

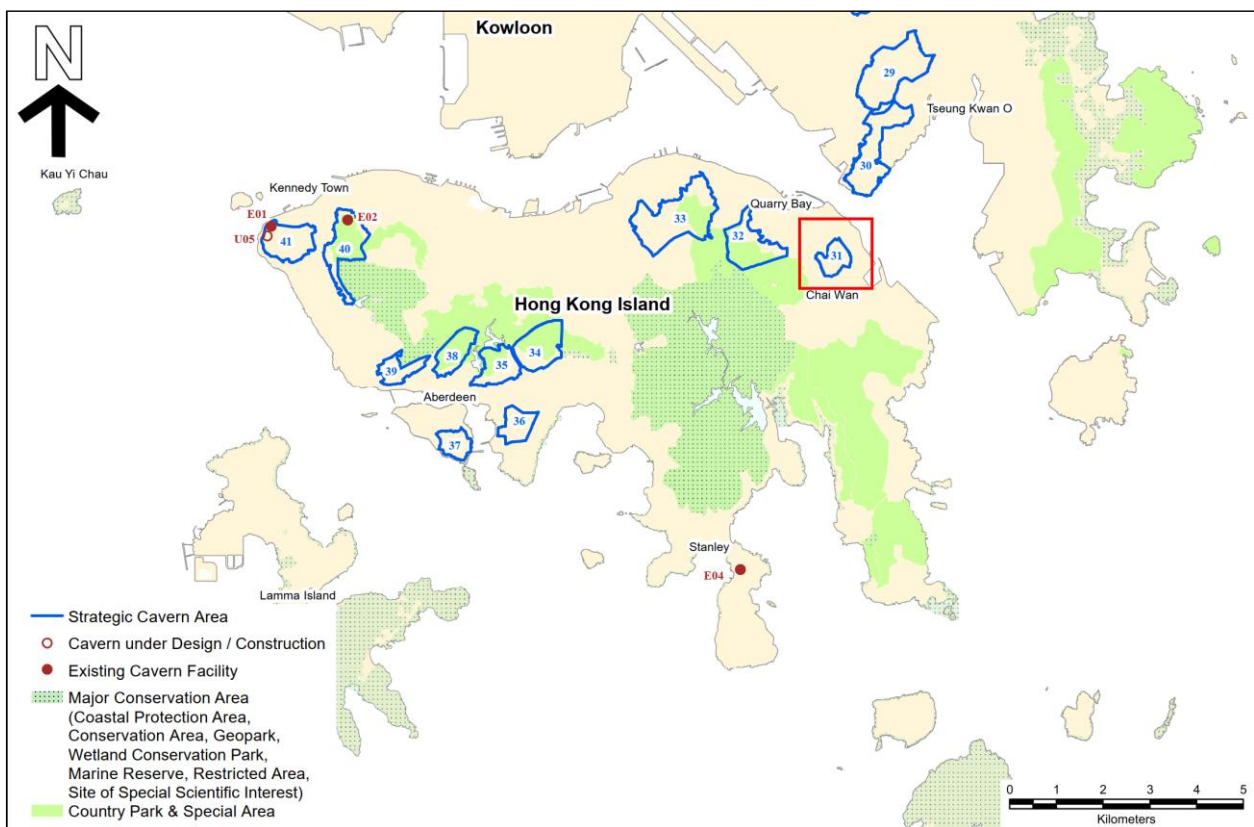
CAVERN MASTER PLAN – INFORMATION NOTE

STRATEGIC CAVERN AREA NO. 31 – CHAI WAN AU

This Information Note describes the characteristics and development constraints of Strategic Cavern Area No. 31 - Chai Wan Au (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 Plans (OZPs) ¹ :	Chai Wan OZP
	Shau Kei Wan OZP
Area:	35.2 ha
Maximum elevation in the SCVA:	+199 mPD
Minimum elevation in the SCVA:	+3 mPD

3. District Context

Location

The SCVA is located in the eastern part of Hong Kong Island. It occupies the area of Chai Wan Au in Chai Wan. Heng Fa Chuen is located to the northeast of the SCVA, Chai Wan is to the south, Tai Tam Country Park (Quarry Bay Extension) is to the west, Shau Kei Wan is to the northwest.

The SCVA is generally hilly with a maximum elevation of about +199 mPD. It partially overlaps with the Lei Yue Mun Park in its middle portion. Chai Wan North No. 2 Fresh Water Service Reservoir is located at the north-eastern part of the SCVA.

