

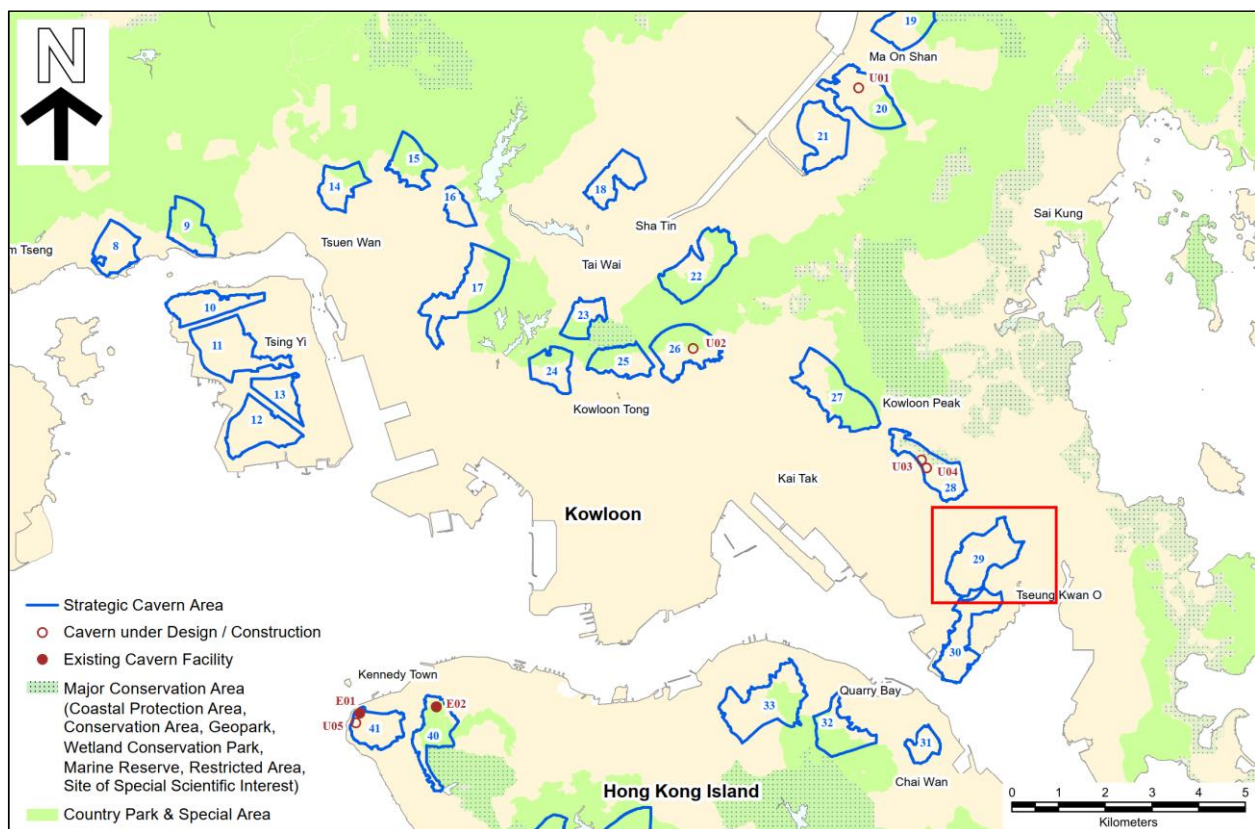
CAVERN MASTER PLAN – INFORMATION NOTE

STRATEGIC CAVERN AREA NO. 29 – BLACK HILL

This Information Note describes the characteristics and development constraints of Strategic Cavern Area No. 29 - Black Hill (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

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| Outline Zoning Plans (OZPs) ¹ : | Tseung Kwan O OZP Kwun Tong (South) OZP |
| Area: | 135.6 ha |
| Maximum elevation in the SCVA: | +304 mPD |
| Minimum elevation in the SCVA: | +4 mPD |

3. District Context

Location

The SCVA is located to the western side of Tseung Kwan O New Town in the southeast New Territories. It covers the area of Black Hill (Ng Kwai Shan) and Mau Wu Shan. Tseung Kwan O town centre is to the east of the SCVA, Tiu Keng Leng is to the southeast, Yau Tong and Lam Tin are to the southwest, while Sau Mau Ping and Ma Yau Tong are to the northwest.

