

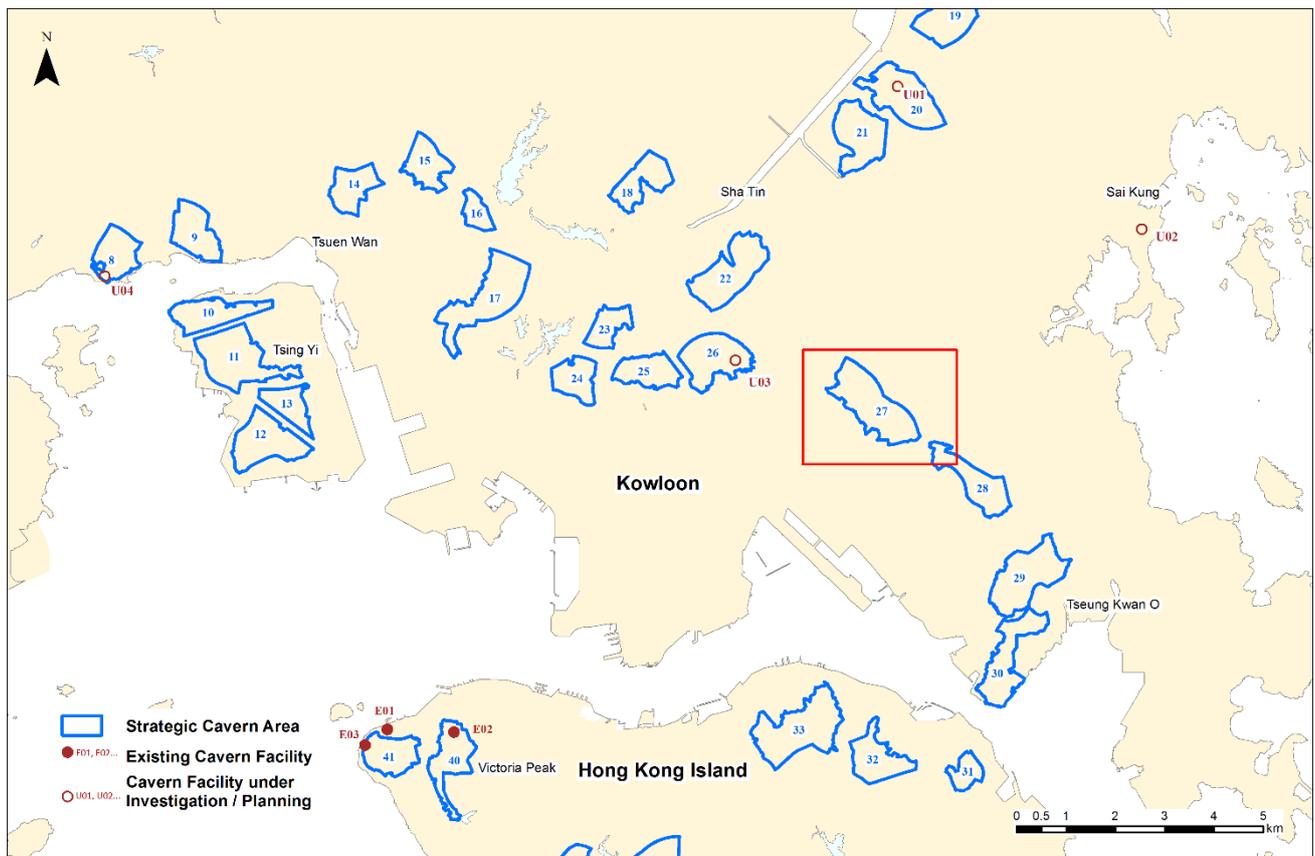
CAVERN MASTER PLAN – INFORMATION NOTE

STRATEGIC CAVERN AREA NO. 27 – FEI NGO SHAN

This Information Note describes the characteristics, key development opportunities and constraints of Strategic Cavern Area No. 27 - Fei Ngo Shan (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 Ngau Chi Wan OZP No. S/K12/16 Approved Tseng Lan Shue OZP No. S/SK-TLS/8
Area:	146.4 ha
Maximum elevation in the SCVA:	+602 mPD
Minimum elevation in the SCVA:	+62 mPD

3. District Context

Location

The SCVA is located at Fei Ngo Shan (Kowloon Peak) which is located in East Kowloon. Ma On Shan Country Park is located to the northeast of the SCVA, Fei Ngo Shan and Jordan Valley are to the southeast, Ngau Chi Wan and Wong Tai Sin is to the southwest, Tsz Wan Shan and Lion Rock Country Park are to the northwest.

