

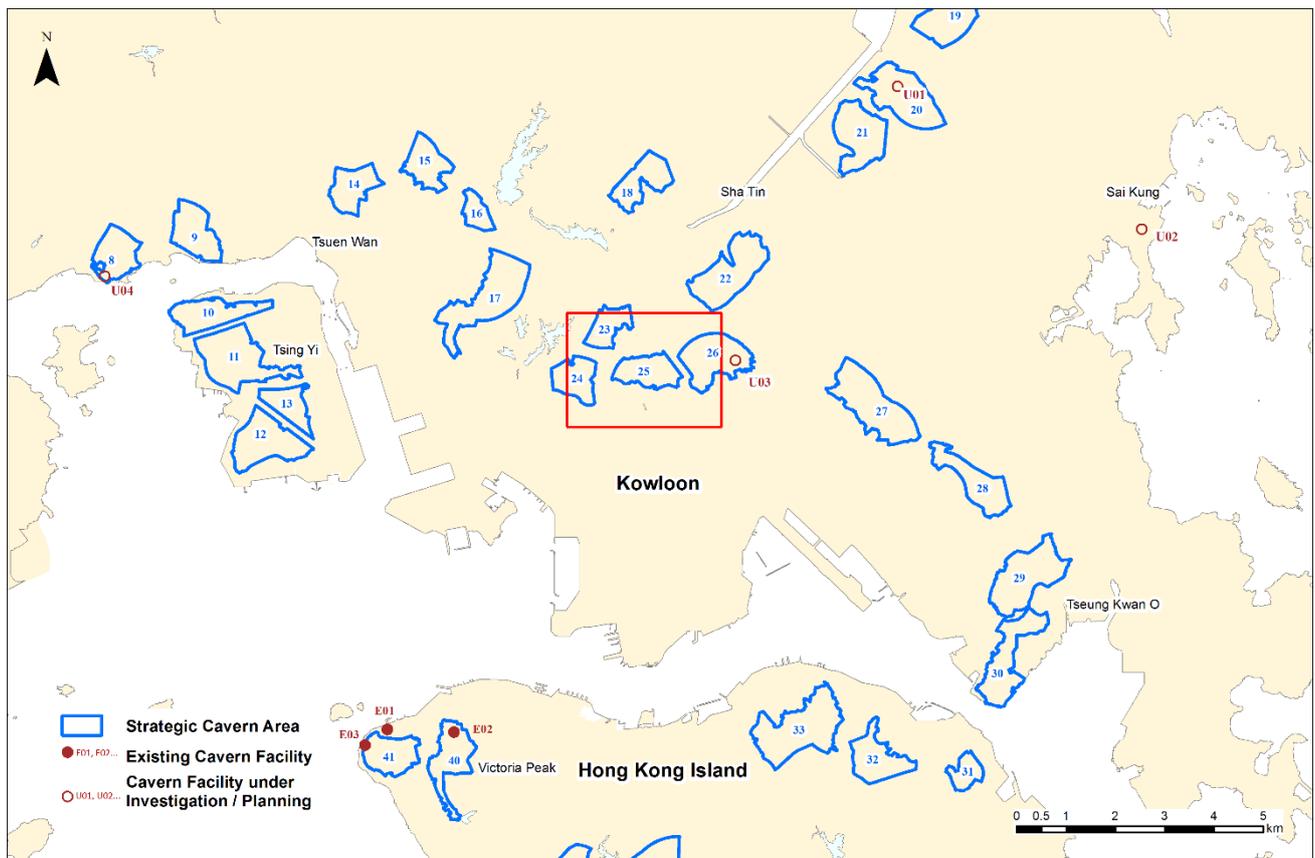
## CAVERN MASTER PLAN – INFORMATION NOTE

### STRATEGIC CAVERN AREA NO. 25 – BEACON HILL EAST

*This Information Note describes the characteristics, key development opportunities and constraints of Strategic Cavern Area No. 25 - Beacon Hill East (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 Shek Kip Mei OZP No. S/K4/29 Draft Kowloon Tong OZP No. S/K18/20
Area:	69.7 ha
Maximum elevation in the SCVA:	+399 mPD
Minimum elevation in the SCVA:	+95 mPD

## 3. District Context

### Location

The SCVA is located at Beacon Hill, partly in West Kowloon and partly in Lion Rock Country Park. Lion Rock Country Park is to the north of the SCVA, Eagle's Nest is to the west, Shek Kip Mei is to the southwest and Kowloon Tong to the southeast.

