

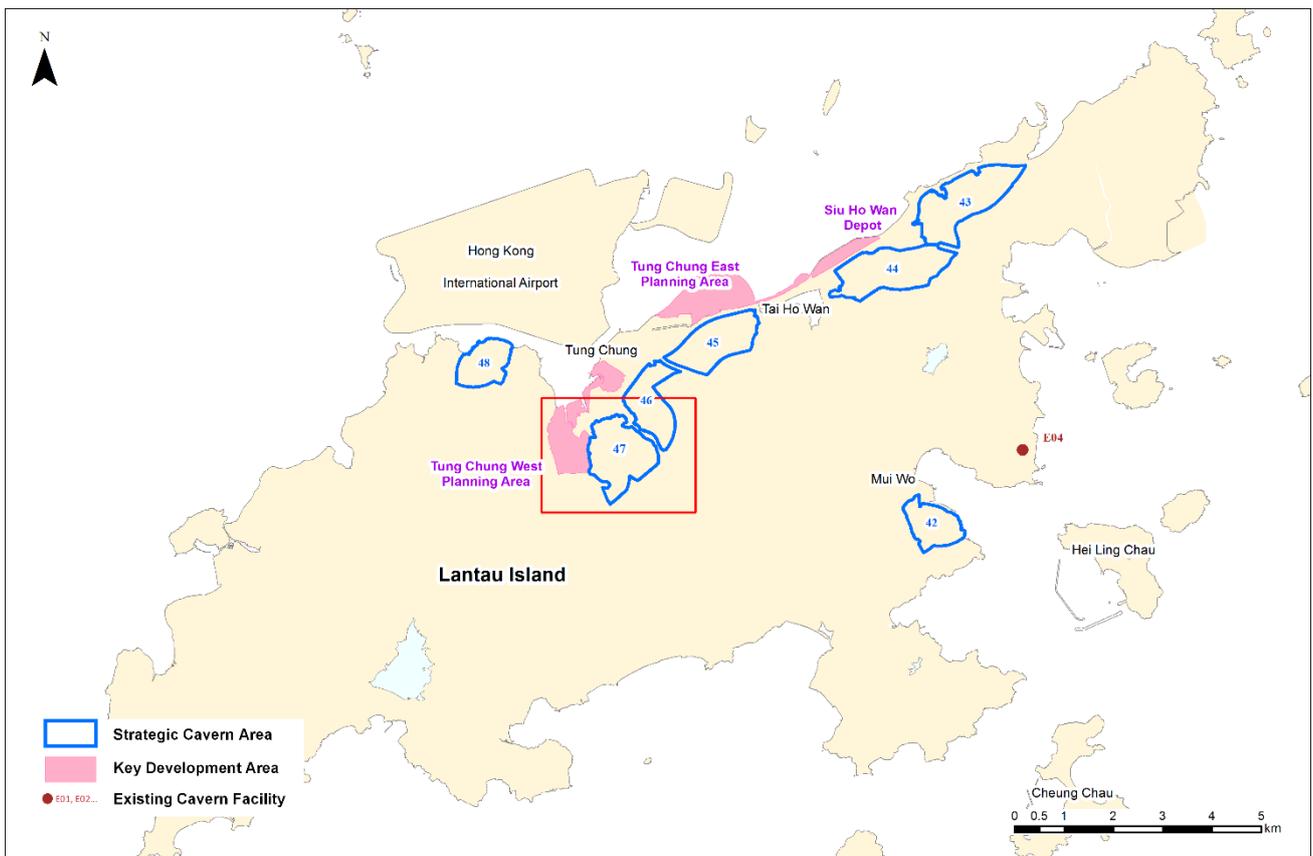
## CAVERN MASTER PLAN – INFORMATION NOTE

### STRATEGIC CAVERN AREA NO. 47 – TUNG CHUNG WEST

*This Information Note describes the characteristics, key development opportunities and constraints of Strategic Cavern Area No. 47 - Tung Chung West (the SCVA). It indicates the potential land uses suitable for cavern development within the area, but would not pre-empt other possible land uses put forward by the project proponents with justifications. It also denotes the extent of potential portal locations. The spatial context of the SCVA is illustrated in the Reference Drawing appended to this Information Note.*

*Reference should be made to the Explanatory Statement of the Cavern Master Plan for its background and purposes, as well as the definition and delineation criteria of SCVAs.*