The SCVA is generally hilly with a maximum elevation of about +602 mPD. About half of the SCVA, on its eastern side, encroaches onto Ma On Shan Country Park. To the southeast of the SCVA, Jordan Valley and Fei Ngo Shan are home of some low- to high-rise residential developments, including Shun Chi Court (about 200 m to the southeast of the SCVA), Shun Lee Estate (about 400 m to the southeast of the SCVA) and Flamingo Garden (about 500 m to the east of the SCVA). Adjacent to Jordan Valley to its east, the Anderson Road Quarry (ARQ) ceased quarrying operation in July 2017. The “Planning Study on Future Land Use at ARQ – Feasibility Study” completed in 2014 recommended using the quarry site for housing development with supporting commercial, Government, Institution and Community (GIC) and open space uses. The study on “Development of Anderson Road Quarry” is currently in progress. This study aims provision of land and the associated infrastructures for the proposed land uses at the ARQ site according to the Approved Kwun Tong (North) OZP No. S/K14N/15. The first construction contract commenced in late 2016.

To the southwest of the SCVA, Ngau Chi Wan and Wong Tai Sin are major residential communities with high-rise residential developments, including Choi Fai Estate (at the southwestern boundary of the SCVA), Aria (at the southwestern boundary of the SCVA) and Upper Wong Tai Sin Estate (about 1,600 m to the west of the SCVA). To the northwest of the SCVA, Tsz Wan Shan is another major residential areas in the district which consists of a number of sizeable high-rise public housing developments, including Chuk Yuen (North) Estate (about 1,400 m to the west of the SCVA) and Fung Tak Estate (about 650 m to the west of the SCVA).

The development of these major residential areas is supported by a number of key Government, Institution and Community (GIC) facilities, including various service reservoirs such as Choi Wan Road Fresh & Salt Water Service Reservoirs (about 550 m to the south of the SCVA), Ngau Chi Wan Fresh Water Service Reservoir (about 300 m to the southwest of the SCVA) and Diamond Hill No. 2 Fresh Water Service Reservoir (about 200 m to the west of the SCVA). Various columbarium related facilities are in close proximity to the SCVA, such as Diamond Hill Urn Cemetery, Diamond Hill Crematorium and Diamond Hill Columbarium (all at the northwestern boundary of the SCVA).

Access

The SCVA is accessed from its southeastern and western edges via Fei Ngo Shan Road and Fung Shing Street. Regional connections could be routed through the nearby New Clear Water Bay Road, Lung Cheung Road and Tate's Cairn Tunnel.

The MTR Kwun Tong Line and Shatin to Central Link (currently under construction) serve the locality of Wong Tai Sin and Ngau Chi Wan. The nearest stations include Choi Hung Station (Kwun Tong Line; about 700 m to the southwest of the SCVA) and Diamond Hill Station (interchange of Kwun Tong Line and Shatin to Central Link; about 800 m to the southwest of the SCVA). Connecting minibus and bus services to the MTR stations are also established in the locality to serve the existing residential developments.

Land Use Zoning

The SCVA straddles two OZPs including the Approved Ngau Chi Wan OZP No. S/K12/16 and the Approved Tseng Lan Shue OZP No. S/SK-TLS/8. While the western part of the SCVA is zoned "Green Belt" ("GB") under the Approved Ngau Chi Wan OZP, a small portion of the SCVA at the southeastern corner is zoned "GB" under the Approved Tseng Lan Shue OZP. The remainder of the SCVA is not covered by any Statutory Plan and is part of Ma On Shan Country Park. The surrounding areas of the SCVA are mainly zoned as "GB", "Government, Institution or Community", "Residential (Group A)", "Residential (Group B)", "Residential (Group C)", "Open Space" and "Other Specified Uses" to the southeast, southwest and northwest, with the rest being Ma On Shan 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 northwestern boundary of the SCVA is defined by Diamond Hill Urn Cemetery and Diamond Hill Crematorium. The southeastern boundary of the SCVA is defined by private lots and Clear Water Bay Road. The southwestern boundary of the SCVA is defined by Jat's Incline, Fung Shing Street, residential developments, including Hill Top Gardens, Scenic View, Aria and Choi Fai Estate, and GIC developments, including Good Hope School, Caritas Pelletier Hall, Fung Shing Street Disciplined Services Quarters and Ngau Chi Wan Park. The northeastern boundary of the SCVA is defined by an extent of 800 m from the potential portal locations.

