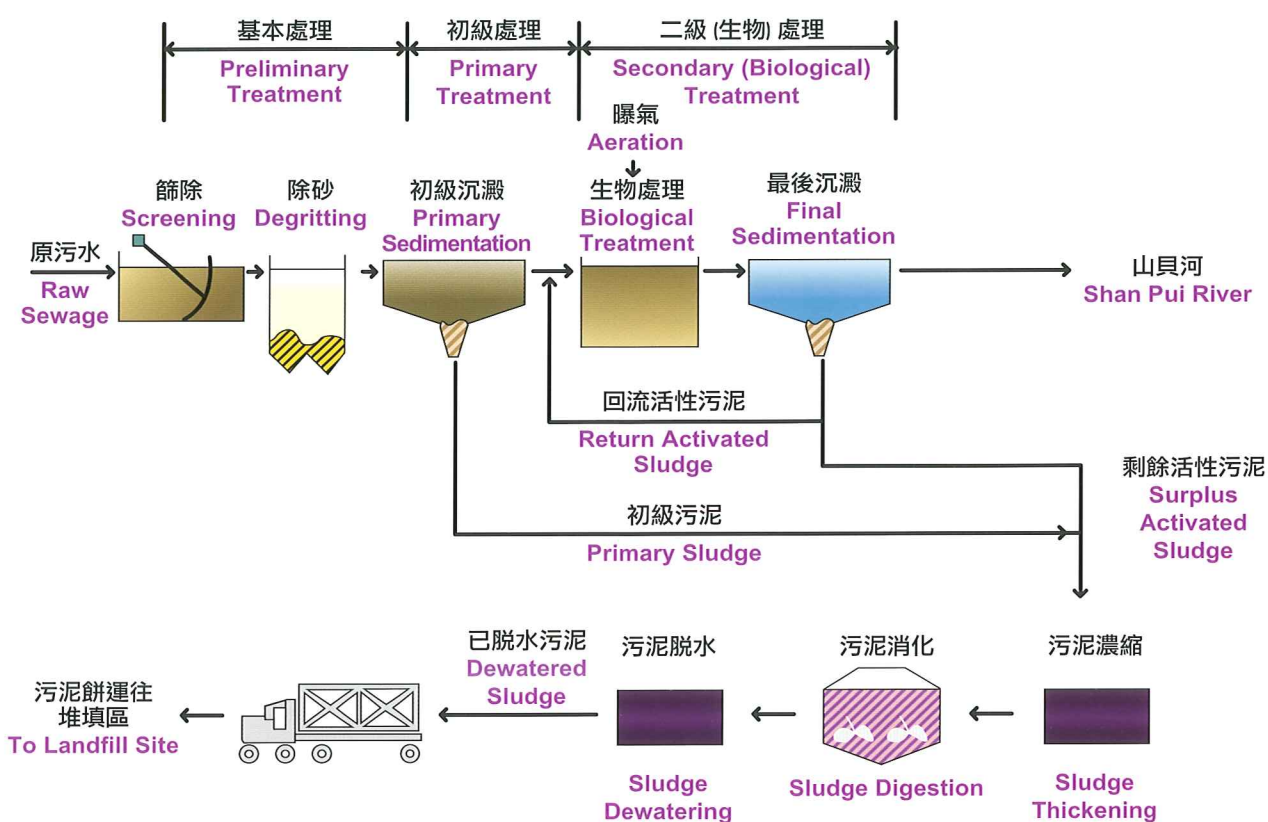


污水處理流程圖 Sewage Treatment Process Flowchart



經處理的排放水重要參數 Key Parameters of Treated Effluent

重要參數 (Key Parameters)	排放標準 (Discharge Standards)
設計流量 (Design Flow)	每日70,000立方米 (m ³ /day)
總懸浮固體 (Total Suspended Solids)	≤30毫克/升 (mg/L)
五天生化需氧量 (5-day Biochemical Oxygen Demand)	≤20毫克/升 (mg/L)

元朗污水處理廠 Yuen Long Sewage Treatment Works



元朗污水處理廠座落於新界西北部，佔地約八點六公頃，是一所二級污水處理廠，為元朗工業邨及元朗部分地區約六萬市民提供污水處理服務。現時每日處理量約16 000立方米。自二零零二年起，由元朗市中心產生約30 000立方米的污水已輸送往新圍污水處理廠進行處理。

污水處理廠的設計共分兩期：第一期於一九八四年完成，污水處理量為每日53 000立方米；第二期於一九九二年完成，污水處理量為每日70 000立方米。於二零零九年底，污水廠將會增收來自元朗東之污水。

Yuen Long Sewage Treatment Works (Yuen Long STW), situated at the North-west of New Territories, is a secondary sewage treatment works. It occupies 8.6 hectares of land and serves a population of 60,000 in Yuen Long Industrial Estate and part of Yuen Long District, which produces 16,000 m³ of sewage per day. About 30,000 m³ of sewage from Yuen Long Town Centre has been diverted to San Wai Sewage Treatment Works since 2002.

