

MTR Corporation Limited

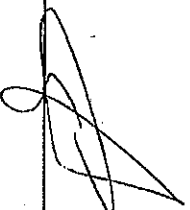
West Island Line Project

Waste Management Plan (Rev A)

Contract No. 703

SHW to SYP Tunnels

Verified by:

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Position: Independent Environmental Checker

Date: 14 January 2010

MTR Corporation Limited

West Island Line Project

Waste Management Plan (Rev A)

Contract No. 703
SHW to SYP Tunnels

Certified by: *Glenne Frommer*

Position: Environmental Team Leader

Date: 12 January 2010

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1.0 INTRODUCTION

1.1 Preamble

The Dragages-Maeda-BSG Joint Venture (the JV) is appointed by MTR Corporation Limited (MTRC) to undertake the Contract No. 703 – SHW to SYP Tunnels (the Contract). The Contract mainly involves the construction of a tunnel from the existing Sheung Wan Station westwards towards a new Sai Ying Pun for West Island Line (WIL).

1.2 Scope of Works

The Permanent Works under this Contract generally comprise the following:

- The eastbound running tunnel (Up Track) from SYP to the existing SHW crossover box;
- The westbound running tunnel (Down Track) from SYP to the existing SHW overrun tunnel underneath Queen Street (refuge siding);
- Modifications to the existing SHW crossover box for connection of the eastbound running tunnel;
- SYP Entrance A1 at Sai Woo Lane;
- SYP Entrance A2 located at the basement levels of the Health Gate Medical Centre at Des Voeux Road West and the associated modification works to the building;
- Short section of passenger adit (approximate 40m long in soft ground condition) underneath Queen's Road west connecting SYP Entrance A1 to the rest of the passenger adit which will be constructed in rock under another contract;
- Demolition of the EBS adjacent to Sai Woo Lane playground that will be affected by the construction of the works, including Nos. 24 Tsz Mi Alley, Nos. 203-209 Queen's Road West and the structures and landscape features at the LCSD open area;
- Provisions in tunnels, shafts and adits for installation of equipment and services by Designated Contractors as specified;
- Backfilling and modification of the abandoned refuge siding and the ventilation shaft at Ko Shing Street; and
- The construction shaft at King George V (KGV) Memorial Park and the associated construction adits.

1.3 Purpose of this Plan

Pursuant to Clause G5.6.2 of the General Specification for the Civil Engineering Works a Waste Management Plan shall be submitted to the Engineer for approval. This Waste Management Plan describes the waste management programme to be implemented in SHW to SYP Tunnels Project.

As stated in the specification, the purposes of this Waste Management Plan (WMP) are:-

- To provide overall framework for waste management and reduction to the Director of the Environmental Protection as per EP requirements
- To ensure that all construction site personnel will avoid and/or minimize the on site generation of Construction and Demolition (C&D) material, excavated material, chemical waste and general refuse;
- To reuse and recycle the C&D and excavated materials, and to keep the construction site clean and tidy; and



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- To propose proper methods of reuse, recycling, handling, storage, transportation and disposal of various types of wastes generated from the Project.

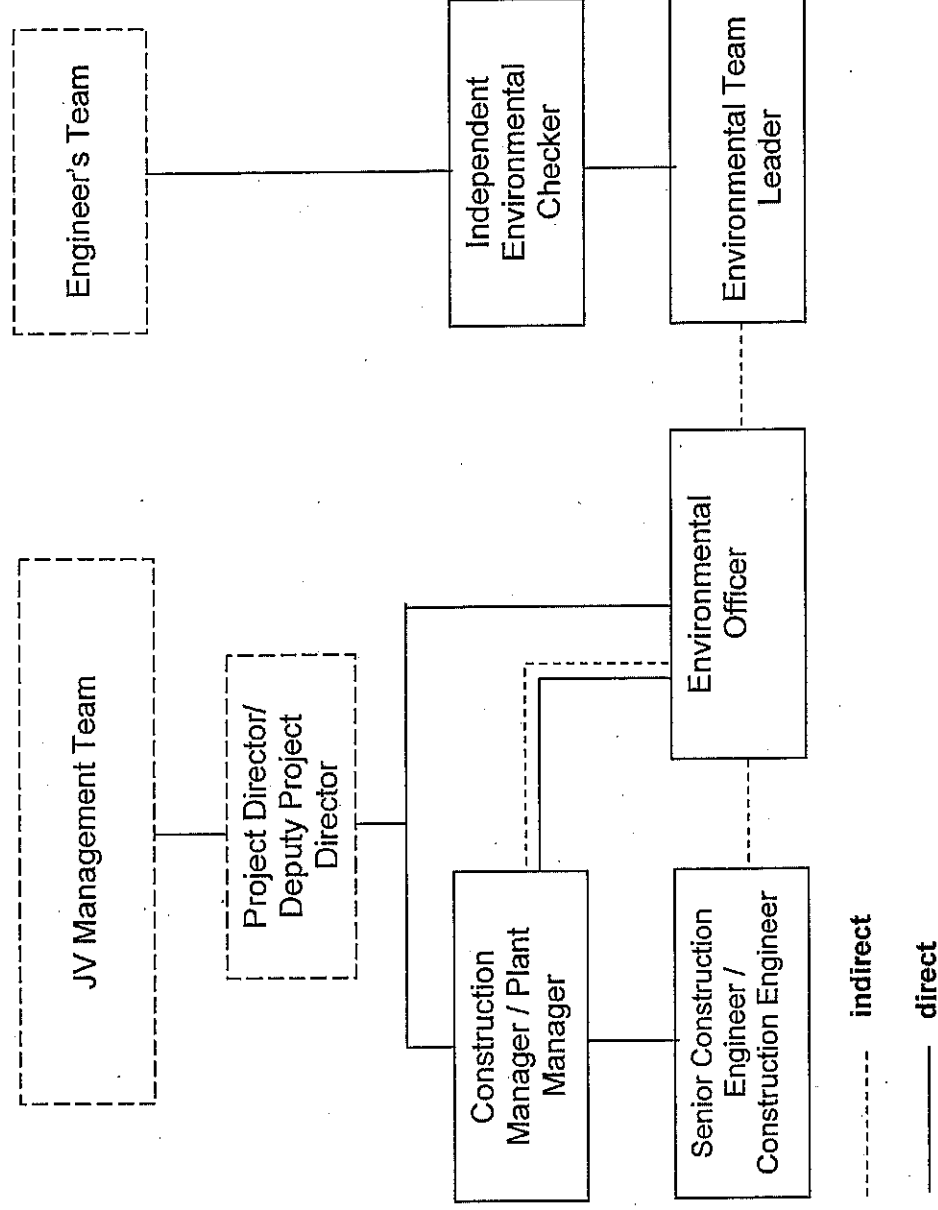
1.4 Project Duration

The date of commencement of the contract is 12 August 2009 and date of completion is 30 June 2014 (Total duration of 59 months). Site clearance start from September 2009 and major construction programme commenced on November 2009 and will be completed around September 2013.

