

## Llanberis STW Operating Technique- Storm Discharge

The split between treatment and storm flows occurs off site from the treatment works at Llanberis Main Sewage Pumping Station (SPS). When the incoming flows to the SPS exceed the pass forward flows to treatment, the remaining flow is pumped as storm flows.

From the SPS the flows are pumped to the storm screen on the treatment works where solids above 6mm are separated and discharged into a skip for controlled disposal. The screened flow then gravitates firstly into the Blind tank, and once full then into the storm tank. On reaching the tank full weir level, flow is then passed through the existing storm event recorder and out to the consented discharge point.

Once storm flows have abated and the SPS has reverted to forwarding feed flows to treatment only, the Blind and Storm tank volumes are returned to treatment. Storm return is enabled when the treatment flow pumped from the SPS has reduced to a rate so that when storm return flows are added to the treatment flow, the total does not exceed process tolerances. This is achieved by monitoring inlet reception tank level and running the return pumps when the level is low.

The mechanism for returning the storm volumes prioritises the Blind tank. Once storm return is enabled the respective return actuated valve opens, allowing the return pumps to run. If the inlet reception tank level reaches an inhibit level (i.e. storm return is no longer enabled) the pumps and actuated valves revert to stop/close. The mixer pumps for the Blind and Storm tank run while the tanks are emptying, switching off if a rising level is detected.

Once the respective tank is empty, its actuated valve is shut and the pumps stop until the next storm cycle is initiated.