



Contract No. EP/SP/66/12

Integrated Waste Management Facilities, Phase 1



吉寶西格斯 - 振華聯營公司
KEPPEL SEGHERS - ZHEN HUA JOINT VENTURE

PROJECT WASTE MANAGEMENT PLAN

(Clause 2.16, Further Environmental Permit No. FEP-01/429/2012/A)

Document No.

KSZHJV	/	312	/	WMP	/	0001	/	E
Issuer		Project Code		Type of Document		Sequential No.		Revision Index

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Date:	27 September 2018	27 September 2018	28 September 2018	28 September 2018

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Revision History

Rev.	Description of Modification	Date
E	Revise Construction Programme in Appendix B	27 Sept 2018
D	Revised as per EPD's comments	12 July 2018
C	Revised as per IEC's comments	23 May 2018
B	Revised as per IEC's and ET's comments	16 May 2018
A	First Issue	21 Feb 2018

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1 INTRODUCTION

The Government of Hong Kong SAR will develop the Integrated Waste Management Facilities (IWMF) Phase 1 (hereafter “the Project”) with incineration to achieve substantial bulk reduction of unavoidable municipal solid waste (MSW) and to cover energy from the incineration process. The IWMF will be on an artificial island to be formed by reclamation at the south-western coast of Shek Kwu Chau. Keppel Seghers – Zhen Hua Joint Venture (KSZHJV) was awarded the contract under Contract No. EP/SP/66/12 Integrated Waste Management Facilities Phase 1 to construct and operate the Project.

An environmental impact assessment (EIA) study for the Project have been conducted and the EIA Report was approved under the Environmental Impact Assessment Ordinance on 17 January 2012. An Environmental Permit (EP) (EP No.: EP-429/2012) was granted to EPD on 19 January 2012 for the construction and operation of the Project. Subsequently, the EP was amended (EP No.: EP-429/2012/A) and a further EP (FEP) (EP No.: FEP-01/429/2012/A) was granted to the Keppel Seghers – Zhen Hua Joint Venture (KSZHJV) on 27 December 2017.

As specified in Condition 2.16 of the FEP:

“At least 1 month before the commencement of construction of the Project, 3 hard copies and 1 electronic copy of a waste management plan (WMP) for construction stage of the Project shall be deposited with the Director. The WMP shall describe the arrangements for avoidance, reuse, recovery and recycling, storage, collection, treatment and disposal of different categories of waste to be generated from the construction activities and shall include the recommended mitigation measures on waste management in the EIA Report. The WMP shall indicate the disposal location (s) of all surplus excavated spoil and other wastes. A trip ticket system shall be included in the WMP. Surplus excavated spoil and other wastes shall only be disposed of at designated disposal locations unless otherwise approved by the Director.

Before submission to the Director, the WMP shall be certified by the ET Leader and verified by the IEC as conforming to the recommendations contained in the approved EIA report (Register No.: AEIAR-163/2012).

All measures recommended in the deposited WMP shall be fully and properly implemented for the Project.”

Pursuant to Condition 2.16 of the FEP, a waste management plan for the construction stage of the Project was developed and deposited with the Director of Environmental Protection.

1.1 Project Description

“Integrated Waste Management Facilities, Phase 1” is one single Contract for the Design, the Works and the Operation of the Facility on the Artificial Island at Portion 1 of the Site, the Existing Facilities in Portion 2 of the Site, the Air Quality Monitoring Stations (AQMSs) at Portions 3 to 5 of the Site, the Temporary Storage Facility during T&C stage at Portion 6 of the Site and the Temporary Storage Area at Portion 7 of the Site. The Site Layout Plans are attached in **Appendix A**.

General description of the Project is highlighted below: -

- (1) to take reception of Municipal Solid Waste from the Refuse Transfer Stations daily;
- (2) to treat a maximum of 3,000 tpd of Municipal Solid Waste by means of moving grate incineration technology and a maximum of 200 tpd of Municipal Solid Waste by mechanical treatment;
- (3) to export Surplus Electricity to the power grid of the Power Company;
- (4) to provide Surplus Electricity to the vessels of the Refuse Transfer Stations when they are berthing at the Facility via onshore power supply systems;
- (5) to deliver Ash and Residues from the Artificial Island to Portion 2 of the Site;
- (6) to dispose of Ash and Residues at the Designated Landfill; and
- (7) to refurbish the Existing Facilities within two years from the commencement of the Operation Period, during the on-going and without detriment to the Operation.

The key design and construction elements of the Project include: -

- (1) the Design and the Works including but not limited to the design, engineering procurement, construction, testing and commissioning of the Facility including: -
 - (i) Ground Treatment works;
 - (ii) Seawall and Breakwater construction;
 - (iii) Non-dredged Reclamation;
 - (iv) Other Marine works and Harbour and Port Facilities,

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- (v) Site formation,
- (vi) Municipal Solid Waste (MSW) Treatment Processes,
- (vii) Energy Recovery for Power Generation and Surplus Electricity export,
- (viii) Wastewater treatment process,
- (ix) Desalination and water treatment process,
- (x) Civil works;
- (xi) Building and Structural works,
- (xii) Electrical and Mechanical works,
- (xiii) Building Services,
- (xiv) Architectural and Landscaping works, and
- (xv) All other design and works required for the operation and maintenance of the Facility according to the Contract requirements.

Both stages shall include the provision of all necessary equipment, Constructional Plant, Plant, Mobile Plant, Temporary Works, labour, materials, tools, work, skills, expertise, services and transport as necessary in accordance with the Specification.

A tentative Construction Programme is attached in **Appendix B**.

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 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;

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- (c) Establishing the waste management procedures for avoidance, minimization, material reuse/recovery/recycling, collection, transportation, storage and disposal of wastes generated from the construction 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 *KSZHJV*'s mission, vision and beliefs towards the environment to the staff and provides a framework for guiding *KSZHJV*'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, together with the Environmental Objectives and Targets, are listed below:

Environmental Policy Statement

The core business of Keppel Seghers Zhen Hua Joint Venture is design, construction and maintenance of waste treatment process, E&M equipment, civil, marine, environmental, building and foundation engineering works. It is the policy of the Company to ensure that all its activities are carried out in a manner that causes minimum adverse impact on the environment through the establishment and implementation of an environmental management system. We aim to: -

- comply with all environmental legal, contractual and other requirements;
- commit to obtain and renew the necessary environmental licenses, registration and permits, and comply with the relevant statutory requirements and licensing standards
- prevent pollution by providing sufficient resources for implementation of environmental nuisance control and waste management;
- maintain a proper and good communication channel with the neighbourhood so as to minimize the environmental nuisance on them
- reduce the production of construction waste and to minimize the consumption of natural resources by careful planning and implementation;
- provide appropriate training to all staff including subcontractors' staff;
- strive to achieve continual improvement and maintain the effectiveness through periodic review of the environmental management system, the environmental objectives and targets and management reviews.

Mr. Michael Cheung (Project Director) is appointed as Management Representative, responsible for the overall co-ordination and implementation of this policy. However, environmental protection is one of the prime responsibilities of every employee, all staff shall ensure that this policy is understood, implemented and maintained. This policy will be reviewed annually and whenever necessary.

Approved by:



CHEUNG Chi Yuen, Michael

Authorized Representative

7 May 2018

環境保護政策

吉寶西格斯-振華聯營公司主要從事廢物處理程序、機電設備、土木工程、海事工程、環保工程、樓宇和地基工程的設計、建造和保養。環境保護是本公司的基本政策之一，本公司通過建立和實施環境管理系統，致力減低施工時對環境產生的不良影響。為此，本公司承諾：

- 透過了解所有有關團體的需要及期望，達致遵守所有有關環境保護的法例、合約和其它與環保之有關要求。
- 取得及定期更新所需要的環境保護牌照、註冊及許可證及附合所有有關環境保護的法例、牌照及許可證之要求。
- 提供充足資源實施環境及廢物管理方案，預防環境污染。
- 與所有持分者保持良好溝通從而將對他們於環境方面之影響減到最低。
- 透過仔細策畫和執行來減少建築廢物和耗用天然資源，以及考慮所有製成品及服務之生命週期，作出適當的處理如棄置，重用或循環再做等。
- 提供適當訓練給所有員工包括分包商員工。
- 定期檢討環境管理系統、環境目標及指標和進行管理評審，力求持續改善公司的環保表現及確保環境管理體系能有效執行。

項目總監張志遠先生被委任為管理者代表負責總體的統籌和履行本政策。然而，環境保護乃每一位員工的基本責任，所有員工必須瞭解本政策並貫徹執行。本政策會每年及在有需要時檢討。



張志遠

Authorized Representative 授權代表

2018年5月7日

Environmental Objectives and Targets

環境目標及指標

Item No.	Objective	Target
1	To comply with legal requirements	•Zero Conviction •Zero Pink/ yellow notice
2	To satisfy client's environmental requirements	Obtain a "satisfactory" or above ratings on the quarterly performance report
3	To prevent serious environmental incident	Zero Serious Environmental Incident
4	Maintain an effective EMS	Audit the Environmental Management System not less than twice a year
5	Enhance environmental awareness of workers	All workers to receive environmental induction training

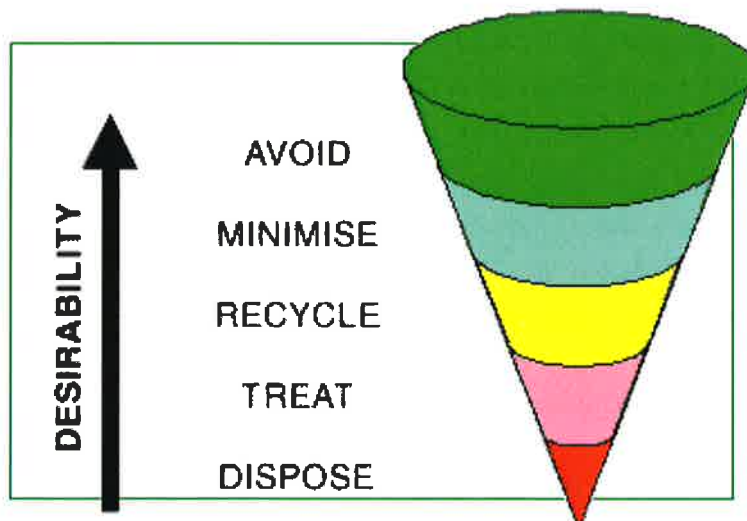
環境目標及指標

項目.	目標	指標
1	奉公守法	•零檢控 •零 粉紅/ 黃 環境改善通知書
2	滿足業主要求	於季度表現報告(環保項目)中取得『滿意』或以上之級別
3	防止嚴重環境事故	零嚴重環境事故
4	確保環境管理系統有效執行	每年審核環境管理系統不少於兩次
5	加強工人環保意識	所有工人接受環保入職培訓

1.4 The Waste Management Policy

To demonstrate the *KSZHJV*'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 *KSZHJV*'s 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 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.



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 Development Bureau (Works) Technical Circular No. 09/2011, 'Enhanced Control Measures for Management of Public Fill'. 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 License 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).

- Obtain a Dumping Permit under Dumping at Sea Ordinance

1.5.2.7 Dumping at Sea Ordinance

Dredged mud may be dumped at sea subject to permit controls under the Dumping at Sea Ordinance (DASO). Anyone who intends to dump dredged mud must first obtain a permit from the Director of Environmental Protection. Marine dumping sites have been designed for the disposal of dredged mud. All marine dumping activities must be carried out at these specified areas in accordance with the marine dumping permit.

1.5.3 Non-statutory Regulations

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

- 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;
- Works Branch Technical Circular No. 29/2000, Waste Management Plan, 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,

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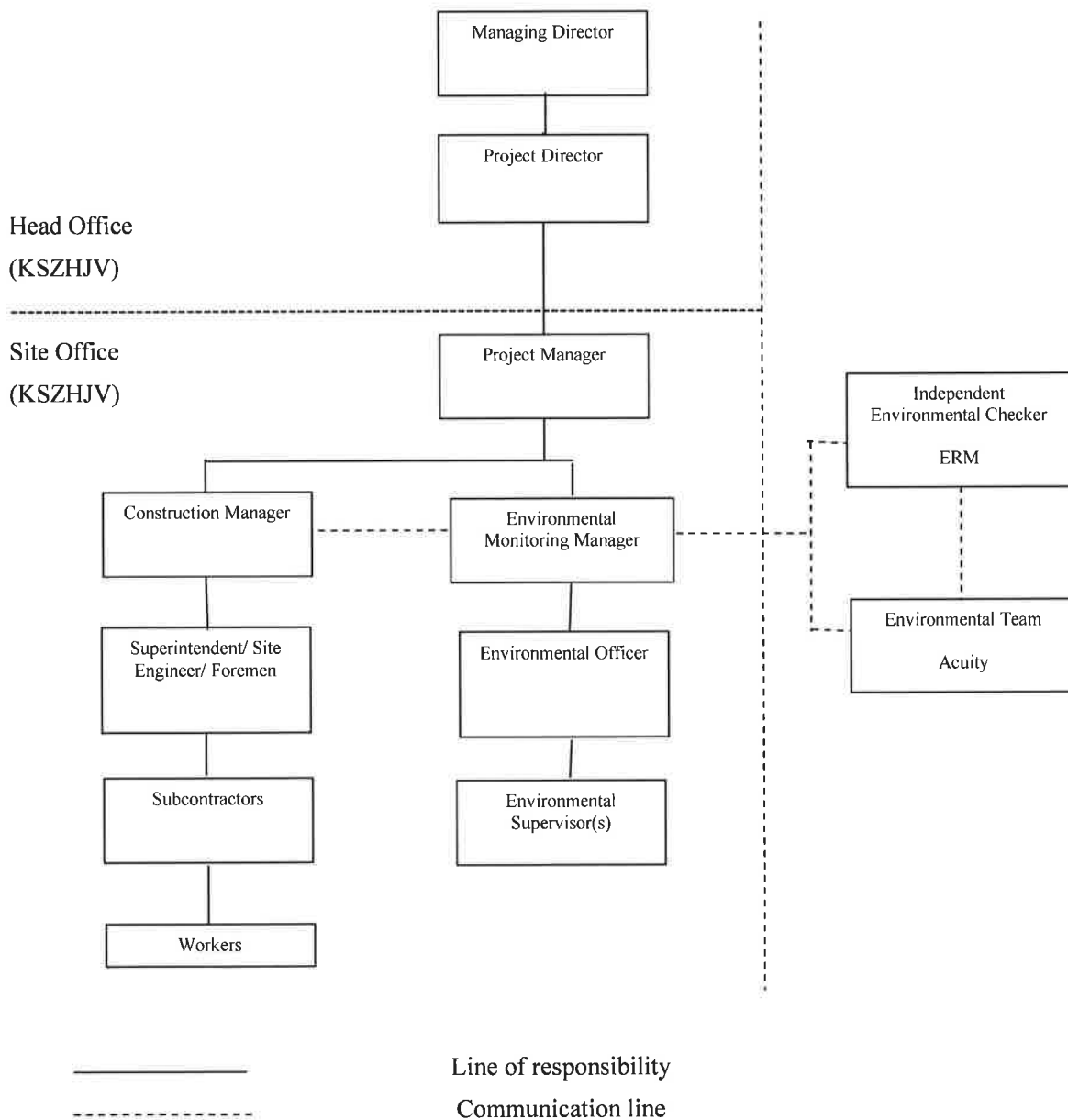
Transport and Works Bureau, HKSAR Government;

- Waste Reduction Framework Plan, 1998 to 2007, Planning, Environment and Lands Bureau, Government Secretariat, 5 November 1998;
- Works Bureau Technical Circular No. 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;
- Development Bureau (Works) Technical Circular No. 6/2010, Trip Ticket System for Disposal of Construction and Demolition Materials
- Development Bureau (Works) Technical Circular No. 8/2010, Enhanced Specification for Site Cleanliness and Tidiness;
- Development Bureau (Works) Technical Circular No.2/2011, Encouraging the Use of Recycled and other Green Materials in Public Works Projects
- Development Bureau (Works) Technical Circular No. 9/2011, Enhanced Control Measures for Management of Public Fill;
- A Guide to the Registration of Chemical Waste Producers; and
- A Guide to the Chemical Waste Control Scheme.

2 SITE ORGANIZATION AND STAFF DUTIES

2.1 Organization Structure

The organization structure for waste management is outlined in Figure 2.1. 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

KSZHJV has appointed the Environmental Monitoring Manager as the senior staff member fully responsible for implementing and overseeing the operation of the Trip Ticket System. The General Foremen and Foremen are appointed to man each exit from the Site for the purpose of ensuring that every truck / barge carrying C&D materials leaving the Site bears a duly completed, signed and stamped CHIT ticket / Vessel CHIT respectively.

2.2.1 Managing Director (Head Office)

- Having corporate responsibility for the environmental protection;
- To formulate and endorse the Environmental Policy; and
- To ensure adequate resources are available for implementation, control and improvement of the Environmental Management System.

2.2.2 Project Director (Head Office)

- Ensure that an effective Environmental Management System is established, implemented and maintained;
- To report the overall environmental performance to the Managing Director or the management board;
- To be the chairman of the Company Environmental Management Committee;
- Taking the lead to promote environmental protection generally whenever opportunities arise both internally and externally; and
- To ensure adequate resources are available for implementation, control and improvement of the Environmental Management System.

2.2.3 Project Manager (PM)

The Project Manager has responsibility for coordinating all environmental matters and reporting on these to the *KSZHJV* Supervisory Board and is responsible for all aspects of environmental issues within the project, which are managed with the Waste Management Plan (WMP).

The Project Manager is also responsible for ensuring commitment and assigning resources to provide an effective environmental management program in the workplace. The Project Manager

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will also attend the Site Safety and Environmental Management Committee Meeting and the Site Safety and Environmental Committee Meeting.

