

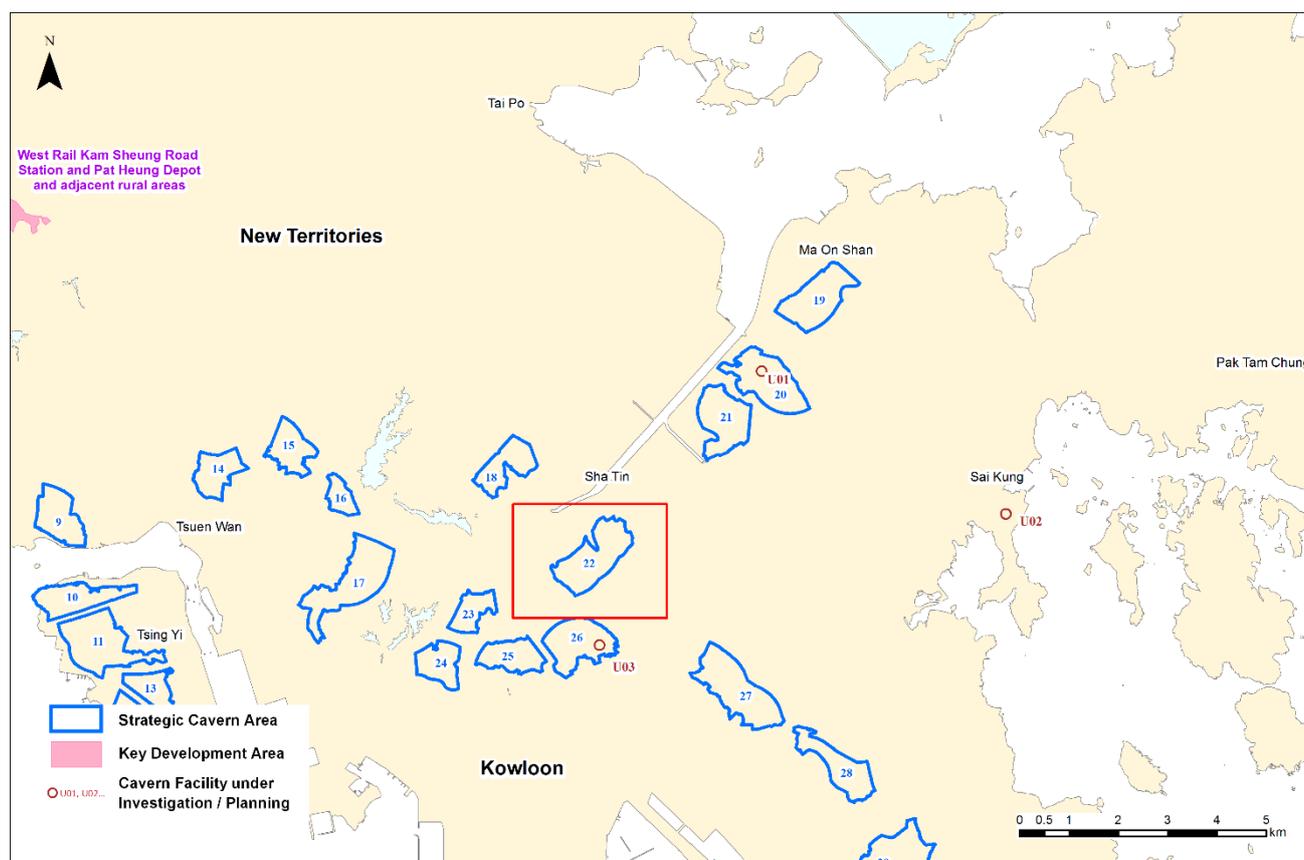
CAVERN MASTER PLAN – INFORMATION NOTE

STRATEGIC CAVERN AREA NO. 22 – TAI WAI EAST

This Information Note describes the characteristics, key development opportunities and constraints of Strategic Cavern Area No. 22 - Tai Wai 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 Plan (OZP):	Draft Sha Tin OZP No. S/ST/33
Area:	127.6 ha
Maximum elevation in the SCVA:	+341 mPD
Minimum elevation in the SCVA:	+20 mPD

3. District Context

Location

The SCVA is located in the southern part of the Sha Tin New Town, which is to the north of Kowloon, separated by a range of hills including Lion Rock and Beacon Hill. It covers the hillside area to the east of Tai Wai in Sha Tin. Sha Tin New Town is to the north of the SCVA, Tai Wai is to the west, Lion Rock Country Park is to the south and Ma On Shan Country Park is to the east (not covered in the Reference Drawing).

