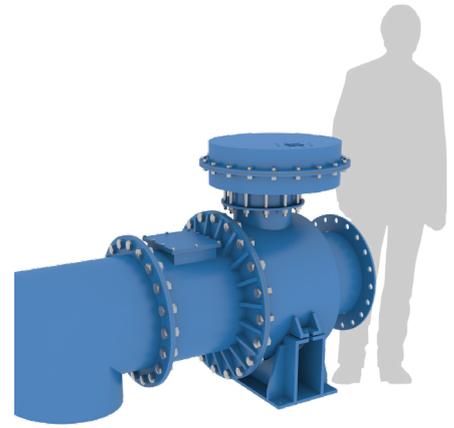


Venturo Installation - Feasibility Report

Sewerage Treatment Works



Introduction

Example Treatment Works serves a domestic population of approximately 660,000 and a further 250,000 population equivalent of industrial waste from the Example area.

The works, which is fed by the City's four major sewer systems, treats on average 210 million litres of sewage per day. 16 million litres of its final output is delivered to the nearby power station for cooling purposes while the remainder is discharged as clean effluent into the adjacent river.

Application

The proposed Venturo system takes as its input the outflow of the final stage of the treatment process and pumps part of it to a storage tank where it may be later used by the plant in any application that requires potable water.

Pump System

The Pump system is located between the final Collection Chamber and the Sampling Chamber which together form the final stage of the treatment process. The Collection Chamber's outflow is directed to the Venturo Pump system where part of it is pumped up to the collecting reservoir tank, the remainder (the pump's 'exhaust') being returned to the final stage of the treatment system. The input flow rates and the pumps characteristics are governed by manually operated gate valves.

The entire system requires no additional power input either electrical, pneumatic or hydraulic; the system is powered entirely by the Collection Chamber's outflow.

Site Data

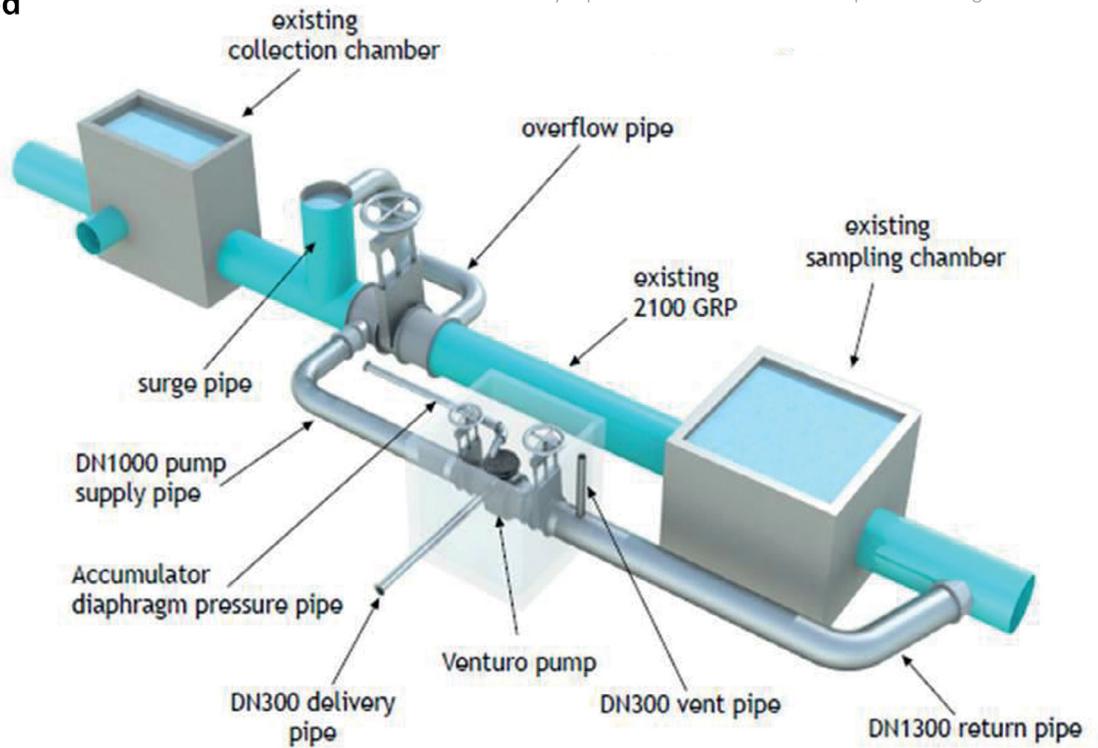
Collected by the Engineer following the visit to the Works.

Inflow Average	1400 litres/ second	Water Quality	Raw
Delivery Average	112 litres/ second	Pump site Footprint	20 metres²
Supply Head	3.5 metres		
Delivery Head	20 metres		

Advisory Comments following Site Visit

None

Suggested Layout Schematic



Range of benefits for specified installation

Benefit	Value (p.a.)	Notes
Energy Saving	200,000 kWh	Based on existing pump energy costs
Mains Water Usage Reduction	n/a	There is no external water usage
Carbon Saving	Yes	100,000 kg annually
Vehicle Useage Reduction	n/a	
Man Hours Savings	n/a	
Final Effluent Quality Improvement	Yes	Option for aeration ancillary could be selected
Cost Saving	£14,000	Based on a cost of £0.7 per Kwh / annually
System Flexibility	Yes	e.g. the system could be extended for aeration
Health and Safety Improvements	Yes	There is a risk reduction without electricity
Maintenance Reduction	Yes	The pumps require less maintenance than existing

Next Steps

An estimate of the overall cost of the installation would be provided for the Venturo Pump system and accompanying groundworks. The estimates would be improved upon following a full engineering survey. The cost can be offset, in monetary terms, by the significant reduction in the energy and maintenance costs involved with fuelled pump. The impact on the existing infrastructure is quite minimal, although it should only be assessed as part of the engineering survey. The cost of the Feasibility Report can be refunded on order of actual equipment and installation of the system.

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