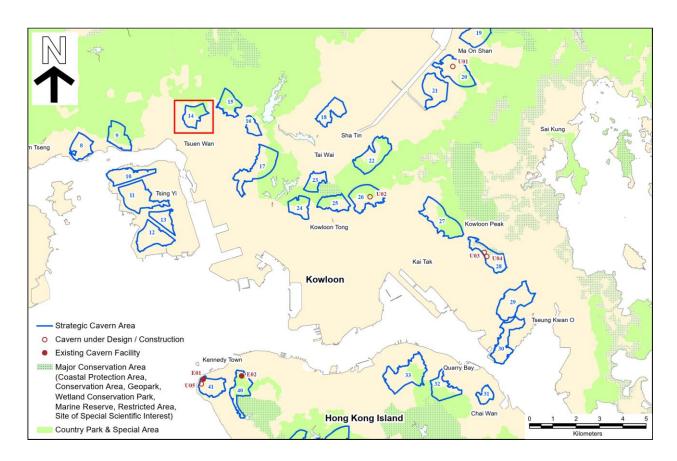
# **CAVERN MASTER PLAN – INFORMATION NOTE**

# STRATEGIC CAVERN AREA NO. 14 – TSUEN WAN NORTH

This Information Note describes the characteristics and development constraints of Strategic Cavern Area No. 14 - Tsuen Wan North (the SCVA). 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)<sup>1</sup>: Tsuen Wan OZP

Area: 66.3 ha

Maximum elevation in the SCVA: +317 mPD

Minimum elevation in the SCVA: +8 mPD

#### 3. District Context

#### Location

The SCVA is located at the northern part of Tsuen Wan. The SCVA covers the area of Fu Yung Shan in Tsuen Wan. Chai Wan Kok is to the west of the SCVA, Tsuen Wan is to the south and east, and Tai Mo Shan Country Park is to the north.

The SCVA is generally hilly with a maximum elevation of about +317 mPD. Near half of the SCVA at its north encroaches onto Tai Mo Shan Country Park. Local villages namely Kwong Pan Tin Tsuen, Kwong Pan Tin San Tsuen and Pak Tin Pa San Tsuen are located at the western portion of the SCVA. The Route Twisk Offtake & Pigging Station and some private lots located in the western extent of the SCVA are excised from the SCVA.

Surrounding the SCVA, the areas in Tsuen Wan and Chai Wan Kok to the south and west of the SCVA are mainly residential and commercial communities with medium- to high-rise developments, as well as some local villages, including Muk Min Ha Tsuen (about 150 m to the southeast of the SCVA), Tsuen King Garden (about 150 m to the southwest of the SCVA), Discovery Park (about 50 m to the south of the SCVA) and Nina Tower (about 850 m to the south of the SCVA). There are also some industrial areas in the locality, including the Chai Wan Kok Industrial Area (about 550 m to the southwest of the SCVA) and the Tsuen Wan East Industrial Area (about 1,200 m to the south of the SCVA). To the east of the SCVA, there are clusters of religious institutions scattered at the foothills of Fu Yung Shan and Tai Mo Shan, including Chuk Lam Sim Yuen (about 200 m to the east of the SCVA) and Yuen Yuen Institute (about 300 m to the east of the SCVA).

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<sup>&</sup>lt;sup>1</sup> For details of the latest land use zonings on the OZPs, please refer to the Town Planning Board Statutory Planning Portal 3 (<a href="https://www.ozp.tpb.gov.hk/">https://www.ozp.tpb.gov.hk/</a>).

The development of these areas is supported by a number of key Government, Institution or Community (GIC) facilities, including a cluster of service reservoirs, including Tsuen Wan West High Level Fresh Water Service Reservoir, Tsuen Wan West High Level Salt Water Service Reservoir, Tsuen Wan West Low Level Fresh Water Service Reservoir and Tsuen Wan West Low Level Salt Water Service Reservoir (all about 250 m to the west of the SCVA).

# <u>Access</u>

The SCVA is accessible from its southwestern and southeastern edges via Chiu Tam Path, Route Twisk and Cheung Pei Shan Road. Regional connections could be routed through the nearby Tsuen Wan Road and Tuen Mun Road.

The MTR Tsuen Wan Line runs to the south of the SCVA with Tsuen Wan Station located about 250 m to the southeast of the SCVA. The MTR Tuen Ma Line runs further south of the SCVA with Tsuen Wan West Station located about 1 km to the south of the SCVA.

# Existing / Planned Facility in SCVA

There is 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. The eastern boundary of the SCVA is defined by private lots in Fu Yung Shan. The western boundary of the SCVA is defined by a stream course and a residential development, namely The Cairnhill. The southern boundary of the SCVA is defined by Cheung Pei Shan Road and the toe of the slope near Tsuen Wan Tso Kung Tam Nursery. The Route Twisk Offtake & Pigging Station and individual private lots located in the western extent of the SCVA are 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 coarse ash crystal tuff within the central portion, which belongs to Yim Tin Tsai Formation; fine-grained granodiorite within the southern portion, which belongs to Tai Po Granodiorite; and coarse ash tuff with tuff breccia within the northern portion, which belongs to Shing Mun Formation. The SCVA is with the rock types that are suitable for the uses of rock caverns. A number of geological features, such as faults and isolated dykes, are identified within and in the areas surrounding the SCVA. The excavated fine-grained granodiorite within the SCVA is suitable for reuse as construction aggregate. Other excavated rocks can be used as road base materials and for asphalt production, etc.