2.2.4 Construction Manager (CM)

The responsibilities of the Construction Manager are as follows:

- Ensure works are executed in accordance with the WMP (Waste Management Plan).
- Arrange routine joint site inspection with Environmental Monitoring Manager when necessary and review environmental inspection report submitted by Environmental Monitoring Manager.
- Ensure appropriate environmental protection and pollution control mitigation measures are properly implemented in accordance with the relevant procedures.
- Assist in handling any complaints received from the public.
- Ensure remedial action to be taken immediately if there is a non-compliance of statutory or contractual requirements in respect of environmental protection issues.
- Attend Site Safety and Environmental Management Committee Meeting (SSEMC) and the Site Safety and Environmental Committee Meeting (SSEC).

2.2.5 Environmental Monitoring Manager

We shall assign a person with sufficient qualification as an Environmental Monitoring Manager. The Environmental Monitoring Manager will provide advice to project management in respect of any environmental protection issues including noise abatement, air pollution control, water pollution control, and refuse disposal etc.

The Project Manager with the assistance of the Environmental Monitoring Manager would assume environmental duty on site. In other words, the project management is held responsible for any matter arising out of and in relation to environmental practices adopted on site.

The Environmental Monitoring Manager will work in parallel with the design team, project management and environmental team to ensure environmental issues are fully considered during the design and implementation stages.

The Environmental Monitoring Manager will also be responsible for the following:

- Prepare, implement and update the Waste Management Plan;

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- Advise on measures to be taken in the interest of environmental protection, and implement such measure;
- Liaise on all matters relating to environmental monitoring and auditing;
- Carry out inspections of the Site for identifying potential hazards to the environmental, and to report findings with recommendations for corrective actions;
- Participate in the weekly environmental walks with the Supervising Officer Representative (SOR) and environmental team to monitor the environmental performance on the Site;
- Check and ensure that any polluting or potentially polluting situation is promptly rectified;
- Attend Site Safety and Environmental Management Committee (SSEMC) meetings and Site Safety and Environmental Committee (SSEC) meetings;
- Arrange and provide the environmental training including the site specific induction training and toolbox talks for the staff and workers on the Site, and to organize environmental promotional activities;
- Advise the company on the implementation of an environmental management system;
- Keep a copy of the following documents (including but not limited to):
 - Any statutory required environmental permits/licenses including construction noise permits, noise labels for compressors and hand held percussive breakers, effluent discharge licenses, dumping permits, chemical waste producer;
 - All correspondences with Environmental Protection Department (EPD) and complaints;
 - Records regarding the handling of contaminated wastes;
 - Records regarding the disposal of all construction and demolition materials to the public filling areas and landfills, i.e. trip tickets and chits;
 - Record of all trained personnel in the site offices and update the record
- Update the monthly summary Waste Flow Table (WFT);
- Report to the Project Manager regarding non-compliance of any environmental protection issues and ensure any non-compliance is handled;
- Advise emergency actions or alternative arrangements when monitoring results show exceedances of Limit and Action levels;
- Ensure complaints are handled properly; and
- Co-ordinate with the Environmental Team and the Supervising Officer Representative to ensure all environmental issues are properly handled.
- Attend Site Safety and Environmental Management Committee Meeting and the Site Safety and Environmental Committee Meeting.

2.2.6 Environmental Officer (EO) / Environmental Supervisor(s) (ES)

The *KSZHJV* shall assign a person with sufficient qualification as an Environmental Officer /

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Environmental Supervisor. The duties of the Environmental Officer / Environmental Supervisor shall, for the purpose of environmental management under the Contract, include but without limitation to the followings:

- Assist the Environmental Monitoring Manager carrying out his/her duties;
- Carry out inspections of the environmental protection works for which he is responsible, and to ensure that follow-up actions have been taken promptly against defects and deficiencies identified;
- Advise the Environmental Monitoring Manager on the upkeep of environmental performance and standards of the Site;
- Attend the weekly environmental walk if required;
- Supervise and promote the execution of environmental work by the workers on the Site;
- Attend Site Safety and Environmental Management Committee meetings and Site Safety and Environmental Committee meetings;
- Conduct toolbox talk as assigned by the Project Manager / Environmental Monitoring Manager after acquiring the necessary qualifications;
- Report to Environmental Monitoring Manager; and
- Perform the duty of Environmental Monitoring Manager when he/she is absent.
- Attend Site Safety and Environmental Management Committee Meeting and the Site Safety and Environmental Committee Meeting.

2.2.7 Superintendent / Site Engineers / Assistant Engineers

The Superintendent/ Site Engineers / Assistant Engineers have the following duties in relation to environmental control:

- Monitor and control the works including those of sub-contractors to ensure compliance of both contractual and statutory requirements;
- Report to the Project Manager and Construction Manager(s) regarding non-compliance of any environmental protection issues;
- Investigate and verify the complaint received from public;
- Ensure the remedial actions or mitigation measures are carried out as planned and;
- Carry out noise and vibration monitoring as required.
- Attend Site Safety and Environmental Committee Meeting.

2.2.8 Foremen

Foremen are responsible for the following duties in relation to environmental control:

- Control the works, including those of sub-contractors, to fulfill environmental protection requirements;
- Report to the Site Engineers/ Assistant Engineers any non-compliance of environmental protection and mitigation measures;
- Investigate the complaint received from public; and
- Carry out remedial actions or mitigation measures to rectify the non-compliance.
- Attend Site Safety and Environmental Committee Meeting.

The foreman will also act as a ticket issuer which is responsible for issuing both “Disposal Delivery Form (DDF)” under trip ticket system and “CHIT” / “Vessel CHIT” under the Disposal Charging Scheme. He is responsible for checking the following items before issuing the tickets:

- The size of the inert Construction and Demolition (C&D) material is less than 250mm;
- The proper sorting of the construction waste that no public fill is mixed with Construction and Demolition waste before disposal;
- No overloading of the dump truck;
- Ensure the coverage of the cover of dump truck.

He has the authority not to issue the tickets if any one of the above list requirements is not complied and directly reported to Environmental Monitoring Manager / Environmental Officer / Environmental Supervisor.

2.2.9 Subcontractors

Subcontractors are responsible for the following duties in relation to environmental control:

- Implementing environmental control measures according to the *KSZHJV*'s waste management plan and instructions given by its staff;
- Submitting relevant environmental information to the main contractor where required, such as reports, method statements and environmental related records such as CHIT record, etc.
- To ensure their activities are carried out in an environmental control manner and complied with both contractual and legal requirements;
- Supervising their workers to observe environmental rules and regulations,
- To arrange and release workers to attend environmental training where appropriate; and

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- Reporting environmental related accidents, incidents, emergency situations to main contractor's staff promptly.

2.2.10 Other staffs / Workers

- Co-operating with his/her proprietor and environmental personnel and supervisor, to enable them to comply with or to perform duties and responsibilities for environmental protection at work;
- Observe environmental rules and regulations.

2.2.11 Environmental Team (ET)

The ET has been employed by the *KSZHJV* and shall be responsible to conduct the (Environmental Monitoring and Audit) EM&A programme. The ET shall be managed by the ET Leader, who shall be a person who has at least 7 years' experience in EM&A and have relevant professional qualifications. Suitably qualified staff should be included in the ET, and resources for the implementation of the EM&A programme have been allocated by the *KSZHJV* to enable fulfillment of the Project's EM&A requirements as specified in the EM&A Manual during construction and operation of the Project. The ET shall report to the Supervising Officer and the duties of ET shall include the following:

- Monitor and audit various environmental parameters as required in this EM&A Manual.
- Analyse the environmental monitoring and audit data and review the success of EM&A programme to cost-effectively confirm the adequacy of mitigation measures implemented and the validity of the EIA predictions and to identify any adverse environmental impacts arising.
- Carry out regular site inspection to investigate and audit the *KSZHJV*'s site practice, equipment and work methodologies with respect to pollution control and environmental mitigation, and effect proactive action to pre-empt problems.
- Monitor compliance with conditions in the EP, environmental protection, pollution prevention and control regulations and contract specifications.
- Audit environmental monitoring data and site environmental conditions.
- Report on the environmental monitoring and audit results to EPD, the Supervising Officer, the IEC and *KSZHJV* or their delegated representative.
- Recommend suitable mitigation measures to the *KSZHJV* in the case of exceedance of action or limit levels in accordance with the event and action plans.
- Liaise with the IEC on all environmental performance matters and timely submit all relevant EM&A proforma for approval by the IEC.

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- Advise the *KSZHJV* on environmental improvement, awareness, enhancement matters, etc. on site.
- Adhere to the procedures for carrying out complaint investigation.
- Timely submit the EM&A Reports to EPD

2.2.12 Independent Environmental Checker (IEC)

The IEC has been employed by the *KSZHJV*. The responsibilities of the IEC during the construction and operation of the Project shall include the following:

- Advise the Supervising Officer on environmental issues related to the project, independent from the management of construction works, but empowered to audit the environmental performance of construction and operation of the IWMF.
- Provide proactive advice to the Supervising Officer and the Employer of the Project on environmental matters.
- Review and audit all aspects of the EM&A programme, including the implementation of environmental mitigation measures, submission relating to the EP and EM&A, and any other submission required under the EP and EM&A Manual.
- Review and verify the monitoring data and all submissions relating to or under the EP and EM&A Manual submitted by the ET, including but not limited to the EM&A reports
- Monitor the implementation of the EM&A programme and the overall level of environmental performance being achieved.
- Arrange and conduct regular, at least monthly site inspections of the works during construction phase, and ad hoc inspections if significant environmental problems are identified.
- Comply with the agreed event / action plan in the event of any exceedance.
- Check and ensure the procedures for carrying out complaint investigation being followed and check the effectiveness of corrective measures.
- Feedback audit results to ET by signing off relevant EM&A proforma.
- Ensure the impact monitoring is conducted at the correct locations at the frequency identified in the EM&A Manual.
- Check that the mitigation measures are effectively implemented.
- Report the works conducted, the findings, recommendation and improvement of the site inspections, the findings, recommendation, and improvement after reviewing the ET's and the *KSZHJV*'s works, and any advices to the Supervising Officer and the Employer of the Project on a monthly basis.

3 SITE SPECIFIC WASTE MANAGEMENT

3.1 Waste Policy Principles

Refer to hierarchy abovementioned in **Section 1.4**, 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 1: 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;
- Sorting of plastic waste and deliver to recycling company;
- 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 PROCEDURE

The quantities of disposal C&D materials will be recorded under the barcode trip ticket system by using the “C&D Material Disposal Delivery Form”. In addition, the filled “CHIT” / Vessel “CHIT” will also be presented to the landfill / public fill 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.

According to our latest site investigation results, all the boreholes were found to have a very low organic matter. It is therefore not anticipated to have biogas generation. In addition, the specifications of the project are not required to have any precautions during construction works. It is also not anticipated to use public fill for reclamation below +2.5mPD.

Borehole No.	Depth (m)	Organic Matter (%)
VC10	0.0 – 0.9	1.3
VC10	12.9 – 13.9	0.5
VC3	0.0 – 0.9	1.5
VC3	13.9 – 14.9	3.6
VC4	0.9 – 1.9	1.3
VC4	10.9 – 11.9	4.6
VC9	0.0 – 0.9	0.5
VC9	10.9 – 11.9	1.0

Table 2: Organic matter of the boreholes

4.1 Estimate Quantities of C&D Materials / Wastes

The following types of waste would be generated from the works.

- Inert C&D materials (Removal of Surcharge);
- Inert C&D materials (Broken concrete);
- Non inert C&D materials;
- Marine Sediment;
- Chemical waste;
- General refuse; and
- Recyclable wastes (paper, plastic and metal)

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Material	Generated from Project (m³)	Re-used onsite or on other Projects (m³)	Disposal (m³)	Proposed Disposal Outlet
Inert C&D Materials (Removal of Surcharge)	532,000	212,800	319,200	Alternative Disposal Ground to be approved by SOR, Tuen Man Area 38, TKO Area 137
Inert C&D Materials (Excavated alluvium / rock)	50,000	50,000	0	
Non inert C&D Materials	8,000	3,000	5,000	North East New Territories Landfill
Marine Sediment	27,300	0	27,300	South of Cheung Chau
Sewage	1,000	0	1,000	Licensed Contractor
Chemical Waste	5,000 (L)	0	5,000 (L)	Licensed Chemical Waste Collector
Recyclable wastes (paper, plastic, metal)	50	50	0	On list EPD waste collector

Table 3: Estimated Quantities of C&D Materials and Proposed Disposal Outlet

4.2 Acceptance Criteria for the Government Disposal Facilities

Inert C&D materials shall dispose to Fill Banks (e.g. Tuen Mun Area 38, TKO Area 137 etc.)
Mixing of non inert C&D materials with inert C&D materials will result in rejection for disposal of C&D materials at Fill Banks.

For non-inert C&D materials, the designated disposal facility is depended on the waste depth / weight ratio of the vehicle to transport the non-inert C&D materials off site.

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
Demountable Vehicle	Over 1m	No restriction	Landfill
	1m or below	0.25 or below	

Table 4: Waste Acceptance Criteria for landfill and sorting facilities for non inert C&D Materials

Note: Weight ratio = The net weight of C&D materials / Permitted Gross Vehicle Weight

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

4.2.1 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, signed and stamped DDF and a duly signed CHIT;
- The dump truck should also have a valid Dumping License issued by CEDD, dump trucks without Dumping Licenses 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 License;
- 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
- the bituminous material is required to be separated from other inert construction and demolition (C&D) materials for disposal prior to delivery to the Public Fill Reception Facility (PFRF).

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

- The Truck Driver should bear a duly completed, signed and stamped DDF and a duly signed CHIT;

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- 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. 4272 published on 27 June 2008);
- 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. 4272 published on 27 June 2008);
- 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.

4.3 Procedures of the Trip Ticket System (Disposal of C&D materials from Portion 7)

Portion 7 is generally used for the storage of Site Investigation Bore log samples inside the container and may tentatively use as bar bending yard in future. No construction wastes will be transported from the Artificial Island at Shek Kwu Chau to Portion 7.

KSZHJV 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 and stamped Disposal Delivery Form (DDF) issued by the Supervising Officer's Representative. The C&D materials must be disposed of at the disposal grounds as stipulated in the DDF.

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

- The Superintendents/ Senior Foremen/ Foremen will arrange the C&D waste to be sorted on site. He will also check the total actual amount of accumulated C&D materials.
- Non-inert C&D materials will be stored in storage tanks properly covered with tarpaulin sheeting. Inert C&D materials shall be properly covered with tarpaulin sheeting. Larvicidal oil or larvicide will be applied onto the stored C&D waste, if necessary.

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- For each truckload of C&D materials leaving Tung Chung Storage area to the designated Fill Banks / landfills, the truck driver must bear a duly completed and a duly 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 materials accords with the acceptance criteria, disposal of the C&D materials will be permitted and the facility operator will give the truck driver a transaction receipt and stamp the CHIT.
- The truck driver will present the CHIT at the in-weight bridge 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 Superintendents/ Senior Foreman/ Foremen. No driver is allowed to go to sorting facility without Superintendent/ Senior Foreman/ Foremen permission or instruction.
- The truck driver will then return the transaction receipt and the stamped CHIT to **KSZHJV** as soon as possible. All CHITs are to be return to the Environmental Monitoring Manager.
- **KSZHJV** will maintain a daily record disposal of C&D materials from the Site including details of the C&D materials, the truck number, departure time, etc., and should check against the Supervising Officer’s Representative records as soon as possible and notify the Supervising Officer’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 before departure of the vehicle, or to suit site operations at other time to be agreed between the Supervising Officer’s Representative.
- For disposal at government disposal facilities, **KSZHJV** will check the information recorded in the DRS against the disposal records in CEDD’s website (<http://www.cedd.gov.hk/eng/services/tripticket/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 Supervising Officer within 1 working day after the records are posted at the EPD web site.
- Where an irregularity is observed or where requested by the Supervising Officer’s Representative under special circumstances (e.g. a CHIT has been issued but there is no disposal record at the designated disposal facilities), **KSZHJV** will submit to the Supervising Officer’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)

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to confirm proper completion of the delivery trips in question, or within 2 working days after the Supervising Officer'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 Supervising Officer.

KSZHJV will maintain all records on the CHIT for at least one year or other period as may be directed by the Supervising Officer's Representative. The proposed days for reporting any irregularity found shall be subject to review from time to time.

4.4 Procedures of the Trip Ticket System (Vessel to land: Disposal of non inert C&D materials from Artificial Island at Shek Kwu Chau to landfills)

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

- The Superintendents/ Senior Foremen/ Foremen will arrange the C&D materials to be sorted on site. He will also check the total actual amount of accumulated C&D materials after the completion of the particular works in the working area.
- Non-inert C&D materials will be stored in storage skips properly covered with tarpaulin sheeting. Larvicidal oil or larvicide will be applied onto the stored C&D materials, if necessary.
- When accumulating sufficient amount of non inert C&D materials, the storage skips shall be transported by barge to the berthing area of Tuen Mun Area 38 Temporary Construction Waste Sorting Facility which the main contractor of that project is China Harbour Engineering Co. Ltd. Approval shall be obtained from the Engineer's Representative of the project – Tuen Mun Area 38 Temporary Construction Waste Sorting Facility.
- If Tuen Mun Area 38 Temporary Construction Waste Sorting Facility is not feasible to act as the berthing point to transfer non inert C&D materials from vessels to trucks, *KSZHJV* shall apply for the necessary permission and licenses from the appropriate authorities for the berthing point to transfer non inert C&D materials from vessels to trucks;
- Prior to transferring the storage skips to the barge, the Superintendents/ Senior Foremen/ Foremen shall issue an internal trip ticket of each storage skips to vessel master for transferring non inert C&D materials from vessels to land;
- All non inert C&D materials loaded off from the barge shall immediately transfer to the dump truck in form of storage skips only. No non inert C&D materials shall be stored within the construction site at Tuen Mun Area 38 Temporary Construction Waste Sorting Facility;

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- The Superintendents/ Senior Foremen/ Foremen shall issue CHIT in exchange of the issued internal trip ticket for each storage skips at Tuen Mun Area 38 Temporary Construction Waste Sorting Facility;
- For each truckload of Non inert C&D materials leaving Tuen Mun Area 38 Temporary Construction Waste Sorting Facility to the designated landfills, the truck driver must bear a duly completed and a duly 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 stamp the CHIT.
- The truck driver will present the CHIT at the in-weight bridge 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 Superintendent/ Senior Foreman/ Foremen. No driver is allowed to go to sorting facility without Superintendent/ Senior Foreman/ Foremen permission or instruction.
- The truck driver will then return the transaction receipt and the stamped CHIT to *KSZHJV* as soon as possible. All CHITs are to be return to the Environmental Monitoring Manager.
- *KSZHJV* will maintain a daily record disposal of C&D materials from the Site including details of the C&D materials, the truck number, departure time, etc., and should check against the Supervising Officer’s Representative records as soon as possible and notify the Supervising Officer’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 before departure of the vehicle, or to suit site operations at other time to be agreed between the Supervising Officer’s Representative.
- For disposal at government disposal facilities, *KSZHJV* will check the information recorded in the DRS against the disposal records in CEDD’s website (<http://www.cedd.gov.hk/eng/services/tripticket/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 Supervising Officer within 1 working day after the records are posted at the EPD web site.

