



Enfinium

ENFINIUM FERRYBRIDGE

Preliminary Risk Assessment





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Preliminary Risk Assessment

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CONTENTS

1	INTRODUCTION	1
1.1	TERMS OF REFERENCE	1
1.2	DEVELOPMENT PLANS	1
1.3	ASSESSMENT AIMS AND OBJECTIVES	1
1.4	SCOPE OF WORKS	1
1.5	LEGISLATIVE CONTEXT & GUIDANCE DOCUMENTS	2
1.6	SOURCES OF INFORMATION	2
1.7	UNDERSTANDING RISK	4
1.8	CONFIDENTIALITY AND LIMITATIONS	4
2	SITE BACKGROUND INFORMATION AND SETTING	5
2.1	SITE DESCRIPTION AND CURRENT USE	5
3	HISTORICAL LAND USE	7
3.1	ON-SITE HISTORY	7
3.2	HISTORY OF SURROUNDING LAND USE	8
4	ENVIRONMENTAL SETTING	11
4.1	PUBLISHED GEOLOGY	11
4.2	COAL MINING	12
4.3	MINING (NON-COAL RELATED)	14
4.4	GEOHAZARD SUMMARY INFORMATION	14
4.5	HYDROGEOLOGY	14
4.6	HYDROLOGY	15
4.7	FLOODING	15



4.8	ECOLOGY & ARCHAEOLOGY	16
4.9	CLIMATE CHANGE	16
4.10	UNEXPLODED ORDNANCE (UXO)	16
4.11	RADON	17
4.12	MINE GAS	17
5	REGULATORY INFORMATION AND CONSULTATION	18
5.1	REGULATORY DATABASE	18
5.2	SENSITIVE LAND USES	19
6	EXISTING REPORTS	20
6.1	AVIALABLE REPORTS	20
6.2	FEBRUARY 2011 FACTUAL GROUND INVESTIGATION REPORT	20
6.3	MAY 2011 FACTUAL GROUND INVESTIGATION REPORT	21
6.4	JANUARY 2012 URS APPLICATION SITE REPORT	22
7	PRELIMINARY GROUND MODEL	24
7.1	GENERAL	24
7.2	SOUTHERN SECTION OF SITE	25
8	PRELIMINARY CONCEPTUAL SITE MODEL	26
8.1	INTRODUCTION	26
8.2	POTENTIAL SOURCES OF CONTAMINATION	26
8.3	POTENTIAL PATHWAYS	27
8.4	POTENTIAL RECEPTORS	27
8.5	PRELIMINARY CONCEPTUAL SITE MODEL	28
9	PRELIMINARY COAL MINING RISK ASSESSMENT	34
9.1	INTRODUCTION	34
9.2	COAL MINING RISK	34
9.3	UNRECORDED NON-COAL MINING AT SHALLOW DEPTH	37

10	GEOTECHNICAL CONSIDERATIONS	38
<hr/>		
10.1	PROPOSED DEVELOPMENT PLANS	38
10.2	GROUND CONDITIONS SUMMARY	38
10.3	STRUCTURAL FOUNDATION REQUIREMENTS	38
10.4	FLOOR SLABS	39
10.5	EARTHWORKS	39
10.6	EXCAVATIONS	40
10.7	PAVEMENTS AND HARDSTANDING	40
10.8	GROUND SUBSIDENCE RISK	40
10.9	GEOTECHNICAL RISK REGISTER	41
11	CONCLUSIONS AND RECOMMENDATIONS	46
<hr/>		
11.1	INTRODUCTION	46
11.2	LAND QUALITY	46
11.3	PRELIMINARY COAL MINING RISK ASSESSMENT	47
11.4	GEOTECHNICAL	47
11.5	RECOMMENDATIONS	47
12	REFERENCES	49
<hr/>		

TABLES

Table 1.1 – Summary of Site Details	5
Table 3.1 – On-site history details	7
Table 3.2 – Surrounding Land history details	8
Table 4.1 – Groundwater strikes and water depths during previous ground investigation (February 2011)	15
Table 7.1 - Preliminary Ground Model	24
Table 9-1 - Summary of Assessed Coal Mining Risks	36
Table 10-1 - Scoring system used in the Geotechnical Risk Register	41

APPENDICES

APPENDIX A

FIGURES & DRAWINGS

APPENDIX B

GROUNDSURE REPORT

APPENDIX C

COAL AUTHORITY COAL MINING REPORT

APPENDIX D

ZETICA PDSA

APPENDIX E

BGS BOREHOLE RECORDS

APPENDIX F

CIRIA RISK DEFINITIONS

APPENDIX G

REPORT LIMITATIONS

APPENDIX H

WALKOVER PHOTOGRAPHS

1 INTRODUCTION

1.1 TERMS OF REFERENCE

WSP UK Ltd (WSP) have been appointed by Enfinium to undertake a Geo-Environmental Preliminary Risk Assessment (PRA) including a preliminary Coal Mining Risk Assessment (CMRA) to support the purchase of additional parcels of land adjacent to their existing Energy from Waste (EfW) facilities at Ferrybridge.

The work was undertaken in accordance with our proposal dated 23 September 2024 (ref. Enfinium Carbon Capture Project – Geo-Environmental Risk Assessment).

The site location and current layout are presented in Figure 1 and Figure 2 in Appendix A.

1.2 DEVELOPMENT PLANS

The proposed development involves the installation of a carbon capture and storage facility on land adjacent to the existing Ferrybridge 1 and Ferrybridge 2 EfW facilities. In order to accommodate the development, Enfinium is looking to purchase additional parcels of land adjacent to the east and south east of Ferrybridge 1 from Scottish and Southern Electricity (SSE).

There are currently no fixed development plans for the areas proposed for purchase, however an indicative layout plan of the proposed Carbon Capture Plant (CCP) is provided in Appendix A as WSP Drawing No. 70093613-FB1-DWG-006A. The majority of the equipment is likely to be installed in the area to the immediate south of Ferrybridge 1 (the area of the current stores/workshops), with the remainder of the area used as a laydown/ compound area during construction and unused during the operational phase.

1.3 ASSESSMENT AIMS AND OBJECTIVES

The principal aim of this assessment is to support Enfinium in the purchase of additional parcels of land from SSE.

To address the identified aim, the key objectives are to:

- Develop a preliminary ground model and Conceptual Site Model (CSM) to identify potential environmental and geotechnical risks associated with the development of the proposed CCP;
- Evaluate likely contaminated land exposure pathways and their potential significance to identified receptors to support the proposed works;
- Highlight environmental and geotechnical considerations (i.e. potential risks/constraints) with respect to ground, ground gas and groundwater conditions;
- Highlight potential constraints which could impact on the delivery of development at the site; and,
- Provide conclusions and recommendations, including recommendations for future work required to further understand potential ground related risks.

1.4 SCOPE OF WORKS

To meet the aims and objectives identified in **Section 1.3**, this Geo-Environmental PRA report has been prepared to include the following scope of works:

- A site walkover;

- A review of information provided by the Client, as well as pertinent publicly available regulatory information and available historical Ordnance Survey (OS) maps, to assess the current and historical potentially contaminative uses of the site, and of land uses in the vicinity of the site;
- A review of publicly available information pertaining to the geology, hydrogeology and hydrology of the site and surround area in order to assess ground conditions and the presence of plausible sensitive environmental receptors. This includes a review of borehole data, regulatory databases, mapping, and purchase and review of a Groundsure report;
- Derivation of an initial CSM to conceptualise contaminated land risks in accordance with the Environment Agency’s (EA) Land Contamination Risk Management (LCRM) guidance;
- Purchase and review of information relating to previous coal mining activities in the area;
- Production of a preliminary CMRA;
- Provision of a preliminary geotechnical constraints assessment and an initial Ground Risk Register;
- Preparation of a constraints plan to indicate key areas of ground risk; and,
- Provision of conclusions and recommendations, including recommendations for future work required to further understand potential ground related risks.

1.5 LEGISLATIVE CONTEXT & GUIDANCE DOCUMENTS

The assessment was undertaken in the legislative context of:

- Part 2A of The Environmental Protection Act (1990); and.
- The National Planning Policy Framework (2021).

The following good practice and statutory guidance was considered, and the assessment was undertaken in general accordance with:

- Environment Agency ‘Land Contamination Risk Management’ (LCRM) (2023);
- CIRIA C552 ‘Contaminated Land Risk Assessment. A guide to good practice’ (2001); and,
- Yorkshire and Lincolnshire Pollution and Advisory Group (YALPAG) (version 12.2, July 2023). Development on Land Affected by Contamination. Technical Guidance for Developers, Landowners and Consultants.

1.6 SOURCES OF INFORMATION

The following relevant sources of information were used in the production of this report.

Table 1.1 - Sources of Information

Source	Report
Existing Third Party Reports	<ul style="list-style-type: none"> ■ URS, January 2012. Application Site Report, prepared for Ferrybridge MFE Ltd. ■ Soil Mechanics, May 2011. Ferrybridge Multi-Fuel Power Station Phase 2, Factual Report on Ground Investigation. Prepared for SSE PLC.

Source	Report
	<ul style="list-style-type: none"> ■ Soil Mechanics, February 2011. Ferrybridge Multi-Fuel Power Station Phase 2, Geoenvironmental Laboratory Test Results Photographs and Drawings. Prepared for SSE PLC. ■ Soil Mechanics, February 2011. Ferrybridge Multi-Fuel Power Station Phase 2, Factual Report on Ground Investigation, Geoenvironmental Laboratory Test Results. Prepared for SSE PLC. ■ Soil Mechanics, February 2011. Ferrybridge Multi-Fuel Power Station Phase 2, Factual Report on Ground Investigation, Text, Exploratory Hole records, Instrumentation and Monitoring, Geotechnical Laboratory Test Results. Prepared for SSE PLC
GOV.UK Flood Map for Planning	GOV.UK – Flood Map For Planning. Draw the boundary of your site - Flood map for planning - GOV.UK (available via flood-map-for-planning.service.gov.uk) (Accessed: 10 October 2024)
Information Purchased / Sourced by WSP	<ul style="list-style-type: none"> ■ Groundsure, 3 October 2024 - Reference: GS-YZ2-V11-37B-Q7E (Appendix B) ■ Coal Authority (CA), 3 October 2024. Consultants Coal Mining Report, Coal Authority Reference 51003454259001 (Appendix C) ■ <i>Coal Authority – awaiting additional information (Appendix C)</i> ■ Zetica Unexploded Ordnance (UXO) Pre-Desk-Study Assessment (PDSA) (Appendix D)
Public Information	<ul style="list-style-type: none"> ■ The British Geological Survey (BGS) <ul style="list-style-type: none"> ● BGS Onshore GeoIndex available at GeoIndex - British Geological Survey (bgs.ac.uk) ● Geological Survey of England and Wales 1:50,000 Geological Map Sheet 78 (Wakefield) Solid and Drift. ● Geological Survey of England and Wales 1:10,000 Geological Map Sheet SE42NE Solid and Drift - 1990 ● Geological Survey of England and Wales 1:10,000 Geological Map Sheet SE42SE Solid and Drift - 1990 ● BGS Geological Memoir, Wakefield District, Geology of the country around Wakefield. Explanation of Sheet 78, 1940. ● BGS Borehole Records (Appendix E) ■ MAGIC Maps <ul style="list-style-type: none"> ● DEFRA – Magic Maps (available via Magic Map Application (defra.gov.uk) (accessed: 10 October 2024) ■ The Coal Authority <ul style="list-style-type: none"> ● CA Interactive Map (available via https://mapapps2.bgs.ac.uk/coalauthority/home.html) (accessed: 10 October 2024) ■ GOV.UK Flood Map for Planning <ul style="list-style-type: none"> ● GOV.UK – Flood Map For Planning. Draw the boundary of your site - Flood map for planning - GOV.UK (available via flood-map-for-planning.service.gov.uk) (Accessed: 10 October 2024) ■ Climate Central

Source	Report
	<ul style="list-style-type: none"> • Climate Central coastal screening tool (Available via Climate Central Land below 0.7 meters of water) (accessed: 310 October 2024) ▪ Met Office <ul style="list-style-type: none"> • UKCP18 Factsheet: Sea level rise and storm surge (ukcp18-fact-sheet-sea-level-rise-and-storm-surge.pdf (metoffice.gov.uk)) (accessed: 10 October 2024) • Climate Change Projections Over Land (Climate change projections over land - Met Office) (accessed: 10 October 2024) ▪ UK Centre for Ecology and Hydrology <ul style="list-style-type: none"> • Advanced Future Flows and Groundwater (eFLaG) Portal (Enhanced Future Flows and Groundwater (eFLaG) Portal (ceh.ac.uk)) (accessed: 10 October 2024)
Notes:	The report contains British Geological Survey materials ©NERC 2017 and Environment Agency information ©Environment Agency and database right.

1.7 UNDERSTANDING RISK

It is important to understand that any risks identified during a preliminary assessment, such as the one presented in this document, are perceived risks based on the information reviewed. A more detailed assessment of the actual risks can only be assessed following further intrusive investigations.

The preliminary assessments presented herein are qualitative based on professional judgements following the review of available data and within the context of the existing/proposed use. Those risk categories presented (very low, low, low to moderate, moderate, high and very high) follow guidance presented in CIRIA Publication C552, Contaminated Land Risk Assessment – A Guide to Good Practice. CIRIA states that the risk levels should be based on an understanding of both the probability (likelihood) of a risk occurring and the magnitude of the potential consequence (severity) of a risk.

CIRIA defines four levels of probability and four levels of severity with relation to contaminated land, as presented in Appendix F.

1.8 CONFIDENTIALITY AND LIMITATIONS

This report is addressed to and may be relied upon by Enfinium. The report may not be relied upon or transferred to any other parties without the express written authorisation of WSP. This report should be read in full. No responsibility will be accepted where this report is used, either in its entirety or in part by any other party.

Third party information used in the production of this report has been taken in good faith as being accurate. WSP cannot and will not accept any liability for errors and/or omissions in data provided by others and WSP cannot warrant the work of others.

General limitations of the assessment are included in Appendix G.

2 SITE BACKGROUND INFORMATION AND SETTING

2.1 SITE DESCRIPTION AND CURRENT USE

A site location and current layout plan are presented in Appendix A as Figure 1 and Figure 2 respectively.

A site walkover was undertaken on 2 October 2024 by a WSP representative. The key observations from the walkover are presented in Table 2.1. Site walkover photos are presented in Appendix H.

Table 1.1 – Summary of Site Details

Detail	Comment
Name and Address of Site	Land to the east and south east of Enfinium Ferrybridge 1 Multifuel, Ferrybridge, Knottingley, West Yorkshire, WF11 8DX
National Grid reference	SE473250
Site Description and Current Use	<p>The site can be broadly split into the following four areas:</p> <p>South west – currently occupied by vacant buildings, formerly used for storage and workshops/maintenance,</p> <p>South – referred to as the Keadby stores. Four buildings used for the storage of general equipment.</p> <p>North – currently vacant, formerly occupied by oil storage tanks. Rail sidings form the northern boundary of this area.</p> <p>North east - densely vegetated with approximately 50% tree cover.</p>
Area	Approximately 3.56 hectares (Ha)
On-site Activities	The site is predominantly disused with the exception of the Keadby stores.
Site Setting and Surrounding Land Uses	<p>The site is located in an area of current and historical industry, primarily associated with power generation.</p> <p>Operational EfW facilities Ferrybridge 1 and Ferrybridge 2 are situated to the west and north of the site.</p> <p>Ferrybridge Substation B and C are located to the east and south. The area to the south of the site is predominantly derelict land, formerly occupied by the Ferrybridge A, B, and C power stations.</p>
Topography and Ground Cover	<p>The site is generally flat lying with no significant gradients with the exception of a ditch running along the southern boundary of the north eastern area.</p> <p>Groundcover comprised generally hardstanding in the southern areas, gravel / concrete hardstanding in the northern area and vegetation in the north eastern area.</p>

Detail	Comment
Boundaries	The boundary is irregularly shaped largely formed by a fenceline between the existing Enfinium facility to the west, the northern boundary is delineated by the existing sidings and the southern boundary of the north eastern area is formed by a ditch. The Keadby storage area is currently secured by a concrete wall topped with barbed wire.
Flooding	Areas of standing water were observed in areas of the site, however there was no evidence of flooding.
Embankments & Slopes	Aside from the ditch running along the southern boundary of the north eastern area there are no significant embankments or slopes.
Trees & Vegetation (including invasive species)	The north eastern area is densely vegetated. During the walkover there were no observations made of invasive species, however the walkover was not completed by a qualified ecologist. It is understood that there is an ecological Phase 1 report available for the north eastern area, however this has not been reviewed as part of this PRA.
Visual Observations of Contamination or Ground Subsidence	There were no observations made of contamination at the surface during the walkover. Nor were there any observations made of potential ground subsidence.

3 HISTORICAL LAND USE

A Groundsure Enviro+Geo Report (**Appendix B**) was ordered, including historical mapping of the site and surrounding area. History of the site and surrounding area has been summarised in **Tables 3.1** and **3.2** respectively.

3.1 ON-SITE HISTORY

Table 3.1 – On-site history details

Mapping Source and Date	Details
<p>OS County Series (1:10,560) - 1852, 1890-1891, 1905</p> <p>OS County Series (1:2,500) - 1893, 1907</p>	<p>The site is shown as undeveloped land, likely agricultural.</p> <p>Fryston Beck is shown to run along the southern border of the site, crossing into the site in two locations.</p> <p>A footpath is shown to the north of the Fryston Beck, intersecting the far south of the site from east to west.</p>
<p>OS County Series (1:10,560) - 1931, 1938</p> <p>OS County Series (1:2,500) - 1933</p>	<p>The site is largely unchanged from previous mapping.</p> <p>An electricity pylon is now shown in the centre of the southern half of the site.</p>
<p>OS Provisional (1:10,560) - 1950, 1953-1956</p> <p>OS National Grid (1:2,500) - 1959</p>	<p>The site is largely unchanged from previous mapping.</p> <p>The electricity pylon is now shown to be connected to similar pylons to the east and south-west of the site.</p>
<p>OS National Grid (1:2,500) - 1968-1970</p>	<p>The electricity pylon in the southern half of the site is no longer shown.</p> <p>An electricity pylon is now shown in the northern half of the site, adjacent to the eastern boundary. This pylon is connected to others outside the site boundary to the north and south.</p>
<p>OS National Grid (1:10,000) - 1982</p>	<p>The site is now shown as a part of the larger Ferrybridge Power Station.</p> <p>Two large tanks are shown in the centre-north of the site with a small area of water surrounding the western section of the eastern tank.</p> <p>A large section of the southern area of the site appears to be fenced off, it is unclear whether there is a building present or not.</p> <p>Two paths are shown intersecting the north of the site, with another crossing the centre of the site.</p> <p>Pipelines are shown to be running down the southern boundary of the site.</p>
<p>OS National Grid (1:1,250) - 1985</p>	<p>Two small rectangular structures are shown to the north-west of the water body.</p>

Mapping Source and Date	Details
OS National Grid (1:2,500) - 1993-1994	The structure in the southern area of the site is no longer shown. A cluster of several smaller building is now shown occupying this area, in the same layout as present day.
OS National Grid (1:10,000) - 2001, 2010	No significant changes shown.
OS National Grid (1:10,000) - 2024	The tanks and water body to the centre-north of the site are no longer shown.

3.2 HISTORY OF SURROUNDING LAND USE

Table 3.2 – Surrounding Land history details

Mapping Source and Date	Details
OS County Series (1:10,560) - 1852, 1890-1891 OS County Series (1:2,500) - 1893	Most of the land surrounding the site is shown to be undeveloped, possibly agricultural land. Fryston Lane is shown approximately 100m to the north-east of the site. Strangland Lane is shown approximately 250m to the south of the site. A railway is shown approximately 550m to the east of the site.
OS County Series (1:10,560) - 1905, 1931, 1931-1932 OS County Series (1:2,500) - 1907, 1933	A sewage works is shown approximately 650m to the south-west of the site
OS County Series (1:10,560) - 1938	Electricity pylons are shown to the east and south-west of the site.
OS County Series (1:10,560) - 1950 OS Provisional (1:10,560) - 1953-1956	Sand and gravel pits are shown approximately 250m and 400m to the north of the site. Electricity cables are shown approximately 250m to the south of the site

Mapping Source and Date	Details
OS National Grid (1:2,500) - 1959	<p>Several small structures and a pump are shown approximately 180m to the east of the site.</p> <p>Three electricity pylons are shown approximately 150m to the north-east of the site.</p>
OS Provisional (1:10,560) - 1965-1967, 1968	<p>The area directly to the south and east of the site is now shown as an Under-Construction Power Station, including a large structure, several smaller structures, a hopper, and a chimney.</p> <p>Two cooling towers are shown approximately 100m to the east of the site, with a further six extending 500m to the south-east of the site.</p> <p>Strangland Lane is no longer shown to the south of the site.</p> <p>Several railway lines are shown approximately 300m to the north-east of the site.</p> <p>A large works is shown approximately 500m to the north-east of the site, including three cooling towers.</p>
<p>OS National Grid (1:2,500) - 1968-1970, 1968-1973</p> <p>OS National Grid (1:1,250) 1972-1973</p>	<p>The land to the north, east, and south of the site is now shown as the Ferrybridge Power Station.</p> <p>A large building is shown approximately 60m to the south of the site, listed as a Transmission House.</p> <p>A Turbine House and a Mill and Boiler House are shown approximately 150m to the south-east of the site. Nine electrical transformers are shown directly to the north of the Turbine house.</p> <p>A railway line is now shown approximately 10m to the north of the site.</p> <p>Three electricity pylons are shown directly to the south of the site. Another three electricity pylons are shown to the east of the site, approximately 50m, 110m, and 150m to the east of the site.</p>
OS National Grid (1:10,000) - 1975, 1982	<p>A pipeline and a conveyor are now shown adjacent to the north-eastern site boundary. Pipelines are also shown connecting multiple cooling towers.</p> <p>Several more buildings are now shown to the south-east of the site as part of the Ferrybridge Power Station. Another chimney and six more tanks are also shown alongside the others shown in previous mapping.</p> <p>Several roads are now shown connecting the buildings shown surrounding the site.</p> <p>The works to the north-east of the site is now shown as part of the Ferrybridge Power Station. A conveyor is shown connecting this part of the power station to the Turbine House and Mill and Boiler House shown to the south-east of the site.</p> <p>A depot is shown approximately 500m to the south-east of the site.</p>
OS National Grid (1:1,250) - 1993-1994	<p>Twelve tanks are now shown approximately 30m to the east of the south-east of the site.</p>

Mapping Source and Date	Details
	<p>The electrical transformers to the north of the Turbine House are no longer shown. Four electrical substations are now shown in the locations of the electrical transformers,</p>
<p>OS National Grid (1:10,000) - 2001</p>	<p>The cooling towers to the east and south-east of the site are no longer shown. Several small, elongated ponds are now shown in the location of the historical cooling towers.</p> <p>The depot to the south-east of the site is no longer shown.</p> <p>All pipelines surrounding the site are no longer shown.</p>
<p>OS National Grid (1:10,000) - 2010</p>	<p>The conveyor shown connecting the Turbine House and Mill and Boiler House to the north-east of the power station is no longer shown.</p> <p>A golf course is now shown directly to the north of the site.</p> <p>A pond is now shown approximately 300m to the north of the site.</p>
<p>OS National Grid (1:10,000) - 2024</p>	<p>The chimneys and tanks shown to the south-east of the site on previous mapping are no longer shown.</p> <p>The golf course to the north of the site is no longer shown. Enfinium EfW facilities Ferrybridge 1 and Ferrybridge 2 are shown to have been constructed to the immediate north west and north of the site.</p>

4 ENVIRONMENTAL SETTING

4.1 PUBLISHED GEOLOGY

The geology beneath the site has been established from the following sources:

- BGS 1:50,000 Sheet number: 078, Wakefield. Bedrock and Superficial Deposits;
- BGS 1:10,000 Sheet SE 42 SE;
- BGS 1:10,000 Sheet SE 42 NE;
- BGS Geological Memoir, Wakefield District, Geology of the country around Wakefield. Explanation of Sheet 78, 1940.
- BGS borehole records, obtained from BGS GeoIndex (Appendix E);
- BGS GeoIndex Onshore (interactive map viewer);
- Groundsure Enviro+Geo Insight Report (Appendix B);
- Hydrogeological Map of South Yorkshire and Adjoining Areas (1:100,000), dated 1982; and,
- Hydrogeological Map of England and Wales (1:625,000), dated 1977.

Made Ground

The BGS information and Groundsure report records Artificial/Made Ground across the site and surrounding land, likely associated with the surrounding power station. The BGS 1:10,000 SE42NE geological map suggests that the Made Ground could consist of colliery spoil.

Superficial Geology

The majority of the site is shown to be underlain by superficial deposits, although in the very north/west of the site they are shown to be absent. Where present, the majority of the superficial deposits consist of Glaciofluvial Sand and Gravel Deposits. The very southern limits of the site are indicated to be underlain by Alluvium, consisting of clay, silt, sand and gravel.

The Brighton Sand Formation is mapped 40m south of the site boundary.

Bedrock

The superficial deposits are underlain by the Cadeby Formation of the Zechstein Group. It comprises of dolomitic limestone of the Permian stage. The BGS geological maps describe the Cadeby Formation – Dolomitic Limestone as: “Lower magnesian limestone, yellow-brown and buff friable dolomite”.

The BGS 1:50,000 geological map suggests the Cadeby Formation dips at an unknown degree towards the southeast. The Cadeby Formation is underlain by Pennine Middle Coal Measures.

From the BGS 1:50,000 mapping, a SW-NE trending fault is shown 260m northwest of the site area.

It is noted that on the BGS 1:50,000 map and generalized vertical section that the Basal Permian Sands underlie the Cadeby Formation. These sands outcrop 1.25km west of the site area. The Basal Permian Sands are aeolian and consist of medium to fine grained evenly graded almost entirely quartz grains. Historic mining of these sands has been noted in the area of the site, much of it unrecorded.

BGS BOREHOLE RECORDS

Of the freely available borehole records near the site, there is one available BGS borehole record (SE42NE198) onsite and two in close proximity to the site; one close to the northwestern boundary (SE42NE296) and one close to the eastern boundary (SE42NE197). Copies of the BGS borehole records are provided in **Appendix E**. Boreholes SE42NE198 and SE42NE197 appear to dated 1962, while SE42NE296 is dated 2004.

Borehole SE42NE198 records the following:

- Sandy Topsoil – to 1.2m bgl;
- Superficial Deposits/Weathered Bedrock - Stiff Brown sandy clay with limestone fragments – to 3.0m bgl; and,
- Bedrock – Limestone – proven to 5.5m bgl.

Borehole SE42NE197 records the following:

- Sandy Topsoil – to 0.9m bgl;
- Superficial Deposits/Weathered Bedrock - Stiff Brown sandy clay with rock fragments – to 3.4m bgl;
- Superficial Deposits/Weathered Bedrock – Soft silty clay with limestone fragments – to 4.0m bgl; and,
- Bedrock – Limestone – proven to 6.4m bgl.

Borehole SE42NE296 records the following:

- Topsoil – to 0.3m bgl;
- Fill – to 0.6m bgl; and,
- Limestone – proven to 30.0m bgl.

4.2 COAL MINING

Information on mining in the vicinity of the site has been established from the following sources:

- BGS geological viewer;
- Groundsure Report for the site, presented in Appendix B;
- Coal Authority interactive viewer;
- Coal Authority coal mining report (CA reference 51003454259001) in Appendix C; and,
- BGS 1:10,000 Sheet SE 42 SE and SE 42 NE.

The Coal Mining Abandonment Plans for the site have been requested from the Coal Authority. At the time of writing this information is outstanding and will be included in a later revision should the information be received.

The Groundsure Report and CA interactive viewer states that the site is within a coal mining reporting area. Although the site as a whole does not lie within a Development High Risk Area, there

is an adit (grid reference 447270 424940) on the western boundary of the site with a small radius of Development High Risk Area around it. No other Development High Risk Areas are recorded adjacent to or near the site. The adit on site has a reference of 447424-001, a bearing of 53°, and a treated status of “false”, according to the Coal Authority Map Viewer. A false treated status indicates the Coal Authority hold no record of treatment details on their database. The adit has an assumed shaft diameter of 2m, 0m depth, and a departure of 10.0m.

While there are no coal mining shafts on site, there are three approximately 500m to the west of the site. These shafts have depths of 0m, 36m, and 49m, with shaft diameters of 2.5m to 2.7m. All three have a treated status of “true”, denoting the Coal Authority hold records of treatments on their database. All three also have a departure of 0m, meaning they have been definitively positioned from a field survey.

Coal mining and coal mining risk is discussed further in the Preliminary Coal Mining Risk Assessment in Section 9.

From the CA Consultants Coal Mining Report, there are four known worked coal seams near the site, ranging in extraction thickness from 1.1m to 2.0m and at depths between 327m to 575m below ground level. These seams were last mined between 1930 and 1979 and accessed from seven unnamed collieries. One of these seams, the Top Beeston, was worked directly below the site.

The shallowest coal seam is the Top Haigh Moor, which is at a depth of 327m below ground level and dipping gently to the south. Slightly lower is the Warren House seam at a depth of 329m, dipping gently towards the west. Lower still is the Flockton Thick seam, at a depth of 411m below ground level with almost no dip. The deepest coal seam is the Top Beeston at 575m below ground level.

Other points of note within the CA Consultants Coal Mining Report for this site are listed below.

- No probable unrecorded shallow workings are noted.
- No recorded spine roadways at shallow depth.
- 1 No. mine entry is recorded. The adit as discussed above.
- No outcropping seams are noted within the enquiry boundary.
- No faults, fissures or break lines are recorded.
- No opencast mines recorded within 500m to the site.
- No recorded Coal Authority tips within 500m of the enquiry boundary.
- No recorded site investigations within 50m of the enquiry boundary.
- No remediated sites recorded within 50m of the enquiry boundary.
- No record of subsidence within 50m of the site since October 1994.
- No records of mine gas within 500m of the enquiry boundary.
- No records of mine water treatment scheme within 500m of the enquiry boundary.
- No recorded future underground mining, coal mining licenses within 200m of the site boundary, court orders or Section 46 notices.

4.3 MINING (NON-COAL RELATED)

Anecdotal evidence of the Basal Permian Sands being mined is outlined in a paper by Baldwin and Newton (Baldwin & Newton, 1988). The paper links subsidence/surface movements in the Castleford, Pontefract and Glasshoughton areas with mining of the Basal Permian Sands. It states some voids/cavities from mining were over 3m high, which caused damage to residential dwellings, and that ground stabilisation through grouting was unsuccessful. The paper concludes with, where the Basal Permian Sands occur at shallow depth, there is a high possibility that underground extraction has been carried out and the presence of workings should be anticipated.

The Basal Permian Sands are likely to underlie the Cadeby Limestone Formation encountered on site, however no previous available exploratory holes were deep enough to confirm this.

4.4 GEOHAZARD SUMMARY INFORMATION

An assessment of potential geohazards affecting the site is presented within the Groundsure Report, a summary of which is provided below:

- Collapsible ground – Very low risk.
- Compressible ground – Very low risk
 - Although the Groundsure report classes the compressible ground risk as very low there are areas of moderate risk compressible deposits within 125m of the site. The alluvial deposits in the south of the site area have the possibility to exhibit compressible behaviour. As such this “very low risk” may not be representative of the site.
- Ground dissolution – Very low risk.
- Landslides – Low risk.
- Running sands – Very low risk.
- Shrinking / swelling clay – Very low risk.

4.5 HYDROGEOLOGY

4.5.1. Aquifer Status

The EA classifies the superficial Brighton Sand Formation, Glaciofluvial Deposits, and Alluvium as a Secondary A aquifer. The underlying bedrock of the Cadeby Formation is classified as a Principal aquifer. Both superficial and bedrock aquifers are described as being highly vulnerable to a ground level pollutant discharge.

4.5.2. Groundwater Abstractions

The closest active groundwater abstraction to the site is listed 133m to the north-west of the site, described as process water for the Enfinium Ferrybridge 2 Ltd. A total of 7 groundwater abstraction licenses are held for locations within 500m of the site. A further 22 historical groundwater abstraction licenses have been recorded within 500m of the site, the closest of which was located 76m to the west of the site as irrigation for the Trustees of Ferrybridge Golf Club.

No source protection zones are listed within 500m of the site.

4.5.3. Groundwater Strikes during February 2011 Ground Investigation

A summary of the ground investigation completed in February 2011 is provided in Section 6.2, the recorded groundwater strikes are summarised in Tabel 4.1.

Table 4.1 – Groundwater strikes and water depths during previous ground investigation (February 2011)

Exploratory Location	Elevation (mAOD)	Strike Depth (mbgl)	Post Strike Water Depth (mbgl)
BH102	13.93	6.10	-
BH104	13.89	7.50	6.05
BH106	13.89	7.30	6.80
BH110	13.77	9.00	7.40

4.6 HYDROLOGY

4.6.1. Surface Water Features

Fryston Beck is shown to cross the southern half of the site from south-west to north-east. The Beck is an underground watercourse and is not tidally influenced. The River Aire is located approximately 600m to the north-east of the site.

Several small surface water features are also shown within 500m of the site. These include two small ponds located approximately 100m to the north and 500m to the south-west respectively, and a larger pond located approximately 400m to the east.

4.6.2. Surface Water Abstractions and Discharges

There are no active or historical surface water abstractions located within 500m of the site. The closest historical surface water abstraction is shown 571m to the north-east of the site on the River Aire, providing boiler feed and general cooling for the Ferrybridge C Power Station.

There are three licenced discharges to controlled waters listed within 500m of the site. The nearest licenced discharge is listed as treated sewage, discharged into the Fryston Beck 72m to the south-west of the site. The other licenced discharges are listed as site drainage and are located 461m south-west and 500m east of the site respectively.

4.7 FLOODING

The GOV.UK Flood Map for Planning indicated that most of the site is located within a Flood Zone 3, meaning a high probability of flooding from rivers or the sea. A large area in the north-west of the site and a small area in the south are listed as lying within a Flood Zone, meaning a medium probability of flooding from rivers or the sea.

The Groundsure report indicates that the site is at risk from surface water flooding. The highest flood risk recorded on site is listed as a 0.3-1.0m flood with a return period of 1 in 30 years.

The Groundsure report also indicates that the site is at risk of groundwater flooding. The southern half of the site is recorded as having a high risk of groundwater flooding, whilst other areas in the north of the site are recorded as negligible, low, moderate, and moderate-high risk.

There are no records of historical floods from rivers, the sea, groundwater, or surface water recorded within 250m of the site.

There are no flood defences recorded within 250m of the site.

4.8 ECOLOGY & ARCHAEOLOGY

The National Planning Policy Framework (NPPF) indicates that consideration should be given to ecology and archaeology as part of planning policies and decisions.

Comment on ecology and archaeology is outside the scope of this report.

4.9 CLIMATE CHANGE

4.9.1. Future Climate Change under RCP8.5 Scenario

Sea Level Rise/Flood Risk

The site is located approximately 75km from the North Sea, therefore it is not considered to be at risk of flooding from sea level rise.

The site is located within Flood Zone 3 indicating it is at a high risk of flooding from rivers and the sea. Note that climate change may result in changes to the frequency of extreme weather events and associated flooding.

Projected Changes to Groundwater Level

The site is located within Aire & Don Magnesian Limestone Groundwater catchment which falls under the WFD definition of groundwater body. The eFLaG project far-future (2050-2079) projections for groundwater recharge within this catchment report a 0.1 mm per day decrease for the autumn months for this groundwater body. No change to current recharge is indicated for other seasons. The Met Office's Climate Change Projections Over Land predict a 0-10% decrease in annual rainfall for the site and surrounding area. This indicates potential future decreases in groundwater level, at least during autumn, relative to the current baseline.

4.10 UNEXPLODED ORDNANCE (UXO)

A UXO Pre-Desk Study Assessment (PDSA) (Appendix D) has been provided by Zetica, a summary of the findings is presented below:

- No significant military activity affecting the site has been identified;
- Potential WW1 bombing targets (transport infrastructure and public utilities, anti-invasion defences) have been identified within approximately 5km of the site;
- The site is located within the Knottingley Urban District (UD), near the Castleford UD. Knottingley UD recorded no high explosive (HE) bombs during WWII. Castleford UD recorded 19 HE bombs during WWII, with a density of 4.3 bombs per 405ha;

- Potential WW2 bombing targets (transport infrastructure and public utilities, chemical works, military establishments and training areas, anti-aircraft and anti-invasion defences) have been identified within approximately 5km of the site;
- No readily available records have been found indicating the site was bombed during WWI or WWII; and,
- No bombing decoys were identified within 5km of the site.

The Zetica PDSA concludes that a desk study, whilst always prudent, is not considered essential in this instance.

4.11 RADON

The Groundsure report indicates that some areas of the site in the south, north, and north-west have an estimated radon potential of between 1% and 3%. All other areas of the site are indicated as having an estimated radon potential of less than 1%. The Groundsure report suggests that the site does not require any radon protection measures.

4.12 MINE GAS

The site is located within a CA coal mining reporting area however there is no record of probable shallow workings beneath the site. There is record of deeper mine workings beneath the site at depths of c. 570m. Given the depth of the historical workings mine gas is not considered to present a risk to the site. However, a Development High Risk Area associated with a historical adit has been identified within the site boundary. The risk of mine gas associated within the adit will be assessed once further information, if available, relating to the adit has been received from the CA.

5 REGULATORY INFORMATION AND CONSULTATION

5.1 REGULATORY DATABASE

The Groundsure Report (Appendix B) includes information and data collected from several organisations including the Environment Agency, the Local Authority, the British Geological Survey, Department for Environment, Food and Rural Affairs (DEFRA) and Health and Safety Executives (HSE). **Table 5.1** summarises this information.

Table 5.1 - Summary of Database Searches

Descriptor	On-site	0-50 m	50-250 m	250-500 m	Details
Recent Industrial Land Uses	5	6	15	N/A	On-site features are listed as a pylon, tanks, and telecommunications masts. Other features listed within 250m of the site include pylons, tanks, chimneys, cooling towers, electricity substations, and an electricity switching station.
Historical Industrial Land Uses	6	0	10	31	On-site features are listed as railway sidings, unspecified tanks, and power stations. Other features listed within 250m of the site include tanks, works, railway sidings, gravel and sand pits, and a power station.
Licensed Industrial Activities [Part A (1)]	0	11	71	1	The nearest Part A (1) activity to the site is listed as treatment of slags and ashes, located 39m to the south-west of the site. Other nearby Part A (1) activities are listed as incineration or as an associated process.
Historical Tank Database	2	4	2	22	The two tanks listed as being on site are unspecified and were present in 1985.
Historical Energy Features Database	4	0	18	15	All on site historical energy features are listed as power stations. Features listed within 250m of the site include electricity substations, electricity switching stations, and electricity transformers.
Historical Garages	0	0	0	0	N/A
Waste Exemptions	0	0	0	11	The nearest waste exemptions are listed 425m to the south-west of the site, associated with the storage, usage, and disposal of waste on a farm.
Licensed Discharges to Controlled Waters	0	1	0	2	The nearest licensed discharge to controlled waters is listed 72m to the south-west of the site, described as treated effluent.

Descriptor	On-site	0-50 m	50-250 m	250-500 m	Details
Pollution Incidents	0	0	0	5	The nearest pollution incident is listed as smoke and firefighting runoff 425m to the south of the site. This incident resulted in minor land and air impacts.
Active or Recent Landfill Sites	0	0	0	0	N/A
Historical Landfill Sites	0	2	0	1	EA records list an inert liquid sludge landfill 7m to the north of the site, associated with the Ferrybridge C Power Station. BGS records also list a landfill associated with the Ferrybridge C Power Station, located 64m to the west of the site.

5.2 SENSITIVE LAND USES

The site does not lie within a Site of Special Scientific Interest (SSSI) however the site is located within two SSSI Impact Risk Zones.

6 EXISTING REPORTS

6.1 AVIALABLE REPORTS

This section contains existing ground information on the Enfinium site at Ferrybridge.

Report Reference	Site coverage
Soil Mechanics, commissioned by Ove Arup Factual Ground Investigation (GI) Report Ref: A0054-10/1 A0054-10/2 A0054-10/3 February 2011	The area of this factual GI report covers the current site boundary and extends both southwest and east/northeast past the current site extents. Of 66 exploratory locations, 13 are within the current site area.
Soil Mechanics, commissioned by Ove Arup Factual GI Report Ref: A1008-11 May 2011	The area of this factual GI report covers some of the northern section of the current site boundary and extends far westward of the current site extents. Of 41 exploratory locations, 5 are within the site area.
URS Application Site Report Ref: 49352131 January 2012	The area of this report covers a small strip of land along the north-western site boundary, extending to the west of the site.

6.2 FEBRUARY 2011 FACTUAL GROUND INVESTIGATION REPORT

Report: Soil Mechanics 'Factual Report on Ground Investigation – Ferrybridge Multi-fuel Power Station', dated February 2011. (Ref: A0054-10/1, A0054-10/2, A0054-10/3)

A ground investigation was undertaken by Soil Mechanics across the wider power station site comprising the following:

- 7no cable percussion boreholes to a maximum depth of 11.15m bgl;.
- 15no cable percussion boreholes extended by rotary coring to a maximum depth of 25.20m bgl;
- 3no rotary open hole extended by rotary coring to a maximum depth of 24.70m bgl;
- 22no machine dug trial pits to a maximum depth of 4.3m bgl; and,
- 4no window sampler boreholes to a maximum depth of 5.00m bgl.

Six boreholes, one window sample borehole, and six trial pits were located within the current site boundary, however five of the six trial pit logs were not available. The geology encountered generally comprised the following:

- 0m – 1.2m bgl: Made Ground – Generally soft to firm dark brown sandy slightly gravelly clay, or medium dense reddish brown slightly clayey gravelly sand;
- 1.2m – 4.4m bgl: Superficial Deposits – Generally very soft to firm brown slightly sandy gravelly clay, or brown clayey slightly silty gravelly sand. One instance of a 5.9m thick package of silt from 1.1m – 7.0m bgl in BH104, likely alluvium;
- 4.4m – 5.2m bgl: Weathered Cadeby Limestone – Firm light red pink slightly sandy slightly gravelly clay, or dense yellowish cream sandy gravel; and,
- 5.2m – 25.0m bgl: Cadeby Limestone – Extremely weak to medium strong light yellow cream limestone.

Rockhead was recorded to vary from 1.8m bgl in the north to 10.0m bgl in the south. Groundwater was encountered at:

- 6.10m bgl in BH102 as a water strike;
- 7.5m bgl, rising to 6.05m bgl after 20 minutes, in BH104;
- 7.3m bgl, rising to 6.80m bgl after 20 minutes, in BH106; and,
- 9.0m bgl, rising to 7.40m bgl after 20 minutes, in BH110.

In-situ SPTs were performed in the window sampler and cable percussion sections of exploratory holes. Laboratory geotechnical tests were performed on samples of soil and rock including moisture content, Atterberg limit testing, particle size distribution analysis, 1D oedometer consolidation testing, unconsolidated undrained triaxial testing, BRE testing, uniaxial compressive rock strength testing, and point load index testing.

20 environmental samples were taken from 9 of the exploratory hole locations lying within the Enfinium Carbon Capture Project site boundary. These samples underwent laboratory analysis in order to determine concentrations of contamination within site soils. Samples were analysed for metals, cyanide, phenol, polycyclic aromatic hydrocarbons (PAH), total petroleum hydrocarbons (TPH), polychlorinated biphenyl (PCB), Benzene Toluene Ethylbenzene Xylene (BTEX), volatile organic compounds (VOCs), and semi-volatile organic compounds (SVOCs).

As part of this PRA concentrations of contaminants detected during laboratory analysis have been screened against generic assessment criteria (GAC) suitable for protecting human health given a commercial site usage. All compounds were detected at concentrations either below screening values or below the laboratory limit of detection.

10 of the samples sent for laboratory testing were also screened for asbestos. Amosite asbestos was detected in one sample taken from TP103 at a depth of 0.1mbgl.

6.3 MAY 2011 FACTUAL GROUND INVESTIGATION REPORT

Report: Soil Mechanics 'Factual Report on Ground Investigation – Ferrybridge Multi-fuel Power Station – Phase 2', dated May 2011. (Ref: A1008-11)

A ground investigation was undertaken by Soil Mechanics on the wider power station site comprising 28no window sampler exploratory holes to a maximum depth of 7.45m bgl, 12no cable percussion boreholes extended by rotary core drilling to a maximum depth of 25.70m bgl and 1no cable percussion borehole to a maximum depth of 4.30m bgl.

One cable percussion with rotary follow on and four window sample exploratory holes are located within the current site boundary, towards the north of the site.

The cable percussion with rotary follow on (BH602) encountered the following geology:

- 0m – 0.24m bgl: Made Ground of Macadam/Hardcore;
- 0.24m – 0.85m bgl: Made Ground of dark red mottled black slightly silty slightly sandy angular fine to coarse gravel of red shale and coal. Slight methane odour noted;
- 0.85m – 2.55m bgl: Superficial Deposits of soft dark brown locally mottled grey sandy clay with gravel of limestone;
- 2.55m – 2.75m bgl: Superficial Deposits of stiff thinly laminated dark pink mottled cream slightly sandy gravelly clay. Gravel is fine to medium of limestone;
- 2.75m – 4.10m bgl: Weathered Cadeby Limestone. Recovered as a gravelly sand; and,
- 4.10m – 14.50m bgl: Very weak to weak Cadeby Limestone.

Two of the four window sample exploratory holes (WS621 and WS628) recorded no superficial deposits, where Made Ground directly overlies weathered bedrock.

A slight methane odour is noted within the Made Ground in BH602.

In-situ SPTs were performed in the window sampler and cable percussion sections of exploratory holes. Laboratory geotechnical testing was performed on samples of soil and rock including moisture content, Atterberg limit testing, particle size distribution analysis, 1D oedometer consolidation testing, unconsolidated undrained triaxial testing, BRE testing, uniaxial compressive rock strength testing, and point load index testing.

7 environmental samples were taken from the 5 exploratory hole locations lying within the Enfinium Carbon Capture Project site boundary. These samples underwent laboratory analysis in order to determine concentrations of contamination within site soils. Samples were analysed for metals, cyanide, phenol, PAH, TPH, PCB, BTEX, and VOCs.

Concentrations of contaminants detected during laboratory analysis have been screened against GAC suitable for protecting human health given a commercial site usage. All compounds were detected at concentrations either below screening values or below the laboratory limit of detection.

Asbestos screening conducted on 7 other samples taken from within the site boundary did not identify any asbestos in soils.

6.4 JANUARY 2012 URS APPLICATION SITE REPORT

Report: URS 'Ferrybridge MFE Limited - Application Site Report', dated January 2012. (Ref: 49352131)

This report is the Application Site Condition Report (ASR) for the Ferrybridge MFE Limited Multifuel Power Station installation at Ferrybridge, prepared to accompany the permit application under the Environmental Permitting Regulations. The report covers the area occupied by the Ferrybridge MFE Limited Multifuel Power Station installation at Ferrybridge and largely covers the area to the north of the current site boundary. The report describes the condition of the site and identifies potential pollution risks. The report has not been summarised in detail in this section, however pertinent



information relating to the site setting and potential pollution risks identified have been included in relevant sections of this PRA.

7 PRELIMINARY GROUND MODEL

7.1 GENERAL

The following preliminary ground model is based on the two 2011 factual ground investigation reports outlined in Section 6.1 and BGS mapping. Relevant exploratory hole logs from the 2011 ground investigation are included in **Appendix E**.

Table 7.1 - Preliminary Ground Model

Strata	Typical Description	Depth to Base (m bgl)	Elevation of Base (m OD)	Thickness (m)
Made Ground	Soft dark brown sandy slightly sandy clay. Gravel is subangular fine to coarse of limestone, brick and concrete. Sand is ash. Or, Dark brown slightly gravelly clayey fine to medium sand. Gravel is angular fine to coarse of limestone, sandstone and red shale.	0.2 – 3.0	10.54 – 14.98	0.2 – 3.0
Superficial Deposits	Soft locally firm dark red brown mottled black slightly sandy slightly gravelly clay. Or, Medium dense light brown sandy, gravelly silt. Gravel is subangular fine to medium of limestone. Or, Brown clayey gravelly sand with some stiff clay pockets and moderate cobble content. Gravel is angular to subangular fine to coarse and consists mainly of sandstone, limestone and coal	1.2 – 9.0	4.89 – 13.98	0.7 – 7.9
Weathered Bedrock	Weathered Cadeby Limestone: Stiff thinly laminated light red pink mottled cream slightly sandy slightly gravelly clay, or Dense yellowish cream sandy gravel. Gravel is angular to subangular fine to coarse of limestone	2.3 – 10.0	3.89 – 12.11	0.4 – 1.55
Bedrock	Cadeby Limestone: Extremely weak to medium light yellow cream limestone. Fractures are sub-horizontal very closely to closely spaced rough planar.	>2.6* - >25*	-	>0.2* - >20.7*
*base not proven				

Made Ground is varied across the site, with log descriptions of clay, sand and gravel throughout. Hardcore/Macadam is more frequently recorded from ground level in the south of the site area. Made Ground thickness is fairly consistent across the site, averaging 1.2m in thickness. Where Made Ground is recorded as clay, the stiffness ranges from soft to firm and colour ranges from red mottled black to reddish brown and dark grey. In all cases the clay was recorded to have sand and gravel components, generally slightly sandy and slightly gravelly. Where Made Ground was recorded as a sand descriptions were generally medium dense dark reddish brown slightly clayey gravelly sand. On several occasions rootlets are noted in the sand. On one occasion the sand is recorded as ash. Where the Made Ground was recorded as gravel descriptions were light grey to greyish brown slightly silty sandy angular fine to coarse. Gravel in the Made Ground was recorded as comprising limestone, sandstone, mudstone, coal, red shale, brick, concrete, clinker and wood. Cobbles were recorded frequently in the Made Ground, consisting of limestone, brick and concrete.

Made Ground is underlain by superficial deposits of glaciofluvial and alluvial origins, ranging from not present in the north of the site to up to 7.9m in thickness in the south of the site. Descriptions of clay range from very soft to firm and dark red brown to orangish brown. Gravel inclusions are described as consisting of limestone, sandstone, mudstone, dolostone and coal.

Superficial deposits are underlain by a layer of weathered Cadeby Limestone bedrock, ranging in thickness from 0.4m to 1.55m (average of 1.0m) where proven. Weathered Cadeby Limestone is most often encountered as a medium dense light creamy brown gravelly sand, or a dense yellowish cream sandy gravel. In two instances (BH602 and WS268) the bedrock is recorded to have weathered to a clay, consisting of firm light red pink slightly sandy slightly gravelly clay.

Weathered bedrock is underlain by intact bedrock consisting of Cadeby Limestone Formation, typically comprising extremely weak to medium strong light cream limestone.

Depth to rockhead varies across the site. In the north/northwest where no superficial deposits are recorded, weathered bedrock is encountered at approximately 1.5m bgl (1.2m bgl in WS627 and BH105, 1.8m bgl in WS621), directly beneath the Made Ground. In the south of the site weathered bedrock is encountered at its deepest in BH104, 9.0m bgl, with 7.9m of drift deposits overlying.

7.2 SOUTHERN SECTION OF SITE

It is understood that the majority of structures to be constructed on site will be done so on the southern section.

In this area, the following points are relevant:

- The boreholes from previous ground investigations were located outside of the current structures on site. Previous demolition works, relict construction and unknown founding solutions of current structures may have led to greater depths of Made Ground than currently recorded in the 2011 ground investigation; and,
- Towards the northwestern side of the southern section, rockhead is relatively shallow. Weathered bedrock is recorded 3-4m bgl in BH102 and BH103. However rockhead deepens significantly towards the southeast with BH104 (60m southeast of BH103) recording weathered bedrock at approximately 9m bgl. This drop in rockhead depth is possibly explained by a fluvial channel, given the superficial deposits recorded overlying bedrock in BH104 are likely alluvium.

8 PRELIMINARY CONCEPTUAL SITE MODEL

8.1 INTRODUCTION

The Conceptual Site Model (CSM) is based upon the environmental conditions of the site as described in the previous sections. The methods used in this assessment followed a risk-based approach with the potential environmental risk assessed qualitatively using the ‘source-pathway-receptor’ contaminant linkages concept introduced in the guidance document (principally the Environment Agencies LCRM Guidance) on the practical implementation of the Environmental Protection Act 1990.

Environmental risk can be defined as the combination of the consequence of a harmful effect and the probability of its occurrence. The existing of a contaminant linkage is primarily dependant on site usage and environmental conditions.

The environmental risk assessment has been carried out identifying and evaluating the significance of the following:

- Potential Sources of Contamination: these include any actual or activities of concern, located either on or in the vicinity of the site;
- Potential Pathways: these are the routes or mechanisms by which CoC may migrate from the source to the receptor; and,
- Potential Receptors: these include current or future land users, activities or persons at the site that could be harmed by CoC.

8.2 POTENTIAL SOURCES OF CONTAMINATION

Table 8.2 provides a summary of the potential sources of contamination that may be present at the Site, as well as the likely distribution of such sources.

