SAFEGUARDING OUR HERITAGE
SEWAGE TREATMENT FOR VICTORIA HARBOUR

1. Introduction

This paper aims to brief District Council Members on the "Harbour Area Treatment Scheme" (HATS) which has been initiated in order to collect and treat the sewage generated around Victoria Harbour, so as to make it once again an asset to be proud of.

2. Background

2.1 In 1989, the government announced its plan to improve the water quality in Victoria Harbour. The "Strategic Sewage Disposal Scheme", as it was then called, consisted of a system of very deep tunnels for conveying large quantity of sewage from both sides of the harbour, a central sewage treatment plant at Stonecutters Island, and a long deep tunnel for discharging the treated effluent into the waters south of Hong Kong. This treatment scheme is now renamed "HATS".

2.2.1 Stage I of the HATS, which was successfully completed and brought into full operation in late 2001, included the construction of the sewage treatment plant at Stonecutters Island and a system of deep tunnels transferring untreated sewage to Stonecutters Island. The treated sewage is discharged through a tunneled outfall into the western part of the harbour. The areas served by Stage I include the whole of Kowloon Peninsula, Tseung Kwan O, Kwai Chung, Tsing Yi, Tsuen Wan, Shau Kei Wan and Chai Wan (Figure 1), which together account for about 70% of the sewage flows discharged into the harbour area.

2.3 In response to continual public comments on the HATS and a strong demand for a higher level of sewage treatment, the government announced in 1999 the commissioning of an international panel of experts to conduct a review of the Scheme. In its report published at the end of 2000, the International Review Panel (IRP) agreed that sewage from the northern part of Hong Kong Island should continue to be collected for treatment by deep tunnels, but it also recommended that adjustments be made to the strategy. Specifically, the IRP recommended that the existing chemical treatment be upgraded by the addition of biological treatment so that the resulting high quality effluent could be directly discharged into Victoria Harbour. For the remaining stages of the Scheme, the IRP recommended that Biological Aerated Filters (BAF) be used. BAF is a compact sewage treatment technology which has experienced significant technical advances in recent years. Four different layout options were also put forward for consideration:

i. All sewage generated around Victoria Harbour to be transported to Stonecutters Island for treatment at an upgraded plant with the treated effluent discharged to Western Anchorage area;

ii. Most of the sewage to be treated at Stonecutters Island but the remaining sewage from Hong Kong Island will be transferred to a sewage treatment plant at Lamma Island before being discharged into East Lamma Channel;

iii. Most of the sewage to be treated at Stonecutters Island but a small portion from the west coast of Hong Kong Island to be treated separately at a local sewage treatment plant before being discharged into East Lamma Channel;

iv. Most of the sewage to be treated at Stonecutters Island but the remaining sewage from Hong Kong Island to be treated at two treatment plants, one at North Point and the other on the west coast of Hong Kong Island.

2.4 The above options are illustrated in Figure 2.

3. Recent Developments

3.1 In implementing the recommendations, the IRP considered that additional studies and trials should be conducted before a final decision should be made. These include:

i. Trials to examine whether the BAF technology recommended for the upgrading of sewage treatment would be able to operate well under Hong Kong conditions;

ii. Investigations into the engineering and environmental feasibility of the options. In particular, the possibility of discharging the highly treated sewage into the western part of Victoria Harbour on a long term basis; and

iii. A study to ascertain the most appropriate contractual arrangements for expediting the completion of the remaining parts of the scheme.

3.2 In May 2001, the Finance Committee of the Legislative Council approved funding for the above studies and trials. This allowed the government to commission between November 2001 and April 2002 the following three major projects:

i. A detailed environmental assessment and engineering feasibility study (the "EEFS") of each of the IRP options (under the management of the Environmental Protection Department);

ii. Trials on the application of compact sewage treatment technologies in Hong Kong (under the management of the Drainage Services Department); and

iii. A consultancy study on the best contractual arrangements (under the management of the Drainage Services Department).

3.3 It is intended that the EEFS Report be published around the end of 2003. There will then be wide public consultation on the pros and cons of different options in terms of the environmental and socio-economic aspects, the capital investment involved and the operational

costs etc., followed by public debate on the options to be adopted. Based on community feedback, we aim to reach a consensus on the way forward in early 2004 so that funding can be sought for the commencement of the detailed design of the option preferred by the community.

4. Proactive Public Involvement

4.1 Developing large-scale sewerage systems like the HATS is a difficult and time-consuming task. It also involves huge investment but will significantly improve the water quality of Victoria Harbour. That is why we must seek public consensus on what facilities are needed and why we must commence the projects as soon as possible. To gain early consensus and support, we must ensure that the studies conducted are transparent and that the general public has an opportunity to provide input at key junctures.