2.0 ORGANISATION, DUTIES AND RESPONSIBILITY

2.1 Organisation

The organization chart listed the key personnel who are responsible for waste management and implementation of waste mitigation measures.



2.2 Duties and Responsibilities

Independent Environmental Checker (IEC)

The IEC shall advise the Engineer's Representative or his team on environmental issues related to the project. The IEC shall possess at least 7 years experience in EM&A. He/She shall:

- Review the EM&A works performed by the ET
- Audit the monitoring activities and results;
- Review the EM&A reports submitted by the ET;
- Review the proposal on mitigation measures submitted by the Contractor in accordance with the Event and Action Plans; and
- Adhere to the procedures for carrying out complaint investigation as required in the EM&A Manual.

Environmental Team (ET)

- An independent party from the contractor to conduct the EM&A programme and ensure the Contractor's compliance with the project's environmental performance requirements during construction.
- Monitor various environmental parameters as required in the 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 impact arising
- Carry out site inspection to investigate and audit the Contractor's site practice, equipment and work methodologies with respect to pollution control and environmental mitigation, waste management and effect proactive action to pre-empt problems;
- Audit and prepare audit reports on the environmental monitoring data and site environmental conditions
- Report on the environmental monitoring and audit results to the IEC, Contractor, the ER and EPD or its delegated representative;
- Recommend suitable measures in the case of exceedance of Action and Limit levels in accordance with the Event and Action Plans; and
- Adhere to the procedures for carrying out complaint investigation as required in the EM&A Manual.

Project Director / Deputy Project Director

- Direct and lead staff in implementing the project safety, health and environmental policy, rules and practices, and the various statutory requirements.
- Overall responsible for the implementation of the environmental programme, including the waste management programme on the project

General Construction Manager / Construction Manager

- Identify and provide the necessary resources for waste management process
- Identify training needs for production staff/ workers
- Implement the waste management programme.
- Correct any identified nonconformance relating to the waste management programme
- Liaise with the QSE team regularly on matters related to waste management

Plant Manager

- Control the use and generation of chemical waste of the project
- Liaise with licenced chemical waste collector

Senior Construction Engineer / Construction Engineer

- Implement this WMP and the waste management programme
- Identify and correct nonconformance in the waste management programme.
- Implementation of Trip Ticket System and Chit System
- Maintain waste management records (licences, permits, trip tickets, Disposal Delivery Form, Chits).

QSE Manager

- Provide environmental management training
- Identify training needs for safety staff

- Conduct regular environmental audit
- Provide advices to construction team on environmental issues
- Monitor the compliance of statutory requirements

Environmental Officer

- Prepare and update this WMP
- Liaise and coordinate with the Environmental Team Leader and Independent Environmental Checker
- Liaise with government department for permit applications.
- Conducts inspection and environmental walks
- Provide environmental training
- Monitor the implementation of waste management plan and other environmental procedures
- Carry out ad-hoc environmental checking and testing
- Maintain and process environmental records
- Conduct environmental training and toolbox talk to staff and frontline workers
- Process waste disposal record and prepare Daily Record Summary

Environmental Team Leader

- Certifying this WMP; and
- Monitoring the implementation of this WMP
- Performing environmental monitoring and audit works and weekly site inspection in accordance with the approved EM&A Manual.

Engineer's Team

- Handling external complaints
- Performing regular site inspection
- Performing daily inspection, audit and highlighting any deficiencies for the Contractor to take proper follow up action.

Independent Environmental Checker (IEC)

- Verifying this WMP; and
- Performing independent audit on all environmental mitigation measures.



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3. WASTE PROTOCOLS

The waste management protocol to be implemented is scheduled below.

<p>Identification</p> <p>Elimination</p> <p>Reduction at source</p> <p>Segregation</p> <p>Recycling</p> <p>Disposal</p>	<p>Identify the potential sources of waste</p> <p>Complete avoidance of waste generation through practices or design</p> <p>The reduction or elimination of waste, generally within the confines of the production unit through procedures, process control.</p> <p>Separating wastes into different categories to optimise the disposal process, including measures to prevent contamination of the segregated materials.</p> <p>The use, or reuse of wastes for some other useful purpose, such as uncontaminated soil, used wooden planks and ferric materials</p> <p>Release of wastes in a controlled manner to a suitable disposal location, according to relevant regulations, guidelines and proper practices.</p>	<p>Highest priority</p> <p>↓</p> <p>Lowest priority</p>
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This plan would attempt to elevate waste management practices to the highest options, since conceptually it makes more sense to avoid producing waste rather than developing extensive treatment schemes

3.1 Waste Sources

The principal sources of waste are from:

- Construction Activities, including:
 - Site clearance
 - Excavation
 - Demolition of the planters/existing facilities at the Sai Woo Lane and King George V playground
 - Building demolition at Sai Woo Lane
 - Tunneling from SHW to SYP
 - shaft construction at Sai Woo Lane and King George V playground
- Office Activities
- Toilet, pantry and washing facilities

The waste generated from each waste source is discussed in detail under separate section, together with the proposed mitigation measures.

Activities of the Project are expected to generate a variety of wastes, which may include but not limited to:

- Waste steel and metal
- Excavated rock and soil
- Inert building demolition material
- Bentonite and slurry from ELS, tunnel excavation and water treatment plant
- Site clearance and non-inert demolition waste
- Chemical waste
- General refuse
- Municipal solid waste

If not properly managed, the handling and disposal of these wastes may cause environmental impacts and nuisance.