Table 8.2 - Potential Sources of Contamination

Potential Source	Potential Contaminants of Concern	Likely / Anticipated Distribution
ON-SITE		
Made Ground associated with historical Ferrybridge Power station	Asbestos, heavy metals, inorganics, PAH, TPH, BTEX, VOCs, ground gases (methane and carbon dioxide).	Site wide
Historical tanks	Inorganics, petroleum hydrocarbons, PAH, BTEX, oils.	Predominantly central and northern
OFF-SITE		
Made Ground & historical use as Power Station with associated tanks	Asbestos fibres, metals, PAH, TPH, BTEX, VOCs, fuel oils, ground gases (methane and carbon dioxide).	All directions except north-west
Electrical substations	PCBs TPH, mineral oils, metals, fuel additives.	Predominantly north-east and south-east

Potential Source	Potential Contaminants of Concern	Likely / Anticipated Distribution
Historical Pipelines	PAH, TPH, fuel additives.	Predominantly north and east

8.3 POTENTIAL PATHWAYS

In the context of the proposed redevelopment of the Site with a carbon capture installation (low sensitivity end use), the following potential exposure or migration pathways associated with the identified potential source(s) have been identified:

Pathways to Human Health receptors:

- Dermal contact with soils and groundwater;
- Ingestion of dusts/soil particles;
- Inhalation of dusts and fibres (on and off-Site receptors); and,
- Inhalation of hazardous ground gases/vapours (on and off-Site receptors).

Pathways to Controlled Water receptors:

- Leaching of contaminants through the unsaturated zone and subsequent impact to groundwater within the underlying aquifers; and,
- Lateral migration of contaminants within groundwater and subsequent impact of surface water receptors.

Pathways applicable to site infrastructure:

- Direct contact with contaminants in the soil and groundwater with below ground structures (buried concrete); and,
- Accumulation of hazardous gases within below ground structures in the future development (explosive risk).

8.4 POTENTIAL RECEPTORS

In the context of the future proposed residential development, the following potential receptors were identified:

Human Health

- Future site operatives;
- Construction workers and future maintenance workers; and,
- Third party neighbours.

Controlled Waters

- Superficial Secondary A Aquifer;
- Bedrock Principal Aquifer; and,
- Fryston Beck.



8.5 PRELIMINARY CONCEPTUAL SITE MODEL

The CSM identifies the potential contamination sources, receptors, and the exposure pathways by which they may be linked. A Source-Pathway-Receptor linkage (SPRL) is present if a viable pathway exists between a potential source and an identified receptor.

The CSM includes potential risks which may exist to the site during the construction and maintenance. However, it is assumed that mitigation procedures during construction will be implemented in accordance with the Code of Construction Practice (CoCP).

A summary of potential contaminant linkages identified in the preliminary CSM is provided Table 8.5.



Table 8.5 – SPRLs Based on Proposed End Use

Source	Exposure Pathway	Potential Receptor	Probability of Exposure	Consequence of Exposure	Discussion of Pollutant Linkage	Risk
Made Ground associated with historical land use – Power Station with associated infrastructure, tanks, materials storage and pipelines	Inhalation, ingestion, and dermal contact	Human – future site operatives	Low	Medium	<p>The industrial legacy of the site means that Made Ground is likely to be present across the whole of the site.</p> <p>Previous ground investigation did not find any exceedances of soil human health GAC for a commercial end use, however it is noted that coverage of the current site boundary is limited.</p> <p>Asbestos was detected in a single sample taken during the February 2011 ground investigation.</p> <p>Large historical tanks are present in aerial photography as recently as 2017. Removal of tanks and pipelines may have resulted in movement of contaminants into made ground. Most recent ground investigation data predate the removal of the tanks. Chemical status of made ground may have changed since previous ground investigations.</p> <p>Groundworks during construction could result in potentially contaminated Made Ground becoming exposed at the surface.</p>	Low / Moderate Risk



Source	Exposure Pathway	Potential Receptor	Probability of Exposure	Consequence of Exposure	Discussion of Pollutant Linkage	Risk
					<p>Extensive areas of hardstanding and development are likely to limit exposure pathways.</p> <p>Asbestos fibres have been identified in shallow soils. The presence of asbestos should be considered in any areas of made ground which may remain exposed as part of the future development and appropriate mitigation measures put in place to minimise the associated risks.</p>	

Source	Exposure Pathway	Potential Receptor	Probability of Exposure	Consequence of Exposure	Discussion of Pollutant Linkage	Risk
		Human - Construction and maintenance workers	Unlikely (assuming appropriate use of PPE)	Medium	<p>The industrial legacy of the site indicates that Made Ground is likely present across the whole of the site and will be encountered during any construction/maintenance works that involve ground disturbance.</p> <p>Exposure times are likely to be limited, and the probability of exposure will be reduced to low by using appropriate personal protective equipment (PPE) and working in accordance with appropriate RAMS.</p> <p>The presence of asbestos fibres in the shallow surface soils should be considered in any future construction / earthworks and appropriate mitigation measures put in place.</p>	Low
	Movement of mobile contaminants and / or leaching via infiltration, and migration into groundwater	Groundwater – Secondary A Aquifer (superficial) and principal aquifer (bedrock)	Likely (no mitigation)	Medium	<p>Ground works associated with construction of carbon capture facility may mobilise contamination within the Made Ground and provide a preferential pathway to the underlying aquifers. There is currently limited data available relating to the groundwater quality beneath the site, given the high sensitivity of the underlying bedrock aquifer (Principal Aquifer) a moderate</p>	Moderate Risk

Source	Exposure Pathway	Potential Receptor	Probability of Exposure	Consequence of Exposure	Discussion of Pollutant Linkage	Risk
					risk rating has been assigned at this stage.	
	Lateral migration of contaminants through groundwater	Surface waters (Fryston Beck)	Likely (no mitigation)	Medium	<p>Fryston Beck is culverted flowing directly beneath the south of the site. At this stage connectivity between the shallow groundwater and Fryston Beck is unknown.</p> <p>Further ground investigation, groundwater monitoring and assessment of the integrity of the culvert will assist in gaining further understanding of the risk posed to Fryston Beck.</p>	Moderate Risk
	Migration and accumulation of hazardous ground gas in enclosed spaces	Proposed structures	Low	Severe	<p>Potential sources of hazardous ground gases (Made Ground) have been identified at the site.</p> <p>An assessment of ground gas and vapour risk will be required during future assessment works, mitigation measures, if required, will include the installation of gas protection measures, the extent of which will be determined by further assessment.</p>	Moderate Risk
Residual contamination associated with recent electrical substations	Migration of PCBs via infiltration and lateral	Surface waters and groundwater	Unlikely	Medium	Due to the site's history as a part of the Ferrybridge power stations, several historical	Low Risk



Source	Exposure Pathway	Potential Receptor	Probability of Exposure	Consequence of Exposure	Discussion of Pollutant Linkage	Risk
	movement in groundwater and lateral migration via surface water run-off.	Human - Construction and maintenance workers			substations are listed within 250m of the site. Given the distance from site it is considered unlikely that there will be significant PCB impact from nearby substations.	

9 PRELIMINARY COAL MINING RISK ASSESSMENT

9.1 INTRODUCTION

The site is situated in a Coal Authority (CA) reporting area but not within a 'Development High Risk Area'. However, the CA Interactive Mapping Tool and the CA Consultants Coal Mining Report (included in Appendix C) shows an adit on site, around which a small 'Development High Risk Area' surrounds. As such, a preliminary Coal Mining Risk Assessment (CMRA) has been undertaken.

This preliminary CMRA is an interpretation of readily available historical, archival, and current information, including that obtained in sources listed in Section 4.2. Its purpose is to:

- Present a desk-based review of readily available information on coal mining issues which are relevant to the application site (see Section 4.2).
- Use that information to identify and assess the risks to the development of the site from coal mining legacy, including cumulative impact of issues; and,
- Set out appropriate mitigation measures to address any identified coal mining legacy issues affecting the site, including necessary remedial works, and / or demonstrate how coal mining issues may affect the proposed development.

Information on the site history and environmental setting is presented in Sections 3, 4 and 5 of this report. A summary of the findings from the CA Consultants Coal Mining Report can be found in Section 4.2

A list of the coal seams in close proximity to the site can be found in the CA Consultants Coal Mining Report, presented in Appendix C.

9.2 COAL MINING RISK

RECORDED COAL MINING AT SHALLOW DEPTH

None of either the BGS historical boreholes or the 2011 Soil Mechanics factual reports recorded any coal seams in the borehole logs. The borehole with the deepest penetration within the site boundary was BH102 from the Feb 2011 Soil Mechanics factual report, which recorded bedrock of the limestone Cadeby Formation down to an elevation of -11.07m OD (25m bgl). The only mention of coal in the factual reports is that of occasional gravel of coal in the Made Ground, likely from the past use of the site as a power station.

From BGS 1:50,000 mapping, the nearest coal seam is shown to outcrop 1.5km southwest of the site location. The bearing of the on-site adit is stated as 53° (northeast), which is roughly the same dip direction as the underlying strata, and in the opposite direction to intersect any coal seam. The adit depth is also listed as 0m. No evidence of the adit is visible on historical mapping dating back to 1890. The reason for the adit's existence is unknown. We await further information regarding the adit in the form of abandonment plans from the Coal Authority. At the time of writing the abandonment information is outstanding and will be included in a later revision should the information be received.

With the above in mind, shallow coal workings are not thought to present a risk to surface instability.



RECORDED COAL MINING AT GREATER DEPTH

Coal mining on the Top Beeston is recorded beneath the site at a depth of 573 m. Based on the recorded seam thickness and depth, the thickness of rock cover above the recorded mine working is expected to be such that these workings do not present a risk of surface instability through void migration.

UNRECORDED COAL MINING AT SHALLOW DEPTH

The CA does not record the site to be in a '*Probable Shallow Coal Mine Workings*' area, nor a '*Past Shallow Coal Mine Workings*' area. The shallowest coal seam in proximity to the site is, according to the CA Consultants Coal Mining Report, 327m bgl. No coal is recorded to outcrop near the site. The significance of the recorded adit is unknown at present but will be reviewed on receipt of the CA mine abandonment plans.

Based on the above, the potential presence of unrecorded shallow coal mine workings is considered to be a very low risk, however cannot be discounted due to the unknown significance of the adit.

SURFACE MINING (OPEN CAST WORKINGS)

The CA has no records of any surface mining within, or within influencing distance of the site.

MINE ENTRIES

There is one recorded mine entry on site. The adit on site has a reference of 447424-001, a bearing of 53°, and a treated status of "false", according to the CA (online) Map Viewer, indicating the Coal Authority hold no record of treatment details on their database. The adit has an assumed shaft diameter of 2m, 0m depth, and a departure of 10.0m. The significance of the adit on-site is unknown at present, given there are no shallow coal seams recorded on site. From mapping and aerial imagery, the location of the adit is currently covered by hardstanding/current buildings on site. It is unclear whether the adit was grouted or remediated during the site's history.

While there are no coal mining shafts on site, there are three approximately 500m to the west of the site. These shafts have depths of 0m, 36m, and 49m, with shaft diameters of 2.5m to 2.7m. All three have a treated status of "true", denoting the Coal Authority hold records of treatments on their database. All three also have a departure of 0m, meaning they have been definitively positioned from a field survey.

Based on the above, the presence of mine entries is considered a low risk, however cannot be discounted due to the unknown significance of the adit and the proximity of mine shafts to the west of the site.

COAL MINING GEOLOGY

The CA Consultants Report has not reported any damage due to geological faults or other lines of weakness that have been caused by coal mining near the site.

Based on the above, the risk of ground instability from coal mining induced faulting is considered to be low.

MINE GAS EMISSIONS

The CA has no record of past mine gas emissions requiring action within 500m of the site boundary.

Due to the presence of recorded workings beneath the site, there is the potential for mine gases to be generated and migrate to the surface through fissures within the bedrock, however given the significant depth to the workings this is considered low.

Further assessment of the potential mine gas risks associated with the recorded adit at the site will be undertaken on receipt of relevant information from the CA, currently awaited. The accumulation of mine gases in confined spaces poses a risk to human health receptors and the proposed development, which should be further assessed along with the other sources of ground gas (as also discussed within this report).

RECORDED COAL MINING SURFACE HAZARD

The site has not been subject to remedial works by, or on behalf of, the CA under its Emergency Surface Hazard Call Out procedures. No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

SUMMARY OF ASSESSED COAL MINING RISKS

Table 9-1 presents a summary of the coal mining risks based on this preliminary assessment.

Table 9-1 - Summary of Assessed Coal Mining Risks

Coal Mining Issue	Yes / No	Comments
Underground coal mining (recorded at shallow depths)	No	No coal seams recorded in recent GI. No coal shown to outcrop or exist near the surface from geological mapping.
Underground coal mining (recorded at greater depths)	Yes	The Top Beeston worked seam is recorded at depth of 573m BGL, beneath the site.
Underground coal mining (probable at shallow depths) i.e unrecorded workings	Yes	The site does not lie within a CA defined ' <i>Probable Shallow Coal Mine Workings</i> ' area. However, reason for adit presence is unknown.
Surface mining (open cast workings)	No	The nearest recorded opencast workings are 2km south-west of the site.
Recorded mine entries (shafts/adits)	Yes	One adit is recorded in the south of the site area. Its significance and treated status are unknown.
Coal mining geology	No	There are no faults, fissures or breaklines recorded.
Record of past mine gas emissions	No	There are no records of past mine gas emissions within 500m of the site boundary.
Potential for mine gas emissions	Yes	Recorded coal mine working beneath site, although in excess of 300m bgl, presents a potential source of mine gas emissions.
Recorded coal mining surface hazard	No	There are no records of coal mining surface hazards within the vicinity of the site.



9.3 UNRECORDED NON-COAL MINING AT SHALLOW DEPTH

Due to the lack of available information, the risk of unrecorded non-coal related shallow mining cannot be eliminated. Although detailed historical records of the Basal Permian Sands were not kept it is known the stratum was mined in areas close to the site area (Castleford, Glass Houghton) and outcrops 900m west of the site. Surface movements associated with the Permian Sands mining has caused damage to property and residential dwellings in the past (Baldwin & Newton, 1988).

10 GEOTECHNICAL CONSIDERATIONS

10.1 PROPOSED DEVELOPMENT PLANS

The proposed development and layout of the site is still in its preliminary stages. The southern section, currently the “Keadby Stores” and “Silo Land” may be redeveloped for a carbon capture plant and/or carbon capture equipment. No development plans have been provided, but it is assumed that the plant will likely comprise turbine halls, boiler halls, associated tanks, and a chimney stack.

The northern section of the site, currently undeveloped and heavily vegetated, is proposed to be a construction compound/laydown area.

10.2 GROUND CONDITIONS SUMMARY

Based on the site’s history and published data, the anticipated ground conditions beneath the site, in sequence from the surface, can be summarised as follows (discussed in detail in **Section 5.1**):

- **Made Ground:** present across the entire site and recorded from ground level to between 1m and 3m bgl. Deposits believed to have originated from historical land use. Made Ground is varied across the site, being recorded as clays, sands and gravels. Geological mapping suggests that Made Ground could consist of colliery spoil, which is somewhat confirmed by the previous GI where occasional sands of ash in the Made Ground were recorded, along with gravels of coal, red shale, clinker, brick and concrete;
- **Superficial Deposits:** present across the middle to the south of the site. Believed to be absent in the very north of the site. Alluvium is recorded in the very south of the site (potentially in excess of 7m thickness), while Glaciofluvial deposits are present across the full extent of the site. Current borehole information is not conclusive in delineating a boundary between the Glaciofluvial deposits and the Alluvium, however the Alluvium appears to be concentrated along the historical E-W running Fryston Beck watercourse, which is now in culvert beneath the site;
- **Weathered Bedrock:** Cadeby Limestone Formation weathered to a clay or a gravel. Approximately 1.0m in thickness across the site; and,
- **Bedrock:** Cadeby Limestone Formation.

10.3 STRUCTURAL FOUNDATION REQUIREMENTS

In the absence of foundation loads and serviceability criteria it is difficult to fully assess the most likely form of foundation for the proposed development at the time of writing.

The previous exploratory holes were located beyond the footprint of likely structures and it is possible that demolition works have led to greater depths of Made Ground than is currently recorded.

In addition, the scope of the demolition works is unknown and there is a risk that significant relict construction may still remain in the ground. This may hinder foundation construction, e.g. encountering buried concrete/obstructions, and could lead to delays and additional costs relating to the groundworks.

Further investigation is required to inform future development, and this should include the assessment of the extent of buried obstructions.

Following this, a detailed enabling works strategy will need to be developed to ensure that ground risks are appropriately managed.

If Made Ground is present beneath the proposed building footprint it is considered unlikely that it will be suitable as a founding stratum, due to its variability in strength and stiffness, and also its potential to contain contaminants that may attack buried concrete and steel.

It is feasible that lightly loaded structures could be founded on raft foundations on appropriately re-engineered Made Ground. Re-engineering will likely comprise excavation, screening and re-compaction to a suitable specification; however further assessment on the nature of the Made Ground is required.

Depending on structural loading, shallow spread foundations or footings should be achievable within the shallow granular glaciofluvial deposits or within the weathered limestone bedrock. In the south of the site, where soft alluvial soils are present and a suitable founding stratum beneath is not within reach of conventional excavation techniques, a deeper piled foundation may be required to transfer loads to more competent strata beneath.

Ground conditions between the north and south of the site are likely to vary considerably. Structural foundation solutions ultimately adopted as part of the detailed scheme design should be confirmed only following a development-specific geotechnical ground investigation, taking into consideration the likely foundation types and structural loads. This will allow an appropriate ground model to be developed and a numerical assessment of bearing capacity to confirm foundation suitability.

As part of detailed design, consideration will need to be given to the anticipated settlement of soft cohesive layers, such as alluvium in the south of the site, to ensure long term settlement of any structures remains within acceptable limits. Shallow thicknesses of soft ground may need to be excavated entirely and replaced.

The type and form of existing foundations to current structures at the site is unknown. If demolished, these foundations may have to be either removed, bypassed (spanned across) or reused. At this stage it would be prudent to assume that alternative foundations may be required to support the proposed structures.

10.4 FLOOR SLABS

At this stage it is anticipated that any Made Ground beneath the proposed floor slab would be removed and either re-engineered or replaced with suitable compacted granular fill.

On this basis, ground-bearing floor slabs are likely to be suitable in the north of the site where no superficial deposits are present. However, if Made Ground is thicker or more widespread than anticipated, suspended floor slabs may be required.

10.5 EARTHWORKS

Significant earthworks are not anticipated. However, if any earthworks are to be constructed, they should be completed in accordance with a site-specific earthworks specification. If site levels are raised, the increased loading on the underlying strata may lead to settlement, especially in alluvial strata, which will need to be considered and addressed in the design of foundations.

10.6 EXCAVATIONS

Unknown obstructions associated with previous land uses have the potential to hinder excavations, and delay site works.

Additionally, the potential presence of a high / perched groundwater table could lead to groundwater ingress into excavations which can pose challenges to construction (e.g. collapse of excavations).

10.7 PAVEMENTS AND HARDSTANDING

In the absence of site specific CBR data, Made Ground deposits are likely to exhibit variable design CBRs. A CBR of <2.5% is considered appropriate for preliminary design purposes, with detailed design undertaken following a site-specific ground investigation.

In the event the Made Ground on site is excavated, the pavement formation should be re-assessed following site preparation and confirmed by in situ testing. The presence of soft and/or hard spots should be anticipated and should be removed as part of formation preparation.

10.8 GROUND SUBSIDENCE RISK

COAL MINING RELATED RISKS

As outlined in both Section 9 and in mining information documented in Coal Authority Consultants Reports, risk of ground subsidence associated with legacy coal mining activities beneath the site is a low risk for the development. The shallowest workable coal seams are located within coal measures at depths deeper than 300m below ground level. The coal measures, Upper Carboniferous in age, are capped by a considerable thickness of Permian limestone. Migration of voids associated with workings within the coal bearing strata is considered highly unlikely.

The history of the adit recorded at the site is unknown; however, given the site's heavy industrial history, any risk of subsidence relating to this feature is considered low. This risk should be revised once further abandonment plan information is received from the Coal Authority.

NON-COAL MINING RELATED RISKS

Although categorised as a 'very low' risk in the Groundsure Report, the dolomitic limestone bedrock below the site is potentially soluble and the risk of near surface ground dissolution causing foundation destabilisation cannot be discounted entirely at this stage.

There are no recorded surface ground workings recorded within either site boundary that could present a ground subsidence risk to development.

There is the possibility of ground subsidence from past Basal Permian Sand related mining, as evident from historical ground subsidence and resultant damage to property in the adjacent towns and villages. Any further ground investigation should aim to identify either depth to this stratum or a significant thickness of limestone overlying the stratum in order to mitigate this risk.

There is also the risk of a collapse of the culvert carrying Fryston Beck, however given the unknown depth of the culvert, its size, and the unknown structural loading of proposed structures, this cannot be assessed at this stage

10.9 GEOTECHNICAL RISK REGISTER

A geotechnical review of the site has been carried out using the available information from the preliminary review to assess potential geotechnical hazards. This section will highlight the geotechnical risks associated with the proposed development but is a working document that should be reviewed and updated at every design stage.

Table 10-2 provides a risk register classification before and after design control measures are implemented. The scoring system used in this register is presented below in **Table 10-1**

Table 10-1 - Scoring system used in the Geotechnical Risk Register

Probability (P)		Impact/Consequence (I)		Risk $P \times I = R$	Impact/Consequence				
					1	2	3	4	5
Very Likely	5	Very High	5	Probability	1	2	3	4	5
Probable	4	High	4		2	4	6	8	10
Likely	3	Medium	3		3	6	9	12	15
Unlikely	2	Low	2		4	8	12	16	20
Negligible	1	Very Low	1		5	10	15	20	25



Table 10-2 - Geotechnical Risk Register

Item	Design / Construction risk	Cause	Consequence	P	I	R	Design Control Measure	P	I	R
1	Aggressive ground conditions and sulphate attack on concrete.	Naturally aggressive ground conditions, or due to contaminated ground.	Damage to concrete foundations required for structures.	2	3	6	Undertake additional ground investigation that samples and tests the encountered soils within the ground. Implement all recommendations of BRE Special Digest 1 for design and composition of buried concrete. If aggressive groundwaters are identified, then the use of a sulphate-resistant binder should be considered.	1	3	3
2	Unknown groundwater regime across the site.	Water strikes noted in limestone bedrock in Feb 2011 GI, however high water table or perched water table within superficial deposits possible.	Construction issues with ground water inundating excavations, drainage issues having impact on settlement and on longevity of design.	3	4	12	Groundwater levels to be investigated and monitored during additional GI to inform the detailed design. Temporary works designer to assess the need of pumping if required.	1	4	4
3	Excessive or differential settlement and insufficient bearing resistance.	Unknown thickness and extent of soft alluvial deposits across the site.	Failure of structure, repair costs, risk to human life.	4	4	16	Undertake suitable ground investigation and laboratory testing to identify strata thickness and geotechnical properties.	1	4	4

Item	Design / Construction risk	Cause	Consequence	P	I	R	Design Control Measure	P	I	R
							Consider removing soft spots, incorporating ground improvement (if superficial deposits are unsuitable founding material) or surcharging high risk areas.			
4	Made Ground	Lack of understanding of variability in Made Ground, especially in southeast of the site area.	Incorrect design assumption of engineered fill. Leading to potential differential settlement of heterogeneous Made Ground. Loss of serviceability of structures, costs of repairs.	3	3	9	Undertake thorough ground investigation to confirm Made Ground depth and composition. Structures to be designed in accordance with design standards. Geo-environmental testing of samples required. Potential for capping or removal of contaminated land.	1	3	3
5	Coal mining related subsidence	Collapse of the adit identified on site	Failure of structure, repair costs, risk to human life.	3	4	12	Undertake further desk based investigations of the adit. Design additional GI with the investigation of the adit in mind, to identify it's location and extents.	2	4	8
6	Soluble bedrock	Ground dissolution leading to underground cavities or voids.	Subsidence / Collapse of structure, damage to structure, cost of repairs.	2	3	6	Ground investigation to determine groundwater regime and chemistry.	1	3	3

Item	Design / Construction risk	Cause	Consequence	P	I	R	Design Control Measure	P	I	R
							Detailed design to consider the effect of soluble bedrock if required.			
7	Hard dig – from either relic foundations of past structures on site or from bedrock.	Foundations of previous structures on site unknown. Borehole logs show the limestone at shallow depths across parts of the site.	Difficulty when excavating the ground.	3	2	6	Ground Investigation required to set out nature of material. Contractor to consider and adopt appropriate plant to excavate hard geological strata.	2	2	4
8	Fryston Beck	Fryston Beck is indicated in culvert to run east-west under the site.	Culvert interfering with design of foundations. Damage of culvert during GI or construction.	3	4	12	More information is needed regarding the culvert, such and depth, diameter, flow rate. Undertake further desk study and obtain drawings if possible.	2	4	8



Item	Design / Construction risk	Cause	Consequence	P	I	R	Design Control Measure	P	I	R
9	Basal Permian Sands related subsidence	Surface movements/collapse of bedrock from underlying voiding caused by mining of Basal Permian Sands.	Failure of structure, repair costs, risk to human life.	3	4	12	Undertake further desk based investigations. Design additional GI with the investigation of the Basal Sands in mind, to identify depth to the strata is possible.	2	4	8

11 CONCLUSIONS AND RECOMMENDATIONS

11.1 INTRODUCTION

The site of the proposed Enfinium Ferrybridge Carbon Capture project occupies approximately 3.56 hectares of land, to the north of Ferrybridge, Knottingley, West Yorkshire. A site walkover was completed by a WSP representative on 2 October 2024. The site was reported as comprising four key areas; the north east being densely vegetated, the northern area being the previous oil storage area now vacant, the Keadby stores in the south being used for storage and a number of currently vacant former workshops / storage buildings in the south west.

The primary historical land use of the site was as a part of the Ferrybridge Power Station. Prior to the construction of the power stations, the site was undeveloped, likely farmland. Former land uses of note include former oil storage tanks in the northern area and storage buildings / workshops in the southern area. A pipeline is shown to have followed the southern boundary of the north eastern section.

Although not extensive, previous ground investigation data is available for the site. The ground investigation reports are dated February 2011 and May 2011.

11.2 LAND QUALITY

Risks to the key receptors are summarised below:

- Risks to future site users: A low to moderate risk has been assigned to human health receptors from potential contaminants in soil associated with historical land use as a Power Station with associated oil storage areas, Made Ground and pipelines. Although contaminants may be present the sites proposed future use as a carbon capture facility is considered a commercial end use and the potential for exposure to potential contaminants via e.g. direct contact is considered low given the likely nature of the site being either hardstanding or buildings;
- Risks during construction and maintenance: The risks to construction and maintenance works are considered to be low on the assumption that all works are completed in accordance with site specific RAMS which specify the use of appropriate PPE and mitigations measures relating to encountering potential contamination. The potential presence of asbestos fibres in shallow soils should be considered in future RAMS;
- Risks to controlled waters: Risks to groundwater are considered to be moderate, due to the high sensitivity of groundwater (Principal Aquifer) and the potential for contamination associated with historical tanks and site wide Made Ground. Fryston Beck flows directly beneath the site and has been assigned a risk rating of moderate on the basis that that the extent of potential connectivity between shallow groundwater and the beck is currently unknown. Further assessment, for example establishing the integrity of the culvert will enable refinement of this qualitative risk assessment;
- Based on the severity of the risk an initial risk rating of moderate has been assigned to potential risks posed by potential ground gases associated with anticipated site wide made ground; and,
- The site is located within an area with a radon potential of 1-3%, with a low risk. Therefore, radon protection measures are not considered necessary during development.

11.3 PRELIMINARY COAL MINING RISK ASSESSMENT

The following conclusions have been drawn from the preliminary Coal Mining Risk Assessment:

The CA Consultants Report records the site is not underlain by shallow mine workings. The shallowest worked coal seam in the vicinity of the site is in excess of 300m bgl.

An adit has been identified towards the west of the site. This is the only potential mine entry within 400m of the site.

There is evidence of ground subsidence from Basal Permian Sands mining in adjacent villages/towns to site. Much of the Basal Permian Sand mining is unrecorded.

11.4 GEOTECHNICAL

The ground conditions are anticipated to comprise Made Ground, overlying superficial deposits of Alluvium and Glaciofluvial Deposits, in turn overlying bedrock of the Cadeby Limestone Formation, the upper 1m approximately of which is weathered.

The Made Ground is not considered a suitable founding stratum given its composition and the risk of buried obstructions within the Made Ground. The foundations relating to historic site usage and current structures on site are unknown and may have to be removed.

The founding characteristics of the glacial and alluvial superficial soils across the two sites have the potential to vary considerably. In areas of thick drift alluvial deposits/deep rockhead a deeper piled foundation may be required to transfer loads to more competent strata beneath. Glaciofluvial sands and gravels may be considered suitable for shallow spread footings.

Limestone rockhead is recorded to shallow towards the north, to where Made Ground directly overlies it in the very north of the site. Depending on structural loading, shallow spread foundations or footings should be achievable within the weathered limestone bedrock.

Groundwater is noted to have been encountered within the limestone bedrock, however there is the possibility of perched groundwater within the superficial deposits which may affect design.

11.5 RECOMMENDATIONS

Based on the data present in this report, the following is recommended:

- Site specific ground investigation, especially in the southeast of the site where current information is limited, to assess the depth and material characteristics of the Made Ground, the superficial and bedrock geology. This will inform future foundation design;
- Ground investigation should target key areas of potential contamination sources such as the former oil storage area as well as general site wide coverage. A selection of monitoring wells should be installed to assess the risks posed by potential ground gases and also gain further understanding of groundwater quality;
- Any additional ground investigation works should include exploratory locations in the vicinity of the adit identified on site to better quantify its potential effect on design. This will also be dependant on the nature of additional information from the CA, currently outstanding. Ground investigation should also investigate depth to Basal Permian Sands or confirm Cadeby Limestone thickness as far as practicable;

- Any ground investigation works and groundwater monitoring should be proportionate to the size of the structure. Aggressive ground conditions are not expected to be encountered from the published superficial and bedrock geology of the site; however, an assessment of the concrete aggressivity of encountered deposits is required to understand their potential impact on any buried concrete structures;
- Soil sampling and tests to allow the identification of geotechnical design parameters (such as settlement, in-situ loading tests and shrink/swell potential) to assess bearing strength and input into detailed foundation designs;
- Obtain plans or as-built drawings of the current structure on site, if possible, to assess the foundations in anticipation of removal or reuse. Also obtain plans of the buried culvert carrying Fryston Beck; and,
- Production of a Phase 2 Ground Investigation Report with details of the environmental and geotechnical constraints/risks identified, recommendations for potential remedial options (if required), material management/ disposal recommendations and to feed into the construction RAMS, CEMP and waste management/disposal plans.

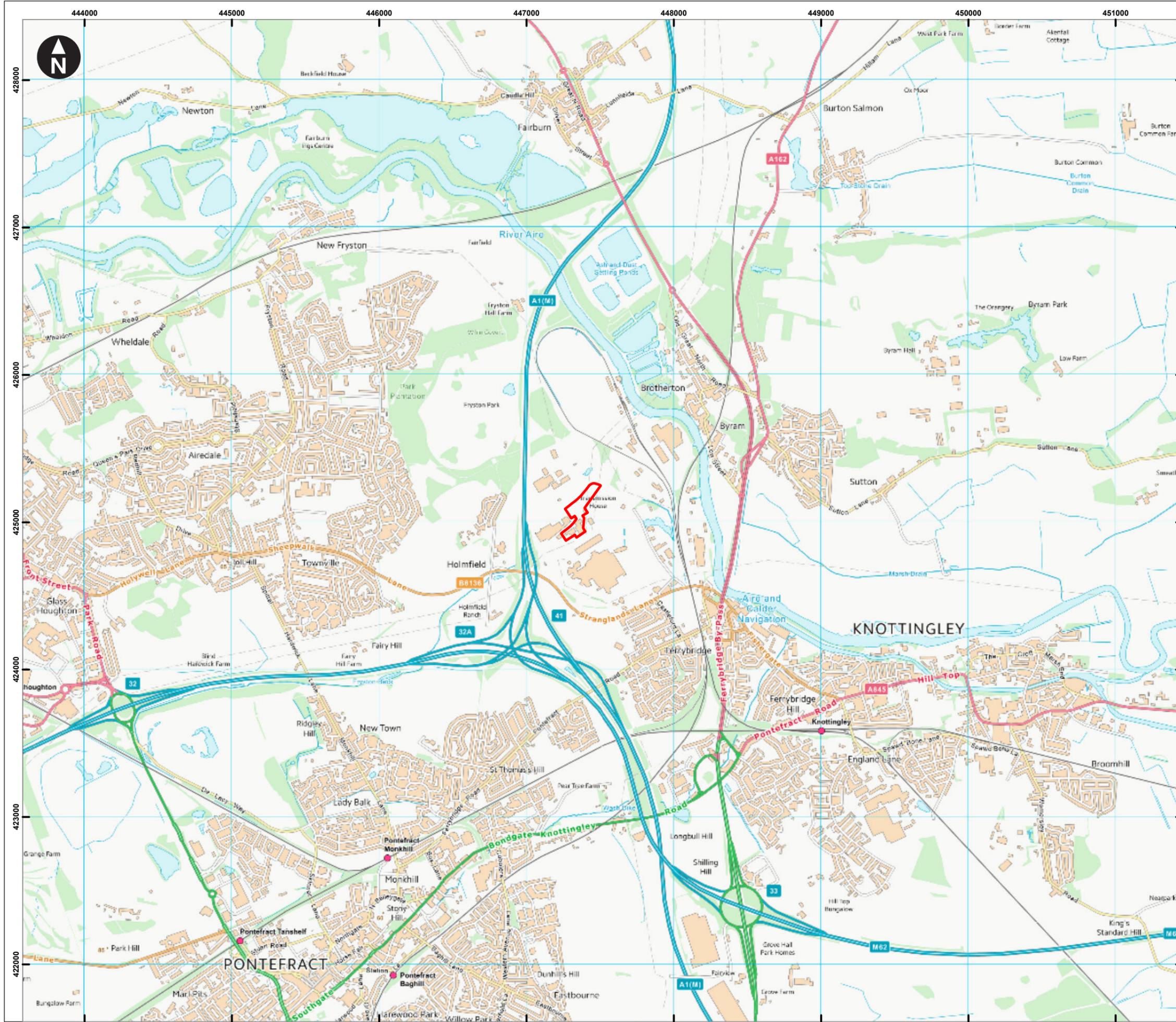
12 REFERENCES

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Appendix A

FIGURES & DRAWINGS





Key
 Site boundary

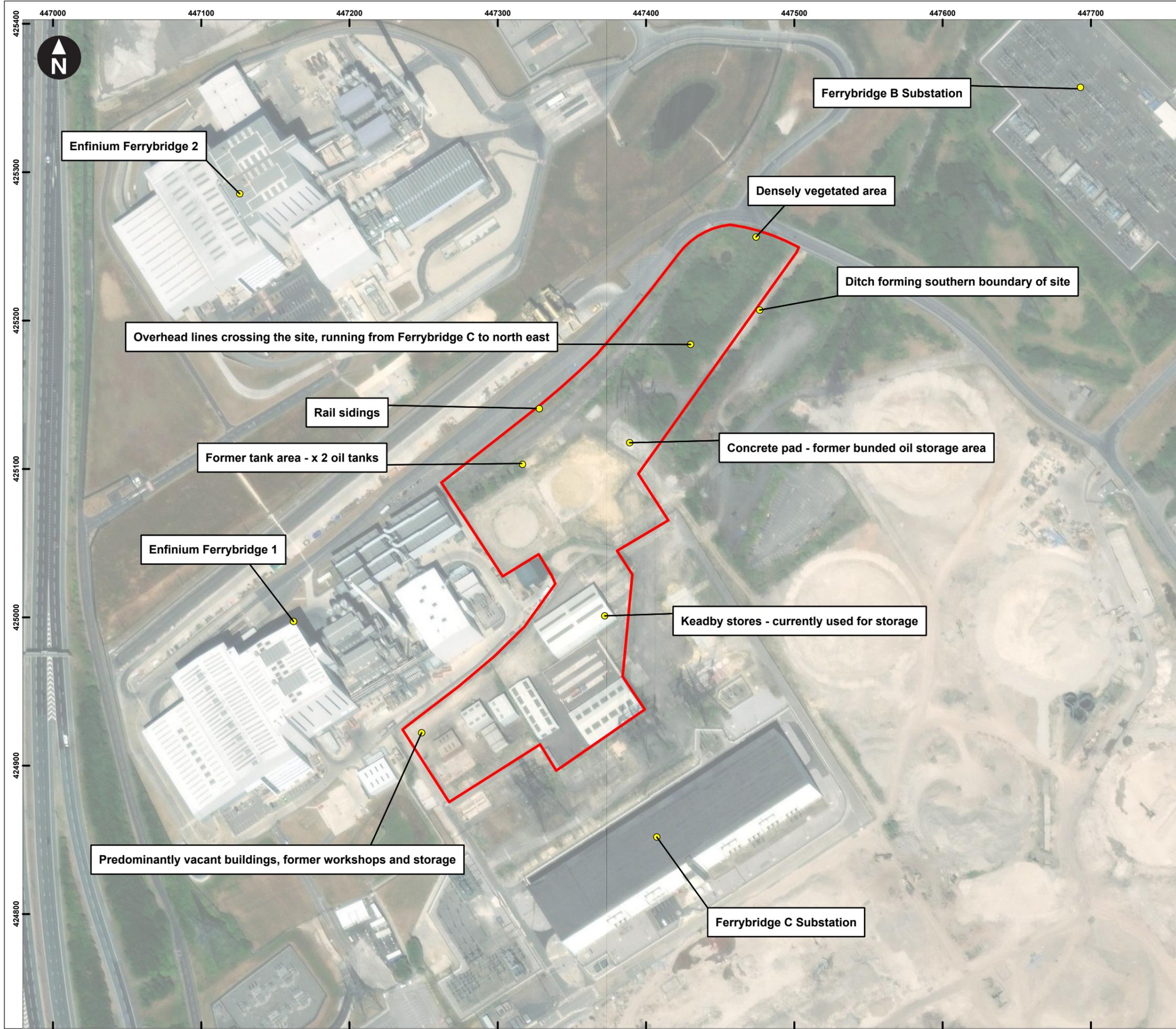
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 Scale at A3: 1:25,000
 OS Open Raster: Contains OS data © Crown Copyright and database right 2022

Enfinium Ferrybridge
 Geo-Environmental Preliminary Risk
 Assessment

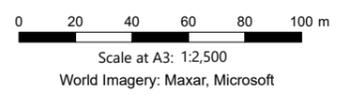
Figure 1
 Site location

October 2024





Key
Site boundary



Enfinium Ferrybridge
Geo-Environmental Preliminary Risk
Assessment

Figure 2
Site layout

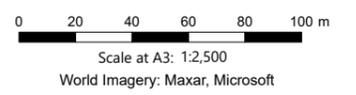
October 2024



\\uk.wspgroup.com\central_data\Projects\70093613 - Enfinium ETW Portfolio - CCUS Feasibility Study\03 WIP\02 Ferrybridge\G&WD\Drawings\ArcPro\70093613-WSPE-FG-OW-00004_P01.1.aprx Originator: UKBLB775



- Key
- Site boundary
 - + Previous exploratory holes (not exhaustive)
 - Features on site (not exhaustive)
 - ▲ Risks (not exhaustive)

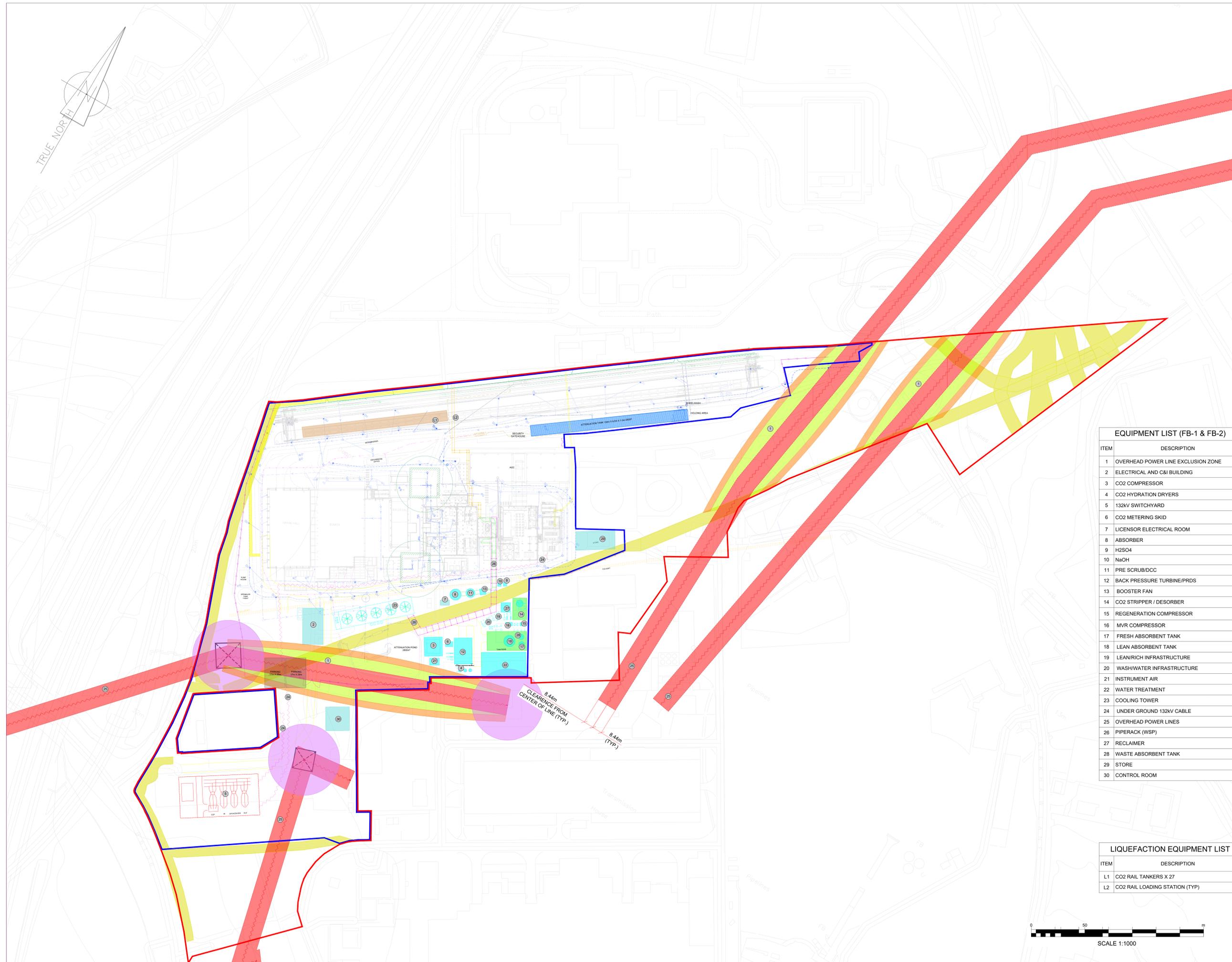
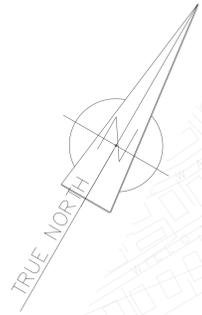


Enfinium Ferrybridge
Geo-Environmental Preliminary Risk
Assessment

Figure 3
Preliminary geotechnical / geo-
environmental site constraints plan

October 2024





NOTES
1. Buried services are present underground in the CCP area, foundation work is subject to a survey to avoid any interference with these services.

- LEGEND**
- Current EFW site boundary
 - DCO Limits
 - FB-1 SURFACE WATER
 - MANHOLE
 - INTERCEPTOR
 - FB-1 GULLY
 - FB-1 OUTLET UNIT
 - FB-1 RAIN WATER PIPE
 - FB-1 ATTENUATION TANK
 - FB-1 WASTE WATER
 - FB-1 DOMESTIC DRAIN
 - FB-1 FIRE WATER
 - FB-1 LAND DRAIN
 - FB-1 SURFACE WATER CATCHMENT BOUNDARY
 - FB-1 FENCELINE
 - INTERCONNECTOR
 - SUPERHEATER CRANE
 - OVERHEAD LINES
 - 132kV UG LINES
 - CULVERT
 - PYLON MAINTENANCE AREA
 - EQUIPMENT
 - BUILDINGS
 - TEMPORARY LAY DOWN AREA
 - TANK BUND
 - PARKING AREA
 - ATTENUATION TANK
 - ELECTRICAL EASEMENT
 - OHL EXCLUSION ZONE
 - INTERCONNECTION PIPE BRIDGE
 - PIPE BRIDGE

EQUIPMENT LIST (FB-1 & FB-2)

ITEM	DESCRIPTION
1	OVERHEAD POWER LINE EXCLUSION ZONE
2	ELECTRICAL AND C&I BUILDING
3	CO2 COMPRESSOR
4	CO2 HYDRATION DRYERS
5	132kV SWITCHYARD
6	CO2 METERING SKID
7	LICENSOR ELECTRICAL ROOM
8	ABSORBER
9	H2SO4
10	NaOH
11	PRE SCRUB/DCC
12	BACK PRESSURE TURBINE/PRDS
13	BOOSTER FAN
14	CO2 STRIPPER / DESORBER
15	REGENERATION COMPRESSOR
16	MVR COMPRESSOR
17	FRESH ABSORBENT TANK
18	LEAN ABSORBENT TANK
19	LEAN/RICH INFRASTRUCTURE
20	WASHWATER INFRASTRUCTURE
21	INSTRUMENT AIR
22	WATER TREATMENT
23	COOLING TOWER
24	UNDER GROUND 132kV CABLE
25	OVERHEAD POWER LINES
26	PIPERACK (WSP)
27	RECLAIMER
28	WASTE ABSORBENT TANK
29	STORE
30	CONTROL ROOM

REV	DATE	BY	DESCRIPTION	CHK	APP
2	30-09-2024	DT	EASMENTS CONSIDERED	MY	KB
1	26-08-2024	DT	SECOND ISSUE	MY	KB
0	23-07-2024	SP	FIRST ISSUE	MY	KB

INDICATIVE



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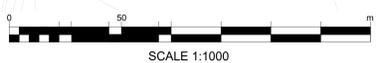
CLIENT: ENFINIUM

PROJECT: FERRYBRIDGE 1 & 2 CARBON CAPTURE PROJECT

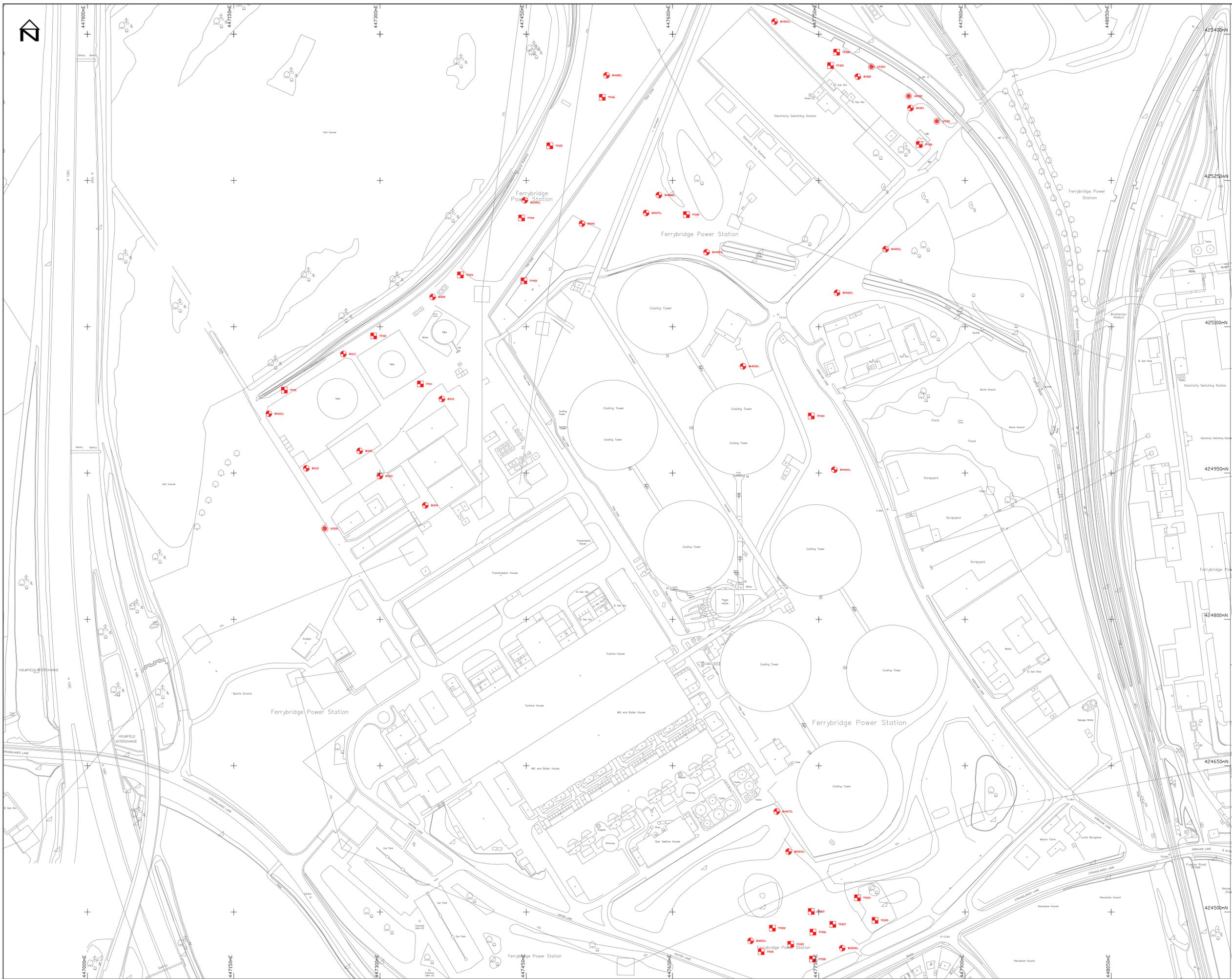
TITLE: FERRYBRIDGE 1 STICKBUILT CCP USING SSE LAND

LIQUEFACTION EQUIPMENT LIST

ITEM	DESCRIPTION
L1	CO2 RAIL TANKERS X 27
L2	CO2 RAIL LOADING STATION (TYP)



SCALE @ A0	CHECKED:	APPROVED:	
1:1000	MY	KB	
PROJECT NO	DESIGNED:	DRAWN:	DATE:
70093613	-	SP	30/09/24
DRAWING NO:	REV	DATE	REV
70093613-FB1-DWG-006A			2



GENERAL NOTES

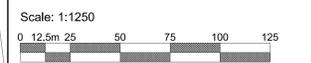
1) Coordinates and levels related to Ordnance Survey National Grid and Datum using Letalis VIVA dual frequency geodesic GPS receiver and Smartnet RTK correction. WGS84 position transformed using the Ordnance Survey OSTN02GM02 definitive transformation for the United Kingdom.
 2) Background mapping provided in digital format by client. Reproduced with the Permission of Ordnance Survey on the behalf of the Controller of Her Majesty's Stationery Office. Crown Copyright. All Rights Reserved. Licence No. 100000000.