The SCVA is generally hilly with a maximum elevation of about +399 mPD. About half of the SCVA encroaches onto Lion Rock Country Park. To the southwest of the SCVA, Shek Kip Mei is mainly comprised of residential communities with medium-rise developments, including Beacon Heights (about 300 m to the southwest of the SCVA), Dynasty Heights (about 350 m to the southwest of the SCVA), Mount Beacon (about 400 m to the south of the SCVA) and Chak On Estate (about 650 m to the southwest of the SCVA). While to the southeast of the SCVA, Kowloon Tong is mainly comprised of low- to medium-rise developments, including One Beacon Hill (about 350 m to the south of the SCVA). In addition, there are also three planned low-density residential development to the west and southwest of the SCVA (at Yin Ping Road and near Lung Ping Road respectively) to the north of Lung Cheung Road.

In the proximity of the SCVA, there are a number of key Government, Institution and Community (GIC) facilities supporting the development of Shek Kip Mei and Kowloon Tong as well as the territory, including Water Supplies Department Mechanical and Electrical Workshop and Phoenix House (a half-way house of the Correctional Services Department; both near the southern boundary of the SCVA), Beacon Hill Intermediate Level Fresh Water Service Reservoir and Beacon Hill Intermediate Level Salt Water Service Reservoir (both near the southern boundary of the SCVA), Lion Rock High Level No. 2 Fresh Water Primary Service Reservoir (at the southeastern boundary of the SCVA), Hong Kong Baptist Hospital and Hong Kong Baptist University (both about 400 m to the southeast of the SCVA), and City University of Hong Kong (about 750 m to the south of the SCVA) including Run Run Shaw Creative Media Centre and Student Residence (both about 400 m to the south of the SCVA).

### Access

The SCVA is accessed from its southeastern and southern edges via Lung Cheung Road and Lung Yan Road. Regional connections could be routed through Lung Cheung Road and the nearby Tai Po Road.

The MTR East Rail Line and Kwun Tong Line serve the locality of Shek Kip Mei and Kowloon Tong. The nearest stations include Kowloon Tong Station (interchange station of both lines; about 800 m to the south of the SCVA) and Lok Fu Station (Kwun Tong Line; about 1.1 km to the southeast of the SCVA). Given the significant elevation difference between these railway stations and the SCVA, the SCVA would not be easily accessed by the public using the railway transit.

### Land Use Zoning

The southern part of the SCVA is zoned “Green Belt” (“GB”) under the Approved Shek Kip Mei OZP No. S/K4/29 and the Draft Kowloon Tong OZP No. S/K18/20. The remainder of the SCVA is not covered by any statutory plans, but is within Lion Rock Country Park designated under the Country Parks Ordinance. The surrounding areas to the southeast and southwest are mainly zoned “GB”, “Government, Institution or Community”, “Residential (Group C)” and “Open Space”, while the rest is within Lion Rock Country Park.

For details of the latest land use zonings on 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 the Beacon Hill Site of Special Scientific Interest (SSSI). The eastern boundary of the SCVA is defined by Lion Rock Tunnel. The western boundary of the SCVA is defined by an extent of 800 m from the potential portal locations. The southern boundary of the SCVA is defined by Lung Cheung Road, Lung Yan Road, Beacon Hill Intermediate Level Fresh Water Service Reservoir, Beacon Hill Intermediate Level Salt Water Service Reservoir and Lion Rock High Level No. 2 Fresh Water Primary Service Reservoir.

## **4.2. Geology**

The solid geology of the SCVA is primarily medium-grained granite within the southern portion, which belongs to Kowloon Granite; and coarse-grained granite within the northern portion, which belongs to Sha Tin Granite. The SCVA is with the rock types that are suitable for cavern development. A number of geological features, such as faults, photolineaments and isolated dykes, are identified within and in the areas surrounding the SCVA. The excavated medium-grained granite within the SCVA is suitable for reuse as construction aggregate. Other excavated rock can be used as road base material and for asphalt production, etc.

Further geological information of the SCVA can be found on the 1:20,000-scale Geological Map Sheet 11 (Hong Kong & Kowloon) published by the Geotechnical Engineering Office, Civil Engineering and Development Department.

## **4.3. Planning**

The SCVA is located in the fringe of the existing urban development in Shek Kip Mei and Kowloon Tong. Although the SCVA is not easily accessed by the public due to the difference in elevation between the SCVA and the nearby railway stations, there is still potential for the SCVA to support the development of these areas.