3.2 Disposal Points

Waste Type	Estimated Volume (m3)	Typical Disposal Site	Anticipated Disposal Site	Transportation means
Inert construction and demolition material (reinforced concrete, asphaltic concrete, dirt/soil, bricks, masonry, mortar, plastic, ceramic tiles etc) that comply with the requirements of the Public Dumping Licence	140,198	<p>Under the EIA for WIL project: Chai Wan Public Fill Barging Point</p> <p>or, Other Public filling barging points/area; and Public sorting facility.</p>	<p>-Chai Wan Public Fill Barging Point</p> <p>-Fill Bank at Tseung Kwan O Area 137</p>	<ul style="list-style-type: none"> • Rock derbis from tunnels at east of SYP would be transported by trucks to the Chai Wan Public Fill Barging point or Fill Bank at Tseung Kwan O Area 137 • The barges at Chai Wan Fill Barging point would transport the materials to the designated PFRFs • Proposed Traffic Route: <i>Des Voeux Rd West</i> → <i>Connaught Rd West</i> → <i>Gloucester Rd</i> → <i>Island Eastern Corridor</i> → <i>Chai Wan</i> • The truck driver shall determine the most suitable route subject to the public road conditions to reduce environmental impact during transportation process
Slurry	2,295	Public filling areas	- Fill Blank at Tseung Kwan O Area 137	<ul style="list-style-type: none"> • By trucks • The barges at Chai Wan Fill Barging point would transport the materials to the designated PFRFs • Proposed Traffic Route:

Waste Type	Estimated Volume (m3)	Typical Disposal Site	Anticipated Disposal Site	Transportation means
Site clearance and non-inert demolition waste	10,328	Strategic landfill sites operated by EPD	SENT or other landfill site	<ul style="list-style-type: none"> By trucks Proposed Traffic Route: Des Voeux Rd West → Connaught Rd West → Gloucester Rd → Island Eastern Corridor → Eastern Harbour Crossing → Tseung Kwan O Rd → Wan Po Rd The truck driver shall determine the most suitable route subject to the public road conditions to reduce environmental impact during transportation process.
Chemical waste as defined under Schedule 1 of the Waste Disposal (Chemical Waste) Regulations	446	Chemical waste treatment facility approved by EPD	Collected and transported to approved chemical waste treatment facility by licensed chemical waste collector	<ul style="list-style-type: none"> to be determined by the Registered Chemical Waste Collector
Steel and metal (rebar structural steel, railing etc.)	N/A	Steel recycle company	Licensed steel mills in Hong Kong; or foreign steel mills	<ul style="list-style-type: none"> Handover to the recycler; to be determined by the recycler; or the location of the steel mills
General refuse and domestic waste	3,240	Strategic landfill operated by EPD or Refuse	Strategic landfill sites operated by EPD (SENT)	<ul style="list-style-type: none"> By trucks Proposed Traffic Route: Des Voeux Rd West →

Waste Type	Estimated Volume (m3)	Typical Disposal Site	Anticipated Disposal Site	Transportation means
		Transfer Stations	Landfill)	Connaught Rd West → Gloucester Rd → Island Eastern Corridor → Eastern Harbour Crossing → Tseung Kwan O Rd → Wan Po Rd • The truck driver shall determine the most suitable route subject to the public road conditions to reduce environmental impact during transportation process.

3.3 Waste Generation Programme

A waste generation programme for the principal waste anticipated to be generated is provided in Appendix B.

3.4 Licences and permits

The following licences will be obtained

Chemical Waste Producer Registration

Billing Account For Waste Disposal (Charges for Disposal of Construction Waste)

Licences for disposal of chemical waste, waste from chemical toilets and disposal of spoil will be obtained by the haulier.

Statutory Requirements

The following legislation relates to the handling, treatment and disposal of wastes in Hong Kong, and shall 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
- the Land (Miscellaneous Provisions) Ordinance (Cap 28)
- the Public Health and Municipal Services Ordinance (Cap 132)
- Summary Offences Ordinance (Cap 228)

The Waste Disposal Ordinance (WDO) prohibits the unauthorized disposal of wastes. 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 Environmental Protection Department (EPD).

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.

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

Construction Waste Disposal Charging Scheme

Under the *Waste Disposal (Charges for Disposal of Construction Waste) Regulation*, enacted in January 2006, construction waste delivered to a landfill for disposal must not contain more than 50% by weight of inert material. Construction waste delivered to a sorting facility for disposal must contain more than 50% by weight of inert material, and construction waste delivered to a public fill reception facility for disposal must consist entirely of inert material.

JV will apply for the Billing Account with the EPD and pay for the construction waste disposal charge before using the government disposal facilities. In this respect, Chit tickets will be obtained from the EPD.

Before any truck load of construction wastes is about to leave the Site, the site staff enter relevant information onto the Chit, retain Part A of the Chit and give the remainder to the truck driver. The Chit will be carried on board the vehicle at all times throughout the trip. For each vehicular trip, the truck driver will present to the operator of the government disposal facilities (including public fill reception facilities, sorting facilities, landfill and Outlying Islands Transfer Facilities) prior to the disposal of construction wastes. The truck driver shall retain Part B of the Chit and Part C will be kept by the Government. The waste transaction record and Part A of the Chit tickets shall be kept on the Site for future reference.