CO-ORDINATES

Reference	East	North	Elevation
BH101			14.94
BH101CL	447186.09	425010.87	15.23
BH102	447279.25	424972.75	13.93
BH103	447299.90	424947.00	13.84
BH104	447346.53	424916.96	13.89
BH105	447354.08	425130.62	14.41
BH106	447507.19	425205.80	13.89
BH107			12.91
BH107CL	447572.93	425216.73	12.43
BH108			12.13
BH108CL	447532.35	425357.80	12.43
BH109			15.99
BH109CL	447448.52	425229.76	16.26
BH110	447363.56	425026.03	13.77
BH112	447224.48	424954.91	14.09
BH113	447262.52	425072.08	14.25
BH201			12.87
BH201CL	447680.12	424470.51	13.11
BH203			12.87
BH203CL	447774.05	424463.03	13.11
BH204			13.42
BH204CL	447719.06	424561.96	13.93
BH301			12.37
BH301CL	447704.69	425412.91	12.64
BH302	447790.01	425356.47	11.93
BH303	447844.10	425324.26	12.26
BH401			12.59
BH401CL	447818.58	425179.64	12.78
BH402			12.59
BH402CL	447768.71	425134.91	12.81
BH403			12.75
BH403CL	447672.30	425059.51	13.10
BH404			12.00
BH404CL	447765.93	424953.49	12.54
BH405			12.76
BH405CL	447634.91	425176.49	13.15
BH406			12.00
BH406CL	447586.05	425235.04	12.30
BH407			14.41
BH407CL	447706.82	424603.08	14.77
TP101	447201.96	425035.12	15.09
TP102	447293.60	425090.63	14.21
TP103	447382.54	425153.17	15.14
TP104	447445.28	425211.62	16.09
TP105	447474.21	425285.57	13.94
TP106	447528.01	425335.34	12.95
TP108	447614.25	425215.01	12.55
TP111	447341.52	425041.39	13.86
TP201	447690.92	424459.32	12.82
TP202	447702.43	424463.52	12.87
TP203	447742.31	424500.62	12.61
TP204	447789.62	424514.63	13.24
TP205	447721.20	424466.96	12.80
TP206	447744.05	424479.43	12.70
TP207	447764.40	424487.40	12.54
TP208	447743.60	424451.75	12.90
TP209	447807.67	424491.49	13.45
TP302	447768.29	425381.54	11.44
TP303	447762.05	425367.81	11.47
TP306	447852.97	425286.89	12.60
TP403	447742.33	425008.58	12.00
TP405	447447.67	425147.16	15.18
WS102	447243.53	424893.14	13.54
WS301	447871.02	425310.79	11.94
WS302	447842.16	425336.52	12.26
WS303	447803.96	425366.56	12.07

LEGEND TO SYMBOLS

- Denotes Borehole Location
- Denotes Trial Pit Location
- Denotes Window Sample Location



0	DPJ	OCT '10	PMJ	OCT '10	Approved
Rev	Drawn	Date	Approv.	Date	Modification Details

AMENDMENTS

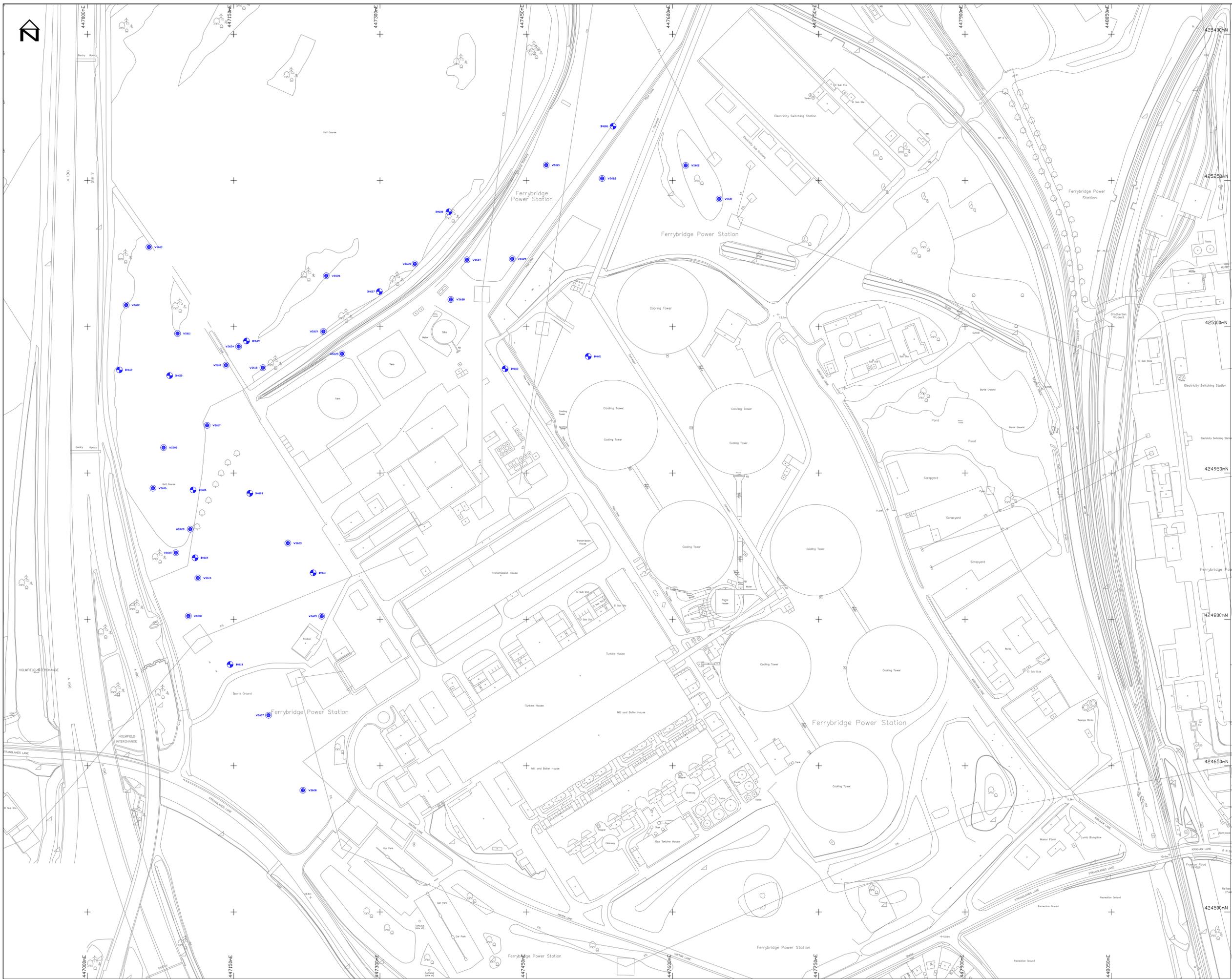
Title

SITE PLAN

Project	FERRYBRIDGE MULTI-FUEL POWER STATION
Client	Scottish and Southern Energy Generation Ltd



Date	11/10/10	Drawn By	PMJ	Approv. By	BS
Sheet Size	A0	Scale	1:1250	Project No	A0054-10
Figure No	F2	Rev	0		



GENERAL NOTES

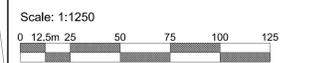
1) Coordinates and levels related to Ordnance Survey National Grid and Datum using Letica's VIVA dual frequency geodesic GPS receiver and Smartnet RTK correction. WGS84 position transformed using the Ordnance Survey OSTN02GM02 definitive transformation for the United Kingdom.
 2) Background mapping provided in digital format by client. Reproduced with the Permission of Ordnance Survey on the behalf of The Controller of Her Majesty's Stationery Office. Crown Copyright. All Rights Reserved. Licence No. 10000600.

CO-ORDINATES

Reference	East	North	Elevation
BH601	447513.60	425069.65	12.69
BH602	447428.36	425056.98	14.62
BH603	447166.58	424929.26	14.13
BH604	447110.46	424863.18	14.54
BH605	447108.39	424932.79	14.66
BH606	447539.06	425305.63	13.26
BH607	447299.44	425136.13	14.30
BH608	447370.75	425217.95	15.04
BH609	447163.18	425085.46	16.46
BH610	447084.39	425050.00	18.09
BH611	447231.55	424847.77	13.66
BH612	447032.86	425055.82	20.56
WS613	447146.37	424793.79	16.25
WS601	447647.76	425231.13	12.14
WS602	447613.59	425265.45	12.52
WS603	447205.60	424878.21	13.84
WS605	447420.33	424803.30	14.02
WS606	447103.56	424803.56	15.77
WS607	447103.56	424701.78	17.03
WS608	447221.03	424624.84	19.33
WS609	447078.11	424976.15	17.79
WS610	447142.13	425060.66	16.70
WS611	447092.44	425093.11	18.20
WS612	447039.82	425122.27	22.05
WS613	447063.15	425181.77	21.32
WS614	447113.29	424842.51	15.02
WS615	447090.78	424868.36	13.87
WS616	447067.27	424934.49	15.77
WS617	447122.78	424998.99	16.45
WS618	447179.97	425058.10	15.02
WS619	447241.97	425095.23	14.63
WS620	447335.81	425164.50	14.47
WS621	447470.53	425265.73	14.26
WS622	447527.84	425252.09	12.97
WS623	447105.49	424892.52	14.23
WS624	447155.14	425072.80	17.20
WS625	447261.14	425072.30	14.21
WS626	447244.97	425152.30	15.37
WS627	447389.28	425168.69	15.18
WS628	447372.68	425128.02	14.85
WS629	447435.66	425169.67	15.23

LEGEND TO SYMBOLS

- Denotes Borehole Location
- Denotes Window Sample Location



Rev	Drawn	Date	Appov.	Date	Modification Details
1	AW	MAR '11	JH	MAR '11	Phase 2 positions
0	DPJ	OCT '10	PMJ	OCT '10	Approved

AMENDMENTS

Title

SITE PLAN

Project

FERRYBRIDGE MULTI-FUEL POWER STATION - PHASE 2

Client

Scottish and Southern Energy PLC



Date	Drawn By	Appov. By
11/10/10	PMJ	MT

Sheet Size	Scale	Project No
A0	1:1250	A1008-11

Figure No	Rev
F2	1

Appendix B

GROUNDSURE REPORT



447362,425069,

Order Details

Date: 03/10/2024
Your ref: UK-70093613-067_Ferrybridge_C
Our Ref: GS-YZ2-V1I-37B-Q7E

Site Details

Location: 447362 425069
Area: 3.56 ha
Authority: [Wakefield Metropolitan District Council](#) ↗



[Summary of findings](#)

[p. 2 > Aerial image](#)

[p. 9 >](#)

[OS MasterMap site plan](#)

[p.14 > Insight User Guide](#) ↗

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
15 >	1.1 >	Historical industrial land uses >	6	0	10	31	-
17 >	1.2 >	Historical tanks >	2	4	1	23	-
19 >	1.3 >	Historical energy features >	4	0	17	15	-
20	1.4	Historical petrol stations	0	0	0	0	-
21	1.5	Historical garages	0	0	0	0	-
21	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped >	On site	0-50m	50-250m	250-500m	500-2000m
22 >	2.1 >	Historical industrial land uses >	6	0	9	44	-
25 >	2.2 >	Historical tanks >	2	4	1	39	-
27 >	2.3 >	Historical energy features >	9	1	23	26	-
29	2.4	Historical petrol stations	0	0	0	0	-
29	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
30	3.1	Active or recent landfill	0	0	0	0	-
30 >	3.2 >	Historical landfill (BGS records) >	0	0	1	0	-
31 >	3.3 >	Historical landfill (LA/mapping records) >	0	0	0	1	-
31 >	3.4 >	Historical landfill (EA/NRW records) >	0	1	0	0	-
32 >	3.5 >	Historical waste sites >	0	0	1	8	-
33 >	3.6 >	Licensed waste sites >	0	0	0	1	-
34 >	3.7 >	Waste exemptions >	0	0	0	11	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
36 >	4.1 >	Recent industrial land uses >	5	6	15	-	-
38	4.2	Current or recent petrol stations	0	0	0	0	-
38 >	4.3 >	Electricity cables >	3	2	2	5	-
39	4.4	Gas pipelines	0	0	0	0	-
40	4.5	Sites determined as Contaminated Land	0	0	0	0	-



40 >	4.6 >	Control of Major Accident Hazards (COMAH) >	2	0	0	0	-
40	4.7	Regulated explosive sites	0	0	0	0	-
40 >	4.8 >	Hazardous substance storage/usage >	0	0	1	0	-
41	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
41 >	4.10 >	Licensed industrial activities (Part A(1)) >	0	11	70	1	-
55 >	4.11 >	Licensed pollutant release (Part A(2)/B) >	0	0	1	1	-
55	4.12	Radioactive Substance Authorisations	0	0	0	0	-
55 >	4.13 >	Licensed Discharges to controlled waters >	0	0	1	2	-
56	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
56	4.15	Pollutant release to public sewer	0	0	0	0	-
56	4.16	List 1 Dangerous Substances	0	0	0	0	-
57	4.17	List 2 Dangerous Substances	0	0	0	0	-
57 >	4.18 >	Pollution Incidents (EA/NRW) >	0	0	0	5	-
58 >	4.19 >	Pollution inventory substances >	0	12	14	0	-
66 >	4.20 >	Pollution inventory waste transfers >	0	2	1	0	-
76	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology >	On site	0-50m	50-250m	250-500m	500-2000m
77 >	5.1 >	Superficial aquifer >	Identified (within 500m)				
79 >	5.2 >	Bedrock aquifer >	Identified (within 500m)				
81 >	5.3 >	Groundwater vulnerability >	Identified (within 50m)				
82 >	5.4 >	Groundwater vulnerability- soluble rock risk >	Identified (within 0m)				
83	5.5	Groundwater vulnerability- local information	None (within 0m)				
84 >	5.6 >	Groundwater abstractions >	0	0	23	6	11
95 >	5.7 >	Surface water abstractions >	0	0	0	0	23
101	5.8	Potable abstractions	0	0	0	0	0
101	5.9	Source Protection Zones	0	0	0	0	-
101	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology >	On site	0-50m	50-250m	250-500m	500-2000m
102 >	6.1 >	Water Network (OS MasterMap) >	1	1	2	-	-



103 >	6.2 >	Surface water features >	0	0	1	-	-
103 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
104 >	6.4 >	WFD Surface water bodies >	1	0	0	-	-
104 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding >	On site	0-50m	50-250m	250-500m	500-2000m
105 >	7.1 >	Risk of flooding from rivers and the sea >	High (within 50m)				
106	7.2	Historical Flood Events	0	0	0	-	-
106	7.3	Flood Defences	0	0	0	-	-
106	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
106	7.5	Flood Storage Areas	0	0	0	-	-
107 >	7.6 >	Flood Zone 2 >	Identified (within 50m)				
108 >	7.7 >	Flood Zone 3 >	Identified (within 50m)				
Page	Section	Surface water flooding >					
109 >	8.1 >	Surface water flooding >	1 in 30 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding >					
111 >	9.1 >	Groundwater flooding >	High (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
112 >	10.1 >	Sites of Special Scientific Interest (SSSI) >	0	0	0	0	1
113	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
113	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
113	10.4	Special Protection Areas (SPA)	0	0	0	0	0
113	10.5	National Nature Reserves (NNR)	0	0	0	0	0
114	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
114	10.7	Designated Ancient Woodland	0	0	0	0	0
114	10.8	Biosphere Reserves	0	0	0	0	0
114	10.9	Forest Parks	0	0	0	0	0
115	10.10	Marine Conservation Zones	0	0	0	0	0
115 >	10.11 >	Green Belt >	0	0	0	1	1
115	10.12	Proposed Ramsar sites	0	0	0	0	0



115	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
116	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
116	10.15	Nitrate Sensitive Areas	0	0	0	0	0
116 >	10.16 >	Nitrate Vulnerable Zones >	2	0	0	0	4
117 >	10.17 >	SSSI Impact Risk Zones >	2	-	-	-	-
118 >	10.18 >	SSSI Units >	0	0	0	0	1
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
120	11.1	World Heritage Sites	0	0	0	-	-
120	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
120	11.3	National Parks	0	0	0	-	-
120	11.4	Listed Buildings	0	0	0	-	-
121	11.5	Conservation Areas	0	0	0	-	-
121	11.6	Scheduled Ancient Monuments	0	0	0	-	-
121	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
122 >	12.1 >	Agricultural Land Classification >	Grade 3b (within 250m)				
123	12.2	Open Access Land	0	0	0	-	-
123 >	12.3 >	Tree Felling Licences >	0	0	5	-	-
124	12.4	Environmental Stewardship Schemes	0	0	0	-	-
124	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations >	On site	0-50m	50-250m	250-500m	500-2000m
125	13.1	Priority Habitat Inventory	0	0	0	-	-
125 >	13.2 >	Habitat Networks >	0	0	2	-	-
126	13.3	Open Mosaic Habitat	0	0	0	-	-
126	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
127 >	14.1 >	10k Availability >	Identified (within 500m)				
128 >	14.2 >	Artificial and made ground (10k) >	2	0	1	2	-
130 >	14.3 >	Superficial geology (10k) >	4	0	0	1	-



131	14.4	Landslip (10k)	0	0	0	0	-
132 >	14.5 >	Bedrock geology (10k) >	2	0	0	3	-
133 >	14.6 >	Bedrock faults and other linear features (10k) >	0	0	0	8	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
134 >	15.1 >	50k Availability >	Identified (within 500m)				
135 >	15.2 >	Artificial and made ground (50k) >	1	0	1	0	-
136 >	15.3 >	Artificial ground permeability (50k) >	2	0	-	-	-
137 >	15.4 >	Superficial geology (50k) >	3	0	0	0	-
138 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
138	15.6	Landslip (50k)	0	0	0	0	-
138	15.7	Landslip permeability (50k)	None (within 50m)				
139 >	15.8 >	Bedrock geology (50k) >	1	0	0	2	-
140 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
140 >	15.10 >	Bedrock faults and other linear features (50k) >	0	0	0	2	-
Page	Section	Boreholes >	On site	0-50m	50-250m	250-500m	500-2000m
141 >	16.1 >	BGS Boreholes >	19	25	80	-	-
Page	Section	Natural ground subsidence >					
148 >	17.1 >	Shrink swell clays >	Very low (within 50m)				
149 >	17.2 >	Running sands >	Very low (within 50m)				
151 >	17.3 >	Compressible deposits >	Very low (within 50m)				
153 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
154 >	17.5 >	Landslides >	Very low (within 50m)				
155 >	17.6 >	Ground dissolution of soluble rocks >	Very low (within 50m)				
Page	Section	Mining and ground workings >	On site	0-50m	50-250m	250-500m	500-2000m
157 >	18.1 >	BritPits >	0	0	1	0	-
158 >	18.2 >	Surface ground workings >	0	4	3	-	-
158 >	18.3 >	Underground workings >	0	0	0	0	5
159	18.4	Underground mining extents	0	0	0	0	-
159 >	18.5 >	Historical Mineral Planning Areas >	1	0	1	0	-



160 >	18.6 >	Non-coal mining >	0	0	0	1	2
160	18.7	JPB mining areas	None (within 0m)				
160	18.8	The Coal Authority non-coal mining	0	0	0	0	-
161	18.9	Researched mining	0	0	0	0	-
161	18.10	Mining record office plans	0	0	0	0	-
161 >	18.11 >	BGS mine plans >	4	0	0	1	-
162 >	18.12 >	Coal mining >	Identified (within 0m)				
162	18.13	Brine areas	None (within 0m)				
162	18.14	Gypsum areas	None (within 0m)				
162	18.15	Tin mining	None (within 0m)				
162	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes >	On site	0-50m	50-250m	250-500m	500-2000m
163	19.1	Natural cavities	0	0	0	0	-
164 >	19.2 >	Mining cavities >	0	0	0	0	1
164	19.3	Reported recent incidents	0	0	0	0	-
164	19.4	Historical incidents	0	0	0	0	-
165	19.5	National karst database	0	0	0	0	-
Page	Section	Radon >					
166 >	20.1 >	Radon >	Between 1% and 3% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
168 >	21.1 >	BGS Estimated Background Soil Chemistry >	8	0	-	-	-
169	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
169	21.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects >	On site	0-50m	50-250m	250-500m	500-2000m
170	22.1	Underground railways (London)	0	0	0	-	-
170	22.2	Underground railways (Non-London)	0	0	0	-	-
171	22.3	Railway tunnels	0	0	0	-	-
171 >	22.4 >	Historical railway and tunnel features >	2	3	4	-	-
171	22.5	Royal Mail tunnels	0	0	0	-	-



172	22.6	Historical railways	0	0	0	-	-
172 >	22.7 >	Railways >	3	3	0	-	-
172	22.8	Crossrail 1	0	0	0	0	-
172	22.9	Crossrail 2	0	0	0	0	-
173	22.10	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 12/04/2021

Site Area: 3.56ha



Recent site history - 2020 aerial photograph

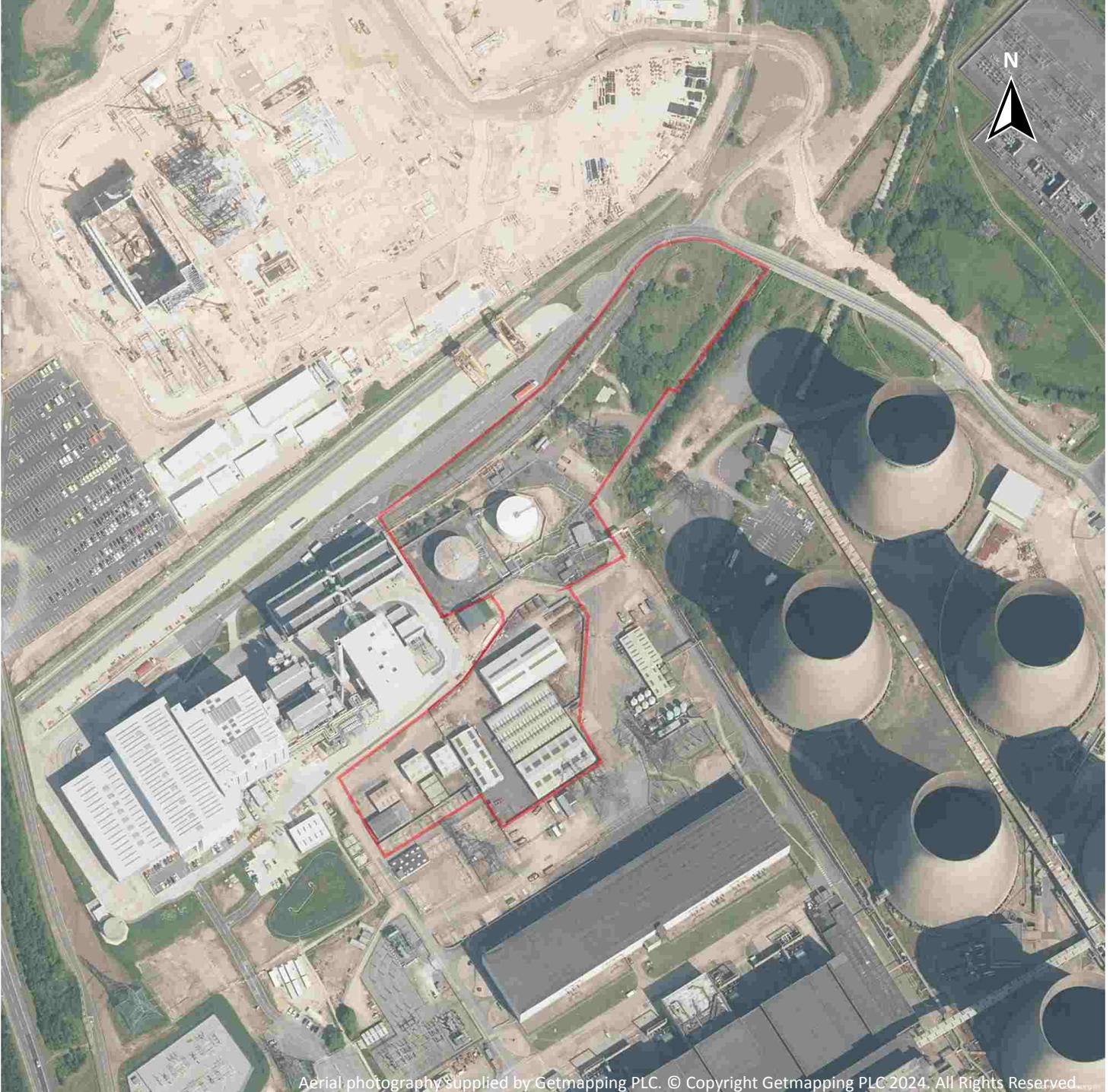


Capture Date: 24/06/2020

Site Area: 3.56ha



Recent site history - 2017 aerial photograph



Capture Date: 19/09/2017

Site Area: 3.56ha



Recent site history - 2012 aerial photograph



Capture Date: 26/03/2012

Site Area: 3.56ha



Recent site history - 1999 aerial photograph

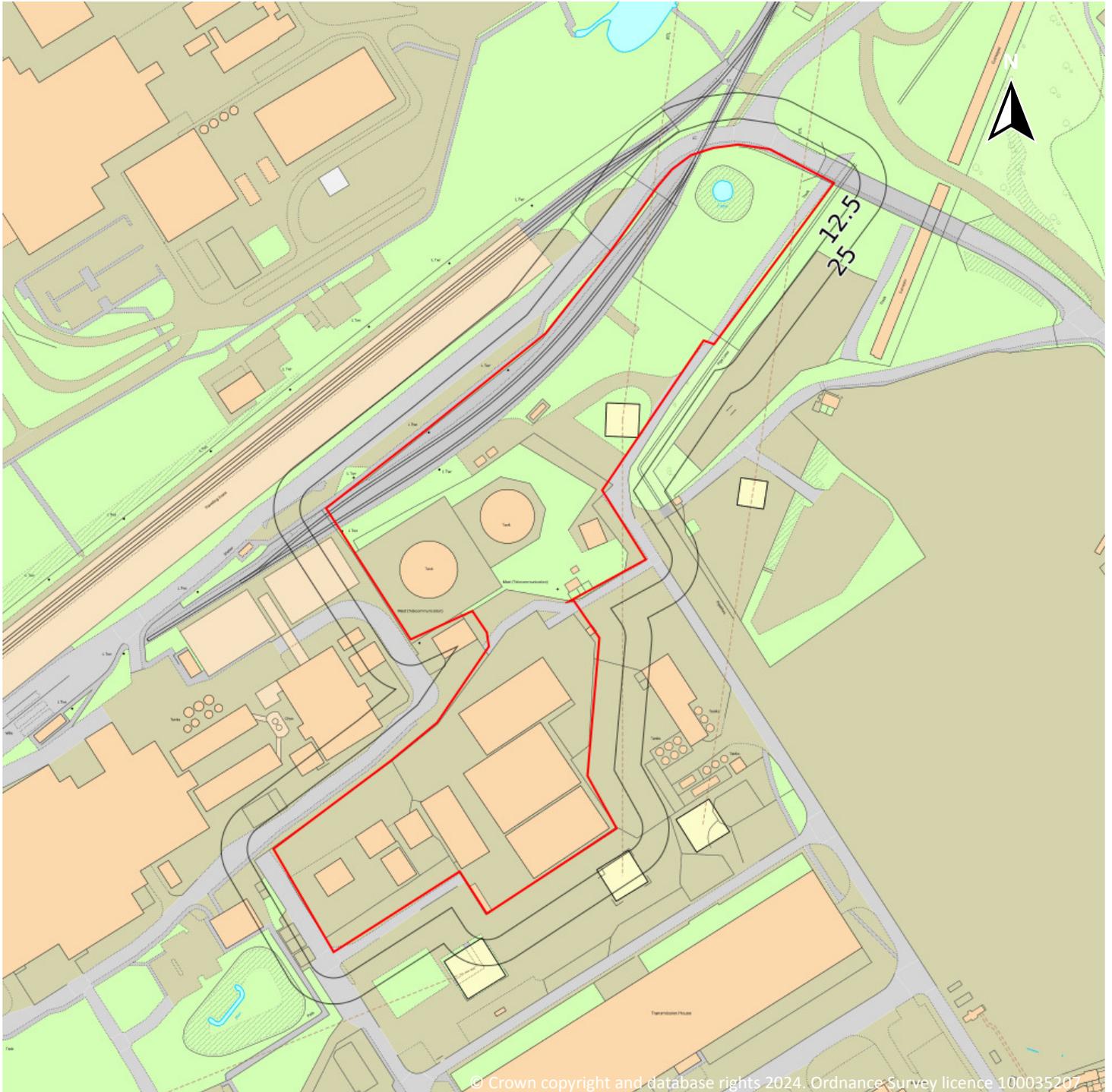


Capture Date: 10/07/1999

Site Area: 3.56ha



OS MasterMap site plan

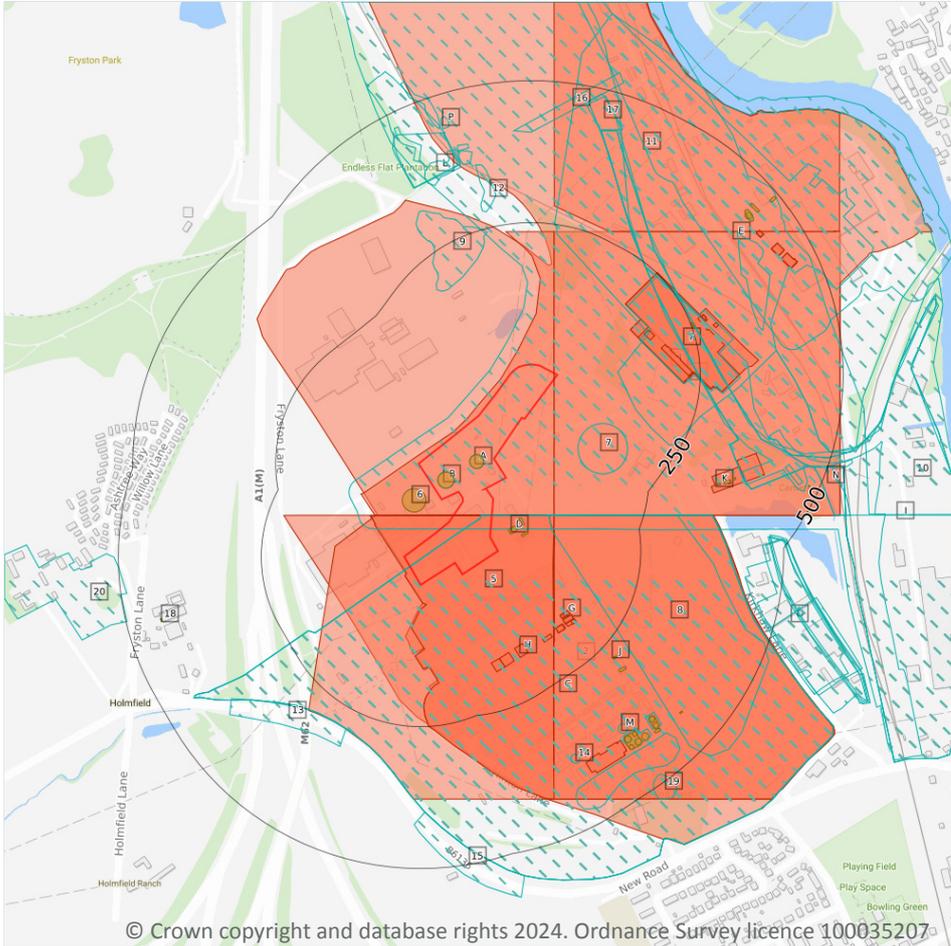


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Site Area: 3.56ha



1 Past land use



— Site Outline

Search buffers in metres (m)

- Historical industrial land uses
- Historical tanks
- Historical energy features

1.1 Historical industrial land uses

Records within 500m **47**

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 1:10,560 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 15 >](#)

ID	Location	Land use	Dates present	Group ID
1	On site	Railway Sidings	1982	1565917

ID	Location	Land use	Dates present	Group ID
A	On site	Unspecified Tank	1982	1473502
B	On site	Unspecified Tank	1982	1473503
C	On site	Power Station	1982	1481523
C	On site	Power Station	1975	1481524
C	On site	Power Station	1968	1481606
7	98m E	Unspecified Tank	1967	1473500
8	99m SE	Unspecified Tanks	1968	1443359
E	106m NE	Unspecified Works	1967	1555863
F	156m NE	Power Station	1982	1432752
9	184m N	Sand and Gravel Pits	1950 - 1953	1572605
10	216m NE	Railway Sidings	1953	1550304
I	220m NE	Railway Sidings	1950	1481395
I	220m NE	Railway Sidings	1953	1481396
I	220m NE	Railway Sidings	1956	1481397
E	245m NE	Railway Sidings	1967	1542066
12	279m N	Refuse Heap	1967	1435179
13	285m SW	Cuttings	1965	1433607
L	352m N	Unspecified Heap	1967	1468116
E	353m NE	Unspecified Commercial/Industrial	1982	1431924
E	361m NE	Refuse Heap	1967	1435180
L	364m N	Sand and Gravel Pit	1950 - 1953	1535592
L	365m N	Sand and Gravel Pits	1950	1445231
L	368m N	Unspecified Heap	1967	1468117
14	372m S	Chimney	1968 - 1982	1493255
M	373m SE	Chimney	1975 - 1982	1544337
N	387m E	Refuse Heap	1967	1493617
M	391m SE	Unspecified Tanks	1975 - 1982	1571463
M	393m SE	Unspecified Tanks	1975 - 1982	1578504



ID	Location	Land use	Dates present	Group ID
L	395m N	Unspecified Ground Workings	1967	1440530
15	401m S	Cuttings	1968 - 1982	1564259
L	401m N	Unspecified Ground Workings	1967	1440528
16	409m N	Railway Sidings	1950	1481205
M	426m S	Unspecified Heap	1975 - 1982	1540594
17	429m N	Railway Sidings	1950	1557779
N	431m E	Railway Station	1953	1443232
E	432m NE	Unspecified Tank	1982	1472248
O	435m E	Disused Sludge Beds	1975	1479421
P	440m N	Unspecified Heap	1967	1468115
P	443m N	Unspecified Ground Workings	1967	1440527
O	462m SE	Unspecified Works	1968	1460554
O	467m E	Sewage Works	1938	1489534
O	467m E	Sewage Works	1953 - 1965	1505595
O	468m E	Sewage Works	1950	1541761
19	484m SE	Unspecified Heap	1975 - 1982	1578170
20	490m W	Nursery	1975 - 1982	1539368
O	495m SE	Unspecified Depot	1982	1445462

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

30

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 15 >](#)



ID	Location	Land use	Dates present	Group ID
A	On site	Unspecified Tank	1985	241117
B	On site	Unspecified Tank	1985	241116
6	21m W	Unspecified Tank	1985	241115
D	31m SE	Tanks	1994	235096
D	48m SE	Tanks	1994	235095
D	49m SE	Tanks	1994	235243
F	250m NE	Tanks	1972	256291
F	250m NE	Tanks	1973 - 1994	261742
J	275m SE	Tanks	1968	235240
J	297m SE	Tanks	1968 - 1973	245672
K	339m E	Tanks	1933	235091
K	347m E	Tanks	1933	235090
K	357m E	Tanks	1933	235092
M	394m SE	Tanks	1968	255819
M	395m SE	Tanks	1968	248086
M	395m SE	Tanks	1973 - 1994	257752
M	396m SE	Tanks	1973 - 1994	260345
M	397m SE	Tanks	1973 - 1994	256967
M	408m SE	Tanks	1973 - 1994	249654
M	410m SE	Tanks	1973 - 1994	250542
M	410m SE	Tanks	1973 - 1994	251231
M	413m SE	Tanks	1973 - 1994	251119
M	419m SE	Tanks	1994	235093
M	427m SE	Unspecified Tank	1994	240736
E	431m NE	Unspecified Tank	1985	257528
E	433m NE	Tanks	1972 - 1973	257053
18	438m SW	Unspecified Tank	1959	241120
E	451m NE	Tanks	1972 - 1985	246580



ID	Location	Land use	Dates present	Group ID
N	481m E	Unspecified Tank	1907	240730
E	482m NE	Tanks	1972 - 1985	259659

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m

36

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 15 >](#)

ID	Location	Land use	Dates present	Group ID
2	On site	Power Station	1968	154529
3	On site	Power Station	1994	154688
4	On site	Power Station	1970 - 1973	156668
5	On site	Power Station	1982 - 1985	160595
F	151m NE	Electricity Substations	1994	144835
F	151m NE	Electricity Switching Station	1994	150523
F	156m NE	Electricity Switching Station	1972	154170
G	157m SE	Electricity Substation	1994	143910
G	157m SE	Electricity Transformer	1973	145116
H	159m S	Electricity Transformers	1973	145048
H	160m S	Electricity Transformer	1973	155325
H	162m S	Electricity Transformers	1973	145051
G	166m SE	Electricity Substation	1994	143911
G	166m SE	Electricity Transformer	1973	152969
F	168m NE	Electricity Transformer	1972 - 1973	149213
G	169m SE	Electricity Substation	1994	143912



ID	Location	Land use	Dates present	Group ID
G	170m SE	Electricity Transformer	1973	145117
G	173m SE	Electricity Transformers	1973	145050
G	175m SE	Electricity Substation	1994	143913
G	177m SE	Electricity Transformer	1973	147052
F	188m NE	Electricity Transformers	1972 - 1973	159500
11	266m NE	Power Station	1985	146385
F	272m NE	Electricity Substation	1973 - 1994	158140
F	272m NE	Electricity Substation	1972	149820
F	287m NE	Electricity Substation	1972 - 1994	154426
K	324m E	Electricity Substation	1972 - 1973	146578
K	349m E	Electricity Substation	1972 - 1994	154085
K	352m E	Electricity Substation	1994	150644
M	394m S	Gas Turbine House	1973 - 1994	148527
E	428m NE	Electricity Substation	1994	142153
E	428m NE	Electricity Transformer	1973	153096
E	429m NE	Electricity Transformer	1972	146590
E	435m NE	Electricity Substations	1994	144832
E	436m NE	Electricity Transformers	1972 - 1973	145420
E	442m NE	Electricity Substations	1994	144833
E	442m NE	Electricity Transformers	1972 - 1973	161573

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m

0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.



1.5 Historical garages

Records within 500m

0

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

Records within 500m

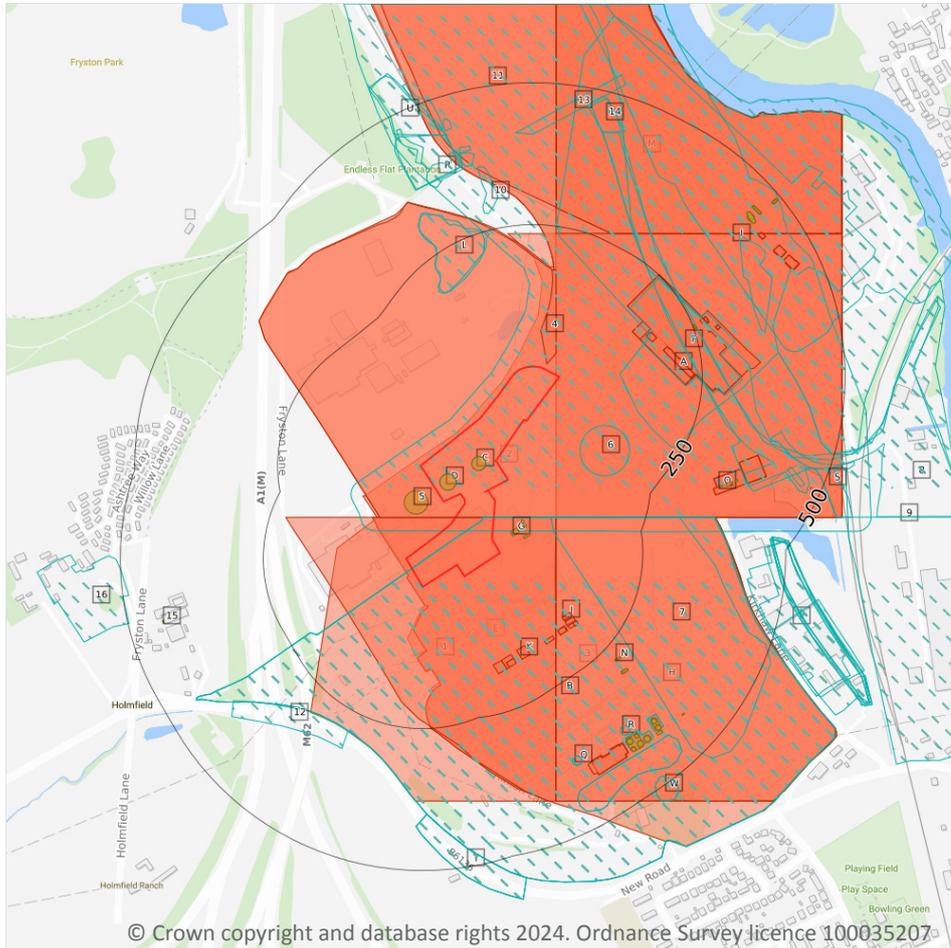
0

Areas of military land digitised from multiple sources including the National Archives, local records, MOD records and verified other sources, intelligently grouped into contiguous features.

This data is sourced from Ordnance Survey / Groundsure / other sources.



2 Past land use - un-grouped



Site Outline

Search buffers in metres (m)

- Historical industrial land uses
- Historical tanks
- Historical energy features

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2.1 Historical industrial land uses

Records within 500m **59**

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 10,560 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on [page 22](#) >

ID	Location	Land Use	Date	Group ID
A	On site	Railway Sidings	1982	1565917
B	On site	Power Station	1982	1481523
B	On site	Power Station	1975	1481524

ID	Location	Land Use	Date	Group ID
B	On site	Power Station	1968	1481606
C	On site	Unspecified Tank	1982	1473502
D	On site	Unspecified Tank	1982	1473503
6	98m E	Unspecified Tank	1967	1473500
7	99m SE	Unspecified Tanks	1968	1443359
I	106m NE	Unspecified Works	1967	1555863
F	156m NE	Power Station	1982	1432752
L	184m N	Sand and Gravel Pits	1953	1572605
L	185m N	Sand and Gravel Pits	1950	1572605
8	216m NE	Railway Sidings	1953	1550304
9	220m NE	Railway Sidings	1950	1481395
I	245m NE	Railway Sidings	1967	1542066
10	279m N	Refuse Heap	1967	1435179
12	285m SW	Cuttings	1965	1433607
P	352m N	Unspecified Heap	1967	1468116
I	353m NE	Unspecified Commercial/Industrial	1982	1431924
I	361m NE	Refuse Heap	1967	1435180
P	364m N	Sand and Gravel Pit	1953	1535592
P	365m N	Sand and Gravel Pits	1950	1445231
P	368m N	Unspecified Heap	1967	1468117
Q	372m S	Chimney	1982	1493255
Q	372m S	Chimney	1975	1493255
Q	372m S	Chimney	1968	1493255
R	373m SE	Chimney	1982	1544337
R	373m SE	Chimney	1975	1544337
S	387m E	Refuse Heap	1967	1493617
R	391m SE	Unspecified Tanks	1982	1571463
R	391m SE	Unspecified Tanks	1975	1571463



ID	Location	Land Use	Date	Group ID
R	393m SE	Unspecified Tanks	1982	1578504
R	393m SE	Unspecified Tanks	1975	1578504
P	395m N	Unspecified Ground Workings	1967	1440530
T	401m S	Cuttings	1982	1564259
T	401m S	Cuttings	1975	1564259
T	401m S	Cuttings	1968	1564259
P	401m N	Unspecified Ground Workings	1967	1440528
13	409m N	Railway Sidings	1950	1481205
R	426m S	Unspecified Heap	1982	1540594
R	426m S	Unspecified Heap	1975	1540594
14	429m N	Railway Sidings	1950	1557779
S	431m E	Railway Station	1953	1443232
I	432m NE	Unspecified Tank	1982	1472248
U	433m N	Sand and Gravel Pit	1950	1535592
V	435m E	Disused Sludge Beds	1975	1479421
U	440m N	Unspecified Heap	1967	1468115
U	443m N	Unspecified Ground Workings	1967	1440527
V	462m SE	Unspecified Works	1968	1460554
V	467m E	Sewage Works	1938	1489534
V	467m E	Sewage Works	1938	1489534
V	467m E	Sewage Works	1956	1505595
V	467m E	Sewage Works	1953	1505595
V	467m E	Sewage Works	1965	1505595
V	468m E	Sewage Works	1950	1541761
W	484m SE	Unspecified Heap	1982	1578170
W	484m SE	Unspecified Heap	1975	1578170
16	490m W	Nursery	1975	1539368
V	495m SE	Unspecified Depot	1982	1445462

This data is sourced from Ordnance Survey / Groundsure.



Contact us with any questions at:

info@groundsure.com ↗

01273 257 755

Date: 3 October 2024

2.2 Historical tanks

Records within 500m

46

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on [page 22 >](#)

ID	Location	Land Use	Date	Group ID
C	On site	Unspecified Tank	1985	241117
D	On site	Unspecified Tank	1985	241116
5	21m W	Unspecified Tank	1985	241115
G	31m SE	Tanks	1994	235096
G	48m SE	Tanks	1994	235095
G	49m SE	Tanks	1994	235243
F	250m NE	Tanks	1972	256291
F	250m NE	Tanks	1994	261742
F	250m NE	Tanks	1973	261742
N	275m SE	Tanks	1968	235240
N	297m SE	Tanks	1973	245672
N	299m SE	Tanks	1968	245672
O	339m E	Tanks	1933	235091
O	347m E	Tanks	1933	235090
O	357m E	Tanks	1933	235092
R	394m SE	Tanks	1968	255819
R	395m SE	Tanks	1968	248086
R	395m SE	Tanks	1994	257752
R	396m SE	Tanks	1973	257752
R	396m SE	Tanks	1994	260345
R	397m SE	Tanks	1994	256967
R	397m SE	Tanks	1973	260345
R	398m SE	Tanks	1973	256967



ID	Location	Land Use	Date	Group ID
R	408m SE	Tanks	1994	249654
R	409m SE	Tanks	1973	249654
R	410m SE	Tanks	1994	250542
R	410m SE	Tanks	1994	251231
R	411m SE	Tanks	1973	250542
R	411m SE	Tanks	1973	251231
R	413m SE	Tanks	1994	251119
R	414m SE	Tanks	1973	251119
R	419m SE	Tanks	1994	235093
R	427m SE	Unspecified Tank	1994	240736
I	431m NE	Unspecified Tank	1985	257528
I	431m NE	Unspecified Tank	1985	257528
I	433m NE	Tanks	1973	257053
I	433m NE	Tanks	1972	257053
15	438m SW	Unspecified Tank	1959	241120
I	451m NE	Tanks	1985	246580
I	451m NE	Tanks	1972	246580
I	451m NE	Tanks	1973	246580
S	481m E	Unspecified Tank	1907	240730
I	482m NE	Tanks	1985	259659
I	482m NE	Tanks	1985	259659
I	482m NE	Tanks	1973	259659
I	483m NE	Tanks	1972	259659

This data is sourced from Ordnance Survey / Groundsure.



2.3 Historical energy features

Records within 500m

59

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on [page 22 >](#)

ID	Location	Land Use	Date	Group ID
1	On site	Power Station	1973	156668
2	On site	Power Station	1985	160595
3	On site	Power Station	1968	154529
A	On site	Power Station	1970	156668
A	On site	Power Station	1973	156668
E	On site	Power Station	1994	154688
E	On site	Power Station	1982	160595
F	On site	Power Station	1994	154688
F	On site	Power Station	1972	156668
4	10m NE	Power Station	1972	156668
H	98m SE	Power Station	1973	156668
H	98m SE	Power Station	1994	154688
F	151m NE	Electricity Substations	1994	144835
F	151m NE	Electricity Switching Station	1994	150523
F	156m NE	Electricity Switching Station	1972	154170
J	157m SE	Electricity Substation	1994	143910
J	157m SE	Electricity Transformer	1973	145116
K	159m S	Electricity Transformers	1973	145048
K	160m S	Electricity Transformer	1973	155325
K	162m S	Electricity Transformers	1973	145051
J	166m SE	Electricity Substation	1994	143911
J	166m SE	Electricity Transformer	1973	152969
F	168m NE	Electricity Transformer	1972	149213



ID	Location	Land Use	Date	Group ID
K	168m S	Electricity Transformer	1973	155325
F	168m NE	Electricity Transformer	1973	149213
J	169m SE	Electricity Substation	1994	143912
J	170m SE	Electricity Transformer	1973	145117
J	173m SE	Electricity Transformers	1973	145050
J	175m SE	Electricity Substation	1994	143913
J	177m SE	Electricity Transformer	1973	147052
F	188m NE	Electricity Transformers	1972	159500
F	188m NE	Electricity Transformers	1973	159500
M	237m N	Power Station	1972	156668
M	266m NE	Power Station	1985	146385
M	266m NE	Power Station	1985	146385
F	272m NE	Electricity Substation	1994	158140
F	272m NE	Electricity Substation	1973	158140
F	272m NE	Electricity Substation	1972	149820
11	283m N	Power Station	1972	156668
F	287m NE	Electricity Substation	1994	154426
F	287m NE	Electricity Substation	1972	154426
F	287m NE	Electricity Substation	1973	154426
O	324m E	Electricity Substation	1972	146578
O	325m E	Electricity Substation	1973	146578
O	349m E	Electricity Substation	1972	154085
O	349m E	Electricity Substation	1994	154085
O	349m E	Electricity Substation	1973	154085
O	352m E	Electricity Substation	1994	150644
R	394m S	Gas Turbine House	1994	148527
R	396m S	Gas Turbine House	1973	148527
I	428m NE	Electricity Substation	1994	142153



ID	Location	Land Use	Date	Group ID
I	428m NE	Electricity Transformer	1973	153096
I	429m NE	Electricity Transformer	1972	146590
I	435m NE	Electricity Substations	1994	144832
I	436m NE	Electricity Transformers	1973	145420
I	436m NE	Electricity Transformers	1972	145420
I	442m NE	Electricity Substations	1994	144833
I	442m NE	Electricity Transformers	1973	161573
I	443m NE	Electricity Transformers	1972	161573

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m

0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m

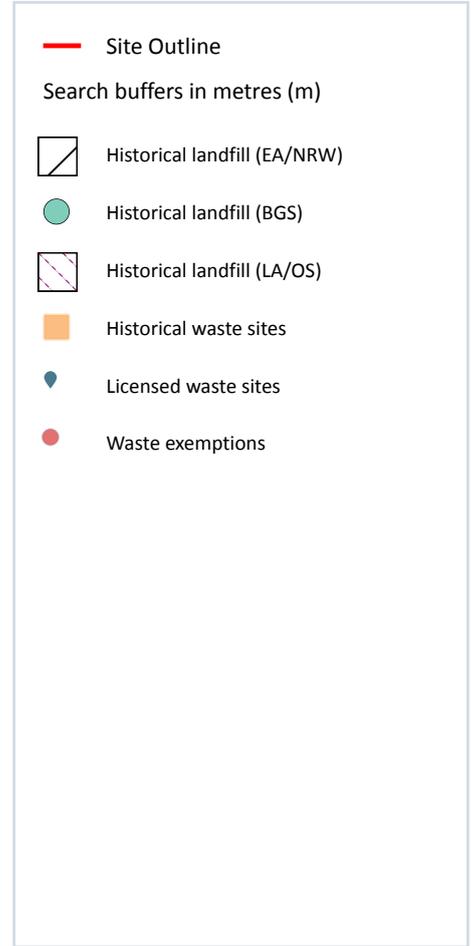
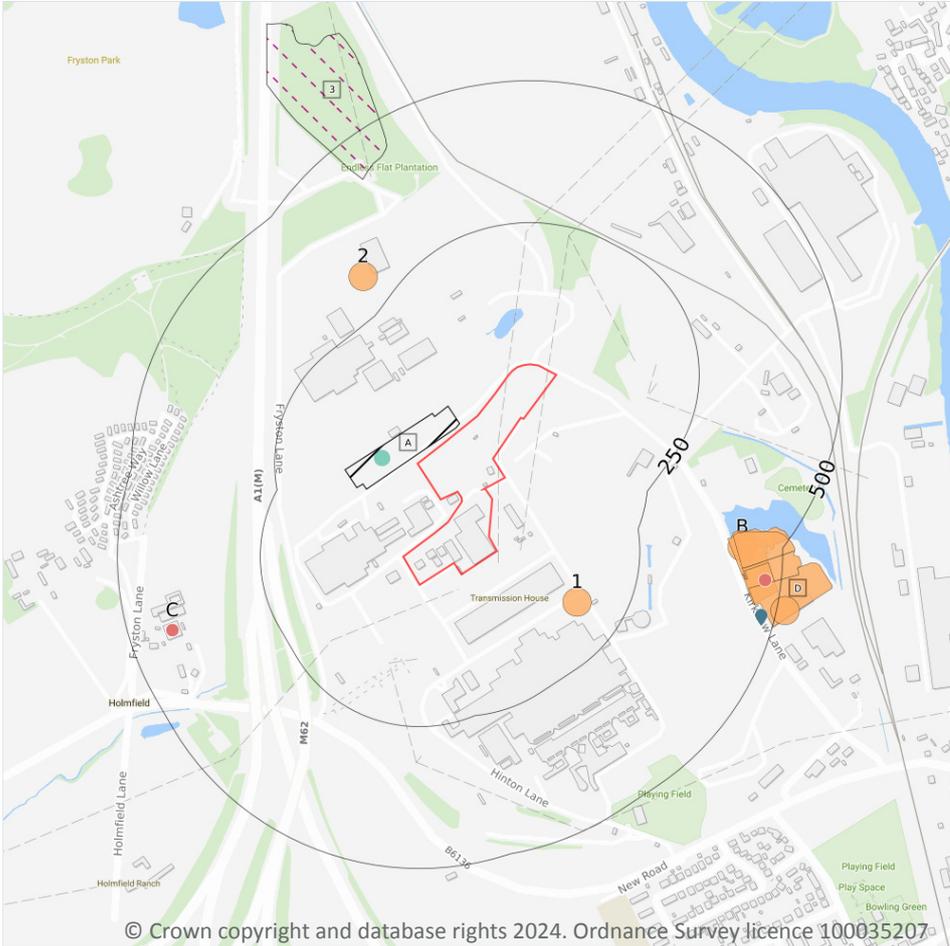
0

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



3.1 Active or recent landfill

Records within 500m **0**

Active or recently closed landfill sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.2 Historical landfill (BGS records)

Records within 500m **1**

Landfill sites identified on a survey carried out on behalf of the DoE in 1973. These sites may have been closed or operational at this time.

Features are displayed on the Waste and landfill map on [page 30 >](#)

ID	Location	Address	BGS Number	Risk	Waste Type
A	64m W	Ferrybridge 'C' Power Stn, Ferrybridge, Yorks	2800	No risk to aquifer	

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m

1

Landfill sites identified from Local Authority records and high detail historical mapping.

Features are displayed on the Waste and landfill map on [page 30 >](#)

ID	Location	Site address	Source	Data type
3	427m N	Refuse Tip	1971 mapping	Polygon

This data is sourced from the Ordnance Survey/Groundsure and Local Authority records.

3.4 Historical landfill (EA/NRW records)

Records within 500m

1

Known historical (closed) landfill sites (e.g. sites where there is no PPC permit or waste management licence currently in force). This includes sites that existed before the waste licensing regime and sites that have been licensed in the past but where a licence has been revoked, ceased to exist or surrendered and a certificate of completion has been issued.

