

Anderson Road Quarry

Joint Cavern Development

Purpose

1. This paper aims to introduce the Joint Cavern Development Plan at Anderson Road Quarry to the Housing, Planning and Lands Committee of the Kwun Tong District Council, and seeks Members' views on the proposal to construct the Government Public Works Central Laboratory (PWCL) and Government Records Service's Archives Centre (AC) thereat with a view to facilitating a smooth proceeding of the related investigation and design work.

Background

2. In order to address the severe land shortage problem in Hong Kong, the Government determined that alternative land creation strategies shall be pursued. The 2011 Policy Address introduced several innovative land creation methods, one of which was the reprovisioning of existing public facilities into rock caverns such that the previously occupied sites can be released for housing development or other more value-added uses. According to the "Long-term Strategy for Cavern Development – Feasibility Study" carried out in 2012, it is recommended that PWCL and AC were the suitable facilities for relocation into caverns. The Policy Address in 2013 continued to foster rock cavern development as one of the sources of long-term land supply in Hong Kong. This further emphasised the need to carry out strategic studies on cavern development to facilitate the preparation of a Cavern Master Plan (CMP) and formulation of pertinent policy guidelines.

3. In 2019, the Task Force on Land Supply has identified 18 nos. short, medium and long-term land supply option, "Developing Caverns and Underground Space" was recommended as one of the important mid-to-long term land supply options. In line with the recommendation of the Task Force on Land Supply, the Government has undertaken technical studies to identify suitable cavern sites which can be developed to accommodate various public facilities including PWCL and AC.

4. The location of existing man-made rock slopes at Anderson Road Quarry was identified as an "Area with Potential for Rock Cavern Development" by the Planning Department under the "Planning Study on Future Land Use at Anderson Road Quarry

– Feasibility Study” in 2014. In 2016, Tai Sheung Tok which overlooks the Anderson Road Quarry was delineated in the CMP as one of 48 nos. Strategic Cavern Area.

5. Technical studies to ascertain the suitability and technical feasibility of accommodating PWCL and AC to caverns within the Anderson Road Quarry area have been substantially completed by Civil Engineering and Development Department (CEDD) and Government Records Service (GRS) respectively. The studies confirm that the said proposal is technically feasible.

Public Works Central Laboratory

6. PWCL is the headquarters of the Public Works Laboratories (PWL) of CEDD which provide materials testing services to Public Works projects. It is accredited by Hong Kong Accreditation Service under the Hong Kong Laboratory Accreditation Scheme (HOKLAS) for most of the tests and a range of calibration services. PWCL offers an extensive range of materials testing services which cover about 350 types of tests. In past five years (2015 – 2019), about 400,000 tests were conducted through PWCL per year. These tests are of utmost importance to the quality of public works by ensuring that the compliance of construction materials with the local or international standards. Moreover, PWCL also establishes construction materials testing standards, provides testing services on construction materials to forensic investigations, carries out research and development on construction materials and develops new tests.

7. The existing PWCL Building is located at the waterfront of Kowloon Bay, in the vicinity of the former Kai Tai Runway and Hong Kong’s Second Central Business District (CBD2) in East Kowloon. Given its characteristics and prime location, PWCL does not match with the future district development and has to be relocated as early as possible such that the site can be released for further development. Furthermore, in view of that the existing PWCL Building was built in 1991, its overall conditions have been deteriorating after 30 years of occupancy, not to mention that spatial utilisation has become less efficient due to the limitations imposed by the layout of the building designed three decades ago.

8. In addition, to cope with the increasing types of tests and the congested working environment, PWCL has to be expanded to enhance operation efficiency and occupational safety. Moreover, the layout of the existing building has limited the feasibility of introducing new technologies to enhance its operation, such as the adoption of automated system and artificial intelligence system. In order to make optimal use of valuable land resources and to facilitate provision of higher quality services, it is prudent that PWCL be relocated to a new site such that a more pertinent, better-designed and sustainable facility can be built as soon as possible.

