

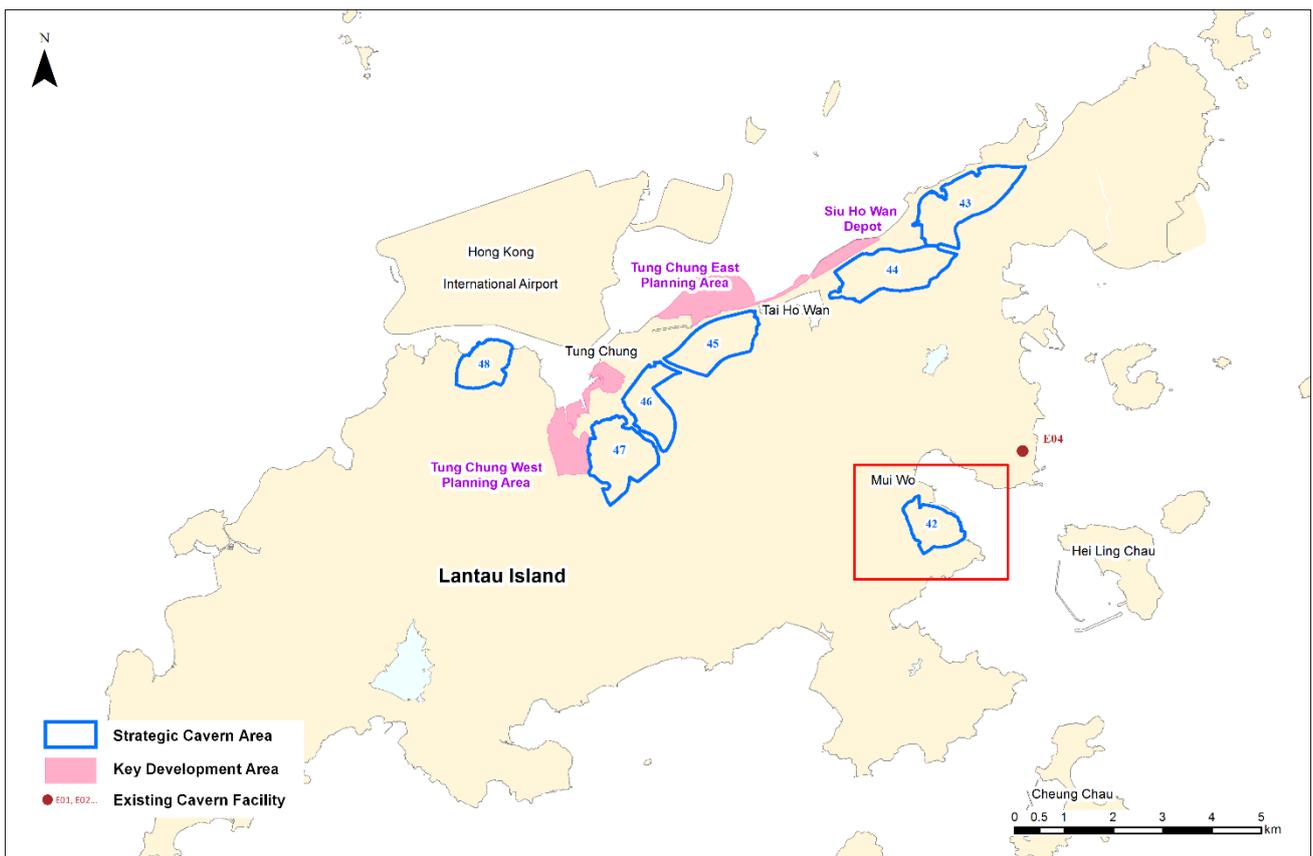
## **CAVERN MASTER PLAN – INFORMATION NOTE**

### **STRATEGIC CAVERN AREA NO. 42 – MUI WO**

*This Information Note describes the characteristics, key development opportunities and constraints of Strategic Cavern Area No. 42 - Mui Wo (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 Plans (OZPs):	Approved Mui Wo Fringe OZP No. S/I-MWF/10 Draft South Lantau Coast OZP No. S/SLC/20
Area:	83.4 ha
Maximum elevation in the SCVA:	+195 mPD
Minimum elevation in the SCVA:	+0 mPD

## 3. District Context

### Location

The SCVA is located in the eastern coast of Lantau Island. It covers the hillside area of southern Mui Wo. Silver Mine Bay is located to the northeast of the SCVA, Lantau South Country Park is to the south, Lantau North Country Park is to the West and Lantau North (Extension) Country Park is to the north.