Features are displayed on the Waste and landfill map on [page 30 >](#)

ID	Location	Details		
A	7m N	Site Address: Ferrybridge C Power Station, Ferrybridge, Yorkshire Licence Holder Address: Beckwith Knowle, Otley Road, Harrogate	Waste Licence: Yes Site Reference: 4700/0243 Waste Type: Inert, Industrial, Commercial, Liquid sludge Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 31/07/1980 Licence Surrender: 18/11/1991	Operator: Central Electricity Generating Board Licence Holder: Central Electricity Generating Board First Recorded 31/12/1964 Last Recorded: -

This data is sourced from the Environment Agency and Natural Resources Wales.



3.5 Historical waste sites

Records within 500m

9

Waste site records derived from Local Authority planning records and high detail historical mapping. Features are displayed on the Waste and landfill map on [page 30 >](#)

ID	Location	Address	Further Details	Date
1	142m SE	Site Address: Power station site, Knottingley, West Yorkshire, WF11	Type of Site: Recycling Facility Planning application reference: NY/2018/0080/SCC Description: Scheme comprises development, construction and operation of an Incinerator Bottom Ash (IBA) recycling facility including the construction of a processing building, formation of an attenuation lagoon, storage areas and associated development. The associated works include sewer systems, landscaping, infrastructure, enabling and access roads. Data source: Historic Planning Application Data Type: Point	-
2	283m NW	Site Address: Ferrybridge Iba Facility, Kirkhaw Lane, Knottingley, West Yorkshire, WF11 8DX	Type of Site: Recycling Facility Planning application reference: 18/00347/FUL Description: Scheme comprises development, construction and operation of an incinerator bottom ash (iba) recycling facility including the construction of a processing building, formation of an attenuation lagoon, storage areas and associated development. The associated works include sewer systems, landscaping, cable laying, infrastructure, enabling works and access roads. Data source: Historic Planning Application Data Type: Point	-
B	404m E	Site Address: Waggies Scrapyard, Kirkhaw Lane, KNOTTINGLEY, West Yorkshire, WF11 8RD	Type of Site: Waste Recycling Centre (Conversion) Planning application reference: 05/99/58578/A Description: Scheme comprises of conversion to waste recycling centre from vehicle dismantlers. An application (ref: 05/99/58578/A) for Detailed Planning permission was submitted to Wakefield C.C. on 7th March 2005. Data source: Historic Planning Application Data Type: Point	-
B	404m E	Site Address: N/A	Type of Site: Breaker's Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1973



ID	Location	Address	Further Details	Date
B	413m E	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1994
B	430m E	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1994
B	431m E	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1973
D	445m E	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1994
D	490m SE	Site Address: Fryston Skip Hire, Kirkhaw Lane, Ferrybridge, KNOTTINGLEY, West Yorkshire, WF11 8RD	Type of Site: Waste Recycling Building Planning application reference: 03/99/18426/B Description: Scheme comprises of a single storey waste recycling building. An application (ref: 03/99/18426/B) for Detailed Planning permission was submitted to Wakefield C.C. on 11th February 2003. Data source: Historic Planning Application Data Type: Point	-

This data is sourced from Ordnance Survey/Groundsure and Local Authority records.

3.6 Licensed waste sites

Records within 500m

1

Active or recently closed waste sites under Environment Agency/Natural Resources Wales regulation.

Features are displayed on the Waste and landfill map on [page 30 >](#)



ID	Location	Details		
D	476m SE	Site Name: Kirkhaw Lane Site Address: Kirkhaw Lane, Ferrybridge, West Yorkshire, WF11 8RD Correspondence Address: -	Type of Site: Metal Recycling Site (Vehicle Dismantler) Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: 626259 EPR reference: EA/EPR/ZP3098ZK Operator: P Wagstaff Waste Management licence No: 61855 Annual Tonnage: 900	Issue Date: 23/11/1993 Effective Date: 23/11/1993 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Revoked

This data is sourced from the Environment Agency and Natural Resources Wales.

3.7 Waste exemptions

Records within 500m

11

Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on [page 30 >](#)

ID	Location	Site	Reference	Category	Sub-Category	Description
C	425m SW	Holmfield Farm, Fryston Lane, Knottingley, Wf11 8sf	WEX172193	Using waste exemption	On a farm	Use of waste for a specified purpose
C	425m SW	Holmfield Farm, Fryston Lane, Knottingley, Wf11 8sf	WEX172193	Storing waste exemption	On a farm	Storage of waste in a secure place
C	425m SW	Holmfield Farm, Fryston Lane, Knottingley, Wf11 8sf	WEX172193	Disposing of waste exemption	On a farm	Burning waste in the open
C	425m SW	Holmfield Farm, Fryston Lane, Knottingley, Wf11 8sf	WEX172193	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
C	425m SW	Holmfield Farm, Fryston Lane, Knottingley, Wf11 8sf	WEX306093	Storing waste exemption	On a farm	Storage of waste in a secure place
C	425m SW	Holmfield Farm, Fryston Lane, Knottingley, Wf11 8sf	WEX306093	Using waste exemption	On a farm	Use of waste for a specified purpose
C	425m SW	Holmfield Farm, Fryston Lane, Knottingley, Wf11 8sf	WEX306093	Disposing of waste exemption	On a farm	Burning waste in the open
C	425m SW	Holmfield Farm, Fryston Lane, Knottingley, Wf11 8sf	WEX306093	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit

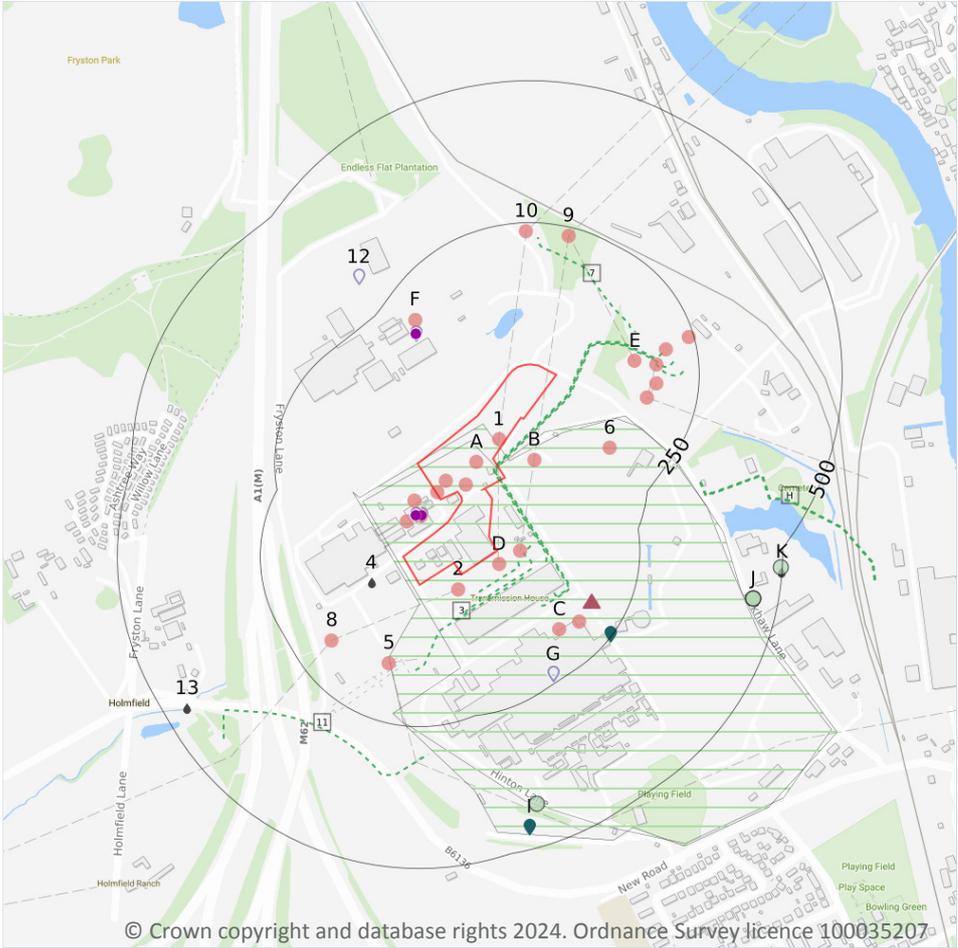


ID	Location	Site	Reference	Category	Sub-Category	Description
B	471m E	Kirkhaw Lane, Knottingley, Wf11 8rd	WEX298052	Treating waste exemption	Not on a farm	Manual treatment of waste
B	471m E	Kirkhaw Lane, Knottingley, Wf11 8rd	WEX163331	Treating waste exemption	Not on a farm	Manual treatment of waste
B	471m E	Kirkhaw Lane Knottingley Wf11 8rd	WEX003427	Treating waste exemption	Not on a farm	Manual treatment of waste

This data is sourced from the Environment Agency and Natural Resources Wales.



4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- - - Electricity cables
- Control of Major Accident Hazards
- ▲ Hazardous substance storage/usage
- ⬮ Part A(1) industrial activities
- Licensed pollutant release (Part A(2)/B)
- Licensed Discharges to controlled waters
- Pollution Incidents (EA/NRW)
- Pollution inventory substances
- Pollution inventory waste transfers

4.1 Recent industrial land uses

Records within 250m **26**

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on [page 36](#) >

ID	Location	Company	Address	Activity	Category
1	On site	Pylon	West Yorkshire, WF11	Electrical Features	Infrastructure and Facilities
A	On site	Tank	West Yorkshire, WF11	Tanks (Generic)	Industrial Features
A	On site	Tank	West Yorkshire, WF11	Tanks (Generic)	Industrial Features



ID	Location	Company	Address	Activity	Category
A	On site	Mast (Telecommunication)	West Yorkshire, WF11	Telecommunications Features	Infrastructure and Facilities
A	On site	Mast (Telecommunication)	West Yorkshire, WF11	Telecommunications Features	Infrastructure and Facilities
D	21m S	Pylon	West Yorkshire, WF11	Electrical Features	Infrastructure and Facilities
2	27m S	Pylon	West Yorkshire, WF11	Electrical Features	Infrastructure and Facilities
A	39m SW	Enfiniun	Kirkhaw Lane, Knottingley, West Yorkshire, WF11 8DX	Vehicle Repair, Testing and Servicing	Repair and Servicing
A	40m W	Tank	West Yorkshire, WF11	Tanks (Generic)	Industrial Features
D	41m SE	Pylon	West Yorkshire, WF11	Electrical Features	Infrastructure and Facilities
A	46m SW	Chimneys	West Yorkshire, WF11	Chimneys	Industrial Features
B	60m E	Pylon	West Yorkshire, WF11	Electrical Features	Infrastructure and Facilities
E	140m NE	Pylon	West Yorkshire, WF11	Electrical Features	Infrastructure and Facilities
5	148m SW	Pylon	West Yorkshire, WF11	Electrical Features	Infrastructure and Facilities
6	152m E	Cooling Tower	West Yorkshire, WF11	Chimneys	Industrial Features
E	163m NE	Pylon	West Yorkshire, WF11	Electrical Features	Infrastructure and Facilities
E	175m NE	Pylon	West Yorkshire, WF11	Electrical Features	Infrastructure and Facilities
C	176m SE	Electricity Sub Station	West Yorkshire, WF11	Electrical Features	Infrastructure and Facilities
E	176m NE	Pylon	West Yorkshire, WF11	Electrical Features	Infrastructure and Facilities
8	182m SW	Pylon	West Yorkshire, WF11	Electrical Features	Infrastructure and Facilities
F	190m N	Chimneys	West Yorkshire, WF11	Chimneys	Industrial Features
C	190m SE	Electricity Sub Station	West Yorkshire, WF11	Electrical Features	Infrastructure and Facilities



ID	Location	Company	Address	Activity	Category
E	197m NE	Electricity Sub Station	West Yorkshire, WF11	Electrical Features	Infrastructure and Facilities
9	235m N	Pylon	West Yorkshire, WF11	Electrical Features	Infrastructure and Facilities
10	235m N	Pylon	West Yorkshire, WF11	Electrical Features	Infrastructure and Facilities
E	241m NE	Electricity Switching Station	West Yorkshire, WF11	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	0
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Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	12
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High voltage underground electricity transmission cables.

Features are displayed on the Current industrial land use map on [page 36 >](#)

ID	Location	Cable Set	Cable Route	Details	
B	On site	FERR2B - FERR2C CABLE 3 SECTION 01	FERRYBRIDGE B - FERRYBRIDGE C 275KV 3	Cable Make: BICC 275KV OIL Cable Type: A/C Operating Voltage (kV): 275	Year of installation: 1964 Cable in tunnel? Not specified
B	On site	FERR2B - FERR2C CABLE 2 SECTION 01	FERRYBRIDGE A, B, C 275KV 2	Cable Make: BICC 275KV OIL Cable Type: A/C Operating Voltage (kV): 275	Year of installation: 1964 Cable in tunnel? Not specified
B	On site	FERR2B - FERR2C CABLE 1 SECTION 01	FERRYBRIDGE A, B, C 275KV 1	Cable Make: BICC 275KV OIL Cable Type: A/C Operating Voltage (kV): 275	Year of installation: 1964 Cable in tunnel? Not specified
D	40m SE	SKELTON GRANGE A2 275KV CABLE	FERRYBRIDGE C 275KV S/S	Cable Make: BICC 275KV (OI Cable Type: A/C Operating Voltage (kV): 275	Year of installation: 1994 Cable in tunnel? Not specified



ID	Location	Cable Set	Cable Route	Details	
D	48m SE	SKELTON GRANGE A1 275KV CABLE	FERRYBRIDGE C 275KV S/S	Cable Make: - Cable Type: - Operating Voltage (kV): 0	Year of installation: 1994 Cable in tunnel? Not specified
3	63m S	SGT1B 275KV CABLE	FERRYBRIDGE C 400KV S/S	Cable Make: PIRELLI 275KV Cable Type: A/C Operating Voltage (kV): 275	Year of installation: 1973 Cable in tunnel? Not specified
7	154m NE	FERRYBRIDGE C/MONK FRYSTON 275KV CABLE	FERRYBRIDGE B 132KV S/S	Cable Make: PIRELLI 275KV Cable Type: A/C Operating Voltage (kV): 275	Year of installation: 1992 Cable in tunnel? Not specified
11	299m S	4YR020 - 4ZU003 A1(M) CABLE SECT 01	EGGBOROUGH - ROCHDALE	Cable Make: CABLE ROUTE Cable Type: A/C Operating Voltage (kV): 400	Year of installation: 2003 Cable in tunnel? Not specified
H	314m E	-	-	Cable Make: - Cable Type: PILOT Operating Voltage (kV): -	Year of installation: Not specified Cable in tunnel? Not specified
H	315m E	-	-	Cable Make: - Cable Type: PILOT Operating Voltage (kV): -	Year of installation: Not specified Cable in tunnel? Not specified
H	315m E	-	-	Cable Make: - Cable Type: PILOT Operating Voltage (kV): -	Year of installation: Not specified Cable in tunnel? Not specified
H	316m E	-	-	Cable Make: - Cable Type: PILOT Operating Voltage (kV): -	Year of installation: Not specified Cable in tunnel? Not specified

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m

0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.



4.5 Sites determined as Contaminated Land

Records within 500m

0

Contaminated Land Register of sites designated under Part 2a of the Environmental Protection Act 1990.

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m

2

Control of Major Accident Hazards (COMAH) sites. This data includes upper and lower tier sites, and includes a historical archive of COMAH sites and Notification of Installations Handling Hazardous Substances (NIHHS) records.

Features are displayed on the Current industrial land use map on [page 36 >](#)

ID	Location	Company	Address	Operational status	Tier
C	On site	Keadby Generation Ltd	Keadby Generation Ltd, Ferrybridge C Power Station, PO Box 39, Knottingley, West Yorkshire, WF11 8SQ	Historical NIHHS Site	-
C	On site	Scottish And Southern Energy Plc (sse Plc)	Scottish And Southern Energy Plc (sse Plc), Ferrybridge C Power Station, Po Box 39, Knottingley, West Yorkshire, WF11 8SQ	Historical NIHHS Site	-

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m

0

Sites registered and licensed by the Health and Safety Executive under the Manufacture and Storage of Explosives Regulations 2005 (MSER). The last update to this data was in April 2011.

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m

1

Consents granted for a site to hold certain quantities of hazardous substances at or above defined limits in accordance with the Planning (Hazardous Substances) Regulations 2015.

Features are displayed on the Current industrial land use map on [page 36 >](#)



ID	Location	Details	
C	186m SE	Application reference number: No Details Application status: Historical Consent Application date: No Details Address: SSC Ferrybridge Power Station, PO Box 39, Stranglands Lane, Knottingley, WF11 8SQ	Details: No Details Enforcement: No Details Date of enforcement: No Details Comment: No Details

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m	0
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Integrated Pollution Control (IPC) records of substance releases to air, land and water. This data represents a historical archive as the IPC regime has been superseded.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.10 Licensed industrial activities (Part A(1))

Records within 500m	82
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Records of Part A(1) installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

Features are displayed on the Current industrial land use map on [page 36 >](#)

ID	Location	Details	
A	39m SW	Operator: Blue Phoenix Limited Installation Name: Ferrybridge IBA Facility EPR/QP3034JW Process: RECOVERY OR A MIX OF RECOVERY AND DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING TREATMENT OF SLAGS AND ASHES Permit Number: WP3202BC Original Permit Number: QP3034JW	EPR Reference: - Issue Date: 06/02/2020 Effective Date: 06/02/2020 Last date noted as effective: 21/03/2023 Status: Effective
A	45m SW	Operator: ENFINIUM FERRYBRIDGE 1 LIMITED Installation Name: Ferrybridge 1 - EPR/SP3239FU Process: DIRECTLY ASSOCIATED ACTIVITY (INCLUDED) Permit Number: SP3239FU Original Permit Number: SP3239FU	EPR Reference: EPR/SP3239FU Issue Date: 09/03/2023 Effective Date: 17/06/2022 Last date noted as effective: 06/08/2024 Status: Effective



ID	Location	Details	
A	45m SW	Operator: ENFINIUM FERRYBRIDGE 1 LIMITED Installation Name: Ferrybridge 1 - EPR/SP3239FU Process: INCINERATION OF NON-HAZARDOUS WASTE 5.1 A(1) B) Permit Number: SP3239FU Original Permit Number: SP3239FU	EPR Reference: EPR/SP3239FU Issue Date: 09/03/2023 Effective Date: 17/06/2022 Last date noted as effective: 06/08/2024 Status: Effective
A	45m SW	Operator: ENFINIUM FERRYBRIDGE 1 LIMITED Installation Name: Ferrybridge 1 - EPR/SP3239FU Process: ASSOCIATED PROCESS Permit Number: SP3239FU Original Permit Number: SP3239FU	EPR Reference: EPR/SP3239FU Issue Date: 17/06/2022 Effective Date: 17/06/2022 Last date noted as effective: 08/11/2023 Status: Effective
A	45m SW	Operator: FERRYBRIDGE MFE LIMITED Installation Name: FERRYBRIDGE MULTIFUEL PLANT Process: INCINERATION OF NON HAZARDOUS WASTE >1T/HR Permit Number: UP3338QA Original Permit Number: SP3239FU	EPR Reference: - Issue Date: - Effective Date: - Last date noted as effective: 31/01/2019 Status: DETERMINATION
A	45m SW	Operator: enfinium Ferrybridge 1 Limited Installation Name: Ferrybridge 1 - EPR/SP3239FU Process: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR. Permit Number: AP3409MR Original Permit Number: SP3239FU	EPR Reference: - Issue Date: 05/07/2021 Effective Date: 05/07/2021 Last date noted as effective: 21/03/2023 Status: Superseded
A	45m SW	Operator: enfinium Ferrybridge 1 Limited Installation Name: Ferrybridge 1 - EPR/SP3239FU Process: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR. Permit Number: DP3202MM Original Permit Number: SP3239FU	EPR Reference: - Issue Date: 16/06/2022 Effective Date: 17/06/2022 Last date noted as effective: 21/03/2023 Status: Effective
A	45m SW	Operator: Ferrybridge MFE Limited Installation Name: Ferrybridge Multifuel Plant EPR/SP3239FU Process: ASSOCIATED PROCESS Permit Number: UP3338QA Original Permit Number: SP3239FU	EPR Reference: - Issue Date: 25/01/2019 Effective Date: 25/01/2019 Last date noted as effective: 21/03/2023 Status: Superseded



ID	Location	Details	
A	45m SW	Operator: Ferrybridge MFE Limited Installation Name: Ferrybridge Multifuel Plant EPR/SP3239FU Process: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR. Permit Number: UP3338QA Original Permit Number: SP3239FU	EPR Reference: - Issue Date: 25/01/2019 Effective Date: 25/01/2019 Last date noted as effective: 21/03/2023 Status: Superseded
A	45m SW	Operator: enfinium Ferrybridge 1 Limited Installation Name: Ferrybridge 1 - EPR/SP3239FU Process: ASSOCIATED PROCESS Permit Number: AP3409MR Original Permit Number: SP3239FU	EPR Reference: - Issue Date: 05/07/2021 Effective Date: 05/07/2021 Last date noted as effective: 21/03/2023 Status: Superseded
A	45m SW	Operator: enfinium Ferrybridge 1 Limited Installation Name: Ferrybridge 1 - EPR/SP3239FU Process: ASSOCIATED PROCESS Permit Number: DP3202MM Original Permit Number: SP3239FU	EPR Reference: - Issue Date: 16/06/2022 Effective Date: 17/06/2022 Last date noted as effective: 21/03/2023 Status: Effective
F	174m N	Operator: MULTIFUEL ENERGY LIMITED Installation Name: Ferrybridge Multifuel Plant 2 EPR/YP3332WV Process: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR. Permit Number: YP3332WV Original Permit Number: YP3332WV	EPR Reference: EPR/YP3332WV Issue Date: 25/11/2015 Effective Date: 25/11/2015 Last date noted as effective: 06/08/2024 Status: Superseded
F	174m N	Operator: ENFINIUM FERRYBRIDGE 2 LIMITED Installation Name: Ferrybridge 2 - EPR/XP3833DK Process: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR. Permit Number: XP3833DK Original Permit Number: XP3833DK	EPR Reference: EPR/XP3833DK Issue Date: 09/03/2023 Effective Date: 17/06/2022 Last date noted as effective: 06/08/2024 Status: Effective
F	174m N	Operator: enfinium Ferrybridge 2 Limited Installation Name: Ferrybridge 2 - EPR/XP3833DK Process: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR. Permit Number: AP3109MZ Original Permit Number: XP3833DK	EPR Reference: - Issue Date: 05/07/2021 Effective Date: 05/07/2021 Last date noted as effective: 21/03/2023 Status: Superseded



ID	Location	Details	
F	174m N	Operator: Ferrybridge MFE 2 Limited Installation Name: Ferrybridge Multifuel 2 EPR/XP3833DK Process: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR. Permit Number: YP3930QA Original Permit Number: XP3833DK	EPR Reference: - Issue Date: 31/08/2018 Effective Date: 31/08/2018 Last date noted as effective: 21/03/2023 Status: Superseded
F	174m N	Operator: Ferrybridge MFE 2 Limited Installation Name: Ferrybridge Multifuel 2 EPR/XP3833DK Process: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR. Permit Number: TP3105BZ Original Permit Number: XP3833DK	EPR Reference: - Issue Date: 17/11/2020 Effective Date: 17/11/2020 Last date noted as effective: 21/03/2023 Status: Superseded
F	174m N	Operator: enfinium Ferrybridge 2 Limited Installation Name: Ferrybridge 2 - EPR/XP3833DK Process: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR. Permit Number: DP3702MN Original Permit Number: XP3833DK	EPR Reference: - Issue Date: 16/06/2022 Effective Date: 17/06/2022 Last date noted as effective: 21/03/2023 Status: Effective
G	235m S	Operator: KEADBY GENERATION LIMITED Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: COMBUSTION; ANY FUEL =>50MW Permit Number: VP3337SR Original Permit Number: VP3337SR	EPR Reference: EPR/VP3337SR Issue Date: 04/11/2019 Effective Date: 04/11/2019 Last date noted as effective: 06/08/2024 Status: Effective
G	235m S	Operator: KEADBY GENERATION LIMITED Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: ASSOCIATED PROCESS Permit Number: VP3337SR Original Permit Number: VP3337SR	EPR Reference: EPR/VP3337SR Issue Date: 04/11/2019 Effective Date: 04/11/2019 Last date noted as effective: 06/08/2024 Status: Effective
G	235m S	Operator: KEADBY GENERATION LIMITED Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: COMBUSTION; ANY FUEL =>50MW Permit Number: VP3337SR Original Permit Number: VP3337SR	EPR Reference: EPR/VP3337SR Issue Date: 04/11/2019 Effective Date: 04/11/2019 Last date noted as effective: 06/08/2024 Status: Effective



ID	Location	Details	
G	235m S	Operator: KEADBY GENERATION LIMITED Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: INORGANIC CHEMICALS; SALTS EG AMMONIUM CHLORIDE Permit Number: VP3337SR Original Permit Number: VP3337SR	EPR Reference: EPR/VP3337SR Issue Date: 04/11/2019 Effective Date: 04/11/2019 Last date noted as effective: 06/08/2024 Status: Effective
G	235m S	Operator: KEADBY GENERATION LIMITED Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: DISPOSAL OR RECOVERY OF HAZARDOUS WASTE WITH A CAPACITY EXCEEDING 10 TONNES PER DAY INVOLVING SOLVENT RECLAMATION OR REGENERATION Permit Number: VP3337SR Original Permit Number: VP3337SR	EPR Reference: EPR/VP3337SR Issue Date: 04/11/2019 Effective Date: 04/11/2019 Last date noted as effective: 06/08/2024 Status: Effective
G	235m S	Operator: KEADBY GENERATION LIMITED Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: OTHER MINERAL ACTIVITIES; LOADING, UNLOADING, OR STORING PULVERISED FUEL ASH IN BULK PRIOR TO FURTHER TRANSPORTATION IN BULK Permit Number: VP3337SR Original Permit Number: VP3337SR	EPR Reference: EPR/VP3337SR Issue Date: 04/11/2019 Effective Date: 04/11/2019 Last date noted as effective: 06/08/2024 Status: Effective
G	235m S	Operator: FERRYBRIDGE MFE LIMITED Installation Name: FERRYBRIDGE MULTIFUEL PLANT EPR/SP3239FU Process: INCINERATION OF NON HAZARDOUS WASTE >1T/HR Permit Number: QP3836YM Original Permit Number: SP3239FU	EPR Reference: - Issue Date: 23/10/2017 Effective Date: 23/10/2017 Last date noted as effective: 01/01/2018 Status: EFFECTIVE
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: ASSOCIATED PROCESS Permit Number: AP3133QK Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 06/11/2019 Effective Date: 04/11/2019 Last date noted as effective: 21/03/2023 Status: Effective
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: OTHER MINERAL ACTIVITIES; LOADING, UNLOADING, OR STORING PULVERISED FUEL ASH IN BULK PRIOR TO FURTHER TRANSPORTATION IN BULK Permit Number: AP3133QK Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 06/11/2019 Effective Date: 04/11/2019 Last date noted as effective: 21/03/2023 Status: Effective



ID	Location	Details	
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: COMBUSTION; ANY FUEL =>50MW Permit Number: AP3139WS Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 17/12/2014 Effective Date: 17/12/2014 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: COMBUSTION; ANY FUEL =>50MW Permit Number: AP3139WS Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 17/12/2014 Effective Date: 17/12/2014 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: DISPOSAL OR RECOVERY OF HAZARDOUS WASTE WITH A CAPACITY EXCEEDING 10 TONNES PER DAY INVOLVING SOLVENT RECLAMATION OR REGENERATION Permit Number: AP3139WS Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 17/12/2014 Effective Date: 17/12/2014 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: OTHER MINERAL ACTIVITIES; LOADING, UNLOADING, OR STORING PULVERISED FUEL ASH IN BULK PRIOR TO FURTHER TRANSPORTATION IN BULK Permit Number: AP3139WS Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 17/12/2014 Effective Date: 17/12/2014 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: ASSOCIATED PROCESS Permit Number: AP3336ZL Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 11/03/2013 Effective Date: 11/03/2013 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: COMBUSTION; ANY FUEL =>50MW Permit Number: AP3336ZL Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 11/03/2013 Effective Date: 11/03/2013 Last date noted as effective: 21/03/2023 Status: Superseded



ID	Location	Details	
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: OTHER MINERAL ACTIVITIES; LOADING, UNLOADING, OR STORING PULVERISED FUEL ASH IN BULK PRIOR TO FURTHER TRANSPORTATION IN BULK Permit Number: AP3336ZL Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 11/03/2013 Effective Date: 11/03/2013 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: OTHER MINERAL ACTIVITIES; LOADING, UNLOADING, OR STORING PULVERISED FUEL ASH IN BULK PRIOR TO FURTHER TRANSPORTATION IN BULK Permit Number: EP3131XE Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 23/05/2008 Effective Date: 23/05/2008 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: OTHER WASTE DISPOSAL; NON-HAZARDOUS WASTE >50T/D BY PHYSICO-CHEMICAL TREATMENT Permit Number: EP3131XE Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 23/05/2008 Effective Date: 23/05/2008 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: COMBUSTION; ANY FUEL =>50MW Permit Number: FP3438AZ Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 30/12/2015 Effective Date: 01/01/2016 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: COMBUSTION; ANY FUEL =>50MW Permit Number: GP3331TW Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 15/11/2010 Effective Date: 15/11/2010 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: INORGANIC CHEMICALS; SALTS EG AMMONIUM CHLORIDE Permit Number: GP3331TW Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 15/11/2010 Effective Date: 15/11/2010 Last date noted as effective: 21/03/2023 Status: Superseded



ID	Location	Details	
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: ASSOCIATED PROCESS Permit Number: PP3838ZK Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 22/03/2013 Effective Date: 22/03/2013 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: COMBUSTION; ANY FUEL =>50MW Permit Number: PP3838ZK Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 22/03/2013 Effective Date: 22/03/2013 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: OTHER WASTE DISPOSAL; NON-HAZARDOUS WASTE >50T/D BY PHYSICO-CHEMICAL TREATMENT Permit Number: PP3838ZK Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 22/03/2013 Effective Date: 22/03/2013 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: COMBUSTION; ANY FUEL =>50MW Permit Number: AP3336ZL Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 11/03/2013 Effective Date: 11/03/2013 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: INORGANIC CHEMICALS; SALTS EG AMMONIUM CHLORIDE Permit Number: AP3133QK Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 06/11/2019 Effective Date: 04/11/2019 Last date noted as effective: 21/03/2023 Status: Effective
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: ASSOCIATED PROCESS Permit Number: AP3139WS Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 17/12/2014 Effective Date: 17/12/2014 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: INORGANIC CHEMICALS; SALTS EG AMMONIUM CHLORIDE Permit Number: AP3139WS Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 17/12/2014 Effective Date: 17/12/2014 Last date noted as effective: 21/03/2023 Status: Superseded



ID	Location	Details	
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: COMBUSTION; ANY FUEL =>50MW Permit Number: AP3133QK Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 06/11/2019 Effective Date: 04/11/2019 Last date noted as effective: 21/03/2023 Status: Effective
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: COMBUSTION; ANY FUEL =>50MW Permit Number: AP3133QK Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 06/11/2019 Effective Date: 04/11/2019 Last date noted as effective: 21/03/2023 Status: Effective
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: INORGANIC CHEMICALS; SALTS EG AMMONIUM CHLORIDE Permit Number: AP3336ZL Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 11/03/2013 Effective Date: 11/03/2013 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: DISPOSAL OR RECOVERY OF HAZARDOUS WASTE WITH A CAPACITY EXCEEDING 10 TONNES PER DAY INVOLVING SOLVENT RECLAMATION OR REGENERATION Permit Number: DP3039VS Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 04/03/2014 Effective Date: 04/03/2014 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: INORGANIC CHEMICALS; SALTS EG AMMONIUM CHLORIDE Permit Number: DP3039VS Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 04/03/2014 Effective Date: 04/03/2014 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: COMBUSTION; ANY FUEL =>50MW Permit Number: PP3838ZK Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 22/03/2013 Effective Date: 22/03/2013 Last date noted as effective: 21/03/2023 Status: Superseded



ID	Location	Details	
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: OTHER MINERAL ACTIVITIES; LOADING, UNLOADING, OR STORING PULVERISED FUEL ASH IN BULK PRIOR TO FURTHER TRANSPORTATION IN BULK Permit Number: PP3838ZK Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 22/03/2013 Effective Date: 22/03/2013 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: ASSOCIATED PROCESS Permit Number: GP3331TW Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 15/11/2010 Effective Date: 15/11/2010 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: OTHER WASTE DISPOSAL; NON-HAZARDOUS WASTE >50T/D BY PHYSICO-CHEMICAL TREATMENT Permit Number: GP3331TW Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 15/11/2010 Effective Date: 15/11/2010 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: INORGANIC CHEMICALS; SALTS EG AMMONIUM CHLORIDE Permit Number: PP3838ZK Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 22/03/2013 Effective Date: 22/03/2013 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge 'C' Power Station EPR/VP3337SR Process: OTHER WASTE DISPOSAL; NON-HAZARDOUS WASTE >50T/D BY PHYSICO-CHEMICAL TREATMENT Permit Number: VP3337SR Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 30/10/2007 Effective Date: 30/10/2007 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Ferrybridge MFE Limited Installation Name: Ferrybridge Multifuel Plant EPR/SP3239FU Process: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR. Permit Number: MP3635VE Original Permit Number: SP3239FU	EPR Reference: - Issue Date: 06/03/2014 Effective Date: 06/03/2014 Last date noted as effective: 21/03/2023 Status: Superseded



ID	Location	Details	
G	235m S	Operator: Ferrybridge MFE Limited Installation Name: Ferrybridge Multifuel Plant EPR/SP3239FU Process: INCINERATION OF NON HAZARDOUS WASTE >1T/HR Permit Number: QP3836YM Original Permit Number: SP3239FU	EPR Reference: - Issue Date: 23/10/2017 Effective Date: 23/10/2017 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: DISPOSAL OR RECOVERY OF HAZARDOUS WASTE WITH A CAPACITY EXCEEDING 10 TONNES PER DAY INVOLVING SOLVENT RECLAMATION OR REGENERATION Permit Number: AP3133QK Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 06/11/2019 Effective Date: 04/11/2019 Last date noted as effective: 21/03/2023 Status: Effective
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: ASSOCIATED PROCESS Permit Number: DP3039VS Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 04/03/2014 Effective Date: 04/03/2014 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: COMBUSTION; ANY FUEL =>50MW Permit Number: DP3039VS Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 04/03/2014 Effective Date: 04/03/2014 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: ASSOCIATED PROCESS Permit Number: EP3131XE Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 23/05/2008 Effective Date: 23/05/2008 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: COMBUSTION; ANY FUEL =>50MW Permit Number: EP3131XE Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 23/05/2008 Effective Date: 23/05/2008 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: ASSOCIATED PROCESS Permit Number: FP3438AZ Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 30/12/2015 Effective Date: 01/01/2016 Last date noted as effective: 21/03/2023 Status: Superseded



ID	Location	Details	
G	235m S	Operator: Ferrybridge MFE Limited Installation Name: Ferrybridge Multifuel Plant EPR/SP3239FU Process: ASSOCIATED PROCESS Permit Number: MP3635VE Original Permit Number: SP3239FU	EPR Reference: - Issue Date: 06/03/2014 Effective Date: 06/03/2014 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Ferrybridge MFE Limited Installation Name: Ferrybridge Multifuel Plant EPR/SP3239FU Process: INCINERATION OF NON HAZARDOUS WASTE >1T/HR Permit Number: BP3135NH Original Permit Number: SP3239FU	EPR Reference: - Issue Date: 17/12/2014 Effective Date: 17/12/2014 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Ferrybridge MFE Limited Installation Name: Ferrybridge Multifuel Plant EPR/SP3239FU Process: INCINERATION OF NON HAZARDOUS WASTE >1T/HR Permit Number: GP3031AV Original Permit Number: SP3239FU	EPR Reference: - Issue Date: 10/07/2015 Effective Date: 10/07/2015 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Ferrybridge MFE Limited Installation Name: Ferrybridge Multifuel Plant EPR/SP3239FU Process: ASSOCIATED PROCESS Permit Number: QP3836YM Original Permit Number: SP3239FU	EPR Reference: - Issue Date: 23/10/2017 Effective Date: 23/10/2017 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Ferrybridge MFE Limited Installation Name: Ferrybridge Multifuel Plant EPR/SP3239FU Process: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR. Permit Number: QP3836YM Original Permit Number: SP3239FU	EPR Reference: - Issue Date: 23/10/2017 Effective Date: 23/10/2017 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: DISPOSAL OR RECOVERY OF HAZARDOUS WASTE WITH A CAPACITY EXCEEDING 10 TONNES PER DAY INVOLVING SOLVENT RECLAMATION OR REGENERATION Permit Number: FP3438AZ Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 30/12/2015 Effective Date: 01/01/2016 Last date noted as effective: 21/03/2023 Status: Superseded



ID	Location	Details	
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: INORGANIC CHEMICALS; SALTS EG AMMONIUM CHLORIDE Permit Number: FP3438AZ Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 30/12/2015 Effective Date: 01/01/2016 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: OTHER MINERAL ACTIVITIES; LOADING, UNLOADING, OR STORING PULVERISED FUEL ASH IN BULK PRIOR TO FURTHER TRANSPORTATION IN BULK Permit Number: FP3438AZ Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 30/12/2015 Effective Date: 01/01/2016 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: OTHER MINERAL ACTIVITIES; LOADING, UNLOADING, OR STORING PULVERISED FUEL ASH IN BULK PRIOR TO FURTHER TRANSPORTATION IN BULK Permit Number: GP3331TW Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 15/11/2010 Effective Date: 15/11/2010 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: OTHER WASTE DISPOSAL; NON-HAZARDOUS WASTE >50T/D BY PHYSICO-CHEMICAL TREATMENT Permit Number: AP3336ZL Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 11/03/2013 Effective Date: 11/03/2013 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: COMBUSTION; ANY FUEL =>50MW Permit Number: DP3039VS Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 04/03/2014 Effective Date: 04/03/2014 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: OTHER MINERAL ACTIVITIES; LOADING, UNLOADING, OR STORING PULVERISED FUEL ASH IN BULK PRIOR TO FURTHER TRANSPORTATION IN BULK Permit Number: DP3039VS Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 04/03/2014 Effective Date: 04/03/2014 Last date noted as effective: 21/03/2023 Status: Superseded



ID	Location	Details	
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: COMBUSTION; ANY FUEL =>50MW Permit Number: EP3131XE Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 23/05/2008 Effective Date: 23/05/2008 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: INORGANIC CHEMICALS; SALTS EG AMMONIUM CHLORIDE Permit Number: EP3131XE Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 23/05/2008 Effective Date: 23/05/2008 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: COMBUSTION; ANY FUEL =>50MW Permit Number: FP3438AZ Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 30/12/2015 Effective Date: 01/01/2016 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Ferrybridge MFE Limited Installation Name: Ferrybridge Multifuel Plant EPR/SP3239FU Process: INCINERATION OF NON HAZARDOUS WASTE >1T/HR Permit Number: SP3239FU Original Permit Number: SP3239FU	EPR Reference: - Issue Date: 30/11/2012 Effective Date: 30/11/2012 Last date noted as effective: 21/03/2023 Status: Superseded
G	235m S	Operator: Keadby Generations LTD Installation Name: Ferrybridge C Power Station EPR/VP3337SR Process: COMBUSTION; ANY FUEL =>50MW Permit Number: GP3331TW Original Permit Number: VP3337SR	EPR Reference: - Issue Date: 15/11/2010 Effective Date: 15/11/2010 Last date noted as effective: 21/03/2023 Status: Superseded
12	314m NW	Operator: BLUE PHOENIX LIMITED Installation Name: Ferrybridge IBA Facility EPR/QP3034JW Process: RECOVERY OR A MIX OF RECOVERY AND DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING TREATMENT OF SLAGS AND ASHES Permit Number: QP3034JW Original Permit Number: QP3034JW	EPR Reference: EPR/QP3034JW Issue Date: 06/02/2020 Effective Date: 06/02/2020 Last date noted as effective: 06/08/2024 Status: Effective

This data is sourced from the Environment Agency and Natural Resources Wales.



4.11 Licensed pollutant release (Part A(2)/B)

Records within 500m

2

Records of Part A(2) and Part B installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

Features are displayed on the Current industrial land use map on [page 36 >](#)

ID	Location	Address	Details	
C	247m SE	Ash Resources Ltd, Ferrybridge 'C' Power Station, Po Box 39, Stranglands Lane, Knottingley, WF11 8SQ	Process: Other Mineral Processes Status: Revoked Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
I	460m S	Bardon Aggregates, Ferrybridge 'C' Power Station, Stranglands Lane, Knottingley, WF11 8SQ	Process: Roadstone Coating Processes Status: Revoked Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m

0

Records of the storage, use, accumulation and disposal of radioactive substances regulated under the Radioactive Substances Act 1993.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.13 Licensed Discharges to controlled waters

Records within 500m

3

Discharges of treated or untreated effluent to controlled waters under the Water Resources Act 1991.

Features are displayed on the Current industrial land use map on [page 36 >](#)

ID	Location	Address	Details	
4	72m SW	FERRYBRIDGE MULTIFUEL FM1, FERRYBRIDGE MFE LIMITED, KIRKHAW LANE, KNOTTINGLEY, WF11 8DX	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: EPREB3492AS Permit Version: 1 Receiving Water: FRYSTON BECK	Status: NEW ISSUED UNDER EPR 2010 Issue date: 09/01/2017 Effective Date: 09/01/2017 Revocation Date: -



ID	Location	Address	Details	
13	461m SW	HV CABLE SEALING END COMPOUND, FERRYBRIDGE C POWER STATION, STRANGELANDS LANE, FERRYBRIDGE, WEST YORKSHIRE	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: WRA7875 Permit Version: 1 Receiving Water: FRYSTON BECK	Status: SURRENDERED UNDER EPR 2010 Issue date: 16/07/2002 Effective Date: 16/07/2002 Revocation Date: 25/03/2011
K	500m E	INDUSTRIAL PALLETT SERVICES, KIRKSHAW LANE, FERRYBRIDGE, WEST YORKSHIRE, WF11 8RD	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: WRA7141 Permit Version: 1 Receiving Water: TRIB OF FRYSTON BECK	Status: NEW CONSENT, BY APPLICATION (WRA 91, SECTION 88) Issue date: 11/04/1995 Effective Date: 11/04/1995 Revocation Date: 12/12/2002

This data is sourced from the Environment Agency and Natural Resources Wales.

4.14 Pollutant release to surface waters (Red List)

Records within 500m

0

Discharges of specified substances under the Environmental Protection (Prescribed Processes and Substances) Regulations 1991.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.15 Pollutant release to public sewer

Records within 500m

0

Discharges of Special Category Effluents to the public sewer.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.16 List 1 Dangerous Substances

Records within 500m

0

Discharges of substances identified on List I of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.



4.17 List 2 Dangerous Substances

Records within 500m

0

Discharges of substances identified on List II of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.18 Pollution Incidents (EA/NRW)

Records within 500m

5

Records of substantiated pollution incidents. Since 2006 this data has only included category 1 (major) and 2 (significant) pollution incidents.

Features are displayed on the Current industrial land use map on [page 36 >](#)

ID	Location	Details	
I	425m S	Incident Date: 20/07/2003 Incident Identification: 175208 Pollutant: Atmospheric Pollutants and Effects:Contaminated Water Pollutant Description: Smoke:Firefighting Run-Off	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)
J	456m SE	Incident Date: 21/02/2003 Incident Identification: 138360 Pollutant: Specific Waste Materials Pollutant Description: Tyres	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
J	456m SE	Incident Date: 21/02/2003 Incident Identification: 138360 Pollutant: Specific Waste Materials:Specific Waste Materials Pollutant Description: Tyres:Other Composites	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
J	456m SE	Incident Date: 21/02/2003 Incident Identification: 138360 Pollutant: Specific Waste Materials Pollutant Description: Other Composites	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
K	497m E	Incident Date: 06/09/2004 Incident Identification: 264725 Pollutant: Oils and Fuel Pollutant Description: Mixed/Waste Oils	Water Impact: Category 4 (No Impact) Land Impact: Category 2 (Significant) Air Impact: Category 4 (No Impact)

This data is sourced from the Environment Agency and Natural Resources Wales.



4.19 Pollution inventory substances

Records within 500m

26

The pollution inventory (substances) includes reporting on annual emissions of certain regulated substances to air, controlled waters and land. A reporting threshold for each substance is also included. Where emissions fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

Features are displayed on the Current industrial land use map on [page 36 >](#)

ID: A, Location: 45m SW, Permit: SP3239FU
 Operator: enfinium Ferrybridge 1 Limited
 Activity: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR.
 Address: Ferrybridge 1 Kirkhaw Lane WF11 8DX
 Sector: EfW, Sub-sector: EfW
 Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Polychlorinated biphenyls (PCBs)	0.1kg	Below Reporting Threshold
Air	Particulate matter - total	10000kg	Below Reporting Threshold
Air	Benzo(b)fluoranthene	1kg	Below Reporting Threshold
Air	Sulphur oxides (SO2 and SO3) as SO2	100000kg	Below Reporting Threshold
Air	Carbon monoxide	100000kg	Below Reporting Threshold
Air	Methane	10000kg	Below Reporting Threshold
Air	Cadmium	1kg	Below Reporting Threshold
Air	Lead	100kg	Below Reporting Threshold
Air	Fluorine and inorganic fluorine compounds - as HF	1000kg	Below Reporting Threshold
Air	Non-methane volatile organic compounds (NMVOCs)	10000kg	Below Reporting Threshold
Air	Benzo(k)fluoranthene	1kg	Below Reporting Threshold
Air	Benzo(a)pyrene	1kg	Below Reporting Threshold
Air	Indeno(1,2,3-cd)pyrene	1kg	Below Reporting Threshold
Air	Naphthalene	100kg	Below Reporting Threshold
Air	Nitrous oxide	10000kg	Below Reporting Threshold



ID: A, Location: 45m SW, Permit: SP3239FU
Operator: enfinium Ferrybridge 1 Limited
Activity: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR.
Address: Ferrybridge 1 Kirkhaw Lane WF11 8DX
Sector EfW, Sub-sector: EfW
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Carbon dioxide	10000000kg	628000000kg

ID: A, Location: 45m SW, Permit: SP3239FU
Operator: enfinium Ferrybridge 1 Limited
Activity: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR.
Address: Ferrybridge 1 Kirkhaw Lane WF11 8DX
Sector EfW, Sub-sector: EfW
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Carbon Dioxide From Qualifying Renewable Fuel Sources	0kg	277000000kg

ID: A, Location: 45m SW, Permit: SP3239FU
Operator: enfinium Ferrybridge 1 Limited
Activity: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR.
Address: Ferrybridge 1 Kirkhaw Lane WF11 8DX
Sector EfW, Sub-sector: EfW
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Nitrogen oxides (NO and NO2) as NO2	100000kg	782000kg

ID: A, Location: 45m SW, Permit: SP3239FU
Operator: enfinium Ferrybridge 1 Limited
Activity: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR.
Address: Ferrybridge 1 Kirkhaw Lane WF11 8DX
Sector EfW, Sub-sector: EfW
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Chlorine and inorganic chlorine compounds - as HCl	10000kg	35920kg

ID: A, Location: 45m SW, Permit: SP3239FU
Operator: enfinium Ferrybridge 1 Limited
Activity: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR.
Address: Ferrybridge 1 Kirkhaw Lane WF11 8DX
Sector EfW, Sub-sector: EfW
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Particulate matter - PM2.5	1000kg	9200kg
Air	Particulate matter - PM10	1000kg	9200kg

ID: A, Location: 45m SW, Permit: SP3239FU
Operator: enfinium Ferrybridge 1 Limited
Activity: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR.
Address: Ferrybridge 1 Kirkhaw Lane WF11 8DX
Sector EfW, Sub-sector: EfW
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Ammonia	1000kg	1110kg

ID: A, Location: 45m SW, Permit: SP3239FU
Operator: enfinium Ferrybridge 1 Limited
Activity: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR.
Address: Ferrybridge 1 Kirkhaw Lane WF11 8DX
Sector EfW, Sub-sector: EfW
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Chromium	10kg	103kg
Air	Nickel	10kg	103kg



ID: A, Location: 45m SW, Permit: SP3239FU
 Operator: enfinium Ferrybridge 1 Limited
 Activity: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR.
 Address: Ferrybridge 1 Kirkhaw Lane WF11 8DX
 Sector: EfW, Sub-sector: EfW
 Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Copper	10kg	10.4kg

ID: A, Location: 45m SW, Permit: SP3239FU
 Operator: enfinium Ferrybridge 1 Limited
 Activity: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR.
 Address: Ferrybridge 1 Kirkhaw Lane WF11 8DX
 Sector: EfW, Sub-sector: EfW
 Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Mercury	1kg	2.22kg

ID: A, Location: 45m SW, Permit: SP3239FU
 Operator: enfinium Ferrybridge 1 Limited
 Activity: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR.
 Address: Ferrybridge 1 Kirkhaw Lane WF11 8DX
 Sector: EfW, Sub-sector: EfW
 Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Arsenic	1kg	1.95kg

ID: A, Location: 45m SW, Permit: SP3239FU
 Operator: enfinium Ferrybridge 1 Limited
 Activity: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR.
 Address: Ferrybridge 1 Kirkhaw Lane WF11 8DX
 Sector: EfW, Sub-sector: EfW
 Releases:



Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Dioxins and furans (PCDDs/PCDFs) - as WHO TEQ	1e-5kg	3e-5kg
Air	Dioxins and furans (PCDDs/PCDFs) - as ITEQ	1e-5kg	3e-5kg

ID: F, Location: 174m N, Permit: XP3833DK
Operator: enfinium Ferrybridge 2 Limited
Activity: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR.
Address: Ferrybridge 2 Stranglands Lane WF11 8SQ
Sector: EfW, Sub-sector: EfW
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Polychlorinated biphenyls (PCBs)	0.1kg	Below Reporting Threshold
Air	Particulate matter - total	10000kg	Below Reporting Threshold
Air	Benzo(b)fluoranthene	1kg	Below Reporting Threshold
Air	Sulphur oxides (SO2 and SO3) as SO2	100000kg	Below Reporting Threshold
Air	Ammonia	1000kg	Below Reporting Threshold
Air	Carbon monoxide	100000kg	Below Reporting Threshold
Air	Methane	10000kg	Below Reporting Threshold
Air	Lead	100kg	Below Reporting Threshold
Air	Fluorine and inorganic fluorine compounds - as HF	1000kg	Below Reporting Threshold
Air	Non-methane volatile organic compounds (NMVOCs)	10000kg	Below Reporting Threshold
Air	Benzo(k)fluoranthene	1kg	Below Reporting Threshold
Air	Benzo(a)pyrene	1kg	Below Reporting Threshold
Air	Naphthalene	100kg	Below Reporting Threshold
Air	Nitrous oxide	10000kg	Below Reporting Threshold

ID: F, Location: 174m N, Permit: XP3833DK
Operator: enfinium Ferrybridge 2 Limited
Activity: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR.
Address: Ferrybridge 2 Stranglands Lane WF11 8SQ
Sector: EfW, Sub-sector: EfW
Releases:



Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Carbon dioxide	10000000kg	677032450kg

ID: F, Location: 174m N, Permit: XP3833DK
 Operator: enfinium Ferrybridge 2 Limited
 Activity: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR.
 Address: Ferrybridge 2 Stranglands Lane WF11 8SQ
 Sector: EfW, Sub-sector: EfW
 Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Carbon Dioxide From Qualifying Renewable Fuel Sources	0kg	372367840kg

ID: F, Location: 174m N, Permit: XP3833DK
 Operator: enfinium Ferrybridge 2 Limited
 Activity: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR.
 Address: Ferrybridge 2 Stranglands Lane WF11 8SQ
 Sector: EfW, Sub-sector: EfW
 Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Nitrogen oxides (NO and NO ₂) as NO ₂	100000kg	859712kg

ID: F, Location: 174m N, Permit: XP3833DK
 Operator: enfinium Ferrybridge 2 Limited
 Activity: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR.
 Address: Ferrybridge 2 Stranglands Lane WF11 8SQ
 Sector: EfW, Sub-sector: EfW
 Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Chlorine and inorganic chlorine compounds - as HCl	10000kg	29209kg



ID: F, Location: 174m N, Permit: XP3833DK
Operator: enfinium Ferrybridge 2 Limited
Activity: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR.
Address: Ferrybridge 2 Stranglands Lane WF11 8SQ
Sector EfW, Sub-sector: EfW
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Particulate matter - PM2.5	1000kg	9609kg
Air	Particulate matter - PM10	1000kg	9609kg

ID: F, Location: 174m N, Permit: XP3833DK
Operator: enfinium Ferrybridge 2 Limited
Activity: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR.
Address: Ferrybridge 2 Stranglands Lane WF11 8SQ
Sector EfW, Sub-sector: EfW
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Chromium	10kg	308kg

ID: F, Location: 174m N, Permit: XP3833DK
Operator: enfinium Ferrybridge 2 Limited
Activity: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR.
Address: Ferrybridge 2 Stranglands Lane WF11 8SQ
Sector EfW, Sub-sector: EfW
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Nickel	10kg	281kg

ID: F, Location: 174m N, Permit: XP3833DK
Operator: enfinium Ferrybridge 2 Limited
Activity: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR.
Address: Ferrybridge 2 Stranglands Lane WF11 8SQ
Sector EfW, Sub-sector: EfW



Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Copper	10kg	31.6kg

ID: F, Location: 174m N, Permit: XP3833DK
 Operator: enfinium Ferrybridge 2 Limited
 Activity: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR.
 Address: Ferrybridge 2 Stranglands Lane WF11 8SQ
 Sector: EfW, Sub-sector: EfW
 Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Mercury	1kg	10.3kg

ID: F, Location: 174m N, Permit: XP3833DK
 Operator: enfinium Ferrybridge 2 Limited
 Activity: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR.
 Address: Ferrybridge 2 Stranglands Lane WF11 8SQ
 Sector: EfW, Sub-sector: EfW
 Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Cadmium	1kg	6.91kg

ID: F, Location: 174m N, Permit: XP3833DK
 Operator: enfinium Ferrybridge 2 Limited
 Activity: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR.
 Address: Ferrybridge 2 Stranglands Lane WF11 8SQ
 Sector: EfW, Sub-sector: EfW
 Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Arsenic	1kg	2.38kg

ID: F, Location: 174m N, Permit: XP3833DK
 Operator: enfinium Ferrybridge 2 Limited
 Activity: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR.
 Address: Ferrybridge 2 Stranglands Lane WF11 8SQ
 Sector: EfW, Sub-sector: EfW
 Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Indeno(1,2,3-cd)pyrene	1kg	1.41kg

ID: F, Location: 174m N, Permit: XP3833DK
 Operator: enfinium Ferrybridge 2 Limited
 Activity: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR.
 Address: Ferrybridge 2 Stranglands Lane WF11 8SQ
 Sector: EfW, Sub-sector: EfW
 Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Dioxins and furans (PCDDs/PCDFs) - as WHO TEQ	1e-5kg	3e-5kg
Air	Dioxins and furans (PCDDs/PCDFs) - as ITEQ	1e-5kg	3e-5kg

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

4.20 Pollution inventory waste transfers

Records within 500m

3

The pollution inventory (waste transfers) includes reporting on annual transfers and recovery/disposal of controlled wastes from a site. A reporting threshold for each waste type is also included. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

Features are displayed on the Current industrial land use map on [page 36 >](#)

ID: A, Location: 39m SW, Permit: QP3034JW
 Operator: Blue Phoenix Limited
 Activity: RECOVERY OR A MIX OF RECOVERY AND DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING TREATMENT OF SLAGS AND ASHES
 Address: Abbey Road Farm Poultry Unit Kirkhaw Lane West Yorkshire WF11 8DX
 Sector: Non-Hazardous & Inert, Sub-sector: Non-Hazardous & Inert
 Releases:



Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	0.2	Absolute Value	13 02 08	other engine, gear and lubricating oils	Yes
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	0.13	Absolute Value	16 05 04	gases in pressure containers (including halons) containing dangerous substances	Yes
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	0.13	Absolute Value	15 02 02	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances	Yes
R4	Recycling/reclamation of metals and metal compounds	15059.36	Absolute Value	19 01 02	ferrous materials removed from bottom ash	No
R4	Recycling/reclamation of metals and metal compounds	16205.25	Absolute Value	19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	No
R5	Recycling/reclamation of other inorganic materials	176800.05	Absolute Value	19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	No
R4	Recycling/reclamation of metals and metal compounds	709.32	Absolute Value	19 12 03	non-ferrous metal	No

ID: A, Location: 45m SW, Permit: SP3239FU
 Operator: enfinium Ferrybridge 1 Limited
 Activity: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR.
 Address: Ferrybridge 1 Kirkhaw Lane WF11 8DX
 Sector: EfW, Sub-sector: EfW
 Releases:



Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
D9	Physio-chemical treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numbered D1 to D12 (eg evaporation, drying, calcination, etc.)	116.54	Absolute Value	10 01 14	bottom ash, slag and boiler dust from co-incineration containing dangerous substances	Yes
R9	Oil e-refining or other reuses of oil	2.137	Absolute Value	13 02 05	mineral-based non-chlorinated engine, gear and lubricating oils	Yes
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	8.43	Absolute Value	13 02 05	mineral-based non-chlorinated engine, gear and lubricating oils	Yes
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	0.615	Absolute Value	13 02 08	other engine, gear and lubricating oils	Yes
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	0.019	Absolute Value	15 01 10	packaging containing residues of or contaminated by dangerous substances	Yes
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	6.09	Absolute Value	15 02 02	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances	Yes
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection, on the site where it is produced)	0.3	Absolute Value	16 01 14	antifreeze fluids containing dangerous substances	Yes
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection, on the site where it is produced)	0.36	Absolute Value	16 02 11	discarded equipment containing chlorofluorocarbons, HCFC, HFC	Yes



Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	0.046	Absolute Value	16 02 13	discarded equipment containing hazardous components (2) other than those mentioned in 16 02 09 to 16 02 12	Yes
D9	Physio-chemical treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numbered D1 to D12 (eg evaporation, drying, calcination, etc.)	0.7	Absolute Value	16 03 03	inorganic wastes containing dangerous substances	Yes
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection, on the site where it is produced)	6	Absolute Value	16 03 03	inorganic wastes containing dangerous substances	Yes
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection, on the site where it is produced)	0.225	Absolute Value	16 03 05	organic wastes containing dangerous substances	Yes
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	0.025	Absolute Value	16 05 04	gases in pressure containers (including halons) containing dangerous substances	Yes
D9	Physio-chemical treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numbered D1 to D12 (eg evaporation, drying, calcination, etc.)	5501.8	Absolute Value	19 01 07	solid wastes from gas treatment	Yes
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection, on the site where it is produced)	9.84	Absolute Value	19 01 07	solid wastes from gas treatment	Yes
R5	Recycling/reclamation of other inorganic materials	20876.7	Absolute Value	19 01 07	solid wastes from gas treatment	Yes



Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	0.1	Absolute Value	20 01 21	fluorescent tubes and other mercury-containing waste	Yes
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	4.05	Absolute Value	20 01 35	discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components (6)	Yes
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	14.88	Absolute Value	15 01 06	mixed packaging	No
D9	Physio-chemical treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numbered D1 to D12 (eg evaporation, drying, calcination, etc.)	847.66	Absolute Value	16 10 02	aqueous liquid wastes other than those mentioned in 16 10 01	No
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	54.22	Absolute Value	17 01 07	mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06	No
R3	Recycling/Reclamation of organic substances which are not used as solvents (including composting and other biological transformatin processes)	15.68	Absolute Value	17 02 01	wood	No
R4	Recycling/reclamation of metals and metal compounds	3751.4	Absolute Value	19 01 02	ferrous materials removed from bottom ash	No
R5	Recycling/reclamation of other inorganic materials	119576.09	Absolute Value	19 01 12	bottom ash and slag other than those mentioned in 19 01 11	No
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	41.96	Absolute Value	19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	No



Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	68.06	Absolute Value	20 03 01	mixed municipal waste	No
D8	Biological treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numbers D1 to D12	173.74	Absolute Value	20 03 04	septic tank sludge	No
R4	Recycling/reclamation of metals and metal compounds	34.98	Absolute Value	20 03 99	municipal wastes not otherwise specified	No
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	Below Reporting Threshold	Below Reporting Threshold	16 02 14	discarded equipment other than those mentioned in 16 02 09 to 16 02 13	No
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	Below Reporting Threshold	Below Reporting Threshold	16 02 16	components removed from discarded equipment other than those mentioned in 16 02 15	No
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection, on the site where it is produced)	Below Reporting Threshold	Below Reporting Threshold	16 03 04	inorganic wastes other than those mentioned in 16 03 03	No
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	Below Reporting Threshold	Below Reporting Threshold	16 06 05	other batteries and accumulators	No
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	Below Reporting Threshold	Below Reporting Threshold	17 04 01	copper, bronze, brass	No
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	Below Reporting Threshold	Below Reporting Threshold	17 08 02	gypsum-based construction materials other than those mentioned in 17 08 01	No



Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
D8	Biological treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numbers D1 to D12	Below Reporting Threshold	Below Reporting Threshold	20 03 06	waste from sewage cleaning	No

ID: F, Location: 174m N, Permit: XP3833DK
Operator: enfinium Ferrybridge 2 Limited
Activity: THE INCINERATION OF NON-HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 3 TONNES PER HOUR.
Address: Ferrybridge 2 Stranglands Lane WF11 8SQ
Sector EfW, Sub-sector: EfW
Releases:

Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	2	Absolute Value	08 01 11	waste paint and varnish containing organic solvents or other dangerous substances	Yes
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	3.6	Absolute Value	13 02 05	mineral-based non-chlorinated engine, gear and lubricating oils	Yes
D9	Physio-chemical treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numbers D1 to D12 (eg evaporation, drying, calcination, etc.)	2.5	Absolute Value	13 05 07	oily water from oil/water separators	Yes
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	18.65	Absolute Value	15 02 02	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances	Yes



Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
D9	Physio-chemical treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numbered D1 to D12 (eg evaporation, drying, calcination, etc.)	0.54	Absolute Value	16 03 03	inorganic wastes containing dangerous substances	Yes
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection, on the site where it is produced)	11.3	Absolute Value	16 03 03	inorganic wastes containing dangerous substances	Yes
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	1.2	Absolute Value	16 03 05	organic wastes containing dangerous substances	Yes
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection, on the site where it is produced)	1	Absolute Value	16 03 05	organic wastes containing dangerous substances	Yes
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	0.46	Absolute Value	16 05 04	gases in pressure containers (including halons) containing dangerous substances	Yes
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	4	Absolute Value	19 01 07	solid wastes from gas treatment	Yes
D9	Physio-chemical treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numbered D1 to D12 (eg evaporation, drying, calcination, etc.)	638.38	Absolute Value	19 01 07	solid wastes from gas treatment	Yes



Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection, on the site where it is produced)	27.56	Absolute Value	19 01 07	solid wastes from gas treatment	Yes
R5	Recycling/reclamation of other inorganic materials	24085.96	Absolute Value	19 01 07	solid wastes from gas treatment	Yes
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	1.9	Absolute Value	20 01 35	discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components (6)	Yes
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	5.26	Absolute Value	15 01 06	mixed packaging	No
D14	Repackaging prior to submission to any of the operations numbered D1 to D13	8	Absolute Value	16 03 04	inorganic wastes other than those mentioned in 16 03 03	No
D8	Biological treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numbers D1 to D12	717.94	Absolute Value	16 10 02	aqueous liquid wastes other than those mentioned in 16 10 01	No
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	10.9	Absolute Value	17 01 07	mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06	No
R3	Recycling/Reclamation of organic substances which are not used as solvents (including composting and other biological transformatin processes)	12.5	Absolute Value	17 02 01	wood	No
R4	Recycling/reclamation of metals and metal compounds	5540.94	Absolute Value	19 01 02	ferrous materials removed from bottom ash	No



Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	123.94	Absolute Value	19 01 12	bottom ash and slag other than those mentioned in 19 01 11	No
R5	Recycling/reclamation of other inorganic materials	117903.2	Absolute Value	19 01 12	bottom ash and slag other than those mentioned in 19 01 11	No
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	180.9	Absolute Value	19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	No
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	54.4	Absolute Value	20 03 01	mixed municipal waste	No
D8	Biological treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numbers D1 to D12	77.04	Absolute Value	20 03 06	waste from sewage cleaning	No
D14	Repackaging prior to submission to any of the operations numbered D1 to D13	Below Reporting Threshold	Below Reporting Threshold	15 02 03	absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02	No
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	Below Reporting Threshold	Below Reporting Threshold	16 02 16	components removed from discarded equipment other than those mentioned in 16 02 15	No
D14	Repackaging prior to submission to any of the operations numbered D1 to D13	Below Reporting Threshold	Below Reporting Threshold	16 03 06	organic wastes other than those mentioned in 16 03 05	No
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	Below Reporting Threshold	Below Reporting Threshold	17 04 01	copper, bronze, brass	No

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.



4.21 Pollution inventory radioactive waste

Records within 500m

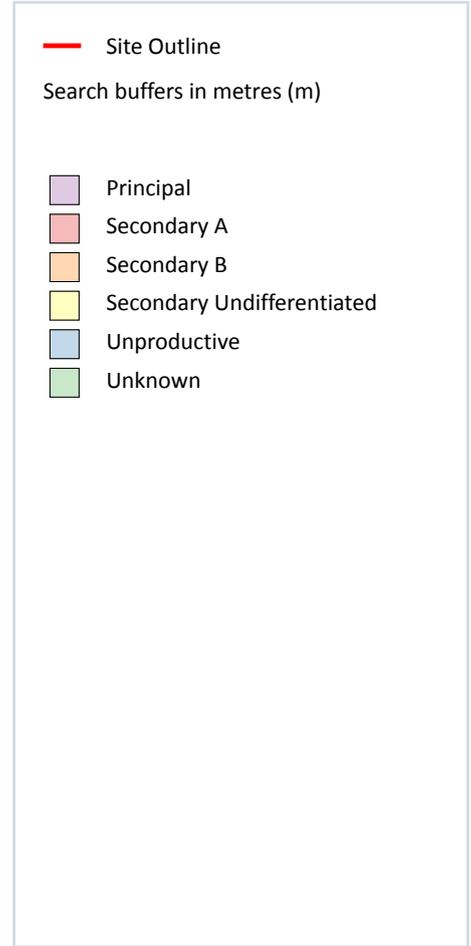
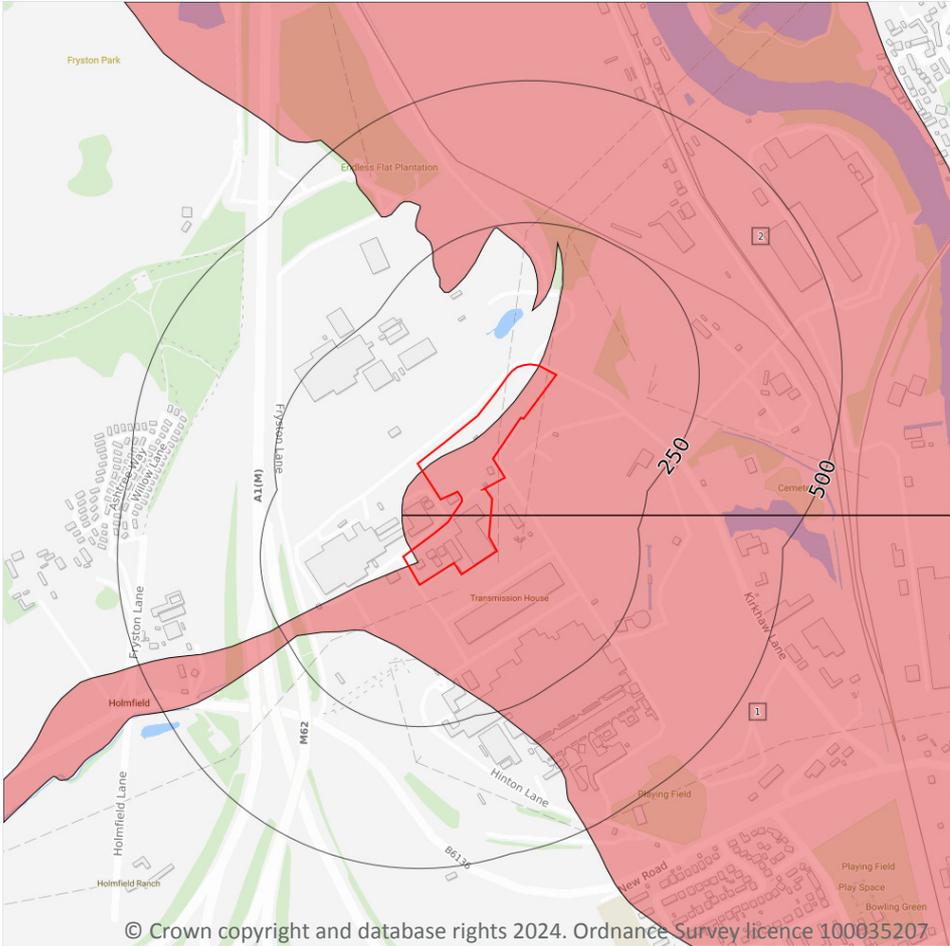
0

The pollution inventory (radioactive wastes) includes reporting on annual releases of radioactive substances from a site, including the means of release. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.



5 Hydrogeology - Superficial aquifer



5.1 Superficial aquifer

Records within 500m

2

Aquifer status of groundwater held within superficial geology.

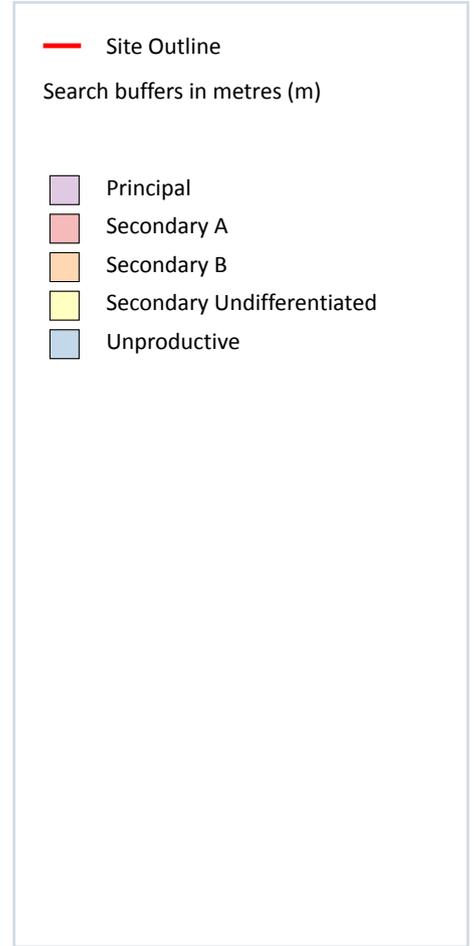
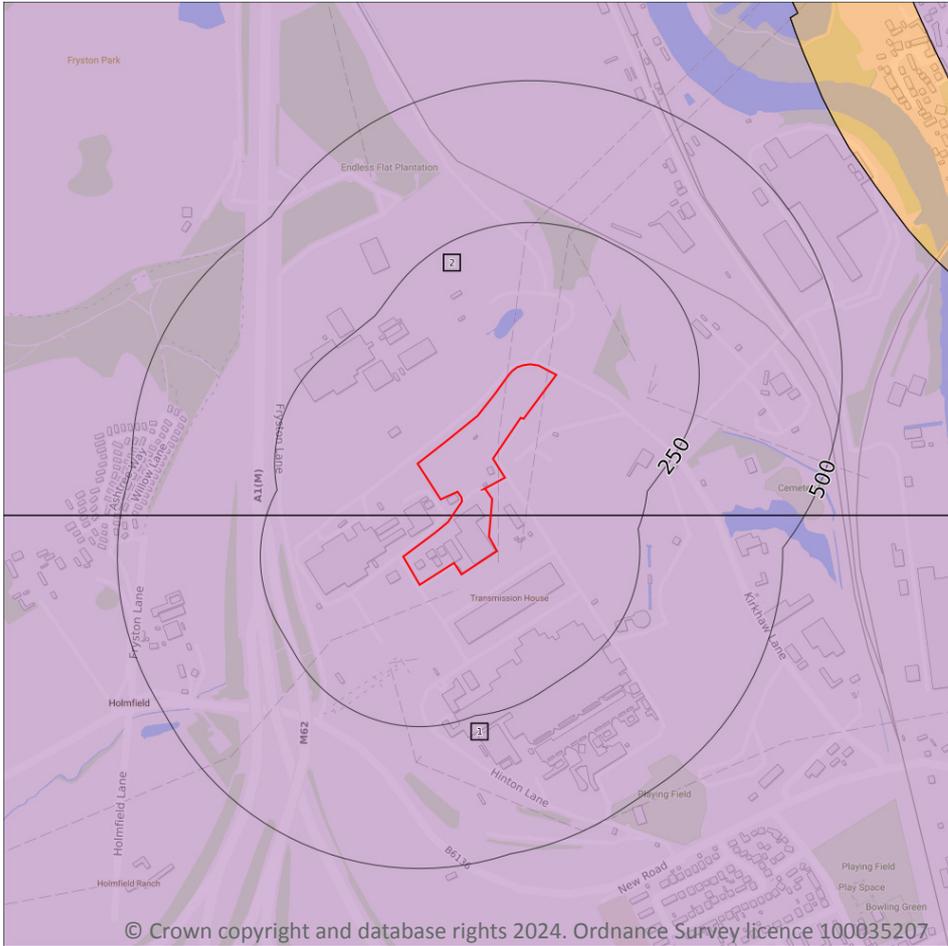
Features are displayed on the Hydrogeology map on [page 77 >](#)

ID	Location	Designation	Description
1	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
2	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.



Bedrock aquifer



5.2 Bedrock aquifer

Records within 500m

2

Aquifer status of groundwater held within bedrock geology.

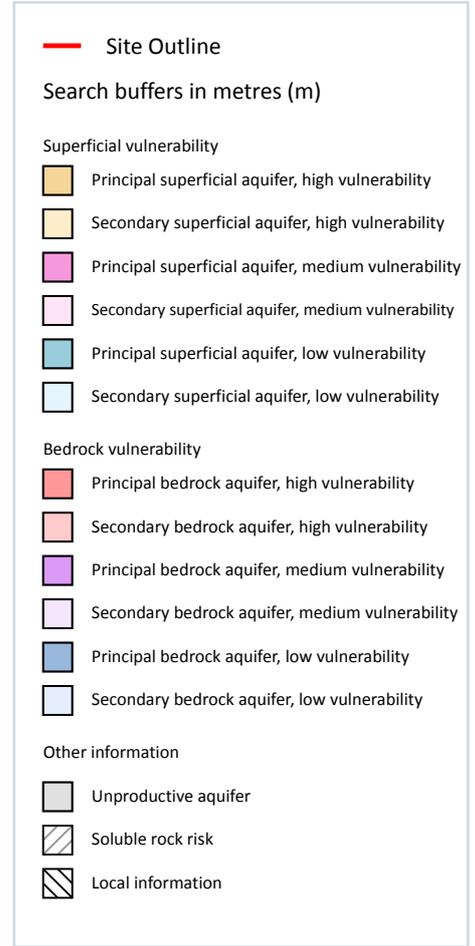
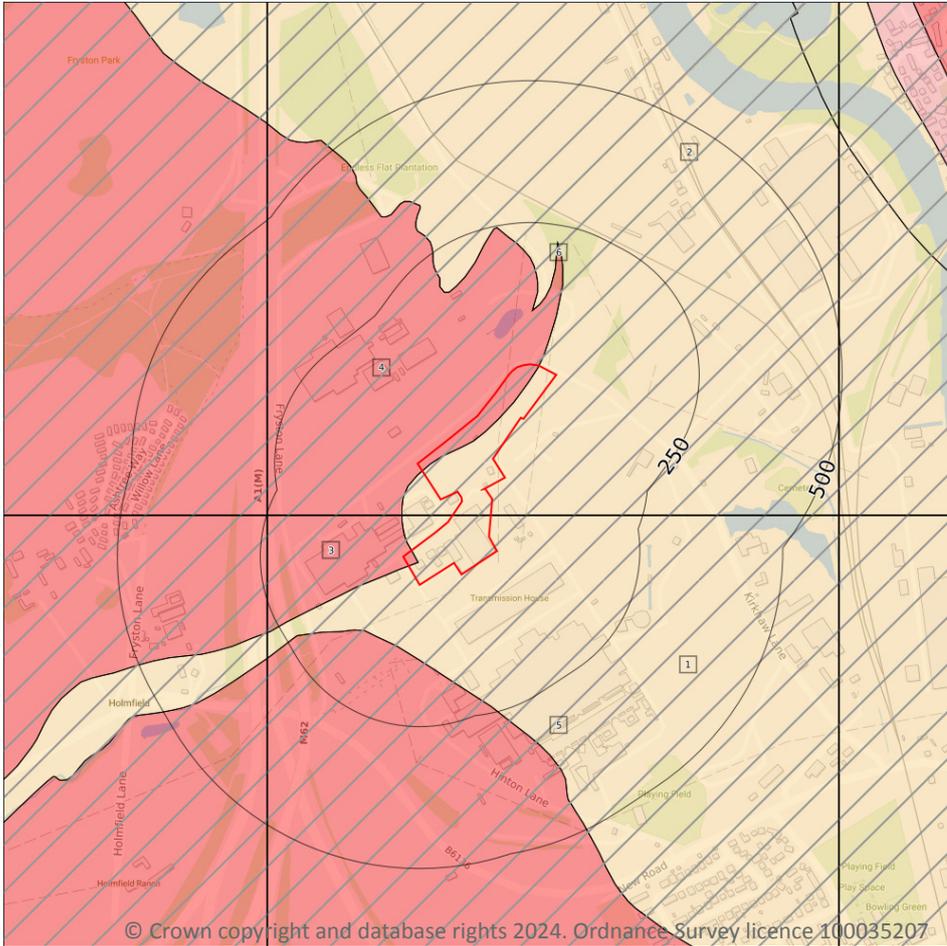
Features are displayed on the Bedrock aquifer map on [page 79](#) >

ID	Location	Designation	Description
1	On site	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
2	On site	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.



Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m

4

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid. Groundwater vulnerability is described as High, Medium or Low as follows:

- High - Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits.
- Medium - Intermediate between high and low vulnerability.
- Low - Areas that provide the greatest protection from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.

Features are displayed on the Groundwater vulnerability map on [page 81](#) >

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: High Aquifer type: Secondary Thickness: 3-10m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
2	On site	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: High Aquifer type: Secondary Thickness: 3-10m Patchiness value: <90% Recharge potential: High	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
3	On site	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
4	On site	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: High	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

5.4 Groundwater vulnerability- soluble rock risk

Records on site

2

This dataset identifies areas where solution features that enable rapid movement of a pollutant may be present within a 1km grid square.

ID	Maximum soluble risk category	Percentage of grid square covered by maximum risk
5	Significant soluble rocks are likely to be present. Low possibility of localised subsidence or dissolution-related degradation of bedrock occurring naturally, but may be possible in adverse conditions such as high surface or subsurface water flow.	1.0%



ID	Maximum soluble risk category	Percentage of grid square covered by maximum risk
6	Significant soluble rocks are likely to be present. Low possibility of localised subsidence or dissolution-related degradation of bedrock occurring naturally, but may be possible in adverse conditions such as high surface or subsurface water flow.	2.0%

This data is sourced from the British Geological Survey and the Environment Agency.

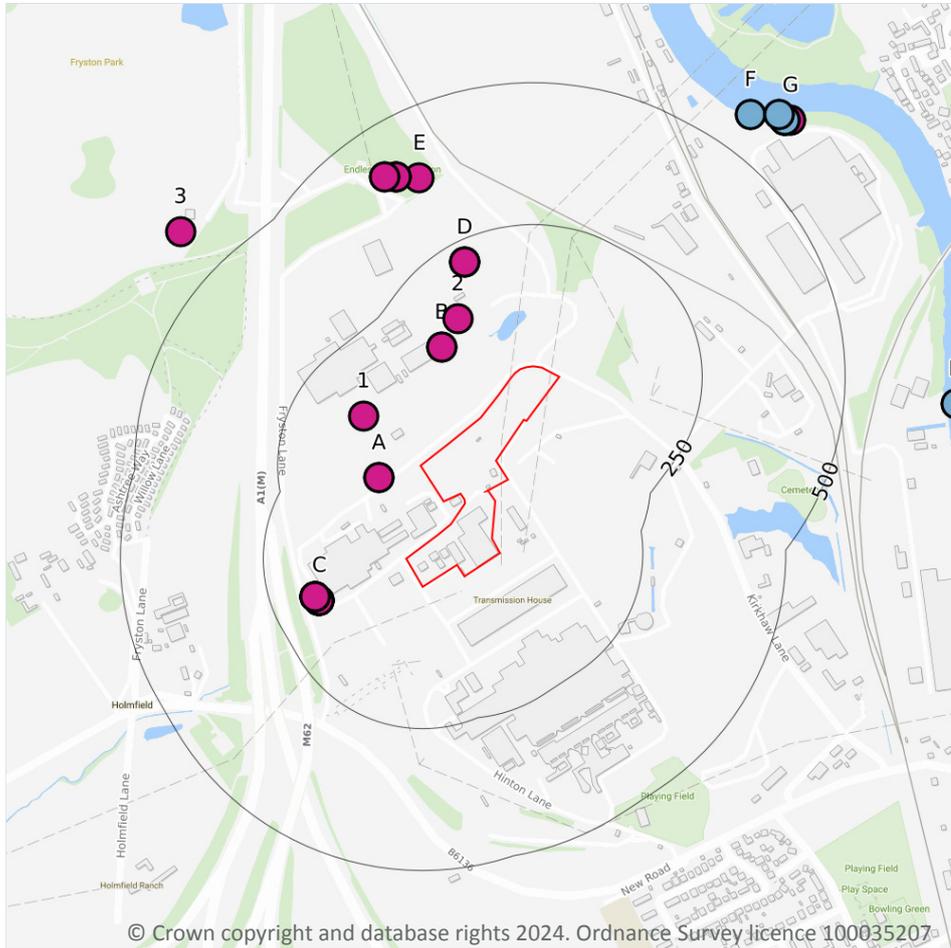
5.5 Groundwater vulnerability- local information

Records on site	0
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This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506 or by email on enquiries@environment-agency.gov.uk ↗.

This data is sourced from the British Geological Survey and the Environment Agency.

Abstractions and Source Protection Zones



5.6 Groundwater abstractions

Records within 2000m

40

Licensed groundwater abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, between two points (line data) or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on [page 84](#) >

ID	Location	Details	
A	76m W	Status: Historical Licence No: 2/27/18/121 Details: Make-Up Or Top Up Water Direct Source: GROUNDWATERS Point: BOREHOLE-MAGNESIUM LIMESTONE-KNOTTINGLEY Data Type: Point Name: TRUSTEES OF FERRYBRIDGE GOLF CLUB Easting: 447190 Northing: 425070	Annual Volume (m ³): 7300 Max Daily Volume (m ³): 75 Original Application No: - Original Start Date: 20/12/2004 Expiry Date: 31/03/2015 Issue No: 1 Version Start Date: 01/04/2008 Version End Date: -
A	76m W	Status: Historical Licence No: 2/27/18/121 Details: Spray Irrigation - Direct Direct Source: GROUNDWATERS Point: BOREHOLE-MAGNESIUM LIMESTONE-KNOTTINGLEY Data Type: Point Name: TRUSTEES OF FERRYBRIDGE GOLF CLUB Easting: 447190 Northing: 425070	Annual Volume (m ³): 7300 Max Daily Volume (m ³): 75 Original Application No: - Original Start Date: 20/12/2004 Expiry Date: 31/03/2015 Issue No: 1 Version Start Date: 01/04/2008 Version End Date: -
B	130m N	Status: Historical Licence No: 2/27/18/094 Details: Boiler Feed Direct Source: GROUNDWATERS Point: BOREHOLE (1) Data Type: Point Name: EDISON FIRST POWER LTD Easting: 447300 Northing: 425300	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 07/06/1997 Expiry Date: 30/11/2001 Issue No: 101 Version Start Date: 20/07/1999 Version End Date: -
B	130m N	Status: Historical Licence No: 2/27/18/115 Details: Boiler Feed Direct Source: GROUNDWATERS Point: BOREHOLE (1) - MAGNESIAN LIMESTONE - KNOTTINGLEY Data Type: Point Name: AEP ENERGY SERVICES UK GENERATION LTD Easting: 447300 Northing: 425300	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 02/01/2002 Expiry Date: 31/03/2015 Issue No: 1 Version Start Date: 02/01/2002 Version End Date: -



ID	Location	Details	
1	133m NW	Status: Active Licence No: NE/027/0018/031 Details: Process Water Direct Source: GROUNDWATERS Point: MAGNESIAN LIMESTONE - KNOTTINGLEY - FERRYBRIDGE MFE2 Data Type: Point Name: Enfinium Ferrybridge 2 Ltd Easting: 447163 Northing: 425179	Annual Volume (m ³): 306600 Max Daily Volume (m ³): 840 Original Application No: NPS/WR/038024 Original Start Date: 14/04/2020 Expiry Date: 31/03/2027 Issue No: 2 Version Start Date: 08/07/2022 Version End Date: -
2	139m N	Status: Historical Licence No: 2/27/18/115/R01 Details: Boiler Feed Direct Source: GROUNDWATERS Point: BOREHOLE A - MAGNESIAN LIMESTONE - KNOTTINGLEY Data Type: Point Name: KEADBY GENERATION LTD Easting: 447328 Northing: 425350	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 4091 Original Application No: - Original Start Date: 01/04/2015 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 01/04/2015 Version End Date: -
C	169m SW	Status: Active Licence No: NE/027/0018/023 Details: Boiler Feed Direct Source: GROUNDWATERS Point: BOREHOLE A - MAGNESIAN LIMESTONE - FERRYBRIDGE Data Type: Point Name: Enfinium Ferrybridge 1 Limited Easting: 447086 Northing: 424854	Annual Volume (m ³): 262800 Max Daily Volume (m ³): 720 Original Application No: NPS/WR/038022 Original Start Date: 10/10/2014 Expiry Date: 31/03/2027 Issue No: 4 Version Start Date: 08/07/2022 Version End Date: -
C	169m SW	Status: Active Licence No: NE/027/0018/023 Details: Gas Suppression/Scrubbing Direct Source: GROUNDWATERS Point: BOREHOLE A - MAGNESIAN LIMESTONE - FERRYBRIDGE Data Type: Point Name: Enfinium Ferrybridge 1 Limited Easting: 447086 Northing: 424854	Annual Volume (m ³): 262800 Max Daily Volume (m ³): 720 Original Application No: NPS/WR/038022 Original Start Date: 10/10/2014 Expiry Date: 31/03/2027 Issue No: 4 Version Start Date: 08/07/2022 Version End Date: -



ID	Location	Details	
C	169m SW	Status: Active Licence No: NE/027/0018/023 Details: Evaporative Cooling Direct Source: GROUNDWATERS Point: BOREHOLE A - MAGNESIAN LIMESTONE - FERRYBRIDGE Data Type: Point Name: Enfinium Ferrybridge 1 Limited Easting: 447086 Northing: 424854	Annual Volume (m ³): 262800 Max Daily Volume (m ³): 720 Original Application No: NPS/WR/038022 Original Start Date: 10/10/2014 Expiry Date: 31/03/2027 Issue No: 4 Version Start Date: 08/07/2022 Version End Date: -
C	169m SW	Status: Historical Licence No: NE/027/0018/023 Details: Non-Evaporative Cooling Direct Source: GROUNDWATERS Point: BOREHOLE - MAGNESIAN LIMESTONE - FERRYBRIDGE Data Type: Point Name: Ferrybridge MFE Ltd Easting: 447086 Northing: 424854	Annual Volume (m ³): 131400 Max Daily Volume (m ³): 360 Original Application No: - Original Start Date: 10/10/2014 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 10/10/2014 Version End Date: -
C	169m SW	Status: Historical Licence No: NE/027/0018/023 Details: Boiler Feed Direct Source: GROUNDWATERS Point: BOREHOLE - MAGNESIAN LIMESTONE - FERRYBRIDGE Data Type: Point Name: Ferrybridge MFE Ltd Easting: 447086 Northing: 424854	Annual Volume (m ³): 262800 Max Daily Volume (m ³): 720 Original Application No: NPS/WR/027125 Original Start Date: 10/10/2014 Expiry Date: 31/03/2027 Issue No: 3 Version Start Date: 12/09/2017 Version End Date: -
C	169m SW	Status: Historical Licence No: NE/027/0018/023 Details: Evaporative Cooling Direct Source: GROUNDWATERS Point: BOREHOLE - MAGNESIAN LIMESTONE - FERRYBRIDGE Data Type: Point Name: Ferrybridge MFE Ltd Easting: 447086 Northing: 424854	Annual Volume (m ³): 262800 Max Daily Volume (m ³): 720 Original Application No: NPS/WR/027125 Original Start Date: 10/10/2014 Expiry Date: 31/03/2027 Issue No: 3 Version Start Date: 12/09/2017 Version End Date: -



ID	Location	Details	
C	169m SW	Status: Historical Licence No: NE/027/0018/023 Details: Gas Suppression/Scrubbing Direct Source: GROUNDWATERS Point: BOREHOLE - MAGNESIAN LIMESTONE - FERRYBRIDGE Data Type: Point Name: Ferrybridge MFE Ltd Easting: 447086 Northing: 424854	Annual Volume (m ³): 262800 Max Daily Volume (m ³): 720 Original Application No: NPS/WR/027125 Original Start Date: 10/10/2014 Expiry Date: 31/03/2027 Issue No: 3 Version Start Date: 12/09/2017 Version End Date: -
C	174m SW	Status: Active Licence No: NE/027/0018/023 Details: Boiler Feed Direct Source: GROUNDWATERS Point: BOREHOLE B - MAGNESIAN LIMESTONE - FERRYBRIDGE Data Type: Point Name: Enfinium Ferrybridge 1 Limited Easting: 447078 Northing: 424860	Annual Volume (m ³): 262800 Max Daily Volume (m ³): 720 Original Application No: NPS/WR/038022 Original Start Date: 10/10/2014 Expiry Date: 31/03/2027 Issue No: 4 Version Start Date: 08/07/2022 Version End Date: -
C	174m SW	Status: Active Licence No: NE/027/0018/023 Details: Gas Suppression/Scrubbing Direct Source: GROUNDWATERS Point: BOREHOLE B - MAGNESIAN LIMESTONE - FERRYBRIDGE Data Type: Point Name: Enfinium Ferrybridge 1 Limited Easting: 447078 Northing: 424860	Annual Volume (m ³): 262800 Max Daily Volume (m ³): 720 Original Application No: NPS/WR/038022 Original Start Date: 10/10/2014 Expiry Date: 31/03/2027 Issue No: 4 Version Start Date: 08/07/2022 Version End Date: -
C	174m SW	Status: Active Licence No: NE/027/0018/023 Details: Evaporative Cooling Direct Source: GROUNDWATERS Point: BOREHOLE B - MAGNESIAN LIMESTONE - FERRYBRIDGE Data Type: Point Name: Enfinium Ferrybridge 1 Limited Easting: 447078 Northing: 424860	Annual Volume (m ³): 262800 Max Daily Volume (m ³): 720 Original Application No: NPS/WR/038022 Original Start Date: 10/10/2014 Expiry Date: 31/03/2027 Issue No: 4 Version Start Date: 08/07/2022 Version End Date: -



ID	Location	Details	
C	174m SW	Status: Historical Licence No: NE/027/0018/023 Details: Non-Evaporative Cooling Direct Source: GROUNDWATERS Point: BOREHOLE - MAGNESIAN LIMESTONE - FERRYBRIDGE Data Type: Point Name: Ferrybridge MFE Ltd Easting: 447078 Northing: 424860	Annual Volume (m ³): 131400 Max Daily Volume (m ³): 360 Original Application No: - Original Start Date: 10/10/2014 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 10/10/2014 Version End Date: -
C	174m SW	Status: Historical Licence No: NE/027/0018/023 Details: Gas Suppression/Scrubbing Direct Source: GROUNDWATERS Point: BOREHOLE - MAGNESIAN LIMESTONE - FERRYBRIDGE Data Type: Point Name: Ferrybridge MFE Ltd Easting: 447078 Northing: 424860	Annual Volume (m ³): 262800 Max Daily Volume (m ³): 720 Original Application No: NPS/WR/027125 Original Start Date: 10/10/2014 Expiry Date: 31/03/2027 Issue No: 3 Version Start Date: 12/09/2017 Version End Date: -
C	174m SW	Status: Historical Licence No: NE/027/0018/023 Details: Boiler Feed Direct Source: GROUNDWATERS Point: BOREHOLE - MAGNESIAN LIMESTONE - FERRYBRIDGE Data Type: Point Name: Ferrybridge MFE Ltd Easting: 447078 Northing: 424860	Annual Volume (m ³): 262800 Max Daily Volume (m ³): 720 Original Application No: NPS/WR/027125 Original Start Date: 10/10/2014 Expiry Date: 31/03/2027 Issue No: 3 Version Start Date: 12/09/2017 Version End Date: -
C	174m SW	Status: Historical Licence No: NE/027/0018/023 Details: Evaporative Cooling Direct Source: GROUNDWATERS Point: BOREHOLE - MAGNESIAN LIMESTONE - FERRYBRIDGE Data Type: Point Name: Ferrybridge MFE Ltd Easting: 447078 Northing: 424860	Annual Volume (m ³): 262800 Max Daily Volume (m ³): 720 Original Application No: NPS/WR/027125 Original Start Date: 10/10/2014 Expiry Date: 31/03/2027 Issue No: 3 Version Start Date: 12/09/2017 Version End Date: -



ID	Location	Details	
D	213m N	Status: Historical Licence No: 2/27/18/115 Details: Boiler Feed Direct Source: GROUNDWATERS Point: BOREHOLE(1)-MAGNESIAN LIMESTONE-KNOTTINGLEY Data Type: Point Name: KEADBY GENERATION LTD Easting: 447340 Northing: 425450	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 4091 Original Application No: - Original Start Date: 02/01/2002 Expiry Date: 31/03/2015 Issue No: 2 Version Start Date: 30/07/2004 Version End Date: -
D	213m N	Status: Historical Licence No: 2/27/18/115 Details: Boiler Feed Direct Source: GROUNDWATERS Point: BOREHOLE (1) - MAGNESIAN LIMESTONE - KNOTTINGLEY Data Type: Point Name: KEADBY GENERATION LTD Easting: 447340 Northing: 425450	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 4091 Original Application No: - Original Start Date: 02/01/2002 Expiry Date: 31/03/2015 Issue No: 2 Version Start Date: 30/07/2004 Version End Date: -
D	213m N	Status: Historical Licence No: 2/27/18/115 Details: Boiler Feed Direct Source: GROUNDWATERS Point: BOREHOLE 1 - MAGNESIAN LIMESTONE - KNOTTINGLEY Data Type: Point Name: KEADBY GENERATION LTD Easting: 447340 Northing: 425450	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 4091 Original Application No: - Original Start Date: 02/01/2002 Expiry Date: 31/03/2015 Issue No: 2 Version Start Date: 30/07/2004 Version End Date: -
E	380m N	Status: Historical Licence No: 2/27/18/115/R01 Details: Boiler Feed Direct Source: GROUNDWATERS Point: BOREHOLE B - MAGNESIAN LIMESTONE - KNOTTINGLEY Data Type: Point Name: KEADBY GENERATION LTD Easting: 447261 Northing: 425598	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 4091 Original Application No: - Original Start Date: 01/04/2015 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 01/04/2015 Version End Date: -



ID	Location	Details	
E	403m N	Status: Historical Licence No: 2/27/18/115 Details: Boiler Feed Direct Source: GROUNDWATERS Point: BOREHOLE(2)-MAGNESIAN LIMESTONE-KNOTTINGLEY Data Type: Point Name: KEADBY GENERATION LTD Easting: 447220 Northing: 425600	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 4091 Original Application No: - Original Start Date: 02/01/2002 Expiry Date: 31/03/2015 Issue No: 2 Version Start Date: 30/07/2004 Version End Date: -
E	403m N	Status: Historical Licence No: 2/27/18/115 Details: Boiler Feed Direct Source: GROUNDWATERS Point: BOREHOLE (2) - MAGNESIAN LIMESTONE - KNOTTINGLEY Data Type: Point Name: KEADBY GENERATION LTD Easting: 447220 Northing: 425600	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 4091 Original Application No: - Original Start Date: 02/01/2002 Expiry Date: 31/03/2015 Issue No: 2 Version Start Date: 30/07/2004 Version End Date: -
E	403m N	Status: Historical Licence No: 2/27/18/115 Details: Boiler Feed Direct Source: GROUNDWATERS Point: BOREHOLE 2 - MAGNESIAN LIMESTONE - KNOTTINGLEY Data Type: Point Name: KEADBY GENERATION LTD Easting: 447220 Northing: 425600	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 4091 Original Application No: - Original Start Date: 02/01/2002 Expiry Date: 31/03/2015 Issue No: 2 Version Start Date: 30/07/2004 Version End Date: -
E	414m N	Status: Historical Licence No: 2/27/18/094 Details: Boiler Feed Direct Source: GROUNDWATERS Point: BOREHOLE (2) Data Type: Point Name: EDISON FIRST POWER LTD Easting: 447200 Northing: 425600	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 07/06/1997 Expiry Date: 30/11/2001 Issue No: 101 Version Start Date: 20/07/1999 Version End Date: -



ID	Location	Details	
E	414m N	Status: Historical Licence No: 2/27/18/115 Details: Boiler Feed Direct Source: GROUNDWATERS Point: BOREHOLE (2) - MAGNESIAN LIMESTONE - KNOTTINGLEY Data Type: Point Name: AEP ENERGY SERVICES UK GENERATION LTD Easting: 447200 Northing: 425600	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 02/01/2002 Expiry Date: 31/03/2015 Issue No: 1 Version Start Date: 02/01/2002 Version End Date: -
3	589m NW	Status: Active Licence No: NE/027/0017/034 Details: Spray Irrigation - Direct Direct Source: GROUNDWATERS Point: BOREHOLE - MAGNESIAN LIMESTONE - FERRYBRIDGE GOLF COURSE Data Type: Point Name: Jepson Easting: 446843 Northing: 425504	Annual Volume (m ³): 5964 Max Daily Volume (m ³): 72 Original Application No: NPS/WR/028338 Original Start Date: 08/03/2016 Expiry Date: 31/03/2027 Issue No: 3 Version Start Date: 10/04/2018 Version End Date: -
G	607m NE	Status: Active Licence No: 2/27/18/148/R01 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE - MAGNESIAN LIMESTONE - FERRYBRIDGE Data Type: Point Name: Extex Building Performance Ltd Easting: 447910 Northing: 425700	Annual Volume (m ³): 139128 Max Daily Volume (m ³): 1320 Original Application No: NPS/WR/025112 Original Start Date: 01/04/2015 Expiry Date: 31/03/2027 Issue No: 2 Version Start Date: 09/01/2017 Version End Date: -
G	607m NE	Status: Historical Licence No: 2/27/18/148 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE - MAGNESIAN LIMESTONE - FERRYBRIDGE Data Type: Point Name: Siniat Ltd Easting: 447910 Northing: 425700	Annual Volume (m ³): 463320 Max Daily Volume (m ³): 1320 Original Application No: - Original Start Date: 12/10/2007 Expiry Date: 31/03/2015 Issue No: 2 Version Start Date: 13/12/2012 Version End Date: -



ID	Location	Details	
-	896m NW	Status: Historical Licence No: 2/27/18/115/R01 Details: Boiler Feed Direct Source: GROUNDWATERS Point: BOREHOLE C - MAGNESIAN LIMESTONE - FERRYBRIDGE Data Type: Point Name: KEADBY GENERATION LTD Easting: 446921 Northing: 425993	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 4091 Original Application No: - Original Start Date: 01/04/2015 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 01/04/2015 Version End Date: -
-	968m NW	Status: Historical Licence No: 2/27/18/115 Details: Boiler Feed Direct Source: GROUNDWATERS Point: BOREHOLE(3)-MAGNESIAN LIMESTONE-FERRYBRIDGE Data Type: Point Name: KEADBY GENERATION LTD Easting: 446890 Northing: 426060	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 4091 Original Application No: - Original Start Date: 02/01/2002 Expiry Date: 31/03/2015 Issue No: 2 Version Start Date: 30/07/2004 Version End Date: -
-	968m NW	Status: Historical Licence No: 2/27/18/115 Details: Boiler Feed Direct Source: GROUNDWATERS Point: BOREHOLE (3) - MAGNESIAN LIMESTONE - FERRYBRIDGE Data Type: Point Name: KEADBY GENERATION LTD Easting: 446890 Northing: 426060	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 4091 Original Application No: - Original Start Date: 02/01/2002 Expiry Date: 31/03/2015 Issue No: 2 Version Start Date: 30/07/2004 Version End Date: -
-	968m NW	Status: Historical Licence No: 2/27/18/115 Details: Boiler Feed Direct Source: GROUNDWATERS Point: BOREHOLE 3 - MAGNESIAN LIMESTONE - FERRYBRIDGE Data Type: Point Name: KEADBY GENERATION LTD Easting: 446890 Northing: 426060	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 4091 Original Application No: - Original Start Date: 02/01/2002 Expiry Date: 31/03/2015 Issue No: 2 Version Start Date: 30/07/2004 Version End Date: -



ID	Location	Details	
-	996m NW	Status: Historical Licence No: 2/27/18/094 Details: Boiler Feed Direct Source: GROUNDWATERS Point: BOREHOLE (3) Data Type: Point Name: EDISON FIRST POWER LTD Easting: 446900 Northing: 426100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 07/06/1997 Expiry Date: 30/11/2001 Issue No: 101 Version Start Date: 20/07/1999 Version End Date: -
-	996m NW	Status: Historical Licence No: 2/27/18/115 Details: Boiler Feed Direct Source: GROUNDWATERS Point: BOREHOLE (3) - MAGNESIAN LIMESTONE-FERRYBRIDGE Data Type: Point Name: AEP ENERGY SERVICES UK GENERATION LTD Easting: 446900 Northing: 426100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 02/01/2002 Expiry Date: 31/03/2015 Issue No: 1 Version Start Date: 02/01/2002 Version End Date: -
-	1690m SE	Status: Historical Licence No: 2/27/18/108 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE - SUPERFICIAL DRIFT - FERRYBRIDGE Data Type: Point Name: CAULDON POTTERIES LIMITED Easting: 448870 Northing: 424100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 20/07/1999 Expiry Date: - Issue No: 100 Version Start Date: 20/07/1999 Version End Date: -
-	1690m SE	Status: Historical Licence No: 2/27/18/108 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE - SUPERFICIAL DRIFT - FERRYBRIDGE Data Type: Point Name: CAULDON POTTERIES LIMITED Easting: 448870 Northing: 424100	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 20/07/1999 Expiry Date: - Issue No: 100 Version Start Date: 20/07/1999 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.



