

## **1. Basic Information**

### ***1.1 Project title***

Outlying Islands Sewerage, stage I phase II -  
Peng Chau Village Sewerage Phase 1  
Peng Chau Sewage Pumping Station Replacement

### ***1.2 Purpose and nature of the project***

This project comprises the construction of a new sewage pumping station as a replacement for the existing Peng Chau sewage pumping station and demolition of the latter. The new pumping station will serve to convey sewage from the Peng Chau central area to Tai Lei Island for treatment and disposal. The existing pumping station is located on a piece of land under temporary allocation which will expire in year 2003.

### ***1.3 Name of project proponent***

Consultants Management Division, Drainage Services Department

### ***1.4 Location and scale of project and history of site***

A location plan numbered DDN/211DS/1809B is attached herewith. The site of the proposed pumping station is a reclaimed area. The pumps will be installed in two stages. The initial and final average dry weather flow will not exceed 1400 and 2800 cubic metres per day respectively.

### ***1.5 Number and type of designated project***

The proposed pumping station constitutes a Designated Project of type F.3(b) in Schedule 2 of the EIA Ordinance.

### ***1.6 Contact person***

Engineer, Consultants Management Division, Drainage Services Department

## 2. Outline of Planning and Implementation Programme

- 2.1 The Sewerage Projects Division and the Electrical and Mechanical Projects Division of Drainage Services Department will carry out design of the sewage pumping station. They will also supervise the construction of the sewage pumping station by a qualified contractor. The Sewage Treatment 2 Division of Drainage Services Department will operate and maintain the new pumping station.
- 2.2 Design of the project is in progress. Construction will commence in end 1999 for completion and commissioning in mid 2002.
- 2.3 The project will be implemented jointly with the Peng Chau Village Sewerage Phase 1 works, for which an Environmental Review has been undertaken under the Preliminary Project Feasibility Study for Outlying Islands Sewerage Stage I Phase II. The Review concluded that no environmental impact assessment is required for the aforementioned village sewerage works.

## 3. Possible Impacts on the Environment

### 3.1 *During construction stage*

(a) Dust

Dust may be generated from the construction activities, mainly earthworks. Nevertheless, the quantity of earthworks is only very small (less than 300 m<sup>3</sup>).

(b) Noise

The construction activities will generate some noise through the use of conventional construction plants and equipment.

### 3.2 *During operation stage*

(a) Odour

The wet well of the proposed pumping station, where the pumps are located, and the inlet chamber could be sources of odour nuisance if not enclosed.

(b) Water quality

The proposed pumping station is an integral part of the Peng Chau village sewerage works, which are aimed at collecting sewage currently being discharged directly into the surrounding waters. Implementation of the

pumping station will enhance the water quality of the surrounding environment, and will not cause any adverse impact except if sewage is bypassed. In such case, it will be discharged into a stormwater drain and thereafter into the sea. However, with the implementation of preventive measures described in paragraph 5.2(b) below, the probability of bypass will be extremely slight.

(c) Noise

The pumps and the extraction fans of the de-odorizer are potential noise sources during operation of the proposed pumping station.

(d) Waste

A basket screen will be installed at the inlet chamber to prevent the large solid materials in sewage from entering the pumps and causing damage. A small quantity of screenings will thus be generated.

(e) Aesthetics

The proposed pumping station will be located along the future promenade. Aesthetics is a key factor to be considered.

#### **4. Major Elements of the Surrounding Environment**

**4.1** The area around the project site is mostly residential. The proposed pumping station is located at the corner of a future open space near Kam Peng Estate and Peng Lai Court.

#### **5. Environmental Protection Measures to be Incorporated in the Design and Further Environmental Implications**

##### **5.1 *During construction stage***

(a) Dust

The effect of dust generation from the construction works is expected to be insignificant as the quantity of earthworks is very small (less than 300 m<sup>3</sup>). The impact will be minimized by the adoption of proper working methods such as regular water spraying and screening off the demolition works. Relevant clauses will be incorporated into the contract documents to this end.

(b) Noise

The construction activities involved in the project will include bored mini-piles, earthworks, general concrete building works and demolition works. Common construction plant including backhoe, batching plant, concrete mixer, vibratory poker, pneumatic breaker and the like will be used. It is anticipated that minor noise impacts will be generated. For the demolition works, the existing pumping station is a small single-storey structure and hence any noise impact arising will be of limited scale and durations. Notwithstanding this, clauses will be incorporated into the construction contract to limit the noise generated to within acceptable levels, by stipulating compliance by the contractor with the Noise Control Ordinance and the provisions of the Technical Memorandum of the Environmental Impact Assessment Ordinance (EIAO).