The southwestern and southeastern sides of the SCVA are major residential development areas in Shek Kip Mei and Kowloon Tong. These areas consist of various medium-rise residential developments (e.g. Chak On Estate, Beacon Heights, Dynasty Heights and Mount Beacon) and low- to medium-rise residential developments (e.g. One Beacon Hill and the three planned low-density residential developments at Yin Ping Road and near Lung Ping Road respectively) supported by a number of GIC facilities (e.g. university, hospital, service reservoir, etc.). Should there be any need for providing additional land for residential use, the SCVA may provide the solution space by, for example, relocating some of the suitable infrastructure facilities (e.g. service reservoir) to caverns. By doing so, surface land could be released for other beneficial uses (e.g. residential developments and/or community facilities), and it could also enable more effective utilisation of land resources in Shek Kip Mei and Kowloon Tong while preserving the natural landscape in Beacon Hill as a natural backdrop to the urban developments in the locality.

#### **4.4. Environmental**

Environmental sensitive receivers to cavern development in the SCVA are the nearby existing and planned residential developments (e.g. Beacon Heights, Dynasty Heights, Mount Beacon, One Beacon Hill, Elizabethan Court, Beverley Heights, Vista Panorama and the planned low-density residential developments at Yin Ping Road and near Lung Ping Road respectively). The SCVA comprises wooded areas and shrubby hillsides, and encroaches onto the Lion Rock Country Park. Beacon Hill SSSI adjoins the northern boundary of the SCVA. Water Gathering Grounds are located to the north of the SCVA. There are natural or modified surface water courses within the SCVA. The Civil Aviation Department Beacon Hill Approach Secondary Surveillance Radar (ASSR) Station and another radar station are located in the northwestern portion of the SCVA. Potential land contamination in the vicinity should be investigation due to possible often uses of oils and chemicals for the facilities. A government historic site identified by Antiquities and Monuments Office namely the Ex Kowloon-Canton Railway Beacon Hill Tunnel which is now being used as a utility tunnel by The Hong Kong and China Gas Company Ltd. (Towngas) and Water Supplies Department, runs through the SCVA in a north–south direction.

All potential environmental constraints, which may impose restrictions on cavern development, should be identified and taken into account under the Environmental Impact Assessment Ordinance (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 southeastern and southern edges via restricted access roads branched off from Lung Cheung Road and Lung Yan Road.

The potential portal locations are located very close to the eastbound carriageway of Lung Cheung Road, which is an Urban Trunk Road, allowing good connections to the primary road network and so the other areas of Hong Kong. However, the traffic capacity of Lung Cheung Road during the peak periods is expected to become saturated in future, so developing caverns using these potential portal locations may only be suitable for low traffic generating uses or moderate traffic generating uses outside peak periods.

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

The railway tunnel of East Rail Line and the Ex Kowloon-Canton Railway Beacon Hill Tunnel both pass through the central portion of the SCVA in a north–south direction. Owing to the difference in elevation, these tunnels would not pose any insurmountable constraint to cavern development within the SCVA.

Another railway tunnel of Shatin to Central Link is about 400 m to the east of the SCVA, and a vehicle tunnel, namely the Lion Rock Tunnel, is about 50 m to the east of the SCVA. A small abandoned tunnel shelter is located about 200 m to the southeastern boundary of the SCVA next to the entrance of Lion Rock Tunnel. As they are distant from the SCVA, they would not pose any insurmountable constraint to cavern development.

#### 5. Potential Land Uses

The potential land use for the SCVA is as follows:

Land use	Description
Service Reservoir	<p>Shek Kip Mei and Kowloon Tong are homes of various residential developments (e.g. Chak On Estate and One Beacon Hill) and have the potential for further growth given they are located in an urban setting equipped with well-established infrastructural systems. There is thus opportunity to develop suitable land use to support the potential expansion of these residential areas, by relocating and/or expanding some of the suitable infrastructure facilities, such as service reservoir, into caverns.</p> <p>Existing service reservoirs are found in the vicinity of the SCVA. Relocation of the facilities to caverns may be considered, thereby releasing the surface land for other beneficial uses and for integration with the future development.</p>

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 accessed from a road branched off from Lung Yan Road on the southern edge, and from an access road to the Lion Rock High Level No. 2 Fresh Water Primary Service Reservoir to the southeastern edge of the SCVA.

Both of the potential portal locations are on narrow and restricted-access roads of the Water Supplies Department. The current access roads conditions would only be suitable for low traffic-generating activities. Both roads would require major widening/upgrading works in order to support moderate to high traffic-generating activities, which would require dual way vehicle access to the proposed cavern facilities. The project proponents shall seek consents from and coordinate with the Water Supplies Department when pursuing the cavern development project.

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.