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- Where an irregularity is observed or where requested by the Supervising Officer's Representative under special circumstances (e.g. a CHIT has been issued but there is no disposal record at the designated disposal facilities), **KSZHJV** will submit to the Supervising Officer'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 Supervising Officer'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 Supervising Officer. **KSZHJV** will maintain all records on the CHIT for at least one year or other period as may be directed by the Supervising Officer's Representative. The proposed days for reporting any irregularity found shall be subject to review from time to time.

The above procedure follows the policy set out in the Works Bureau Technical Circular No.6/2010 – “Trip-ticket System for Disposal of Construction and demolition Material”.

4.5 Procedures of the Trip Ticket System (Vessel disposal: Disposal of inert C&D wastes from Artificial Island at Shek Kwu Chau to Fill Banks)

For vessels disposal, **KSZHJV** will implement the aforesaid Trip Ticket System (TTS) to monitor the disposal of C&D materials with the “Application for Vessel to be approved for Delivering Inert Construction Waste to Public Fill Reception Facilities” in advanced. Vessel CHIT shall be applied by **KSZHJV**. The detail procedure and requirement of the application process is shown in *Appendix C*.

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

- The Superintendents/ Senior Foremen/ Foremen will arrange the C&D materials to be sorted on site. He will also check the total actual amount of accumulated C&D materials after the completion of the particular works in the working area.
- Inert C&D materials will be stored in designated area within Artificial Island at Shek Kwu Chau properly covered with tarpaulin sheeting. Larvicidal oil or larvicide will be applied onto the stored C&D waste, if necessary.
- When accumulating sufficient amount of inert C&D materials, CEDD shall be informed by the proposed date of inert waste disposal and vessel license No. at least 1 day in advance. After confirmation with CEDD on the disposal date, inert C&D materials shall be grabbed from designated storage area within Artificial Island to hopper barge.
- A vessel CHIT should be duly signed by representative of **KSZHJV**, and delivered to Vessel Master and all the required information such as “Prescribed Facility”, “Date of Use”, “Issued by” and “Vessel License No.” shall be completed clearly in the appropriate space provided on

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the Vessel CHIT. A Vessel CHIT is only valid for vessel License No. as shown on the Vessel CHIT.

- On arrival at the mooring of the prescribed facility, Tuen Mun Area 38, the Vessel Master shall present the Vessel CHIT and report to the Officer-in-charge of the prescribed facility.
- Vessel Master shall keep Part A of the Vessel CHIT and present Parts B and C of the vessel CHIT to the facility operator.
- Facility operator shall stamp the vessel CHIT and return Part C of the vessel CHIT to Vessel Master.
- The Vessel Master will then return the stamped Vessel CHIT to **KSZHJV** as soon as possible. All Vessel CHITs are to be return to the Environmental Monitoring Manager.
- **KSZHJV** will maintain a daily record disposal of C&D materials from the Site including details of the C&D waste, the vessel license No., departure time, etc, and should check against the Supervising Officer's Representative records as soon as possible and notify the Supervising Officer'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 Vessel License No., departure time, etc., using the Daily Record Summary (DRS);
- Where an irregularity is observed or where requested by the Supervising Officer's Representative under special circumstances, **KSZHJV** will submit to the Supervising Officer's Representative within 5 working days after the recorded date of disposal the supporting evidence such as duly stamped Vessel CHIT to confirm proper completion of the delivery trips in question, or within 2 working days after the Supervising Officer's Representative has requested for such evidence, whichever is later. A fax copy of the Vessel CHIT is acceptable, unless otherwise directed by the Supervising Officer. **KSZHJV** will maintain all records on the Vessel CHIT for at least one year or other period as may be directed by the Supervising Officer's Representative. The proposed days for reporting any irregularity found shall be subject to review from time to time.

4.6 Measures to be implemented during transportation of wastes to avoid leakage of wastes on public areas

- 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.

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- 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.
- *KSZHJV* will provide wheel washing facilities on site at the site entrance.

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

Where *KSZHJV* has identified a project that can be an alternative disposal ground, *KSZHJV* shall strictly comply with the procedures as stipulated in the Development Bureau Technical Circular (Works) No. 6 / 2010 "Trip Ticket System for Disposal of Construction and Demolition Materials" (DEVB TC(W) No.6/2010). According to the DEVB TC(W) No.6 / 2010, *KSZHJV* will provide a detailed description of the alternative disposal ground, including location, lot number (where appropriate) and location plan(s) to the Supervising Officer to request for his written approval.

Where the alternative disposal ground is a private construction project, *KSZHJV* 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 Supervising Officer'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 DDF / 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, *KSZHJV* 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, *KSZHJV* 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 Supervising Officer's Representative for approval before disposal to the alternative ground starts.

4.8 Chemical Waste/ Hazardous Waste Handling and Disposal

4.8.1 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 Packaging, Labelling and Storage of Chemical Wastes as follows:

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, with height less than 2m, will be specially constructed and bunded, and located close to the source of waste generation.

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;

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- 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 materials are adequately separated.

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.

4.9 General Refuse

4.9.1 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 refuse generated from working vessels and barges can dispose the waste into temporary waste collection point.

4.9.2 Handling of Sewage

For sewage collection will be stored by holding tank to be pumped out at regular interval and ensuring no adverse water impacts by contracting with licensed contractors to collect sewage and maintain the facilities.

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 shall be placed on site.

4.9.3 Use of Timber

KSZHJV 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, *KSZHJV* will submit a method statement to the Supervising Officer Representative 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 Supervising Officer Representative 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 Supervising Officer Representative.

4.10 Handling of Recyclables

Before starting the transportation of recyclable materials off site to recycling facilities, *KSZHJV* will meet with recycling contractors to establish a suitable system for collecting recyclable materials with care.

4.11 Handling of Marine Sediment

With reference to the EIA report, 27,300 m³ marine sediment would need to be disposed off-site, a DASO permit from the Director of Environmental Protection (DEP) is required for the disposal of marine sediment. At least three months prior to commencement of the dredging work, *KSZHJV* should submit a Sediment Quality Report (SQR) in accordance with ETWB Technical Circular

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No.34/2002 in order to apply for a dumping permit from EPD for marine disposal of the sediments under the provisions of DASO. The actual amount of sediment and the allocation of disposal site(s) will be determined based on the results of the SQR to be approved by EPD and Marine Fill Committee (MFC).

The Sediment Quality Report should include the following:

- Sampling details;
- Chemical testing results;
- Quality control records;
- Proposed classification and delineation of sediment in accordance with ETWB Technical Circular No.34/2002; and
- Information and / or records as specified by DEP in his approval of sediment sampling and testing plan.

During disposal, the marine sediments should be loaded onto barges, transported to and disposed of at the designated disposal sites to be allocated by the MFC depending on their level of contamination or at other disposal sites after consultation with the MFC and EPD.

Based on the EIA Report, the relevant chemical testing results of the sediment samples, the marine sediment to be dredged from construction site is classified as Category L.

4.11.1 Disposal of Sediment

The contaminated sediments should be dredged and transported with great care, and the following mitigation measures as recommended in the EIA should be strictly followed to minimize impact on water quality during transportation of the sediments requiring Type 1 disposal:

- Bottom opening of barges should be fitted with tight fitting seals to prevent leakage of material;
- Silt curtains surrounding the closed grab dredger should be deployed as a precautionary measure;
- Hopper Barge shall equipped with Front End Mobile Unit to monitor the real time loading and location;
- Hopper barges should not be filled to a level that would cause the overflow of materials or sediment laden water during loading or transportation; and
- Excess materials should be cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessels are moved.
- Fill in the Monthly Dumping Report as attached in the Dumping Permit to record the quantity of marine sediment disposal

The dredged marine sediments would be loaded onto barges, transported to and disposed of at the designated disposal sites (subject to agreement with Marine Fill Committee and given Type 1 sediment were identified, the disposal sites are typically South Cheung Chau and / or East of Ninepin as open sea disposal). In addition to the mitigation measures as discussed in the EIA report, the barge transporting the sediments to the designated disposal sites should be equipped with tight fitting seals to prevent leakage and should not be filled to a level that would cause overflow of materials or laden water during loading or transportation. In addition, monitoring of the barge loading shall be conducted to ensure that loss of materials does not take place during transportation. Transport barges or vessels shall be equipped with automatic self-monitoring devices as specified by the Direction of Environmental Protection.

5 NOTIFICATION TO TRUCK DRIVERS / VESSEL MASTER

KSZHJV will write to all truck drivers / vessel master 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 and stamped CHIT and DDF, irrespective of the location and nature of the disposal ground;
- Barge carrying C&D materials leaving the Site for a disposal ground must bear a duly completed and stamped Vessel CHIT;
- The C&D materials must be disposed of at the disposal ground as stipulated in the CHIT / DDF / Vessel 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;
- Vessel Master shall inform the Officer-in-charge of the Public Fill Reception Facility at least 1 day in advance;
- Truck drivers must bear a valid Dumping Licence that he can apply from the Civil Engineering and Development Department (CEDD); and
- Barge must bear a valid Vessel License issued by Marine Department (MD)

The Flow Chart of the Trip Ticket System and the notification to truck drivers / vessel master and the receipt form is attached in **Appendix D and E** respectively.

6 WASTE MANAGEMENT RECORDS

The Construction and Demolition Material Disposal Delivery Form (DDF) 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 Supervising Officer's Representative will insert the date, time of departure, vehicle licence plate number, designated public filling facility/ landfill, and other information as required, and stamp the form. The Supervising Officer's Representative will then retain the first strip of the form and pass the rest to **KSZHJV**'s Representative. The form will be carried on board the vehicle at all times throughout the vehicular trip.

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

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

Waste Flow Table

Record of the quantities of C&D materials generated each month will be maintained using the monthly summary Waste Flow Table (WFT). **KSZHJV** will complete and submit the monthly summary WFT to the Supervising Officer 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 Supervising Officer. The WFT shall also be made available to ET 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, **KSZHJV**'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 Supervising Officer's Representative.

For disposal of marine sediment, Monthly Dumping Report as attached in the Dumping Permit shall be filled in to record the quantity of marine sediment disposal.

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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. Such video recording system used to monitor the vehicular exit / entrance of the site and pier area of the site

7 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; and
- To encourage the reuse and recycling of materials.

The ET, with assistance from the *KSZHJV*'s Project Manager or his representative, 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. The results of the waste management audits would be reported in the monthly Environmental Monitoring and Audit reports. The Environmental Mitigation Implementation Schedule (EMIS) related to Waste Management and Daily Cleanliness and Weekly Tidiness Checklist are attached in **Appendix H** and **I** respectively.

In the event of any non-compliance or complaint against the provisions of this WMP, actions would be taken according to the event and Action Plan for non-compliance and complaints as shown in the following tables.

The Plan showing the location of sorting areas are attached in **Appendix J**.

Step	Day	Action	KSZHJV / ET	SOR	IEC
1	1	Create a new non-compliance record within 1 working day after making an observation during a site audit accompanied by Project Manager or his delegate. ET sends a Notice of Non-Compliance (NC) to the Contractor, SOR and IEC. The NC would include the observations and the reasons for non-compliance.	■		
2	2	Propose corrective actions within 1 working day after the receipt for the NC.	■	□	
3	3	Review and agree with the proposed corrective actions and make additional recommendations as required.		■ □	■ □
4	2	Implement the proposed corrective actions once they have been agreed.	■		
5	-	Check the implementation of the corrective actions at the next site audit. Close the non-compliance record if the implementation of the corrective actions is satisfactory/	■ □	■ □	■ □
6	-	Propose preventive actions within 3 working days after the closure of the non-compliance record.	■	□	

Table 5: Event Action Plan for Non-compliance

■ action party

□ comments on the non-compliance record where applicable

Step	Day	Action	KSZHJV/ET	SOR	IEC
1	1	Investigate validity of complaint and to assess whether the source of problem is due to site activity. If complaint is valid and due to site activity, log complaint into Complaint Record Form.	■		
2	2	Propose mitigation measures	■	□	
3	3	Review and agree with the proposed mitigation measures and propose further mitigation measures if required.		■ □	■ □
4	2	Implement the proposed mitigation measures once they have been agreed.	■		
5	-	Check the implementation of the mitigation measures at the next site audit. Close out the complaint case if the implementation of the mitigation measures is satisfactory.	■ □	■ □	■ □
6	-	Propose prevention measures within 3 working days after closure of the complaint case.	■	□	