4.2 To ensure transparency, the HATS studies are being overseen by a Monitoring Group chaired by the Permanent Secretary for the Environment, Transport and Works. Members of the Group comprises the three local members of the former IRP, four members from the Advisory Council on the Environment (ACE), other members of the community and government representatives.

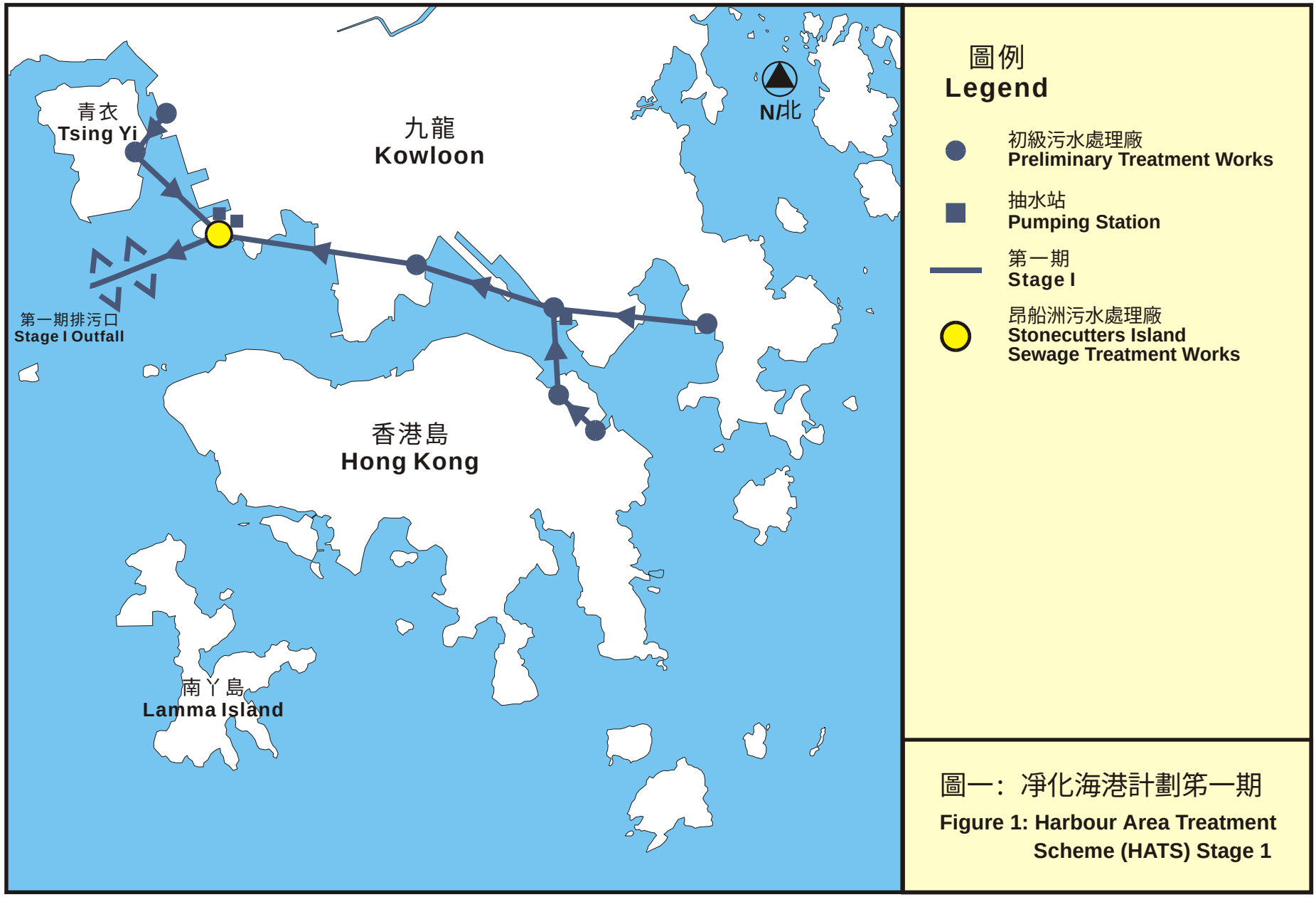
4.3 To encourage public involvement, the consultant of the EEFS has already sought views from the public, including academia and green groups, on the water quality standards that should be adopted to determine the environmental acceptability of each of the options. The adopted standards, incorporating the views of the public, have been placed on our website http://info.gov.hk/cleanharbour/.

5. Action Required

5.1 The commissioning of Stage I of the HATS has brought some much-needed relief for the harbour, having arrested and reversed further deterioration in water quality. However, more needs to be done. We still need to find ways to collect and treat sewage from areas of Hong Kong Island not covered by Stage I to prevent it from further affecting the water quality of the harbour. We also need to upgrade the level of sewage treatment for the whole scheme and to minimize the pollutants entering the harbour in order to improve water quality so as to uphold the image of Hong Kong as a metropolitan city. For this reason, we still need to collect the views of the community so that a consensus can be reached at an early stage on the way to improve our water quality.