The SCVA is generally hilly with a maximum elevation of about +341 mPD. The majority of the SCVA encroaches onto Lion Rock Country Park. Part of the Sha Tin Tau New Village is within the central portion of the SCVA. To the north and west of the SCVA, there are the Sha Tin New Town and Tai Wai areas which mainly consist of medium- to high-rise residential developments (e.g. Sun Tin Wai Estate about 50 m to the northwest of the SCVA, Shui Chuen O Estate about 200 m to the northeast of the SCVA and Festival City about 900 m to the northwest of the SCVA) and a number of local villages (e.g. Tsok Pok Hang San Tsuen near the northern boundary of the SCVA and Kak Tin Village about 100 m to the west of the SCVA).

In the proximity of the SCVA, there are some key Government, Institution and Community (GIC) facilities supporting the development of Sha Tin New Town, including Shui Chuen O Fresh Water Service Reservoir (about 200 m to the east of the SCVA) and Union Hospital (about 600 m to the southwest of the SCVA).

Access

The SCVA is accessed from its northern, western and southwestern edges via Tsok Pok Hang Road, Sha Tin Tau Road and Lion Rock Tunnel Road. Regional connections could be routed through the nearby Lion Rock Tunnel Road and Tsing Sha Highway.

The MTR East Rail Line and Ma On Shan Line run through the locality of the SCVA. Several stations are close to the SCVA, including Sha Tin Wai Station and Che Kung Temple Station of Ma On Shan Line (both about 400 m to the north of the SCVA), and Tai Wai Station which is the interchange station of the two railway lines (about 1 km to the northwest of the SCVA).

Land Use Zoning

While the central part of the SCVA is zoned “Open Space” (“O”) under the Draft Sha Tin OZP No. S/ST/33, the remainder of the SCVA is not covered by any Statutory Plan and is part of the Lion Rock Country Park. The zoning of the surrounding areas includes “O”, “Residential (Group A)”, “Residential (Group B)”, “Village Type Development” and “Green Belt” to the northwest and northeast, while the rest being the Lion Rock Country Park.

For details of the latest land use zonings on the OZP, 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 northeastern boundary of the SCVA is defined by Tsok Pok Hang San Tsuen, Shui Chuen Au Street and The Hong Kong Girl Guides Association Pok Hong Camp Site. The northwestern boundary of the SCVA is defined by Lion Rock Tunnel Road, Sha Tin Road, a burial ground and private lots in Sha Tin Tau New Village. The southeastern boundary of the SCVA is defined by a burial ground and by an extent at 800 m from the potential portal locations. The southwestern boundary of the SCVA is defined by the valley topography. Individual private lot and burial ground located within the SCVA have been excised from the SCVA. Project proponents shall check the latest land status with 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 medium-grained granite, which belongs to Shui Chuen O Granite; and fine-grained granite and quartz monzonite, which belong to Tei Tong Tsui Quartz Monzonite; and coarse-grained granite at the northern portion of the SCVA; which belongs to Shui Chuen O 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 fine-grained granite and medium-grained granite within the SCVA will be 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 7 (Sha Tin) published by the Geotechnical Engineering Office, Civil Engineering and Development Department.

4.3. Planning

The SCVA is close to the existing urban developments in Sha Tin New Town and Tai Wai. Given the SCVA is well connected to the rest of the territory by several highways and railways, there is potential for the SCVA to support the development of these areas.