#### 1. Location Plan



## 2. Strategic Cavern Area Details

Outline Zoning Plans (OZPs):	Approved Tung Chung Town Centre Area OZP No. S/I-TCTC/22 Approved Tung Chung Valley OZP No. S/I-TCV/2
Area:	156.5 ha
Maximum elevation in the SCVA:	+325 mPD
Minimum elevation in the SCVA:	+17 mPD

## 3. District Context

### Location

The SCVA is located in the northern part of Lantau Island. It covers the area of Wo Liu Tun to the southwest of Tung Chung. Lantau North (Extension) Country Park is to the east and south, Tung Chung New Town is to the north, the Hong Kong International Airport (HKIA), the Hong Kong-Zhuhai-Macao Bridge (HZMB) and Hong Kong Boundary Crossing Facilities (HKBCF) are to the further north.

The SCVA is generally hilly with a maximum elevation of about +325 mPD. More than half of the SCVA encroaches onto Lantau North (Extension) Country Park. Tung Chung Fresh Water Service Reservoir is located in the northern portion of the SCVA. To the north of the SCVA, Tung Chung New Town mainly consists of high-rise residential developments, including Yat Tung Estate (about 250 m to the north of the SCVA), Caribbean Coast (about 1,600 m to the northeast of the SCVA) and Seaview Crescent (about 1,500 m to the northeast of the SCVA). There are also a number of local villages adjacent to the SCVA, including Ma Wan New Village, Shan Ha (Pa Mei) Village and Chek Lap Kok New Village (all at the eastern boundary of the SCVA), Sheung Ling Pei Village and Ha Ling Pei Village (both at the northern boundary of the SCVA), Shek Lau Po Village and Mok Ka Village (both about 500 m to the west of the SCVA). The development of Tung Chung New Town is supported by various key Government, Institution and Community (GIC) facilities, including North Lantau Hospital (about 400 m to the north of the SCVA).

Under the “Tung Chung New Town Extension Study”, Tung Chung East and Tung Chung West are proposed for development to extend Tung Chung New Town into a distinct community with supporting community and commercial facilities. Tung Chung East Extension Area, which is located to the northeast of the SCVA, will house a total population of about 118,900. Tung Chung West Extension Area to the west of the SCVA will house a total population of about 25,500. First population intake of the extension areas is expected in 2023.

### Access

The SCVA is accessed from its eastern and western edges via Wong Lung Hang Road and Tung Chung Road. Regional and cross-boundary connections could be routed through the adjacent North Lantau Highway, Tuen Mun-Chek Lap Kok Link and HZMB (both under construction).

The MTR Airport Express and Tung Chung Line run along the North Lantau Highway to the north of the SCVA. The nearest station to the SCVA is Tung Chung Station of Tung Chung Line, which is about 1,100 m to the north of the SCVA. Under the “Tung Chung New Town Extension Study”, Tung Chung West Station (about 250 m to the northwest of the SCVA) and Tung Chung East Station (about 2.7 km to the northeast of the SCVA) are proposed to support the future development in the extension areas.

### Land Use Zoning

Under the Approved Tung Chung Town Centre Area OZP No. S/I-TCTC/22 and the Approved Tung Chung Valley OZP No. S/I-TCV/2, the eastern, northern and western parts of the SCVA fall within the “Green Belt” (“GB”), “Government, Institution or Community” (“G/IC”) and “Conservation Area” (“CA”) zones with the remaining areas designated as Lantau North (Extension) Country Park. The zoning of the surrounding areas includes “GB”, “G/IC”, “CA”, “Village Type Development” and “Residential (Group A)” to the east, north and west of the SCVA, with the rest being Lantau North (Extension) Country Park.

For details of the latest land use zonings on the OZPs, please refer to the Town Planning Board website (<http://www.tpb.gov.hk>).

There is currently no existing or planned cavern facility within the SCVA.

## **4. Summary of Characteristics of Strategic Cavern Area**

### **4.1. Boundary**

The northern boundary of the SCVA is defined by private lots along Tung Chung Road. The eastern boundary of the SCVA is defined by Wong Lung Hang Road, private lots and Chek Lap Kok New Village. The western boundary of the SCVA is defined by burial grounds, private lots and Tung Chung Road. The southern boundary of the SCVA is defined by the Water Supplies Department's Tung Chung Tunnel, and also by an extent of 800 m from the potential portal locations. Individual private lots located within the SCVA have been excised from the SCVA. Project proponents shall check the latest land status with the Lands Department. Reference should be made to the Explanatory Statement of the Cavern Master Plan for the delineation criteria of SCVAs.

