

Project Case Study: Oughtibridge Mill, Sheffield

Services: Demolition, Remediation & Preparatory Earthworks



Demolition | Enabling Earthworks | Remediation | Drilling | Civil Engineering | Plant & Technology | Geotechnical | Environmental | Planning | Renewable Energy

The Sirius Group: Confidence you can build on

Client: Commercial Estates Group

Project: Oughtibridge Paper Mill, Sheffield

Duration: 8 months

Services: Demolition, Remediation & Preparatory Earthworks

Sector: Residential

Contract value: £1.95m



Sirius demolition phase of the former paper mill

Project Description

Demolition, remediation and preparatory earthworks of former paper mill for future residential development.

Site Features

The 35 acre former paper mill straddles the river Don and, unusually, falls within the curtilage of both Barnsley and Sheffield City Council jurisdictions. Process and manufacturing buildings, an extensive waste water treatment facility and historic landfill were key features of the site. Eastern & Western parts of the site were connected by an existing vehicle bridge with 32 tonne weight limit, presenting significant operational

constraint for heavy plant. Hydrocarbon and Asbestos contamination were present, along with extensive made ground requiring geotechnical modification.

Project Brief

Our client's goal was to gain planning permission and prepare the site for sale as residential development land. The site would be remediated and marketed for sale in development parcels, or as a single developer site. As part of the client's project team, Sirius were appointed as geoenvironmental consultant and design and build contractor, responsible for investigation, design and remediation of the site.

Aerial view of the former Oughtibridge Paper Mill



Sirius continued to play a key role in advising our client and prospective developers on ground related matters beyond the period of preparatory works and through to eventual sale of the site.

Investigation & Design Phase

Numerous phases of ground investigation were carried out, to understand soil and groundwater contamination and geotechnical soil properties. Investigations were implemented specifically to inform proposed remediation and infrastructure for the future residential development, including new vehicle and pedestrian bridges and to satisfy requirements of local planning authority. Slope stability assessment and design of a sheet piled feature to mitigate the risk of slope failure were carried out, along with a Remedial Strategy for the site. Liaison with local planning authority assisted award of planning permission within the programmed period.

Ground-modelling software was applied to design development platforms for the site, ensuring key principles of flood risk mitigation and earthworks balancing were met, whilst monitoring cost implications for foundations and infrastructure to residential properties.

Sirius were responsible for early communication and implementation of the NHBC land quality endorsement scheme, which allows landowners and developers to engage with NHBC, prior to the site being registered for Buildmark warranty cover. Principles of remediation and ground improvement were established and agreed. Liaison continued with NHBC throughout the remediation phase, through to validation and approval of the works.

All necessary operational and environmental permits were applied in advance of the works including EA permit for works adjacent River Don, local authority demolition notification (S80), HSE asbestos notification (ASB5) and plant specific environmental permits.



Demolition phase



Demolition phase



Demolition phase



Contaminated soils being excavated in readiness for treatment



Demolition phase



Riverbank re-grading

Remediation Phase

Key aspects of remediation and preparatory works:

- Asbestos removal & demolition of existing structures (inc. part demolition of historic mill)
- Breaking and crushing of existing foundations to generate recycled aggregate (circa 80,000 tonnes)
- Installation of sheet piled wall
- Geotechnical improvement of soils applying Sirius' STAR specialist plant
- Treatment of hydrocarbon contaminated soils to meet standard suitable for re-use
- Excavation, processing and re-compaction of soils specific to ground conditions & proposed foundations (circa 180,000m³)
- Surcharging & monitoring of soft alluvial soils to mitigate settlement risk.



The Sirius STAR (Soil Treatment And Remediation) machine in action

Post Remediation Phase

A validation report was prepared, to confirm the objectives of the approved Remedial Strategy had been met, which incorporating all chemical, geotechnical and environmental testing and analysis. Subsequent approval by the local planning authority and receipt of NHBC land quality endorsement certification provided confidence and value to prospective purchasers of the site. Sirius' technical and commercial teams went on to support our client through to successful sale of the site to a national housebuilder.



Highway embankment construction



Final stages of the main site surface



Final site surface ready for handover

Demolition, earthworks, remediation, drilling and civil engineering contractors.
Geotechnical, environmental and planning consultants. Renewable Energy.

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