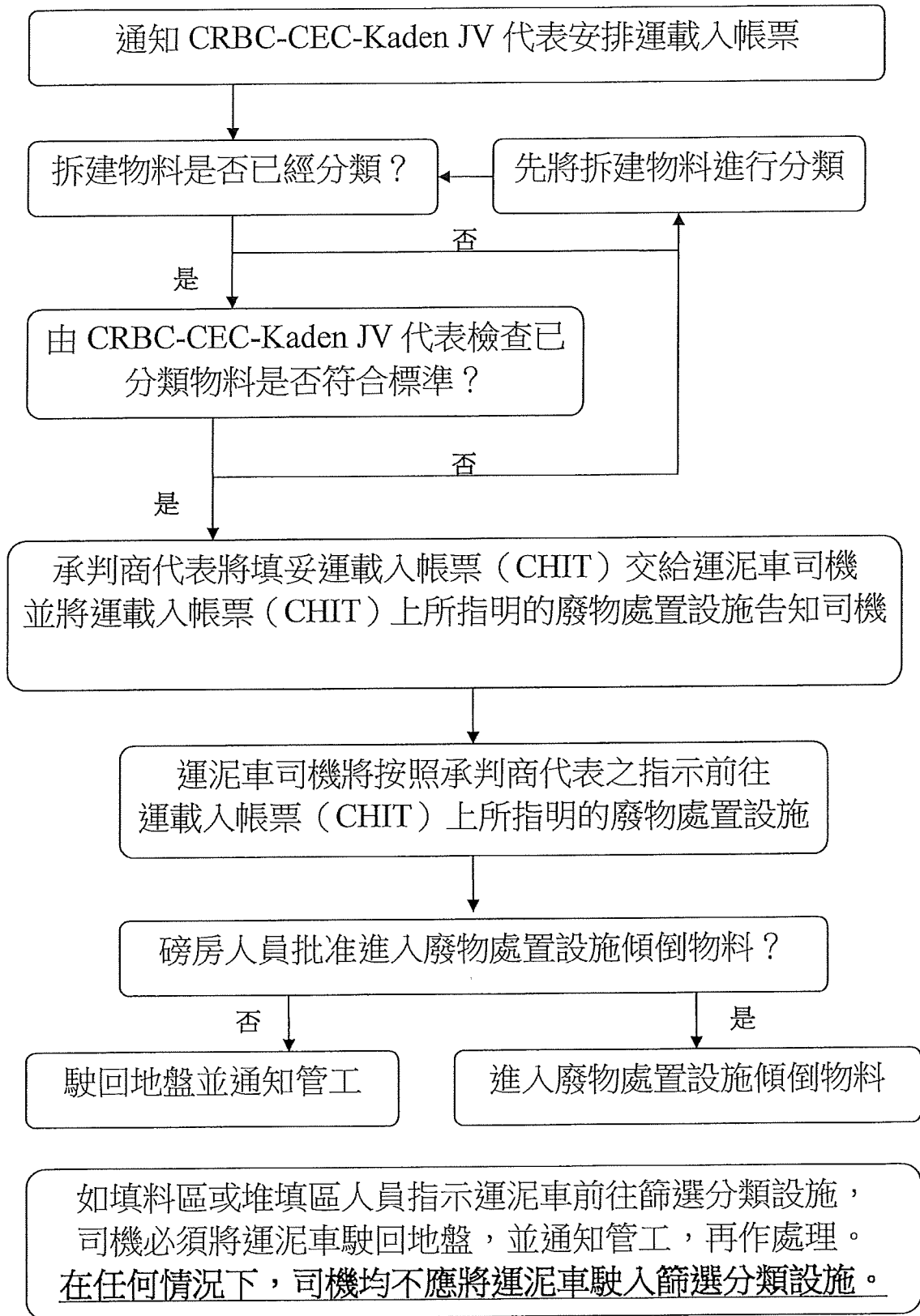
Notification to Truck Drivers

合約 CV/2013/08
運載物料及傾倒時需注意及檢查事項

運泥車司機於運載物料及離開地盤前，司機必須注意並檢查以下事項：

1. 運泥車上的物料已經篩選分類為：
 - a. 惰性（如泥土、石屎頭、石頭、碎石等）；
 - b. 非惰性（如樹枝、鐵枝、一般垃圾等）。
 2. 運泥車沒有超載。
 3. 車軌及車身已經徹底清洗及泥斗上物料已經完全蓋好。
 4. 運載記錄票上的第一截已交給駐地盆監工人員。
 5. 司機已持有有效的傾倒執照。
 6. 司機已持有運載入帳票（綠色）並票上的所有資料已經填妥。
 7. 必須依照運載入帳票（綠色）所指明的地點進行傾倒。
 8. 如司機沒有持有已填妥資料的運載入帳票（綠色）而離開地盤進行傾倒；或運泥車駛往非運載入帳票（綠色）所指明的地點進行傾倒；或司機於傾倒後未能提供已蓋印的運載入帳票（綠色）及傾倒記錄，則會構成不當傾倒。
 9. 如運泥車駛往非指明的地點進行傾倒，並該地點為私人土地；或運泥車非法傾倒，則會構成嚴重不當傾倒。
- ※ 運泥車不當傾倒或嚴重不當傾倒可被吊銷傾倒執照。

合約 CV/2013/08
運載物料及傾倒流程表



Appendix C

A Sample of Daily Record Summary

"Daily record Summary" to record daily disposal of construction & demolition (C&D) materials from the *Site

"每日運載記錄摘要"記錄每日由*地盤所傾卸的拆建物料

(1) Contract No. & Title: 合約編號及名稱: Contract No: CV/2013/08 - Liangtang / Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works - Contract 6
蓮塘/香園圍口岸土地平整及基礎建設工程-工程合約 6 - (CV/2013/08)

(2) Date of disposal: 傾卸日期: _____

(3) Disposal ground (s) designated in the Contract or directed by the Architect/Engineer 合約指定或建築師/工程師指示接收設施: _____

(a) _____

(b) _____

others 其它: _____

(4) Approved alternative disposal grounds: 另可接受的接收設施: _____