5.7 Surface water abstractions

Records within 2000m
23

Licensed surface water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on [page 84 >](#)

ID	Location	Details	
F	571m NE	Status: Historical Licence No: 2/27/18/046 Details: Boiler Feed Direct Source: SURFACE WATER Point: RIVER AIRE-FERRYBRIDGE 'C' POWER STATION Data Type: Point Name: KEADBY GENERATION LTD Easting: 447840 Northing: 425710	Annual Volume (m ³): 50000000 Max Daily Volume (m ³): 238665 Original Application No: - Original Start Date: 24/04/1968 Expiry Date: - Issue No: 104 Version Start Date: 11/03/2008 Version End Date: -
F	571m NE	Status: Historical Licence No: 2/27/18/046 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: SURFACE WATER Point: RIVER AIRE-FERRYBRIDGE 'C' POWER STATION Data Type: Point Name: KEADBY GENERATION LTD Easting: 447840 Northing: 425710	Annual Volume (m ³): 50000000 Max Daily Volume (m ³): 238665 Original Application No: - Original Start Date: 24/04/1968 Expiry Date: - Issue No: 104 Version Start Date: 11/03/2008 Version End Date: -
G	600m NE	Status: Historical Licence No: 2/27/18/036 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: SURFACE WATER Point: RIVER AIRE - FERRYBRIDGE 'A' AND 'B' POWER STATION Data Type: Point Name: EDISON FIRST POWER LTD Easting: 447900 Northing: 425700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 101 Version Start Date: 01/07/1999 Version End Date: -



ID	Location	Details	
G	600m NE	Status: Historical Licence No: 2/27/18/036 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER AIRE - FERRYBRIDGE 'A' AND 'B' POWER STATION Data Type: Point Name: EDISON FIRST POWER LTD Easting: 447900 Northing: 425700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 101 Version Start Date: 01/07/1999 Version End Date: -
G	600m NE	Status: Historical Licence No: 2/27/18/046 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: SURFACE WATER Point: RIVER AIRE - FERRYBRIDGE 'C' POWER STATION Data Type: Point Name: EDISON FIRST POWER LTD Easting: 447900 Northing: 425700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 24/04/1968 Expiry Date: - Issue No: 101 Version Start Date: 01/07/1999 Version End Date: -
G	600m NE	Status: Historical Licence No: 2/27/18/046 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER AIRE - FERRYBRIDGE 'C' POWER STATION Data Type: Point Name: EDISON FIRST POWER LTD Easting: 447900 Northing: 425700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 24/04/1968 Expiry Date: - Issue No: 101 Version Start Date: 01/07/1999 Version End Date: -
G	600m NE	Status: Historical Licence No: 2/27/18/036 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: SURFACE WATER Point: RIVER AIRE - FERRYBRIDGE 'A' AND 'B' POWER STATION Data Type: Point Name: AEP ENERGY SERVICES UK GENERATION LIMITED Easting: 447900 Northing: 425700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 102 Version Start Date: 21/12/2001 Version End Date: -



ID	Location	Details	
G	600m NE	Status: Historical Licence No: 2/27/18/036 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER AIRE - FERRYBRIDGE 'A' AND 'B' POWER STATION Data Type: Point Name: AEP ENERGY SERVICES UK GENERATION LIMITED Easting: 447900 Northing: 425700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 102 Version Start Date: 21/12/2001 Version End Date: -
G	600m NE	Status: Historical Licence No: 2/27/18/046 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: SURFACE WATER Point: RIVER AIRE - FERRYBRIDGE 'C' POWER STATION Data Type: Point Name: AEP ENERGY SERVICES UK GENERATION LTD Easting: 447900 Northing: 425700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 24/04/1968 Expiry Date: - Issue No: 102 Version Start Date: 21/12/2001 Version End Date: -
G	600m NE	Status: Historical Licence No: 2/27/18/046 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER AIRE - FERRYBRIDGE 'C' POWER STATION Data Type: Point Name: AEP ENERGY SERVICES UK GENERATION LTD Easting: 447900 Northing: 425700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 24/04/1968 Expiry Date: - Issue No: 102 Version Start Date: 21/12/2001 Version End Date: -
G	601m NE	Status: Active Licence No: 2/27/18/149/R01 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER AIRE - FERRYBRIDGE Data Type: Point Name: Extex Building Performance Ltd Easting: 447890 Northing: 425710	Annual Volume (m ³): 27720 Max Daily Volume (m ³): 1320 Original Application No: NPS/WR/025113 Original Start Date: 01/04/2015 Expiry Date: 31/03/2027 Issue No: 2 Version Start Date: 09/01/2017 Version End Date: -



ID	Location	Details	
G	601m NE	Status: Historical Licence No: 2/27/18/149 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER AIRE - FERRYBRIDGE Data Type: Point Name: Siniat Ltd Easting: 447890 Northing: 425710	Annual Volume (m ³): 27720 Max Daily Volume (m ³): 1320 Original Application No: - Original Start Date: 12/10/2007 Expiry Date: 31/03/2015 Issue No: 2 Version Start Date: 13/12/2012 Version End Date: -
H	696m E	Status: Historical Licence No: 2/27/18/036 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: SURFACE WATER Point: RIVER AIRE - FERRYBRIDGE 'A' & 'B' POWER STATIONS Data Type: Point Name: EDISON FIRST POWER LTD Easting: 448200 Northing: 425200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 101 Version Start Date: 01/07/1999 Version End Date: -
H	696m E	Status: Historical Licence No: 2/27/18/036 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: SURFACE WATER Point: RIVER AIRE - FERRYBRIDGE 'A' & 'B' POWER STATIONS Data Type: Point Name: AEP ENERGY SERVICES UK GENERATION LIMITED Easting: 448200 Northing: 425200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 102 Version Start Date: 21/12/2001 Version End Date: -
-	867m E	Status: Historical Licence No: 2/27/18/036 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: SURFACE WATER Point: RIVER AIRE - FERRYBRIDGE POWER STATIONS 'A' & 'B' Data Type: Point Name: EDISON FIRST POWER LTD Easting: 448300 Northing: 424900	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 101 Version Start Date: 01/07/1999 Version End Date: -



ID	Location	Details	
-	867m E	Status: Historical Licence No: 2/27/18/036 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: SURFACE WATER Point: RIVER AIRE - FERRYBRIDGE POWER STATIONS 'A' & 'B' Data Type: Point Name: AEP ENERGY SERVICES UK GENERATION LIMITED Easting: 448300 Northing: 424900	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 102 Version Start Date: 21/12/2001 Version End Date: -
-	1142m N	Status: Historical Licence No: 2/27/18/119 Details: Dust suppression Direct Source: SURFACE WATER Point: RIVER AIRE (SOUTH BANK)-HOOK MOOR-FERRYBRIDGE Data Type: Line Name: MCALPINE CAPITAL PROJECTS LTD Easting: 447310 Northing: 426410	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/04/2004 Expiry Date: 31/12/2005 Issue No: 1 Version Start Date: 16/04/2004 Version End Date: -
-	1198m SE	Status: Active Licence No: NE/027/0018/039 Details: Supply To A Canal For Throughflow Direct Source: SURFACE WATER Point: RIVER AIRE AT KNOTTINGLEY Data Type: Point Name: Canal and River Trust Easting: 448500 Northing: 424458	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: NPS/WR/036079 Original Start Date: 31/03/2021 Expiry Date: 31/03/2027 Issue No: 2 Version Start Date: 10/11/2023 Version End Date: -
-	1347m N	Status: Historical Licence No: 2/27/18/119 Details: Dust suppression Direct Source: SURFACE WATER Point: RIVER AIRE Data Type: Line Name: MCALPINE CAPITAL PROJECTS LTD Easting: 447160 Northing: 426700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/04/2004 Expiry Date: 31/12/2005 Issue No: 1 Version Start Date: 16/04/2004 Version End Date: -



ID	Location	Details	
-	1380m SE	Status: Active Licence No: NE/027/0018/039 Details: Supply To A Canal For Throughflow Direct Source: SURFACE WATER Point: RIVER AIRE AT KNOTTINGLEY WAKEFIELD Data Type: Point Name: Canal and River Trust Easting: 448669 Northing: 424391	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: NPS/WR/036079 Original Start Date: 31/03/2021 Expiry Date: 31/03/2027 Issue No: 2 Version Start Date: 10/11/2023 Version End Date: -
-	1380m SE	Status: Historical Licence No: NE/027/0018/039 Details: Transfer Between Sources (Post Water Act 2003) Direct Source: SURFACE WATER Point: RIVER AIRE AT KNOTTINGLEY WAKEFIELD Data Type: Point Name: Canal and River Trust Easting: 448669 Northing: 424391	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 31/03/2021 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 31/03/2021 Version End Date: -
-	1429m N	Status: Historical Licence No: 2/27/18/119 Details: Dust suppression Direct Source: SURFACE WATER Point: RIVER AIRE Data Type: Line Name: MCALPINE CAPITAL PROJECTS LTD Easting: 447200 Northing: 426700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/04/2004 Expiry Date: 31/12/2005 Issue No: 1 Version Start Date: 16/04/2004 Version End Date: -
-	1429m N	Status: Historical Licence No: 2/27/18/119 Details: Dust suppression Direct Source: SURFACE WATER Point: RIVER AIRE (NORTH BANK)-HOOK MOOR-FERRYBRIDGE Data Type: Line Name: MCALPINE CAPITAL PROJECTS LTD Easting: 447200 Northing: 426700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/04/2004 Expiry Date: 31/12/2005 Issue No: 1 Version Start Date: 16/04/2004 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.



5.8 Potable abstractions

Records within 2000m

0

Licensed potable water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.9 Source Protection Zones

Records within 500m

0

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.10 Source Protection Zones (confined aquifer)

Records within 500m

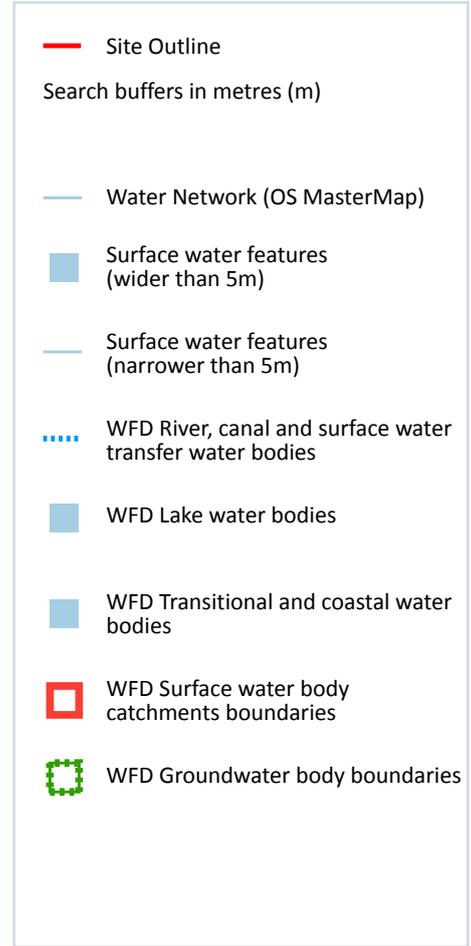
0

Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

This data is sourced from the Environment Agency and Natural Resources Wales.



6 Hydrology



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6.1 Water Network (OS MasterMap)

Records within 250m

4

Detailed water network of Great Britain showing the flow and precise central course of every river, stream, lake and canal.

Features are displayed on the Hydrology map on [page 102 >](#)

ID	Location	Type of water feature	Ground level	Permanence	Name
1	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Fryston Beck

ID	Location	Type of water feature	Ground level	Permanence	Name
3	47m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
5	159m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Fryston Beck
6	236m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Fryston Beck

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

1

Covering rivers, streams and lakes (some overlap with OS MasterMap Water Network data in previous section) but additionally covers smaller features such as ponds. Rivers and streams narrower than 5m are represented as a single line. Lakes, ponds and rivers or streams wider than 5m are represented as polygons.

Features are displayed on the Hydrology map on [page 102 >](#)

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site

1

The Water Framework Directive is an EU-led framework for the protection of inland surface waters, estuaries, coastal waters and groundwater through river basin-level management planning. In terms of surface water, these basins are broken down into smaller units known as management, operational and water body catchments.

Features are displayed on the Hydrology map on [page 102 >](#)

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
A	On site	River	Aire from River Calder to River Ouse	GB104027062760	Aire Lower	Aire and Calder

This data is sourced from the Environment Agency and Natural Resources Wales.



6.4 WFD Surface water bodies

Records identified

1

Surface water bodies under the Directive may be rivers, lakes, estuary or coastal. To achieve the purpose of the Directive, environmental objectives have been set and are reported on for each water body. The progress towards delivery of the objectives is then reported on by the relevant competent authorities at the end of each six-year cycle. The river water body directly associated with the catchment listed in the previous section is detailed below, along with any lake, canal, coastal or artificial water body within 250m of the site. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each water body listed.

Features are displayed on the Hydrology map on [page 102 >](#)

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
2	On site	River	Aire from River Calder to River Ouse	GB104027062760 ↗	Moderate	Fail	Moderate	2019

This data is sourced from the Environment Agency and Natural Resources Wales.

6.5 WFD Groundwater bodies

Records on site

1

Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

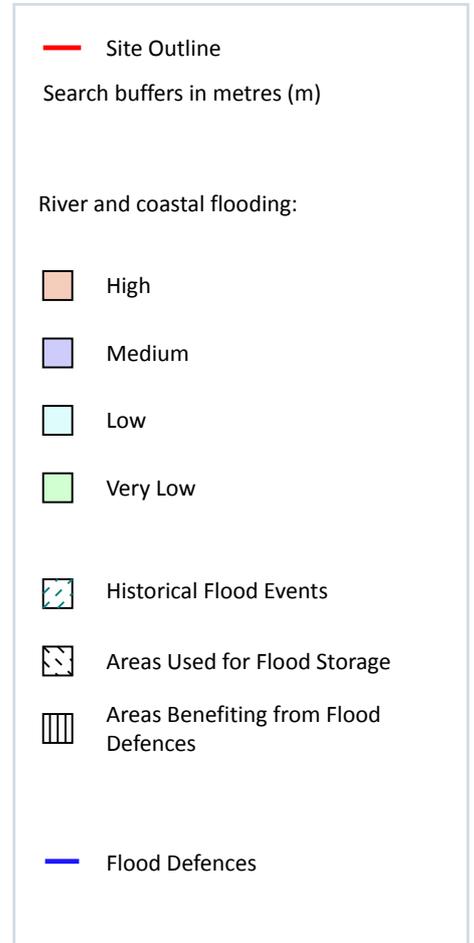
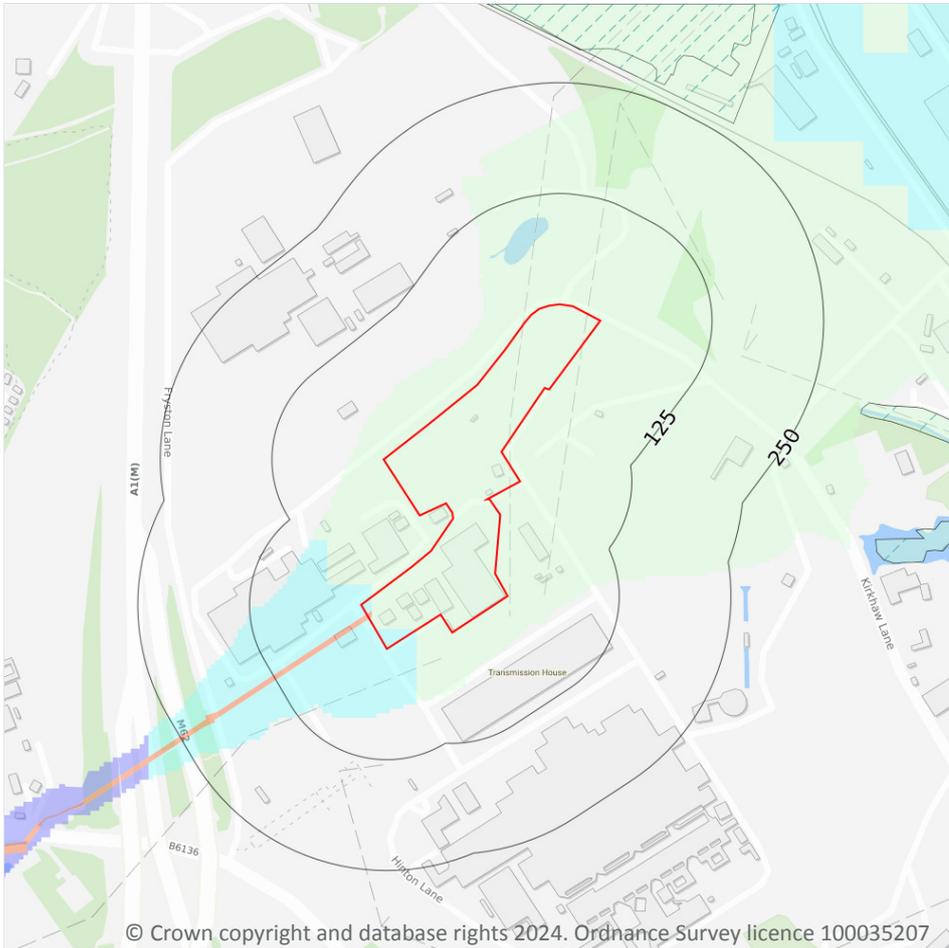
Features are displayed on the Hydrology map on [page 102 >](#)

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	On site	Aire & Don Magnesian Limestone.	GB40401G700900 ↗	Poor	Poor	Good	2019

This data is sourced from the Environment Agency and Natural Resources Wales.



7 River and coastal flooding



7.1 Risk of flooding from rivers and the sea

Records within 50m

4

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m within the Risk of Flooding from Rivers and Sea (RoFRaS)/Flood Risk Assessment Wales (FRAW) models. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition. The risk categories for RoFRaS for rivers and the sea and FRAW for rivers are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance). The risk categories for FRAW for the sea are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 200 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 200 chance) or High (greater than or equal to 1 in 30 chance).

Features are displayed on the River and coastal flooding map on [page 105 >](#)

Distance	Flood risk category
On site	High
0 - 50m	High

This data is sourced from the Environment Agency and Natural Resources Wales.

7.2 Historical Flood Events

Records within 250m **0**

Records of historic flooding from rivers, the sea, groundwater and surface water. Records began in 1946 when predecessor bodies started collecting detailed information about flooding incidents, although limited details may be included on flooding incidents prior to this date. Takes into account the presence of defences, structures, and other infrastructure where they existed at the time of flooding, and includes flood extents that may have been affected by overtopping, breaches or blockages.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.3 Flood Defences

Records within 250m **0**

Records of flood defences owned, managed or inspected by the Environment Agency and Natural Resources Wales. Flood defences can be structures, buildings or parts of buildings. Typically these are earth banks, stone and concrete walls, or sheet-piling that is used to prevent or control the extent of flooding.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.4 Areas Benefiting from Flood Defences

Records within 250m **0**

Areas that would benefit from the presence of flood defences in a 1 in 100 (1%) chance of flooding each year from rivers or 1 in 200 (0.5%) chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.5 Flood Storage Areas

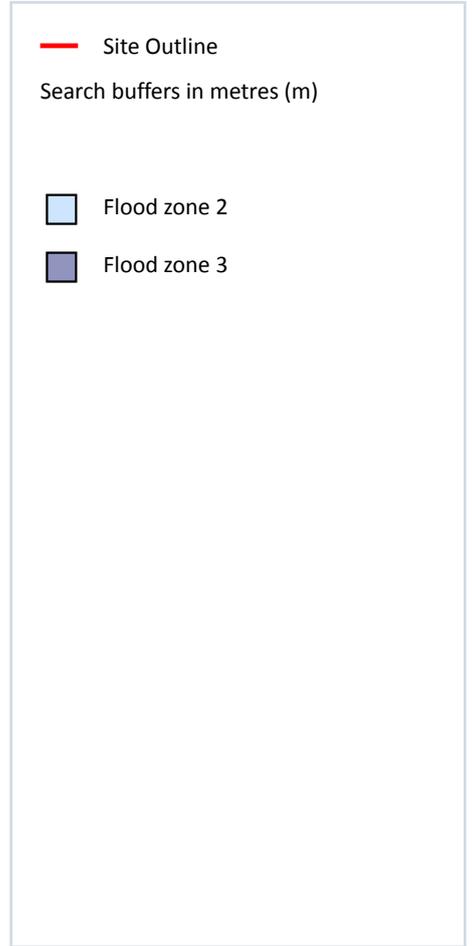
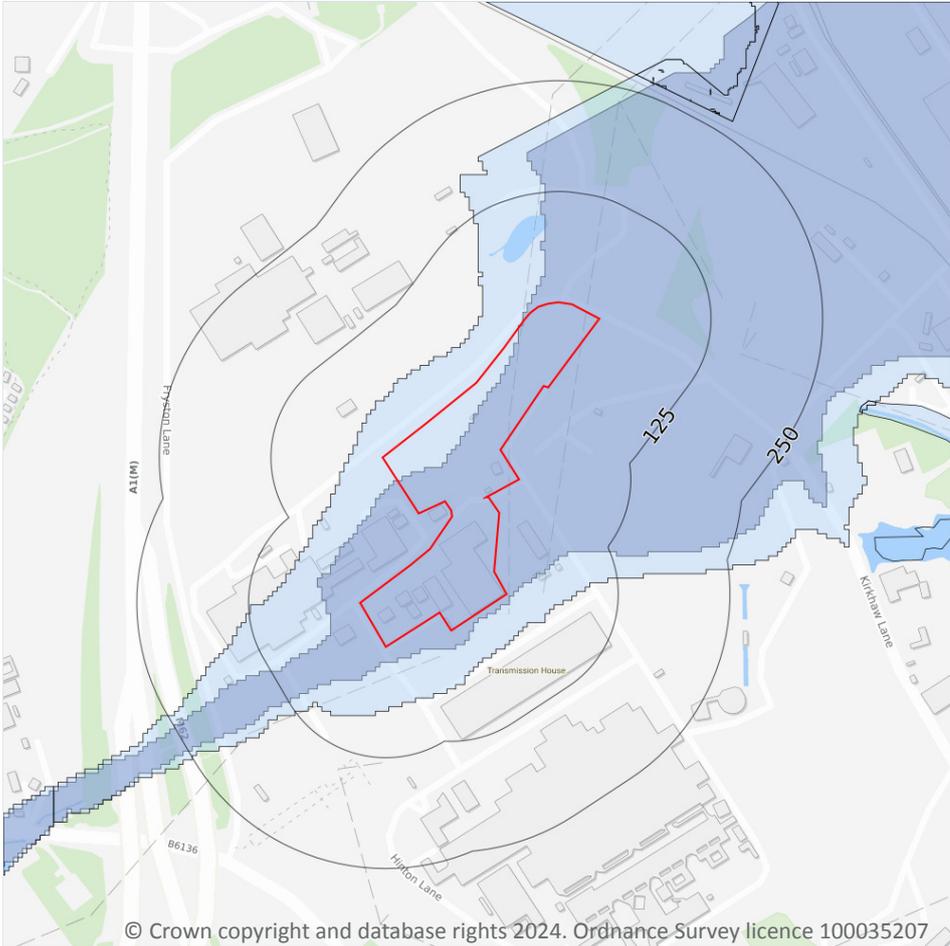
Records within 250m **0**

Areas that act as a balancing reservoir, storage basin or balancing pond to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel or to delay the timing of a flood peak so that its volume is discharged over a longer period.

This data is sourced from the Environment Agency and Natural Resources Wales.



River and coastal flooding - Flood Zones



7.6 Flood Zone 2

Records within 50m

1

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land between Flood Zone 3 (see next section) and the extent of the flooding from rivers or the sea with a 1 in 1000 (0.1%) chance of flooding each year.

Features are displayed on the River and coastal flooding map on [page 105 >](#)

Location	Type
On site	Zone 2 - (Fluvial /Tidal Models)

This data is sourced from the Environment Agency and Natural Resources Wales.

7.7 Flood Zone 3

Records within 50m

1

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

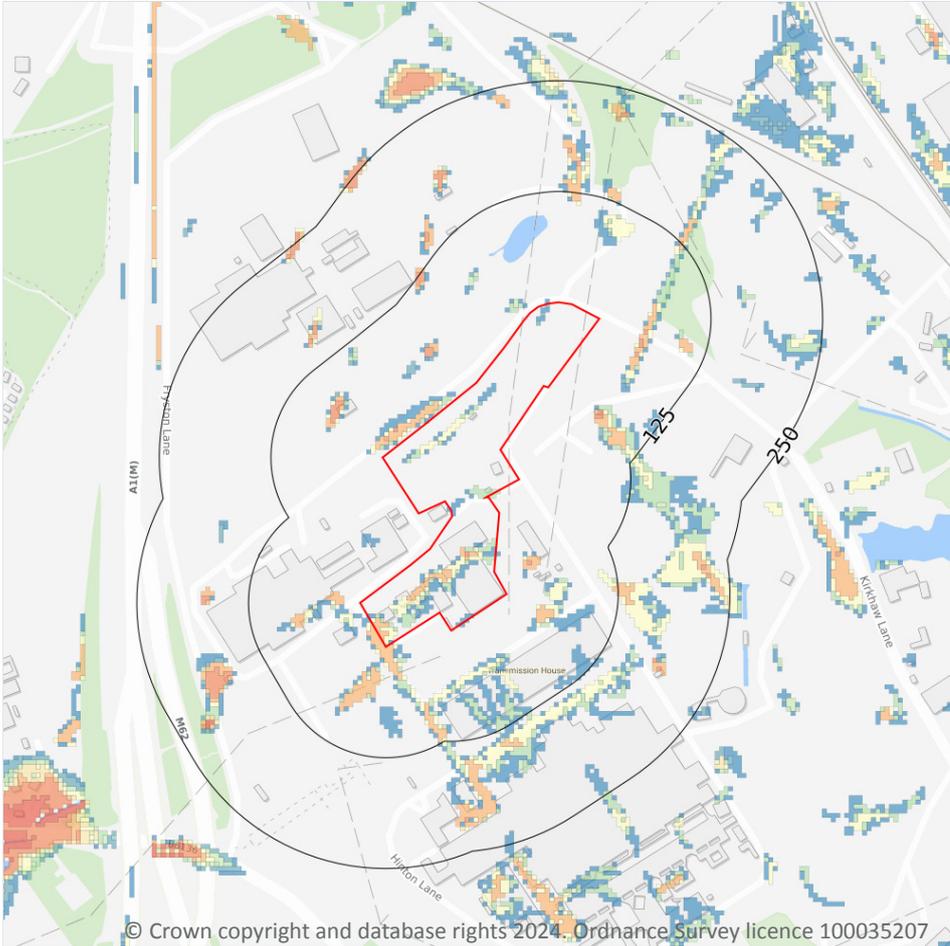
Features are displayed on the River and coastal flooding map on [page 105 >](#)

Location	Type
On site	Zone 3 - (Fluvial Models)

This data is sourced from the Environment Agency and Natural Resources Wales.



8 Surface water flooding



8.1 Surface water flooding

Highest risk on site

1 in 30 year, 0.3m - 1.0m

Highest risk within 50m

1 in 30 year, 0.3m - 1.0m

Ambiental Risk Analytics surface water (pluvial) FloodMap identifies areas likely to flood as a result of extreme rainfall events, i.e. land naturally vulnerable to surface water ponding or flooding. This data set was produced by simulating 1 in 30 year, 1 in 100 year, 1 in 250 year and 1 in 1,000 year rainfall events. Modern urban drainage systems are typically built to cope with rainfall events between 1 in 20 and 1 in 30 years, though some older ones may flood in a 1 in 5 year rainfall event.

Features are displayed on the Surface water flooding map on [page 109 >](#)

The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

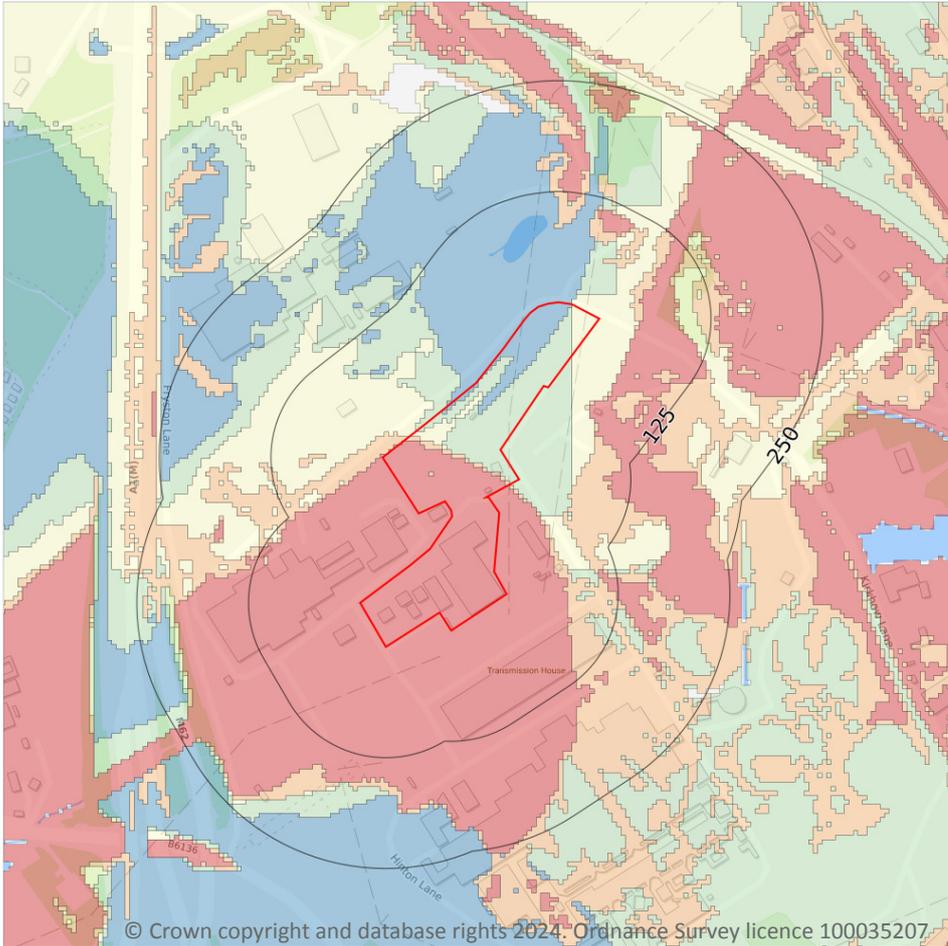
The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Between 0.3m and 1.0m
1 in 250 year	Between 0.3m and 1.0m
1 in 100 year	Between 0.3m and 1.0m
1 in 30 year	Between 0.3m and 1.0m

This data is sourced from Ambiental Risk Analytics.



9 Groundwater flooding



— Site Outline
Search buffers in metres (m)

- High
- Moderate - High
- Moderate
- Low
- Negligible

9.1 Groundwater flooding

Highest risk on site

High

Highest risk within 50m

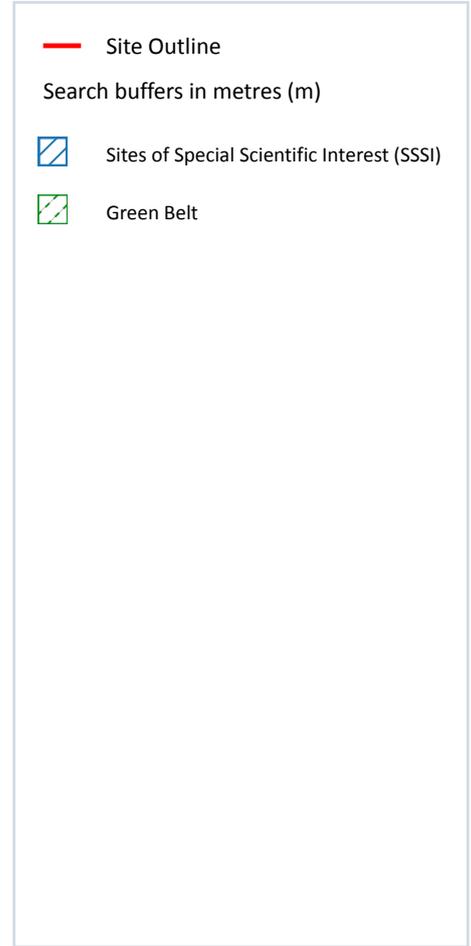
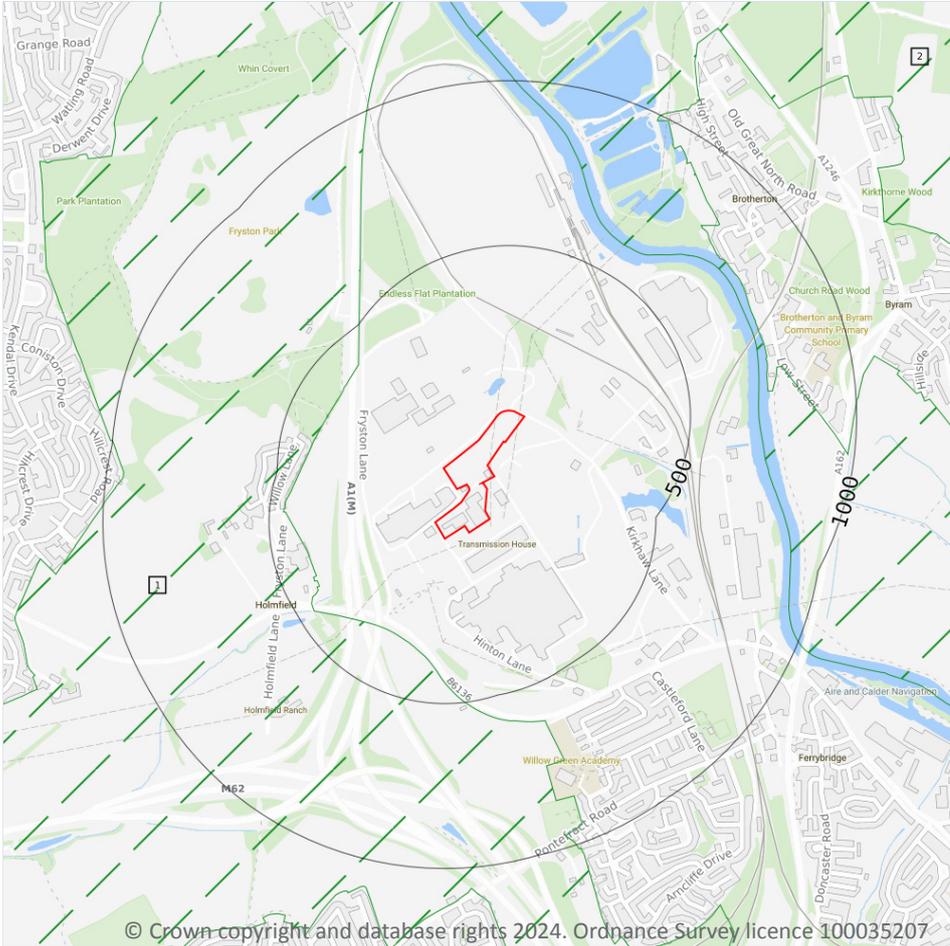
High

Groundwater flooding is caused by unusually high groundwater levels. It occurs when the water table rises above the ground surface or within underground structures such as basements or cellars. Groundwater flooding tends to exhibit a longer duration than surface water flooding, possibly lasting for weeks or months, and as a result it can cause significant damage to property. This risk assessment is based on a 1 in 100 year return period and a 5m Digital Terrain Model (DTM).

Features are displayed on the Groundwater flooding map on [page 111](#) >

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

1

Sites providing statutory protection for the best examples of UK flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were re-notified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and (in Scotland) by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2010.

Features are displayed on the Environmental designations map on [page 112 >](#)

ID	Location	Name	Data source
-	1914m N	Fairburn and Newton Ings	Natural England



This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m

0

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. They cover all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. These sites cover a broad definition of wetland; marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, and even some marine areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.3 Special Areas of Conservation (SAC)

Records within 2000m

0

Areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.4 Special Protection Areas (SPA)

Records within 2000m

0

Sites classified by the UK Government under the EC Birds Directive, SPAs are areas of the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.5 National Nature Reserves (NNR)

Records within 2000m

0

Sites containing examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. They are managed to conserve their habitats, provide special opportunities for scientific study or to provide public recreation compatible with natural heritage interests.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.



10.6 Local Nature Reserves (LNR)

Records within 2000m

0

Sites managed for nature conservation, and to provide opportunities for research and education, or simply enjoying and having contact with nature. They are declared by local authorities under the National Parks and Access to the Countryside Act 1949 after consultation with the relevant statutory nature conservation agency.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.7 Designated Ancient Woodland

Records within 2000m

0

Ancient woodlands are classified as areas which have been wooded continuously since at least 1600 AD. This includes semi-natural woodland and plantations on ancient woodland sites. 'Wooded continuously' does not mean there is or has previously been continuous tree cover across the whole site, and not all trees within the woodland have to be old.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.8 Biosphere Reserves

Records within 2000m

0

Biosphere Reserves are internationally recognised by UNESCO as sites of excellence to balance conservation and socioeconomic development between nature and people. They are recognised under the Man and the Biosphere (MAB) Programme with the aim of promoting sustainable development founded on the work of the local community.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.9 Forest Parks

Records within 2000m

0

These are areas managed by the Forestry Commission designated on the basis of recreational, conservation or scenic interest.

This data is sourced from the Forestry Commission.



10.10 Marine Conservation Zones

Records within 2000m

0

A type of marine nature reserve in UK waters established under the Marine and Coastal Access Act (2009). They are designated with the aim to protect nationally important, rare or threatened habitats and species.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.11 Green Belt

Records within 2000m

2

Areas designated to prevent urban sprawl by keeping land permanently open.

Features are displayed on the Environmental designations map on [page 112 >](#)

ID	Location	Name	Local Authority name
1	324m SW	South and West Yorkshire	Wakefield
2	601m NE	South and West Yorkshire	Selby

This data is sourced from the Ministry of Housing, Communities and Local Government.

10.12 Proposed Ramsar sites

Records within 2000m

0

Ramsar sites are areas listed as a Wetland of International Importance under the Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention) 1971. The sites here supplied have a status of 'Proposed' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m

0

Special Areas of Conservation are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive. Those sites supplied here are those with a status of 'Possible' having been identified for potential adoption under the framework.

This data is sourced from Natural England and Natural Resources Wales.



10.14 Potential Special Protection Areas (pSPA)

Records within 2000m

0

Special Protection Areas (SPAs) are areas designated (or 'classified') under the European Union Wild Birds Directive for the protection of nationally and internationally important populations of wild birds. Those sites supplied here are those with a status of 'Potential' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m

0

Areas where nitrate concentrations in drinking water sources exceeded or was at risk of exceeding the limit of 50 mg/l set by the 1980 EC Drinking Water Directive. Voluntary agricultural measures as a means of reducing the levels of nitrate were introduced by DEFRA as MAFF, with payments being made to farmers who complied. The scheme was started as a pilot in 1990 in ten areas, later implemented within 32 areas. The scheme was closed to further new entrants in 1998, although existing agreements continued for their full term. All Nitrate Sensitive Areas fell within the areas designated as Nitrate Vulnerable Zones (NVZs) in 1996 under the EC Nitrate Directive (91/676/EEC).

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m

6

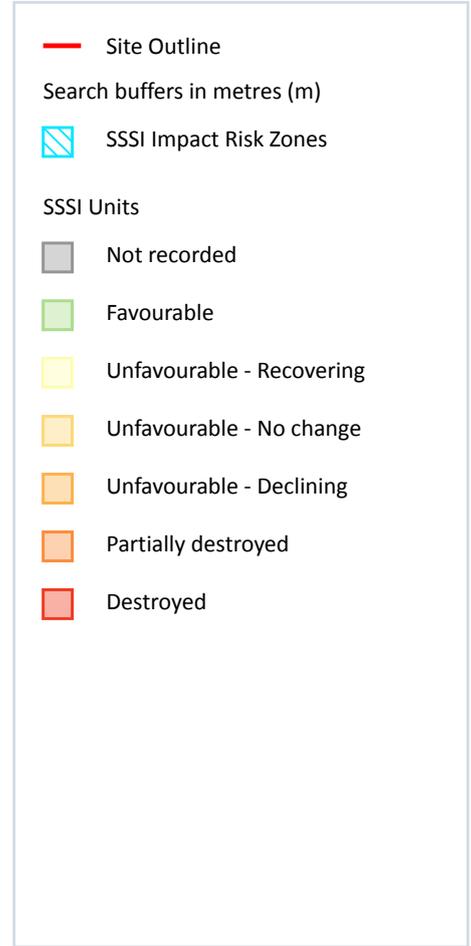
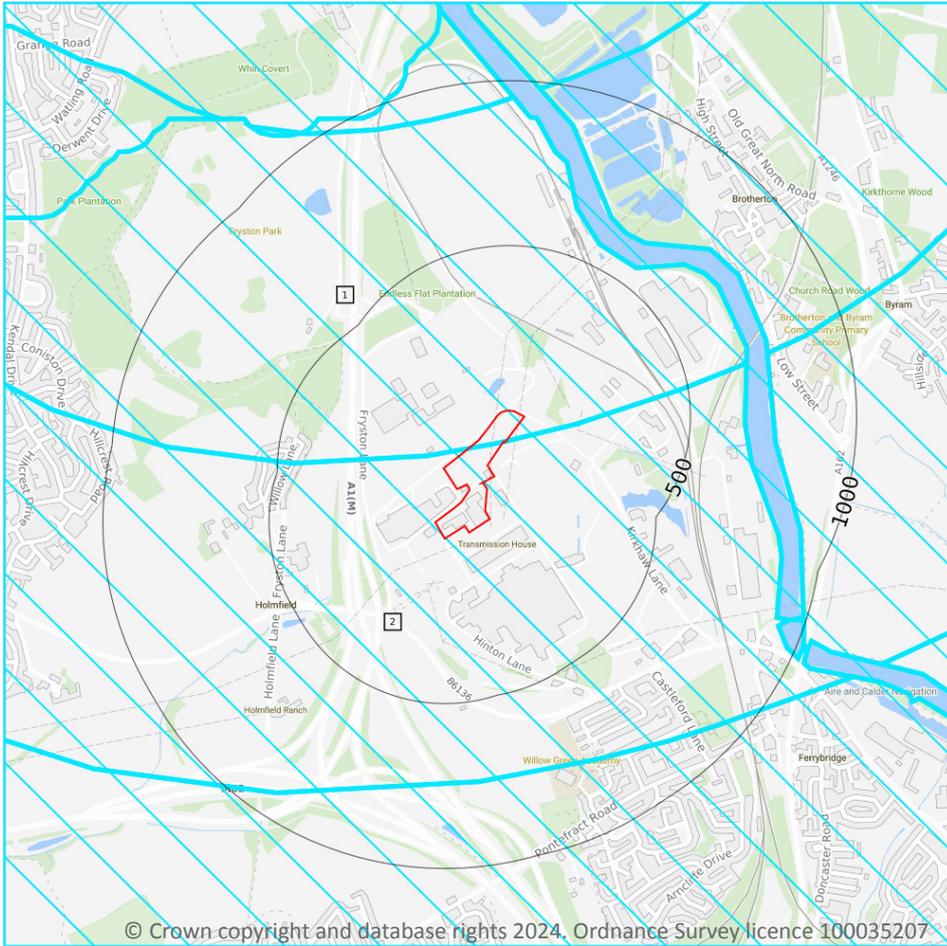
Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

Location	Name	Type	NVZ ID	Status
On site	Aire from River Calder to River Ouse NVZ	Surface Water	274	Existing
On site	Yorkshire Mag Limestone	Groundwater	101	Existing
716m N	Aire from River Calder to River Ouse NVZ	Surface Water	274	Existing
716m N	Yorkshire Mag Limestone	Groundwater	101	Existing
1023m NE	The Fleet from Source to River Aire NVZ	Surface Water	272	Existing
1024m NE	The Fleet from Source to River Aire NVZ	Surface Water	272	Existing

This data is sourced from Natural England and Natural Resources Wales.



SSSI Impact Zones and Units



10.17 SSSI Impact Risk Zones

Records on site

2

Developed to allow rapid initial assessment of the potential risks to SSSIs posed by development proposals. They define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts.

Features are displayed on the SSSI Impact Zones and Units map on [page 117](#) >

ID	Location	Type of developments requiring consultation
1	On site	<p>Infrastructure - Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.</p> <p>Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines.</p> <p>Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.</p> <p>Rural non-residential - Large non residential developments outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m² or footprint exceeds 0.2ha.</p> <p>Residential - Residential development of 50 units or more.</p> <p>Rural residential - Any residential development of 10 or more houses outside existing settlements/urban areas.</p> <p>Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t).</p> <p>Combustion - General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.</p> <p>Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.</p> <p>Composting - Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.</p> <p>Water supply - Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m² or more.</p>
2	On site	<p>Infrastructure - Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.</p> <p>Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines.</p> <p>Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.</p> <p>Rural non-residential - Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha.</p> <p>Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas.</p> <p>Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t.</p> <p>Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.</p>

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m

1

Divisions of SSSIs used to record management and condition details. Units are the smallest areas for which Natural England gives a condition assessment, however, the size of units varies greatly depending on the types of management and the conservation interest.

Features are displayed on the SSSI Impact Zones and Units map on [page 117 >](#)



ID: -
Location: 1914m N
SSSI name: Fairburn and Newton Ings
Unit name: Fairburn & Newton Ings
Broad habitat: Fen, Marsh And Swamp - Lowland
Condition: Unfavourable - Recovering
Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of non-breeding birds - Gadwall, <i>Mareca strepera</i>	Favourable	07/03/2022
Aggregations of non-breeding birds - Mallard, <i>Anas platyrhynchos</i>	-	-
Aggregations of non-breeding birds - Shoveler, <i>Anas clypeata</i>	Favourable	07/03/2022
Aggregations of non-breeding birds - Whooper swan, <i>Cygnus cygnus</i>	-	-
Assemblages of breeding birds - variety of species	Favourable	07/09/2011
Lowland wet neutral grassland (MG11, MG13)	Unfavourable - Recovering	07/09/2011
Lowland wetland including basin fen, valley fen, floodplain fen, waterfringe fen, spring/flush fen and raised bog lagg	Favourable	07/09/2011

This data is sourced from Natural England and Natural Resources Wales.



11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m

0

Sites designated for their globally important cultural or natural interest requiring appropriate management and protection measures. World Heritage Sites are designated to meet the UK's commitments under the World Heritage Convention.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

Areas of Outstanding Natural Beauty (AONB) are conservation areas, chosen because they represent 18% of the finest countryside. Each AONB has been designated for special attention because of the quality of their flora, fauna, historical and cultural associations, and/or scenic views. The National Parks and Access to the Countryside Act of 1949 created AONBs and the Countryside and Rights of Way Act, 2000 added further regulation and protection. There are likely to be restrictions to some developments within these areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

11.3 National Parks

Records within 250m

0

In England and Wales, the purpose of National Parks is to conserve and enhance landscapes within the countryside whilst promoting public enjoyment of them and having regard for the social and economic well-being of those living within them. In Scotland National Parks have the additional purpose of promoting the sustainable use of the natural resources of the area and the sustainable social and economic development of its communities. The National Parks and Access to the Countryside Act 1949 established the National Park designation in England and Wales, and The National Parks (Scotland) Act 2000 in Scotland.

This data is sourced from Natural England, Natural Resources Wales and the Scottish Government.

11.4 Listed Buildings

Records within 250m

0

Buildings listed for their special architectural or historical interest. Building control in the form of 'listed building consent' is required in order to make any changes to that building which might affect its special interest. Listed buildings are graded to indicate their relative importance, however building controls apply to all buildings equally, irrespective of their grade, and apply to the interior and exterior of the building in its entirety, together with any curtilage structures.



This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.5 Conservation Areas

Records within 250m

0

Local planning authorities are obliged to designate as conservation areas any parts of their own area that are of special architectural or historic interest, the character and appearance of which it is desirable to preserve or enhance. Designation of a conservation area gives broader protection than the listing of individual buildings. All the features within the area, listed or otherwise, are recognised as part of its character. Conservation area designation is the means of recognising the importance of all factors and of ensuring that planning decisions address the quality of the landscape in its broadest sense.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.6 Scheduled Ancient Monuments

Records within 250m

0

A scheduled monument is an historic building or site that is included in the Schedule of Monuments kept by the Secretary of State for Digital, Culture, Media and Sport. The regime is set out in the Ancient Monuments and Archaeological Areas Act 1979. The Schedule of Monuments has c.20,000 entries and includes sites such as Roman remains, burial mounds, castles, bridges, earthworks, the remains of deserted villages and industrial sites. Monuments are not graded, but all are, by definition, considered to be of national importance.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.7 Registered Parks and Gardens

Records within 250m

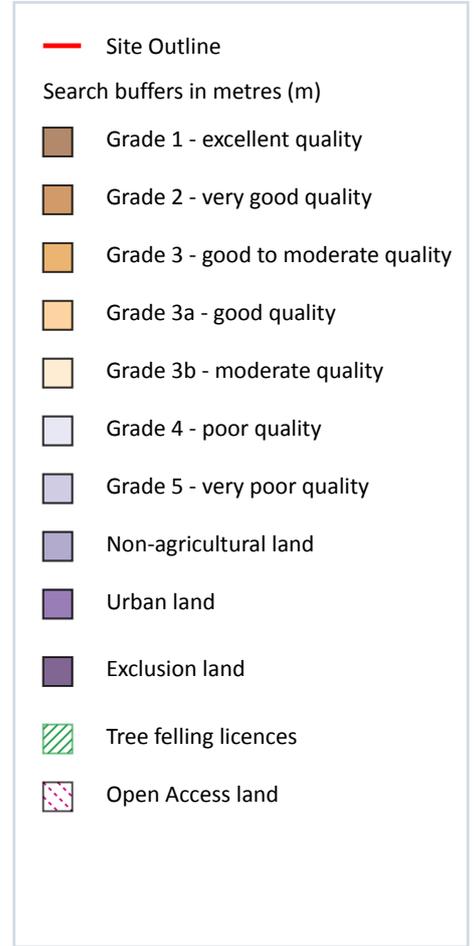
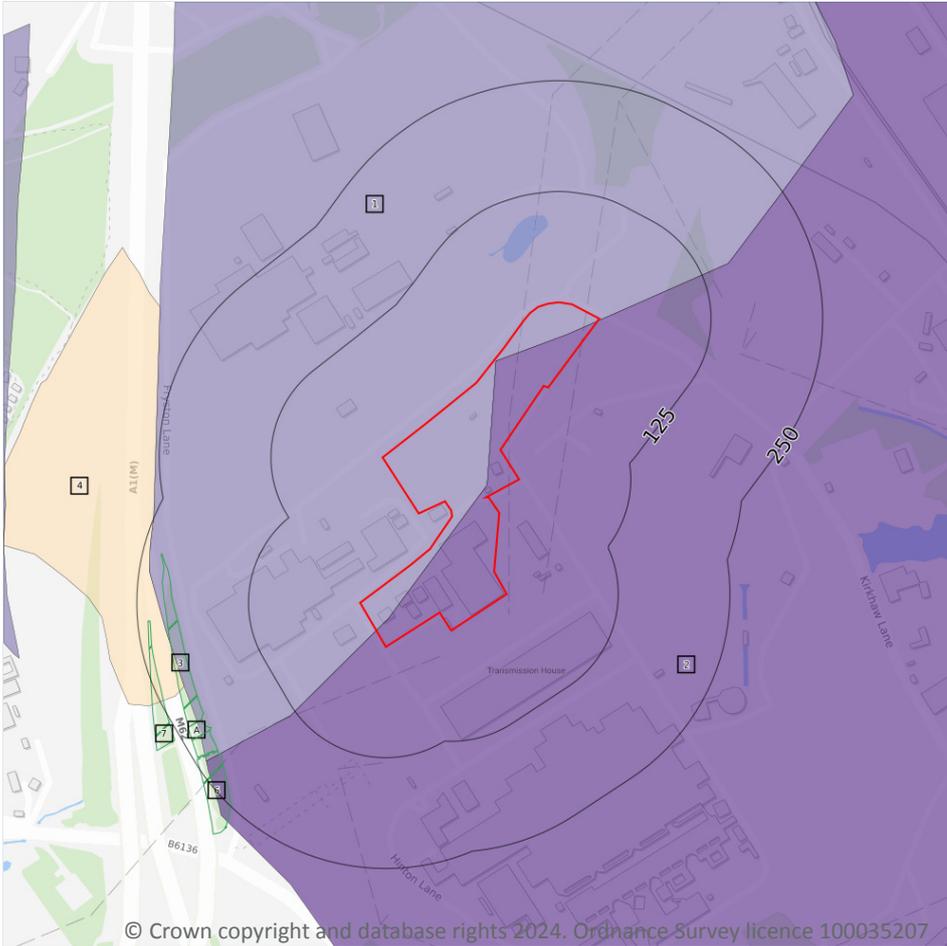
0

Parks and gardens assessed to be of particular interest and of special historic interest. The emphasis being on 'designed' landscapes, rather than on planting or botanical importance. Registration is a 'material consideration' in the planning process, meaning that planning authorities must consider the impact of any proposed development on the special character of the landscape.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.



12 Agricultural designations



12.1 Agricultural Land Classification

Records within 250m

3

Classification of the quality of agricultural land taking into consideration multiple factors including climate, physical geography and soil properties. It should be noted that the categories for the grading of agricultural land are not consistent across England, Wales and Scotland.

Features are displayed on the Agricultural designations map on [page 122 >](#)

ID	Location	Classification	Description
1	On site	Non Agricultural	Non-agricultural/no quality assigned
2	On site	Urban	Non-agricultural/no quality assigned

ID	Location	Classification	Description
4	216m SW	Grade 3b	Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m

0

The Countryside and Rights of Way Act 2000 (CROW Act) gives a public right of access to land without having to use paths. Access land includes mountains, moors, heaths and downs that are privately owned. It also includes common land registered with the local council and some land around the England Coast Path. Generally permitted activities on access land are walking, running, watching wildlife and climbing.

This data is sourced from Natural England and Natural Resources Wales.

12.3 Tree Felling Licences

Records within 250m

5

Felling Licence Application (FLA) areas approved by Forestry Commission England. Anyone wishing to fell trees must ensure that a licence or permission under a grant scheme has been issued by the Forestry Commission before any felling is carried out or that one of the exceptions apply.

Features are displayed on the Agricultural designations map on [page 122 >](#)

ID	Location	Description	Reference	Application date
3	204m SW	Selective Fell/Thin (Unconditional)	018/366/15-16	-
A	215m SW	Selective Fell/Thin (Unconditional)	018/366/15-16	-
A	217m SW	Selective Fell/Thin (Unconditional)	018/366/15-16	-
6	221m SW	Selective Fell/Thin (Unconditional)	018/366/15-16	-
7	236m SW	Selective Fell/Thin (Unconditional)	018/366/15-16	-

This data is sourced from the Forestry Commission.



12.4 Environmental Stewardship Schemes

Records within 250m

0

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. The schemes identified may be historical schemes that have now expired, or may still be active.

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m

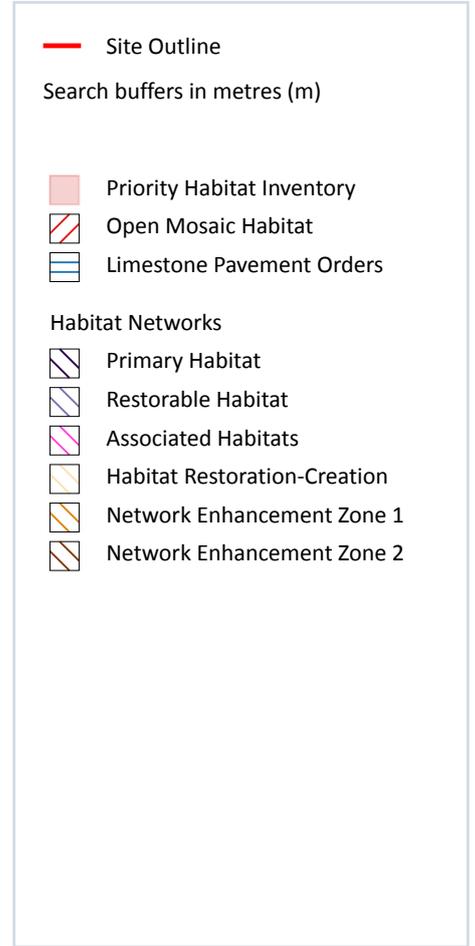
0

Countryside Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. Main objectives are to improve the farmed environment for wildlife and to reduce diffuse water pollution.

This data is sourced from Natural England.



13 Habitat designations



13.1 Priority Habitat Inventory

Records within 250m

0

Habitats of principal importance as named under Natural Environment and Rural Communities Act (2006) Section 41.

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m

2

Habitat networks for 18 priority habitat networks (based primarily, but not exclusively, on the priority habitat inventory) and areas suitable for the expansion of networks through restoration and habitat creation.