The SCVA is generally hilly with a maximum elevation of about +195 mPD. More than half of the SCVA encroaches onto Lantau South Country Park. Local villages namely Round Table Village and Lai Chi Yuen Tsuen are located at the northern and western boundaries of the SCVA respectively. Several Government, Institution and Community (GIC) facilities, including Electrical and Mechanical Services Department (EMSD)'s Lantau Vehicle Servicing Depot, Silver Mine Bay Fresh Water Service Reservoir and Silver Mine Bay Water Treatment Works are located in the northwestern portion of the SCVA.

Mui Wo is rural in character with a number of local villages, such as Luk Tei Tong (about 500 m to the northwest of the SCVA) and Tai Tei Tong (about 800 m to the northwest of the SCVA). There are also other residential developments, such as Ngan Wan Estate (about 200 m to the northwest of the SCVA). There is also focused development on tourism, i.e. Silvermine Beach Resort (about 450 m to the north of the SCVA). The development of Mui Wo is supported by a number of key GIC facilities, including those mentioned above and the Mui Wo Sewage Treatment Works and Mui Wo Transfer Facility (both at the northern boundary of the SCVA).

### Access

The SCVA is accessed from its northern edges via Mui Wo Ferry Pier Road and South Lantau Road. Regional connections could be routed through South Lantau Road. Mui Wo is also served by ferry via Mui Wo Ferry Pier (about 300 m to the north of the SCVA) to connect to Central, Peng Chau, Chi Ma Wan, Cheung Chau and Discovery Bay.

## Land Use Zoning

While the southern part of the SCVA is zoned “Country Park” (“CP”) under the Draft South Lantau Coast OZP No. S/SLC/20, the northern part of the SCVA is zoned “Green Belt” (“GB”) and “Government, Institution or Community” under the Approved Mui Wo Fringe OZP No. S/I-MWF/10. A small portion at the northern boundary is not covered by any Statutory Plan. The zoning of the surrounding areas includes “CP” to the south and southwest, “GB” to the south and northwest, and the rest is not covered by any Statutory Plan.

For details of the latest land use zonings on OZPs, 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 northern boundary of the SCVA is defined by South Lantau Road, Mui Wo Ferry Pier Road and private lots in Round Table Village. The eastern boundary of the SCVA is defined by Silver Mine Bay coastline. The western boundary of the SCVA is defined by the valley topography and Lantau Trail. The southern boundary of the SCVA is defined by an extent of 800 m from the potential portal locations.

### **4.2. Geology**

The solid geology of the SCVA is primarily feldsparphyric rhyodacite in the central and southern portions, which belongs to East Lantau Rhyodacite; fine-grained quartz syenite in the northwestern portion; and medium-grained granite dykes trending E-W in the eastern and southern portions, which belong to Lantau 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 areas surrounding the SCVA. The excavated medium-grained granite 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 on the 1:20,000-scale Geological Map Sheet 10 (Silver Mine Bay) published by the Geotechnical Engineering Office, Civil Engineering and Development Department.

### 4.3. Planning

Although the SCVA is served by vehicular roads, namely South Lantau Road and Mui Wo Ferry Pier Road, connection to other areas in Hong Kong via land transport is not convenient. Water transport by ferry via Mui Wo Ferry Pier provides an alternative mode of transport. Given there are various existing local villages and residential developments in the vicinity of the SCVA, there is opportunity for the SCVA to support the potential growth of the area. Also, future growth of Mui Wo is suggested in the Sustainable Lantau Blueprint<sup>1</sup>, which was unveiled on 3 June 2017 by the Development Bureau.