5.2 We would like to seek members' support on the actions that are being taken to safeguard our heritage and the on-going studies described above. More detailed information on the work related to the HATS can be found at our website http://info.gov.hk/cleanharbour/ and we welcome comments on any aspects of the work.

HATS Team
Environmental Protection Department
December 2002



圖一：淨化海港計劃第一期

Figure 1: Harbour Area Treatment Scheme (HATS) Stage 1

國際專家小組在2000年11月建議的四個方案

Four Options Proposed by the International Review Panel in November 2000

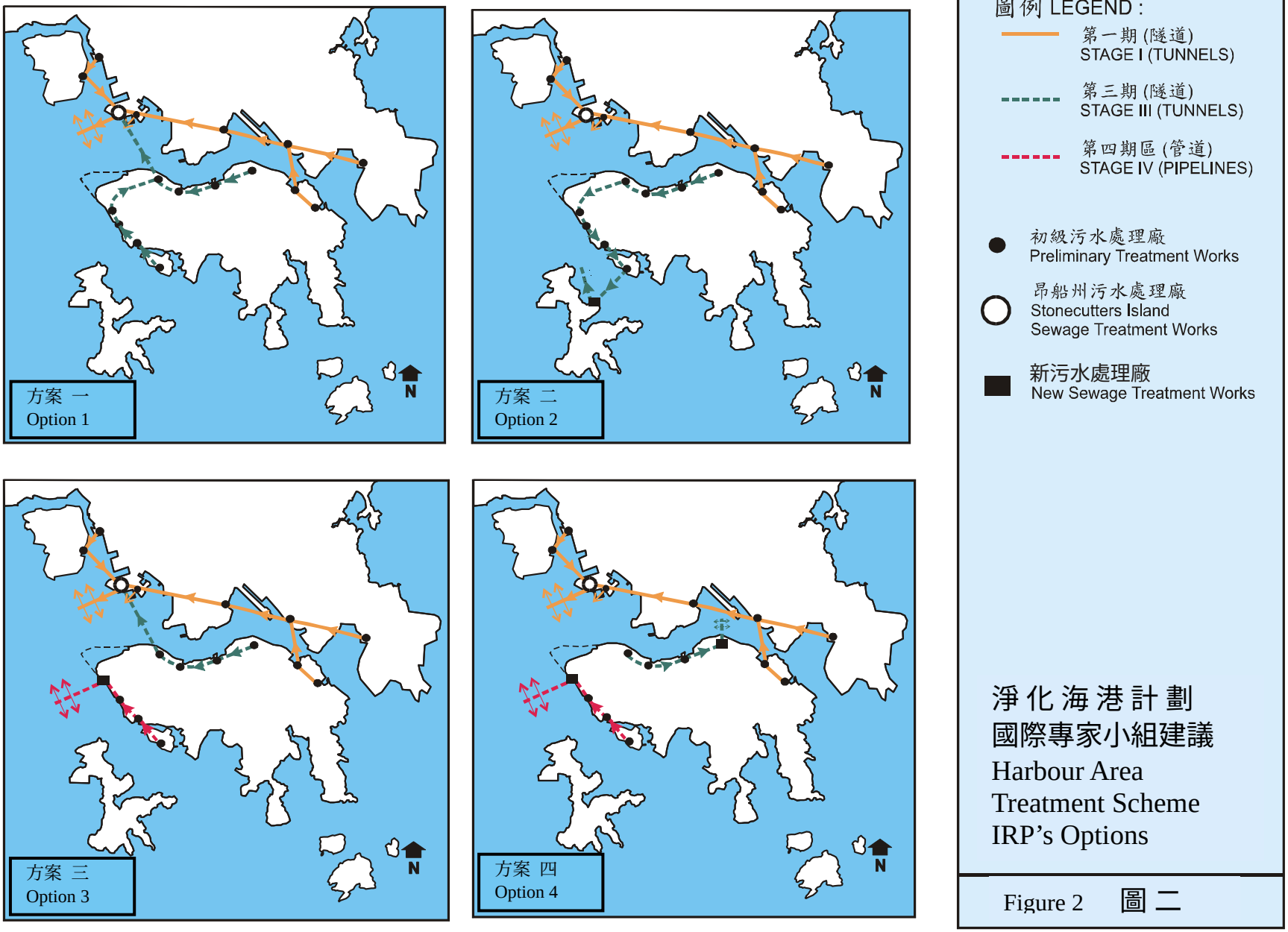


Figure 2 圖二