The SCVA is generally hilly with a maximum elevation of about +304 mPD. Mau Wu Shan Observation Post (Grade 1 Historic Building) and the former Tiu Keng Leng Police Station are located within the SCVA.

There are several major residential development areas surrounding the SCVA. To the east of the SCVA, there is the Tseung Kwan O town centre which mainly consists of high-rise residential developments, including Sheung Tak Estate (about 150 m to the east of the SCVA) and Park Central (about 300 m to the east of the SCVA). To the southeast of the SCVA, Tiu Keng Leng comprises high-rise residential developments, including Kin Ming Estate (at the southeast boundary of the SCVA) and Shin Ming Estate (about 150 m to the southeast of the SCVA). To the southwest of the SCVA, Lam Tin is a major residential area with high-density residential developments, such as Kwong Tin Estate (at the southwest boundary of the SCVA) and Hong Nga Court (about 250 m to the southwest of the SCVA). To the northwest of the SCVA, Sau Mau Ping is another major residential area with predominantly high-rise public housing developments, including Sau Mau Ping Estate, On Tat Estate (both are about 1,100 m to the northwest of the SCVA) and On Tai Estate (about 2.2 km to the northwest of the SCVA; outside the coverage of the Reference Drawing). Also, to the northwest of the SCVA, Ma Yau Tong is the home to local villages.

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/>).

The development of these residential areas is supported by a number of key Government, Institution or Community (GIC) facilities, including Haven of Hope Hospital (about 150 m to the northeast of the SCVA), Tseung Kwan O Sports Centre and Tseung Kwan O Swimming Pool (about 750 m to the northeast of the SCVA), Tiu Keng Leng Sports Centre (about 300 m to the southeast of the SCVA), and various service reservoirs such as Tseung Kwan O West Low Level Fresh Water Service Reservoir (about 100 m to the north of the SCVA).

Access

The SCVA is accessible from its southeastern edge via Po Shun Road, King Ling Road and Chui Ling Road, and from its northern edge via Po Lam Road. Regional connections could be routed through the nearby Tseung Kwan O Road and Tseung Kwan O Tunnel.

The MTR Kwun Tong Line and Tseung Kwan O Line serve the neighbouring areas of the SCVA. The closest stations include Tseung Kwan O Station (Tseung Kwan O Line; about 450 m to the east of the SCVA), Tiu King Leng Station (interchange station of Tseung Kwan O Line and Kwun Tong Line; about 400 m to the southeast of the SCVA) and Lam Tin Station (Kwun Tong Line; about 700 m to the west of the SCVA). The proposed Smart and Green Mass Transit System in East Kowloon Smart and Green Mass Transit System (SGMTS-EK) promulgated to connect east Kowloon uphill area (subject to study) is located at the west 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 permitted burial grounds, private lots, Mau Wu Tsai Village and Po Lam Road. The southern boundary of the SCVA is defined by the valley topography, Chui Ling Road and Tiu Keng Leng Fresh Water Service Reservoir. The eastern boundary of the SCVA is defined by Po Shun Road, King Ling Road and Haven of Hope Hospital. The western boundary of the SCVA is defined by Lam Tin Park, private lots and residential development including Kwong Tin Estate and closed Ma Yau Tong (Central) Landfill.

4.2. Geology

The solid geology of the SCVA is primarily coarse ash crystal tuff in the northern and central portions, which belongs to Mount Davis Formation; and fine-grained granite in the southern portion, which belongs to Mount Butler Granite. The SCVA is with the rock types that are suitable for the uses of rock caverns. A number of geological features, such as faults, photolineaments and quartz veins, are identified within and in areas surrounding the SCVA. The excavated fine-grained granite within the SCVA will be 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 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 surrounded by various high-density urban developments, including those in Tseung Kwan O, Tiu Keng Leng, Lam Tin, Yau Tong and Sau Mau Ping. The proposed alignment of SGMTS-EK (subject to study) will fall within western part of the SCVA.