### **4.2. Geology**

The solid geology of the SCVA is primarily rhyolite lava and tuff, which belong to Lantau Volcanic Group. The SCVA is with the rock types that are suitable for cavern development. A number of geological features, such as faults and photolineaments, are identified within and in areas surrounding the SCVA. The excavated rocks within the SCVA can be used as rock base materials and for asphalt production, etc.

Further geological information of the SCVA can be found on the 1:20,000-scale Geological Map Sheet 9 (Tung Chung) published by the Geotechnical Engineering Office, Civil Engineering and Development Department.

### **4.3. Planning**

The SCVA is close to the existing urban development in Tung Chung New Town, HKIA and HKBCF (under construction), and is adjacent to the proposed Tung Chung New Town West Extension Area. Given that the SCVA is well connected by major highways and railway to the rest of the territory and across the boundary to the Mainland, there is potential for the SCVA to support the development of these areas.

The Sustainable Lantau Blueprint<sup>1</sup> unveiled by the Development Bureau on 3 June 2017 includes the strategic economic and housing development at the North Lantau Corridor. The key projects at the North Lantau Corridor include the planned Three Runway System of the HKIA, North Commercial District on the airport island, topside development at the HKBCF Island of HZMB, Tung Chung New Town Extension and Siu Ho Wan Development. A new railway station, Tung Chung West Station, is proposed along with the development of Tung Chung West Extension Area.

The northern and western sides of the SCVA are respectively the major existing and proposed residential development areas in Tung Chung New Town and its extension. These areas consist of various high-rise residential developments (e.g. Yat Tung Estate, Caribbean Coast, and the proposed developments in Tung Chung West Extension Area) supported by a number of GIC facilities (e.g. municipal services building, hospital, school, service reservoir, etc). There is potential for the SCVA to support the future development of these areas to bring about greater synergy effect, for example, by providing community and recreational facilities (such as cultural/performance venue, leisure centre/sports centre and/or recreational complex) or infrastructure facility (such as service reservoir) in caverns. By doing so, it could enable more effective utilisation of land resources in Tung Chung New Town while preserving the natural landscape of Lantau North (Extension) Country Park as a natural backdrop to the urban development in the locality.

The SCVA is situated at a strategic location near the HKIA, HKBCF (under construction) and Tung Chung New Town and served with major trunk roads including North Lantau Highway, Tuen Mun-Chek Lap Kok Link and the HZMB (both under construction) enabling regional and cross-boundary connections. The Sustainable Lantau Blueprint also suggest to strengthen the connectivity of trunk roads along the northern shore of Lantau. This favourable transport infrastructure could be well utilised, for example by housing warehousing (such as mini-storage) or research/testing laboratory in the SCVA to support the high value-added business and logistics developments in HKBCF, and to facilitate the development of North Lantau as a whole.

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<sup>1</sup> More information can be obtained from the Sustainable Lantau Blueprint available on the website of the Sustainable Lantau Blueprint, [www.lantau.gov.hk](http://www.lantau.gov.hk).

#### **4.4. Environmental**

Environmental sensitive receivers to cavern development in the SCVA are the nearby residential areas (e.g. Chek Lap Kok New Village, Sheung Ling Pei Village, Ha Ling Pei Village, Wong Ka Wai Village, Lung Tseng Tau Village and the public housing developments in Area 27 and Area 39 (under construction)) and schools (e.g. Caritas Charles Vath College and YMCA of HK Christian College). The SCVA encroaches onto Lantau North (Extension) Country Park and Water Gathering Grounds. The Sheung Ling Pei Fung Shui Wood is located close to the northern boundary of the SCVA. There are natural and modified water courses within the SCVA. Wong Lung Hang Ecologically Important Stream (EIS) and Tung Chung (Mok Ka and Shek Mun Kap) EIS are located close to the eastern and western boundaries of the SCVA respectively. Fong Yuen area, at where rare butterfly species of conservation value have been recorded, is located close to the western boundary of the SCVA. Sunset Peak Site of Special Scientific Interest is close to the southeastern boundary of the SCVA. Tung Chung Fort, a declared monument is located at the northern boundary of the SCVA. Tin Hau Temple in Tung Chung (Grade 2 historic building), Entrance Gate of Shek Mun Kap (Grade 3 historic building), Hau Wong Temple in Tung Chung (Grade 2 historic building) and traditional burial grounds are located in the vicinity of the SCVA. Also, Sha Tsui Tau Site of Archaeological Interest is to the northwest of the SCVA. A detailed archaeological impact assessment should be conducted to assess the archaeological impact imposed by the proposed cavern development and mitigation measures should be proposed in consultation with the Antiquities and Monuments Office, before the detailed design and construction phase of the project in accordance with the Environmental Impact Assessment Ordinance (EIAO).

