

5. SEDIMENT CONTAMINATION

5.1 Background

5.1.1.1 The SEKD reclamation is to be carried out in phases. **Table 5.1** shows the approximate areas of the reclamation zones. The locations of the reclamation zones are shown in **Drawing No. 22936/EN/020**.

Table 5.1 Reclamation Zones

Reclamation	Zoning	Sub-zone	Area (m ²)
Hoi Sham (Kowloon Bay)	1		
Earth Bund		Zone 1B	22,500
Phase 1		Zones 1D and 1E	258,250
Phase 2		Zones 1A and 1C	329,950
Kai Tak Approach Channel	2		
Upper Section		Zone 2A	166,350
Lower Section		Zone 2B	87,750
Kwun Tong Typhoon Shelter	3		
Main Portion		Zone 3A	295,100
Seafront Portion		Zone 3B	98,800
Cha Kwo Ling	4	-	13,300

5.1.1.2 The water quality in the KTAC, KTTS and Hoi Sham has been heavily polluted by sewage discharges and discharges from polluting industries in the past. A large amount of sediments has been deposited on the bottom of these areas. These sediments contain high concentrations of organic matter and heavy metals.

5.1.1.3 The sediments in these areas would either be left in place or dredged away when carrying out the reclamation. In case where the sediments have to be dredged and disposed of, identification of quality and quantity of the sediments is required in order to determine a suitable disposal option. The sediment volume to be dredged and disposed of should be minimized in accordance with EPD's policy.

5.1.1.4 Alternatively, if the sediments were to be left in place, marine sand and/or public fill material used for reclamation will cover the sediments. Under anaerobic conditions, biogas may be generated underneath the future reclaimed land. Biogas mainly composes of methane and carbon dioxide. There is a potential risk of methane to the SEKD. Estimation of biogas generation from the reclaimed land is required to assess the potential methane hazards.

5.1.1.5 The following sections present assessment of sediment chemical quality in the KTAC, KTTS and Hoi Sham. Relevant guidelines were used to classify the sediments. Different reclamation options and sediment treatment methods were proposed. In addition, potential biogas generation from the proposed reclamation was assessed. The estimated biogas emission rates were also compared with the maximum safe rate of gas emission to evaluate the potential hazards.

5.2 Legislation, Policies, Plans, Standards and Criteria

5.2.1.1 Relevant legislation and guidelines for disposal of contaminated material at marine disposal sites are listed as below:

- *Dumping at Sea Ordinance (Cap. 466)*;
- *Technical Circular No. (TC) No.1-1-92, Classification of Dredged Sediments for Marine Disposal*;