Table 6: Event Action Plan for Complaint

■ action party

□ comments on the non-compliance record where applicable

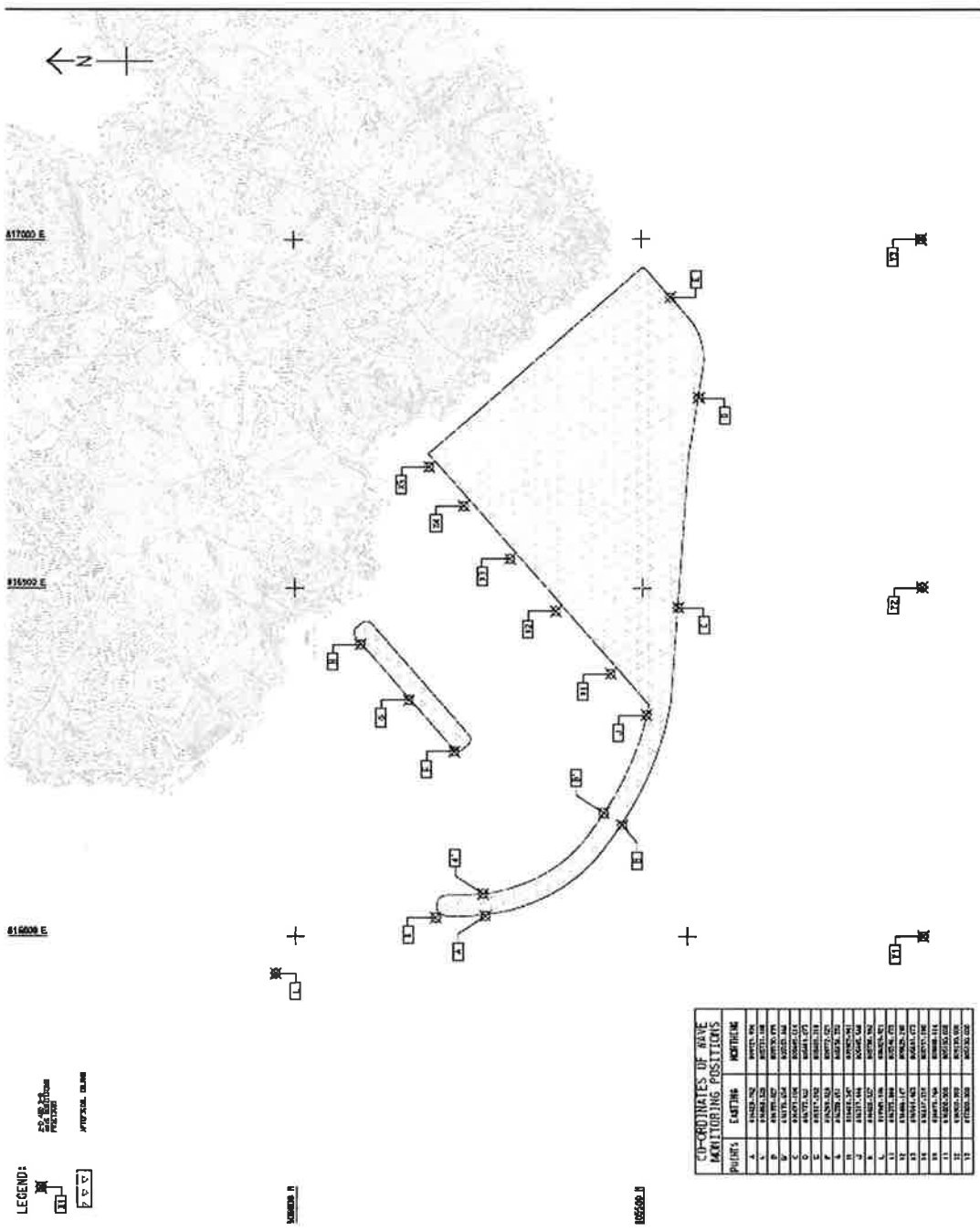


Contract No. EP/SP/66/12

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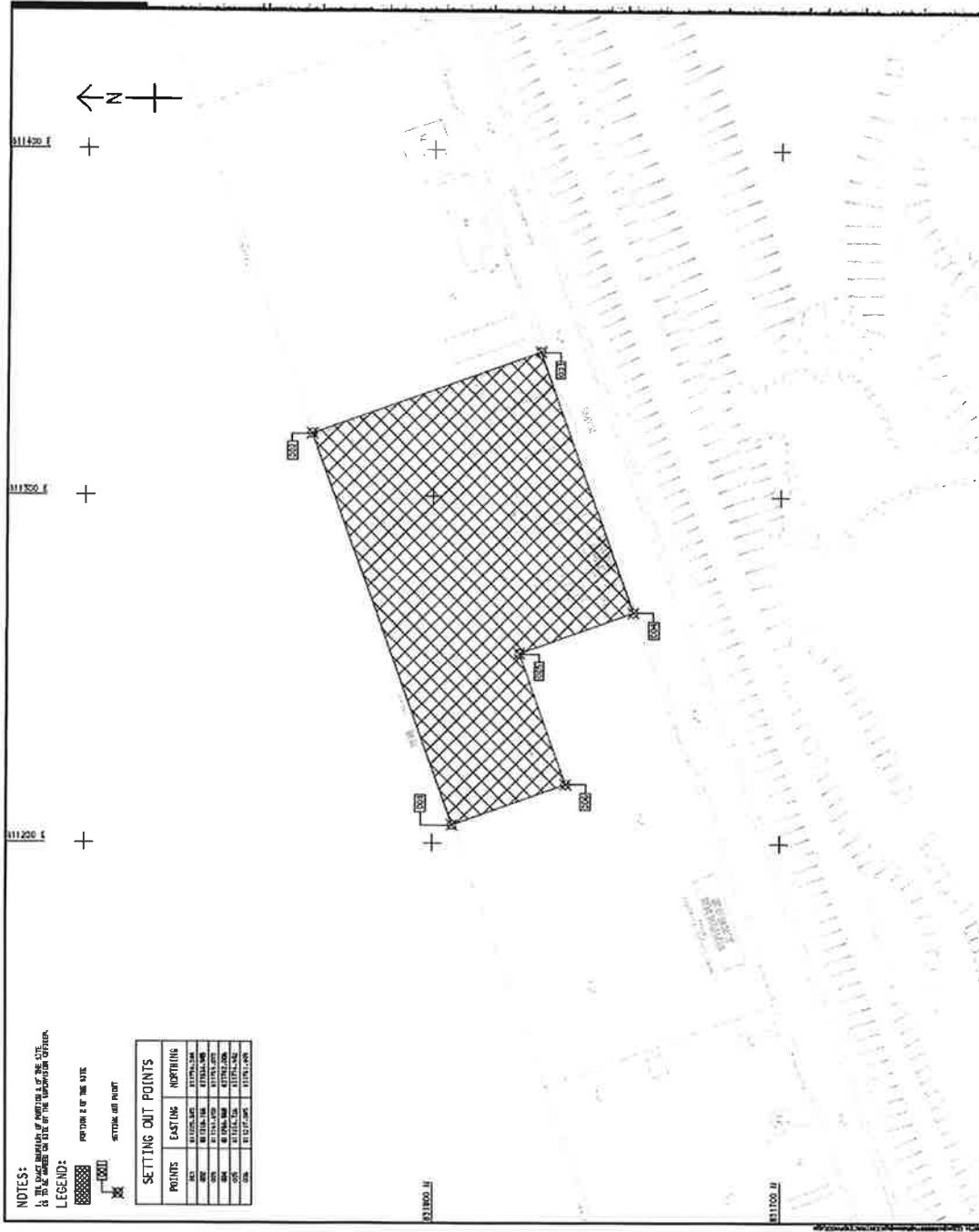
Appendix A

Site Layout Plans

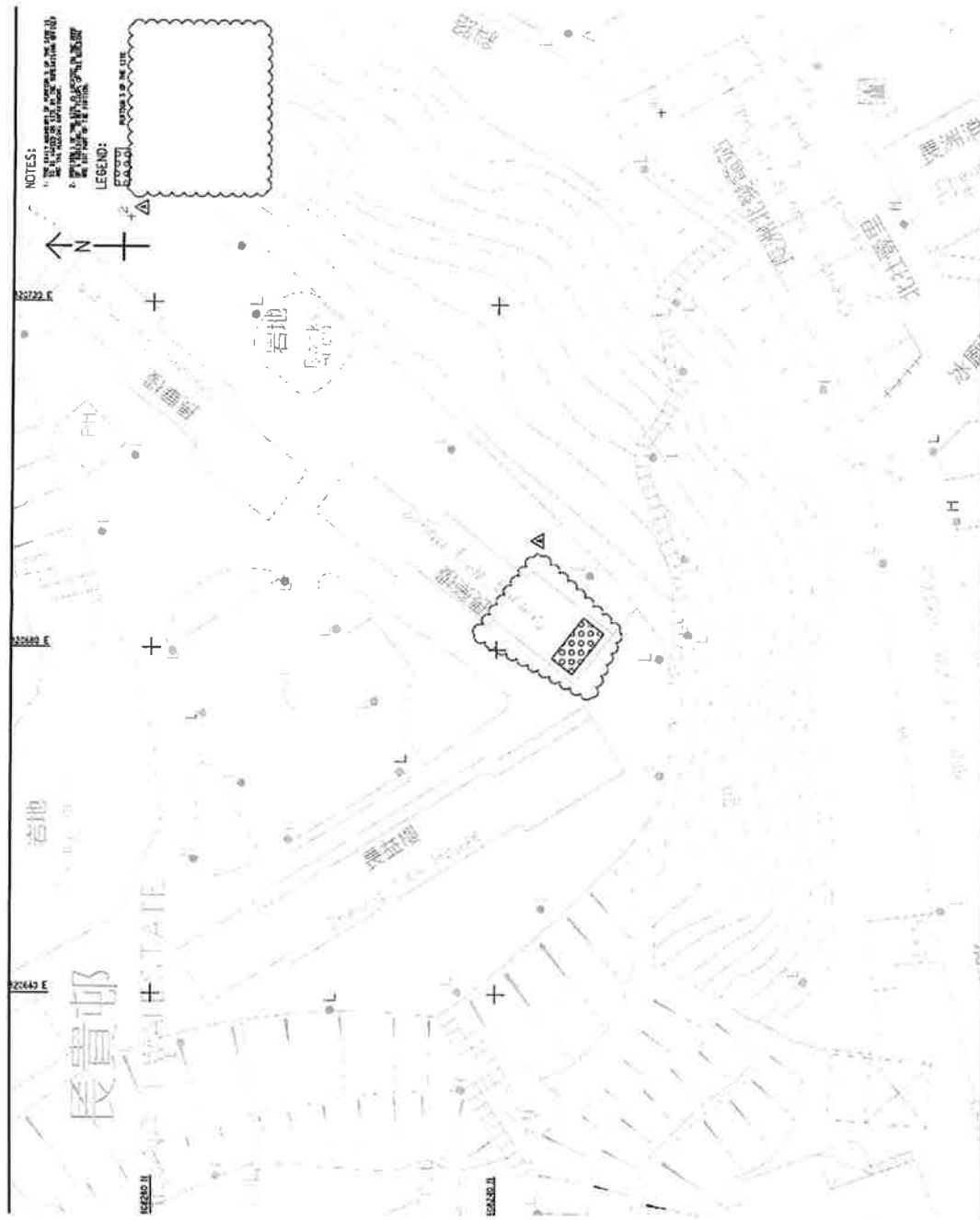


POINT	EASTING	NORTHING
A	81624.762	807214.504
B	81624.762	807214.504
C	81624.762	807214.504
D	81624.762	807214.504
E	81624.762	807214.504
F	81624.762	807214.504
G	81624.762	807214.504
H	81624.762	807214.504
I	81624.762	807214.504
J	81624.762	807214.504
K	81624.762	807214.504
L	81624.762	807214.504
M	81624.762	807214.504
N	81624.762	807214.504
O	81624.762	807214.504
P	81624.762	807214.504
Q	81624.762	807214.504
R	81624.762	807214.504
S	81624.762	807214.504
T	81624.762	807214.504
V	81624.762	807214.504

Portion 1 (Artificial Island at Shek Kwu Chau)

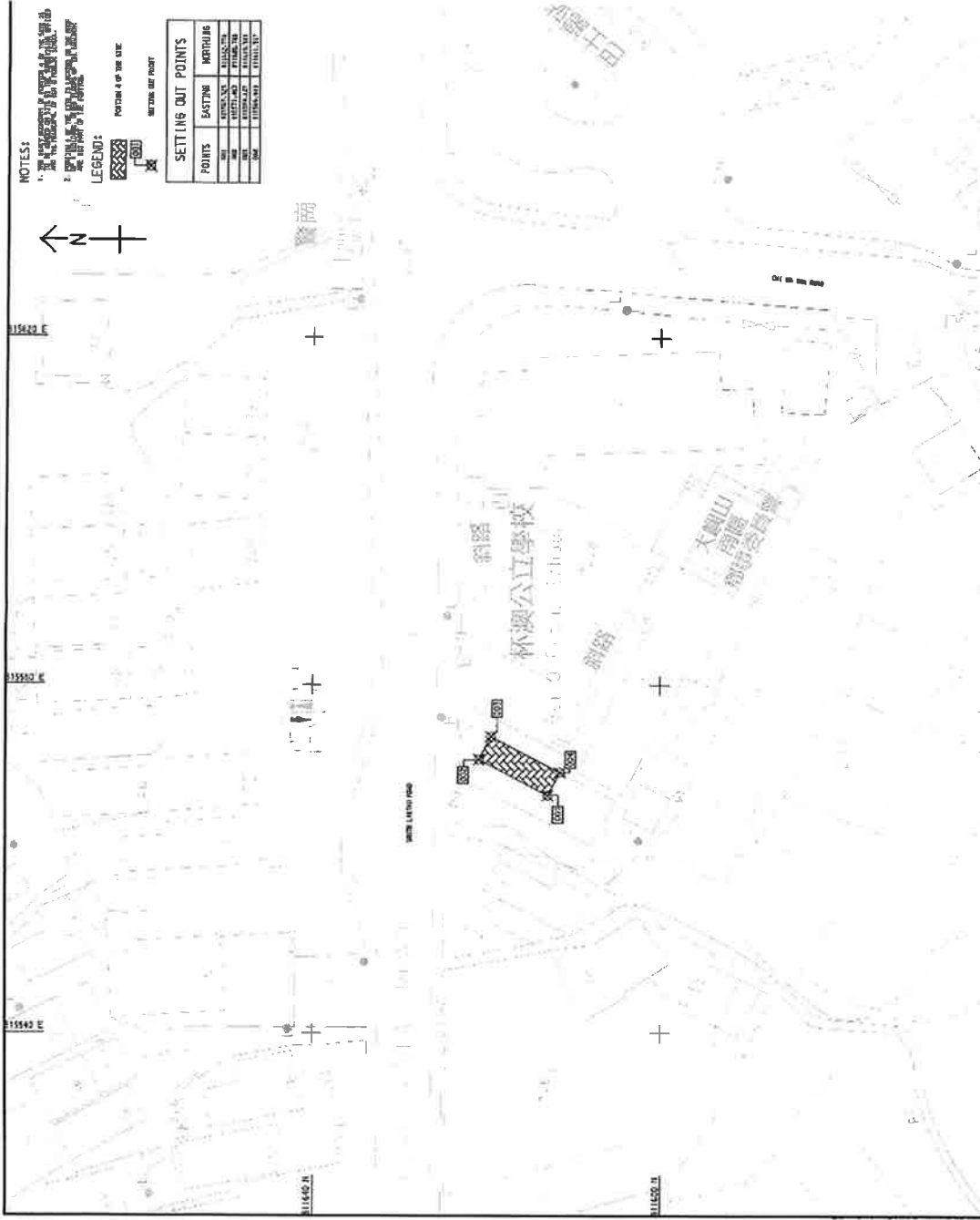


Portion 2 (Existing Facilities In the Vicinity of Tuen Mun Area 38)

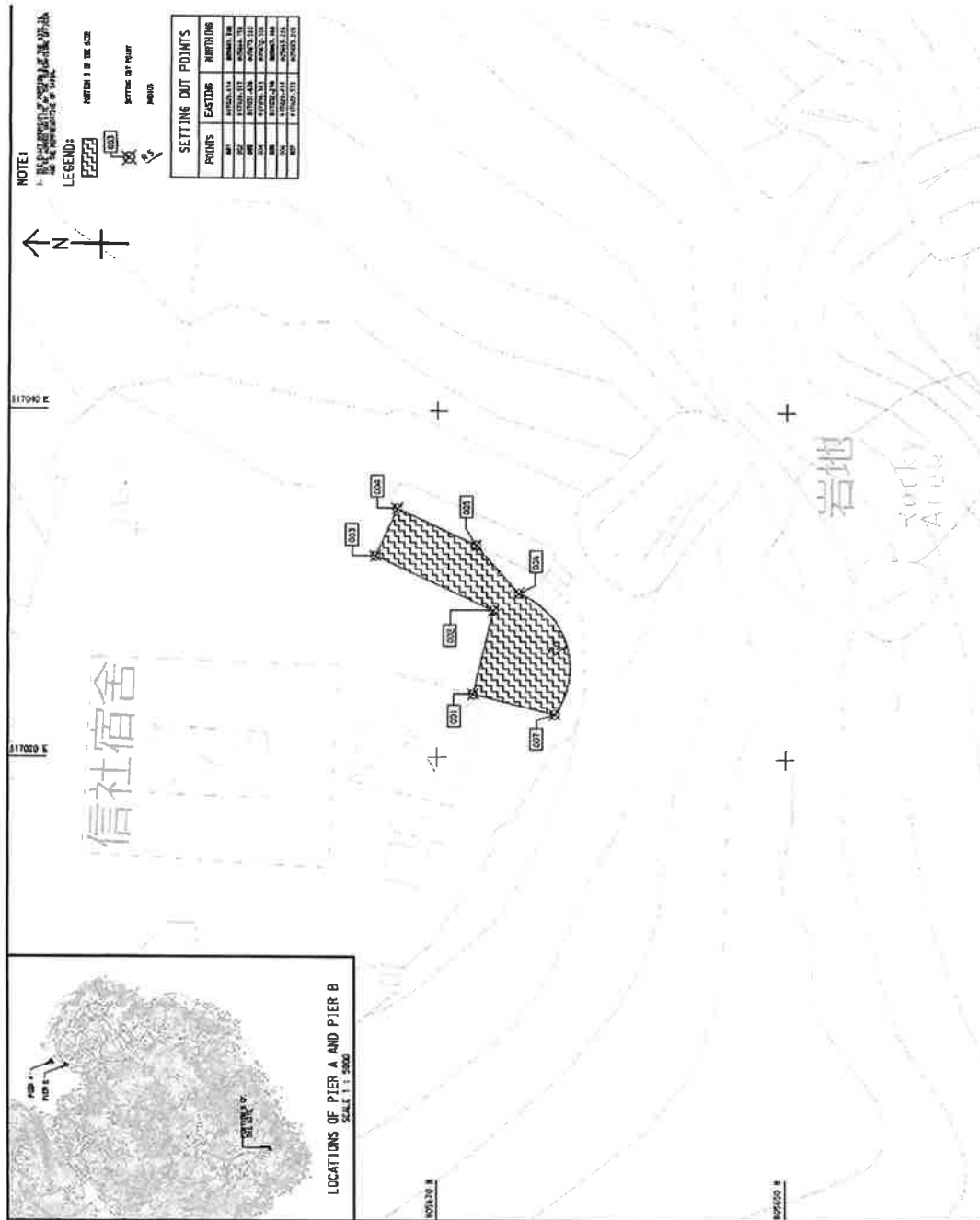


NOTES:
 1. THE INFORMATION ON THIS MAP IS FOR REFERENCE ONLY.
 2. THE INFORMATION ON THIS MAP IS NOT TO BE USED FOR ANY OTHER PURPOSE.
 LEGEND:
 1. AIR QUALITY MONITORING STATION

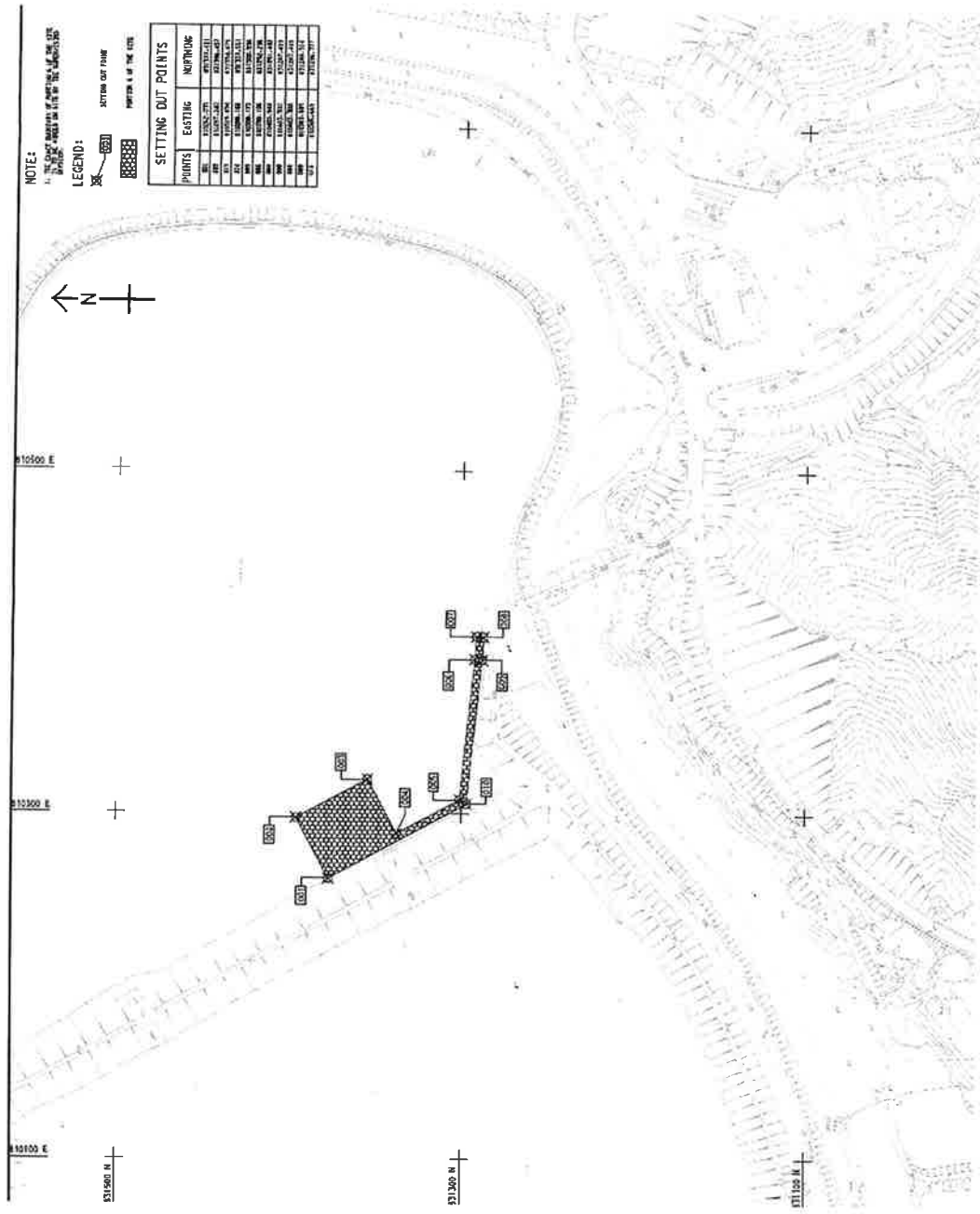
Portion 3 (Air Quality Monitoring Station at Cheung Chau)