CHIT No. 載運入報票	Vehicle Registration No. 車輛登記號碼	Approx. Vol (e.g Full/Three Quarter/Half/One Quarter) 大約承載量(例如全 、3/4、1/2、1/4)	C&D Material Type (e.g Inert / non-inert) 建築廢料種類 (例如惰性或非惰性)	Disposal Ground 接收設施	Signature & Name of the Contractor's Designated person before departure 於離開地盤前·承建商 的指定人仕姓名及簽名	Departure time from *Site 離開地盤時間	Signature & Name of the Architect/Engineer's supervisory staff before departure or other time as agreed between the Architect/Engineer's Representative and the Contractor 於離開地盤前或其它經承建商與建築 師/工程師代表同意的時間·建築師/ 工程師監管人員姓名及簽名	Actual Disposal Ground 真正接收設施	Arrival Time at Disposal Ground 抵達接收設施時間	Remarks 備註

Part 1² 甲部

Part 2² 乙部

Submitted by: 呈交: _____

Signature: 簽名: _____

Date: 日期: _____

Received by: 接收: _____

Post: 職位: _____

Date & Time: 日期及時間: _____

[Name of Contractor's Designated Person]

承建商的指定人仕姓名

[Name of signature of the Architect/Engineer's staff]

建築師/工程師監管人員姓名及簽名

1 Form term contract, if there are no full time site supervisory staff, the Architect/Engineer's supervisory staff should spot check and then sign as appropriate in accordance with paragraph 25 of DEVB TC(W) 6/2010 定期合約, 如沒有全職地盤監管人員, 應根據DEVB TC(W) 6/2010 的第25段進行定點檢查及簽署

2 Part 1 甲部 - The Contractor shall complete Part 1 in duplicate and a copy should be kept by the Architect's/Engineer's Representative. 承建商填寫甲部兩份, 副本由建築師/工程師代表持有

3 Part 2 乙部 - The Contractor shall complete Part 2 and submit the whole Summary to the Architect/Engineer's Representative within 1 working day after the record are posted at the EPD web-site.