Further geological information of the SCVA can be found in the 1:20,000-scale Geological Map Sheet 6 (Yuen Long) and 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 development in Tsuen Wan as well as the clusters of religious institutions in the locality and is also well connected to the rest of the territory by various highways and railways.

The southern and western sides of the SCVA are the major developed areas in Tsuen Wan and Chai Wan Kok with residential communities as well as commercial and industrial related uses. These areas consist of various medium- to high-rise residential developments (e.g. Discovery Park) and local villages (e.g. Muk Min Ha Tsuen) supported by a number of GIC facilities (e.g. sports centre, service reservoir, etc.).

The eastern side of the SCVA is home to the clusters of religious institutions at the foothills of Fu Yung Shan and Tai Mo Shan (e.g. Chuk Lam Sim Yuen and Yuen Yuen Institute), which include columbarium and related uses.

Several data centres have been developed in Tsuen Wan, including those in the Tsuen Wan East Industrial Area and there are commercial and industrial related uses in Tsuen Wan and Chai Wan Kok (e.g. Nina Tower, Tsuen Wan East Industrial Area and Chai Wan Kok Industrial Area).

#### 4.4. Environmental

Environmental sensitive receivers to the potential caverns in the SCVA are the nearby existing residential developments (e.g. The Cairnhill, the Cliveden, Route Twisk Villa, Tsuen King Garden, Discovery Park, Kwong Pan Tin Tsuen, Pak Tin Pa San Tsuen and Muk Min Ha Tsuen) and religious institutions (e.g. Chuk Lam Sim Yuen). Chuk Lam Sim Yuen which is a Grade 2 historic building and Chai Wan Kok which is a Site of Archaeological Interest are located to the southeast and southwest of the SCVA respectively. Meanwhile, Sam Tung Uk Village which is a Declared Monument is located to the southeast of the SCVA. Po Tai Yuen (New Item Pending for Grading Assessment, N145) is situated in close proximity to the SCVA. There are wooded areas within the SCVA. Furthermore, the northern part of the SCVA encroaches onto Tai Mo Shan Country Park and Water Gathering Grounds. There are natural water courses and streams within the SCVA and some are close to the extent of potential portal locations. Species of conservation importance including Hong Kong Cascade Frog, Hong Kong Newt, Lesser Spiny Frog, Yellow Pond Turtle, Common Rat Snake and Chinese Cobra are recorded in Tai Mo Shan Country Park within the SCVA.

All potential environmental constraints, which may impose restrictions on the potential caverns, 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 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 southwestern and southeastern edges via Chiu Tam Path, Route Twisk and Cheung Pei Shan Road. Regional connections could be routed through the nearby Tsuen Wan Road and Tuen Mun Road.

The SCVA is located close to the major road network but the access may be subjected to constraints associated with the nature and capacity of the access roads. Chiu Tam Path is a restricted-access road while Route Twisk is a steep and winding road. Both accesses may be constrained and may restrict the potential uses of the SCVA. Further more, Route Twisk, which is of low-capacity, is expected to approach its traffic capacity in future. Therefore, project proponent shall carry out detailed traffic assessment and implement appropriate mitigation measures while considering cavern options in the SCVA in future. Cheung Pei Shan Road is a high capacity road. Provision of direct access would require suitable merging and diverging arrangements subjected to further detailed traffic and engineering design and assessment.

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

A Drainage Services Department tunnel, namely Tsuen Wan Drainage Tunnel, runs through the northern portion of the SCVA. Due to the elevation difference, the tunnel would not pose any insurmountable constraint to the potential uses of rock caverns within the SCVA.

#### 5. Extent of Potential Portal Locations

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

The SCVA is accessed from Route Twisk and Cheung Pei Shan Road to its south; from Tsuen Wan Tso Kung Tam Nursery via the restricted Chiu Tam Path to its southwest.

The potential portal locations on Route Twisk and Cheung Pei Shan are located at the slopes alongside the carriageways. Providing access to the hillside on Route Twisk should take account of the limited sight lines that may be present due to the sharp bends of the road. Road upgrade will likely be required to accommodate the associated traffic while adopting this potential portal location. Road upgrades including merging and diverging arrangement subjected to detailed assessment may be required for providing access for potential caverns via the potential portal at Cheung Pei Shan Road.

The extent of potential portal location adjacent to the Tsuen Wan Tso Kung Tam Nursery would be suitable for low traffic-generating uses, and would require necessary road works including widening and upgrading of Chiu Tam Path and the access roads within the nursery in order to support moderate to high traffic-generating uses. Chiu Tam Path is currently a restricted road connecting to Mei Wan Street via the Tsuen Wan Discovery Park Bus Terminus. Further liaison with the relevant stakeholders would be required by the project proponents.

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

Project proponents should carry out further studies on identifying specific locations of portals for the projects considering cavern options.

## 6. Remarks to Information Note

The Cavern Master Plan and all supporting documents do not exempt project proponents for cavern projects from following the relevant statutory procedures. Information including 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.