Non-Statutory Requirements

The following guidelines related to waste management and disposal will be adhered to during the construction:

- Waste Disposal Plan for Hong Kong (December 1989), Planning, Environment and Lands Branch Government Secretariat
- Environmental Guidelines for Planning in Hong Kong. Hong Kong Planning Standards and Guidelines (1990)
- New Disposal Arrangements for Construction Waste. EPD and CED (1992)

- Code of Practice on the Packaging, Labeling and Storage of Chemical Wastes. EPD(1992)
- Code of Practice on the Handling, Transportation and Disposal of Asbestos Waste, EPD
- 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 (1993)
- Works Branch Technical Circular No. 16/96, Wet Soil in Public Dumps (1996)
- Works Bureau Technical Circular No. 4/98, Use of Public Fill in Reclamation and Earth Filling Projects; Works Bureau, HK SAR Government
- Works Bureau Technical Circular No. 4/98A, Use of Public Fill in Reclamation and Earth Filling Projects, Works Bureau, HK SAR Government
- Works Bureau Technical Circular No 5/98, On-site Sorting of Construction Waste on Demolition Site; Works Bureau, HK SAR Government
- Works Bureau Technical Circular No 25/99, Incorporation of Information on Construction and Demolition Material Management in Public Works Sub-committee Papers; Works Bureau, HK SAR Government
- Works Bureau Technical Circular No. 12/2000, Fill Management; Works Bureau, HK SAR Government
- Works Bureau Technical Circular No 29/00, Waste Management Plan; Works Bureau, HK SAR Government
- Works Bureau Technical Circular No 21/02, Trip-ticket System for Disposal of Construction and Demolition Material; Works Bureau, HK SAR Government
- Waste Reduction Framework Plan, 1998 to 2007, Planning, Environment and Lands Bureau, Government Secretariat, 5 November 1998
- A Guide to the Registration of Chemical Waste Producers
- A Guide to the Chemical Waste Control Scheme

Records

The following records relating to waste will be maintained on site

- Licences and permits;
 - Chemical Waste Producer licence.
 - Billing Account For Waste Disposal (Charges for Disposal of Construction Waste)
- Project Disposal Delivery Form, Trip tickets and Chit for disposal (Charges Scheme for Disposal) of construction wastes to;
 - Landfill such as SENT
 - Public Fill such as Tseung Kwan O Area 137
 - or Chai Wan Public Fill Barging Point
- Trip tickets for disposal of wastes to;

Chemical Waste disposal



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Chemical toilet disposal
Septic Tank Emptying

- inspection reports, including reports of nonconformance

Inspection and audit

The Environmental Officer will carry out weekly site condition inspection. A report will be issued to the responsible Construction Manager, in case any event of non-compliance observed during these site inspections. The Construction Manager should identify the cause of the non-compliance and initiate the corrective actions. The ET should undertake additional site inspections, specifically on the remedial action, until the event non-compliance is not observable.

The Environmental Officer shall check the Disposal Delivery Forms, trip tickets and Chits for disposal of construction wastes and randomly monitor the dumping activities at dumping location.

3.9 Training

The Environmental Officer would be responsible for providing appropriate environmental awareness training to the site staff. The training should be in form of briefing, with focus on increasing the site staff's awareness and drawing their attention to waste management issues and the importance of waste generation minimization.

The training materials should include, but not limited to, the concepts of site cleanliness and appropriate waste management procedure such as waste reduction, reuse, recycling, waste segregation and disposal.

The level of training should be dependant on the role of the site staff, where training for site worker should emphasize on the procedural aspects while that for site supervisory personnel should emphasize on the management and monitoring issues. Training needs will be analyzed through site inspection, in the event of non-conformance observed, complaints received or when deemed necessary. Details of such training courses including date, time, and names of the instructor/attendees should be recorded. Training records shall be kept for inspection/audit.

Waste Management Practices

4.1 Construction Activities

4.1.1 Avoidance/Minimization of Construction and Demolition (C&D) Material

C&D materials refer to both inert and non-inert surplus materials generated from construction and demolition activities. The inert portion of the C&D materials include soil, rocks, broken concrete, etc., and non-inert portion comprises of timber, paper, plastic, general refuse and the like.

To avoid and minimize the generation of C&D material, the methods shall include programming of works with good site management to minimize over ordering and cross contamination, improving site practice, the use of metal formwork, the use of excavated material for filling, etc.

The construction engineer shall review the quantities of C&D materials generated and report the quantities to the Environmental Officer on quarterly basis. In order to avoid, reduce or minimize the use of timber in temporary works construction, a summary list, containing the description, justification and the estimated quantity, is prepared for the work process/activity requiring the use of timbers for temporary works construction.

4.1.2 Sorting

All C&D materials arising from the construction works shall be, as much as possible and practical, sorted on site and separated into different categories to prevent cross-contamination then disposed off-site to the designated public filling facilities.

The sorting should be carried out as per the classification and should include the separation of C&D material into public fill, C&D waste, as well as the sorting of C&D material by category to facilitate reuse/recycling/return.

Sorting of mixed C&D waste should be carried out on site to reduce the inert C&D material content to less than 50% by weight before this material is delivered to landfill sites. Oversized inert construction waste shall be broke down to less than 250mm. Each load shall consist entirely of inert construction waste if it is transported to Public Fill Reception Facilities.

4.1.3 Handling, Recycling and Reuse of C&D Material

Timber in good condition should be reused and the deteriorated timber should be disposed of to landfill sites. Paper/cardboard, metal, plastic and foam board should be collected and delivered to local recycling factories. Storage, collection and transport of C&D waste should be carefully planned and implemented to minimize adverse impact on the environment. Construction/demolition waste with recyclable values shall be reused or recycled, i.e. steel mesh, reinforcement bars, wooden planks, etc. These materials should be segregated on site wherever practicable. These wastes should either be reused on site or collected by outside licensed waste recycling agents.

The excavated material from the site should be reused within the site as far as possible.

All slurry generated from TBM excavation will be treated by "Filter-Presses" before disposal for dewatering process to generate soil cake, moisture content of cake at around 38% will be dispose to Public Fill Reception Facilities.

4.1.4 Handling of Chemical Waste

The chemical wastes generated from the construction sites shall primarily arise from the maintenance of plant and equipment. The Environmental Officer should identify the chemical waste to be generated from the construction activities, and propose means of packaging, labeling, storage, transportation and disposal in accordance with statutory regulations and guidelines, i.e. Waste Disposal (Chemical Waste)(General) Regulation (Cap 354); and Code of Practice on the Packaging, Labeling and Storage of Chemical Wastes.

The types and quantities of chemical wastes should be documented as trip ticket and kept in environmental file on site.

Some of the potential chemical wastes to be generated from the Project include:

- Scrap batteries or spent acid/alkali
- Asbestos waste from demolition works (e.g. building demolition at SWL site)
- Used engine oils, hydraulic fluids and waste fuel
- Spent mineral oils/cleaning fluids from mechanical machinery
- Spent solvents/solutions, some of which may be halogenated, from equipment cleaning activities

The Site Engineer / Environmental Officer should examine and approve the types and quantities of chemicals to be used, for ensuring that the generation of chemical wastes would be minimized throughout the Contract.

