

Disused Tunnels

Key Messages : The Geotechnical Engineering Office (GEO) maintains available record of disused tunnels for inspection by the public.

Introduction

There are approximately 90 disused tunnel networks known to the GEO (as of end of 2021). The disused tunnel networks are located throughout Hong Kong.

These tunnels have broadly been categorised into two types:

- (i) “Disused Air Raid Precaution (ARP) Tunnels” which were constructed during the Second World War to provide air raid protection. These exist predominantly in the northern part of Hong Kong Island and on the Kowloon Peninsula.
- (ii) “Additional Disused Tunnels” which were constructed before and during the Japanese occupation of Hong Kong for military and other uses. These tunnels have been identified throughout Hong Kong, but the majority are located on Hong Kong Island and the Kowloon Peninsula.

Disused ARP Tunnels

An extensive programme of maintenance and remedial works was carried out on some of the Disused ARP Tunnels in the early 1950s to render them usable by the Auxiliary Medical Service (AMS) for storage and other purposes.

In 1977, following the partial collapse of a Disused ARP Tunnel network at Sai Ying Pun, the then Highways Office engaged Consultants to carry out a thorough study of the Disused ARP Tunnels known at that time. In September 1984, the then Geotechnical Control Office (now the GEO) took over the management of the Consultancy from the Highways Office. As a result of the study, remedial works were recommended and carried out. Some of the tunnels have been partially backfilled or removed as part of the remedial works or subsequent development of the overlying sites.

The Disused ARP Tunnels that are still accessible are maintained by the Highways Department.

Additional Disused Tunnels

Since the start of the investigation of the Disused ARP Tunnels in 1977, Additional Disused Tunnels have been identified. These tunnels include small air raid precaution tunnels constructed by the public, tunnels built by the British Army prior to the war and those constructed during the Japanese occupation of Hong Kong. The tunnels built by the British Army were principally for munitions storage or for defensive purposes. A good example of the former are bunkers at Shouson Hill which comprise a series of very solidly-built large

underground storage rooms. The Japanese constructed a number of small tunnel networks, mostly for storage of munitions. Shortly after the war a contract was let for the backfilling of these tunnels.

In 1990, the GEO carried out a preliminary review of the Additional Disused Tunnels known at that time. Subsequently, a number of follow-up actions were carried out by the GEO, involving desk study of all available records, minor ground investigation and site visits to the tunnels. In the majority of cases, these tunnels are already sealed from the public and no further action is considered necessary. Since 1990, more networks have been reported and the number of Additional Disused Tunnels is now over 60. Where access to these tunnels is possible, preliminary inspections of these disused tunnels have been carried out.

Developments relating to Disused Tunnels

The majority of these old tunnels are backfilled, demolished or inaccessible. Based on the available information, a few tunnel networks that are of relatively good conditions are currently being occupied for different purposes, for example:

- (i) the bunkers at Shouson Hill are leased to a private company as wine cellars; and
- (ii) one network at Sai Ying Pun is used by the Hong Kong Electric Company Ltd for routing electric cable.

Where a development (private or public) is planned in the vicinity of disused tunnels, including those currently being occupied, the designers are required to assess the effects of the works on these tunnels and vice versa and undertake the necessary remedial works as part of the development.

Public Information

The locations of the Disused ARP and Additional Disused Tunnels are kept on a drawing which is available for public inspection in the Geotechnical Information Unit (GIU) of the Civil Engineering Library at the Lower Ground Floor of the Civil Engineering and Development Building at 101 Princess Margaret Road, Homantin. Technical information on some of the Disused ARP Tunnels could also be viewed in the GIU. Geotechnical professionals involved in developments in the vicinity of disused tunnels may also obtain further technical details from the Chief Geotechnical Engineer/Planning of the GEO.

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