

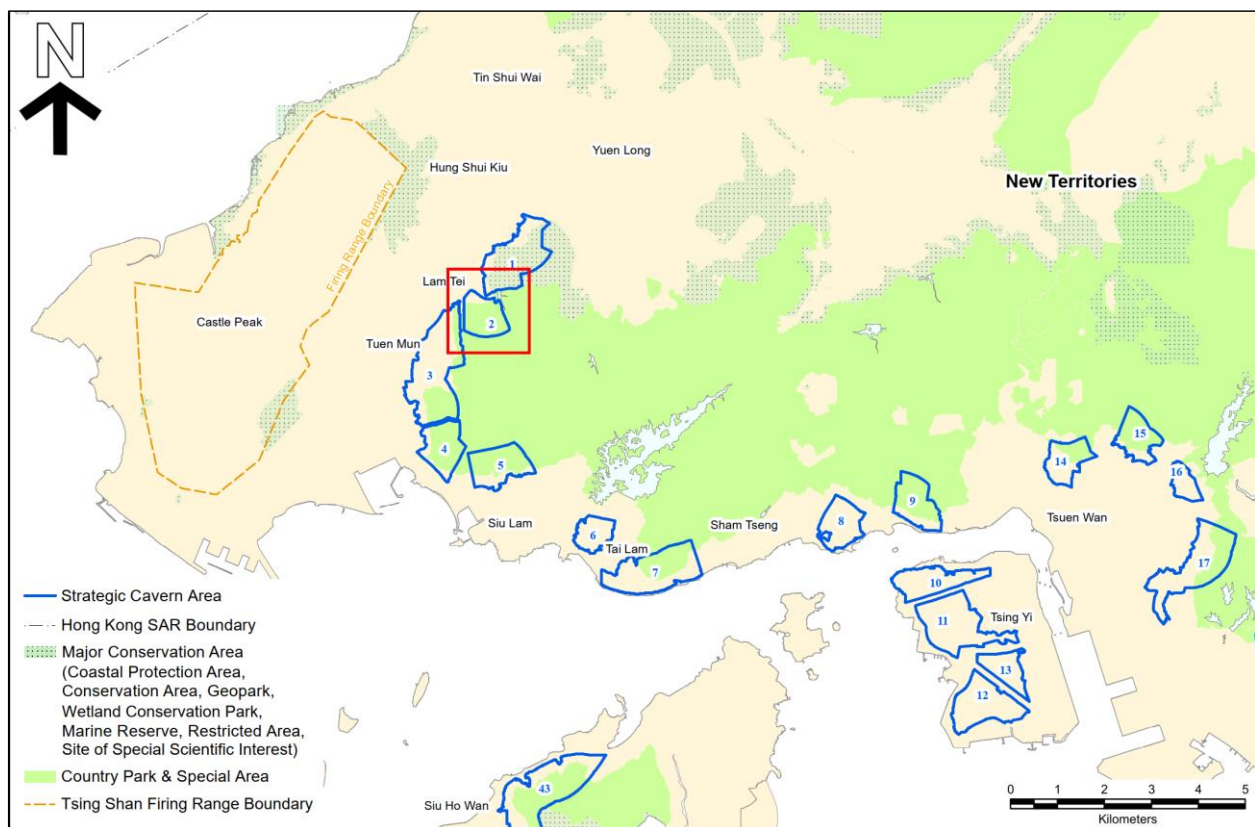
CAVERN MASTER PLAN – INFORMATION NOTE

STRATEGIC CAVERN AREA NO. 02 – LAM TEI

This Information Note describes the characteristics and development constraints of Strategic Cavern Area No. 02 - Lam Tei (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) ¹ :	Lam Tei and Yick Yuen OZP
Area:	69.8 ha
Maximum elevation in the SCVA:	+293 mPD
Minimum elevation in the SCVA:	+31 mPD

3. District Context

Location

The SCVA is located in the western part of the New Territories. To the north of the SCVA is the Hung Shui Kiu/Ha Tsuen New Development Area (HSK/HT NDA) and Yuen Long South Development Area (YLS DA). Tuen Mun New Town is located to the west of the SCVA. The majority of the SCVA, including its eastern, western and southern portions, encroaches onto Tai Lam Country Park.