The abovementioned high-rise residential developments in areas surrounding the SCVA (e.g. Sheung Tak Estate, Kin Ming Estate, Kwong Tin Estate, Sau Mau Ping Estate) and the local villages (e.g. Mau Wu Tsai Village and Ma Yau Tong) are supported by various GIC facilities (e.g. sports ground, service reservoirs, hospital, schools, etc.).

Tseung Kwan O New Town located to the east of the SCVA is a major developed area with residential communities as well as commercial and industrial related uses. In particular, a data centre cluster has been developed in the Tseung Kwan O InnoPark (TKO InnoPark, formerly known as TKO Industrial Estates) (about 3 km to the southeast of the SCVA) being in use to serve the financial, cloud and hosting sectors. Data Technology Hub was also launched at TKO InnoPark in 2021.

4.4. Environmental

Environmental sensitive receivers to the potential caverns in the SCVA are the nearby residential developments (e.g. Kin Ming Estate, Sheung Tak Estate, Kwong Tin Estate, Tak Tin Estate, Choi Ming Court, villages in Ma Yau Tong and Mau Wu Tsai Village), and schools (e.g. QualiEd College, Hong Kong Chinese Christian Churches Union Logos Academy, Heung Hoi Ching Kok Lin Association Buddhist Ching Kok Secondary School and St. Andrew's Catholic Primary School). Mau Wu Shan Observation Post (Grade 1 Historic Building) is located in the eastern

portion of the SCVA. There are also natural or modified water courses within the SCVA. Permitted burial grounds are also identified in the vicinity of the SCVA. The northwestern boundary of the SCVA adjoins the Ma Yau Tong (Central) Landfill and part of the northwestern portion of the SCVA encroaches onto the Consultation Zone of that landfill site. In respect of potential landfill gas, risk assessment would be required during the planning stage and before commencement of works. There are wooded areas 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. 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 southeastern edge via Po Shun Road, King Ling Road and Chui Ling Road, and from its northern edge via Po Lam Road. Regional connections could be routed through the nearby Tseung Kwan O Road and Tseung Kwan O Tunnel, which are located to the north of the SCVA, to connect to other areas of Hong Kong.

The northern access to the SCVA via Po Lam Road is located approximately 3 km from the nearest expressway access point on Lin Tak Road to the west of the SCVA.

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 southern edge of the SCVA. The Tseung Kwan O - Lam Tin Tunnel passes through the southern tip of the SCVA. Owing to the difference in elevations, these tunnels would not pose any insurmountable constraint on 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.

