Shotton Paper Mill – complex demolition, dismantling and earthworks

Shotton Paper Mill, Deeside, was recently purchased by Eren Group. The Group consists of paper manufacturing, cement production and energy production.

The site was originally reclaimed from the adjacent Dee Estuary for the construction of British Steel Shotton; a huge volume of sand was pumped ashore in the 1940's to enable the site to expand. The steel works closed in 1980, however construction of the paper mill commenced soon after.

With the decline in requirements for newspapers, the new owners quickly identified the requirement to change Shotton's output from newsprint and turn it into a producer of packaging card and tissue paper. The redevelopment requires the demolition of almost the entire production facility before building new processing plant.

John F Hunt Regeneration was contracted to complete a demolition and enabling project for the new plant. The Company has a long history of successfully delivering complex demolition and remediation projects across the UK and immediately set about developing a plan for the demolition works to commence.

Service disconnections and flushing of the miles and miles of pipework and ensuring live sub stations throughout the site were kept working were major complexities; these feed the existing recycling facility and power station which are staying live throughout the demolition. Working closely with the sites' management and the Principal Designer, the JFHR team successfully ensured these plants were kept live until diversions were completed.

The first part of the project was to demolish the finished goods Paper Store to provide a yard suitable for the metal processing operations required.

The paper production halls had been constructed from exceptionally heavy steel sections with heavily reinforced concrete walls and floors, all to withstand the vibrations and forces coming from the huge paper machines they housed. PM1 was the first to be demolished as this machine had been decommissioned several years ago. PM2, however, was still in use when the new owner purchased the site - as an up-to-date machine, the company are selling the entire asset for reuse elsewhere. Once the cladding sheets were removed the columns were pushed over to allow safer and easier processing on the floor.

Matt Harvey, the Project Manager commented, "As the team entered PM1, they removed the paper machine section by section as they proceeded through the building. Each paper machine was over 100m long and consisted of heavy steel sections filled with several heavy rollers up to 75 tonne in weight. These were designed to squeeze water out of the new paper as it progressed through the machine. Both buildings were adjacent to each other, which meant the decommissioning and demolition phase had to be carefully conducted to save any damage to the PM2 Building and the machinery within."

John F Hunt Regeneration are no strangers to dealing with heavy demolition operations and whilst a combination of mechanical and burning operations have safely downed much of the structure, the ground on which it sat has revealed far more than the project team expected.

Built over the old steelworks, the team has uncovered a large amount of the former site's industrial heritage buried beneath. "We have found piles, concrete footings, slabs, even old chimney bases buried. All the material is being crushed into 6f2 for use in the onward build. However, we have also found some contaminated materials that have required treatment by way of careful segregation and treatment by our land remediation specialist colleagues".

The client was keen to agree early completion so reconstruction operations could commence as soon as possible. "We are used to this, we focus on delivering certain sections as quickly as possible. Having the added issue of uncharted structures below ground has impacted on the time scale slightly, but this has been offset by the work we are able to undertake having appointed specialist subcontractors to help process and recycle material on site."

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