Portion 4 (Air Quality Monitoring Station at Pui O)



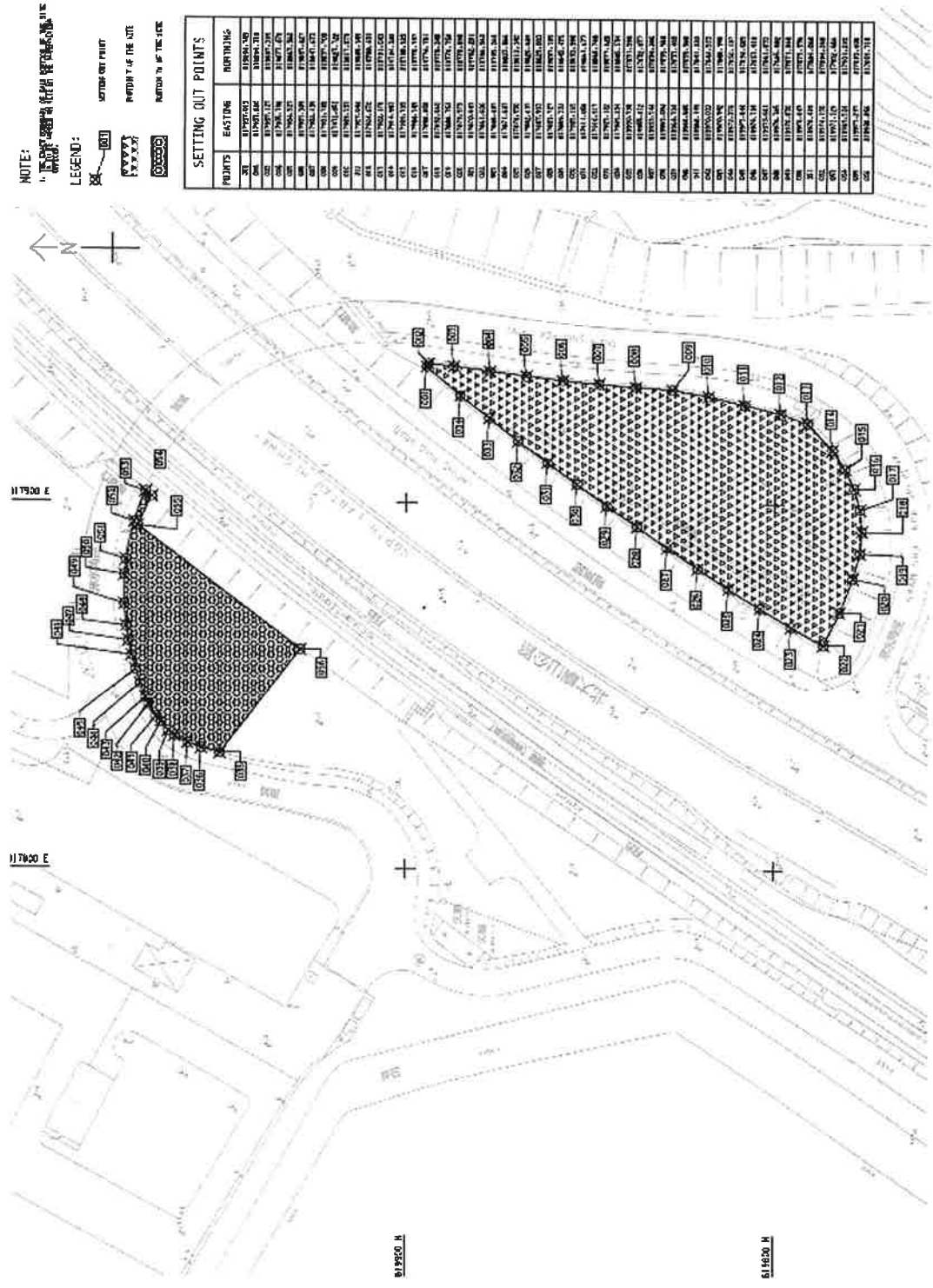
Portion 5 (Air Quality Monitoring Station at Shek Kwu Chau)





NOTE: 1. THE COORDINATES OF POINTS ON THE SITE ARE GIVEN IN METERS IN THE UTM SYSTEM.

LEGEND:  SECTION OUT POINT  POINTS ON THE SITE

POINTS	EASTING	NORTHING
001	450000.000	450000.000
002	450000.000	450000.000
003	450000.000	450000.000
004	450000.000	450000.000
005	450000.000	450000.000
006	450000.000	450000.000
007	450000.000	450000.000
008	450000.000	450000.000
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159	450000.000	450000.000
160	450000.000	450000.000
161	450000.000	450000.000
162	450000.000	450000.000</



NOTE:
 1. 此圖為臨時貯存區之平面圖。
 2. 此圖之所有數據均根據測量數據。
 3. 此圖之所有數據均根據測量數據。

LEGEND:
 SETTING OUT POINT
 PORTION 7 OF THE SITE

POINTS	EASTING	NORTHING
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002	61920.00	61820.00
003	61920.00	61820.00
004	61920.00	61820.00
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052	61920.00	61820.00
053	61920.00	61820.00
054	61920.00	61820.00

Portion 7 (Temporary Storage Area at Tung Chung)



Contract No. EP/SP/66/12
Integrated Waste Management Facilities, Phase 1

Appendix B

Tentative Construction Programme

Appendix C

Application Guide (Form 7) – Application for Vessel to be
approved for Delivering Inert Construction Waste to Public Fill

Reception Facilities



香港特別行政區政府

The Government of the Hong Kong Special Administrative Region

土木工程拓展署 **Civil Engineering Development Department**

環境保護署 **Environmental Protection Department**

廢物處置條例 (第 354 章)

Waste Disposal Ordinance (Chapter 354)

廢物處置(建築廢物處置收費)規例

Waste Disposal (Charges for Disposal of Construction Waste) Regulation

申請指南 (表格 7)

申請有關批准以船隻將惰性建築廢物送交公眾填料接收設施

Application Guide (Form 7)

Application for Vessel to be approved for Delivering Inert Construction Waste to Public Fill Reception Facilities

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1. 填寫申請表

1.1. 注意事項

- 1.1.1. 申請人必須填寫第 I、II 及 III 部份。
- 1.1.2. 如欲在開立繳費帳戶的申請獲批後立即申請「船隻載運入帳票」，請填寫第 IV 部份。
- 1.1.3. 請用黑色或藍色原子筆並用正楷填寫各項資料。

1.2. 第 I 部份—申請人資料

- 1.2.1. 申請人必須持有由環境保護署發出的有效處置建築廢物繳費帳戶或豁免繳費帳戶。

1.3. 第 II 部份—建造工程合約資料

- 1.3.1. 「建造工程合約編號」和「建造工程合約名稱」必須是合約所顯示的編號和名稱。
- 1.3.2. 「建築廢物產生地點」必須是列明於合約上的地點。
- 1.3.3. 「建造工程合約授予的日期」以合約的簽署日期為準。
- 1.3.4. 「建造工程合約的價值」指該合約內述明的或可參照該合約而確定的可歸於該工程的代價。
- 1.3.5. 如合約上未列明「建造工程開始日期」及「建造工程完成日期」，申請人應就其所知填寫估計的日期。

1.4. 第 III 部份—用作棄置物料的船隻資料

- 1.4.1. 申請人必須提供下列資料的副本 (1) 由香港特別行政區海事處發出的船隻牌照及 (2) 由註冊專業工程師 (Marine & Naval Architect) 證明該船隻的最高載重計算方法。

1.5. 第 IV 部份—申請發出「船隻載運入帳票」

- 1.5.1. 因應所申請的「船隻載運入帳票」數量，本署將通知申請人所需按金的數目。按金的詳細資料載於「一般資料」內。
- 1.5.2. 在確認已繳付按金後，本署會通知申請人領取「船隻載運入帳票」的時間及地點。
- 1.5.3. 如選擇透過郵遞收取「船隻載運入帳票」（只適用於 20 張或以下），請連同貼上郵票及寫上回郵地址的信封（申請 1-6 張、7-13 張及 14-20 張「船隻載運入帳票」，其郵費分別為 \$1.40、\$2.20、\$3.00）與申請表一同交回，而無需選擇領票的辦事處。
- 1.5.4. 以郵遞方式收取「船隻載運入帳票」後，申請人須致電環境保護署（電話：2872 1854）確認收妥「船隻載運入帳票」。於確認的兩個工作天後（不包括星期六、日及公眾假期）方可使用有關「船隻載運入帳票」。

1.6. 第 V 部份—申請人聲明

- 1.6.1. 地址證明包括水／電／煤氣／固網電話收費單、已蓋釐印的租約或房屋署發出的公屋租卡的副本。

1. Complete the application form

1.1. General Notes

- 1.1.1. Applicant must complete Parts I, II and III.
- 1.1.2. Applicant needs to complete Part IV if he would like to apply for issuance of vessel chits upon approval of the application.
- 1.1.3. Please complete all items in BLOCK LETTERS using black or blue ball pen.

1.2. Section I – Particulars of Applicant

- 1.2.1. Applicant must have a valid billing account or exemption account for disposal of construction waste issued by Environmental Protection Department.

1.3. Section II – Particulars of Construction Work Contract

- 1.3.1. “Contract Number” and “Contract Name” of a construction work contract must be those as shown in the contract.
- 1.3.2. “Inert Construction Waste Generated Site” must be the same as that shown in the contract.
- 1.3.3. “Contract Award Date” is the date that the contract is signed.
- 1.3.4. “Contract Value” means the consideration attributable to such work, as stated in, or ascertainable by reference to, the contract.
- 1.3.5. If the “Construction Work Commencement Date” and “Construction Work Completion Date” are not given in the contract, applicant should give the estimated dates that are to the best of his knowledge.

1.4. Section III – Particulars of Vessels to be used for Disposal

- 1.4.1. Applicant shall submit Photocopy of the following information (1) Vessel Licence issued by Marine Department of HKSAR and (2) calculation of the maximum load of that vessel which is certified by a Registered Professional Engineer (Marine & Naval Architect).

1.5. Section IV – Application for Issuance of Vessel Chits

- 1.5.1. Subject to the number of vessel chits required, the applicant will be informed of the deposit amount to be paid. Details of the deposit arrangement are provided in the “General Information”.
- 1.5.2. After paying the deposit, the applicant will be informed of the time and location for collection of vessel chits.
- 1.5.3. Applicant who would like to receive vessel chits by post (for up to 20 chits) please submit together with the application a stamped and addressed envelope (Postage fee for chits of 1-6 nos., 7-13 nos. and 14-20 nos. are \$1.40, \$2.20 and \$3.00), without the need to select any office for collection of the vessel chits.
- 1.5.4. For receipt of vessel chits by post, the applicant should acknowledge receipt by contacting Environmental Protection Department by phone (Tel: 2872 1854). The vessel chits can be used two clear days (excluding Saturdays, Sundays and public

holidays) after confirmation.

1.6. Section V – Declaration of Applicant

- 1.6.1. Bill of electricity / town gas / fixed-line telephone / water charges, a stamped tenancy agreement, or tenant's rent card issued by the Housing Authority are acceptable as documentary proof of address.

2. 遞交申請

- 2.1. 請將填妥的申請表及其第 V 部中列明的文件副本郵寄至下列地址：
環境保護署
廢物設施組
香港堅尼地城
域多利道88號2樓西翼
或親身交回環境保護署／土木工程拓展署的辦事處（詳細地址見附錄 C）。

3. 更改資料通知

- 3.1. 如在這申請表上提供的資料在對有關申請的裁斷作出前有變更，除非該項申請已被撤回，否則申請人須在合理切實可行範圍內盡快以書面形式，將該項變更告知環境保護署署長。

4. 申請結果

- 4.1. 如資料欠齊備或不一致，本辦事處會要求申請人作出解釋或提供補充資料，審批申請的時間會因而較長。
4.2. 當申請獲批或被拒後，本署均會發出申請結果通知書給申請人。

5. 查詢

- 5.1. 其他資料可瀏覽環保署網頁 www.epd.gov.hk，如有任何查詢，請致電 2872 1838 或電郵至 enquiry@epd.gov.hk 與本署職員聯絡。

2. Submit the application

- 2.1. Please submit the completed application form together with copy of documentary evidence listed in Section V of the application form by post to the following address:
Environmental Protection Department
Waste Facilities Group
2/F, West Wing, 88 Victoria Road
Kennedy Town, Hong Kong
OR submit in person to an office of Environmental Protection Department/Civil Engineering and Development Department (Full addresses of the offices are contained in Appendix C).

3. Notification of change

- 3.1. Where a change in the information provided in this form occurs before the determination of the application, the applicant shall as soon as reasonably practicable, inform the Director of Environmental Protection in writing of the change unless the application has been withdrawn.

4. Outcome of the application

- 4.1. If the information provided is incomplete or there are discrepancies in the information provided, applicant will be required to give an explanation or provide supplementary information, in which case the application processing time will be longer.
4.2. On approving or rejecting an application, the applicant will be notified in writing of the outcome of the application.

5. Enquiry

- 5.1. For further information, please visit website of Environmental Protection Department www.epd.gov.hk. If you have any enquiry, please contact us at telephone number 2872 1838 or via E-mail enquiry@epd.gov.hk.

附錄 A：個人資料收集聲明

收集個人資料的目的

1. 申請人在這份表格上及就有關申請所提供的個人資料，環境保護署將用於下列一項或多項用途：
 - (i) 與處理本申請事項有關的工作；
 - (ii) 統計及其他法定用途；
 - (iii) 方便政府跟你聯絡；以及
 - (iv) 辦理有關廢物處置的事務。
2. 申請人必須提供申請表格所要求的個人資料。如果你不提供足夠的資料，你的申請將被視作並非妥當作出而不會予以處理。

獲轉交個人資料人士的類別

3. 申請人在這份表格上及就有關申請所提供的個人資料，環境保護署可向下列人士披露：
 - (i) 索取該等資料以作上文第 1 段用途的其他政府決策局及部門；以及
 - (ii) 按有關法例獲准的其他人士。

查閱個人資料

4. 根據個人資料（私隱）條例第 18 條及第 22 條及附表 1 第 6 原則的規定，申請人有權查閱和更改個人資料。申請人查閱個人資料的權利，包括取得申請人所提供的個人資料副本。

查詢

5. 申請人如欲查詢所提供個人資料，包括查閱和更改個人資料，可寄信至「香港堅尼地城域多利道88號2樓西翼」、傳真至2591 0361或致電2872 1838，向總環境保護督察（收費課）提出。

Appendix A: Personal Information Collection Statement

Purpose of Collection

1. The personal data provided by means of this form and those in relation to this application will be used by the Environmental Protection Department for one or more of the following purposes:
 - (i) activities relating to the processing of this application;
 - (ii) statistical and any other legitimate purposes;
 - (iii) to facilitate communications between Government and yourself; and
 - (iv) activities relating to waste disposal matters.
2. Applicant shall provide personal data as required in this form. If you do not provide sufficient information, your application is to be treated as not properly made and will not be processed.

Classes of Transferees

3. The personal data provided by means of the application form and those in relation to this application may be disclosed to:
 - (i) other government bureaux and departments for the purposes mentioned in paragraph 1 above; and
 - (ii) other persons as permitted by the relevant legislation.

Access to Personal Data

4. Applicant has a right of access and correction with respect to personal data as provided for in sections 18 and 22 and principle 6 of Schedule 1 of the Personal Data (Privacy) Ordinance. The right of access includes the right to obtain a copy of personal data provided by the applicant.

Enquiries

5. Enquiries concerning the personal data collected, including the making of access and corrections, should be addressed to Chief Environmental Protection Inspector (Charging Section) by post (Address: 2/F, West Wing, 88 Victoria Road, Kennedy Town, Hong Kong), fax 2591 0361 or telephone 2872 1838.