Archives Centre

9. The Public Records Office (PRO) of GRS¹ is the central archives for permanent retention of archival records of the Government of the Hong Kong Special Administrative Region. It is committed to appraising and acquiring records and materials of enduring value and making them available for public access. It is responsible for appraisal, accessioning and description of archival records, organizing public programmes and providing referencing services. Meanwhile, it is also responsible for managing the Central Preservation Library, the holdings of which include selected government publications, reports and printed materials. There are also an archival records search room and an exhibition hall in the Hong Kong Public Records Building (HKPRB) where members of the public can view its records holdings and visit exhibitions on different topics.

10. HKPRB, located in Kwun Tong, was built in 1997. Apart from its Search Room, Exhibition Hall and offices, there are also archives repositories which meet international standards for the permanent retention of archival records in the building. As of April 2020, the archives repositories kept about 1.7 million (or 23,100 linear meters) archival records. As the archives repositories thereat have reached their maximum capacity, GRS has re-arranged the storing racks to increase the storing capacity to cater for the ever-increasing quantity of archival records. Moreover, GRS has since 2014 converted part of the inactive records storage spaces in its Tuen Mun Records Centre into temporary archives repository as a temporary relief measure. Notwithstanding this, as the converted repository has yet to meet the international standards required for the permanent storage of archival records, GRS has a genuine operational need to build a new archives centre to cope with the continuous increase in demand for permanent retention of archives. Besides, although records digitization facilitates the easy viewing of archival records, the originals of the digitized records need to be retained permanently according to international practices. Hence, digitization of archival records does not reduce the demand for a new archives repository.

11. Taking into account the characteristics of PWCL and AC, accommodating both facilities in caverns will not only release the existing PWCL site for further development and reduce surface land requirement of the two facilities, but also capable of meeting the stable temperature and humidity and secure environment requirements of the two facilities. In particular, as a cavern is more flexible in expanding storage space, it is especially capable of meeting the operational requirements of the AC. In view of the above, cavern development is a more cost-effective solution in creating space to house the two facilities than other options.

¹ GRS plays a key role in the management of recorded information for the Government of the Hong Kong Special Administrative Region. It is responsible for formulating and monitoring government records management policy and requirements, reviewing records management practices of Bureaux / Departments (B/Ds), preserving government archives and providing off-site records centre and microfilming services. GRS has also devised a records keeping plan which enables B/Ds to manage their records according to their respective targets and information resources.

Preliminary Proposal

12. It is initially proposed to accommodate both PWCL and AC in a joint cavern complex at Anderson Road Quarry within the designated “Area with Potential for Rock Cavern Development” pursuant to the planned use for the site. The preliminary proposal comprises the construction of 4 nos. cavern, each about 30m in height and span, and about 100m in length. Four to five-storey high building structures would be constructed inside the caverns and at the portal area, providing sufficient floor area to house the two facilities. In addition, adits would be built to facilitate the construction activities and for daily operational use.

13. The major works under the plan comprise the following items:

- a) PWCL — Construction of the main caverns, adits and associated civil and geotechnical works;
- b) PWCL — Provision of building structural works, and building services works;
- c) PWCL — Installation of associated facilities and equipment;
- d) PWCL — Relocation of PWCL services from the existing premises into the new caverns;
- e) AC — Construction of the main caverns, adits and associated civil and geotechnical works;
- f) AC — Provision of building structural works and building services works; and
- g) AC — Installation of associated facilities and equipment.

14. Our engineering consultant has substantially completed the technical impact assessments for the proposal, including preliminary traffic impact assessment and environmental review. It is preliminarily concluded that the potential impacts incurred from the construction and operation of the Joint Cavern Development is minimal. Furthermore, creating vibrant facilities in harmony with the nearby community is the basic design concept of this Joint Cavern Development. The proposal will accommodate public facilities such as archive searching and reading rooms. In addition, areas are reserved for community activities, such as exhibition of the Hong Kong geological history, the history of Anderson Road Quarry and archiving of public records. Taking the advantage of the new premises of PWCL, more seminars and workshops will be organized to promote engineering and science related STEM education to the community.

Current Site Zoning

15. The proposed Joint Cavern Development is located within the “Green Belt (GB)” zone in the Approved Kwun Tong (North) Outline Zoning Plan No. S/K14N/15. While most of the proposed facilities will be accommodated underground in caverns, the hillside surface area above the caverns will remain as Green Belt. As the proposed use (i.e. “Government Use (not elsewhere specified)”) falls under Column 2 of the

Schedule of Uses in this “GB” zone, planning permission will be sought from the Town Planning Board in due course.