There are several developed communities around the SCVA. To the northeast is Heng Fa Chuen, a major residential area (about 50 m to the northeast of the SCVA) with high-rise and high-density developments. Knight Court, the staff quarters of Hong Kong Institute of Vocational Education (HKIVE) (Chai Wan), is about 50 m to the east of the SCVA. To the south is Chai Wan, a predominantly residential and industrial area with high-rise housing developments including Shan Tsui Court (about 50 m to the southwest of the SCVA), Neptune Terrace (about 170 m to the south of the SCVA), Greenwood Terrace (about 260 m to the south of the SCVA), Hing Man Estate (about 300 m to the southwest of the SCVA) and Tsui Wan Estate (about 350 m to the southeast of the SCVA), and industrial developments located around MTR Chai Wan Station (about 400 m to the south of the SCVA) and adjacent to the cargo handling area (about 500 m to the southeast of the SCVA). To the northwest of the SCVA, Shau Kei Wan is another major residential area in Hong Kong Island, with high-rise housing developments including Ming Wah Dai Ha (about 280 m to the northwest of the SCVA) and Yiu Tung Estate (about 700 m to the northwest of the SCVA).

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

In the proximity of the SCVA, there are a number of key Government, Institution or Community (GIC) facilities supporting the development of the local areas and the territory, such as Pamela Youde Nethersole Eastern Hospital (at the southern boundary of the SCVA), HKIVE (Chai Wan) (about 50 m to the east of the SCVA), Government Logistics Centre (about 400 m to the east of the SCVA), Chai Wan Preliminary Treatment Works (about 800 m to the southeast of the SCVA), Island East Transfer Station (about 900 m to the southeast of the SCVA) and clusters of service reservoirs, including Chai Wan North Fresh Water Service Reservoir (at the southern boundary of the SCVA), Shau Kei Wan East High Level Fresh & Salt Water Service Reservoirs (about 200 m to the southwest of the SCVA) and Sai Wan Fresh Water Service Reservoir (about 800 m to the south of the SCVA).

Access

The SCVA is accessible from its eastern, south-western and northern edges via Island Eastern Corridor, Chai Wan Road and Shing Tai Road respectively. Regional connection could be routed through the Island Eastern Corridor.

The MTR Island Line serves the neighbouring areas of the SCVA. The nearest stations are Heng Fa Chuen Station (about 200 m to the east of the SCVA), Chai Wan Station (about 600 m to the south of the SCVA) and Shau Kei Wan Station (about 550 m to the northwest 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 delineated by Lei Yue Mun Park. The eastern boundary of the SCVA is defined by Island Eastern Corridor. The western boundary of the SCVA is defined by Chai Wan Road. The southern boundary of the SCVA is defined by Pamela Youde Nethersole Eastern Hospital.

4.2. Geology

The solid geology of the SCVA is primarily coarse ash crystal tuff with tuff breccia, which belongs to Mount Davis Formation; and local medium-grained quartz monzonite at the southern portion in the SCVA, which belongs to Tei Tong Tsui Quartz Monzonite. The SCVA is with the rock types that are suitable for the uses of rock caverns. A number of geological features, such as intrusion and photolineament, are identified in areas surrounding the SCVA. The excavated medium-grained quartz monzonite is suitable for reuse as concrete 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 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 Chai Wan, Heng Fa Chuen and Shau Kei Wan and is well connected to the rest of the territory by highways and railway.

The eastern, southern and north-western sides of the SCVA are the major residential development areas in Heng Fa Chuen, Chai Wan and Shau Kei Wan. These areas consist of various high-rise residential developments (e.g. Heng Fa Chuen, Tsui Wan Estate and Yiu Tung Estate) supported by a number of GIC facilities (e.g. hospital, school, sewage treatment plant, service reservoir, etc.).

The SCVA is located in the urban fringe with easy access to the rest of the territory via Island Eastern Corridor. There are a number of existing bus depots and related facilities in the vicinity of the SCVA, including Citybus Chong Fu Road Permanent Depot, Citybus Chai Wan Depot and Electrical and Mechanical Services Department's Hong Kong Vehicle Workshop (all about 350 m to the east and southeast of the SCVA). Several data centres have been developed in the Eastern District, such as those in the industrial areas in Chai Wan and Taikoo Place in Quarry Bay.

