

## 1 Introduction

### 1.1 Study Background

- 1.1.1 Land is a scarce resource in Hong Kong and there is a pressing need to optimize the supply of land for various uses by sustainable and innovative approaches to support social and economic development. One practicable approach is rock caverns development.
- 1.1.2 Caverns construction is an established technology that has seen continual improvement in its application. Many cavern schemes for various uses have successfully adopted around the world with notable examples in Canada, China, Finland, Japan, Korea, Norway, Singapore, Sweden and the USA.
- 1.1.3 The benefits of rock caverns development are manifold. Systematic relocation of suitable existing government facilities to caverns could release surface sites for other developments. Also, placing NIMBY (“not-in-my-backyard”) facilities in caverns could improve the environment and remove incompatible land uses. In fact, there have been successful local examples of accommodating facilities in rock caverns, including the Stanley Sewage Treatment Works completed in 1995, as well as Island West Refuse Transfer Station and Kau Shat Wan Explosives Depot both completed in 1997. Also, in 2009, the University of Hong Kong reprovisioned the Western salt-water service reservoirs in rock caverns to release the site for its Centennial Campus development. These projects have demonstrated that rock caverns are valuable resources, while providing added environmental, safety and security benefits for many applications.
- 1.1.4 The existing Sha Tin Sewage Treatment Works (STSTW) is located at the mouth of the Shing Mun River, bounded by the River to its East, the Sha Tin Hoi water body to its North, Tolo Highway to its West and the Sha Tin Racecourse to its South. With design sewage treatment capacity of 340,000 m<sup>3</sup> per day, the STSTW is the largest secondary sewage treatment works in Hong Kong and is serving the population of Sha Tin and Ma On Shan areas. Relocating the STSTW to caverns can release about 28 hectares of the existing site for a balance development. In addition to release valuable land resource for the society, this proposal will help remove incompatible land uses with the surrounding, benefit the community and improve the environment of Sha Tin and Ma On Shan. The relocation site has been proposed at Nui Po Shan of A Kung Kok.
- 1.1.5 To take forward the caverns initiative, the Drainage Services Department (DSD) conducted a detailed feasibility study on the relocation of the STSTW to caverns (the feasibility study), and the feasibility study was completed in end 2013. The results confirmed that relocating the STSTW is technically feasible and financially viable. Two-staged Public Engagement (PE) exercises were conducted to collect public opinions on the relocation project.
- 1.1.6 After the feasibility study, DSD has commissioned AECOM Asia Company Ltd. under Agreement No. CE 30/2014 (DS) to commence the investigation and design works for the relocation project in September 2014. The project involves several professional engineering disciplines, and we will look into the possibility of introducing relevant advanced technologies and make reference to overseas experience with a view to optimizing the benefits of the project.

## 1.2 Purpose and Structure of Report

- 1.2.1 During the two-stage public engagement exercises completed in the Feasibility Study phase, general support to the relocation of STSTW to caverns was achieved. Majority of the stakeholders, including the Health and Environment Committee of Sha Tin District Council (STDC), generally supported the Project.
- 1.2.2 Public concerns identified in the Feasibility Study phase were reviewed and efforts were made to address their concerns and accommodate their needs, so as to reconcile conflicting views as far as possible. In order to solicit general consensus on the Project, another round of public engagement was carried out between December 2015 and May 2016 during the investigation, design and construction stage of the STSTW to Caverns.
- 1.2.3 During Stage 3 PE, outcomes of the impact assessment, latest schematic layout including location of portals supporting facilities new ventilation shaft etc., location of temporary explosive magazine, traffic impact mitigation measures, and an in-depth introduction of the Drill-and-Blast Operation including previous examples, sequence of works, safety precautionary and control measures.
- 1.2.4 Comments and concerns from the public and other relevant stakeholders were collected and solicited during various activities in the Stage 3 PE. Views collected in Stage 3 PE will be consolidated and reviewed, while concerns from different stakeholders will be addressed in the next phase of the project.
- 1.2.5 This Report presents the information and findings of the Stage 3 PE. Details of PE channels and activities during the Stage 3 PE are summarized in Section 2 of the Report. Comments and opinions received from the public and stakeholders during various PE activities are collated, summarized and responded in Section 3 of the Report.