Chemical waste shall be collected

- via a licensed waste collector;
- via a special sub-contractors for handling, collection and transportation of chemical waste or asbestos waste and;
- to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Facility in Tsing Yi

In case of significant emergency situation (e.g. leakage of huge amount of fuel oil or splash of chemical waste in works areal/sea), the Environmental Officer should notify MTR and the relevant government departments (e.g. Marine Department, Fire Services Department, EPD, etc.) for the follow-up actions.

4.1.5 Site Specific C&D Materials Management Measure

- 1) Surplus concrete and washout from concrete trucks and pumps will be collected in suitable containers and allowed to harden before disposal to public fill. Containers will be provided in locations depending on the progress with the works

Any supernatant water will be treated in the wastewater treatment plant prior to discharge to sea or into an existing drain in accordance with the effluent discharge license

As far as possible, the design of the structure will employ precast concrete elements, minimizing waste generation by working in well-controlled conditions

The control of generation of waste aggregates, concrete and other wet trade wastes will be achieved by careful calculation of quantities to avoid overordering.

- 2) Surplus spoil from excavation and site formation works will be disposed to public fill in accordance with WBTC 31/2004, 'Trip -ticket System'

- Sediment from wheel washing will be collected and dried before disposal to public fill.
- 3) Reinforcement and other scrap steel will be segregated and collected for disposal for recycling. The quantity of the collected scrap steel shall be recorded for recording purposes.
 - 4) Packaging will be segregated and collected in skips for disposal at South New Territories Landfill. Packaging materials shall be recycled as far as practicable to minimize disposal of at landfill site.
 - 5) All persons will place general refuse in dustbins provided at convenient locations. The dustbins will be emptied on a daily basis by the site cleaner/amanah.
 - 6) 3 Colored Recycling Bins will be provided at general refuse point e.g. to segregate aluminum cans, plastic bottles, paper etc.
 - 7) Waste Lubricants from plant servicing and from drip trays will be segregated, collected and stored in a facility complying with the Chemical Waste Regulations before disposal by a licenced contractor. The chemical waste will be collected by licenced chemical waste collector.
 - 8) Waste paints and solvents will be segregated, collected and stored in a facility complying with the Chemical Waste Regulations before disposal by a licenced contractor
 - 9) Where possible, toilets and washing facilities will be connected to the adjacent Septic tank, as shown on the site installation plan. Otherwise, chemical toilets will be provided at suitable locations around the site, depending upon the progress of the works.

They will be emptied by licenced contractors on a regular basis.
 - 10) Trip Ticket System Measures for monitoring and controlling the C&D materials off-site to the designated disposal site (DDF Handling Procedures)

In addition to the Chit, a trip ticket system (DDF) shall be maintained by the JV to ensure proper vehicular trip transporting surplus materials off-site to the designated disposal site:
 1. The site person-in-charge shall collect, completed & stamped the project C&D Material Disposal Delivery Form (DDF).
 2. The site person-in-charge will check that:
 - The DDF are properly filled in, including the Time of Departure, the location and nature of the disposal ground, then he will hand the DDF to the truck driver; and
 - The truck drivers have a valid Dumping Licence issued by Civil Engineering and Development Department (CEDD).
 3. Prior to the vehicle leaving the Site, the Driver should
 - Wash the wheels to prevent any mud/sand deposited onto the road; and
 - Stop the truck at the exit and let our site staff take record photo.
 4. The Driver must ensure that excavated materials shall not be loaded to a level higher than the side and tail boards, and the mechanical covers are fully closed.
 5. The Driver must ensure that the mechanical cover is not opened until the vehicle arrives at the weight bridge of the Designated Public Filling Facilities.
 6. The DDF shall be carried on board the vehicle at all times throughout the vehicular trip and the C&D materials must be disposed of at the disposal grounds as stipulated in the DDF.

7. For each vehicular trip, the Contractor shall present the DDF to the operator of the designated disposal sites the Form prior to the disposal of C&D materials.
8. The operator shall stamp and return the Form to the Contractor together with a receipt to acknowledge the disposal of public fill. If the acceptance criteria of the Designated Public Filling Facilities could not be met, the Driver should return the truckload to the Site direct, and must refrain from going to the sorting facilities or other location.
9. The drivers must double check the DDF to ensure that the operator of the Public Filling Facilities has stamped on it before leaving the weight bridge of the facilities.
10. The Contractor shall submit the Form and the receipt from the public fill to the Environmental Officer for records.
11. The Contractor shall maintain a daily record of disposal of C&D materials from the site including details of the C&D materials, the truck number, departure time, etc

4.2 Office Activities

- 1) Waste paper from photocopying and printing will be segregated and collected in cardboard box for recycling
- 2) Cardboard, packaging and similar waste will be segregated and collected in the general refuse skip for disposal at South New Territories Landfill.
Suitable dustbins will be provided at appropriate locations and emptied daily by the cleaner/amanah
- 3) Empty toner cartridges will be collected in plastic bag and returned to the supplier for proper disposal
- 4) Aluminium cans and plastic bottles will be segregated in colour-coded containers for recycling by the waste disposal contractor.