The STW was developed in two stages. Stage I was designed to receive a flow of 53,000 m³ per day. It was commissioned in 1984. Stage II was designed to provide secondary treatment of 70,000 m³ per day. It was commissioned in 1992. In late 2009, the STW will receive additional sewage from Yuen Long East.



污水處理過程 Sewage Treatment Process

篩除及除砂

污水經污水渠輸送到進水口，開始其基本污水處理程序。超過18毫米的固體廢物會首先用機械式的隔篩清除，而砂礫則在刮臂式沉砂池沉澱。

Screening and Degritting

Sewage arriving at the Inlet Works is preliminarily treated by mechanical bar screens to remove solids exceeding 18mm. After screening, the sewage is directed to detritors for grit removal.



初級沉澱

經基本處理後的污水進入初級沉澱池，大約百分之五十的懸浮固體會沉澱成為初級污泥，並由池底的刮耙收集及帶走。

Primary Sedimentation

In primary sedimentation tanks, about 50% of the suspended solids in the preliminarily treated sewage are settled out and removed as primary sludge by sludge scraping mechanisms.



二級(生物)處理

壓縮空氣不斷地輸送到曝氣池，為微生物(活性污泥)提供所需的氧氣，這些微生物會分解污水中的污染物。

Secondary (Biological) Treatment

In aeration tanks, compressed air is fed continuously to provide oxygen essential to sustain the growth of micro-organisms (activated sludge), which will assimilate pollutants in the sewage.



最後沉澱

經處理後的污水和活性污泥會在最後沉澱池內分隔出來。部分的活性污泥會回流到曝氣池以維持所需的微生物數量，剩餘的活性污泥則經濃縮後進入污泥消化缸作進一步的處理。

Final Sedimentation

Treated sewage and activated sludge are separated in the final sedimentation tanks. A controlled portion of the activated sludge is fed back to the aeration tank to maintain the adequate micro-organism population for biological treatment. The remaining portion (Surplus Activated Sludge, SAS) is thickened to reduce volume before treatment in the sludge digesters.

污泥消化

初級污泥連同濃縮後的過剩活性污泥會被泵至污泥消化缸進行厭氧消化程序。在厭氧消化的過程中會產生含有甲烷的生物氣體，此氣體是一種可再生能源。

Sludge Digestion

The primary sludge and thickened SAS are pumped into sludge digesters for anaerobic digestion. Biogas containing methane, which is a renewable energy, is produced during the digestion.



污泥脫水

消化後的污泥先以壓濾機來減低水分及體積才運往堆填區棄置，脫水後污泥的含固體量最少達百分之三十。

Sludge Dewatering

Digested sludge is dewatered to a minimum dryness of 30% by filter presses to reduce water content and volume before landfill disposal.



環境保護 Environmental Protection

經處理的排放水會排出山貝河再流入后海灣水域。對減輕污染物質尤其是工業污水對后海灣自然保護區所造成的影響，元朗污水處理廠作出很大的貢獻。此外，一項研究提昇經處理的排放水水質以作循環再用的計劃已經展開，並期望於二零一三年完成，供應可循環再用的排放水給該區使用。

在厭氧消化的過程中所產生的沼氣，會用作燃料來產生熱能維持污泥消化過程所需要的溫度，達至節省能源目的。為改善附近居民的生活環境及提供更優質的服務，本廠安裝了一系列辟味設施，以配合已實施的氣味管理系統。

The treated effluent is discharged via Shan Pui River to Deep Bay. Yuen Long STW helps significantly to reduce the discharge of pollutants, especially those from industrial wastewater, to Deep Bay which is a conservation area. A study has been commissioned to upgrade the treated effluent standards for reuse in the region in 2013.

Biogas, containing methane, is produced during the anaerobic digestion process. To achieve energy saving, it is used as fuel to produce heat for maintaining the required temperature in the anaerobic digestion process. To act proactively in an environmental manner and to provide a better service to nearby residents, an odour management system with deodourizing facilities has been put into operation.