4.4. Environmental

Environmental sensitive receivers to the potential caverns in the SCVA are the nearby existing residential developments (e.g. Shan Tsui Court, Hing Man Estate and Heng Fa Chuen), schools (e.g. St. Mark's Primary School, Shau Kei Wan Government Secondary School and HKIVE (Chai Wan)), hospital (i.e. Pamela Youde Nethersole Eastern Hospital) and Lei Yue Mun Park. A number of built heritages are located in the vicinity of the SCVA, including Block 3, 5, 17, 33, 34 (Grade 2 historic buildings), Block 7, 10, 25 (declared monuments) and Block 18, 20, 21, 30, 31, 32 (Grade 1 historic buildings) of the Old Lei Yue Mun Barracks, Salesian Mission House, Villa and Main Building (both Grade 2 historic buildings), and Meng Tak Primary School Old Portion (Grade 3 historic building). A government historic site identified by Antiquities and Monuments Office (AMO), namely Boundary Stone of Sai Wan Battery Bearing an Inscription "B.O.4", Lei Yue Mun Park, Chai Wan, is located within the SCVA. Part of the Old Lei Yue Mun Barracks Compound (including Sai Wan Battery), Chai Wan, Hong Kong (New Item Pending for Grading Assessment, N48) is located within the SCVA. Tai Tam Country Park (Quarry Bay Extension) and Water Gathering Grounds are located to the west of the SCVA. Wooded areas, and natural/modified water courses are found 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 eastern, south-western and northern edges via Island Eastern Corridor, Chai Wan Road and Shing Tai Road respectively. Additional access roads could be routed through the Island Eastern Corridor.

Accessibility to the SCVA from the primary road network is very good given that the potential portal locations are located on or near to either Expressway and Urban Primary Distributor Road. The extent of potential portal locations on Chai Wan Road can be easily accessed from nearby Expressway interchanges in Shau Kei Wan and Chai Wan, while both Chai Wan Road and Island Eastern Corridor are anticipated to have sufficient capacity to accommodate additional traffic that may be generated by cavern projects in the SCVA.

The project proponent would be required to assess the traffic impacts to the road networks and junctions in the vicinity and carry out traffic improvement measures so as to ensure that the traffic infrastructure could cope with the additional traffic flow brought by the project when formulating cavern options in any development proposals in the SCVA. Further advice on the scope of the Traffic Impact Assessment shall be sought by the project proponents.

4.6. Other Key Issues / Constraints on Cavern Development

A Drainage Services Department's tunnel, namely the Harbour Area Treatment Scheme Stage 1 Tunnel, passes through the northern tip of the SCVA. Owing to the difference in elevation, this tunnel would not pose any insurmountable constraint to the potential uses of rock caverns within the SCVA.

A railway tunnel of the MTR Island Line is located approximately 200 m to the northern boundary of the SCVA. A cable tunnel, namely the Hong Kong Electric Nam Fung - Parker cable tunnel, is approximately 100 m to the western boundary of the SCVA. Several abandoned tunnels are located immediately to the northern boundary, and some are approximately 50 m and 800 m to the north-western boundary, and a few isolated ones are located near the surface of hill top within the southern portion of the SCVA. Owing to either horizontal separations or difference in elevations, they would not pose any insurmountable constraint to the potential uses of rock caverns.

5. Extent of Potential Portal Locations

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

The SCVA is accessible from Island Eastern Corridor to the east; a slip road from Shing Tai Road to Island Eastern Corridor to the north; and Chai Wan Road and a slope adjacent to the Chai Wan North Fresh Water Service Reservoir to the southwest of the SCVA. Additional access roads may be required to connect Island Eastern Corridor and the SCVA.

The potential portal locations at Island Eastern Corridor and the slip road from Shing Tai Road to Island Eastern Corridor are on slopes alongside the carriageway. For provision of main portal access, adequate merging and diverging arrangements would be required. It would involve site formation works including the formation of cut slopes and retaining structures. These locations, if necessary, could be used as temporary accesses if adequate temporary traffic management is in place. Project proponent should be aware of the curvature and single-lane nature of the slip road from Shing Tai Road to Island Eastern Corridor when identifying portal locations.

