Sewage Treatment Process Flowchart

**Key Parameters of Treated Effluent**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Standard (Discharge Standards)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design Flow</td>
<td>8,000 m³/day</td>
</tr>
<tr>
<td>Total Suspended Solids</td>
<td>≤30 mg/L</td>
</tr>
<tr>
<td>5-day Biochemical Oxygen Demand</td>
<td>≤20 mg/L</td>
</tr>
<tr>
<td>Total Nitrogen</td>
<td>≤20 mg/L</td>
</tr>
<tr>
<td>E. coli</td>
<td>≤1,500/100 mL</td>
</tr>
</tbody>
</table>

**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 Ho, 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.

**Our Vision**

To provide world-class wastewater and stormwater drainage services enabling the sustainable development of Hong Kong.
Sewage Treatment Process

**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.

**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.

**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.

**Disinfection**
After final sedimentation, effluent is disinfected by ultraviolet light.

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

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

**Environmental Protection**
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.