附錄 C: 辦事處地址

環境保護署:

辦事處	辦事處地址	辦事處電話	星期一至五
總辦事處	香港灣仔告士打道 5 號稅務大樓 33 樓	2824 3773	上午九時至下午五時
修頓中心辦事處	香港軒尼詩道 130 號修頓中心 28 樓	2573 7746	
長沙灣政府合署辦事處	九龍長沙灣道 303 號長沙灣政府合署 8 樓	2150 8006	
區域辦事處 (東)	九龍九龍灣臨樂街 19 號南豐商業中心 5 樓	2755 5518	
區域辦事處 (南)	香港鰂魚涌海灣街 1 號華懋交易廣場 2 樓	2516 1718	
區域辦事處 (西)	新界荃灣西樓角路 38 號荃灣政府合署 8 樓	2417 6116	
區域辦事處 (北)	新界沙田上禾輦路 1 號沙田政府合署 10 樓	2158 5757	
廢物設施組辦事處	香港堅尼地城域多利道 88 號 2 樓西翼	2872 1869	

土木工程拓展署:

辦事處	辦事處地址	辦事處電話	星期一至五
填料管理部	九龍公主道 101 號土木工程拓展署大樓 5 樓	2762 5608	上午九時至下午十二時三十分及 下午一時三十分至五時十五分

Appendix C: Office Addresses

Environmental Protection Department:

Office	Address	Contact Tel.	Mon-Fri
Head Office	33/F., Revenue Tower, 5 Gloucester Road, Wanchai, Hong Kong.	2824 3773	9:00a.m. – 5:00p.m.
Southern Centre Office	28/F., Southern Centre, 130 Hennessy Road, Wanchai, Hong Kong.	2573 7746	
Cheung Sha Wan Government Offices	8/F., Cheung Sha Wan Government Offices, 303 Cheung Sha Wan Road, Kowloon.	2150 8006	
Regional Office (East)	5/F., Nan Fung Commercial Centre, 19 Lam Lok Street, Kowloon Bay, Kowloon.	2755 5518	
Regional Office (South)	2/F., Chinachem Exchange Square, 1 Hoi Wan Street, Quarry Bay, Hong Kong.	2516 1718	
Regional Office (West)	8/F., Tsuen Wan Government Offices, 38 Sai Lau Kok Road, Tsuen Wan, New Territories.	2417 6116	
Regional Office (North)	10/F., Sha Tin Government Offices, 1 Sheung Wo Che Road, Sha Tin, New Territories.	2158 5757	
Waste Facilities Group Office	2/F., West Wing, 88 Victoria Road, Kennedy Town, Hong Kong.	2872 1869	

Civil Engineering and Development Department:

Office	Address	Contact Tel.	Mon-Fri
Fill Management Division	5/F, Civil Engineering and Development Building, 101 Princess Margaret Road, Kowloon.	2762 5608	9:00a.m. – 12:30p.m. & 1:30p.m. – 5:15p.m.

CONSTRUCTION WASTE DISPOSAL
CHARGING SCHEME

**FOR VESSEL DISPOSAL AT PUBLIC FILL
RECEPTION FACILITIES**

A. BASIC CONDITIONS

**B. CONDITIONS OF USE FOR VESSEL
DISPOSAL**

C. GENERAL INFORMATION

Construction Waste Disposal Charging Scheme

DEFINITIONS

- (a) *Director* – means the Director of Environmental Protection.
- (b) *Vessel Chit* – means a Chit issued to account-holder in accordance with Section C4: Vessel Chit Issuance.
- (c) *Government* – means the Government of the Hong Kong Special Administrative Region.
- (d) *Account-holder* – means a person or a company who has established a billing account under the Charging Regulation.
- (e) *Charging Regulation* – means Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N).
- (f) *Maximum load* – means the weight of the maximum load that the vessel is capable of carrying, as determined by the Director under Section 12(2) of the Charging Regulation.
- (g) *Notification Period* – means a specified period of time as determined by the Director for which a vessel chit reported lost by the account-holder will be voided.
- (h) *Prescribed charge* – means a landfill charge, sorting charge or public fill charge.
- (i) *Prescribed facility* – means a landfill, refuse transfer station (Outlying Islands Transfer Facilities), sorting facility or public fill reception facility.

A. BASIC CONDITIONS

A1 General

- (1) Basic Conditions are made under the Charging Regulation and should be read in conjunction with the Charging Regulation, Conditions of Use for Vessel Disposal and General Information.
- (2) Upon approval of the application of vessel disposal, the successful applicant shall deem to have accepted the conditions of the Basic Conditions set out herein and to be bound by them.
- (3) In the event of any breach of the Basic Conditions, the Director may revoke the approval.
- (4) The account-holder shall ensure that the billing account is solely used for paying any prescribed charge payable in respect of construction waste generated from construction works under the contract specified in the application. The billing account shall not be used for the disposal of any other construction waste from other construction waste generated sites not specified in the application form.

A2 Changes of Information

- (1) The account-holder shall as soon as reasonably practicable inform the Director in writing of any changes in the information provided to the Director in relation to the vessel disposal.

A3 Accounting Procedures

- (1) The account-holder shall inform the Director if a notice of demand is NOT received within

Construction Waste Disposal Charging Scheme

14 days of the date of monthly cut-off for purpose of determining the prescribed charge and issuance of monthly notice of demand. Non-receipt of the notice of demand does not exempt the account-holder from the requirement to pay the prescribed charges and surcharge on or before the due dates stated on the notice of demand.

- (2) Upon receipt of the notice of demand, the account-holder shall examine the notice and notify the Director in writing of any error or omission within 7 days from the receipt of the notice of demand. The Director shall investigate such error or omission. If investigation on such error or omission cannot be finalised before the due date stated on the notice of demand, the account-holder shall settle such notice of demand first.
- (3) The notice of demand shall be final and conclusive in the absence of manifest error. The account-holder shall pay the prescribed charges and where applicable surcharge as specified in the notice of demand.
- (4) If an account-holder does not settle the notice of demand for prescribed charges on or before the due date, he shall also be liable to pay a surcharge as shown in the notice of demand within 14 days from the date of which the surcharge becomes payable. Upon expiry of the 14 days, the Director may suspend the billing account if the outstanding charges remain unsettled.
- (5) Upon suspension of the billing account, the account-holder will be notified through a final notice of demand requiring him to pay, within 14 days from the date of that notice:
 - the prescribed charges and surcharge that have not been paid as required under Paragraph A3(4); and
 - any other outstanding prescribed charges incurred by him on that billing account before the suspension, whether or not that charge has become due for payment.

Upon expiry of the 14 days, the Director may revoke the billing account if the final notice of demand remains unsettled.

B. CONDITIONS OF USE FOR VESSEL DISPOSAL

B1 General

- (1) Conditions of Use for Vessel Disposal are made under the Charging Regulation and should be read in conjunction with the Charging Regulation, Basic Conditions and General Information.
- (2) Upon approval of the application for vessel disposal, the successful applicant shall deem to have accepted the conditions of the Conditions of Use for Vessel Disposal set out herein and to be bound by them.
- (3) In the event that an inert construction waste load is not delivered in accordance with the Conditions of Use for Vessel Disposal, the waste load concerned will not be accepted for disposal at the prescribed facility.
- (4) Use of Vessel Chit is governed by the Basic Conditions and Conditions of Use for Vessel

Construction Waste Disposal Charging Scheme

Disposal accompanied with the billing account.

B2 Use of Vessel Chit

- (1) Vessel chits shall be used solely in respect of the contract specified in the application.
- (2) Inert construction waste may be accepted for disposal at a prescribed facility only if the person delivers it or on whose behalf it is delivered, is the account-holder of the valid billing account for the contract specified in the application.
- (3) A Vessel Chit is valid for use at a prescribed facility if all the required fields (i.e. "Prescribed Facility", "Date of Use", "Issued by" and "Vessel Licence No." of the vessel using the Vessel Chit) have been completed clearly in the appropriate space provided on the Vessel Chit. A Vessel Chit is only valid for vessel with the Vessel Licence No. as shown on the Vessel Chit.
- (4) Account-holder or the person delivering inert construction waste on his behalf shall present Parts B & C of a valid Vessel Chit to the facility operator and follow instructions of the operator for disposal of inert construction waste.
- (5) Any damage or alteration made to a Vessel Chit will render the Vessel Chit invalid. Invalid Vessel Chits shall not be used.
- (6) The account-holder shall be responsible for the safe custody of the Vessel Chits.

B3 Inert Construction Waste Acceptance Criteria

- (1) The inert construction waste accepted by public fill reception facility shall consist **entirely of inert construction waste** as stipulated in column 3 of item 4 in Schedule 2 of Waste Disposal (Designated Waste Disposal Facility) Regulation (WD(DWDF)R). For inert construction waste mixed with other wastes not complying with the acceptance criteria of the public fill reception facility, rejection advice will be provided to the Vessel Master.

B4 Inert Construction Waste Disposal Procedures at Prescribed Facilities

- (1) On arrival at the mooring of the prescribed facility, the Vessel Master needs to present the Vessel Chit and report to the Officer-in-Charge of the prescribed facility. The use of berth and disposal order will be on first-come-first-serve basis. The duration for disposal would depend on various factors such as the number of barges awaiting for the disposal operation, handling capacity of the prescribed facility and existing site conditions. Users shall include these factors in planning the programme of vessel disposal.
- (2) The Vessel Master shall provide assistance on board and allow access to the Officer-in-Charge or his authorized officer of the prescribed facility to inspect the inert construction waste load on the vessel. Vessel carrying waste load with **entire inert content** of construction waste will be allowed to enter the prescribed facility for disposal. Otherwise (i.e. not loaded with entire inert content), the vessel will not be allowed to enter

Construction Waste Disposal Charging Scheme

- the prescribed facility for disposal. If unacceptable material is found during the unloading of material, the remaining load will be rejected.
- (3) If the load in the vessel is suspected containing large amount of non-inert material covered by the inert material, the Officer-in-Charge or his authorized officer could conduct further inspection to ensure the load is comply with the acceptance criteria (i.e. entire inert content). The Vessel Master shall provide necessary assistance to facilitate the inspection.
 - (4) The Vessel Master or the hauler shall be responsible for unloading the inert construction waste material from the vessel to the seafront loading area designated by the Officer-in-Charge of the prescribed facility.
 - (5) The Vessel Master shall follow the order or signal of the authorized officer
 - (i) to stop his vessel immediately;
 - (ii) to move the vessel to or to moor at any place within the prescribed facility; or
 - (iii) to leave the prescribed facility.
 - (6) On request of the authorized office, the Vessel Master shall:
 - (i) produce the licence issued by Director of Marine in respect of the vessel under regulation 3 of the Merchant Shipping (Miscellaneous Craft) Regulations (Cap. 313 sub. leg. F) for examination;
 - (ii) give the name and address of the registered owner of the vessel; and
 - (iii) to provide information about the waste being carried on the vessel.

B5 General Construction Waste Vessel Disposal Requirements

- (1) The vessel for the purpose of disposal shall be steel lighter or steel hopper barge.
- (2) The load carried by a vessel using the waste disposal service of the prescribed facilities shall not exceed the maximum load as agreed with the Director.
- (3) Vessels shall be properly maintained and shall not leak and cause pollution to the prescribed facilities and the marine environment in the vicinity.
- (4) Vessels shall be safely operated when using waste disposal service at the prescribed facilities.
- (5) In the event of accident/fire, the Vessel Master shall report to and seek assistance immediately from the facility operator and follow his instruction strictly.
- (6) The Vessel Master shall at all times follow the traffic control signs/signals within the prescribed facilities unless otherwise directed by the facility operator. He shall at all times be aware of other persons in the prescribed facilities when he performs any activity within the prescribed facilities.
- (7) The use of vessel horn in the prescribed facilities is prohibited unless under emergency situation in order to avoid danger to life or property.
- (8) The Vessel Master shall dip the headlights of his vessel within the prescribed facilities when the headlights are in use.

Construction Waste Disposal Charging Scheme

B6 Master Delivery Programme and 4-weeks Rolling Programme

- (1) The account holder shall submit a Master Delivery Programme and notify CEDD at least 28 days in advance prior to the commencement of vessel disposal works.
- (2) The account holder shall submit the 4-weeks Rolling Programme to CEDD on weekly basis.

C. GENERAL INFORMATION

C1 General

- (1) The Director shall not be liable to any person for any damage or loss caused due to closure of any prescribed facilities as a result of routine maintenance/overhaul, urgent repairs, or any other reasons with or without prior notice.
- (2) No gift or advantage shall be offered to any operators of the prescribed facilities. The account-holder or whom on his behalf is advised to report to the Independent Commission Against Corruption (ICAC) if any operators of the prescribed facilities solicit advantages from him.

C2 Determination of Weight of Inert Construction Waste

- (1) The Maximum Load of the vessel as determined by the Director of Environment Protection shall be used for the purpose of calculating the public fill charge. Only approved vessels shall be used for the delivery of inert construction waste material to the prescribed facility.

C3 Accounting Procedures

- (1) Upon approval of a billing account application, the account-holder will be notified the date of monthly cut-off for purpose of determining the prescribed charges and issuance of monthly construction waste transaction information and the notice of demand for payment of prescribed charges. If the date falls on a public holiday, the date shall be the following working day.
- (2) The monthly notice of demand will be sent to the account-holder by post. Monthly construction waste transaction information can either be sent by post or through E-mail at the account-holder's choice. Hard copy will not be sent if construction waste transaction information has been sent by E-mail.
- (3) The amount of prescribed charges specified in the notice of demand shall be calculated as the sum of all the prescribed charges payable in respect of the weight of each load of construction waste delivered by the account-holder or on his behalf to the prescribed facilities for the period as specified in the notice of demand.
- (4) For settlement of outstanding notices of demand, payment of any monies shall be used to settle the outstanding amounts including the surcharges stated in the notices of demand in

Construction Waste Disposal Charging Scheme

the chronological order of their due dates.

- (5) On the application of the account-holder for reinstating a suspended/revoked billing account, the Director may, with or without conditions, reinstate the billing account if all the outstanding prescribed charges and surcharge under the suspended/revoked account have been paid.

C4 Vessel Chit Issuance

- (1) For request of Vessel Chit issuance, the account-holder is required to pay a deposit as security for payment of prescribed charges and surcharges under the Charging Regulation.
- (2) When the account-holder requests for Vessel Chit issuance, he is required to pay a deposit of \$40,000 for each chit. For issuance of more Vessel Chits, additional deposit on a pro-rata basis (i.e. \$40,000 per vessel chit) shall be paid.
- (3) The account-holder may apply in writing for issuance of additional Vessel Chits.
- (4) For collection of Vessel Chits in person, any person to whom or on whose behalf the Vessel Chits are issued will be required to produce his identity document to the Director for examination.
- (5) For receipt of Vessel Chits by post, the account-holder should acknowledge receipt by contacting Environmental Protection Department by phone. The Vessel Chits can only be used two clear days (excluding Saturdays, Sundays and public holidays) after acknowledgement of receipt in the specified manner.
- (6) Damaged Vessel Chits or Vessel Chits that have become invalid due to alteration may be returned to the Director for application for re-issuance of new Vessel Chits or for refund of deposit subject to settlement of any outstanding charges.
- (7) Upon closure of the account, the account-holder shall return those unused Vessel Chits to the Director for application for deposit refund subject to settlement of any outstanding charges.

C5 Loss of Vessel Chits

- (1) The account-holder shall report to the Director in writing immediately if his vessel chits have been lost/stolen.
- (2) The Director will then void the lost/stolen Vessel Chits as reported by the account-holder after a specified Notification Period following receipt of the written notification by the account-holder. The Notification Period, usually two clear days (excluding Saturdays, Sundays and public holidays), would be advised by the Director on a case-by-case basis upon receiving the written notification. After expiry of the Notification Period, the Vessel Chits reported lost/stolen by the account-holder will become invalid.
- (3) The account-holder may be liable for transactions that have already been made before expiry of the Notification Period.

Construction Waste Disposal Charging Scheme

C6 Prescribed Facility for Vessel Disposal

- (1) Currently, there are only two public fill reception facilities, one in Tuen Mun Area 38 and one in Tseung Kwan O Area 137, for vessel disposal of inert construction waste. The Director shall give notice in the Gazette on the addition or deletion of public fill reception facility, from time to time, for the purpose of vessel disposal.

[Words and expressions importing the masculine gender include the feminine and neuter genders. Words and expressions in the singular include the plural and vice versa.]