Currently, Mui Wo is rural in character with local villages (e.g. Luk Tei Tong and Tai Tei Tong) and residential developments (e.g. Ngan Wan Estate). Given that there is focused development on tourism such as Silvermine Beach Resort, Mui Wo has become a popular tourist spot in particular as a weekend getaway destination. To dovetail with the “Hong Kong 2030+: Towards a Planning Vision and Strategy Transcending 2030”, the Sustainable Lantau Blueprint (the Blueprint) proposes the development of the East Lantau Metropolis (ELM), covering Kau Yi Chau, Hei Ling Chau and Mui Wo, as a long-term strategic growth area with the Hong Kong’s third Core Business District. The initial concept for Mui Wo is for an enhanced township with a small amount of low-density residential developments as well as recreational and tourism-related uses, through optimizing the under-utilised land, together with cavern development. Moreover, the Blueprint also proposes using SCVAs in Mui Wo and North Lantau to increase usable space for housing Government facilities so as to release land for residential, recreational or other uses, etc.

In view of the above, the SCVA could be used to house supporting infrastructure facilities required by the future growth of Mui Wo, such as service reservoir and ‘Not-In-My-Backyard’ (NIMBY) type of facilities including sewage treatment plant or refuse transfer facility. Should there be any need for additional land, the SCVA may provide the solution space by, for example, relocating some of the suitable infrastructure facilities (e.g. service reservoir, sewage treatment plant or refuse transfer facility) to caverns, and thus to release surface land for other beneficial uses (e.g. residential developments, community facilities including vehicle parking, and/or recreational tourism developments). There is also potential for the SCVA to house bus depots and vehicle parking and hence releasing land for residential, commercial or other uses. By doing so, more effective utilisation of land resources in Mui Wo could be enabled while preserving its rural character and the natural landscape of the surrounding Country Parks.

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<sup>1</sup> More information can be obtained from the Sustainable Lantau Blueprint available on the website of the Sustainable Lantau Blueprint, [www.lantau.gov.hk](http://www.lantau.gov.hk).

#### **4.4. Environmental**

Environmental sensitive receivers to cavern development in the SCVA include the nearby residential areas (e.g. Ngan Wan Estate, Water Supplies Department (WSD) Silver Mine Bay Staff Quarters, Round Table Village and Lai Chi Yuen Tsuen). The existing GIC facilities (e.g. EMSD Lantau Vehicle Servicing Depot, Mui Wo Sewage Treatment Works and Mui Wo Transfer Facility) and other nearby land uses, e.g. bus depot and open storage, may pose environmental constraints on cavern development. There may be potential land contamination associated with those facilities and require further investigation by the project proponents if necessary. The SCVA mainly comprises coastal area, natural greenery, lowland forest and riparian habitats, and the eastern and southern parts of it encroach onto Lantau South Country Park. The SCVA also encroaches onto the Consultation Zone of a Potentially Hazardous Installation (PHI), namely the Silver Mine Bay Water Treatment Works of the WSD. Quantitative Risk Assessment will be required during the planning stage before commencement of construction works. Also, several graded historic buildings including Yuen's Mansion comprising Main House, East Watchtower, small house attached to East Watchtower, West Watchtower, Front House and Barn (all Grade 2 historic buildings), Watchtower of Luk Tei Tong (Grade 3 historic building), and several traditional burial grounds are located in the vicinity of the SCVA. Ngau Kwu Wan Site of Archaeological Interest, Shui Tseng Wan Site of Archaeological Interest and Chung Hau Site of Archaeological Interest are also located in the proximity.

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 edges via Mui Wo Ferry Pier Road and South Lantau Road. Regional connections could be routed through the South Lantau Road. Currently, Lantau Closed Road Permit is required for vehicle to access the South Lantau Road. Mui Wo is also served by ferry via Mui Wo Ferry Pier (about 300 m to the north of the SCVA) to connect to Central, Peng Chau, Chi Ma Wan, Cheung Chau and Discovery Bay.

Mui Wo is not well connected to the primary road network as it is quite rural in nature. The nearest expressway is in Tung Chung, which is approximately 16 km away via Tung Chung Road, that is the main access road from the North Lantau Highway to Mui Wo. The extent of potential portal location is at least 40 km from the main urban areas of Hong Kong. Current traffic levels along Tung Chung Road are relatively low. This would therefore allow for additional traffic, however, this rural road is considerably steep and winding in parts, which would limit the viability of a high traffic-generating activity.

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

A proposed Fresh Water Tunnel between Siu Ho Wan and Silver Mine Bay Water Treatment Works is at the western portion of the SCVA. The Shek Pik Supply Tunnel is about 50 m to the west of the SCVA. Owing to the difference in elevations, these tunnels would not pose any insurmountable constraint on cavern development within the SCVA.