The SCVA is generally hilly with a maximum elevation of about +293 mPD. It partially overlaps in the northern side with Lam Tei Quarry, which is under operation but will cease operation in the future. The future land use is subject to further study. In the proximity to the north and west of the SCVA, there are a number of key Government, Institution and Community (GIC) facilities, including Yuen Long Fresh Water Service Reservoir and Yuen Long Water Treatment Works (about 700 m to the north of the SCVA), Tuen Mun Fresh Water Primary Service Reservoir (about 250 m to the west of the SCVA), Tuen Mun Water Treatment Works (about 800 m to the west of the SCVA) and Lingnan University (about 600 m to the west of the SCVA). The areas to the northwest of the SCVA are mainly residential developments including a number of local village settlements. The nearest of which is Fu Tei Ha Tsuen (about 300 m to the northwest of the SCVA). To the north of the SCVA, Tin Shui Wai and Yuen Long are another two new towns with high-density residential developments. Their population is expected to grow further with the HSK/HT NDA² and the YLS DA³.

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/>).

² Source: Explanatory Statement, Hung Shui Kiu and Ha Tsuen Outline Development Plan No. D/HSK/2, Planning Department, August 2024.

³ Source: Executive Summary, Planning and Engineering Study for Housing Sites in Yuen Long South – Investigation, May 2020 (Rev.).

Access

The SCVA is accessible from its northern edge via the access road on the west of Lam Tei Quarry that connects to Fuk Hang Tsuen Road. Regional connections could be routed through the nearby Yuen Long Highway, Tuen Mun Road and Castle Peak Road, which are located to the north and northwest of the SCVA.

The MTR Light Rail Transit (LRT) runs along Castle Peak Road and the nearest station is Lam Tei Station, which is at about 1 km to the northwest of the SCVA. Siu Hong Station of the MTR Tuen Ma Line is located at about 1.3 km to the west of the SCVA, which provides mass transportation for travellers to and from Tuen Mun, Kowloon and Ma On Shan. An additional MTR Station, Hung Shui Kiu Station, is planned at the HSK/HT NDA, which is about 2 km to the northwest of the SCVA.

Existing / Planned Facility in SCVA

There is currently no existing cavern facility within the SCVA. Preparation works for proposed underground quarrying in the SCVA under Contract No. GE/2024/16 is ongoing. The SCVA has been identified as one of the potential sites for relocation of Tuen Mun Water Treatment Works, of which the feasibility study under Agreement No. CE 12/2021 (WS) commenced in October 2021 and is in progress. Project proponents should take due consideration of these study results.

4. Summary of Characteristics of Strategic Cavern Area

4.1. Boundary

The northern boundary of the SCVA is defined by the southern quarry face of Lam Tei Quarry. The eastern and western boundaries of the SCVA are defined by the Hung Shui Hang Irrigation Reservoir and Lam Tei Irrigation Reservoir and their connecting rivers respectively.

4.2. Geology

The solid geology of the SCVA is fine-grained granite, which belongs to Tai Lam Granite. The SCVA is with the rock type that is 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 granite within the SCVA is suitable for reuse as construction aggregate.

Further geological information of the SCVA can be found in the 1:20,000-scale Geological Map Sheet 6 (Yuen Long) published by the Geotechnical Engineering Office, Civil Engineering and Development Department.

4.3. Planning

The SCVA is close to the existing urban development (i.e. Tuen Mun New Town), two new development areas (i.e. HSK/HT NDA and YLS DA) and Lam Tei Quarry. Given that 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 developments of these areas.

The northern part of Tuen Mun New Town, located to the west of the SCVA, is a local hub of high-density residential developments (e.g. Fu Tai Estate) mixed with GIC facilities (e.g. hospital, water treatment plant, service reservoir, school, etc.).

The SCVA has been identified as one of the potential sites for relocation of Tuen Mun Water Treatment Works, of which the feasibility study under Agreement No. CE 12/2021 (WS) commenced in October 2021 and is in progress. Project proponents should take due consideration of the study results. The SCVA is immediately adjoining Lam Tei Quarry, which is under operation but will cease operation in future. The future land use is subject to further study.

The SCVA may overlap with the proposed possible alignment of Tuen Mun Bypass and Route 11 which link to Yuen Long and Lantau Island. Agreement No. CE 13/2021 (HY) “Route 11 (Section between Yuen Long and North Lantau) – Investigation” commenced in September 2021 and is in progress. The project proponents should also take note of the possible alignment of Tuen Mun Bypass (TMB) under Agreement No. CE 65/2021 (HY) “Tuen Mun Bypass – Investigation” which commenced in March 2022. The potential uses of the SCVA shall also consider the design and capacity of the proposed traffic network being planned/implemented at the time.