All potential environmental constraints, which may impose restrictions on cavern development, should be identified and taken into account under the EIAO and other relevant ordinances, such as the Country Parks Ordinance. Project proponents are required to take into account the potential environmental constraints when planning each cavern development project and undertaking the environmental impact assessment under the EIAO to determine its environmental acceptability, potential environmental impacts and environmental mitigation measures required.

#### **4.5. Traffic**

The SCVA can be accessed from its eastern and western edges via Wong Lung Hang Road and Tung Chung Road. Regional and cross-boundary connections could be routed through the adjacent North Lantau Highway, Tuen Mun-Chek Lap Kok Link and HZMB (both under construction).

The SCVA is located close to the North Lantau Highway which provides access between Chek Lap Kok and other main areas of Hong Kong. Access to the highway from the SCVA is via Yu Tung Road and the Tung Chung Eastern Interchange.

Tung Chung Road is a rural road and its southern section (to the south of Shek Mun Kap Road) is within the South Lantau closed road network, i.e. only accessible by vehicle with valid permit. Access to the SCVA via Tung Chung Road to the north of Shek Mun Kap Road will be more flexible. Wong Lung Hang Road is currently a single track access road and its southeastern section beyond Chek Lap Kok New Village is in close proximity to Wong Lung Hang EIS and its surrounding conservation area. Since upgrading/widening of this section of the road may generate adverse environmental impacts to the EIS and the conservation area, access to the SCVA via that section of Wong Lung Hang Road should be intended for pedestrian use as emergency exit only.

#### **4.6. Other Key Issues / Constraints on Cavern Development**

A Water Supplies Department's tunnel, namely Tung Chung Tunnel, is located approximately 50 m to the southeast of the SCVA. As it is far from the SCVA boundary, it would not pose any insurmountable constraint on cavern development.

## 5. Potential Land Uses

The potential land uses for the SCVA are as follows:

<b>Land use</b>	<b>Description</b>
<p>Cultural/Performance Venue</p> <p>Leisure Centre/Sports Centre</p> <p>Recreational Complex</p>	<p>The SCVA is located close to a large population catchment as it is adjacent to various existing and proposed major residential developments in Tung Chung (e.g. Caribbean Coast and the proposed development at Tung Chung New Town Extension Areas). There is potential for the SCVA to support the future development and extension of these areas by providing additional supporting community and recreational facilities, such as cultural/performance venue, leisure centre/sports centre and/or recreational complex in caverns to meet the rising demand from the increasing population.</p> <p>The extent of potential portal locations is in close proximity to the existing and proposed residential developments, local villages, and the proposed Tung Chung West Station which is about 250 m to the northwest of the SCVA. The convenient access for local residents and the general public could further enhance the potential for housing such facilities in the SCVA.</p>
<p>Research/Testing Laboratories</p>	<p>The SCVA is at a strategic location close to the HKIA, HKBCF and Tung Chung New Town. It is also supported by major transport infrastructure enabling regional and cross-boundary connections. The SCVA possesses a favourable setting to house facilities such as research/testing laboratories, to support the high value-added research and development, business and logistics development in the area.</p> <p>The development of research/testing laboratories is in line with the six strategic industries where Hong Kong enjoys clear advantages, as outlined in the 2010/11 Policy Address (i.e. education facilities, medical services, testing and certification services, innovation and technology, environmental industries, cultural and creative industries).</p>

Land use	Description
Service Reservoir	Tung Chung is home of various residential developments (e.g. Caribbean Coast and Yat Tung Estate) and local villages and is proposed for expansion (i.e. the proposed development at Tung Chung West). There is thus opportunity to develop suitable land use to support the future development in Tung Chung and its extension areas, by housing some of the suitable infrastructure facilities, such as service reservoir, to caverns.
Warehousing	The SCVA is adjacent to various existing and proposed major residential developments in Tung Chung (e.g. Yat Tung Estate and the proposed development at Tung Chung West). It is also close to the proposed Tung Chung West Station (about 250 m to the northwest of the SCVA), having good connectivity and is easily accessed by the general public. There is thus potential for the SCVA to provide space for warehousing (such as mini-storage) to support the residential development in these areas and meet the demand from local communities. The warehousing type of facilities could also support the high value-added business and logistics development in HKBCF, as well as to facilitate the development of North Lantau as a whole.