Project Implementation

16. If the project proceeds on smoothly, it is anticipated that funding applications for the investigation and design of the works listed above would be submitted in stages to the Legislative Council for approval in 2020-2021. The Government would further consult Members in due course according to the implementation progress.

Advice Sought





17. Members are invited to give their views on the proposal as set out in this paper to facilitate departments concerned to follow up and taking forward the proposal, and to seek the funding approval of the Legislative Council.

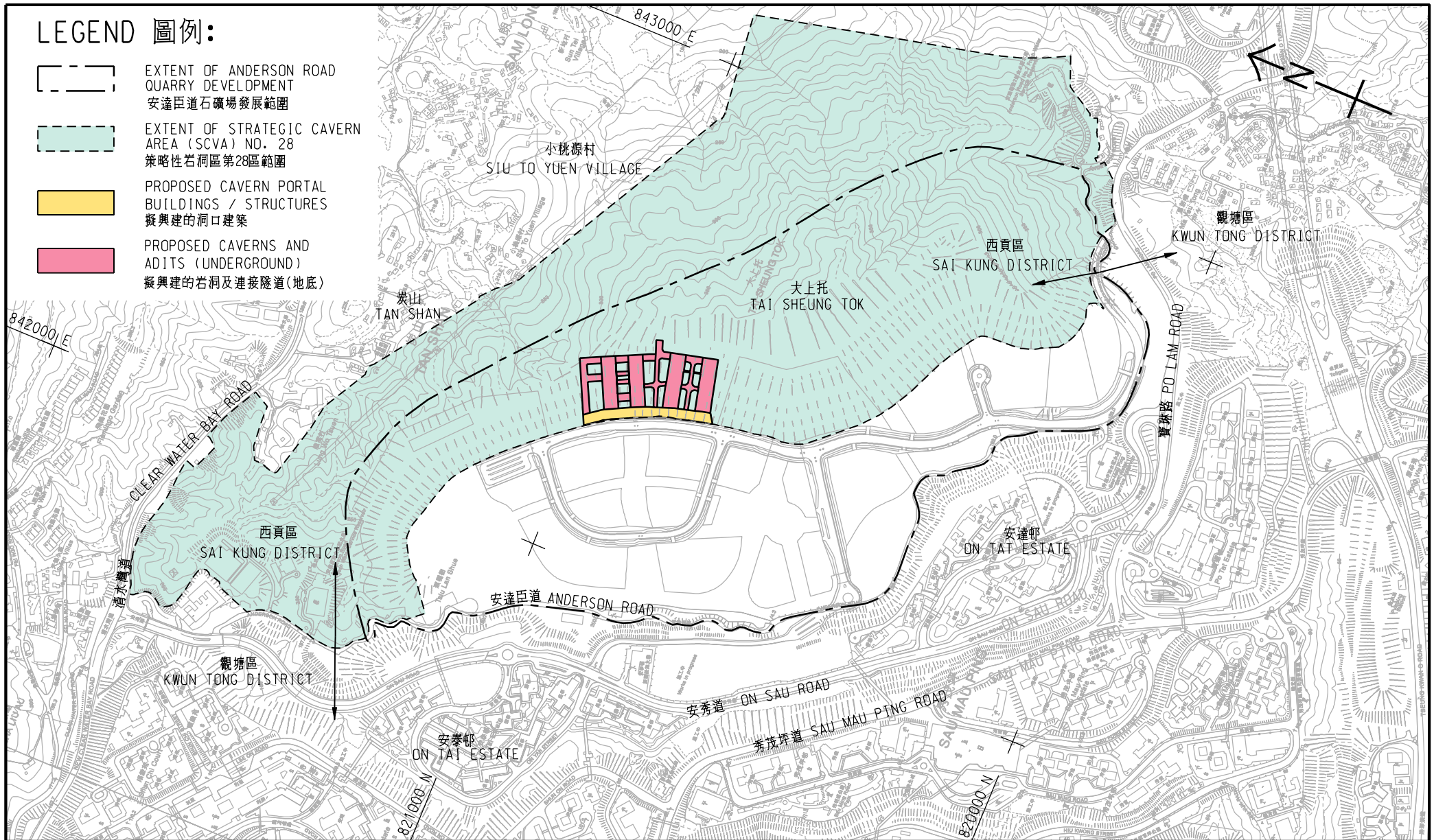
**Civil Engineering and Development Department
Government Records Service
September 2020**