4.3 Pantry Facilities

- 1) Unwanted food, packaging and other domestic refuse will be placed in bag for disposal at South New Territories Landfill.
- 2) Aluminium cans and plastic bottles will be segregated in colour-coded containers for recycling by the waste disposal contractor.
- 3) Toilets and washing facilities will be connected to septic tank, as shown on the site installation plan

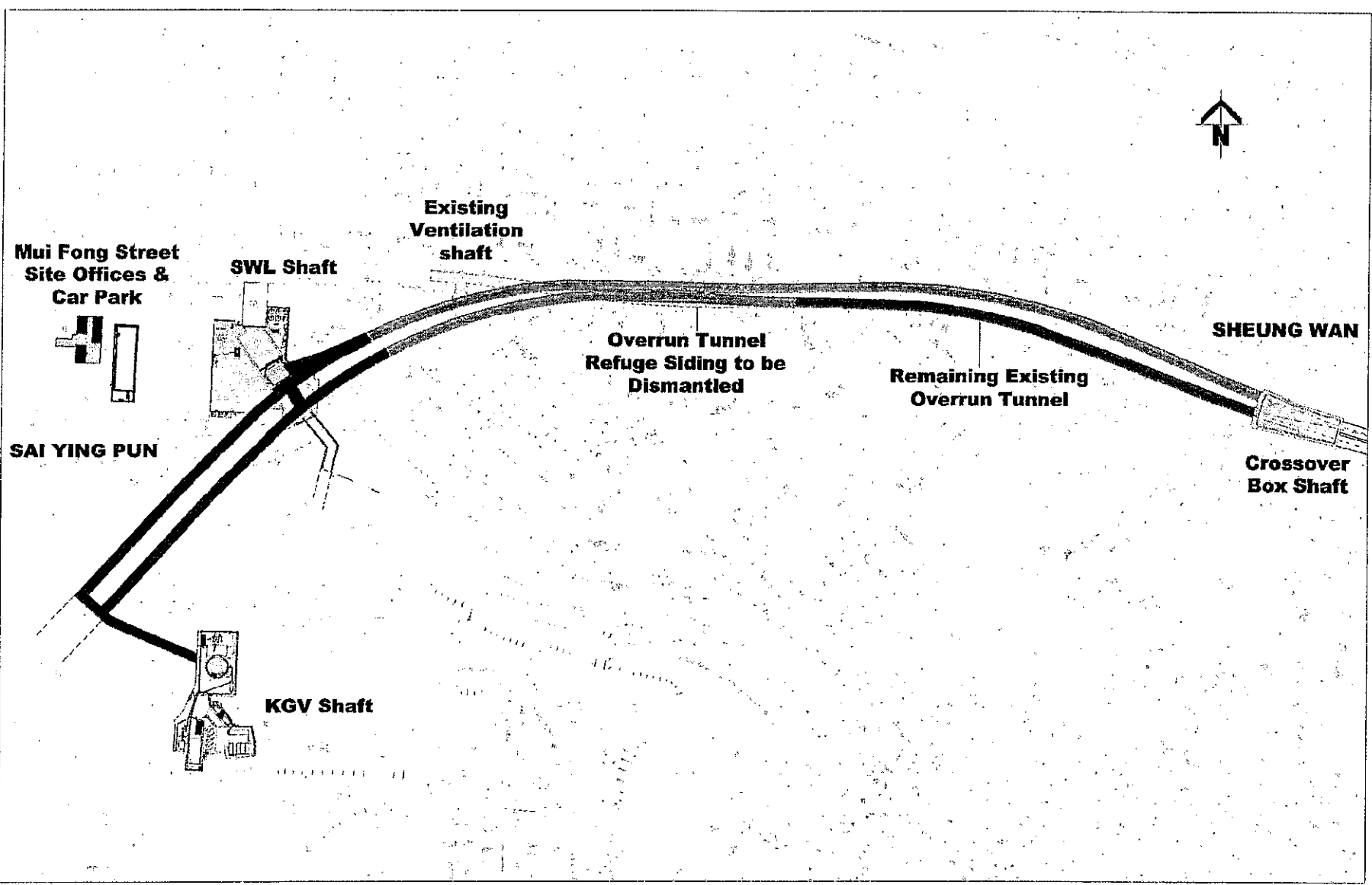
4.4 Site Cleanliness

Good housekeeping is a necessary condition to minimise waste generation. The production team should:-

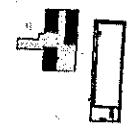
- Ensure that wastes are stored properly in designated storage points;
 - Ensure that wastes are removed in a timely manner;
 - Ensure that the waste storage areas are cleaned regularly; and
 - Ensure that general refuse is covered in containers to minimize windblown litter
- Employ licensed waste haulers to collect and transport wastes to licensed disposal points; and dust during transportation as far as practicable.