Project proponents should consult the Coordinating Committee on Land-use Planning and Control relating to Potentially Hazardous Installations (CCPHI) as the SCVA encroaches onto the PHI Consultation Zone of Silver Mine Bay Water Treatment Works.

Project proponents should also take into account the latest progress of the proposed developments at Mui Wo and other developments under the Sustainable Lantau Blueprint.

#### **5. Potential Land Uses**

The potential land uses for the SCVA are as follows:

<b>Land use</b>	<b>Description</b>
Bus Depot/ Vehicle Parking	There is potential for the SCVA to provide supporting facilities, such as bus depot and/or vehicle parking, in caverns to cater for the future demand from local community and the visitors.

Land use	Description
Refuse Transfer Facility	<p>Mui Wo is home to various local villages and residential developments. There is potential for the SCVA to provide suitable NIMBY type of facilities in caverns, such as refuse transfer station, to minimise the nuisance to the community.</p> <p>An existing refuse transfer facility is 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 integration with future development.</p> <p>Some of the extent of potential portal locations of the SCVA is away from existing residential areas, which would be favourable in minimizing nuisance to the nearby residents.</p>
Service Reservoir	<p>There is potential for the SCVA to provide suitable infrastructure facilities, such as service reservoir, in caverns.</p> <p>An existing service reservoir is in the vicinity of the SCVA. Relocation of the facility to caverns may be considered, thereby releasing surface land for other beneficial uses and for integration with future development.</p>
Sewage Treatment Plant	<p>There is potential for the SCVA to provide suitable NIMBY type of facilities in caverns, such as sewage treatment plant, to minimise the nuisance to the community.</p> <p>The existing Mui Wo Sewage Treatment Works is 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 integration with the future development. As the existing Mui Wo Transfer Facility is also located nearby, co-location of the two facilities in cavern could be considered.</p> <p>Some of the extent of potential portal locations of the SCVA is away from existing residential areas, which would be favourable in minimizing nuisance to the nearby residents.</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 generally accessed via South Lantau Road to the northwest and Mui Wo Ferry Road to the northeast.

The extent of potential portal location on South Lantau Road is on the slopes adjacent to the road. The SCVA could be accessed by provision of suitable run-in/out or priority controlled junction, depending on the proposed land-use.

The extent of potential portal location on Mui Wo Ferry Pier Road is restricted by the narrow carriageway width. The current access arrangement to this extent of potential portal location would suit low traffic-generating activities, but would require major upgrading works of the road in order to support moderate to high traffic-generating activities. Further traffic impact assessment would be required subject to the proposed scale and land use of the cavern development. Upgrading or widening of road within or adjacent to Lantau South Country Park to meet traffic needs associated with the proposed portal development should be avoided as far as practicable. Project proponent should explore alternative access road outside the country park or an alternative location of the portal to reduce any possible ecological, visual and recreational impacts to the country park and its users.