Attachments:

- (Attachment 1) Location Plan of Joint Cavern Development at Anderson Road Quarry
- (Attachment 2) Schematic Plan of Joint Cavern Development
- (Attachment 3) Schematic Sections of Joint Cavern Development
- (Attachment 4) Design Concept of Joint Cavern Development (Photo 1)
- (Attachment 5) Design Concept of Joint Cavern Development (Photo 2)

LEGEND 圖例:

-  EXTENT OF ANDERSON ROAD QUARRY DEVELOPMENT
安達臣道石礦場發展範圍
-  EXTENT OF STRATEGIC CAVERN AREA (SCVA) NO. 28
策略性岩洞區第28區範圍
-  PROPOSED CAVERN PORTAL BUILDINGS / STRUCTURES
擬興建的洞口建築
-  PROPOSED CAVERNS AND ADITS (UNDERGROUND)
擬興建的岩洞及連接隧道(地底)



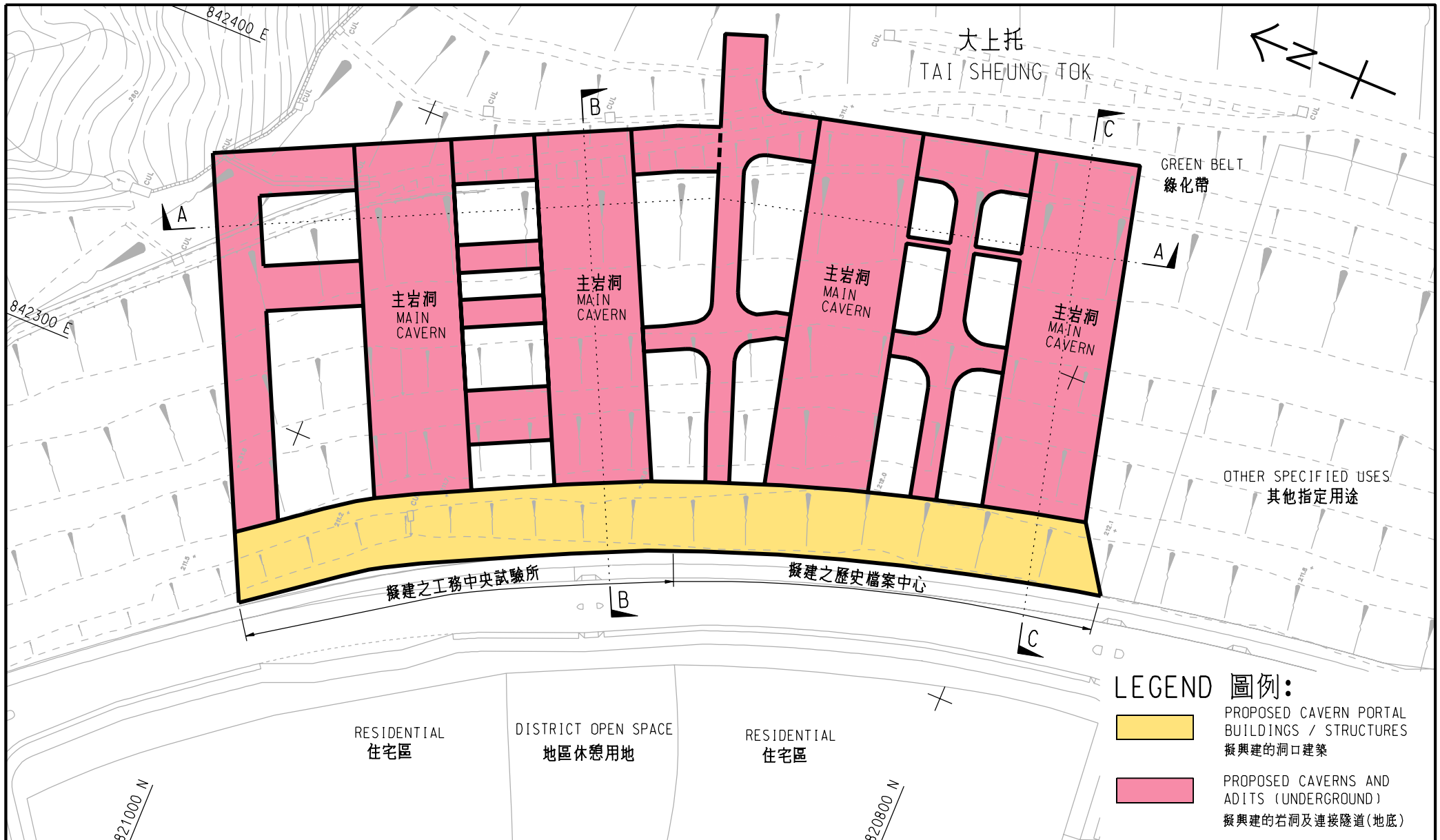
圖則名稱
DRAWING TITLE

安達臣道石礦場
聯用岩洞發展計劃位置圖
LOCATION PLAN OF JOINT CAVERN DEVELOPMENT
AT ANDERSON ROAD QUARRY

辦事處 OFFICE
 土木工程拓展署
 Civil Engineering and Development Department
 政府檔案處
 Government Records Service

WANGZ020/7/3 16:45:47

P:\PROJECTS\60599340\DRAWING\SKETCH\SK3081.dgn



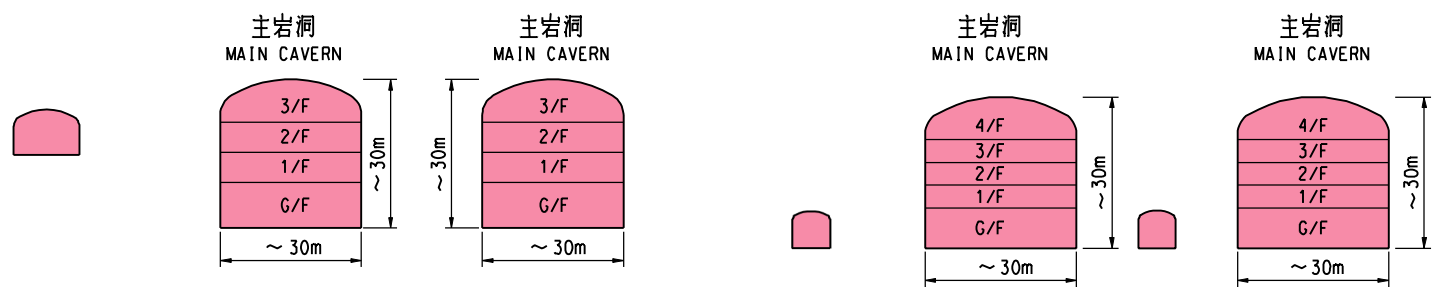
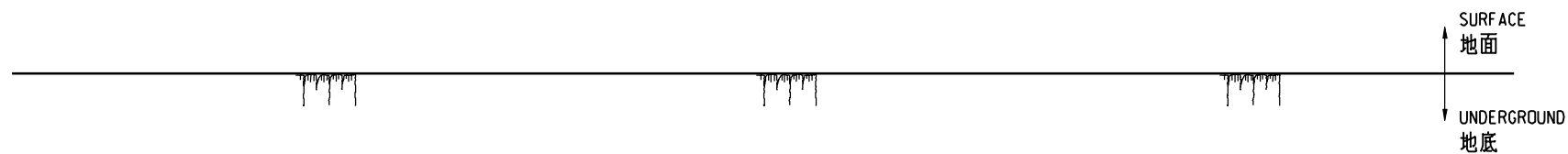
- LEGEND 圖例:**
- PROPOSED CAVERN PORTAL BUILDINGS / STRUCTURES
擬興建的洞口建築
 - PROPOSED CAVERNS AND ADITS (UNDERGROUND)
擬興建的岩洞及連接隧道(地底)

