



HONG KONG GOVERNMENT
DRAINAGE SERVICES DEPARTMENT

Agreement No. CE/29/93
NORTH AND SOUTH KOWLOON SEWERAGE
STAGE I

HUNG HOM BAY PUMPING STATION
ENVIRONMENTAL IMPACT ASSESSMENT

EXECUTIVE SUMMARY

May 1995

RUST

Agreement No. CE/29/93
NORTH AND SOUTH KOWLOON SEWERAGE
STAGE I

HUNG HOM BAY PUMPING STATION
ENVIRONMENTAL IMPACT ASSESSMENT

EXECUTIVE SUMMARY

May 1995

NORTH SOUTH KOWLOON SEWERAGE, STAGE I

**HUNG HOM BAY PUMPING STATION
ENVIRONMENTAL IMPACT ASSESSMENT**

EXECUTIVE SUMMARY

Contents	page no.
1. Introduction	1
2. Approach	2
3. Hung Hom Bay Pumping Station	2
4. The Study Area	3
5. Conclusions & Recommendations	3

Introduction

1. *The North and South Kowloon Sewerage Master Plan, which presented its final recommendations in April 1993, identified and prioritised a programme of works which was intended to improve the performance of the sewer network in North and South Kowloon in order to meet the requirements of the Strategic Sewage Disposal Scheme.*
2. *Stage I of the North and South Kowloon Sewerage project commenced in early 1994. In addition to a number of other priority works, Stage I also included the design and construction of the Hung Hom Bay Pumping Station.*
3. *The Brief required that an environmental impact assessment of the Pumping Station be undertaken prior to the commencement of the detailed design in order to identify and qualify the nature and extent of the environmental impacts associated with the construction and operation of the Pumping Station and to recommend such mitigation measures as were deemed appropriate.*
4. *The principal conclusions and recommendations contained in the Environmental Assessment are summarised in this Executive Summary. It was found that given the generally poor existing environmental quality of the site environs, the nature of sensitive receptors and their distance from the proposed works and the small scale of the development in comparison with other infrastructure projects, the impacts associated with the construction and operation of the Pumping Station are limited.*

The Approach

A full environmental impact assessment of the Pumping Station has been undertaken in three stages.

- Stage 1 An Initial Environmental Assessment was conducted as a scoping exercise in order to evaluate the environmental impacts of the proposed works and to identify those key issues which required more detailed assessment.
- Stage 2 The Key Issues Report focused upon those key issues identified in the initial stage as likely to give rise to potentially significant problems during the construction and operation of the Pumping Station. As a result of the initial assessment only odour arising from the operation of the Pumping Station warranted more detailed assessment.
- Stage 3 The Final Environmental Assessment provided a comprehensive assessment of the environmental impacts associated with the construction and operation of the Pumping Station and incorporated the findings of Stages 1 and 2. The Final Report was produced in tandem with the detailed design of the Pumping Station in order to feed environmental requirements into the design process.

The Hung Hom Bay Pumping Station

The Hung Hom Bay Pumping Station is a conventional wet well/dry well pumping station with a design flow capacity of 3600 l/sec. The Pumping Station will pump sewage flows from the incoming South Kowloon Trunk Sewer and the Hung Hom Branch Sewers to the existing To Kwa Wan Preliminary Treatment Works via the Hung Hom Bay Trunk Sewer on Hung Hom Road.

Construction of the Pumping Station will be co-ordinated with the construction of the South Kowloon Trunk Sewer and is scheduled for completion in 1997. The pumphouse will comprise a below ground structure with overall dimensions of 26 x 13.5 x 15 m depth and an above ground structure of similar plan dimension and 7.4 m high. The programme will involve the construction of the station housing, the transport and installation of a total of 6 centrifugal pumps and the construction of the rising mains, pump chamber access channels and screens.

The Study Area

The Hung Hom Bay Pumping Station will be located adjacent a Regional Magistracy on the Hung Hom Bay Reclamation, at the junction of the Princess Margaret Road Link and the Hung Hom By-pass. Construction of the Pumping Station will proceed in tandem with other infrastructure works on the reclamation.