承建商填寫乙部及將整份運載記錄摘要於記錄上載在環境保護署網頁後1個工作天內呈交給建築師/工程師代表

Appendix D

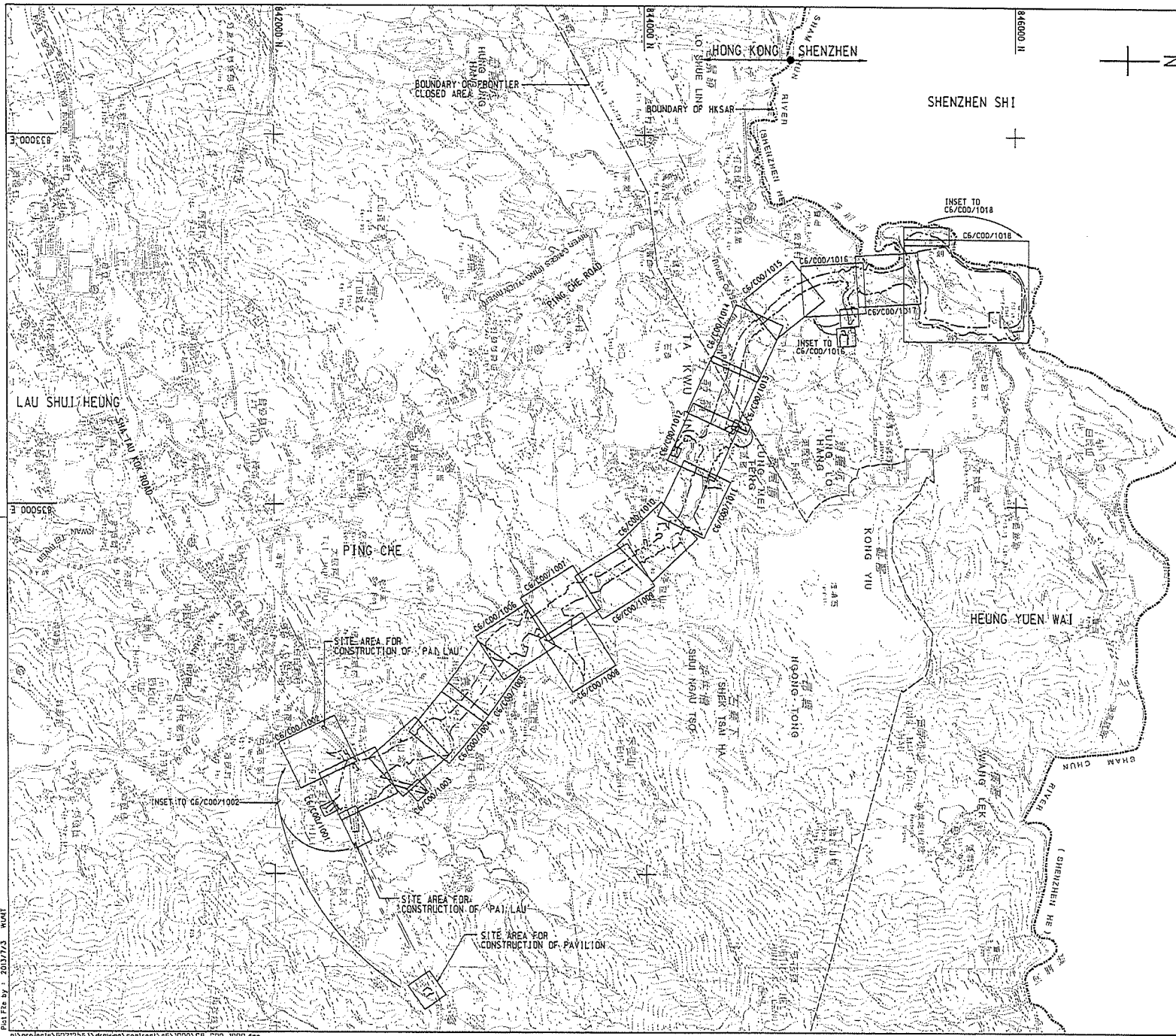
A Sample of Waste Flow Table

Forecast of Total Quantities of C&D Materials to be Generated from the Contract*										
Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/cardboard packaging	Plastics (see Note 3)	Chemical Waste	Other, e.g. general refuse
(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000 m ³)

- Notes:
- (1) The performance targets are given in PS Clause 6(14).
 - (2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
 - (3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.
 - (4) The Contractor shall also submit the latest forecast of the total amount of C&D materials expected to be generated from the Works, together with a breakdown of the nature where the total amount of C&D materials expected to be generated from the Works is equal to or exceeding 50,000 m³.