Appendix A

Site Layout Plan



**MUI FONG STREET
Site Offices &
Car Park**



SWL Shaft

**Existing
Ventilation
shaft**

**Overrun Tunnel
Refuge Siding to be
Dismantled**

**Remaining Existing
Overrun Tunnel**

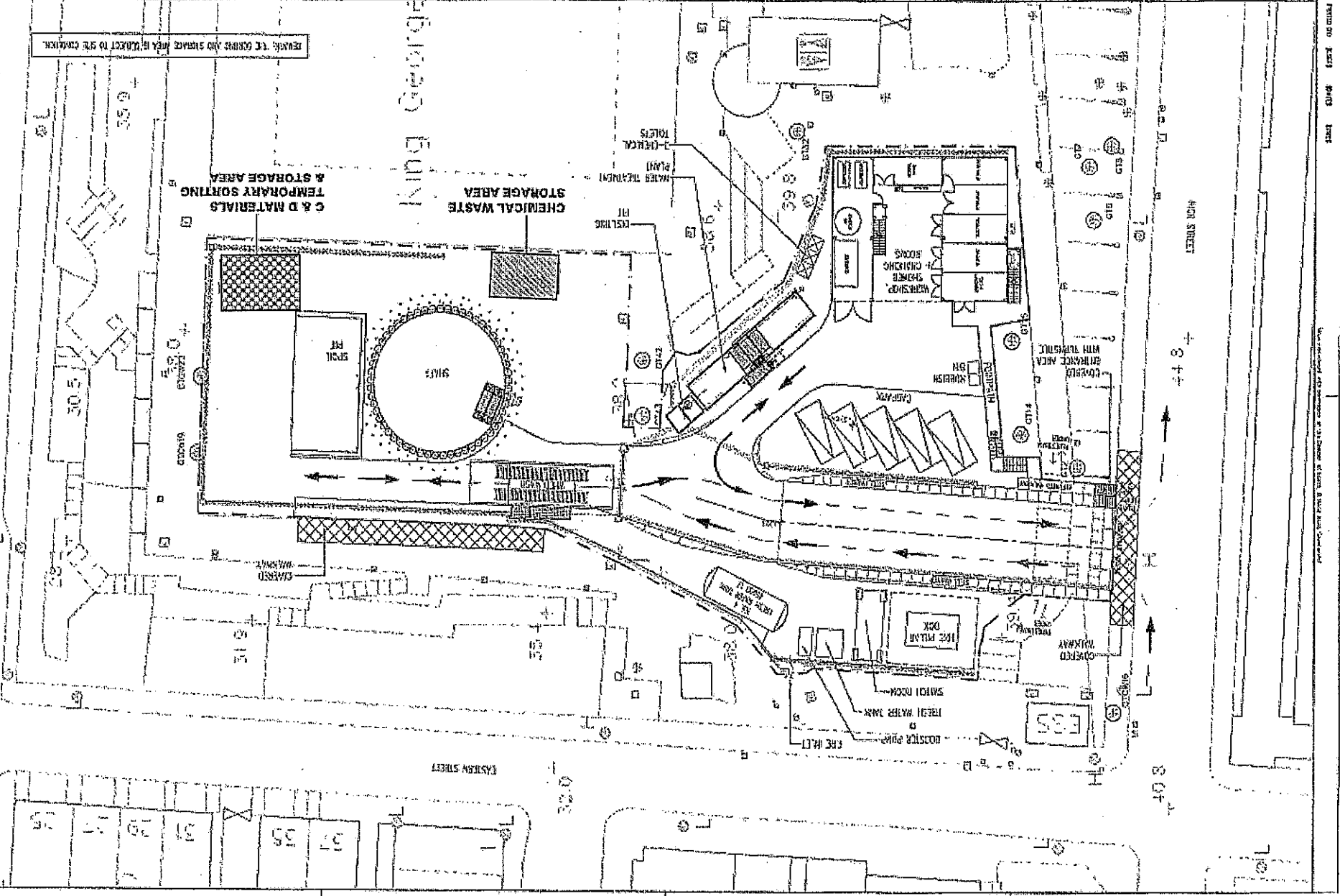
SHEUNG WAN

SAI YING PUN

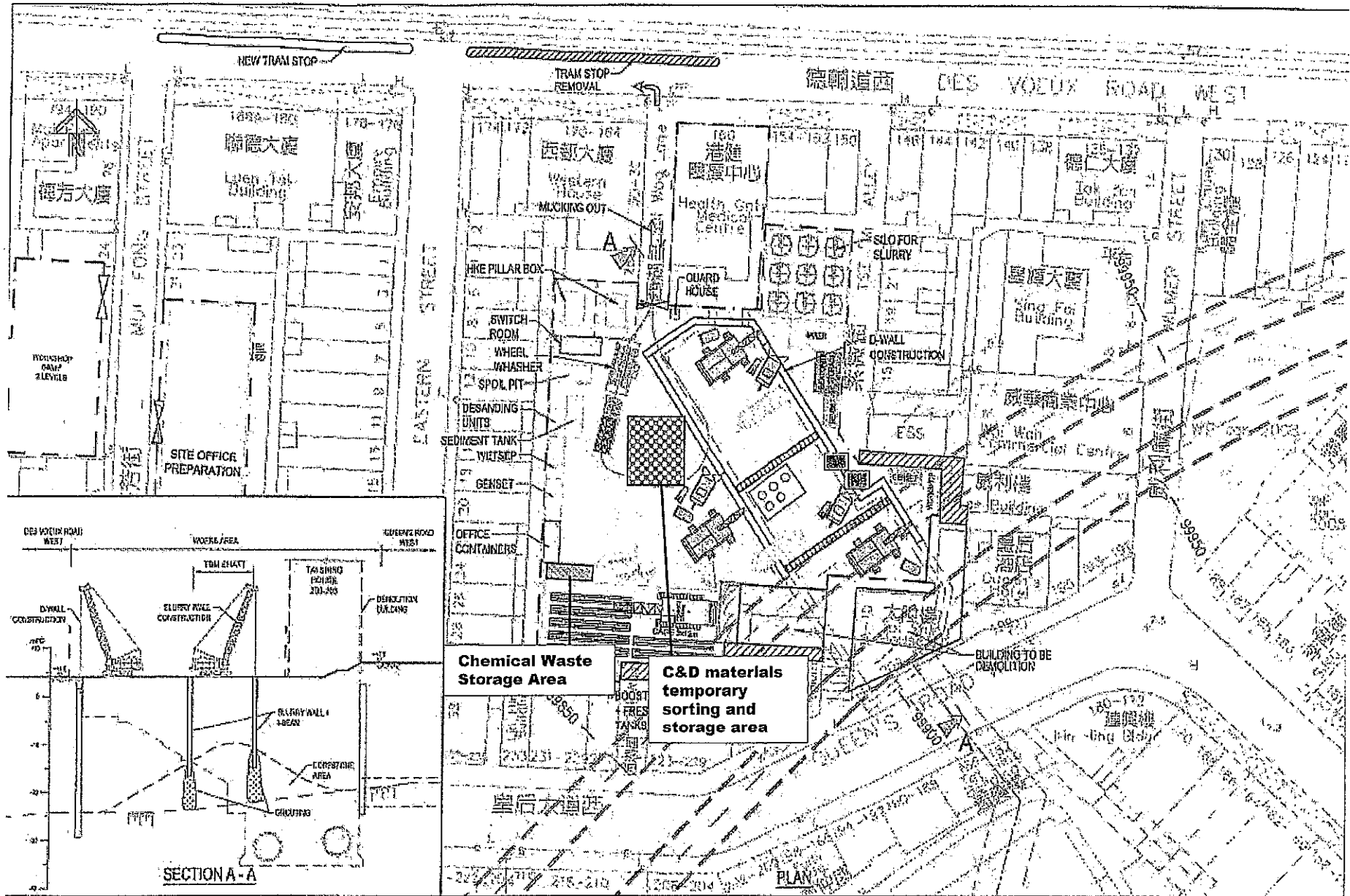
**Crossover
Box Shaft**

KGV Shaft

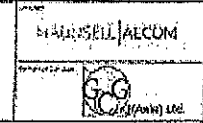
		WEST ISLAND LINE		CONTRACT 703 SHW TO SYP TUNNELS RIND GRADE 1 PREPARED WASTE SORTING AREA	
CONTRACT 703 SHW TO SYP TUNNELS RIND GRADE 1 PREPARED WASTE SORTING AREA		CONTRACT 703 SHW TO SYP TUNNELS RIND GRADE 1 PREPARED WASTE SORTING AREA		CONTRACT 703 SHW TO SYP TUNNELS RIND GRADE 1 PREPARED WASTE SORTING AREA	