4.2. Geology

The solid geology of the SCVA is primarily medium-grained granite in the western portion, which belongs to Kowloon Granite; and coarse-ash crystal tuff with tuffaceous sandstone in the eastern portion, which belongs to Mount Davis Formation. 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 medium-grained granite within the SCVA is suitable for use as construction aggregate. Other excavated rock can be used as road 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 11 (Hong Kong & Kowloon) published by the Geotechnical Engineering Office, Civil Engineering and Development Department.

4.3. Planning

The SCVA is close to the existing urban developments in Jordan Valley, Ngau Chi Wan, Wong Tai Sin and Tsz Wan Shan. Given the SCVA is in the proximity of various residential developments, there is potential for the SCVA to support the development of these urban areas.

The southeastern, southwestern and northwestern sides of the SCVA are the major residential development areas in Jordan Valley, Ngau Chi Wan, Wong Tai Sin and Tsz Wan Shan. These areas consist of various low- to high-rise residential developments (e.g. Flamingo Garden, Shun Chi Court, Choi Fai Estate and Chuk Yuen (North) Estate) supported by a number of GIC facilities (e.g. schools, sports centres, service reservoirs, 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 reservoirs) 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 these areas while preserving the natural landscape in Fei Ngo Shan as a natural backdrop to the urban developments in the locality.

Given the close proximity of the SCVA to various major residential areas, the SCVA also has the potential to provide supporting facilities for the locals, for example, community facilities such as leisure centre/sports centre in an appropriate scale. The development of these land uses could contribute to meet the potential demand from the local communities.

4.4. Environmental

Environmental sensitive receivers to cavern development in the SCVA are the nearby residential developments (e.g. Fu Shan Estate, King Shan Court, Scenic View, Windsor Castle, Bellevue Villa, Fei Ngo Shan Road No. 5, Choi Fai Estate, Fung Shing Street Disciplined Services Quarters, Aria and Hill Top Gardens), schools (e.g. Caritas Pelletier School and Good Hope School) and institution (e.g. Caritas Pelletier Hall). The SCVA comprises wooded areas and shrubby hillsides, and encroaches onto Ma On Shan Country Park. Ho Chung Valley Site of Special Scientific Interest is located to the northeast of the SCVA. The southwestern portion of the SCVA encroaches onto the consultation zone of the closed Ngau Chi Wan Landfill. In respect of the potential landfill gas from the closed landfill sites, risk assessment would be required during the planning stage and before commencement of works. There are natural or modified surface water courses within the SCVA. Kowloon Peak Transposer Station is located at the eastern boundary of the SCVA, which may necessitate further investigation on potential of land contamination by the project proponents when pursuing cavern development in the vicinity.

All potential environmental constraints, which may impose restrictions on cavern development, should be identified and taken into account in cavern development proposals 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 western edges via Fei Ngo Shan Road and Fung Shing Street respectively, which are both two-lane access roads. Regional connections could be routed through the nearby New Clear Water Bay Road, Lung Cheung Road and Tate's Cairn Tunnel.

The extent of potential portal locations on the access road near Ngau Chi Wan Park off the southern section of Fung Shing Street and Fei Ngo Shan Road are well located within the primary road network with good direct connection to New Clear Water Bay Road and with nearby arterial connections in Ngau Chi Wan to Kwun Tong Road, Kwun Tong Bypass and Lung Cheung Road. The one-way arrangement of Jat's Incline will significantly restrict the viability of a portal in this location unless road widening is undertaken. The extent of potential portal locations on the northern section of Fung Shing Street can be easily accessed from arterial roads via Hammer Hill Road.