**5.2 *During operation stage***

(a) Odour

To minimize odour impacts, both the inlet chamber and the wet well of the proposed pumping station will be located underground and enclosed by air-tight covers. A forced ventilation system will be installed whereby air is extracted from these two spaces and passed through a de-odorizer for cleansing before being discharged into open air. A reinforced concrete building will be constructed to house all the above facilities. With these measures in place any possible odour impacts can be mitigated.

(b) Water quality

To minimize water quality impacts arising from the bypass of sewage, a standby pump will be provided to cater for periods of equipment breakdown and maintenance, i.e. sewage bypass will not occur under such situations. A transformer will be installed for power supply which will be obtained from a ring circuit. Should this not be adopted, a standby generator will be installed to provide back-up power supply. Apart from these, a 1.7-hour storage capacity at average flow rate will also be provided in the wet well. With these measures in place the need to bypass sewage during emergency is anticipated to be extremely rare.

(c) Noise

To minimize any noise impact from operating pumps, all the pumps will be located underground in the wet well, which in turn will be enclosed inside the pumping station building. The extraction fans of the de-odorizer will also be located within the building. Furthermore, all equipment will be designed for compliance with the Technical Memorandum of the EIAO at the sensitive receivers in the vicinity of the pumping station.

(d) Waste

As the flows to the proposed pumping station is not large, the quantity of screenings will be extremely small. The screenings will be enclosed in plastic bags within the pumping station building before being transported to landfill.

(e) Visual impacts

Aesthetics will be a major consideration in the design of the project. Architectural finishes will be provided on the external surface of the pumping station building. Moreover the building will be surrounded by a planting strip to enhance its appearance.

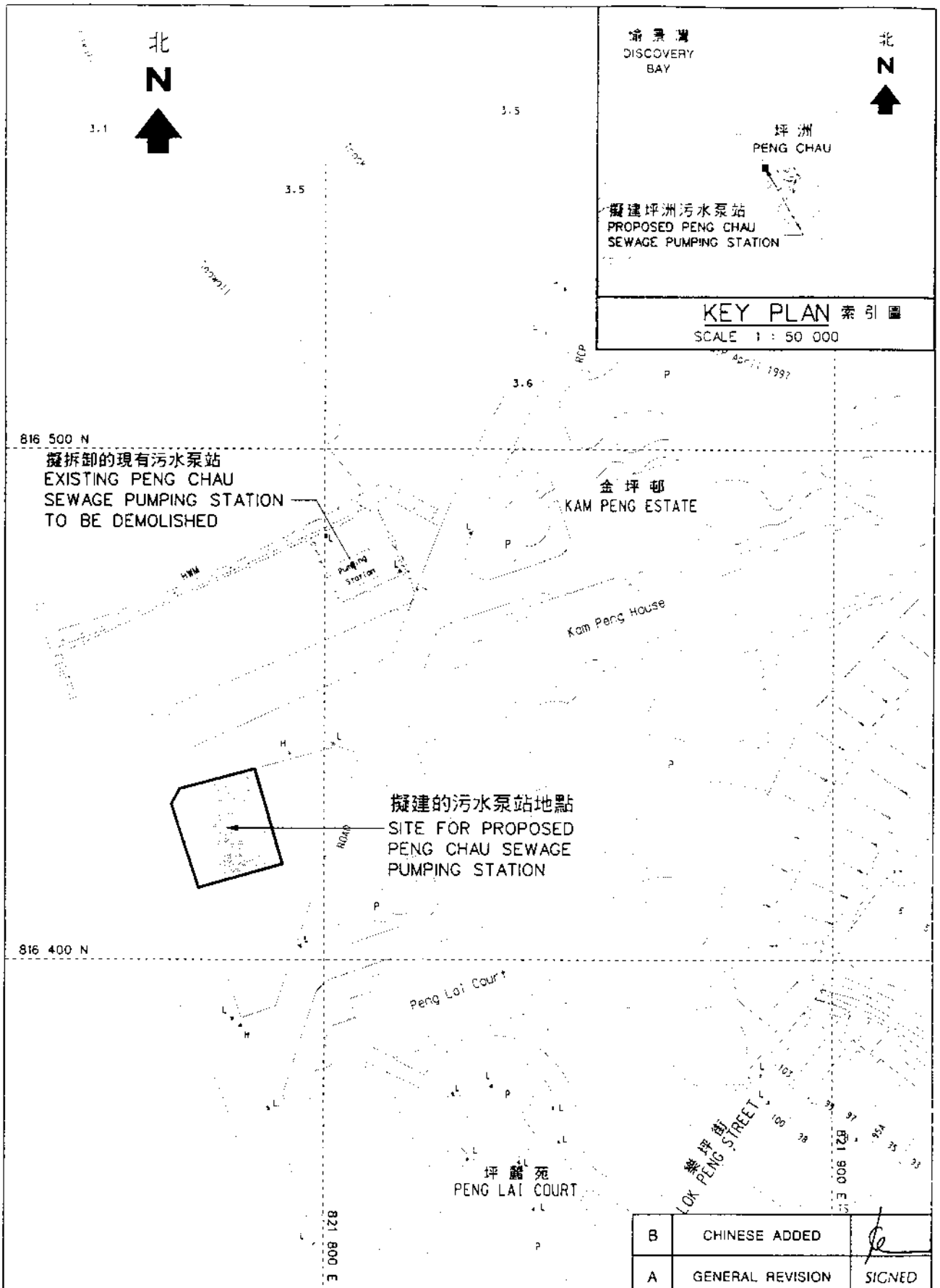
**5.3 Summary of potential environmental impacts and mitigation measures**