Features are displayed on the Habitat designations map on [page 125 >](#)



ID	Location	Type	Habitat
1	144m N	Network Enhancement Zone 2	Not specified
2	180m N	Network Enhancement Zone 1	Not specified

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m

0

Sites verified as Open Mosaic Habitat. Mosaic habitats are brownfield sites that are identified under the UK Biodiversity Action Plan as a priority habitat due to the habitat variation within a single site, supporting an array of invertebrates.

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m

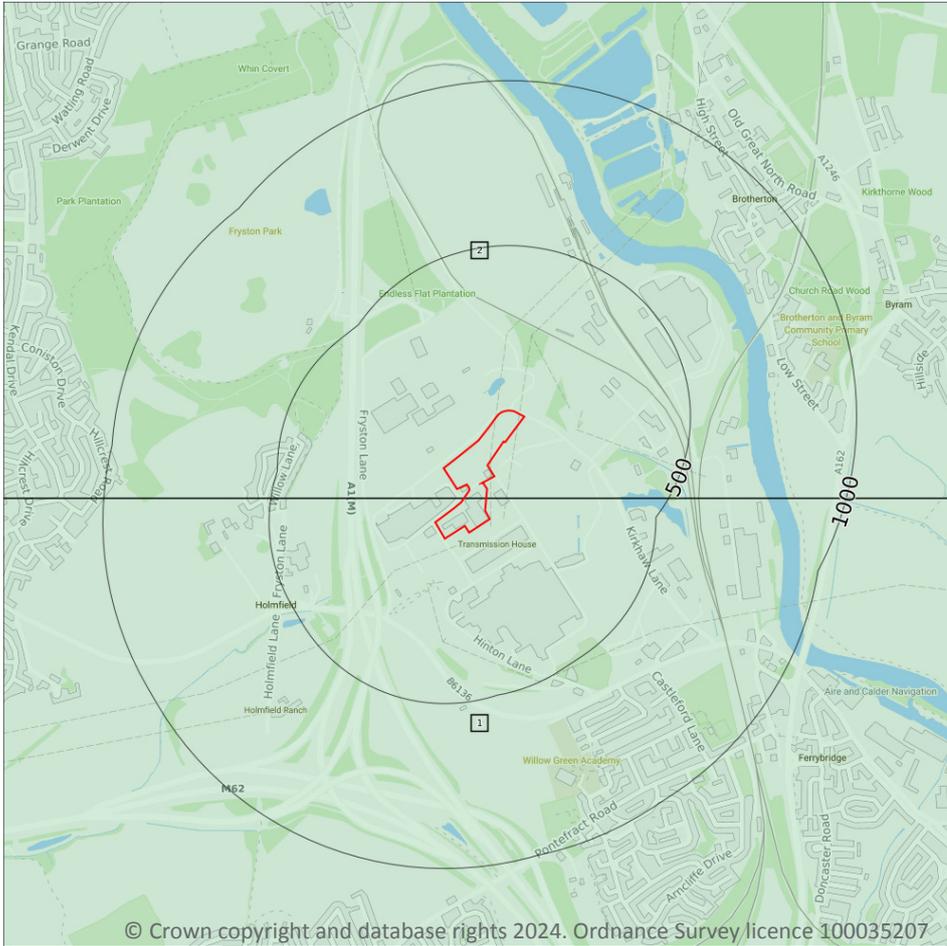
0

Limestone pavements are outcrops of limestone where the surface has been worn away by natural means over millennia. These rocks have the appearance of paving blocks, hence their name. Not only do they have geological interest, they also provide valuable habitats for wildlife. These habitats are threatened due to their removal for use in gardens and water features. Many limestone pavements have been designated as SSSIs which affords them some protection. In addition, Section 34 of the Wildlife and Countryside Act 1981 gave them additional protection via the creation of Limestone Pavement Orders, which made it a criminal offence to remove any part of the outcrop. The associated Limestone Pavement Priority Habitat is part of the UK Biodiversity Action Plan priority habitat in England.

This data is sourced from Natural England.



14 Geology 1:10,000 scale - Availability



— Site Outline
Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

14.1 10k Availability

Records within 500m

2

An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

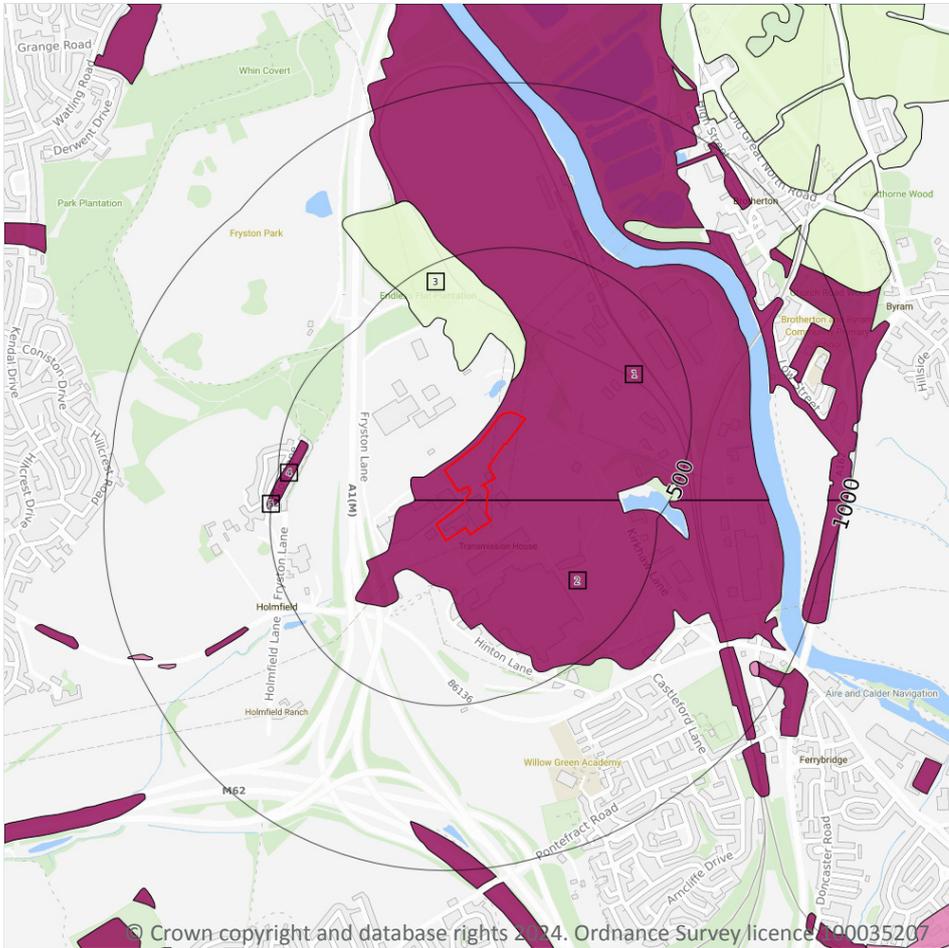
Features are displayed on the Geology 1:10,000 scale - Availability map on [page 127 >](#)

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	No coverage	SE42SE
2	On site	Full	Full	Full	No coverage	SE42NE

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Artificial and made ground



14.2 Artificial and made ground (10k)

Records within 500m

5

Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on [page 128](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	On site	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
3	95m N	WMGR-ARTDP	Infilled Ground	Artificial Deposit
4	417m W	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

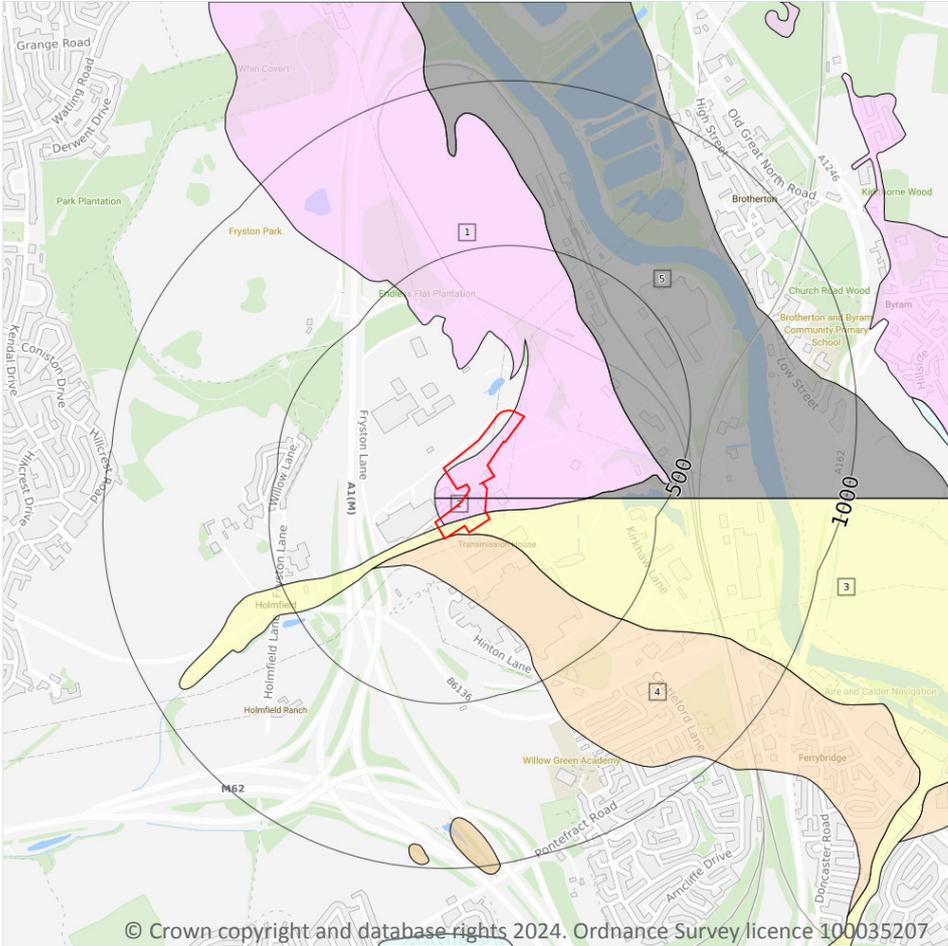


ID	Location	LEX Code	Description	Rock description
5	477m W	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial



- Site Outline
- Search buffers in metres (m)
- Landslip (10k)
- Superficial geology (10k)
Please see table for more details.

14.3 Superficial geology (10k)

Records within 500m

5

Superficial geological deposits at 1:10,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:10,000 scale - Superficial map on [page 130 >](#)

ID	Location	LEX Code	Description	Rock description
1	On site	GFDU-XSV	Glaciofluvial Deposits - Sand And Gravel	Sand And Gravel
2	On site	GFDU-XSV	Glaciofluvial Deposits - Sand And Gravel	Sand And Gravel
3	On site	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
4	On site	BREI-S	Brighton Sand Formation - Sand	Sand



ID	Location	LEX Code	Description	Rock description
5	283m E	ALV-Z	Alluvium - Silt (unlithified Deposits Coding Scheme)	Silt

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

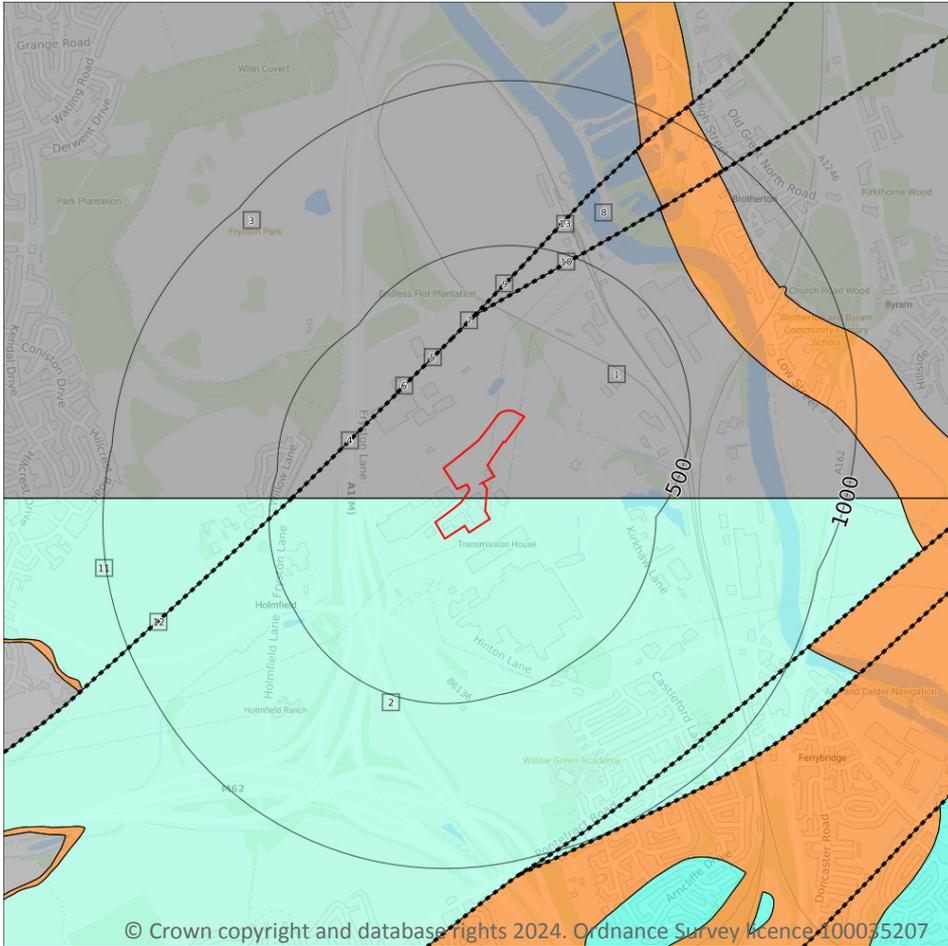
0

Mass movement deposits on BGS geological maps at 1:10,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock



- Site Outline
- Search buffers in metres (m)
- Bedrock faults and other linear features (10k)
- Bedrock geology (10k)
Please see table for more details.

14.5 Bedrock geology (10k)

Records within 500m

5

Bedrock geology at 1:10,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on [page 132](#) >

ID	Location	LEX Code	Description	Rock age
1	On site	CDF-DOLMST	Cadeby Formation - Dolomitic Limestone	Late Permian Epoch [Obsolete name]
2	On site	CDF-DOLO	Cadeby Formation - Dolostone	Late Permian Epoch [Obsolete name]



ID	Location	LEX Code	Description	Rock age
3	260m NW	CDF-DOLMST	Cadeby Formation - Dolomitic Limestone	Late Permian Epoch [Obsolete name]
8	304m N	CDF-DOLMST	Cadeby Formation - Dolomitic Limestone	Late Permian Epoch [Obsolete name]
11	437m W	CDF-DOLO	Cadeby Formation - Dolostone	Late Permian Epoch [Obsolete name]

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

8

Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

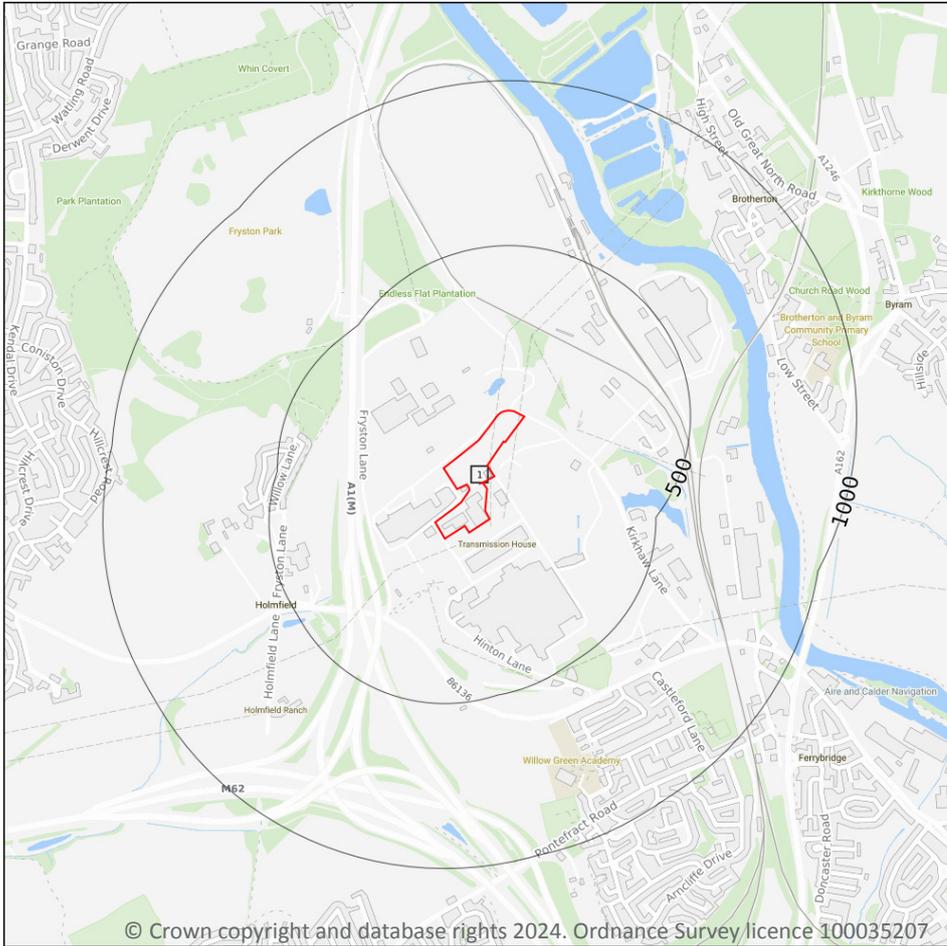
Features are displayed on the Geology 1:10,000 scale - Bedrock map on [page 132 >](#)

ID	Location	Category	Description
4	260m NW	FAULT	Normal fault, inferred
5	262m N	FAULT	Normal fault, inferred
6	264m NW	FAULT	Normal fault, inferred
7	269m N	FAULT	Normal fault, inferred
9	304m N	FAULT	Normal fault, inferred
10	304m N	FAULT	Normal fault, inferred
12	437m W	FAULT	Normal fault, inferred; crossmarks on downthrow side
13	443m N	FAULT	Normal fault, inferred

This data is sourced from the British Geological Survey.



15 Geology 1:50,000 scale - Availability



— Site Outline

Search buffers in metres (m)

○ 100m

○ 500m

○ 1000m

□ Geological map tile

15.1 50k Availability

Records within 500m

1

An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

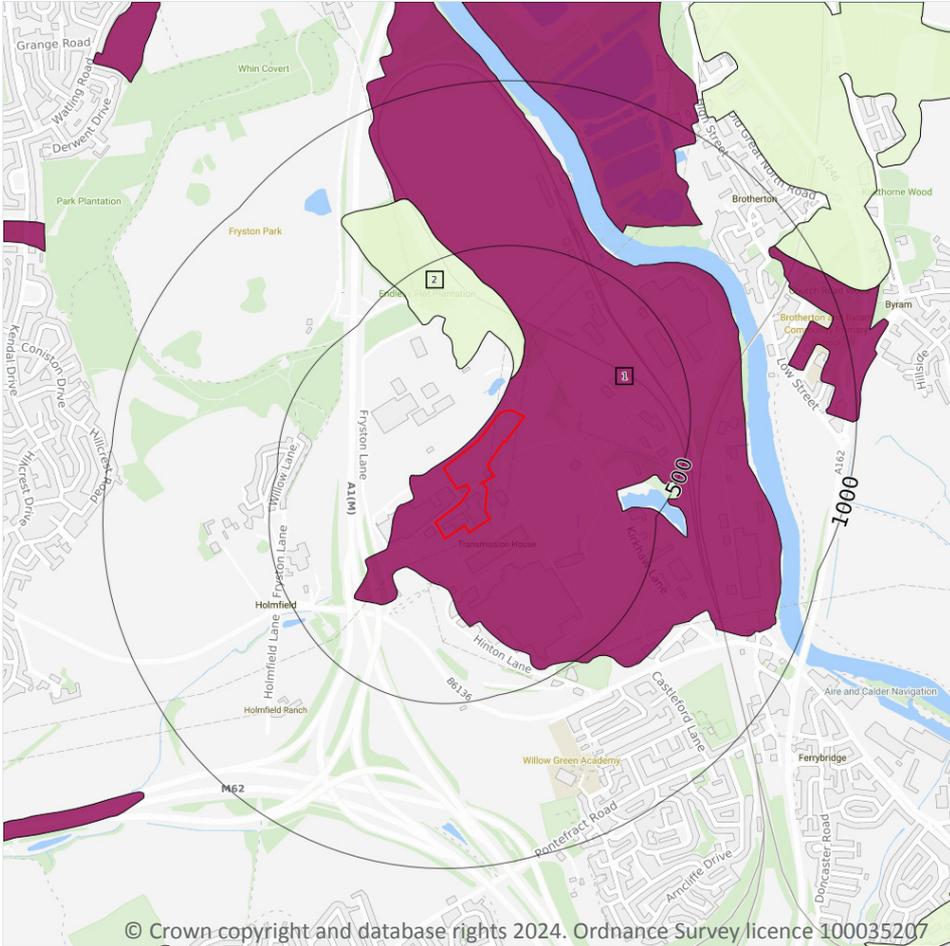
Features are displayed on the Geology 1:50,000 scale - Availability map on [page 134](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW078_wakefield_v4

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Artificial and made ground



15.2 Artificial and made ground (50k)

Records within 500m 2

Details of made, worked, infilled, disturbed and landscaped ground at 1:50,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on [page 135](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
2	95m N	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

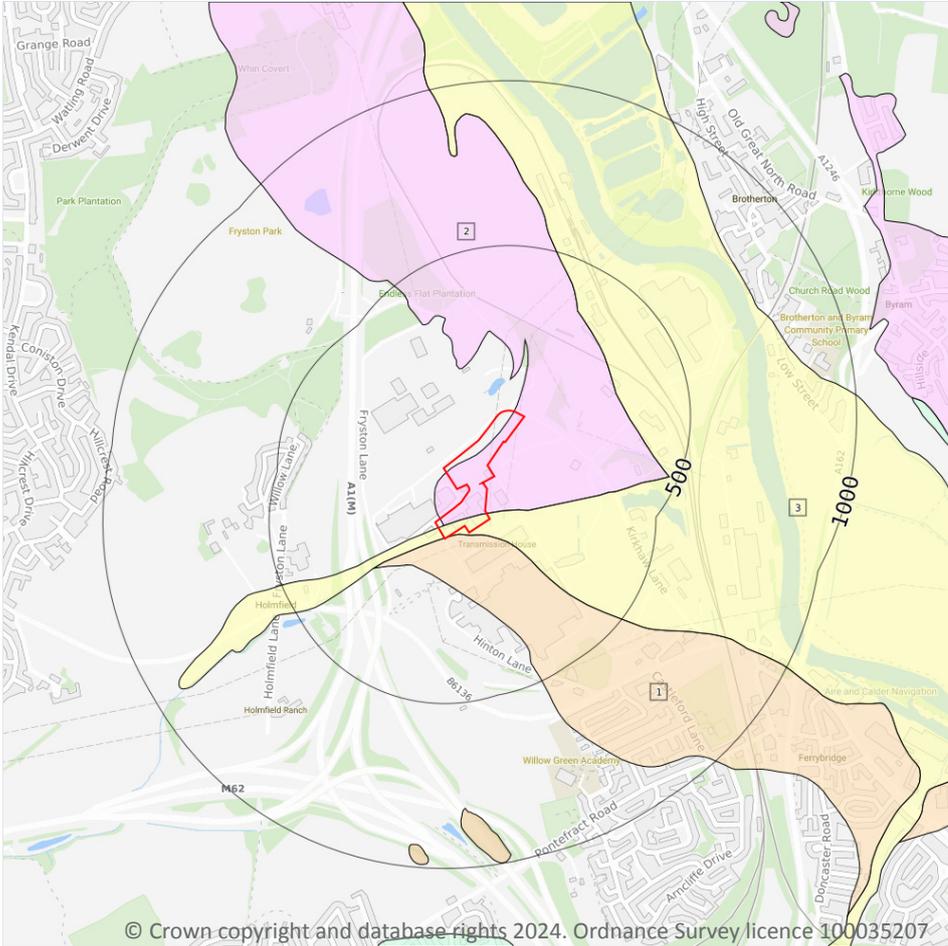
Records within 50m	2
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A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial deposits (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	Mixed	Very High	Low
On site	Mixed	Very High	Low

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



- Site Outline
- Search buffers in metres (m)
- Landslip (50k)
- Superficial geology (50k)
Please see table for more details.

15.4 Superficial geology (50k)

Records within 500m

3

Superficial geological deposits at 1:50,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:50,000 scale - Superficial map on [page 137 >](#)

ID	Location	LEX Code	Description	Rock description
1	On site	BREI-S	BRIGHTON SAND FORMATION	SAND
2	On site	GFDU-XSV	GLACIOFLUVIAL DEPOSITS	SAND AND GRAVEL
3	On site	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL

This data is sourced from the British Geological Survey.



15.5 Superficial permeability (50k)

Records within 50m

4

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any superficial deposits (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	Intergranular	High	Very Low
On site	Intergranular	High	High
On site	Intergranular	Very High	High
On site	Intergranular	Very High	High

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m

0

Mass movement deposits on BGS geological maps at 1:50,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

15.7 Landslip permeability (50k)

Records within 50m

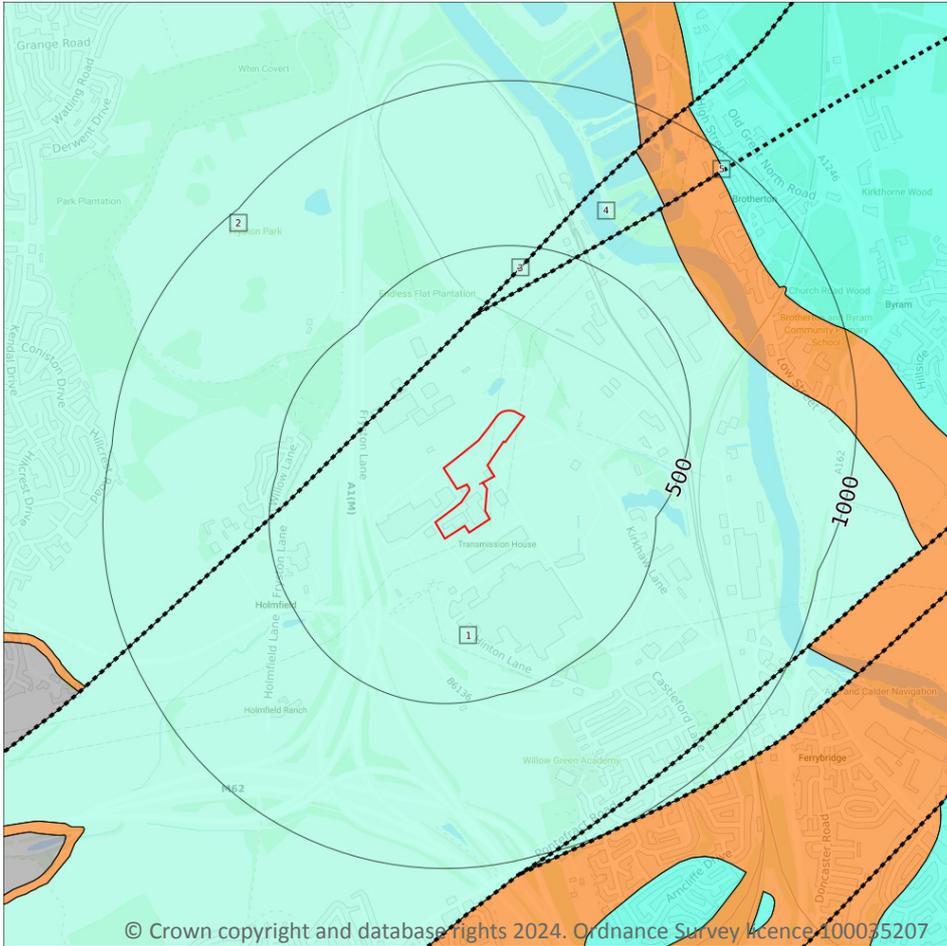
0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any landslip deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Bedrock



- Site Outline
- Search buffers in metres (m)
- Bedrock faults and other linear features (50k)
- Bedrock geology (50k)
Please see table for more details.

15.8 Bedrock geology (50k)

Records within 500m

3

Bedrock geology at 1:50,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on [page 139](#) >

ID	Location	LEX Code	Description	Rock age
1	On site	CDF-DOLO	CADEBY FORMATION - DOLOSTONE	-
2	259m NW	CDF-DOLO	CADEBY FORMATION - DOLOSTONE	-
4	304m N	CDF-DOLO	CADEBY FORMATION - DOLOSTONE	-

This data is sourced from the British Geological Survey.



15.9 Bedrock permeability (50k)

Records within 50m	2
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A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of bedrock (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	Fracture	Very High	High
On site	Fracture	Very High	High

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	2
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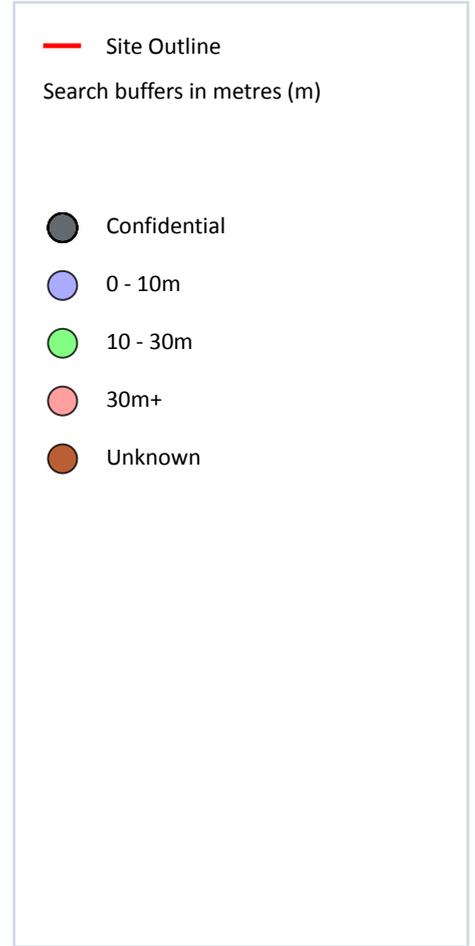
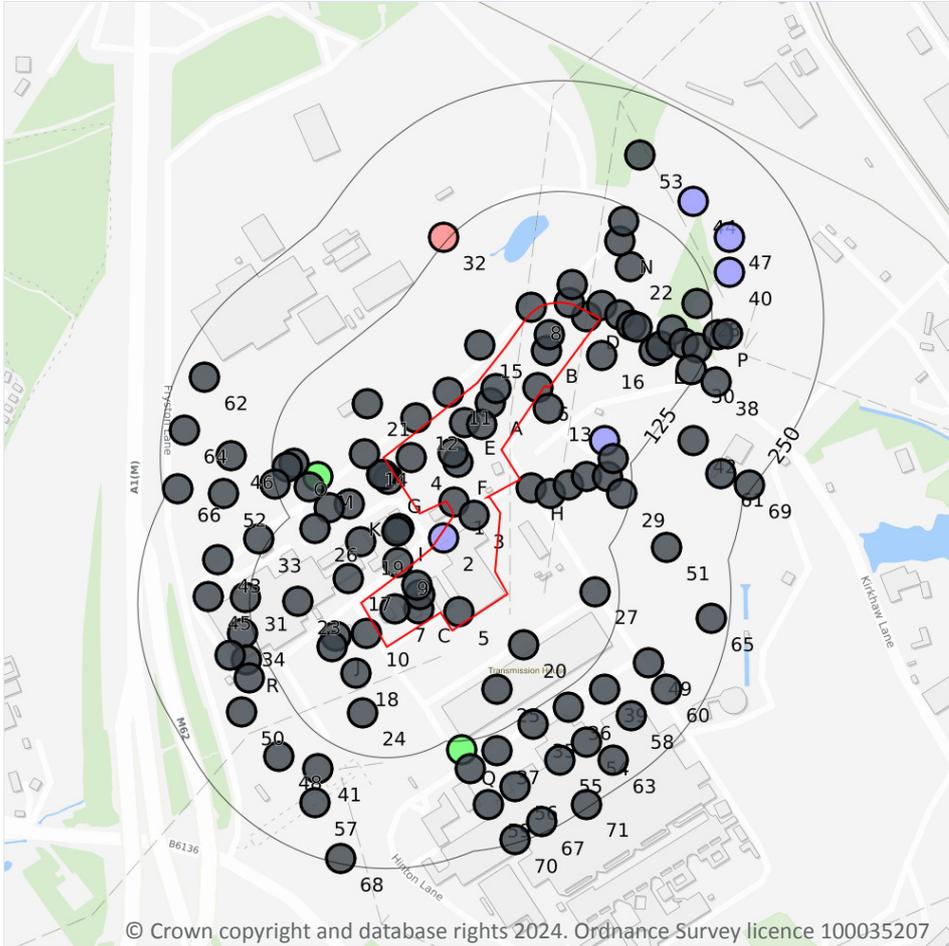
Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on [page 139](#) >

ID	Location	Category	Description
3	259m NW	FAULT	Fault, inferred
5	304m N	FAULT	Fault, inferred

This data is sourced from the British Geological Survey.

16 Boreholes



16.1 BGS Boreholes

Records within 250m

124

The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several thousand metres deep. Features are displayed on the Boreholes map on [page 141](#) >

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	On site	447342 425041	FERRYBRIDGE MULTIFUEL POWERSTATION TP111	-	Y	N/A
2	On site	447330 425000	FERRYBRIDGE POWER STATION 'C'Y7	1.52	N	107746 ↗



ID	Location	Grid reference	Name	Length	Confidential	Web link
3	On site	447364 425026	FERRYBRIDGE MULTIFUEL POWERSTATION BH110	-	Y	N/A
4	On site	447294 425091	FERRYBRIDGE MULTIFUEL POWERSTATION TP102	-	Y	N/A
5	On site	447347 424917	FERRYBRIDGE MULTIFUEL POWERSTATION BH104	-	Y	N/A
6	On site	447436 425170	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 WS629	-	Y	N/A
7	On site	447276 424920	FERRYBRIDGE C POWER STATION	-	Y	N/A
A	On site	447383 425153	FERRYBRIDGE MULTIFUEL POWERSTATION TP103	-	Y	N/A
A	On site	447389 425169	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 WS627	-	Y	N/A
B	On site	447445 425212	FERRYBRIDGE MULTIFUEL POWERSTATION TP104	-	Y	N/A
B	On site	447449 425230	FERRYBRIDGE MULTIFUEL POWERSTATION BH109	-	Y	N/A
C	On site	447302 424920	FERRYBRIDGE C POWER STATION	-	Y	N/A
C	On site	447304 424936	FERRYBRIDGE C POWER STATION	-	Y	N/A
C	On site	447300 424947	FERRYBRIDGE MULTIFUEL POWERSTATION BH103	-	Y	N/A
D	On site	447490 425250	FERRYBRIDGE OVERHEAD POWER LINE 8	-	Y	N/A
E	On site	447354 425131	FERRYBRIDGE MULTIFUEL POWERSTATION BH105	-	Y	N/A
E	On site	447373 425128	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 WS628	-	Y	N/A
F	On site	447346 425086	FERRYBRIDGE MULTI-FUEL POWER STATION BBTP21	-	Y	N/A
F	On site	447341 425096	FERRYBRIDGE MULTI-FUEL POWER STATION BBTP22	-	Y	N/A
D	1m NE	447471 425266	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 WS621	-	Y	N/A
8	6m N	447428 425261	FERRYBRIDGE MULTI-FUEL POWER STATION BBTP1	-	Y	N/A
G	9m W	447268 425066	FERRYBRIDGE MULTI-FUEL POWER STATION BBTP18	-	Y	N/A



ID	Location	Grid reference	Name	Length	Confidential	Web link
G	10m W	447263 425072	FERRYBRIDGE MULTIFUEL POWERSTATION BH113	-	Y	N/A
9	12m SW	447279 424973	FERRYBRIDGE MULTIFUEL POWERSTATION BH102	-	Y	N/A
10	12m SW	447244 424893	FERRYBRIDGE MULTIFUEL POWERSTATION WS102	-	Y	N/A
G	12m W	447261 425072	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 WS625	-	Y	N/A
11	12m N	447336 425165	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 WS620	-	Y	N/A
12	13m NW	447299 425136	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 BH607	-	Y	N/A
D	14m NE	447507 425263	FERRYBRIDGE MULTI-FUEL POWER STATION BBTP24	-	Y	N/A
H	15m E	447428 425057	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 BH602	-	Y	N/A
13	18m NE	447448 425147	FERRYBRIDGE MULTIFUEL POWERSTATION TP405	-	Y	N/A
14	22m W	447242 425095	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 WS619	-	Y	N/A
D	22m NE	447474 425286	FERRYBRIDGE MULTIFUEL POWERSTATION TP105	-	Y	N/A
D	23m NE	447528 425252	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 WS622	-	Y	N/A
15	24m N	447371 425218	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 BH608	-	Y	N/A
16	26m NE	447507 425206	FERRYBRIDGE MULTIFUEL POWERSTATION BH106	-	Y	N/A
I	29m SW	447280 425011	FERRYBRIDGE MULTI-FUEL POWER STATION BBTP20B	-	Y	N/A
17	31m SW	447224 424955	FERRYBRIDGE MULTIFUEL POWERSTATION BH112	-	Y	N/A
I	32m SW	447278 425008	FERRYBRIDGE MULTI-FUEL POWER STATION BBTP20A	-	Y	N/A
D	35m NE	447540 425240	FERRYBRIDGE OVERHEAD POWER LINE 7	-	Y	N/A
H	38m E	447450 425050	FERRYBRIDGE OVERHEAD POWER LINE 11	-	Y	N/A
D	43m NE	447547 425238	FERRYBRIDGE MULTI-FUEL POWER STATION BBBH1	-	Y	N/A
J	43m SW	447210 424890	FERRYBRIDGE C POWER STATION J1	-	Y	N/A



ID	Location	Grid reference	Name	Length	Confidential	Web link
18	46m SW	447232 424848	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 BH611	-	Y	N/A
J	52m SW	447206 424878	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 WS603	-	Y	N/A
H	55m E	447470 425060	FERRYBRIDGE OVERHEAD POWER LINE 10	-	Y	N/A
19	55m SW	447238 424996	FERRYBRIDGE MULTI-FUEL POWER STATION BBTP19	-	Y	N/A
20	58m S	447420 424880	FERRYBRIDGE C POWER STATION E2	-	Y	N/A
21	59m NW	447245 425152	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 WS626	-	Y	N/A
K	60m W	447225 425039	FERRYBRIDGE MULTI-FUEL POWER STATION BBTP17	-	Y	N/A
22	67m NE	447539 425306	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 BH606	-	Y	N/A
L	71m NE	447566 425211	FERRYBRIDGE MULTI-FUEL POWER STATION BBTP2	-	Y	N/A
23	71m SW	447167 424929	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 BH603	-	Y	N/A
L	74m NE	447573 425217	FERRYBRIDGE MULTIFUEL POWERSTATION BH107	-	Y	N/A
H	74m E	447490 425070	FERRYBRIDGE OVERHEAD POWER LINE 12	-	Y	N/A
M	76m W	447190 425070	FERRYBRIDGE 'C' POWER STATION, NOTTINGLEY	30.0	N	13472699 ↗
24	79m SW	447240 424803	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 WS605	-	Y	N/A
L	81m NE	447586 425235	FERRYBRIDGE MULTIFUEL POWERSTATION BH406	-	Y	N/A
K	82m W	447202 425035	FERRYBRIDGE MULTIFUEL POWERSTATION TP101	-	Y	N/A
25	83m S	447390 424830	FERRYBRIDGE C POWER STATION G2	-	Y	N/A
H	86m E	447510 425110	FERRYBRIDGE POWER STATION 'C'Y6	1.82	N	107745 ↗
N	88m NE	447528 425335	FERRYBRIDGE MULTIFUEL POWERSTATION TP106	-	Y	N/A
M	90m W	447180 425058	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 WS618	-	Y	N/A
L	97m NE	447599 425220	FERRYBRIDGE MULTI-FUEL POWER STATION BBTP3	-	Y	N/A
26	98m W	447186 425011	FERRYBRIDGE MULTIFUEL POWERSTATION BH101	-	Y	N/A



ID	Location	Grid reference	Name	Length	Confidential	Web link
27	98m SE	447500 424940	FERRYBRIDGE C POWER STATION C2	-	Y	N/A
H	98m E	447514 425070	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 BH601	-	Y	N/A
O	100m W	447163 425085	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 BH609	-	Y	N/A
H	107m E	447520 425090	FERRYBRIDGE OVERHEAD POWER LINE 9	-	Y	N/A
O	109m W	447155 425080	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 WS624	-	Y	N/A
28	110m NE	447614 425265	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 WS602	-	Y	N/A
N	110m NE	447532 425358	FERRYBRIDGE MULTIFUEL POWERSTATION BH108	-	Y	N/A
L	113m NE	447614 425215	FERRYBRIDGE MULTIFUEL POWERSTATION TP108	-	Y	N/A
29	115m E	447530 425050	FERRYBRIDGE POWER STATION 'C' B1	-	Y	N/A
30	118m NE	447608 425190	FERRYBRIDGE MULTI-FUEL POWER STATION BBTP4	-	Y	N/A
O	125m W	447142 425061	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 WS610	-	Y	N/A
31	130m SW	447108 424933	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 BH605	-	Y	N/A
32	131m N	447330 425340	FERRYBRIDGE POWER STATION A	56.0	N	107639 ↗
P	133m NE	447637 425230	FERRYBRIDGE MULTI-FUEL POWER STATION BBTP5	-	Y	N/A
Q	135m S	447351 424762	FERRY BRIDGE POWER STATION	25.0	N	21296262 ↗
33	136m W	447123 424999	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 WS617	-	Y	N/A
34	137m SW	447105 424893	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 WS623	-	Y	N/A
35	138m S	447430 424790	FERRYBRIDGE C POWER STATION F3	-	Y	N/A
R	143m SW	447110 424863	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 BH604	-	Y	N/A
P	143m NE	447648 425231	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 WS601	-	Y	N/A
36	144m SE	447470 424810	FERRYBRIDGE C POWER STATION E3	-	Y	N/A



ID	Location	Grid reference	Name	Length	Confidential	Web link
37	145m S	447390 424760	FERRYBRIDGE C POWER STATION G3	-	Y	N/A
38	148m E	447635 425176	FERRYBRIDGE MULTIFUEL POWERSTATION BH405	-	Y	N/A
R	150m SW	447113 424843	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 WS614	-	Y	N/A
39	152m SE	447510 424830	FERRYBRIDGE C POWER STATION D3	-	Y	N/A
40	154m NE	447650 425300	FERRYBRIDGE B 27SKV SUBSTN BH2	10.0	N	107753 ↗
Q	157m S	447360 424740	FERRYBRIDGE C POWER STATION H3	-	Y	N/A
41	158m SW	447190 424740	FERRYBRIDGE C POWER STATION K2	-	Y	N/A
R	159m SW	447091 424868	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 WS615	-	Y	N/A
42	166m E	447610 425110	FERRYBRIDGE POWER STATION 'C' A1	-	Y	N/A
43	167m W	447078 424976	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 WS609	-	Y	N/A
44	169m NE	447610 425380	FERRYBRIDGE POWER STATION 'C'Y5	2.74	N	107744 ↗
45	171m SW	447067 424934	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 WS616	-	Y	N/A
46	171m W	447092 425093	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 WS611	-	Y	N/A
47	171m NE	447650 425340	FERRYBRIDGE B 27SKV SUBSTN BH1	10.0	N	107752 ↗
48	173m SW	447146 424754	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 BH613	-	Y	N/A
49	176m SE	447560 424860	FERRYBRIDGE C POWER STATION C3	-	Y	N/A
50	178m SW	447104 424804	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 WS606	-	Y	N/A
51	181m E	447580 424990	FERRYBRIDGE C POWER STATION B2	-	Y	N/A
52	184m W	447084 425050	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 BH610	-	Y	N/A
53	184m NE	447550 425432	FERRYBRIDGE MULTI-FUEL POWER STATION BBTP25	-	Y	N/A
54	188m SE	447490 424770	FERRYBRIDGE C POWER STATION E4	-	Y	N/A
55	188m S	447460 424750	FERRYBRIDGE C POWER STATION F4	-	Y	N/A
56	190m S	447410 424720	FERRYBRIDGE C POWER STATION G4	-	Y	N/A

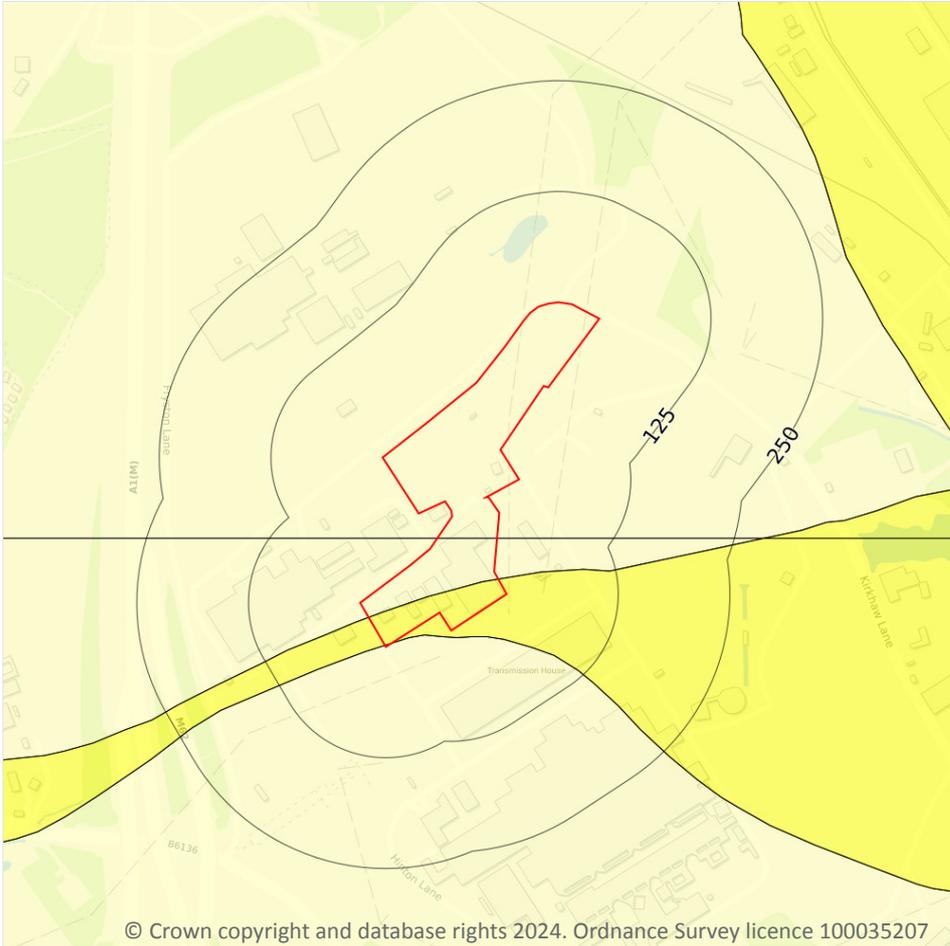


ID	Location	Grid reference	Name	Length	Confidential	Web link
57	193m SW	447186 424702	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 WS607	-	Y	N/A
58	195m SE	447540 424800	FERRYBRIDGE C POWER STATION D4	-	Y	N/A
59	200m S	447380 424700	FERRYBRIDGE C POWER STATION H4	-	Y	N/A
60	208m SE	447580 424830	FERRYBRIDGE C POWER STATION C4	-	Y	N/A
61	213m E	447641 425073	FERRYBRIDGE MULTI-FUEL POWER STATION BBTP7	-	Y	N/A
62	220m W	447063 425182	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 WS613	-	Y	N/A
63	221m SE	447520 424750	FERRYBRIDGE C POWER STATION D5	-	Y	N/A
64	225m W	447040 425122	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 WS612	-	Y	N/A
65	230m SE	447630 424910	FERRYBRIDGE C POWER STATION B3	-	Y	N/A
66	233m W	447033 425056	FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 BH612	-	Y	N/A
67	238m S	447440 424680	FERRYBRIDGE C POWER STATION G5	-	Y	N/A
68	244m S	447215 424639	FERRYBRIDGE MULTI-FUEL POWER STATION BBTP12	-	Y	N/A
69	245m E	447672 425060	FERRYBRIDGE MULTIFUEL POWERSTATION BH403	-	Y	N/A
70	246m S	447410 424660	FERRYBRIDGE C POWER STATION H5	-	Y	N/A
71	246m S	447490 424700	FERRYBRIDGE C POWER STATION F5	-	Y	N/A

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

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17.1 Shrink swell clays

Records within 50m

2

The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and local drainage).

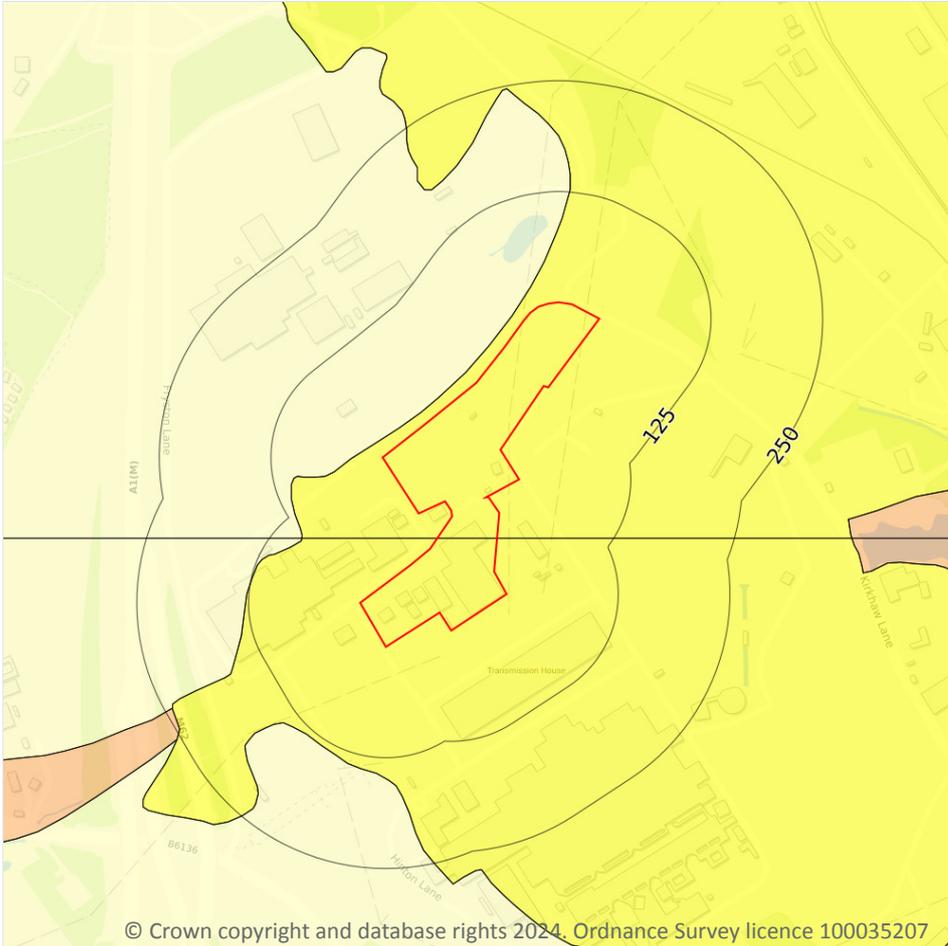
Features are displayed on the Natural ground subsidence - Shrink swell clays map on [page 148 >](#)

Location	Hazard rating	Details
On site	Negligible	Ground conditions predominantly non-plastic.
On site	Very low	Ground conditions predominantly low plasticity.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



— Site Outline
Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.2 Running sands

Records within 50m

2

The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on [page 149](#) >

Location	Hazard rating	Details
On site	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.