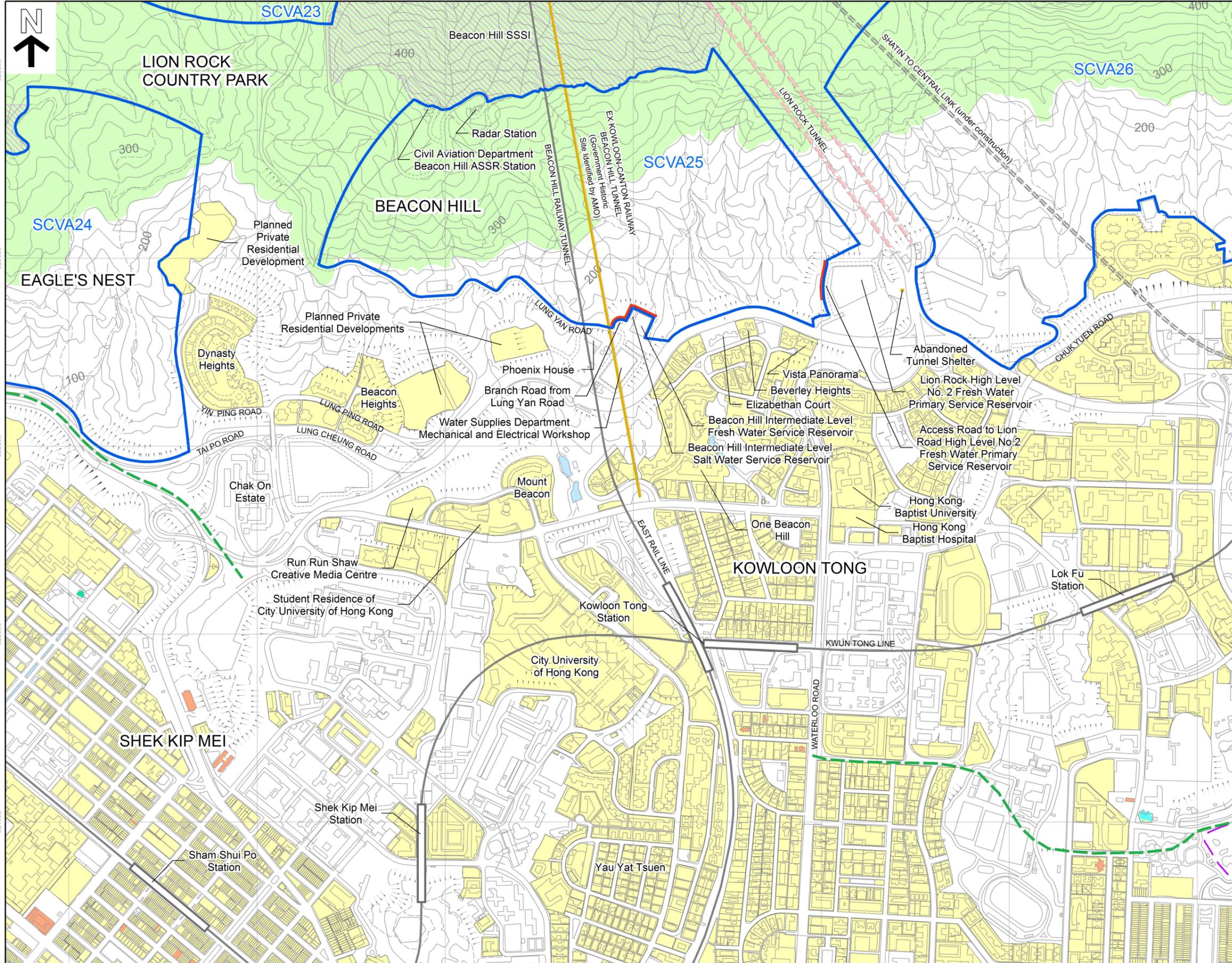
Project proponents should carry out further studies on identifying specific locations of portals for the proposed cavern development.

## **7. Concluding Remarks**

The SCVA presents an opportunity for locating suitable land uses in rock caverns to serve the neighbouring residential communities (e.g. by housing service reservoir). Project proponents for cavern development should take due consideration of the existing and planned/committed residential developments, accessibility for cavern developments, and environmental sensitive receivers to minimise the interfacing issues and bring about greater synergy and opportunities.

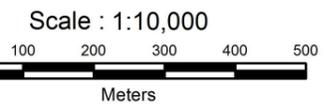
## **8. Notes**

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
- Existing Railway Line
- Committed Railway Line
- Vehicle Tunnel
- Drainage Services Department Tunnel
- Abandoned Tunnel
- Reservoir / River
- Site of Archaeological Interest
- Graded Historic Building
- Declared Monument (Site of Archaeological Interest)
- Declared Monument (Historic Building)
- Private Lot
- Country Park
- Site of Special Scientific Interest



## REFERENCE DRAWING OF STRATEGIC CAVERN AREA NO. 25 - BEACON HILL EAST