Traffic problem has been an on-going issue for the locals in Wong Tai Sin District, particularly for the residents in the vicinity of Fung Shing Street. Also, it is noteworthy that the huge crowd of public visiting the nearby cemeteries during Ching Ming and Chung Yeung Festivals have caused severe congestion in the nearby roads. Project proponent shall carry out site-specific traffic impact assessment when cavern facilities are proposed within the district.

4.6. Other Key Issues / Constraints on Cavern Development

A Drainage Services Department's tunnel, namely Tolo Harbour Effluent Export Scheme Tunnel, is approximately 500 m to the west of the SCVA. A vehicle tunnel, namely Tate's Cairn Tunnel, is approximately 200 m to the west of the SCVA. As they are far from the SCVA boundary, they would not pose any insurmountable constraint on cavern development.

5. Potential Land Uses

The potential land uses for the SCVA are as follows:

Land use	Description
<p>Leisure Centre/ Sports Centre</p>	<p>The SCVA is located close to a large population catchment as it is adjacent to various existing residential communities in Jordan Valley, Ngau Chi Wan, Wong Tai Sin and Tsz Wan Shan. There is potential for the SCVA to support the potential expansion of these areas by providing supporting community facilities, such as leisure centre/sports centre in an appropriate scale to meet the rising demand from the population.</p> <p>The extent of potential portal locations is in close proximity to the existing residential developments (such as Choi Fai Estate and Hill Top Gardens). The ease of access further enhances the potential for housing such facilities in the SCVA.</p>
<p>Service Reservoir</p>	<p>Jordan Valley, Ngau Chi Wan, Wong Tai Sin and Tsz Wan Shan are home of various residential developments (e.g. Upper Wong Tai Sin Estate and Chuk Yuen (North) Estate) and have the potential to grow further 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 some of the suitable infrastructure facilities, such as service reservoir, to caverns.</p> <p>Existing service reservoirs are in the vicinity of the SCVA. Relocation of the facilities to caverns may be considered, thereby releasing surface land for other beneficial uses and for possible integration with potential 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 Fung Shing Street on the western boundary, from the access road near Ngau Chi Wan Park off Fung Shing Street on the southern boundary and from Fei Ngo Shan Road on the southeastern boundary.

The extent of potential portal locations on the northern Fung Shing Street and Fei Ngo Shan Road is located on slopes alongside the carriageways, and access could be provided via provision of suitable run-in/out or priority controlled junctions, depending on the proposed land-use. Road widening would probably be required at the potential portal location at Fei Ngo Shan Road. This location is also close to a hiking footpath and Ma On Shan Country Park. Project proponents should carry out further studies to identify if there is other suitable portal location and minimise the disturbance to the public when developing portal access Fei Ngo Shan Road. The construction of portal and the associated works (e.g. slope works and road widening works) at Fei Ngo Shan Road should be sited away from Ma On Shan Country Park as far away as possible to reduce any possible ecological, visual and recreational impacts to the country park and its users.

The current access for the extent of potential portal location on the access road off Fung Shing Street is a single-lane road leading to the car park of Ngau Chi Wan Park and would be suitable for low traffic-generating activities. The road and its connection would need suitable widening to allow for two-way traffic in order to support moderate to high traffic-generating activities that would require frequent vehicle access in and out of the cavern facilities. The project proponent shall conduct necessary assessment when developing this potential portal location.