The northern and western sides of the SCVA are the major residential development areas in Sha Tin New Town and Tai Wai. These areas consist of various medium- to high-rise residential developments (e.g. Sun Tin Wai Estate and Festival City) and local villages (e.g. Tsok Pok Hang San Tsuen and Kak Tin Village) supported by a number of GIC facilities (e.g. sports ground, hospital, school, sewage treatment work, service reservoir, etc). Given that the SCVA is in close proximity to these existing residential developments, there is potential for the SCVA to support these communities by providing additional community facilities (e.g. leisure centre/sports centre). 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 Sha Tin New Town and Tai Wai while preserving the natural landscape adjacent to Lion Rock Country Park 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 residential developments (e.g. Sun Tin Wai Estate, Sha Tin Tau New Village, Tsok Pok Hang San Tsuen, Shui Chuen O Estate and Kak Tin Village) and schools (e.g. Sha Tin Government Primary School). The SCVA comprises wooded areas and shrubby hillsides, and encroaches onto Lion Rock Country Park and Water Gathering Grounds. Ma On Shan Country Park is also located to the east of the SCVA. A traditional burial ground lies within the SCVA and some others are located in the proximity of the SCVA. A number of graded historic buildings are located near the SCVA, including Tsang Tai Uk (Grade 1 historic building), Ng Yuen (Grade 3 historic building), Lau Ancestral Hall (Grade 3 historic building), No. 11 Kak Tin Village Third Street (Grade 3 historic building) and High Rock Christian Camp (Grade 2 historic building). Also, there are natural or modified surface water courses within the SCVA.

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 northern, western and southwestern edges via Tsok Pok Hang Road, Sha Tin Tau Road and Lion Rock Tunnel Road.

Although the potential portal locations are located very close to the primary roads, direct access connections are not available in all cases. Access to the extent of potential portal locations is at a maximum of about 1.5 km from expressway access points on Sha Tin Road and Lion Rock Tunnel Road, which both enable easy connections to the expressway network. The expressway network in the Sha Tin area allows for easy connections to different parts of Hong Kong via Shing Mun Tunnel Road, Tsing Sha Highway, Lion Rock Tunnel Road and Tate's Cairn Highway and Tai Po Road – Sha Tin Heights. As it is expected that Lion Rock Tunnel Road will approach its traffic capacity during peak periods in future, any proposed cavern development will need to be assessed thoroughly so as not to adversely affect the adjacent expressway network.

4.6. Other Key Issues / Constraints on Cavern Development

A Water Supplies Department tunnel, the High Island Main Tunnel, passes through the SCVA from in southwest-northeast direction. Due to the elevation difference, this tunnel would not pose any insurmountable constraint to cavern development within the SCVA.

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 such as Sun Tin Wai Estate, Shui Chuen O Estate and Kak Tin Village. There is potential for the SCVA to support the potential expansion of these areas by providing additional supporting community facilities, such as leisure centre/sports centre, to serve the population when such a need for the facilities arises.</p> <p>The potential portal locations are in close proximity to the Sha Tin Wai Station, Che Kung Temple Station and Tai Wai Station, which are about 400 m to 1000 m from the SCVA. The ease of access for local residents to the SCVA enhances the potential for housing such uses in the SCVA.</p>
<p>Service Reservoir</p>	<p>Sha Tin New Town and Tai Wai are homes of various residential developments (e.g. Sun Tin Wai Estate and Shui Chuen O Estate) 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 some of the suitable infrastructure facilities, such as service reservoir, to caverns.</p> <p>An existing service reservoir (i.e. Shui Chuen O Fresh Water Service Reservoir) is found in the vicinity of the SCVA. Relocation of the facility to caverns may be considered, thereby releasing the surface land for other beneficial uses and for possible 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 Tsok Pok Hang Road (east of Tsok Pok Hang San Tsuen) to the northeast; Sha Tin Tau Road to the west; and the Lion Rock Tunnel Road to the southwest of the SCVA. The extent of potential portal locations on Tsok Pok Hang Road and Sha Tin Tau Road is at the slopes alongside the carriageways, so access could be provided via a run-in/outs or priority controlled junctions, depending on the actual site layout and the proposed land-use. However, these extents of potential portal locations are adjacent to residential areas, so there might be limitation on the proposed land use owing to the constraints on the traffic capacity. Alternatively road upgrade may be required to enhance the traffic capacity of the road. The potential portal location along Lion Rock Tunnel Road is on the downhill side, thus it may require a dedicated access road to be built so as to connect to nearby existing roads at an elevation lower than the Lion Rock Tunnel Road, for example, the Hung Mui Kuk Road.

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

Upgrading or widening of existing roads and the associated slope works within or adjacent to Lion Rock Country Park should be avoided as far as practicable. Alternative access road outside the country park should be explored to avoid the potential impact to Lion Rock Country Park.