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

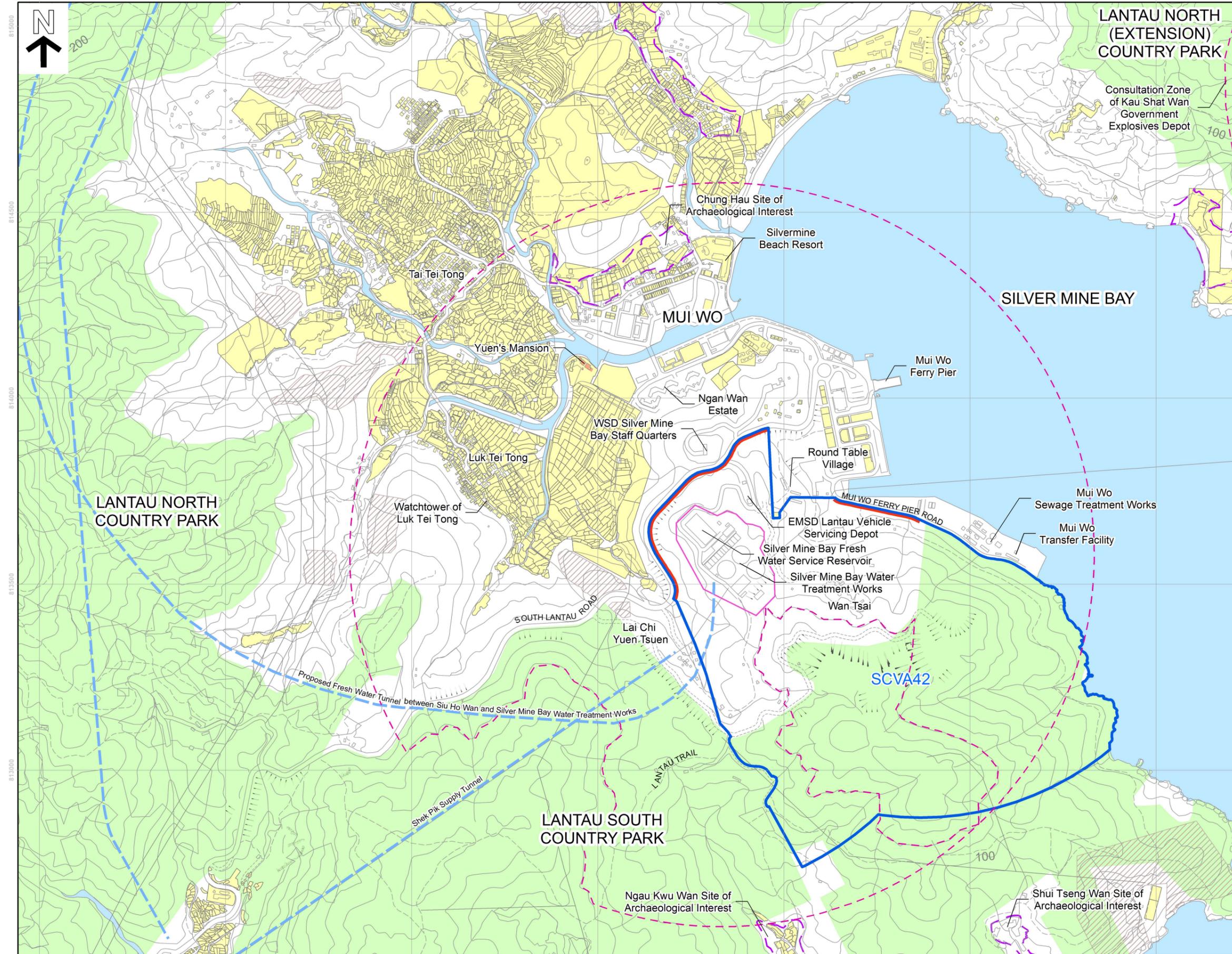
Project proponents should carry out further studies on identifying specific locations of portals for the proposed cavern development.

## **7. Concluding Remarks**

This SCVA presents an opportunity for locating suitable land uses in rock caverns to serve the existing residential and tourism developments, and support future growth in Mui Wo under the context of the Sustainable Lantau Blueprint. This includes housing suitable infrastructure facilities (e.g. service reservoirs, sewage treatment plant and/or refuse transfer facility) and other supporting facilities (e.g. bus depot and vehicle parking). Project proponents for cavern development should take due consideration of the existing and proposed residential developments, development under the Sustainable Lantau Blueprint, environmental sensitive receivers and Consultation Zone of PHI that are in close proximity of the SCVA, and the accessibility for cavern development, 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.

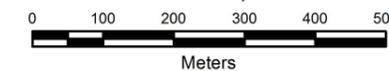


### Legend

- Strategic Cavern Area
- Extent of Potential Portal Locations
- Water Supplies Department Tunnel
- River / Nullah / Sea
- Site of Archaeological Interest
- Graded Historic Building
- Private Lot
- Burial Ground
- Potentially Hazardous Installation
- Consultation Zone of Potentially Hazardous Installation
- Country Park

Note: The portion with elevation above +140 mPD is excluded from the Consultation Zone of Potentially Hazardous Installation of Silver Mine Bay Water Treatment Works.

Scale : 1:10,000



## REFERENCE DRAWING OF STRATEGIC CAVERN AREA NO. 42 - MUI WO

CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT  
PLANNING DEPARTMENT



DATE: NOVEMBER 2017  
VERSION: 1

SCVA 42