The above potential impacts and proposed mitigation measures are summarized in Table 1:

**Table 1**

<i>Project Stage</i>	<i>Potential Environmental Impact</i>	<i>Mitigation Measures</i>	<i>Relevant Section in the Project Profile</i>
Construction	Minor dust nuisance	Control by contract specification	5.1(a)
	Minor noise impact	Control by contract specification	5.1(b)
Operation	Odour nuisance	Housing the odour source + deodorization	5.2(a)
	Water quality impact from emergency sewage bypass	Standby equipment + dual power supply + wet well storage	5.2(b)
	Minor noise impact	Housing the equipment	5.2(c)
	Generation of small quantities of screenings	Containment + proper disposal	5.2(d)
	Visual impacts	Provision of architectural finishes + peripheral planting	5.2(e)

The proposed sewage pumping station, being a replacement for an existing facility which will be decommissioned and demolished, should be causing little net, if any, additional environmental impacts on the surrounding environment. This is particularly true in view of the currently enhanced design standards for pumping stations. Letting alone this, the above preventive and mitigation measures are considered sufficient measures to mitigate the possible environmental impacts that may arise from the project.



DISCOVERY BAY  
DISCOVERY BAY

坪洲  
PENG CHAU

擬建坪洲污水泵站  
PROPOSED PENG CHAU SEWAGE PUMPING STATION

**KEY PLAN** 索引圖  
SCALE 1 : 50 000

圖號名稱 drawing title PWP ITEM 4211DS OUTLYING ISLANDS SEWERAGE STAGE I PHASE II PENG CHAU VILLAGE SEWERAGE PHASE I --- LOCATION OF PROPOSED PUMPING STATION 工務計劃項目第4211DS號 離島污水收集計劃第一階段第二期工程 -- 坪洲鄉村污水收集系統第一期 -- 擬建的坪洲污水泵站位置圖	繪畫 drawn by <b>SIGNED</b> P. S. LAM	日期 date 7 / 98	圖則編號 drawing no. <b>DDN/211DS/1809 B</b>	比例 scale 1 : 1 000 OR AS SHOWN						
	批准 approved <b>SIGNED</b> H. S. KAN	日期 date	香港特別行政區政府渠務署 DRAINAGE SERVICES DEPARTMENT GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION							
部門 office 污水工程處 SEWERAGE PROJECTS DIVISION			<table border="1"> <tr> <td>B</td> <td>CHINESE ADDED</td> <td><i>[Signature]</i></td> </tr> <tr> <td>A</td> <td>GENERAL REVISION</td> <td>SIGNED</td> </tr> </table>		B	CHINESE ADDED	<i>[Signature]</i>	A	GENERAL REVISION	SIGNED
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