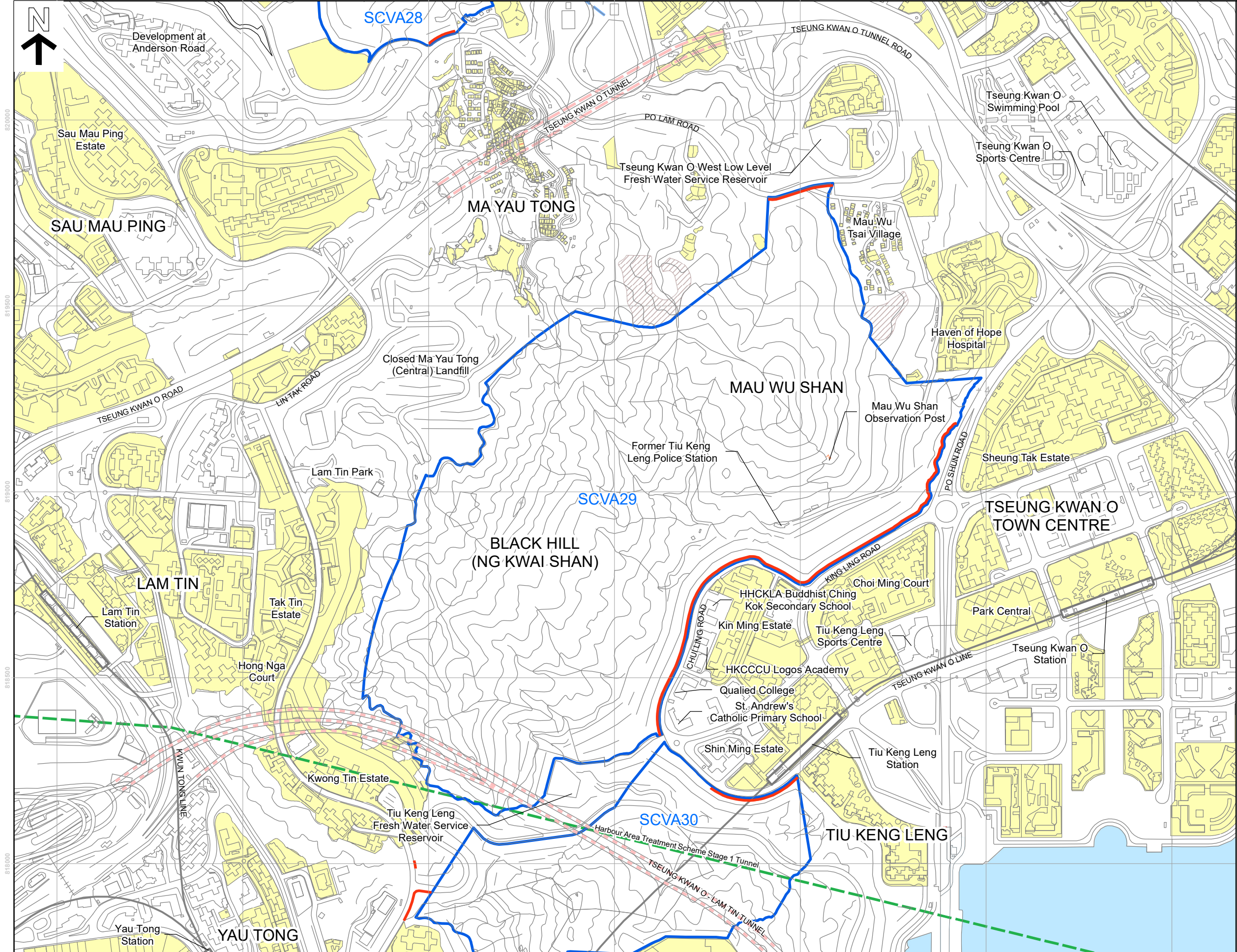
The SCVA is accessible from Po Shun Road, King Ling Road and Chui Ling Road to the southeast and Po Lam Road to the north. All potential portal locations are located at the slope adjacent to the carriageways. Multiple portals may be formed along these potential portal locations. Chui Ling Road and King Ling Road are key traffic routes for the residential developments in the vicinity. Some potential portal locations at Chui Ling Road and King Ling Road are in the proximity to the residential estates. The project proponent should consider and minimise the potential traffic and environmental impact to the local residents when planning cavern project for a proposed use.

All extents of potential portal locations are at cut slopes with natural slopes above. There may be potential natural terrain hazards in the vicinity which may require further study by 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

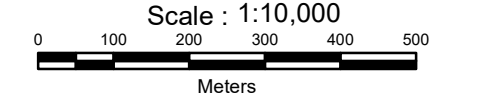
The Cavern Master Plan and all supporting documents do not exempt project proponents for cavern projects from following the relevant statutory procedures. Information including the extent of potential portal locations indicated in this Information Note should serve as reference materials only. In formulation 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
- Vehicle Tunnel
- Drainage Services Department Tunnel
- Water Supplies Department Tunnel
- Sea
- Graded Historic Building
- Private Lot
- Burial Ground

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. 29 - BLACK HILL

CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
PLANNING DEPARTMENT



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