

## 6. WASTE MANAGEMENT

### 6.1 Legislation, Policies, Plans, Standards and Criteria

#### 6.1.1 Legislation

6.1.1.1 The legislation on handling, treatment and disposal of wastes, which are of relevance to this project, are:

- *Waste Disposal Ordinance* (Cap. 354) & relevant regulations;
- *Dumping At Sea Ordinance* (Cap. 466);
- *Environmental Impact Assessment Ordinance* (Cap. 499); and
- *Public Health and Municipal Services Ordinance* (Cap. 132).

6.1.1.2 The *Waste Disposal Ordinance* (WDO) enacted in 1980 provides the statutory framework for the management of all wastes from where they arise to the point of final disposal i.e. control on the collection, treatment and disposal of waste. The WDO prohibits any person from using any land or premises for the disposal of wastes unless the person has been authorised by or has obtained a license from the waste disposal authority. The ordinance was amended in early 1995 to enable permit control on import and export of wastes in line with the requirements under the Basel Convention, and was in place in September 1996. The ordinance was further amended in early 1997 to enable more effective implementation of waste disposal charging.

6.1.1.3 There are a number of provisions under the WDO for dealing with certain types of waste. These include the *Waste Disposal (Chemical Waste) (General) Regulation* (CWR). This Cradle-to-grave control of chemical wastes was implemented in May 1993 to control all aspects of chemical waste disposal, including packaging, labelling, storage, collection, transport, treatment and final disposal. Under the CWR, any person who produces or causes to produce chemical waste must register with the Environmental Protection Department (EPD). Each registered producer has the obligation to inform the EPD as soon as practicable of any change in the particulars of the registration. The CWR requires waste producers to arrange for proper disposal of their wastes at licensed facilities and to engage a licensed collector to remove and transport the waste. It also requires that all chemical waste must be properly stored, packaged and labelled.

6.1.1.4 A new *Dumping At Sea Ordinance* came into effect in April 1995 to provide for control on marine dumping. It extends control on marine pollution, gives legal effect to the Marine Dumping Action Plan.

6.1.1.5 The *Environmental Impact Assessment Ordinance* (EIAO) came into operation in April 1998. Designated projects specified under Schedule 2 of the EIAO must follow the statutory EIA process and apply for environmental permits for their construction and operation. Annex 7 of the *Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM)* under the EIAO specifies the assessment criteria for evaluating waste management implications.

6.1.1.6 *Public Health and Municipal Services Ordinance* provides for the control of the discharge of hazardous materials to sewers, and for the control of littering. It also places restrictions on the storage of wastes in buildings. This may be applicable to construction site offices.

6.1.1.7 The *Waste Disposal (Refuse Transfer Station) Regulation* was implemented in February 1998 requiring users of refuse transfer stations to pay for the service. Draft regulations to effect charging for waste disposal at landfills have also been formulated and will be implemented when operational arrangements are finalised. These regulations apply to household, commercial and industrial wastes.

