



ASHTON AVENUE CASE STUDY

The project

AVK UK Ltd recently supplied a large number of valves to the Ashton Avenue site, one of Wessex Water's largest Sewage Pumping stations in the South Bristol region. The contract was carried out by the Southampton based M & E contractor Trant Construction Ltd. Central to AVK contribution was DN1200 Series 54 gate valves. With Series 641 DN1200 recoil check valve, Series 54/55/21 gate valves, 200 and 900mm Series 772 Sealshur stainless steel penstocks as well as some large stainless steel constructed stop logs supplied.

All manufactured by AVK manufacturing plants and partners from around the world.

The original site

The Wessex Water Waste Water Collection and Pumping station was originally built in the 1960's period and in 2010 was scheduled for refurbishment and upgrade to help reduce the risk of flooding in the local area. This was completed and commissioned late summer 2011.

Trant Construction Ltd was able to take advantage of the 'one stop shop' that AVK UK can offer with the obvious benefits in terms of project management, material selection, administration and overall cost efficiency benefits. In turn, AVK UK was able to utilise the many centres of excellence and manufacturing facilities within the AVK Group in order to manufacture the products for this contract.



Photograph 1
Original Main Pumping Station



Photograph 2
Removed DN800 Original Valve

With the site being built in the 1960's period the original valves (photograph 1 and 2) and pipe work needed to be removed and upgraded to new AVK product. It is clear from the photographs taken that significant steps have been made in innovation in terms of the valve design, material choice as well as operational technology.



The AVK supply



Photograph 3
New AVK DN1200 Series 54 Gate Valves

AVK considered all aspects of design to ensure that the best engineered solution was supplied, incorporating material selection and supply chain partners at a competitive rate. The above photograph shows the large diameter gate valves fitted with spur gearboxes (in grey) with extension stems leading to floor mounted Rotork actuators (unseen). The gearbox selected by AVK UK was designed to deliver a lower operating torque to be transmitted through the extension piece. This ultimately means that a smaller and less expensive actuator can be fitted to the valves and subsequently lowers the power use and energy consumption of the product. The original valves seen in photograph 1 do not have the direct mounted gearing and must have required a very large and costly actuator to operate.



Photograph 4
New AVK Valves Within Pump House



Photograph 5
New AVK Valves Within Pump House

In addition, AVK UK supplied 3 x DN1200 Series 641 multi disc recoil check valves. These were built at Glenfield Valves manufacturing plant in Kilmarnock. Glenfield was established in 1852 and is still going strong with pedigree to match. They have been wholly owned by the AVK group since 2001. These recoil check valves weighed in at around 7 tonne each.



***Photograph 6
Original Actuated Valves***



***Photograph 7
AVK Series 54 Geared Gate Valve***

Innovation has always been key to AVK UK's success and comparisons between photograph 6 and 7 clearly demonstrates the evolution in designs from the 1960's original valve to the latest AVK UK's version in Photograph 7. The more compact nature of the AVK UK valve top works demonstrates clearly the value engineering and design development that has been carried out over the years to allow AVK UK to supply a top quality product at a competitive rate. The new valves can be seen with spur gearbox and muff coupling leading to an (unseen) Rotork actuator via a floor mounted pillar mounted on the roof of the building.

AVK UK supplied a large number of Series 21 and Series 55 resilient seated gate valves and specialist extensions stems. (photograph 8). Double acting Air relief valves Series 701/70's were also supplied, (photograph 9) these were adapted on site to have piped outlet to suit local conditions.



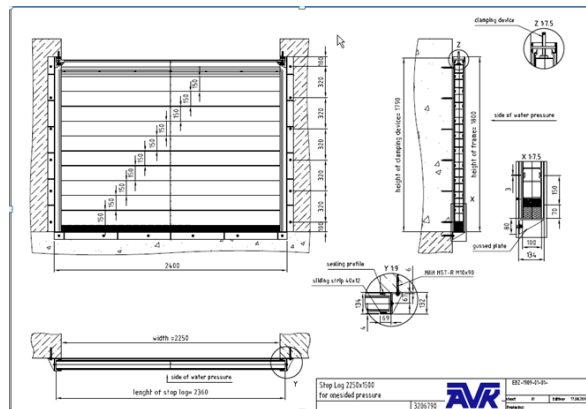
***Photograph 8
Series 55 Gate Valve With Offset
Extension Stem And Universal
Couplings Valves***



***Photograph 9
Series 701 Waste Water Double
Acting Air Relief Valves With Piped
outlets***



AVK UK's large scope of products supplied to this project included Rotork actuated 900mm and 200mm square Sealshur penstocks with in excess of 5 metres extension stems. In addition 2250mm x 1500mm 4 sided sealing stainless steel stop logs. These were manufactured specifically for this site and were used to keep the river at bay while work on the plant commenced. Once the plant was recommissioned these stop logs were abandoned.



Drawing 1
2250mm x 1500mm Four Sided Sealing, Stainless Steel Stop Log and Frames

With the potential complexity of this project, AVK UK was able to deliver a technically bespoke solution that encompassed savings through product choice.

This project has been able to make clear the advantages of AVK UK working proactively with a contractor to help deliver a final solution.

AVK UK acknowledges that without Trant Construction willingness to involve AVK UK, the final solution delivered may not have followed this design.

AVK UK manufactures and distributes a broad range of products and services for the water and waste water segments. Utilising this vast array of products AVK UK was able to supply all of the valving and penstock needs for this contract.

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