Upon completion of the Pumping Station the proposed landuse surrounding the site will vary from new residential/commercial developments to Government/institutional facilities and District Open Spaces. The general character of the site is likely to be dominated by the Princess Margaret Road Link/Hung Hom By-pass intersection. The intersection is likely to generate significant adverse environmental impacts upon nearby Sensitive Receptors, which will generally overshadow those associated with the Pumping Station.

The number of Sensitive Receptors likely to be affected by the proposed works are few. Those likely to be affected during the construction phase are limited to the high density residential development of Whampoa Gardens which overlooks the site from a distance of approximately 400 m. Operational phase Sensitive Receptors include a school, community centre, PSPS housing development, a proposed hotel/commercial development and a Regional Magistracy adjacent the Pumping Station.

Conclusions & Recommendations

The principal conclusions and recommendations contained in the Environmental Assessment are summarised below.

Noise

- Construction of the Pumping Station will generate noise from the use of powered mechanical equipment. Given the nature and scale of the construction and the sensitivity and proximity of the nearest Sensitive Receptors, construction noise is unlikely to be a major constraint. The worst case noise levels at the nearest Sensitive Receptor was calculated as 69.2 dB(A) during construction of the basement structure in the first 12 weeks of the programme, well within the 75 dB(A) criterion.

- During the operational phase noise from the pumps and ventilation system represent the principal noise sources. Worst case maximum operational noise levels at the nearest Sensitive Receptor readily comply with both the day-time, evening and night-time noise criteria. Since the noise impact is likely to be insignificant no special mitigation measures will be required.

Air Quality

- Due to the small scale of the construction works and the nature of the Sensitive Receptors in the immediate vicinity of the site, construction dust arising from earth moving activities (excavation, trenching, etc.), building construction, material handling (conveying, loading/unloading raw materials, etc) and construction-related traffic movements is unlikely to cause significant impacts on nearby Sensitive Receptors and are likely to be negligible in comparison with other infrastructure projects.
- Operational air quality impacts are the most significant concern arising from the Environmental Assessment. Odour generated by the operation of the Pumping Station was found to exceed the relevant EPD guideline at the nearest Sensitive Receptor in worst case conditions. In order to solve this problem an activated carbon filter with a minimum odour removal efficiency of 75 % should be installed. This measure combined with regular maintenance and good housekeeping practices is likely to reduce the odour nuisance at the nearest Sensitive Receptor to an acceptable level.

Water Quality

- The impacts upon the marine environment associated with the construction and operation of the Pumping Station will be negligible and will be largely overshadowed by impacts of existing and future projects to be undertaken in the study area. At present water quality in Hung Hom Bay is affected by ongoing construction and reclamation works, however, in the long term the gazetting of Phases II and III of the Victoria Harbour WCZ, the enforcement of the relevant WQOs and the implementation of the SSDS are likely to lead to a significant improvement in the local water quality.

- Visual Impacts* ■ Though the Pumping Station is unlikely to be a positive visual element in its existing setting the visual impacts of the facility will not be significant. Tree and shrub planting along the perimeter and an architectural finish compatible with and complimentary to the proposed Magistracy Building will mitigate the visual intrusion of the Pumping Station structure.
- Waste* ■ The disposal of construction waste and screenings arising during the operation of the Pumping Station is unlikely to be problematic given the nature and small quantities of waste involved.
- Cumulative Impacts* ■ The environmental impacts associated with future projects in the study area, in particular proposed road developments such as the Princess Margaret Road Link and Hung Hom By-pass, are likely to overshadow those impacts associated with the construction and operation of the Pumping Station. Thus it is unlikely that the proposed works will contribute significantly to the cumulative environmental impacts on nearby Sensitive Receptors.
- The Environmental Assessment has been conducted in the context of the net environmental benefits which may be expected as a result of the implementation of the North and South Kowloon Sewerage Master Plan and the Strategic Sewage Disposal Scheme. The anticipated benefits are likely to far outweigh the limited short-term adverse environmental impacts associated with the construction and operation of the Pumping Station.