CONTRACT 703
 SHW TO SYP TUNNELS
 RIND GRADE 1
 PREPARED WASTE
 SORTING AREA



DESIGNER	CLIENT	DATE
CONTRACTOR	NO.	DATE
CHECKED	DATE	
DATE		



West Island Line Contract No. 266
 SHW to RYP Tunnels
 FOUNDATION & SHIELD EXTENSION
 SHEET 10
 STAGE 1

PROJECT NO.	11-127-001
SCALE	1:501 (B.A.)
DATE	08/10/2012
NO.	511401
REV.	1

Appendix B

Waste Disposal Programme

Description of Work and Location	Type of Waste (Tons/hrs)	Volume (m3)	Weight (Tons)	Month																									
				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec														
General	Non-hazard	2,205	2413																										
Site Clearance (Miscellaneous)	Non-hazard	2,205	2413																										
Demolish Waste from Site Office	Non-hazard	1,210	1466																										
Demolish Waste from Site Office	Non-hazard	6,615	9223																										
Over Construction Waste	Non-hazard	6,615	9223																										
Site Clearance (Construction)	Non-hazard	945	1418																										
Building Demolition	Concrete	3,416	4422																										
Demolition for T1M Alloy	Concrete	2,6	4422																										
Demolition for T1M Alloy	Concrete	6,480	1648																										
Demolition for Temporary Enging beam	Concrete	540	1401																										
Demolition for 3 story wall	Concrete	1,620	4212																										
Demolition for 3 story wall	Concrete	2,6	4212																										
Demolition for Trench (Concrete Core (incl. Drilling))	Concrete	108	281																										
Demolition for 2nd Stage Street (Year Building)	Concrete	61	159																										
Non-hazard Waste from Demolition Work	Non-hazard	470	470																										
Shaft and Tunnel Excavation	Brown/Clay	2,795	4390																										
Ground Treatment and Disposition wall	Brown/Clay	2,0	4390																										
Soil Shaft Excavation (Soil)	Soil	8,638	1716																										
Soil Shaft Excavation (Rock)	Rock	61,532	160025																										
SVL Shaft Excavation (Rock)	Rock	2,6	46400																										
SVL Shaft Excavation (Soil)	Soil	22,220	6,750																										
TBM DP Track Section	Soil	10,800	21600																										
TBM Down Track Section	Soil	10,800	21600																										
Labours, solvent, hydraulic oil, used fuel	Chemical	446	446																										
KCV Shaft Excavation (Soil)	Soil	2,548	5096																										
KCV Shaft Excavation (Rock)	Rock	4,360	12626																										
Tunnel Excavation from KCV (Rock)	Rock	14,040	36004																										
Total Waste to be disposed	(Tons)	154,212	356,664	20,649	20,649	4,428	4,428	4,200	4,200	6,691	6,691	9,532	9,532	4,794	4,794	512	10,955	33,133	2,286	512	512	602	602	784	602	466	-	-	-

Quantity by type of Material	Volume (m3)	Weight (T)
Non-hazard	13,568	20,116
Soil	12,225	21,786
Concrete	2,205	4,390
Brown/Clay	49,226	90,452
Rock	80,452	200,175
Chemical	446	446
Total	154,212	356,664

Please find below for the responses of the comments received as per 703-ERFC-SCONE-ENV-000051A.

Comments from EPD	Responses
<p>a</p> <p>Contract duration</p> <p>Please clarify if the "Project Duration" as stated in Section 1.4 of the WMP, i.e. from 12 August 2009 to 30 June 2014, is the duration for the captioned Contract only.</p>	<p>Amendment was made to Section 1.4</p>
<p>b</p> <p>Slurry disposal</p> <p>It is noted that slurry generated from tunnel excavation works is proposed to be disposed of at Fill Bank at Tseung Kwan O Area 137. Please state clearly whether water content of the slurry has been consider in the estimated volume of 1,700m³. If the water content of slurry is high, please elaborate on whether and how dewatering will be carried before disposal at the Fill Bank.</p>	<p>Section 4.1.3 was updated. All slurry generated from TBM excavation will be treated by "Filter-Presses"</p>
<p>c</p> <p>Estimated amount of waste for disposal</p> <p>i</p> <p>According to Table 7.1 of the approved EIA report (AEIAR-126/2008), for works items SYP Station Adits and Vent Shafts as well as SHW to SYP East & West Bound Tunnel, the total amount of C&D waste to be disposed of is 160,300m³, which is about 42,387m³ more than the total amount of C & D waste stated in Section 3.2 of the WMP, i.e. 117,913 m³ including slurry. Please clarify and elaborate on the apparent discrepancy.</p>	<p>In compare with the updated construction programme, estimation of C&D generation was adjusted. Section 3.2 & Appendix were updated.</p>
<p>ii</p> <p>Also, it is noted that except the estimated amount of slurry, the estimated volume of other types of waste for disposal as stated in Section 3.2 of the WMP do not tally with amounts as shown in the waste disposal programme in Appendix B of the WMP. Please clarify.</p>	<p>Noted. Amendment to section 3.2 was made.</p>
<p>d</p> <p>Waste disposal programme</p>	
<p>i</p> <p>Please confirm whether construction works for the captioned contract</p>	<p>Site clearance and site setup were conducted between September to</p>

	<p>have already started in September 2009 according to the waste disposal programme in Appendix B of the WMP. Please note that EP Condition 1.12 stipulates that "..... WMP shall be deposited with the Director no later than two weeks prior to the commencement of construction....."</p>	<p>November of 2009, construction work commenced after these works completed.</p>
<p>ii ..</p>	<p>According to Section 1.4 of the WMP, the project will be completed in 30 June 2014. However, there will be no waste generation after September 2013 as indicated in the waste disposal programme. Please confirm whether there the waste disposal programme is correct.</p>	<p>The scheduled construction programme for the main construction work of the contract will be complete at around September 2013.</p>