圖則名稱
DRAWING TITLE

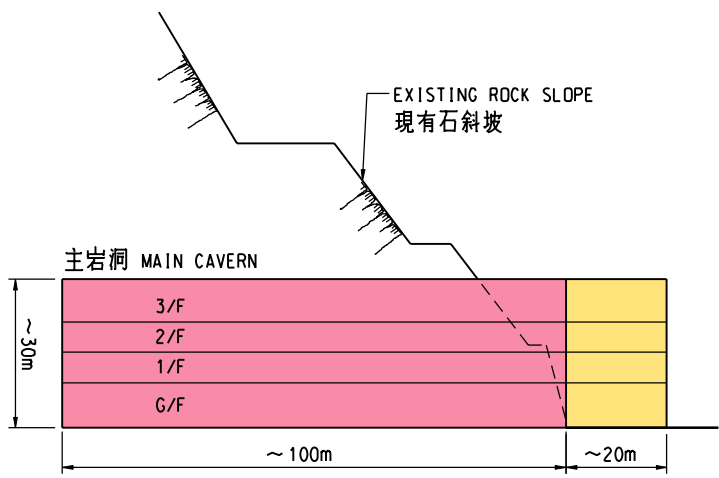
聯用岩洞發展計劃示意平面圖
SCHEMATIC PLAN OF JOINT CAVERN DEVELOPMENT

辦事處 OFFICE
 土木工程拓展署
 Civil Engineering and Development Department
 政府檔案處
 Government Records Service

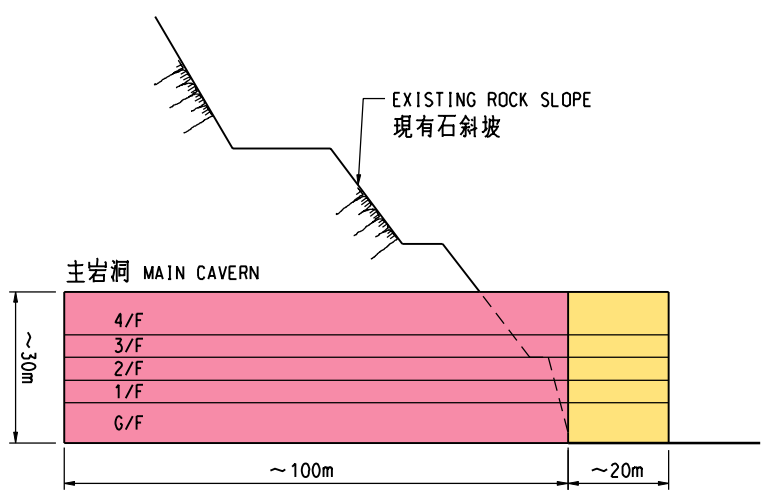
WANGZ020/7/3 11:54:45



剖面 A - A
SECTION A - A



剖面 B - B
SECTION B - B



剖面 C - C
SECTION C - C

圖則名稱
DRAWING TITLE

聯用岩洞發展計劃示意剖面圖
SCHEMATIC SECTIONS OF JOINT CAVERN DEVELOPMENT

辦事處 OFFICE
 土木工程拓展署
 Civil Engineering and Development Department
 政府檔案處
 Government Records Service

WANGZP2020/7/3 12:04:32



圖則名稱
DRAWING TITLE

聯用岩洞發展計劃設計概念(圖 1)
DESIGN CONCEPT OF JOINT CAVERN DEVELOPMENT (PHOTO 1)

辦事處 OFFICE



土木工程拓展署
Civil Engineering and
Development Department



政府檔案處
Government Records Service

WANGZB2020/5/27 10:37:18

P:\PROJECTS\60599340\DRAWING\SKETCH\SK3084.dgn



圖則名稱

DRAWING TITLE

聯用岩洞發展計劃設計概念(圖 2)

DESIGN CONCEPT OF JOINT CAVERN DEVELOPMENT (PHOTO 2)

辦事處 OFFICE



土木工程拓展署
Civil Engineering and
Development Department



政府檔案處
Government Records Service

WANGZP2020/5/27 10:38:35

P:\PROJECTS\60599340\DRAWING\SKETCH\SK3085.dgn