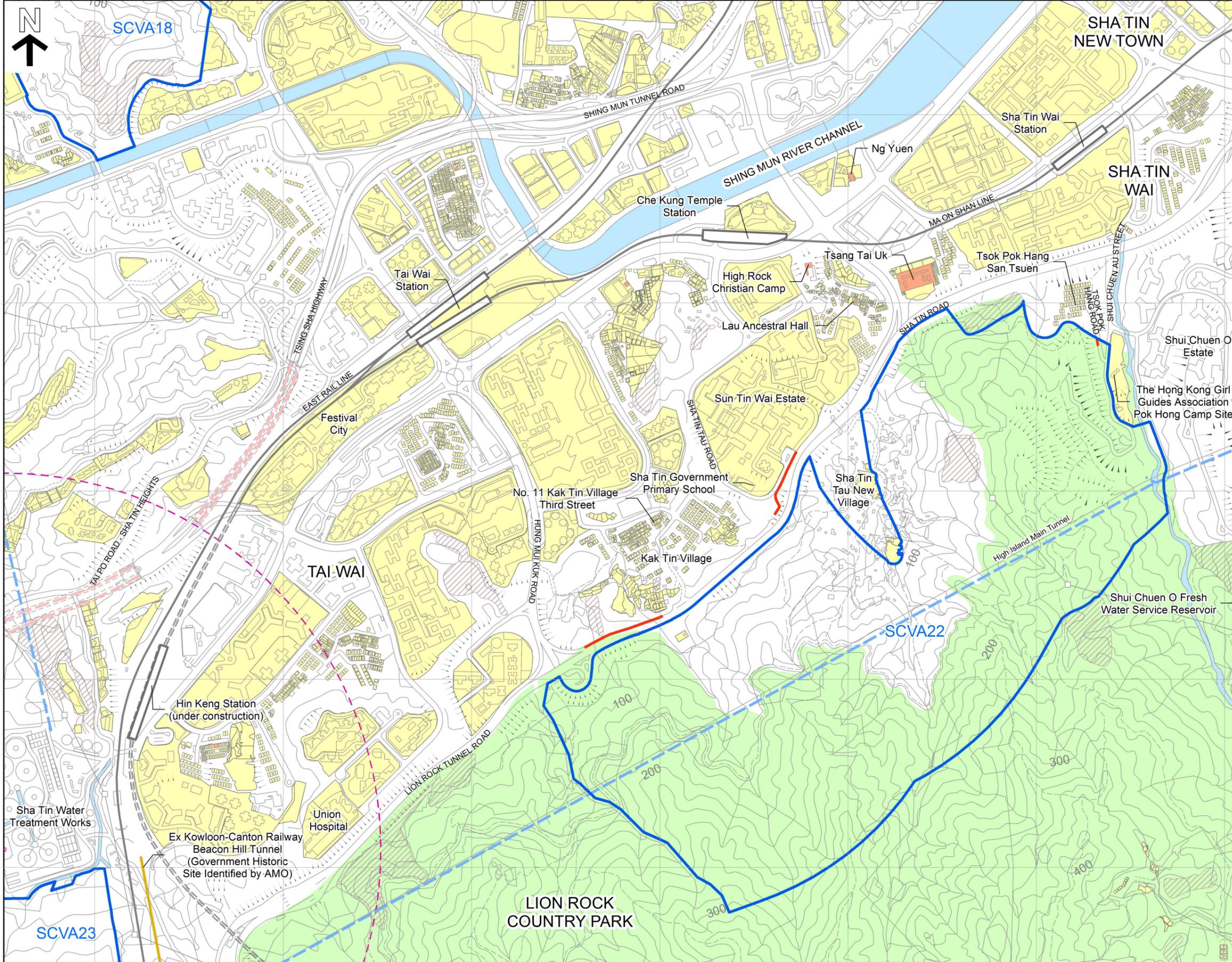
Project proponents should carry out further studies on identifying specific locations of portals for the proposed cavern development.

7. Concluding Remarks

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

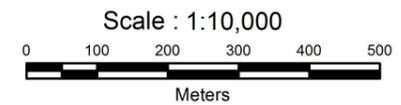
8. Notes

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
 - Water Supplies Department Tunnel
 - Abandoned Tunnel
 - River / Nullah
 - Graded Historic Building
 - Private Lot
 - Burial Ground
 - Potentially Hazardous Installation
 - Consultation Zone of Potentially Hazardous Installation
 - Country Park

Note: All private lots and burial grounds 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. 22 - TAI WAI EAST

CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
 PLANNING DEPARTMENT

DATE: NOVEMBER 2017
 VERSION: 1

SCVA 22