4.4. Environmental

Environmental sensitive receivers to the potential caverns in the SCVA include the nearby existing educational institution (i.e. Lingnan University) and residential areas (e.g. Fu Tei Ha Tsuen). A significant portion of the SCVA also encroaches onto Tai Lam Country Park and partly encroaches onto the Water Gathering Grounds. There are water courses in close proximity to the SCVA (i.e. Hung Shui Hang and Lam Tei irrigation reservoirs). Species of conservation importance including Lesser Spiny Frog, are recorded at the watercourse connecting to the Lam Tei Irrigation Reservoir. Meanwhile, there are wooded areas and patches of pitcher plants located in Tai Lam Country Park within the SCVA. Two traditional permitted burial grounds and the Fu Tei Ha Site of Archaeological Interest are located to the northwest of 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

Currently, the only direct access to the SCVA is through Lam Tei Quarry, which is further connected to Castle Peak Road through Fuk Hang Tsuen Road. Road widening along Fuk Hang Tsuen Road, which may be constrained by nearby developments, should be further studied if it is required to cope with the additional traffic demand arising from the potential uses of the SCVA. The future development of Lam Tei Quarry, the Tuen Mun Bypass (TMB) and Route 11 may provide new access roads to the SCVA. In this regard, the potential uses of the SCVA could be integrated with that of Lam Tei Quarry and the proposed major road developments to minimise the interfacing issues. Project proponents should refer to the latest available information on the nearby developments in order to bring about greater synergy. The project proponents shall assess the combined traffic impact due to the development of Lam Tei Quarry and the potential uses of the SCVA. Further advice on the scope of the Traffic Impact Assessment shall be sought by the project proponents.

The SCVA is connected to Tuen Mun New Town by local roads. The SCVA is also connected to Yuen Long Highway and Kong Sham Western Highway via the Lam Tei Interchange, which is at 1.3 km to the northwest of the SCVA. This allows for road network connection to the northwest New Territories, to Shenzhen and to Lantau via the Tuen Mun – Chek Lap Kok Link.

Furthermore, the SCVA may overlap with the alignment of TMB and Route 11 which link to Yuen Long and Lantau Island. Agreement No. CE 13/2021 (HY) “Route 11 (Section between Yuen Long and North Lantau) – Investigation” commenced in September 2021 and is in progress. Furthermore, Agreement No. CE 65/2021 (HY) “Tuen Mun Bypass – Investigation” commenced in March 2022. The proposed alignments and works area for both infrastructure projects had been gazetted in September 2023, the project proponents should take note on the possible interfacing issues with the road works. The potential uses of the SCVA shall also consider the design and capacity of the proposed traffic network being planned/implemented at the time.

4.6. Other Key Issues / Constraints for Cavern Development

There are pylons and overhead power lines running above the SCVA. In addition, the Water Supplies Department's Tai Lam Chung Supply Tunnel connecting to Tuen Mun Water Treatment Works is located at about 400 m away from the southwestern boundary of the SCVA. Owing to the difference in elevations, the pylons, overhead power lines and the tunnel would unlikely pose any conflicts or insurmountable constraints to the potential uses of rock caverns within the SCVA.

Conversely, there will be interfacing issues in case the potential uses of the SCVA could not be integrated with that of Lam Tei Quarry. Project proponents should take into account the future development and proposed land uses of Lam Tei Quarry.

