

# **Tai Tam Tuk Raw Water Pumping Station**

## **Background**

Situated at Tai Tam Bay, the Tai Tam Tuk Raw Water Pumping Station is an important part of the Tai Tam raw water collection system. Construction of the Tai Tam Tuk Pumping Station commenced in 1904. Originally it made use of steam-driven pumps to lift raw water to the tunnel portal in the middle of the hill to provide supply to the city area on the Hong Kong Island North after treatment. After completion of the last reservoir in the Tai Tam Group of Reservoirs, the pumping station was expanded in 1917 to roughly the same configuration as today's. The pumping station was declared as a monument for conservation in September 2009.

The pumping station is a red brick structure. The pitched roof is about 12 metres above ground. It had a pump hall, a boiler room, an office and coal storage space. The pitched roof comprises Chinese-styled tiles supported on timber purlins which in turn rest on metal trusses made of cast iron frames and steel tie rods.

Over a hundred years, there have not been any major alternations to the roof structure. The pumping station has been in use all the time and become Water Supplies Department's (WSD) oldest pumping station still in operation.

The pumping station has experienced the era of steam-driven pumping and diesel-driven pumping and now has adopted a fully computer-controlled automatic mode of operation by electric pumping. Throughout the whole process of development and change, WSD has taken a cautious attitude in the changes of the pumping station. Apart from the comprehensive changes in the pumps and other equipment, the environs of the pumping station including its historic staff quarters and a section of the rail for conveyance of coal by carts are kept the same as a hundred years ago.

## **Restoration**

Having exposed to weathering for a prolonged period, seepage through the pitched roof became serious. Bearing heritage conservation in mind, WSD employed specialists to restore the roof with the proposal vetted and agreed by the Antiquities and Monuments Office (AMO). The restoration works were also

monitored by an independent specialist to make sure that the restoration works were carried out cautiously and in a professional manner. The restoration process basically involved the taking down of the Chinese tiles one by one and reusing them if they were intact while bespoke slates of the same dimensions were fired in kilns in the Mainland for replacement of the damaged ones. A bituminous water-proofing coating was applied to the finished roof tiles for leakage protection. The whole restoration process took about 5 months at a total cost of about HK\$1.4 million. The restoration works were completed in mid 2005 with the roof's appearance and function remaining unchanged as before.

The restoration works then proceeded to the chimney of the pumping station. The chimney was constructed in 1904 and was located in the middle of a slope west of the pumping station. It was used for the emission of smoke arising from the coal-fire operation. The base of the chimney was a square with a side opening and a smoke shaft connected with the boiler room of the pumping station. The chimney was about 19 metres high with a square cross-section reduced to about 1.7 metres at the top. The west face of the chimney was installed with cast-iron steps for access to the top. The chimney had not been in use since the 1950s and was much dilapidated.

The square chimney of the pumping station was unique of its kind in the history of waterworks and was the only one remaining in Hong Kong. It marks the emergence and end of an era of utilising coal-fire steam-driven pumping in this territory. Together with the experts from AMO, WSD completed a thorough examination and started to restore the chimney in early 2007. The restoration works took 5 months at a total cost of about HK\$2.6 million. The restored chimney now looks the same as a hundred years ago. This chimney of great heritage value, standing upright in the hillside of Tai Tam Bay, will continue to be a testimony to the water supply history of Hong Kong.

Tai Tam Tuk Raw Water Pumping Station  
Layout Plan

Tai Tam Tuk Raw Water Pumping Station No.2 Staff Quarters

Tai Tam Tuk Raw Water Pumping Station

Tai Tam Tuk Raw Water Pumping Station Senior Staff Quarters

Tai Tam Tuk Raw Water Pumping Station Staff Quarters

Tai Tam Tuk Raw Water Pumping Station Chimney Shaft

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