

New mine pumps assure East Midlands' water quality

ECS Engineering Services has completed a mine water pump upgrade project in Derbyshire that will protect public water supplies as well as local rivers and lakes from pollution.

The 'A' Winning mine water treatment scheme (MWTS) in Blackwell, near Chesterfield, safeguards the Nottinghamshire Permo-Triassic aquifer, which supplies much of the potable water for the whole of the East Midlands and also connects to a number of rivers and several disused coal mines. It works together with other similar installations across the coalfield to keep the water below the level where it could overspill into the aquifer or an underground watercourse.

The project was awarded to ECS by the Coal Authority, a government body that manages the effects of past coal mining operations to protect aquifers and water quality, rivers and the wider landscape and the wildlife they support. It involved renewing and upgrading the pumps, motor control centre and electrical infrastructure at 'A' Winning.

One major aspect of the project involved removing and replacing two large submersible pumps that had reached the end of the serviceable life. The new pumps are both 210 kW units with a capacity of 110 litres per second and were installed in a new location 116 metres below ground, at a level some 60m lower than the original ones. To facilitate this, ECS also had to structurally assess, and strengthen the existing steel headworks to accommodate the additional loadings. Additionally, the project required the installation of new coated pipework to the lower pump position and replacement of an aging transformer.

As part of the same project ECS also supplied and installed a new bespoke motor control centre (MCC) for the pumps' motors and renewed the lighting, power supply and heating services.

ECS Contracts Director, Clark Williamson, explains: "Like all MWTS, 'A' Winning is designed to recover polluted water so that it can be purified by oxygenating it through cascades, cleaning it through reed beds and other recovery techniques. Having been treated, it is safe for release back into the wider environment."

"At 'A' Winning one of our major objectives was to keep the site functioning, recovering and cleaning water, while we upgraded the pumping equipment."

It was an absolute requirement to maintain continuity of operations at 'A' Winning throughout the period of the project. This meant ECS had to get the new equipment into place and running within a short window of opportunity, with resilience plans in place if pumping needed to be restored at short notice during the shutdown.

"In summary ECS has delivered a very successful refurbishment and modernisation project for our client, and has delivered well within the contracted time and budget constraints. Our experience in delivering schemes such as this enabled us to highlight several areas of risk, and successfully mitigate these potential issues with the minimum of impact. Our client has commented on several occasions how happy they are with the delivered scheme and our performance on site."

ECS works hard to deliver high quality, reliable and cost-effective engineering solutions for water, energy and environmental processing and management projects and is proud to be recognised as one of the foremost companies in its field. Many of its projects entail bespoke designs that are tailored to the individual needs of each project, so it is also known for the expertise of its design department.

The Coal Authority is responsible for 75 mine water treatment schemes across Britain, handling and treating over 120 billion litres of mine water annually. This protects over 350 km (200 miles) of rivers, several important regional aquifers, biodiversity and amenity land. As such, it is highly reliant upon the expertise, commitment and services of companies such as ECS.

Photo Captions:-

Pic 1:- ECS Engineering Services has completed a mine water pump upgrade project in Derbyshire that will protect public water supplies as well as local rivers and lakes from pollution.

Pic 2:- As part of the same project ECS Engineering Services supplied and installed a new bespoke motor control centre (MCC) for the pumps' motors and renewed the lighting, power supply and heating services.

Pic 3:- ECS Engineering Services works hard to deliver high quality, reliable and cost-effective engineering solutions for water, energy and environmental processing and management projects and is proud to be recognised as one of the foremost companies in its field.

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About ECS Engineering Services

ECS Engineering Services has over 20 years experience in delivering high quality, reliable and cost effective engineering solutions, specialising in bespoke design and construction of water, energy and environmental processing and management projects.

In conjunction with key supply partners, ECS has the expertise and capacity to design and install a wide range of water control engineering projects. With in-house fabrication services, which have CE Marking approval to EXC3, well equipped and highly skilled engineers can also complete structural steelwork, bespoke fabrication work and access metalwork to the highest standard.

With a complete range of site services available, ECS offers a full turnkey project managed service for mechanical and electrical installations including managing civils contractors and supplying pipework, control and automation work to ensure that every installation is installed and commissioned to the highest standard. Existing clients include the majority of the UK Water Utility companies, Government Agencies and Internal Drainage Boards.

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