Note: Zoning amendment/planning application may be required to facilitate the pursuit of the above potential land uses.

## 6. Extent of Potential Portal Locations

The extent of the potential portal locations is shown on the Reference Drawing.

The SCVA is generally accessed via Tung Chung Road to the west; Wong Lung Hang Road to the east; and a restricted access road off Wong Lung Hang Road leading to a slope adjacent to Tung Chung Fresh Water Service Reservoir in the northern portion of the SCVA.

The extent of potential portal locations along Tung Chung Road is on roadside slopes. The SCVA could be accessed by provision of suitable run-in/out or priority controlled junction, depending on the proposed land use. The northern section of this extent is mostly unrestricted with regard to the road configuration and so would be able to support a range of traffic generating activities. The southern section of this extent, however, is within the closed road section of Tung Chung Road, where valid permit will be required for vehicular access. In addition, under the Draft Tung Chung Town Centre Area OZP No. S/I-TCTC/21, the Tung Chung Area 27 has been planned for public housing development. Project proponents should take consideration of the latest development of the site including the traffic conditions, and carry out necessary traffic impact assessments associated with the proposed land use in the cavern development project.

The extent of potential portal location along Wong Lung Hang Road is accessible via a single-track access road. The southeastern section of Wong Lung Hang Road beyond Chek Lap Kok New Village is in close proximity to Wong Lung Hang EIS and its surrounding conservation area. Upgrading/widening of that section of Wong Lung Hang Road may generate adverse environmental impacts to the EIS and its surrounding conservation area, and hence the access should be limited for pedestrian use as emergency exit for cavern development in the SCVA. As Wong Lung Hang EIS, Lantau North (Extension) Country Park, local villages and conservation area are located in close proximity, any potential environmental impacts should be well assessed and minimized as far as possible. In addition, the construction of emergency exit and the associated works (e.g. slope works) at Wong Lung Hang Road should be sited away from Lantau North (Extension) Country Park as far away as possible to reduce any possible ecological, visual and recreational impacts to the country parks and their users. Project proponent should explore alternative access road outside the country park or an alternative location of the portal to reduce any possible ecological, visual and recreational impacts to the country park and its users.

The potential portal at the slope adjacent to the Tung Chung Fresh Water Service Reservoir can be accessed via a restricted single-lane access road off Wong Lung Hang Road, and would be suitable for low traffic generating activities. Project proponents should liaise with Water Supplies Department for using this portal location.

There are natural slopes above the potential portal locations. There may be potential natural terrain hazards in the vicinity which may require further study by the project proponents.