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

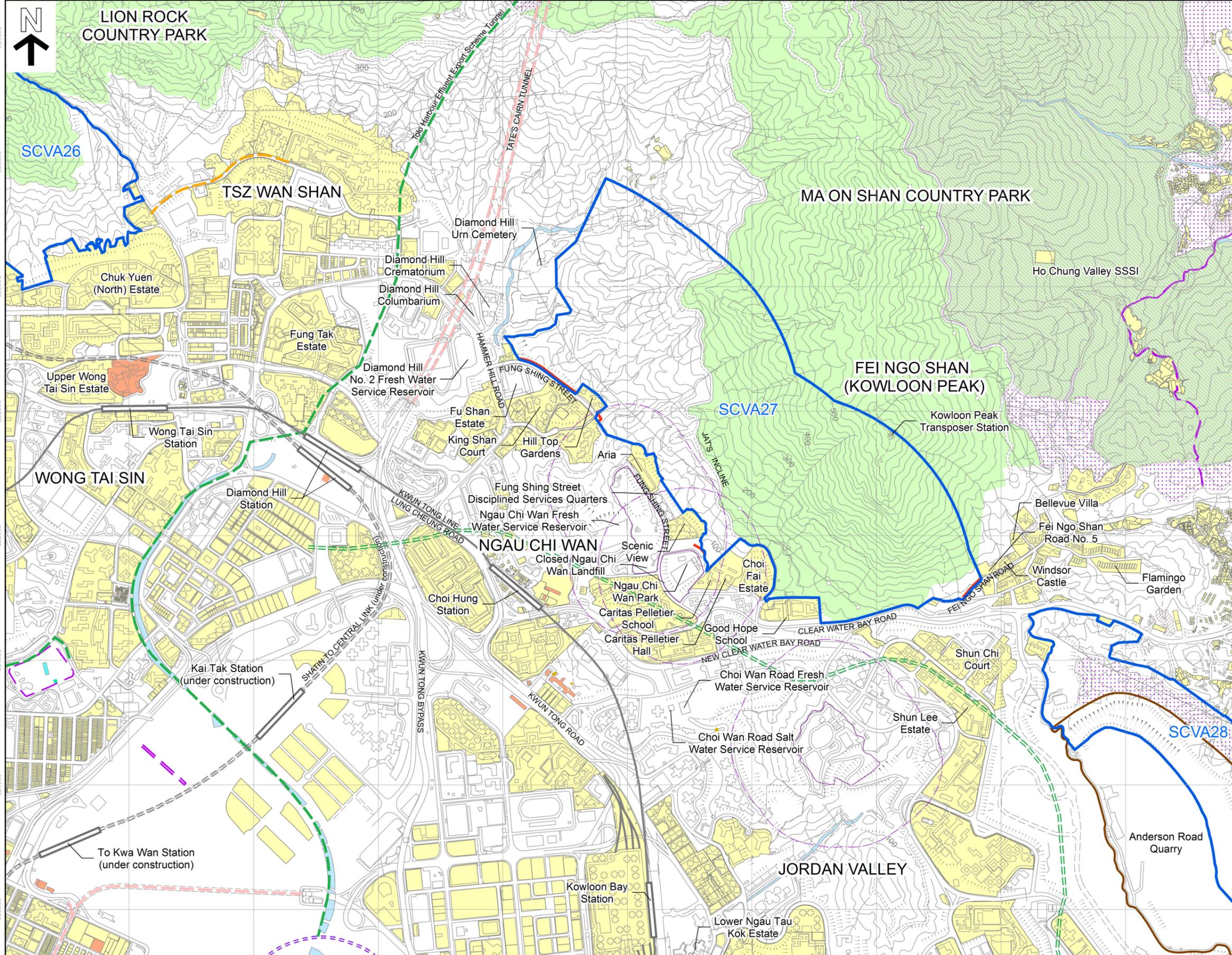
Project proponents should carry out further studies on identifying specific location of portals for the proposed cavern development.

7. Concluding Remarks

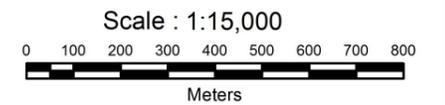
The SCVA presents an opportunity for placing suitable land uses in rock caverns to serve the neighbouring residential communities (e.g. leisure centre/sports centre and service reservoir). Project proponents for cavern development should take due consideration of the existing and planned residential developments, environmental sensitive receivers and accessibility for cavern development, 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
 - Quarry
 - Existing Railway Line
 - Committed Railway Line
 - Proposed Railway Line
 - Proposed Major Road
 - Cable Tunnel / Gas Tunnel
 - Vehicle Tunnel
 - Drainage Services Department Tunnel
 - Abandoned Tunnel
 - River / Nullah
 - Site of Archaeological Interest
 - Government Historic Site Identified by AMO
 - Graded Historic Building
 - Declared Monument (Site of Archaeological Interest)
 - Declared Monument (Historic Building)
 - Private Lot
 - Burial Ground
 - Closed Landfill Site
 - Consultation Zone of Closed Landfill Site
 - Major Conservation Area
 - Country Park
 - Site of Special Scientific Interest



REFERENCE DRAWING OF STRATEGIC CAVERN AREA NO. 27 - FEI NGO SHAN