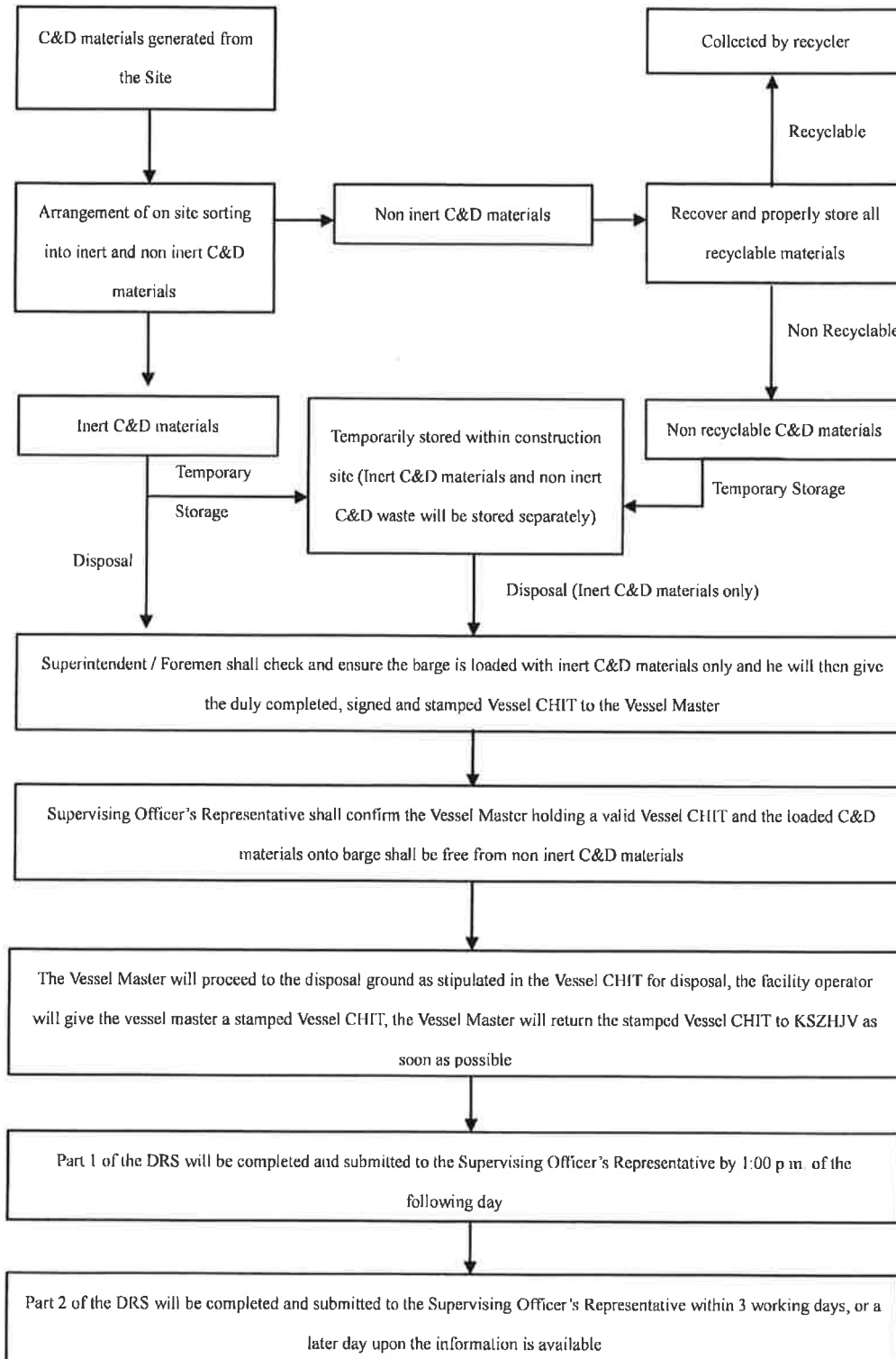


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Appendix D

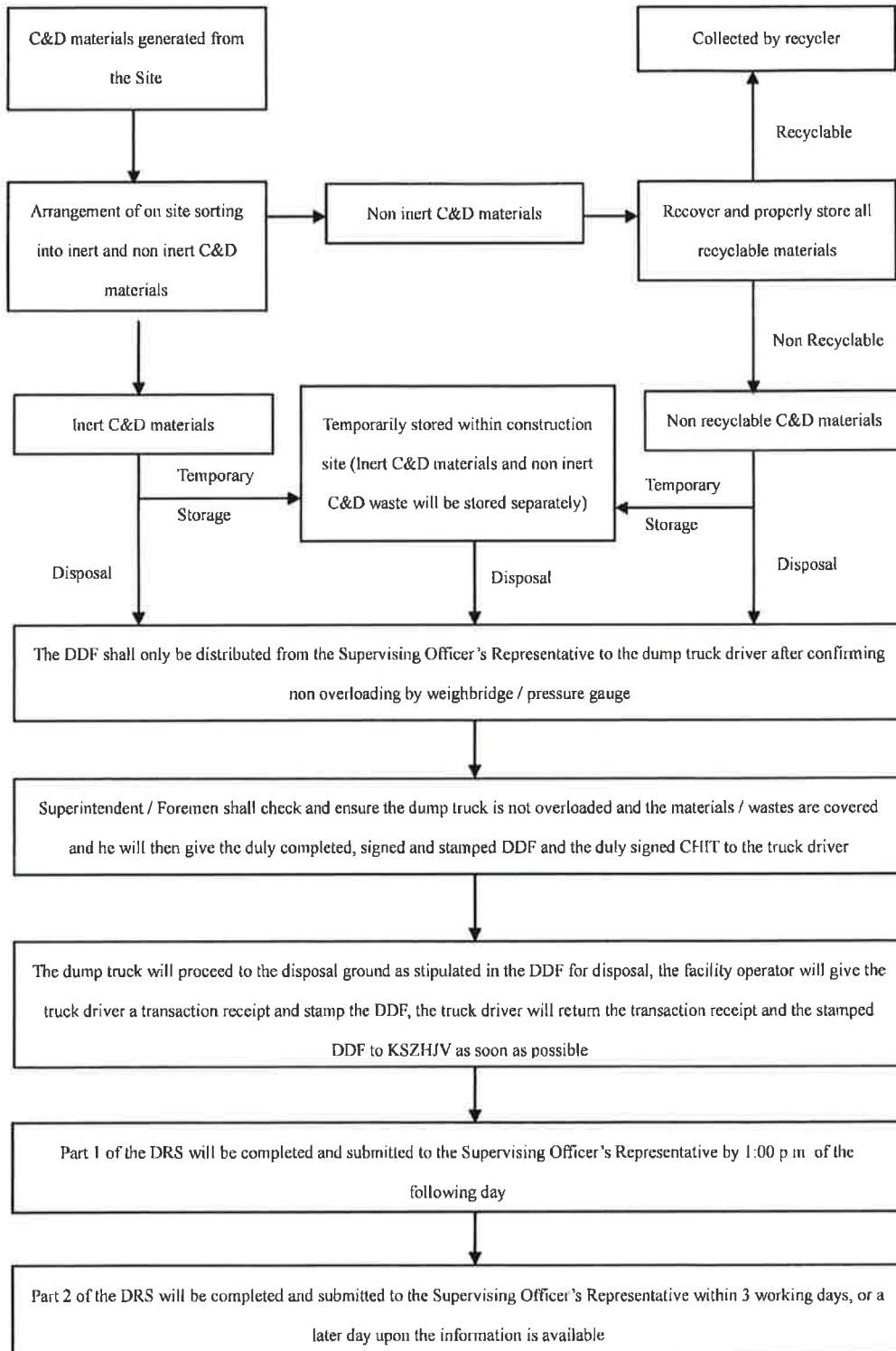
Flow Chart for Trip Ticket System

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Procedure for dumping C&D materials by barge

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Procedure for dumping C&D materials by dump truck



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Appendix E

Notification to Dump Truck Drivers

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. 車軚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. 司機已持有運載記錄票（藍色）及運載入帳票（綠色）並票上的所有資料已經填妥。
 7. 必須依照運載記錄票（藍色）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記錄票（藍色）而離開地盤進行傾倒；或運泥車駛往非運載記錄票（藍色）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記錄票（藍色）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。



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Appendix F

Daily Record Summary for C&D Waste Disposal



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Appendix G

Waste Flow Table for C&D Waste Disposal



Monthly Summary Waste Flow Table for _____ (year)

Project : Integrated Waste Management Facilities, Phase I

Contract No.: EP/SP/66/12

Month	Actual Quantities of Inert C&D Materials Generated Monthly							Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated (in '000m ³)	Hard Rock and Large Broken Concrete (see Note 1)	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill Sand	Imported Fill Public fill	Imported Fill Rock	Metals (in '000 kg)	Paper/ cardboard packaging (in '000kg)	Plastics (see Note 2) (in '000kg)	Chemical Waste (in '000L)	Others, e.g. general refuse (see Note 3) (in '000 m ³)
Jan													
Feb													
Mar													
Apr													
May													
Jun													
Sub-total	0	0	0	0	0	0	0	0	0	0	0	0	0
Jul													
Aug													
Sep													
Oct													
Nov													
Dec													
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

Notes:

- (1) Broken concrete for recycling into aggregates.
- (2) Plastics refer to plastic bottles/ containers, plastic sheets/ foam from packaging materials.
- (3) Use the conversion factor : 1 full load of dumping truck being equivalent to 6.5m³ by volume.



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Appendix H

Environmental Mitigations Implementation Schedules (EMIS)



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EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*			Relevant Legislation and Guidelines
				Des	C	O Dec	
6b.5.1.2	<p><u>Good Site Practices</u></p> <p>Adverse environmental impacts in relation to waste management are not expected, provided that good site practices are strictly followed. Recommendations for good site practices during the construction activities would include:</p> <ul style="list-style-type: none"> Obtain relevant waste disposal permits from appropriate authorities, in accordance with the Waste Disposal Ordinance (Cap. 354) and subsidiary Regulations and the Land (Miscellaneous Provisions) Ordinance (Cap. 28); Provide staff training for proper waste management and chemical handling procedures; Provide sufficient waste disposal points and regular waste collection; Provide appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; and Carry out regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; Separate chemical wastes for special handling and disposed of to licensed facility for treatment; and Employ licensed waste collector to collect waste. 	Work Site/ During Construction Period	Contractor	✓			WDO; LDO; ETWB TCW No. 19/2005; EIAO-TM
6b.5.1.3	<p><u>Waste Reduction Measures</u></p> <p>Good management and control can prevent the generation of a significant amount of waste. Waste reduction is best achieved at the planning and design stage, as well as by ensuring the implementation of good site practices.</p>	Work Site/ During Design & Construction Period	Contractor	✓			



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EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*			Relevant Legislation and Guidelines
				Des	C	Dec	
	<p>Recommendations to achieve waste reduction include:</p> <ul style="list-style-type: none"> • Design foundation works that could minimise the amount of excavated material to be generated. • Provide training to workers on the importance of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycling; • Sort out demolition debris and excavated materials from demolition works to recover reuseable/recyclable portions (i.e. soil, broken concrete, metal etc.); • Segregate and store different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal; • Encourage the collection of aluminium cans by providing separate labelled bins to enable this waste to be segregated from other general refuse generated by the work force; • Proper storage and site practices to minimise the potential for damage or contamination of construction materials; and • Plan and stock construction materials carefully to minimise amount of waste to be generated and to avoid unnecessary generation of waste. 						
6b.5.1.7	<p><u>Dredged Sediment – Application of Dumping Permit</u></p> <p>The project proponent should agree in advance with MFC of CEDD on the site allocation. The project proponent or contractor for the dredging works shall then apply for the site allocations of marine sediment disposal based on the prior agreement with MFC/CEDD. The project proponent or</p>	Seawall and Reclamation site / Construction Period	EPD and its contractor	✓	✓		DASO ETWB TCW 34/2002



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EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
6b.5.1.8	<p>contractor should also be responsible for the application of all necessary permits from relevant authorities, including the dumping permit as required under DASO from EPD, for the disposal of dredged sediment prior to the commencement of the dredging works.</p> <p><u>Dredged Sediment – Sediment Quality Report</u></p> <p>The project proponent or contractor will need to satisfy the appropriate authorities that the quality of the marine sediment to be dredged has been identified according to the requirements of ETWB TCW 34/2002. This should be completed well before the dredging works and would include at least the submission of a formal Sediment Quality Report under Tier I of ETWB TCW No. 34/2002 to DEP for approval. Subject to advice from DEP, it is possible that further marine SI in accordance with ETWB TCW 34/2002 might be necessary for the application of dumping permit under DASO. In such case, a sediment sampling and testing proposal shall be submitted to and approved by DEP before the additional marine SI works.</p>	Seawall and Reclamation site / Construction Period	EPD and its contractor	✓				DASO ETWB TCW 34/2002
6b.5.1.9	<p><u>Dredged Sediment – Sediment Transportation</u></p> <p>The barge transporting the sediments to the designated disposal sites should be equipped with tight fitting seals to prevent leakage and should not be filled to a level that would cause overflow of materials or laden water during loading or transportation. In addition, monitoring of the barge loading shall be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels shall be equipped with automatic self-monitoring devices as specified by the DEP.</p>	Seawall and Reclamation site / Construction Period	EPD and its contractor	✓				DASO ETWB TCW 34/2002

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EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
6b.5.1.10	<p><u>Construction and Demolition Materials</u></p> <p>In order to minimise the impact resulting from collection and transportation of C&D materials for off-site disposal, the excavated material arising from site formation and foundation works should be reused on-site as backfilling material and for landscaping works as far as practicable. Other mitigation requirements are listed below.</p> <ul style="list-style-type: none"> • A Waste Management Plan (WMP), which becomes part of the Environmental Management Plan (EMP), should be prepared in accordance with ETWB TCW No.19/2005; • A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be adopted for easy tracking; and • In order to monitor the disposal of C&D materials at public filling facilities and landfills and to control fly-tipping, a trip-ticket system should be adopted (refer to ETWB TCW No. 31/2004). 	Work Site/ During Design & Construction Period	Contractor	✓	✓			ETWB TCW No. 19/2005
6b.5.1.11 – 6b.5.1.12	<p>The Contractor should prepare and implement an EMP in accordance with ETWB TCW No.19/2005, which describes the arrangements for avoidance, reuse, recovery, recycling, storage, collection, treatment and disposal of different categories of waste to be generated from construction activities. Such a management plan should incorporate site specific factors, such as the designation of areas for segregation and temporary storage of reusable and recyclable materials. The EMP should be submitted to the Engineer for approval. The Contractor should implement waste management practices in the EMP throughout the construction stage of the Project. The EMP should be reviewed regularly and updated by the Contractor, preferably on a monthly basis.</p> <p>All surplus C&D materials arising from or in connection with</p>	Work Site/ During Design & Construction Period	Contractor	✓	✓			ETWB TCW No. 19/2005



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EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*			Relevant Legislation and Guidelines
				Des	C	O Dec	
6b.5.1.13	<p>construction works should become the property of the Contractor when it is removed unless otherwise stated. The Contractor would be responsible for devising a system to work for on-site sorting of C&D materials and promptly removing all sorted and process materials arising from the construction activities to minimize temporary stockpiling on-site. The system should be included in the EMP identifying the source of generation, estimated quantity, arrangement for on-site sorting, collection, temporary storage areas and frequency of collection by recycling Contractors or frequency of removal off-site.</p> <p><u>Chemical Wastes</u> Should chemical wastes be produced at the construction site, the Contractor would be required to register with EPD as a Chemical Waste Producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used, and appropriate chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste (such as explosive, flammable, oxidizing, irritant, toxic, harmful, or corrosive). The Contractor should employ a licensed collector to transport and dispose of the chemical wastes, to either the Chemical Waste Treatment Centre at Tsing Yi, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.</p>	Work Site/ During Construction Period	Contractor	✓			Waste Disposal (Chemical Waste) (General) Regulation
6b.5.1.14	<p><u>General Refuse</u> General refuse should be stored in enclosed bins or compaction units separate from C&D materials. A licensed</p>	Work Site/ During Construction Period	Contractor	✓			Public Health and Municipal Services Ordinance



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				Des	C	O	Dec	
6b.5.1.16	waste collector should be employed by the Contractor to remove general refuse from the site, separately from C&D materials. Preferably an enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material.							
6b.5.1.33	<p><u>Bioogas Generation</u></p> <p>The Contractor shall review the data and analysis results, and the data from further Site Investigation, if any. Subject to the review findings, the following gas protection measures may be considered if necessary:</p> <ul style="list-style-type: none"> - gas monitoring after reclamation; - passive ventilation; - gas impermeable membrane; - ventilation with "at risk" rooms; - protection of utilities or below ground services; - precautions during construction works; - precautions prior to entry of belowground services 	Reclamation site (if dredging at the reclamation site is not required) / Design & Construction Period	Designer and/or contractor	✓				EPD/TR8/97
6b.5.2.1	<p><u>Good Site Practices</u></p> <p>It is recommended that the following good operational practices should be adopted to minimise waste management impacts:</p> <ul style="list-style-type: none"> • Obtain the necessary waste disposal permits from the appropriate authorities, in accordance with the Waste Disposal Ordinance (Cap. 354) and Waste Disposal 	IWMF Site/During Operation Period	IWMF Operator			✓		Waste Disposal Ordinance (Cap. 354); Disposal (Chemical Waste) (General) Regulation; ETWB TCW No. 1/2004

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				Des	C	O	Dec	
	<p>(Chemical Waste) (General) Regulation;</p> <ul style="list-style-type: none"> Nomination of an approved person to be responsible for good site practice, arrangements for collection and effective disposal to an appropriate facility of all wastes generated at the site; Use of a waste haulier licensed to collect specific category of waste; A trip-ticket system should be included as one of the contractual requirements and implemented by the Environmental Team to monitor the disposal of solid wastes at landfills, and to control fly tipping. Reference should be made to ETWB TCW No. 31/2004. Training of site personnel in proper waste management and chemical waste handling procedures; Separation of chemical wastes for special handling and appropriate treatment at a licensed facility; Routine cleaning and maintenance programme for drainage systems, sumps and oil interceptors; Provision of sufficient waste disposal points and regular collection for disposal; Adoption of appropriate measures to minimize windblown litter and dust during transportation of waste, such as covering trucks or transporting wastes in enclosed containers; and Implementation of a recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites). 							
6b.5.2.2	<p>Waste Reduction Measures</p> <p>Good management and control can prevent the generation of</p>	IWMF Site/ During Operation Period	IWMF Operator			✓		



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EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
6b.5.2.3	<p>significant amounts of waste. It is recommended that the following good operational practices should be adopted to ensure waste reduction:</p> <ul style="list-style-type: none"> Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal; Encourage collection of aluminium cans, plastic bottles and packaging material (e.g. carton boxes) and office paper by individual collectors. Separate labelled bins should be provided to help segregate this waste from other general refuse generated by the work force; and Any unused chemicals or those with remaining functional capacity should be reused as far as practicable. <p><u>Storage, Handling, Treatment, Collection and Disposal of Incineration By-Products</u></p> <p>The following measures are recommended for the storage, handling and collection of the incineration by-products:</p> <ul style="list-style-type: none"> Ash should be stored in storage silos; Ash should be handled and conveyed in closed systems fully segregated from the ambient environment; Ash should be wetted with water to control fugitive dust, where necessary; All fly ash and APC residues should be treated, e.g. by cement solidification or chemical stabilization, for compliance with the proposed Incineration Residue 	IWMF Site/ During Operation Period	IWMF Operator					Incineration Residue Pollution Control Limits