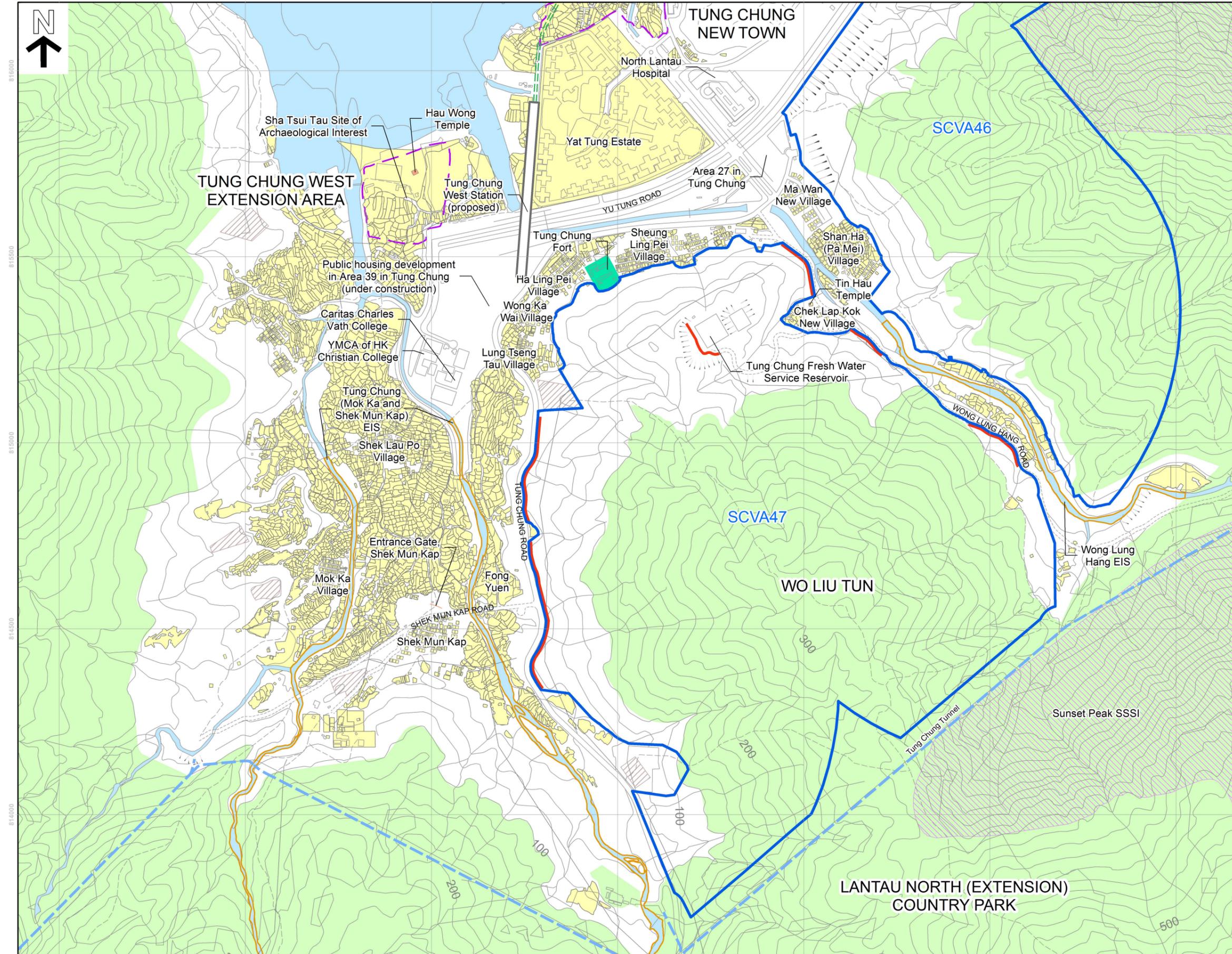
Project proponents should carry out further studies on identifying specific locations of portals for the proposed cavern development.

## **7. Concluding Remarks**

The SCVA presents an opportunity for locating suitable land uses in rock caverns to serve the neighbouring existing and proposed residential communities (e.g. service reservoir, cultural/performance venue, leisure centre/sports centre and/or recreational venue). It also has the potential for housing land uses that could make use of its strategic location and good connectivity to support the development of North Lantau (e.g. research/testing laboratory and/or warehousing). Project proponents for cavern development should take due consideration of the existing/planned and proposed residential development, environmental sensitive receivers and the proposed development of Tung Chung New Town Extension, to minimise the interfacing issues and bring about greater synergy and opportunities.

## **8. Notes**

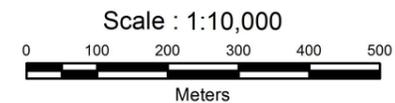
The Cavern Master Plan and all supporting documents do not exempt project proponents for cavern development from following the relevant statutory and planning procedures. Information including the potential land uses and the extent of potential portal locations indicated in this Information Note should serve as reference materials only. In formulation of development proposals, project proponents should conduct the necessary studies and assessments relevant to each project stage. Reference should be made to the “Implementation” section of the Explanatory Statement of the Cavern Master Plan for further details.



### Legend

- Strategic Cavern Area
- Extent of Potential Portal Locations
- Proposed Railway Line
- Water Supplies Department Tunnel
- River / Nullah / Sea
- Ecologically Important Stream (EIS)
- Site of Archaeological Interest
- Graded Historic Building
- Declared Monument (Site of Archaeological Interest)
- Private Lot
- Burial Ground
- Country Park
- Site of Special Scientific Interest

Note: All private lots located inside the boundary of the Strategic Cavern Area have been excised. Project proponents shall check the latest land status with the Lands Department. Reference should be made to the Explanatory Statement of the Cavern Master Plan for the delineation criteria of Strategic Cavern Area.



## REFERENCE DRAWING OF STRATEGIC CAVERN AREA NO. 47 - TUNG CHUNG WEST

CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT  
PLANNING DEPARTMENT



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