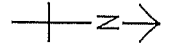
Appendix E

Site Location Plan (Drawing No. 60212563/C6/C00/1000)



LEGEND:

- SITE BOUNDARY
- UNDERGROUND SITE BOUNDARY



TENDER DRAWING	REVISED	DATE
		MAY-13


土木工務拓展署
 Civil Engineering and
 Development Department
 LIAWANG/HEUNG YUEN WAI BOUNDARY CONTROL POINT
 SITE FORMATION AND INFRASTRUCTURE WORKS
 CONTRACT 6

**GENERAL LAYOUT
KEY PLAN**

AECOM

DRGNO. 60212563/C6/C00/1000
圖號或號 60212563/C6/C00/1000

DESIGNED BY 設計人	CHKD BY 校核人	DATE 日期	APPROVED BY 核准人
MLC	ZJ	12/2013/08	JULY 2013
SCALE 比例尺		DATE 日期	
AT 1 : 10000		JULY 2013	
DRAWING MADE BY 繪圖人		COPYRIGHT RESERVED 版權所有	
AETRES			

PLOT FILE BY : 2013/7/3 WWT

Appendix F

Summary Table for Work Processes or Activities requiring timber for temporary work

SUMMARY TABLE FOR WORK PROCESSES OR ACTIVITIES REQUIRING TIMBER FOR TEMPORARY WORK

(PS Clause 1.99)

Contract No.: _____

Contract Title: _____

Item No.	Description of Works Process or Activity [see note (a) below]	Justifications for Using Timber in Temporary Construction Works	Est. Quantities of Timber Used (m ³)	Actual Quantities used (m ³)	Remarks
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
Total Estimated Quantity of Timber Used					

Notes: (a) The Contractor shall list out all the work items requiring timber for use in temporary construction works. Several minor work items may be grouped into one for ease of updating.

(b) The Summary table shall be submitted to the Engineer's Representative monthly together with the Waste Flow Table for review and monitoring in accordance with the PS clause 25.24(11).

Contract No. CV/2013/08

Liantang/Heung Yuen Wai Boundary Control Point

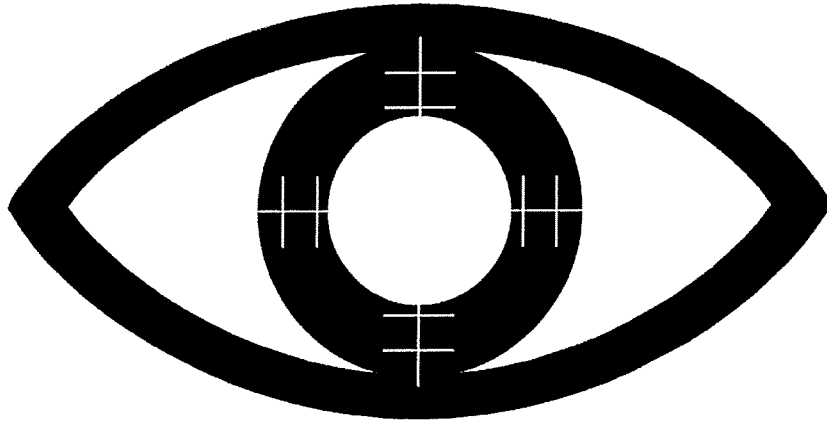
Site Formation and Infrastructure Works – Contract 6

Waste Management Plan

Appendix G
Notification of Video Recording System for Dump Trucks

注意

ATTENTION



此處有錄影監視系統

Surveillance Recording System in use

在本地盤設置的閉路電視系統會收錄影像作保安及管理用途，所收錄的資料將會依照個人資料(私隱)條例的規定處理。

The CCTV system installed in this Site will record video images for security and site management purposes. The recorded data will be processed in accordance with Personal Data (Privacy) Ordinance.

Appendix H
Sample of Weekly Environmental Walk Inspection Report

中國路橋-大陸工程-基利聯營體
CRBC-CEC-Kaden JV

Weekly Environmental Walk Inspection Report
Summary of Follow-up Actions

Part I:

Contract No.: CV/2013/08 **Contract Title:** Liantang/Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works – Contract 6

Date of Inspection: _____ **Time:** _____

Person(s) making the inspection:

<u>Name in Block Letters</u>	<u>Designation</u>	<u>Organization</u>	<u>Signature</u>

Item no.	Location	Situation Requiring Follow-up Action	Agreed Due Date for Completion	Date Completed	Remarks

To be signed at the end of inspection:

The Contractor's performance on nuisance abatement and waste management ~~is~~ **is not** to the satisfaction of the Engineer or his representative at the time of inspection.

(* delete as appropriate)

Engineer or his representative: _____

Contractor's Agent (or his representative) _____

Part II: (To be countersigned after **ALL actions** are completed)

Environmental Officer: _____

Architect/Engineer's Representative: _____

Date: _____

Date: _____

(Note: No payment will be made for the item of "Weekly Environmental Walk" under the PFSES if the Contractor's site environmental and waste management performance is not satisfactory, or any one of the follow up actions is not completed on or before the "Agreed Due Date for Completion")