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				Des	C	O	
6b.6.3.1	<p>Pollution Control Limits and leachability criteria prior to disposal;</p> <ul style="list-style-type: none"> The ash should be transported in covered trucks or containers to the designated landfill site. <p>The Contractor should provide EPD with chemical analysis results of the bottom ash, and treated fly ash and APC residues to confirm that the ash/residue can comply with the proposed Incineration Residue Pollution Control Limits before disposal.</p> <p><u>Fuel Oil Tank Construction and Test</u></p> <ul style="list-style-type: none"> The fuel tank to be installed should be of specified durability. Double skin tanks are preferred. Underground fuel storage tank should be placed within a concrete pit. The concrete pit shall be accessible to allow regular tank integrity tests to be carried out at regular intervals. Tank integrity tests should be conducted by an independent qualified surveyor or structural engineer. Any potential problems identified in the test should be rectified as soon as possible. 	Fuel Oil Storage Tank/ During Design, Construction and Operation Periods	IWMF Contractor	✓	✓	✓	
6b.6.3.1	<p><u>Fuel Oil Pipeline Construction and Test</u></p> <ul style="list-style-type: none"> Installation of aboveground fuel oil pipelines is preferable; if underground pipelines are unavoidable, concrete lined trenches should be constructed to contain the pipelines. 	Fuel Oil Pipelines/ During Design, Construction and Operation Periods	IWMF Contractor	✓	✓	✓	

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EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
6b.6.3.1	<ul style="list-style-type: none"> • Double skin pipelines are preferred. • Distance between the fuel oil refuelling points and the fuel oil storage tank shall be minimized. • Integrity tests for the pipelines should be conducted by an independent qualified surveyor or structural engineer at regular intervals. • Any potential problems identified in the test should be rectified as soon as possible. 							
6b.6.3.1	<p><u>Fuel Oil Leakage Detection</u></p> <ul style="list-style-type: none"> • Installation of leak detection device at storage tank and pipelines. • Installation and use of pressure gauges (e.g. at the two ends of a filling line) in fuel filling, which allows unexpected pressure drop or difference and sign of leakage to be detected. 	Fuel Oil Storage Tank and Pipelines/ During Design, Construction and Operation Periods	IWMF Contractor	✓	✓	✓		
6b.6.3.1	<p><u>Fuel Oil Storage Tank Refuelling</u></p> <ul style="list-style-type: none"> • Storage tank refuelling (from road tanker) should only be conducted by authorized staff of the oil company using the company's standard procedures. 	Fuel Oil Refuelling Point/ During Operation Period	IWMF Operator			✓		
6b.6.3.1	<p><u>Fuel Oil Spillage Response</u></p> <p>An Oil Spill Response Plan should be prepared by the operator to document the appropriate response procedures for oil spillage incidents in detail. General procedures to be taken in case of fuel oil spillage are presented below.</p> <ul style="list-style-type: none"> • Training <ul style="list-style-type: none"> - Training on oil spill response actions should be given to relevant staff. The training shall cover the 	IWMF Site/ During Operation Period	IWMF Operator			✓		

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EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*			Relevant Legislation and Guidelines
				Des	C	O	
	<p>following:</p> <ul style="list-style-type: none"> ➢ Tools & resources to combat oil spillage and fire, e.g. locations of oil spill handling equipment and fire fighting equipment; ➢ General methods to deal with oil spillage and fire incidents; ➢ Procedures for emergency drills in the event of oil spills and fire; and ➢ Regular drills shall be carried out. <ul style="list-style-type: none"> • Communication <ul style="list-style-type: none"> - Establish communication channel with the Fire Services Department (FSD) and EPD to report any oil spillage incident so that necessary assistance from relevant department can be quickly sought. • Response Procedures <ul style="list-style-type: none"> - Any fuel oil spillage within the IWMF site should be immediately reported to the Plant Manager with necessary details including location, source, possible cause and extent of the spillage. - Plant Manager should immediately attend to the spillage and initiate any appropriate action to confine and clean up the spillage. The response procedures shall include the following: <ul style="list-style-type: none"> ➢ Identify and isolate the source of spillage as soon as possible. ➢ Contain the oil spillage and avoid infiltration into soil/ groundwater and discharge to storm water channels. 						

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EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*			Relevant Legislation and Guidelines
				Des	C	O Dec	
6b.6.3.2	<p>Remove the oil spillage.</p> <p>Clean up the contaminated area.</p> <p>If the oil spillage occurs during storage tank refuelling, the refueling operation should immediately be stopped.</p> <p>Recovered contaminated fuel oil and the associated material to remove the spilled oil should be considered as chemical waste. The handling and disposal procedures for chemical wastes are discussed in the following paragraphs.</p> <p><u>Chemicals and Chemical Wastes Handling & Storage</u></p> <ul style="list-style-type: none"> • Chemicals and chemical wastes should only be stored in suitable containers in purpose-built areas. • The storage of chemical wastes should comply with the requirements of the Code of Practice on the Packaging, Labeling and Storage of Chemical Wastes. • The storage areas for chemicals and chemical wastes shall have an impermeable floor or surface. The impermeable floor/ surface shall possess the following properties: <ul style="list-style-type: none"> - Not liable to chemically react with the materials and their containers to be stored. - Able to withstand normal loading and physical damage caused by container handling - The integrity and condition of the impermeable floor or surface should be inspected at regular intervals to ensure that it is satisfactorily maintained 	Chemicals and Chemical Wastes Storage Area / During Operation Period	IWMF Operator			✓	

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EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*			Relevant Legislation and Guidelines
				Des	C	O Dec	
6b.6.3.2	<p>➢ For liquid chemicals and chemical wastes storage, the storage area should be bunded to contain at least 110% of the storage capacity of the largest containers or 20% of the total quantity of the chemicals/chemical wastes stored, whichever is the greater.</p> <p>➢ Storage containers shall be checked at regular intervals for their structural integrity and to ensure that the caps or fill points are tightly closed.</p> <p>➢ Chemical handling shall be conducted by trained workers under supervision.</p> <p><u>Chemicals and Chemical Wastes Spillage Response</u></p> <p>A Chemicals and/ or Chemical Wastes Spillage Response Plan shall be prepared by the operator to document in detail the appropriate response procedures for chemicals or chemical wastes spillage incidents. General procedures to be undertaken in case of chemicals/ chemical waste spillages are presented below.</p> <ul style="list-style-type: none"> • Training <ul style="list-style-type: none"> - Training on spill response actions should be given to relevant staff. The training shall cover the followings: <ul style="list-style-type: none"> ➢ Tools & resources to handle spillage, e.g. locations of spill handling equipment; ➢ General methods to deal with spillage; and ➢ Procedures for emergency drills in the event of spills. • Communication 	IWMF Site/ During Operation Period	IWMF Operator			✓	

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				Des	C	O Dec	
6b.6.3.3	<p> - Establish communication channel with FSD and EPD to report the spillage incident so that necessary assistance from relevant department can be quickly sought. • Response Procedures - Any spillage within the IW/MF site should be reported to the Plant Manager. - Plant Manager shall attend to the spillage and initiate any appropriate actions needed to confine and clean up the spillage. The response procedures shall include the followings: > Identify and isolate the source of spillage as soon as possible; > Contain the spillage and avoid infiltration into soil/ groundwater and discharge to storm water channels (in case the spillage occurs at locations out of the designated storage areas); > Remove the spillage; the removal method/procedures documented in the Material Safety Data Sheet (MSDS) of the chemicals spilled should be observed; > Clean up the contaminated area (in case the spillage occurs at locations out of the designated storage areas); and > The waste arising from the cleanup operation should be considered as chemical wastes. </p> <p> <u>Preventive Measures for Incineration By-products Handling</u> The recommended measures listed below can minimize the potential contamination to the surrounding environment due </p>	Storage, Handling & Collection of Incineration Ash at IW/MF/ During	IW/MF Operator			✓	

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EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*			Relevant Legislation and Guidelines
				Des	C	O	
	<p>to the incineration by-products:</p> <ul style="list-style-type: none"> Ash should be stored in storage silos; Ash should be handled and conveyed in closed systems fully segregated from the ambient environment; Ash should be wetted with water to control fugitive dust, where necessary; All fly ash and APC residues should be treated, e.g. by cement solidification or chemical stabilization, for compliance with the proposed Incineration Residue Pollution Control Limits and leachability criteria prior to disposal; The ash should be transported in covered trucks or containers to the designated landfill site. 	Operation Period					
6b.6.3.4 - 6b.6.3.6	<p><u>Incident Record</u></p> <p>After any spillage, an incident report should be prepared by the Plant Manager. The incident report should contain details of the incident including the cause of the incident, the material spilled and estimated spillage amount, and also the response actions undertaken. The incident record should be kept carefully and able to be retrieved when necessary.</p> <p>The incident report should provide sufficient details for the evaluation of any environmental impacts due to the spillage and assessment of the effectiveness of measures taken.</p> <p>In case any spillage or accidents results in significant land contamination, EPD should be informed immediately and the IWMF operator should be responsible for the cleanup of the affected area. The responses procedures described in Section 6b.6.3.1 and Section 6b.6.3.2 of EIA report should</p>	IWMF Site/ During Operation Period	IWMF Operator			✓	Guidance Manual for Use of Risk-based Remediation Goals for Contaminated Land Management and the Guidance Note for Contaminated Land Remediation.

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EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	be followed accordingly together with the land contamination assessment and remediation guidelines stipulated in the <i>Guidance Manual for Use of Risk-based Remediation Goals for Contaminated Land Management and the Guidance Note for Contaminated Land and Remediation</i> .							

* Des - Design, C - Construction, O – Operation, and Dec - Decommissioning



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Appendix I

Daily Cleanliness and Weekly Tidiness Checklists



地盤每日清潔檢查記錄
Daily Cleaning Inspection Checklist

工程名稱: Integrated Waste Management Facilities Phase 1 合約編號: _____ 地點: _____ 日期: _____

項目 Items	檢查內容 Content(s)	滿意 Satisfactory	不滿意 Unsatisfactory	改善行動 Mitigation Measure(s)
1.	公眾地方、一般通道及行人路保持暢通 Maintenance of passageways, common accesses and public areas free of obstruction.			
2.	物料妥善存放 Proper storage and stacking of materials.			
3.	工具及設備於使用後妥善存放 Proper placement and storage of tools and equipment after work.			
4.	根據環境管理計劃書內之廢物管理計劃書內將廢物作出適當分類、儲存及棄置 Proper sorting, storage and/or disposal of waste materials in accordance with the waste management plan of the Environmental Management Plan.			
5.	工作告示牌、照明系統、護罩、圍欄及圍街板適當地穩固 Proper securing of hoarding, barriers, guarding, lighting, and signing of works.			
6.	有效地防止水浸及清除積水 Prevention and removal of water ponds and flooding.			
7.	有效地清除因工序進行而產生之廢物 Clearing of stockpiling and wastes arising from the Works.			
8.	對一般公眾而言、公眾地方已整潔 Conditions of cleanliness and tidiness of the Site including Public Cleaning Areas in the perspective of the general public.			
9.	監督人員指示的其它清潔要求 Other cleaning requirements as commented by the Supervising Officer.			
10.	有效地清除隔沙罩內及預定填海位置海面上積存的廢物及因工序進行而積存在附近海岸上廢物 Clearing of wastes accumulated inside silt curtain, the sea of the proposed reclaimed area and wastes accumulated at the adjacent shoreline due to the Works.			

*請選擇滿意 或 不滿意 並加上 "✓"

*附有照片 _____ 張

*Please select satisfactory or unsatisfactory by "✓"

Signature by KSZHJV (Contractor)

檢查員簽署: _____

檢查員姓名: _____
Name

Signature by AECOM (Supervising Officer)

監督人員代表簽署: _____

監督人員代表姓名: _____
Name

地盤每週清潔檢查記錄
Weekly Tidying Inspection Checklist

工程名稱: Integrated Waste Management Facilities Phase 1

合約編號: _____

地點: _____

日期: _____

項目 Items	檢查內容 Content(s)	滿意 Satisfactory	不滿意 Unsatisfactory	改善行動 Mitigation Measure(s)
1.	徹底暢通所有通道及公眾範圍 Thorough cleansing of passageways, common accesses and public areas.			
2.	重編儲藏物料增強空間效益(如適用) Re-organizing of storage materials for better utilization of storage spaces & safe stacking. (if appropriate)			
3.	保養、維修工具及設備 Maintenance and re-conditioning of tools and equipment.			
4.	清洗工具及設備外殼 Cleansing of external covers for plant and equipment.			
5.	收集及移走工地廢物 Collection and removal of disposed waste materials off site.			
6.	清洗、維修及更換護欄、防護、照明及標誌 Cleansing, re-conditioning and/or replacement of hoarding, barriers, guarding, lighting, and signage of works to good working condition.			
7.	暢通排水道避免氾濫 Clearing of drains and channels to prevent flooding.			
8.	於地盤內備有足夠的垃圾桶，並適當地處理及儲存垃圾 Proper storage, handling of general refuse and adequacy of rubbish bins on site.			
9.	於地盤內備有足夠及清潔的衛生間 Adequacy and Cleanliness of toilet facilities on-site.			
10.	監督人員指示其他配合公眾清潔要求 Other cleansing requirements as commented by the Supervising Officer's Representative from the perspective of the general public.			
11.	有效地清除隔沙罩內及預定填海位置海面上積存的廢物及因工序進行而積存在附近海岸上廢物 Clearing of wastes accumulated inside silt curtain, the sea of the proposed reclaimed area and wastes accumulated at the adjacent shoreline due to the Works.			

*請選擇滿意 或 不滿意 並加上 "✓"

*附有照片 _____ 張

*Please select satisfactory or unsatisfactory by "✓"

Signature by KSZHJV (Contractor)

Signature by AECOM (Supervising Officer)

檢查員簽署: _____

監督人員代表簽

署: _____

檢查員姓名: _____

監督人員代表姓

名: _____

Name

Name

日期: _____

日期: _____

Date

Date



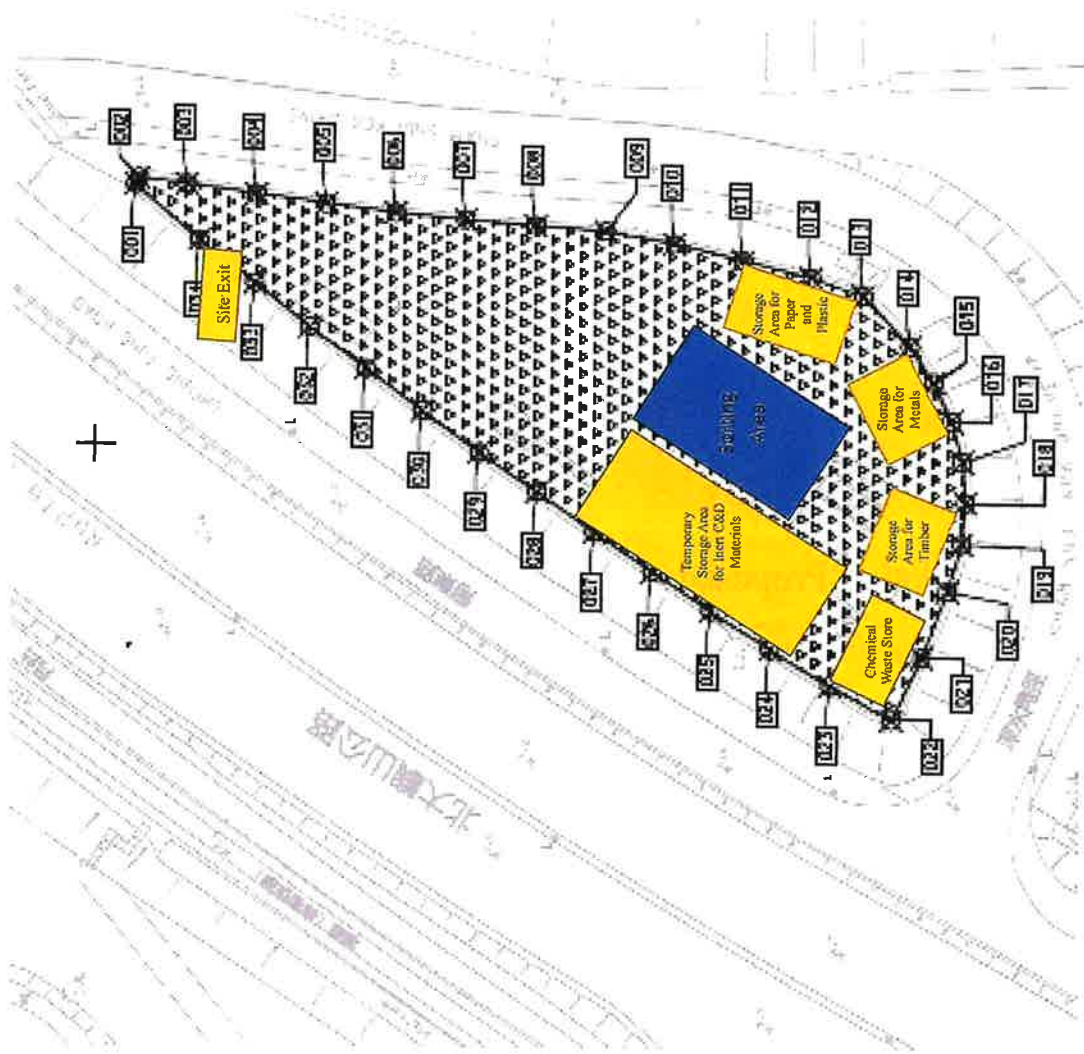
環境保護署
Environmental Protection Department

Contract No. EP/SP/66/12

Integrated Waste Management Facilities, Phase 1

Appendix J

**Layout Plan of Proposed Temporary Storage and Sorting Area
for C&D Materials**



Portion 7 (Temporary Storage Area at Tung Chung)

Appendix K

Proposed Ground Investigation Layout Plan