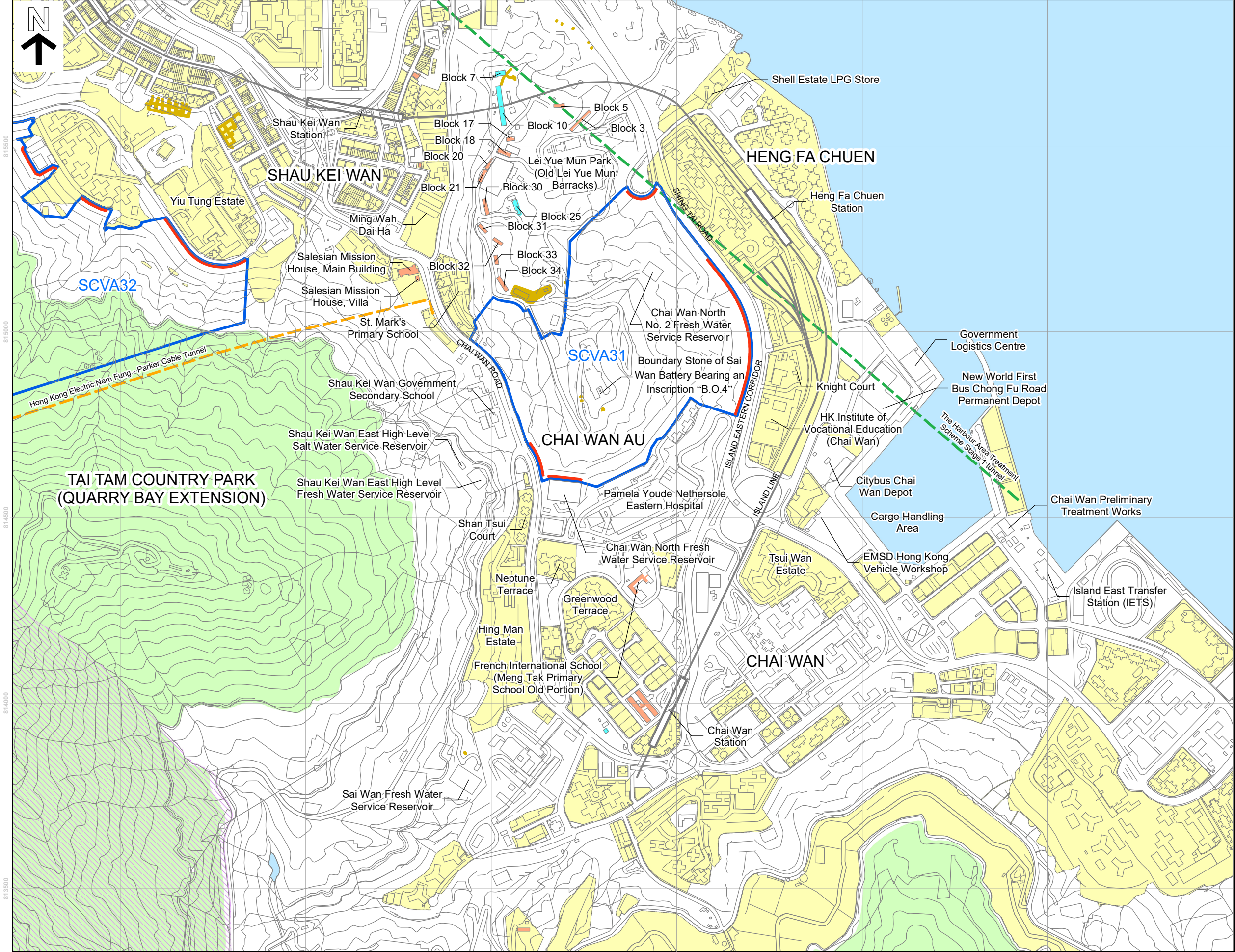
The extent of potential portal location on Chai Wan Road is located on the slope adjacent to the carriageway and access could be provided via a suitable run-in/out or priority controlled junctions, depending on the proposed land-use. Access to the potential portal location adjacent to Chai Wan North Fresh Water Service Reservoir is currently restricted to maintenance vehicles only. There is also elevation difference between the road and potential portal location behind the service reservoir, of which site formation works and road upgrading works may be required.

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 locations of portals for projects considering cavern options.

6. Remarks to Information Note

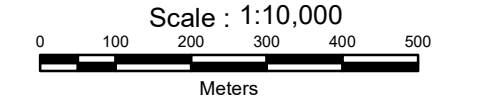
The Cavern Master Plan and all supporting documents do not exempt project proponents for cavern projects from following the relevant statutory procedures. Information including the extent of potential portal locations indicated in this Information Note should serve as reference materials only. In formulation 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.



Legend

- Strategic Cavern Area
- Extent of Potential Portal Locations
- Existing Railway Line / Light Rail / Tram
- Cable Tunnel / Gas Tunnel
- Drainage Services Department Tunnel
- Reservoir / Sea
- Graded Historic Building
- Declared Monument (Historic Building)
- Private Lot
- Country Park
- Abandoned Tunnel
- 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. 31 - CHAI WAN AU

CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
PLANNING DEPARTMENT



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