5. Extent of Potential Portal Locations

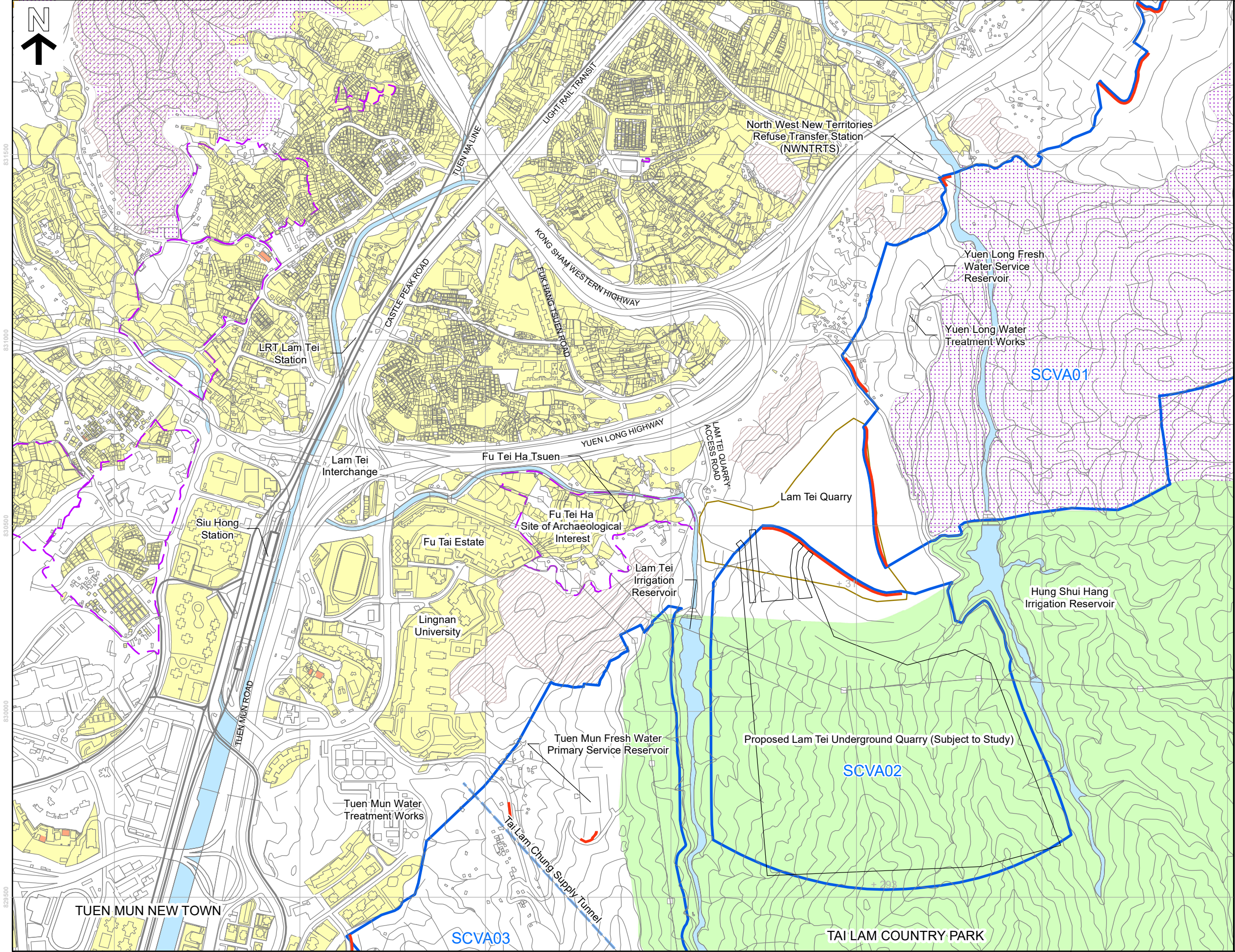
The extent of the potential portal location is shown on the Reference Drawing.

The SCVA is accessible from the existing quarry face at the southern side of Lam Tei Quarry, which could provide an easy access to the hillside. The future development of Lam Tei Quarry may provide new access roads to serve the cavern facilities. Multiple portals could be formed on the quarry face at different elevations if needed. The project proponents shall consider the latest design and capacity of the traffic network and assess whether road upgrades are required to support traffic load induced by the potential uses of rock caverns. Based on the site setting, the potential of natural terrain hazards affecting the potential portal location is unlikely.

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

6. Remarks to Information Note

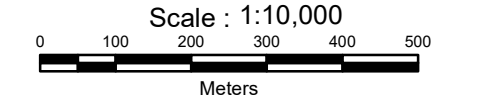
The Cavern Master Plan and all supporting documents do not exempt project proponents for cavern projects from following the relevant statutory procedures. Information including the extent of potential portal locations indicated in this Information Note should serve as reference materials only. In formulation 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
- Quarry
- Existing Railway Line / Light Rail / Tram
- Water Supplies Department Tunnel
- Reservoir / River / Nullah
- Site of Archaeological Interest
- Graded Historic Building
- Private Lot
- Burial Ground
- Conservation Area
- Country Park

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. 02 - LAM TEI

CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
PLANNING DEPARTMENT



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SCVA 02