## 6.1.2 **Other Waste Handling & Disposal Guidelines**

- 6.1.2.1 A *Waste Reduction Framework Plan* (WRFP) was launched in November 1998. The WRFP sets out programme to avoid and minimise waste; promote recovery, recycling and reuse of materials; prolong the life of existing landfills and reduce the increasing costs of waste transportation, treatment and disposal. The WRFP also contains suggestions on how different sectors can incorporate various waste reduction measures into their business practices.
- 6.1.2.2 *Hong Kong Planning Standards and Guidelines (HKPSG) – Chapter 9 Environment* has a chapter that lists out the policy objectives of waste management and the standards and guidelines for waste reception and transfer facilities including public dump and barge loading areas.
- 6.1.2.3 The *Works Bureau Technical Circular No. 22/92 – Marine Disposal of Dredged Mud* outlines the procedures to be followed in all works which involve the marine disposal of dredged mud. It covers the procedures for disposal of dredged mud, whether uncontaminated or contaminated, in gazetted marine disposal grounds or exhausted marine borrow pits. Appendix 1 of this circular provides guidelines for sampling and testing of mud to be dredged. The *EPD Technical Circular No. 1-1-92 – Classification of Dredged Sediments for Marine Disposal* provides definition of contaminated mud to facilitate disposal of dredged material at appropriate disposal pits. Notification to both Director of Environmental Protection (DEP) and Marine Fill Committee (MFC) is required for projects with mud disposal requirements of 500,000 cu.m. or more. The notification shall include proposals for sampling and testing the mud for contaminants.
- 6.1.2.4 For marine disposal of dredged/excavated sediment whose construction will commence on or after 1 January 2002, procedures outlined in the new WBTC No. 3/2000 *Management of Dredged/Excavated Sediment* issued in April 2000 should be followed in assessing sediment quality and determining sediment disposal option.
- 6.1.2.5 The *Works Bureau Technical Circular No. 2/93 – Public Dumps* outlines the policy relating to dumping of construction and demolition (C&D) waste. The circular states the C&D material suitable for use as fill material should not be disposed of to landfills, but should be reused in public filling area or reclamation and land formation projects. The Public Fill Committee together with Project Departments are responsible for considering the suitability of a site as a public filling area. In order to dispose of the inert portion of C&D material in a public filling area, a license issued by the Civil Engineering Department is required.
- 6.1.2.6 The *Works Bureau Technical Circular No. 4/98 - Use of Public Fill in Reclamation and Earth Filling Projects* promulgates policy requiring reclamation or earth filling projects with imported fill requirements of 300,000 m<sup>3</sup> or more to consider using public fill (alternatively termed inert construction and demolition (C&D) material) for the Works.
- 6.1.2.7 The *Works Bureau Technical Circular No. 4/98A - Use of Public Fill in Reclamation and Earth Filling Projects* supplements the policy that imported fill requirements of 300,000m<sup>3</sup> or more for reclamation or earth filling projects as stipulated in WBTC No. 4/98 which require the project proponent to consider using public fill for the Works are to include also fill demand for surcharge mounds and utility zones.
- 6.1.2.8 The *Works Bureau Technical Circular No. 5/98 – On Site Sorting of Construction Waste on Demolition Sites* outlines the requirement of demolitions works for on-site sorting of all C&D material prior to disposal. This circular states a particular specification clause to be included in the tender documents for mandatory on-site sorting, processing and disposal of the same.
- 6.1.2.9 The *Works Bureau Technical Circular No. 5/99 – Trip-ticket System for Disposal of Construction and Demolition Material* promulgates the policy to implement a trip-ticket

system in Public Works Programme (PWP) contracts for the proper disposal of C&D material at public filling facilities or landfills.

- 6.1.2.10 The *Works Bureau Technical Circular No. 25/99 – Incorporation of Information on Construction and Demolition Material Management in Public Works Subcommittee Papers* promulgates the policy and guidelines for incorporating information on the management of construction and demolition material in Public Works Subcommittee papers recommending the upgrading of projects to Category A of the Public Works Programme for the implementation of construction works.
- 6.1.2.11 The *Works Bureau Technical Circular No. 12/2000 – Fill Management* sets out the terms of reference and membership composition of the Marine Fill Committee and Public Fill Committee which shall take up the functions and responsibilities of the Fill Management Committee established in June 1989. It also explains how fill resources, construction and demolition material (C&DM), and dredged/excavated sediment disposal are managed.
- 6.1.2.12 The *Works Bureau Technical Circular No. 29/2000 - Waste Management Plan* introduces the requirement for contractors to prepare and implement a waste management plan (WMP). The requirement shall be included in all PWP contracts (including design and build contracts but excluding term contracts and contracts administered by Electrical and Mechanical Services Department).

## **6.2 Waste Management Measures**

### **6.2.1 General**

- 6.2.1.1 The Contractor is responsible for waste control within the construction site; removal of the waste material produced from the site; and to implement any mitigation measures to minimise waste or redress problems arising from the waste from the site. The waste material may include any sewage, waste water or effluent containing sand, cement, silt or any other suspended or dissolved material to flow from the site onto any adjoining land, storm sewer, sanitary sewer, or any waste matter or refuse to be deposited anywhere within the site or onto any adjoining land.
- 6.2.1.2 A proper waste management plan should be implemented to promote waste minimisation at source. Where waste generation is unavoidable then the potential for recycling or reuse should be explored and opportunities taken. If wastes cannot be recycled then the recommended disposal routes should be followed.
- 6.2.1.3 Different types of construction waste generated from the site should be segregated, stored, transported and disposed of separately in accordance with EPD's required procedures. It is important that the sorting of wastes should be done on-site. All waste materials should be segregated into categories covering:
- excavated material or construction waste suitable for reuse on-site;
  - excavated material or construction waste suitable for SEKD reclamation of public filling areas;
  - remaining waste for landfill;
  - chemical waste; and
  - general refuse.
- 6.2.1.4 On site measures promoting proper segregation and disposal of construction waste should be implemented, e.g. provide separate containers for inert (rubber, sand, stone etc) and non-inert (wood, organics etc) wastes. The inert waste can be taken to public filling area and the non-inert waste can be transported to strategic landfills.