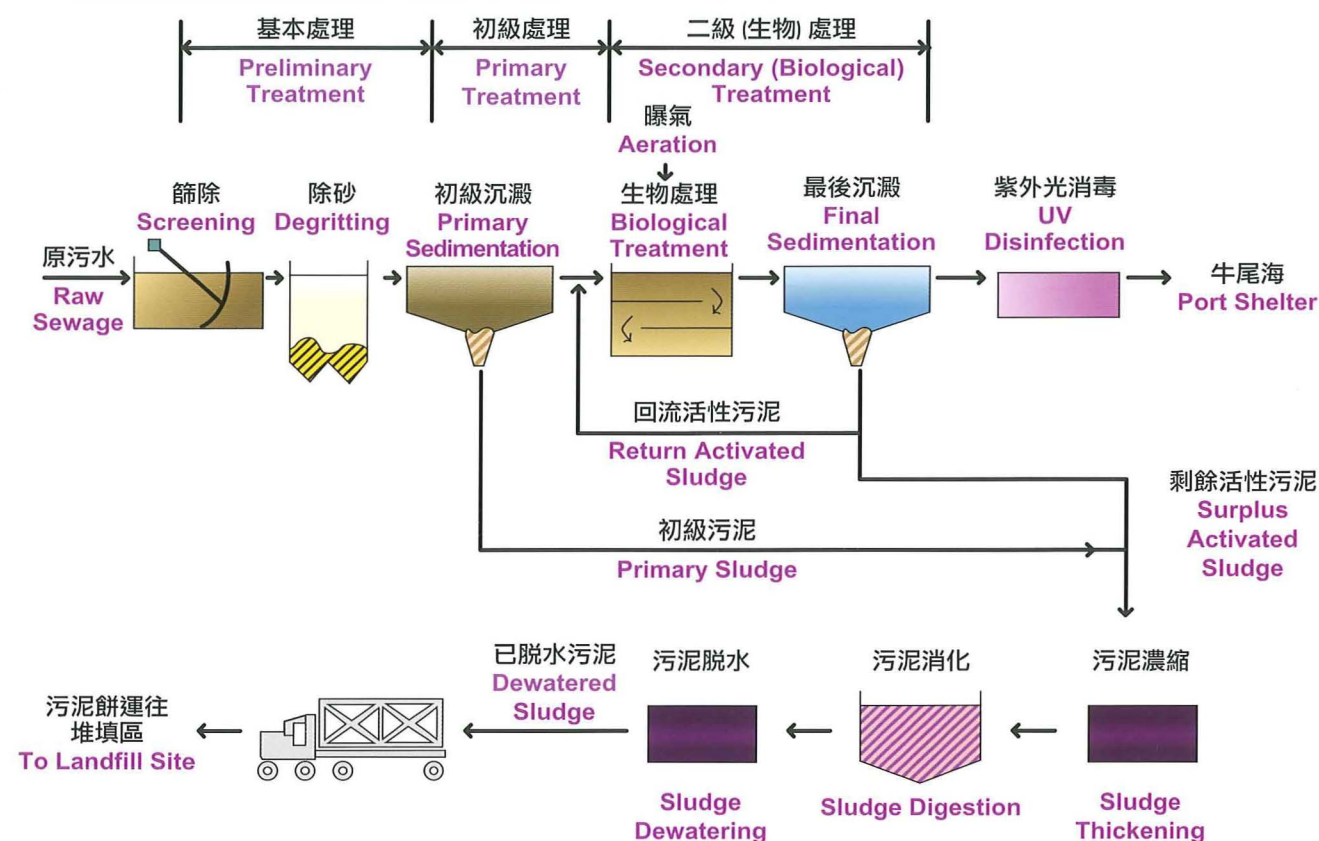


污水處理流程圖 Sewage Treatment Process Flowchart



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8,000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)
總氮 (Total Nitrogen)	≤12毫克/升 (mg/L)
大腸桿菌 (E. Coli)	≤1500個/100毫升 (Count/100mL)

西貢污水處理廠 Sai Kung Sewage Treatment Works

西貢污水處理廠佔地約兩公頃，是一所二級污水處理廠，為西貢區二萬市民提供污水處理服務，現時每日的處理量達8 000立方米。

西貢污水處理廠位於西貢對面海填海區上，於一九八八年十一月落成啟用。污水處理廠初期設計的流量為每日15 200立方米，其後為了減低排放水的養份含量，於一九九六年初在曝氣池內加建清除養份的設備，經改建後的處理能力因而減至每日8 000立方米。由於近年西貢區人口不斷增加，污水收集網絡亦不斷擴大，西貢污水處理廠所處理的污水量已接近飽和。為應付預期污水量的增加，我們正計劃為西貢污水處理廠進行擴建工程，以增加其污水處理能力至每日22 000立方米。

Sai Kung Sewage Treatment Works (Sai Kung STW) is a secondary sewage treatment works. It occupies 2 hectares of land and serves a population of 20,000 in Sai Kung District, which produces 8,000 m³ of sewage per day.

Sai Kung STW, situated on the reclamation at Tui Min Hoi, Sai Kung, was commissioned in November 1988. The STW was originally designed for a flow of 15,200 m³ per day.

To reduce the nutrient level of the effluent, the plant was upgraded in early 1996 to include nutrient removal facilities in the aeration tanks and the plant capacity was consequently lowered to 8,000 m³ per day. As the population in Sai Kung District is increasing in recent years and the sewerage network is being extended to serve the population, the Sai Kung STW is reaching its design capacity. To cope with the anticipated increase in sewage volume, we are now planning to upgrade the treatment capacity of Sai Kung STW to 22,000 m³ per day.



污水處理過程 Sewage Treatment Process

篩除及除砂

污水經污水渠輸送到處理廠的進水口，開始其基本污水處理程序。超過10毫米的固體廢物會被機械式的隔篩清除，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 10mm. 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。污水在曝氣池逗留約六小時。

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. The retention time is about 6 hours.



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 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.



消毒

經過最後沉澱，排放水會被紫外光消毒。

Disinfection

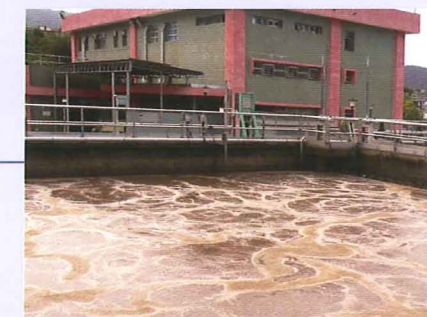
After final sedimentation, effluent is disinfected by ultraviolet light.

污泥消化

濃縮後的初級污泥及過剩活性污泥會被泵至污泥消化缸進行耗氧消化程序。

Sludge Digestion

The thickened primary sludge and SAS are pumped into the sludge digesters for aerobic digestion.



污泥脫水

消化後的污泥先以壓濾機來減低水分及體積，然後才運往堆填區棄置，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

經處理的排放水會經一條長450米，直徑0.75米的海底排放管排出牛尾海，以便有效地稀釋和擴散。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 to Port Shelter via a 450m long, 0.75m dia. submarine outfall for effective dilution and dispersion. 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.