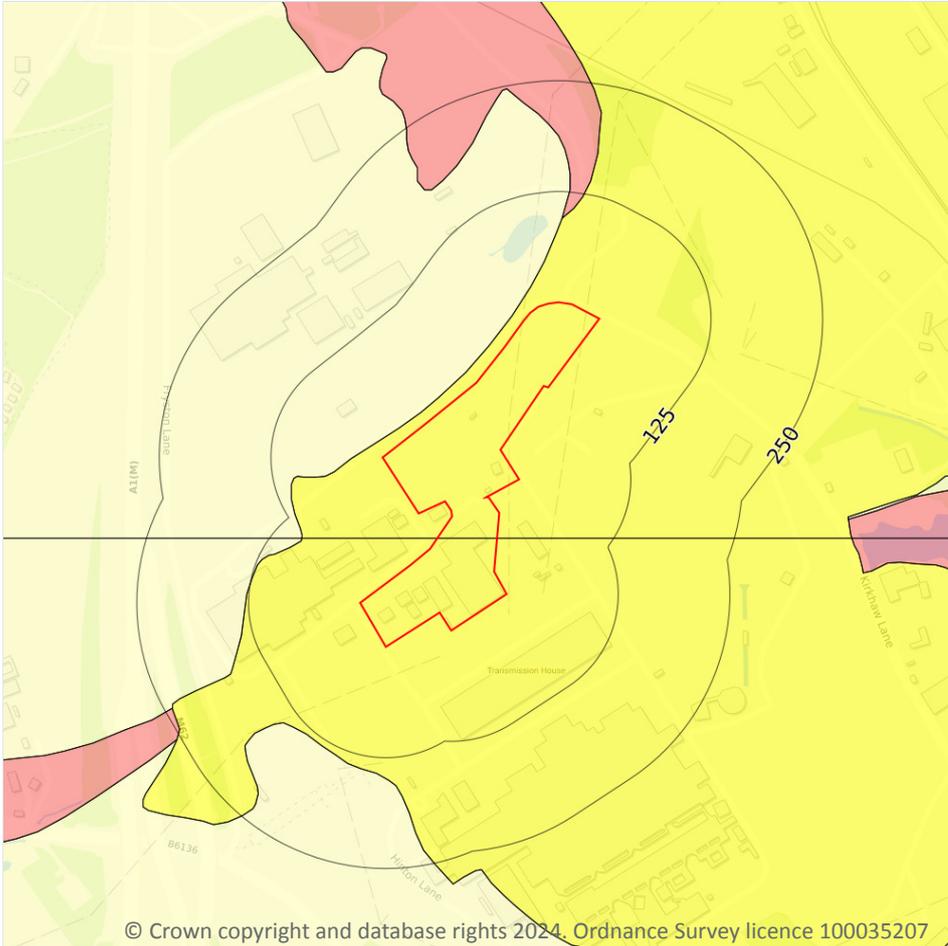


Location	Hazard rating	Details
13m NW	Negligible	Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



— Site Outline
Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.3 Compressible deposits

Records within 50m

2

The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on [page 151](#) >

Location	Hazard rating	Details
On site	Very low	Compressibility and uneven settlement problems are not likely to be significant on the site for most land uses.
13m NW	Negligible	Compressible strata are not thought to occur.



This data is sourced from the British Geological Survey.



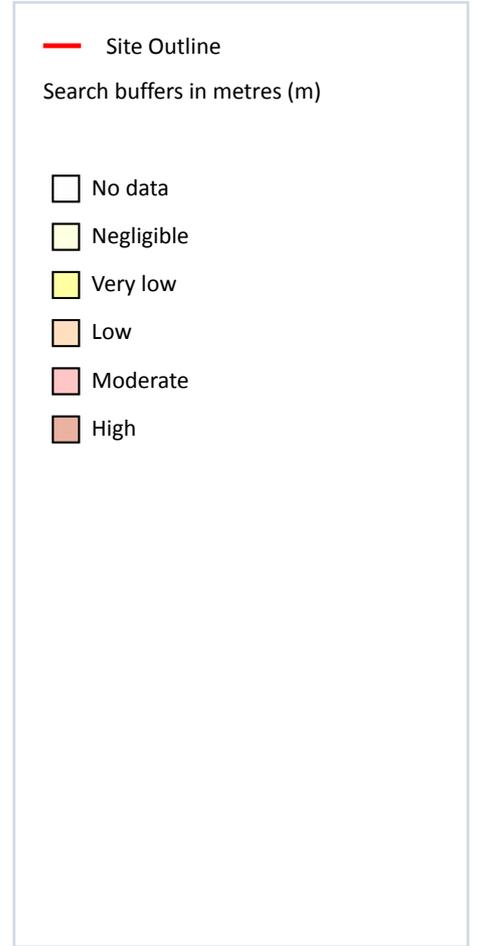
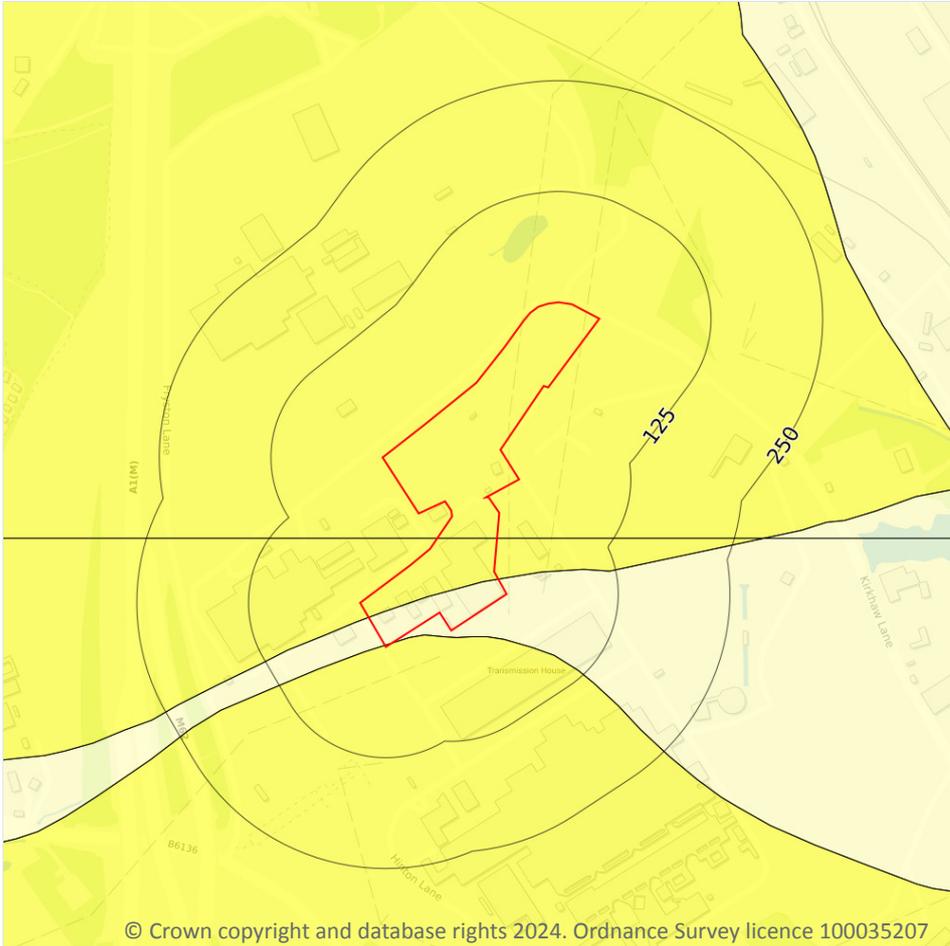
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info@groundsure.com ↗

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Date: 3 October 2024

Natural ground subsidence - Collapsible deposits



17.4 Collapsible deposits

Records within 50m

2

The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

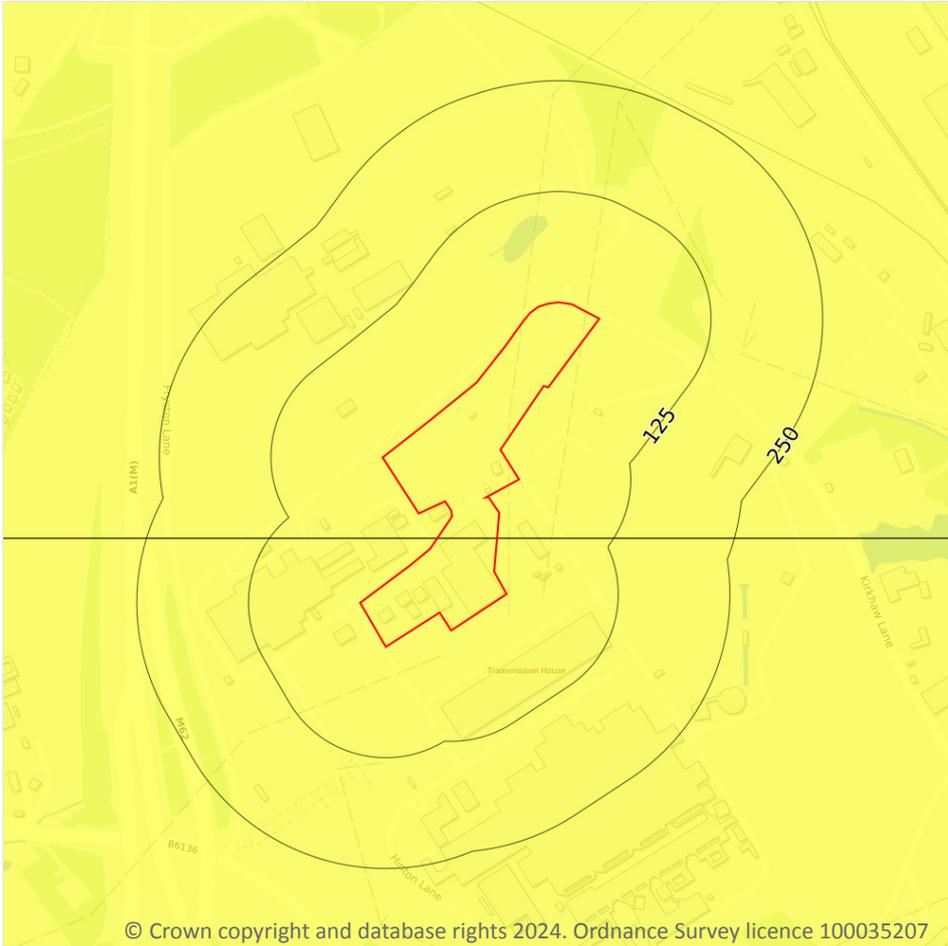
Features are displayed on the Natural ground subsidence - Collapsible deposits map on [page 153 >](#)

Location	Hazard rating	Details
On site	Negligible	Deposits with potential to collapse when loaded and saturated are believed not to be present.
On site	Very low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Landslides



— Site Outline
Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.5 Landslides

Records within 50m

1

The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

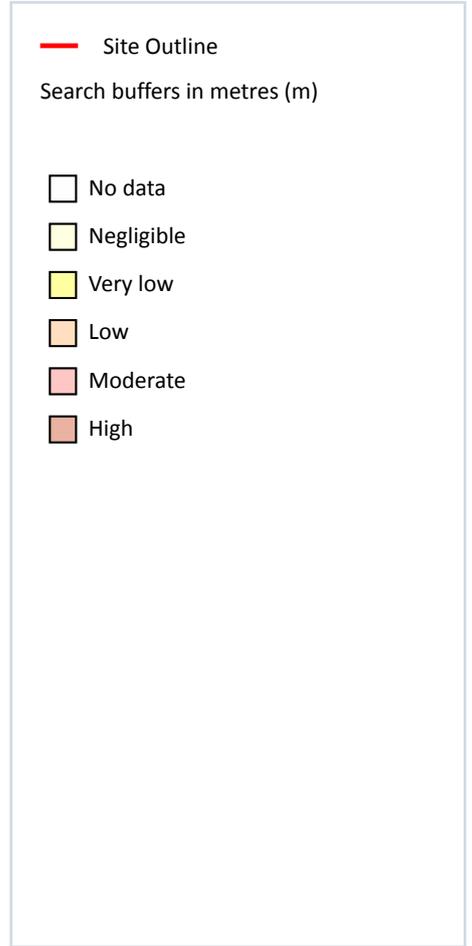
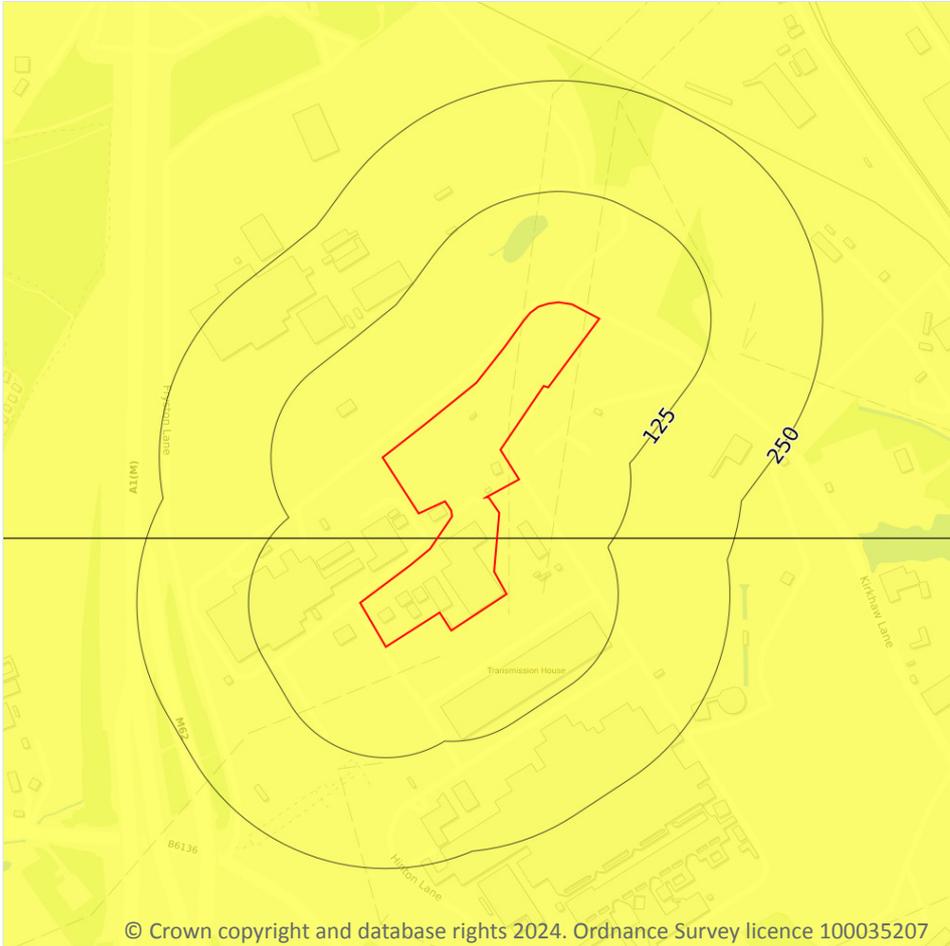
Features are displayed on the Natural ground subsidence - Landslides map on [page 154 >](#)

Location	Hazard rating	Details
On site	Very low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



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17.6 Ground dissolution of soluble rocks

Records within 50m

1

The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on [page 155 >](#)

Location	Hazard rating	Details
On site	Very low	Soluble rocks are present within the ground. Few dissolution features are likely to be present. Potential for difficult ground conditions or localised subsidence are at a level where they need not be considered.

This data is sourced from the British Geological Survey.



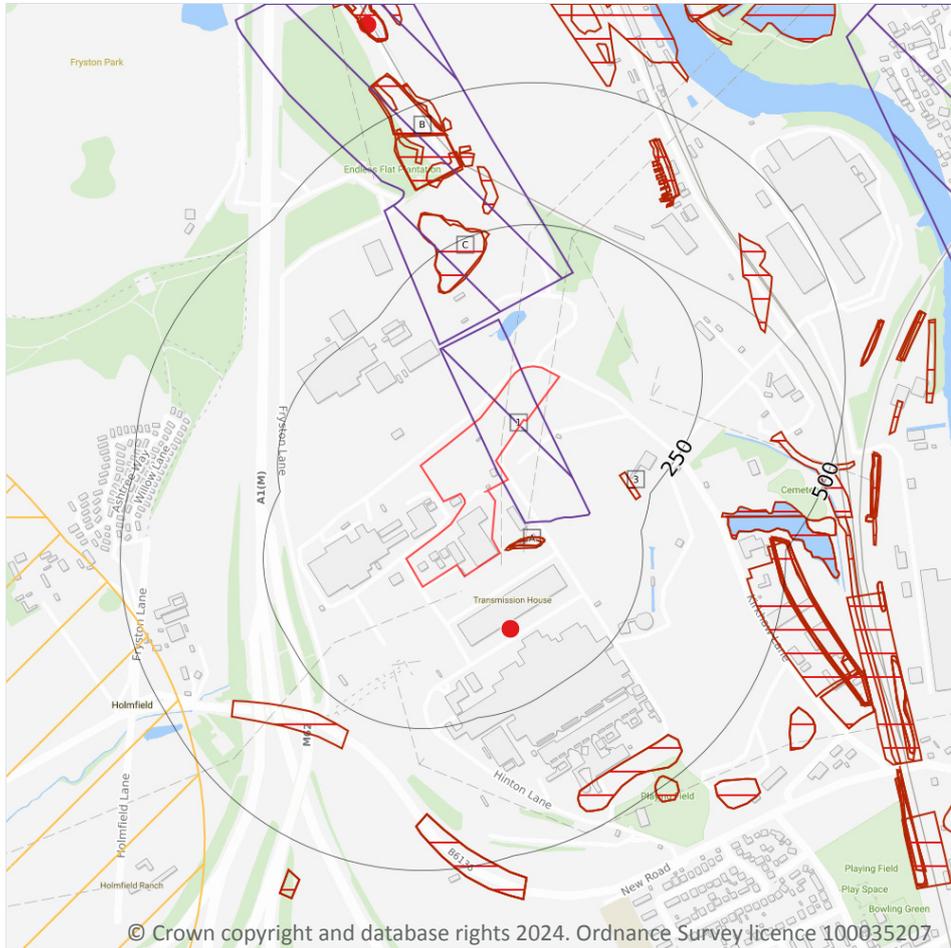
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Date: 3 October 2024

18 Mining and ground workings



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- Site Outline
- Search buffers in metres (m)
- BritPits
- Surface ground workings
- Underground workings
- Underground mining extents
- Historical mineral planning areas
- TCA non-coal mining
- Non Coal Mining
- Sporadic underground mining of restricted extent possible
- Localised small scale underground mining possible
- Small scale mining possible
- Underground mining known or likely within or in close proximity
- Underground mining known within or in very close proximity

18.1 BritPits

Records within 500m

1

BritPits (an abbreviation of British Pits) is a database maintained by the British Geological Survey of currently active and closed surface and underground mineral workings. Details of major mineral handling sites, such as wharfs and rail depots are also held in the database.

Features are displayed on the Mining and ground workings map on [page 157](#) >



ID	Location	Details	Description
2	122m S	Name: Ferrybridge C Power Station Desulphurisation Plant Address: KNOTTINGLEY, West Yorkshire Commodity: Desulphogypsum Status: Inactive	Type: Power station which produces Desulphogypsum and, or, Pulverised Fuel Ash or Furnace Bottom Ash Status description: Site which, at date of entry, is not extracting minerals, but which still has a valid planning permission to do so, and can restart at any time. May be considered Mothballed by operator. May be considered to have Active or Dormant planning permission

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m

7

Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining and ground workings map on [page 157 >](#)

ID	Location	Land Use	Year of mapping	Mapping scale
A	11m S	Pond	1938	1:10560
A	19m SE	Pond	1956	1:10560
A	19m SE	Pond	1953	1:10560
A	19m SE	Pond	1965	1:10560
C	184m N	Sand and Gravel Pits	1953	1:10560
C	185m N	Sand and Gravel Pits	1950	1:10560
3	188m E	Water Body	1982	1:10000

This is data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m

5

Historical land uses identified from Ordnance Survey mapping that indicate the presence of underground workings e.g. mine shafts.

Features are displayed on the Mining and ground workings map on [page 157 >](#)



ID	Location	Land Use	Year of mapping	Mapping scale
-	874m NE	Tunnel	1950	1:10560
-	874m NE	Tunnel	1905	1:10560
-	874m NE	Tunnel	1891	1:10560
-	878m NE	Tunnel	1953	1:10560
-	906m NE	Tunnel	1950	1:10560

This data is sourced from Ordnance Survey/Groundsure.

18.4 Underground mining extents

Records within 500m

0

This data identifies underground mine workings that could present a potential risk, including adits and seam workings. These features have been identified from BGS Geological mapping and mine plans sourced from the BGS and various collections and sources.

This data is sourced from Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m

2

Boundaries of mineral planning permissions for England and Wales. This data was collated between the 1940s (and retrospectively to the 1930s) and the mid 1980s. The data includes permitted, withdrawn and refused permissions.

Features are displayed on the Mining and ground workings map on [page 157 >](#)

ID	Location	Site Name	Mineral	Type	Planning Status	Planning Status Date
1	On site	Ferry Fryston	Sand and gravel	Surface mineral working	Application	Not available
B	106m N	Ferry Fryston	Sand and gravel	Surface mineral working	Valid	Not available

This data is sourced from the British Geological Survey.



18.6 Non-coal mining

Records within 1000m

3

The potential for historical non-coal mining to have affected an area. The assessment is drawn from expert knowledge and literature in addition to the digital geological map of Britain. Mineral commodities may be divided into seven general categories - vein minerals, chalk, oil shale, building stone, bedded ores, evaporites and 'other' commodities (including ball clay, jet, black marble, graphite and chert).

Features are displayed on the Mining and ground workings map on [page 157](#) >

ID	Location	Name	Commodity	Class	Likelihood
9	465m SW	Not available	Sand	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
12	633m W	Not available	Sand	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	814m SW	Not available	Sand	C	Underground mine workings may have occurred in the past, or current mines may be operating to modern engineering standards. Potential for difficult ground conditions should be considered.

This data is sourced from the British Geological Survey.

18.7 JPB mining areas

Records on site

0

Areas which could be affected by former coal and other mining. This data includes some mine plans unavailable to the Coal Authority.

This data is sourced from Johnson Poole and Bloomer.

18.8 The Coal Authority non-coal mining

Records within 500m

0

This data provides an indication of the potential zone of influence of recorded underground non-coal mining workings. Any and all analysis and interpretation of Coal Authority Data in this report is made by Groundsure, and is in no way supported, endorsed or authorised by the Coal Authority. The use of the data is restricted to the terms and provisions contained in this report. Data reproduced in this report may be the copyright of the Coal Authority and permission should be sought from Groundsure prior to any re-use.



This data is sourced from The Coal Authority.

18.9 Researched mining

Records within 500m

0

This data indicates areas of potential mining identified from alternative or archival sources, including; BGS Geological paper maps, Lidar data, aerial photographs (from World War II onwards), archaeological data services, websites, Tithes maps, and various text/plans from collected books and reports. Some of this data is approximate and Groundsure have interpreted the resultant risk area and, where possible, specific areas of risk have been captured.

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m

0

This dataset is representative of Mining Record Office and/or plan extents held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

18.11 BGS mine plans

Records within 500m

5

This dataset is representative of BGS mine plans held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

Location	Mineral
On site	Coal
329m N	Sand

This data is sourced from Groundsure.



18.12 Coal mining

Records on site 1

Areas which could be affected by past, current or future coal mining.

Location	Details
On site	The site is located within a coal mining area as defined by the Coal Authority. A Consultants Coal Mining Report is recommended to further assess coal mining issues at the site. This can be ordered directly through Groundsure or your preferred search provider.

This data is sourced from the Coal Authority.

18.13 Brine areas

Records on site 0

The Cheshire Brine Compensation District indicates areas that may be affected by salt and brine extraction in Cheshire and where compensation would be available where damage from this mining has occurred. Damage from salt and brine mining can still occur outside this district, but no compensation will be available.

This data is sourced from the Cheshire Brine Subsidence Compensation Board.

18.14 Gypsum areas

Records on site 0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

Records on site 0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.16 Clay mining

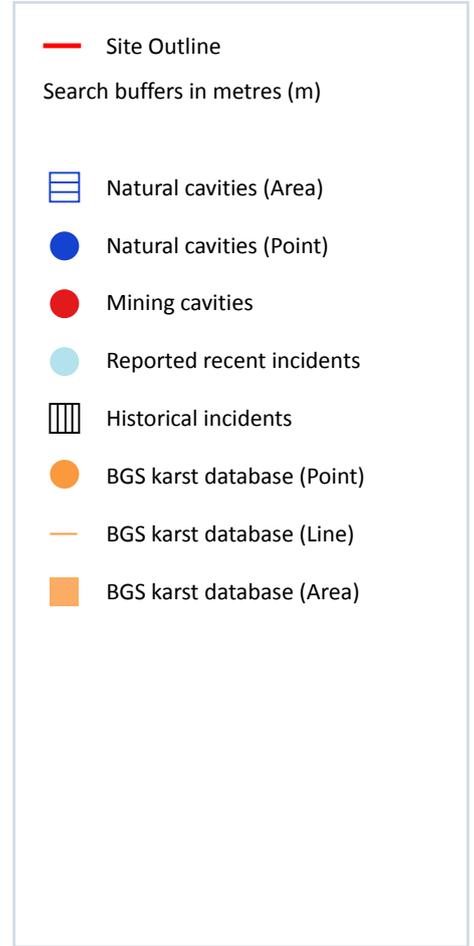
Records on site 0

Generalised areas that may be affected by kaolin and ball clay extraction.

This data is sourced from the Kaolin and Ball Clay Association (UK).



19 Ground cavities and sinkholes



19.1 Natural cavities

Records within 500m

0

Industry recognised national database of natural cavities. Sinkholes and caves are formed by the dissolution of soluble rock, such as chalk and limestone, gulls and fissures by cambering. Ground instability can result from movement of loose material contained within these cavities, often triggered by water.

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m

1

Industry recognised national database of mining cavities. Degraded mines may result in hazardous subsidence (crown holes). Climatic conditions and water escape can also trigger subsidence over mine entrances and workings.

Features are displayed on the Ground cavities and sinkholes map on [page 163 >](#)

ID	Location	Mine Address	Mineral	Data source	Publisher
-	751m NE	Brotherton, North Yorkshire	Bath Stone, Cornstone, Limestone	British Mining Memiors No. 98	Northern Mine Research Society

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m

0

This data identifies sinkhole information gathered from media reports and Groundsure's own records. This data goes back to 2014 and includes relative accuracy ratings for each event and links to the original data sources. The data is updated on a regular basis and should not be considered a comprehensive catalogue of all sinkhole events. The absence of data in this database does not mean a sinkhole definitely has not occurred during this time.

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m

0

This dataset comprises an extract of 1:10,560, 1:10,000, 1:2,500 and 1:1,250 scale historical Ordnance Survey maps held by Groundsure, dating back to the 1840s. It shows shakeholes, deneholes and other 'holes' as noted on these maps. Dene holes are medieval chalk extraction pits, usually comprising a narrow shaft with a number of chambers at the base of the shaft. Shakeholes are an alternative name for suffusion sinkholes, most commonly found in the limestone landscapes of North Yorkshire but also extensively noted around the Brecon Beacons National Park.

Not all 'holes' noted on Ordnance Survey mapping will necessarily be present within this dataset.

This data is sourced from Groundsure.



19.5 National karst database

Records within 500m

0

This is a comprehensive database of national karst information gathered from a wide range of sources. BGS have collected data on five main types of karst feature: Sinkholes, stream links, caves, springs, and incidences of associated damage to buildings, roads, bridges and other engineered works.

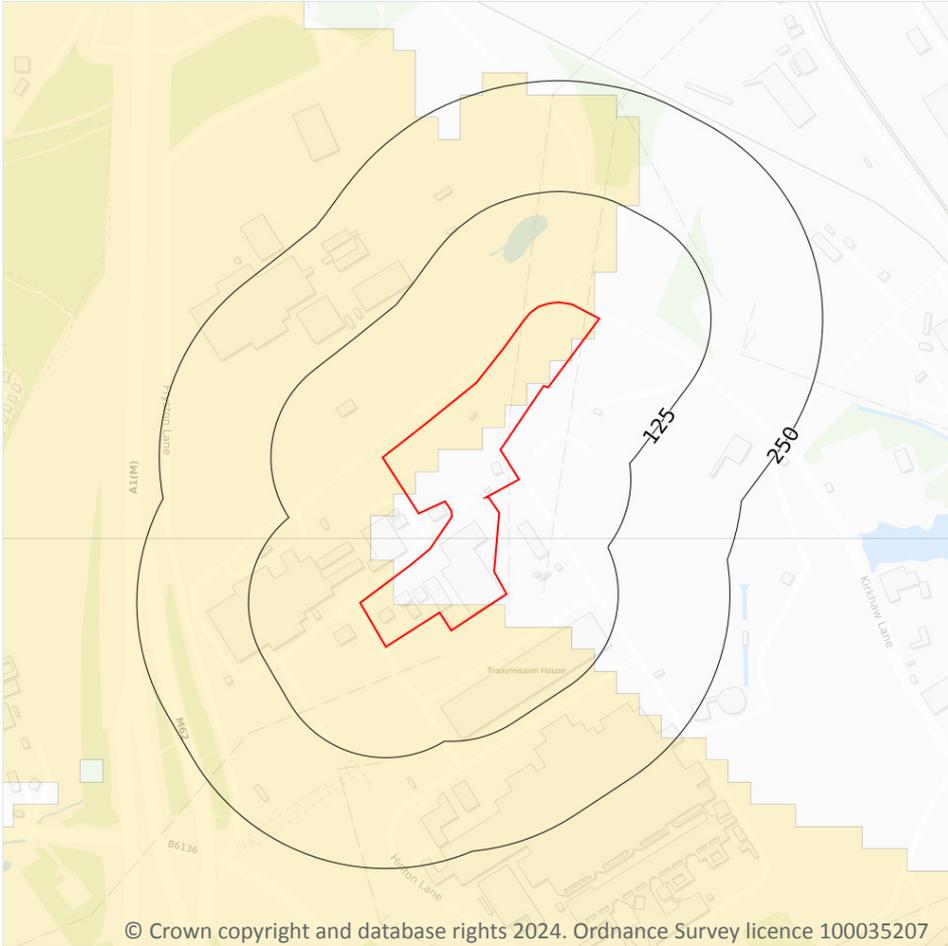
Since the database was set up in 2002 data covering most of the evaporite karst areas of the UK have now been added, along with data covering about 60% of the Chalk, and 35% of the Carboniferous Limestone outcrops. Many of the classic upland karst areas have yet to be included. Recorded so far are: Over 800 caves, 1300 stream sinks, 5600 springs, 10,000 sinkholes.

The database is not yet complete, and not all records have been verified. The absence of data does not mean that karst features are not present at a site. A reliability rating is included with each record.

This data is sourced from the British Geological Survey.



20 Radon



— Site Outline
Search buffers in metres (m)

- Greater than 30%
- Between 10% and 30%
- Between 5% and 10%
- Between 3% and 5%
- Between 1% and 3%
- Less than 1%

20.1 Radon

Records on site

2

The Radon Potential data classifies areas based on their likelihood of a property having a radon level at or above the Action Level in Great Britain. The dataset is intended for use at 1:50,000 scale and was derived from both geological assessments and indoor radon measurements (more than 560,000 records). A minimum 50m buffer should be considered when searching the maps, as the smallest detectable feature at this scale is 50m. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain (1:100,000 scale).

Features are displayed on the Radon map on [page 166 >](#)

Location	Estimated properties affected	Radon Protection Measures required
On site	Between 1% and 3%	None



Location	Estimated properties affected	Radon Protection Measures required
On site	Less than 1%	None

This data is sourced from the British Geological Survey and UK Health Security Agency.



21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m

8

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km². In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km²; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg
On site	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	2.2 - 3.0 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	2.2 - 3.0 mg/kg	40 - 60 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	2.2 - 3.0 mg/kg	40 - 60 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	2.2 - 3.0 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	2.2 - 3.0 mg/kg	40 - 60 mg/kg	15 mg/kg

This data is sourced from the British Geological Survey.



21.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km²).

This data is sourced from the British Geological Survey.

21.3 BGS Measured Urban Soil Chemistry

Records within 50m

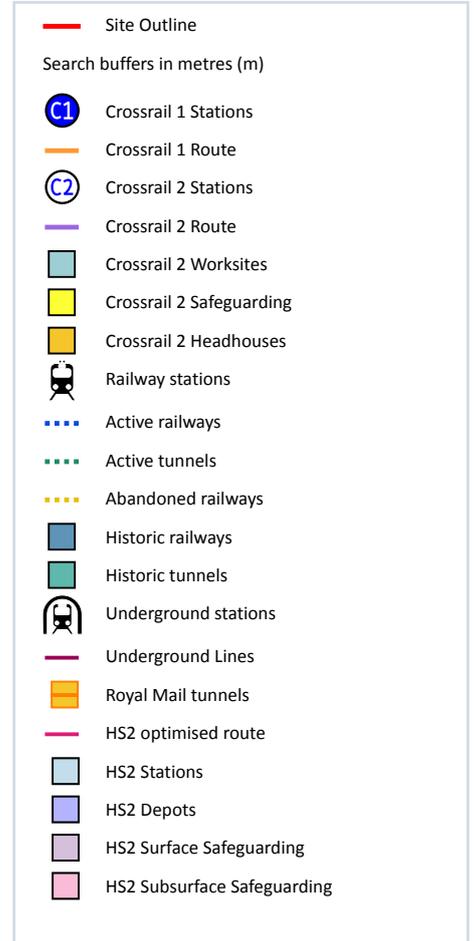
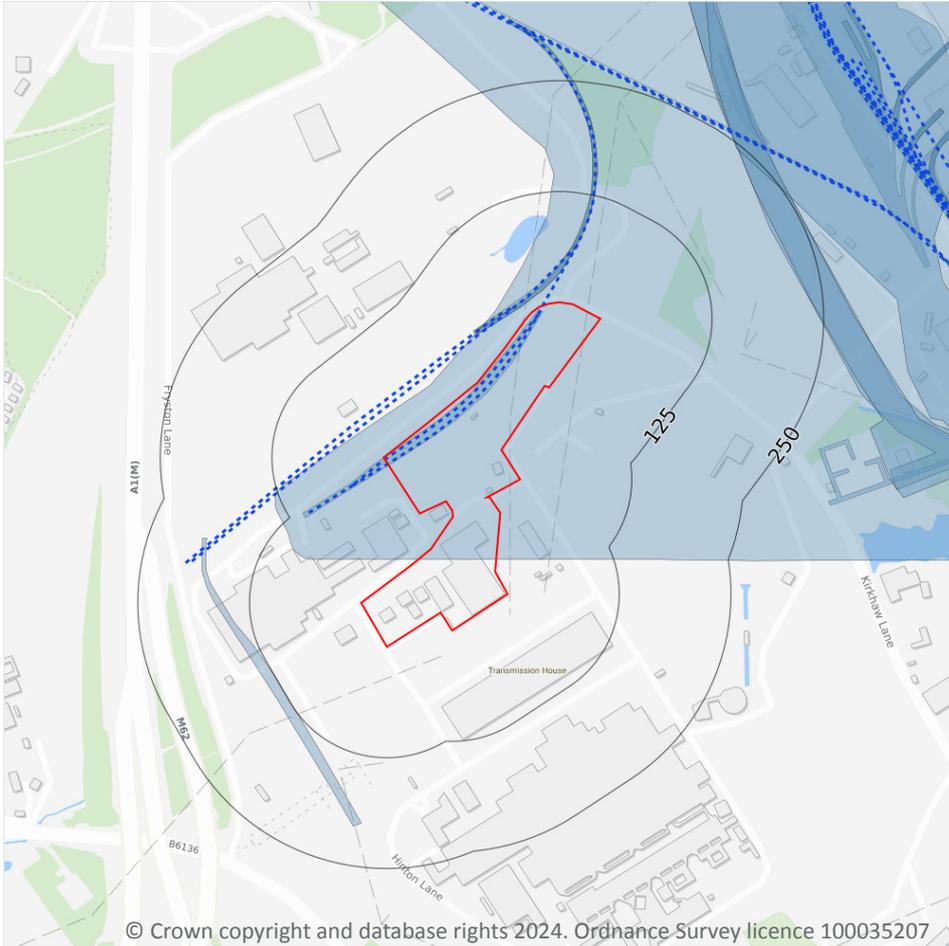
0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km².

This data is sourced from the British Geological Survey.



22 Railway infrastructure and projects



22.1 Underground railways (London)

Records within 250m

0

Details of all active London Underground lines, including approximate tunnel roof depth and operational hours.

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m

0

Details of the Merseyrail system, the Tyne and Wear Metro and the Glasgow Subway. Not all parts of all systems are located underground. The data contains location information only and does not include a depth assessment.



This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m

0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

Records within 250m

9

Railways and tunnels digitised from historical Ordnance Survey mapping as scales of 1:1,250, 1:2,500, 1:10,000 and 1:10,560.

Features are displayed on the Railway infrastructure and projects map on [page 170 >](#)

Location	Land Use	Year of mapping	Mapping scale
On site	Railway Sidings	1985	1250
On site	Railway Sidings	1982	10000
12m N	Railway Sidings	1973	2500
12m N	Railway Sidings	1970	2500
13m N	Railway Sidings	1972	1250
125m SW	Railway Sidings	1968	2500
216m NE	Railway Sidings	1953	10560
220m NE	Railway Sidings	1950	10560
245m NE	Railway Sidings	1967	10560

This data is sourced from Ordnance Survey/Groundsure.

22.5 Royal Mail tunnels

Records within 250m

0

The Post Office Railway, otherwise known as the Mail Rail, is an underground railway running through Central London from Paddington Head District Sorting Office to Whitechapel Eastern Head Sorting Office. The line is 10.5km long. The data includes details of the full extent of the tunnels, the depth of the tunnel, and the depth to track level.

This data is sourced from Groundsure/the Postal Museum.



22.6 Historical railways

Records within 250m

0

Former railway lines, including dismantled lines, abandoned lines, disused lines, historic railways and razed lines.

This data is sourced from OpenStreetMap.

22.7 Railways

Records within 250m

6

Currently existing railway lines, including standard railways, narrow gauge, funicular, trams and light railways.

Features are displayed on the Railway infrastructure and projects map on [page 170 >](#)

Location	Name	Type
On site		rail
On site		rail
On site		rail
17m N		rail
18m N		rail
47m W		rail

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 Crossrail 1

Records within 500m

0

The Crossrail railway project links 41 stations over 100 kilometres from Reading and Heathrow in the west, through underground sections in central London, to Shenfield and Abbey Wood in the east.

This data is sourced from publicly available information by Groundsure.

22.9 Crossrail 2

Records within 500m

0

Crossrail 2 is a proposed railway linking the national rail networks in Surrey and Hertfordshire via an underground tunnel through London.

This data is sourced from publicly available information by Groundsure.



22.10 HS2

Records within 500m

0

HS2 is a proposed high speed rail network running from London to Manchester and Leeds via Birmingham. Main civils construction on Phase 1 (London to Birmingham) of the project began in 2019, and it is currently anticipated that this phase will be fully operational by 2026. Construction on Phase 2a (Birmingham to Crewe) is anticipated to commence in 2021, with the service fully operational by 2027. Construction on Phase 2b (Crewe to Manchester and Birmingham to Leeds) is scheduled to begin in 2023 and be operational by 2033.

This data is sourced from HS2 ltd.



Data providers

Groundsure works with respected data providers to bring you the most relevant and accurate information. To find out who they are and their areas of expertise see <https://www.groundsure.com/sources-reference> ↗.

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Site Details:
447362,425069

Client Ref: UK-70093613-067_Ferrybridge_C
Report Ref: GS-2KF-BEO-I91-7FG
Grid Ref: 447371, 425071

Map Name: County Series
Map date: 1852
Scale: 1:10,560
Printed at: 1:10,560



<p>Surveyed 1851 Revised N/A Edition 1852 Copyright N/A Levelled N/A</p>		<p>Surveyed 1849 Revised N/A Edition 1852 Copyright N/A Levelled N/A</p>
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Client Ref: UK-70093613-067_Ferrybridge_C
Report Ref: GS-2KF-BEO-I91-7FG
Grid Ref: 447371, 425071

Map Name: County Series

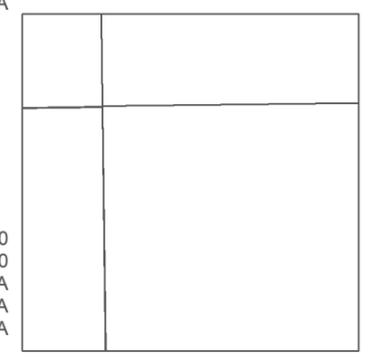
Map date: 1890-1891

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1890
 Revised 1890
 Edition N/A
 Copyright N/A
 Levelled N/A



Surveyed 1890
 Revised 1890
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1891
 Revised 1891
 Edition N/A
 Copyright N/A
 Levelled N/A

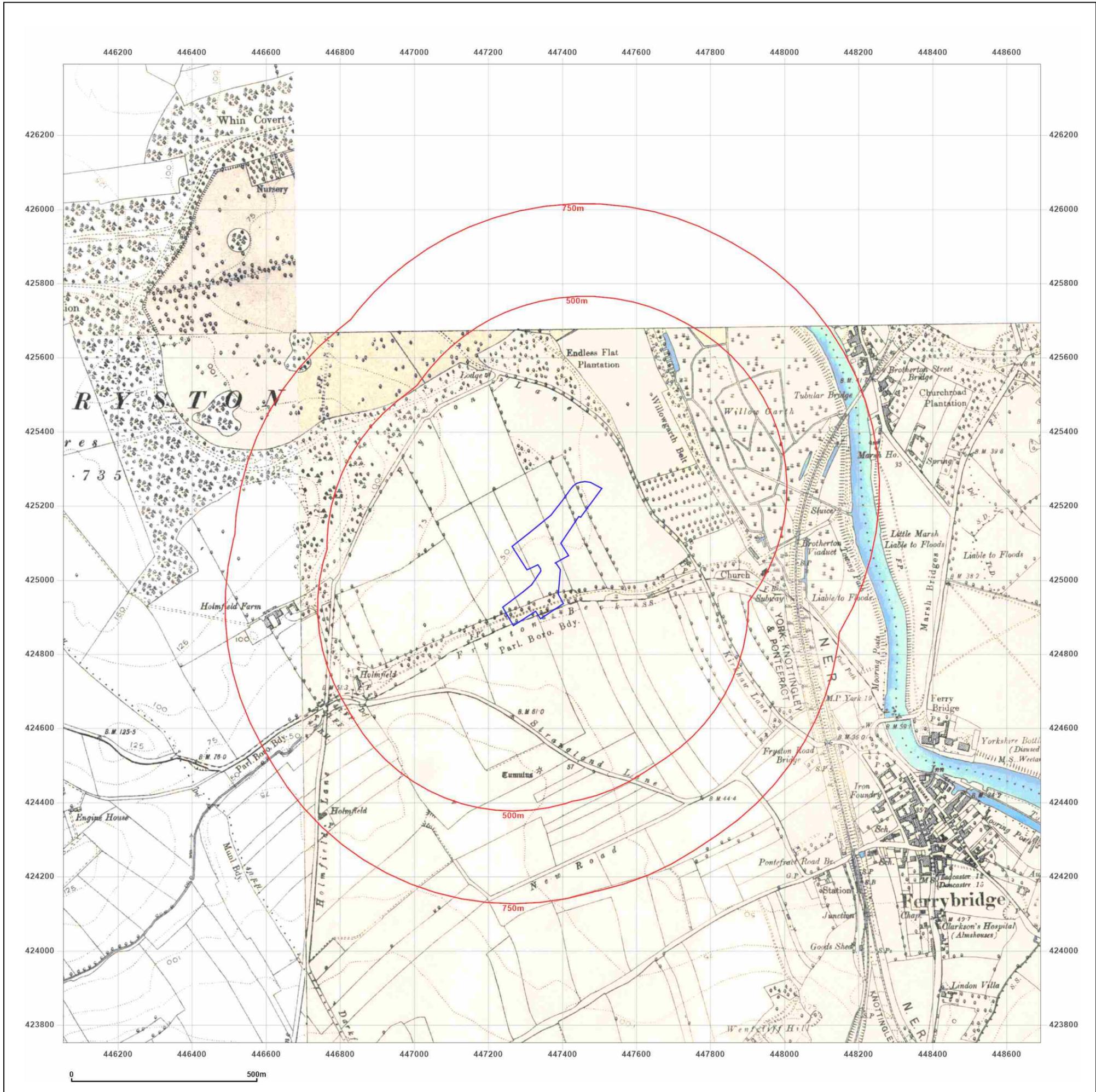


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Production date: 03 October 2024

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Site Details:

447362,425069

Client Ref: UK-70093613-067_Ferrybridge_C
Report Ref: GS-2KF-BEO-I91-7FG
Grid Ref: 447371, 425071

Map Name: County Series

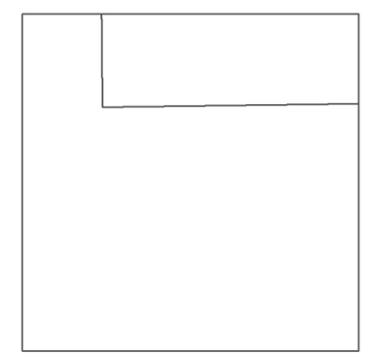
Map date: 1892

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1890
 Revised N/A
 Edition 1892
 Copyright N/A
 Levelled N/A

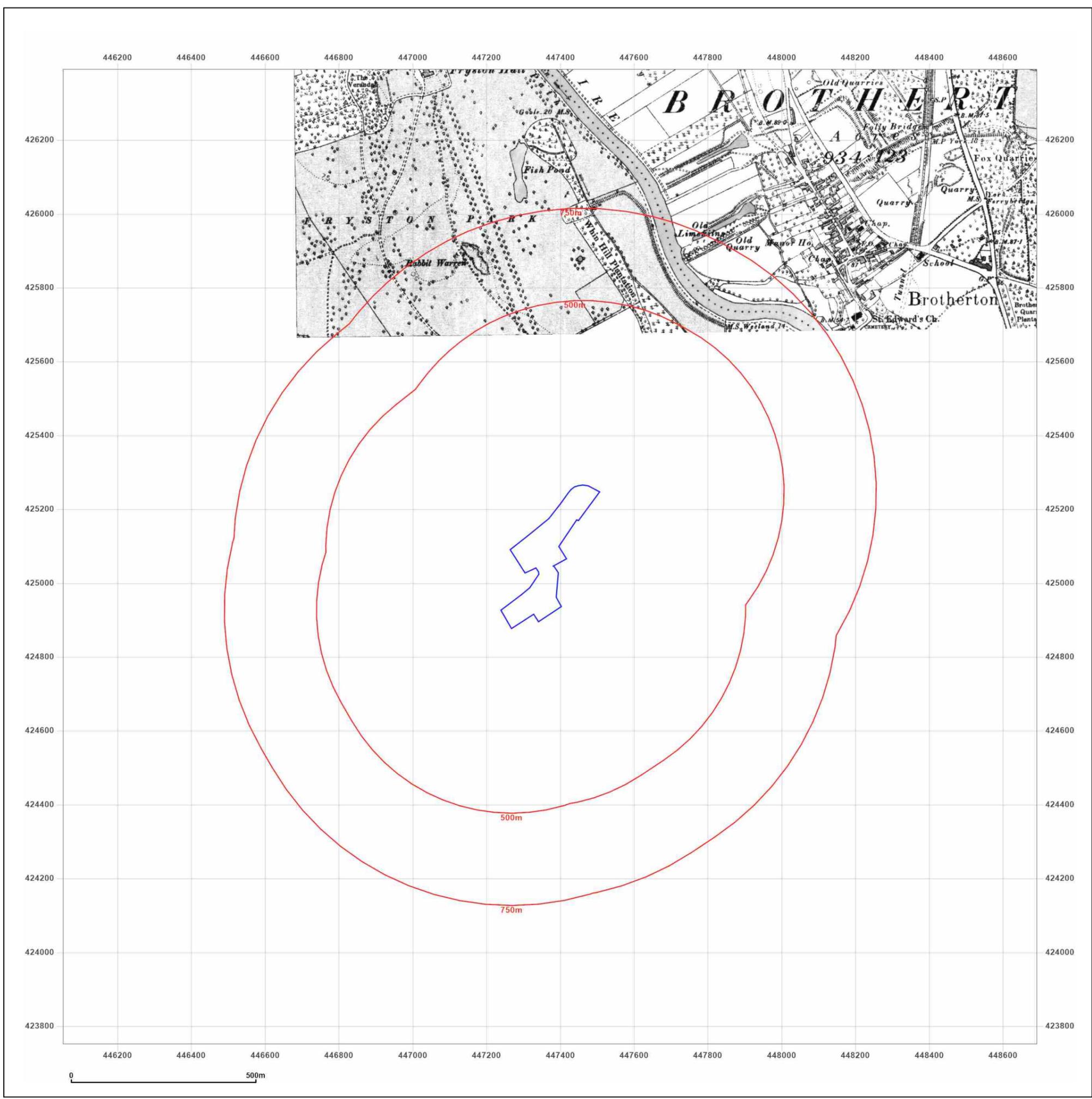


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Site Details:

447362,425069

Client Ref: UK-70093613-067_Ferrybridge_C
Report Ref: GS-2KF-BEO-I91-7FG
Grid Ref: 447371, 425071

Map Name: County Series

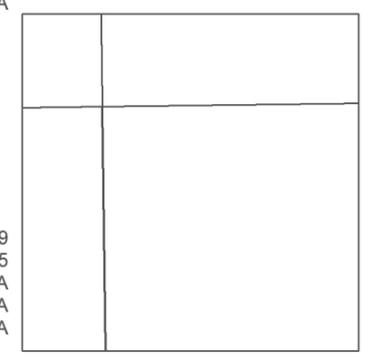
Map date: 1905

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1890
 Revised 1905
 Edition N/A
 Copyright N/A
 Levelled N/A



Surveyed 1889
 Revised 1905
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1891
 Revised 1905
 Edition N/A
 Copyright N/A
 Levelled N/A

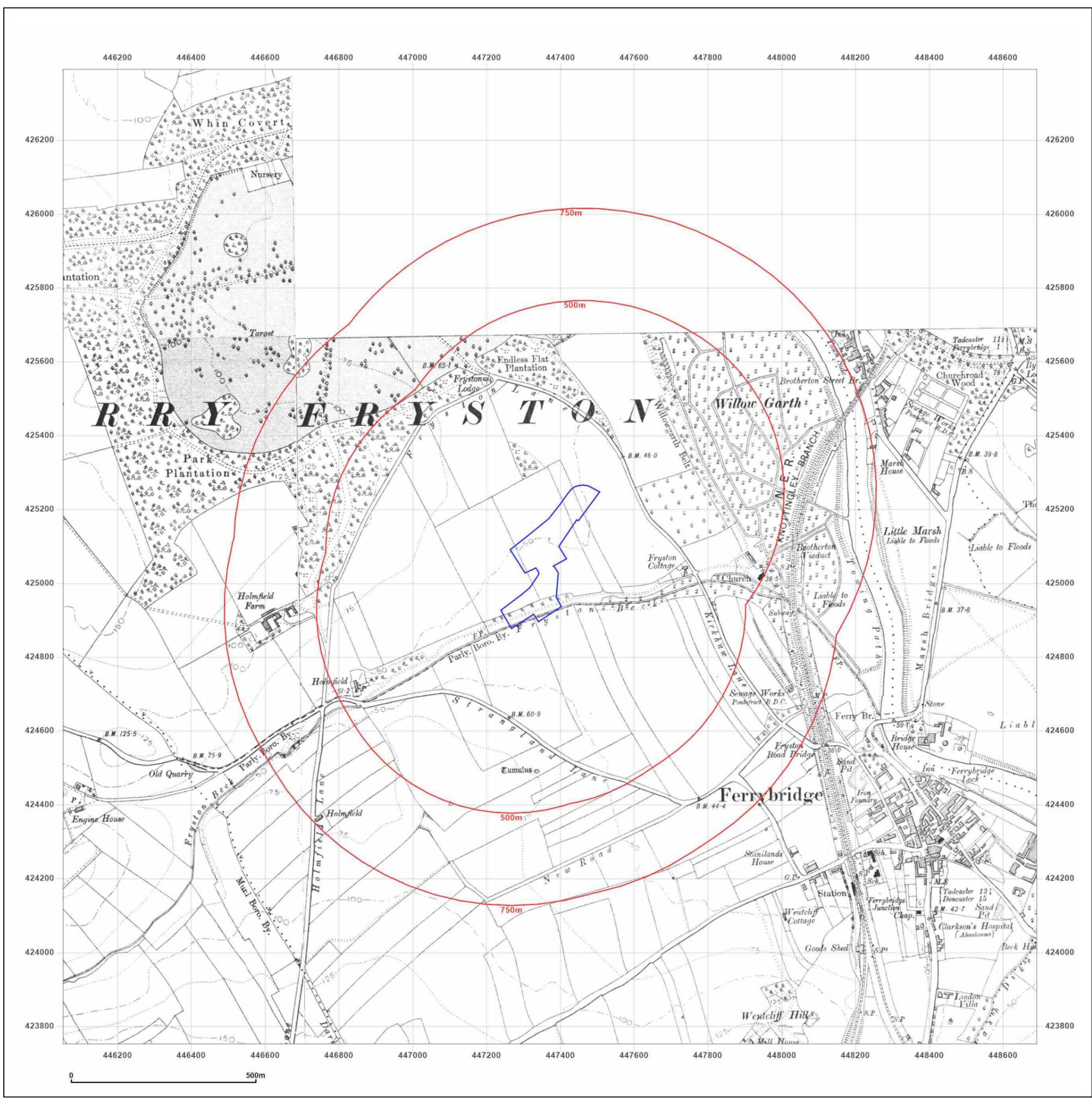


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Site Details:

447362,425069

Client Ref: UK-70093613-067_Ferrybridge_C
Report Ref: GS-2KF-BEO-I91-7FG
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Map Name: County Series

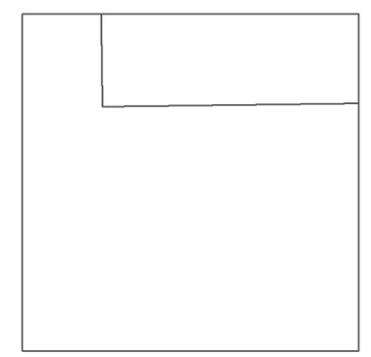
Map date: 1908

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1890
 Revised 1908
 Edition 1908
 Copyright N/A
 Levelled N/A

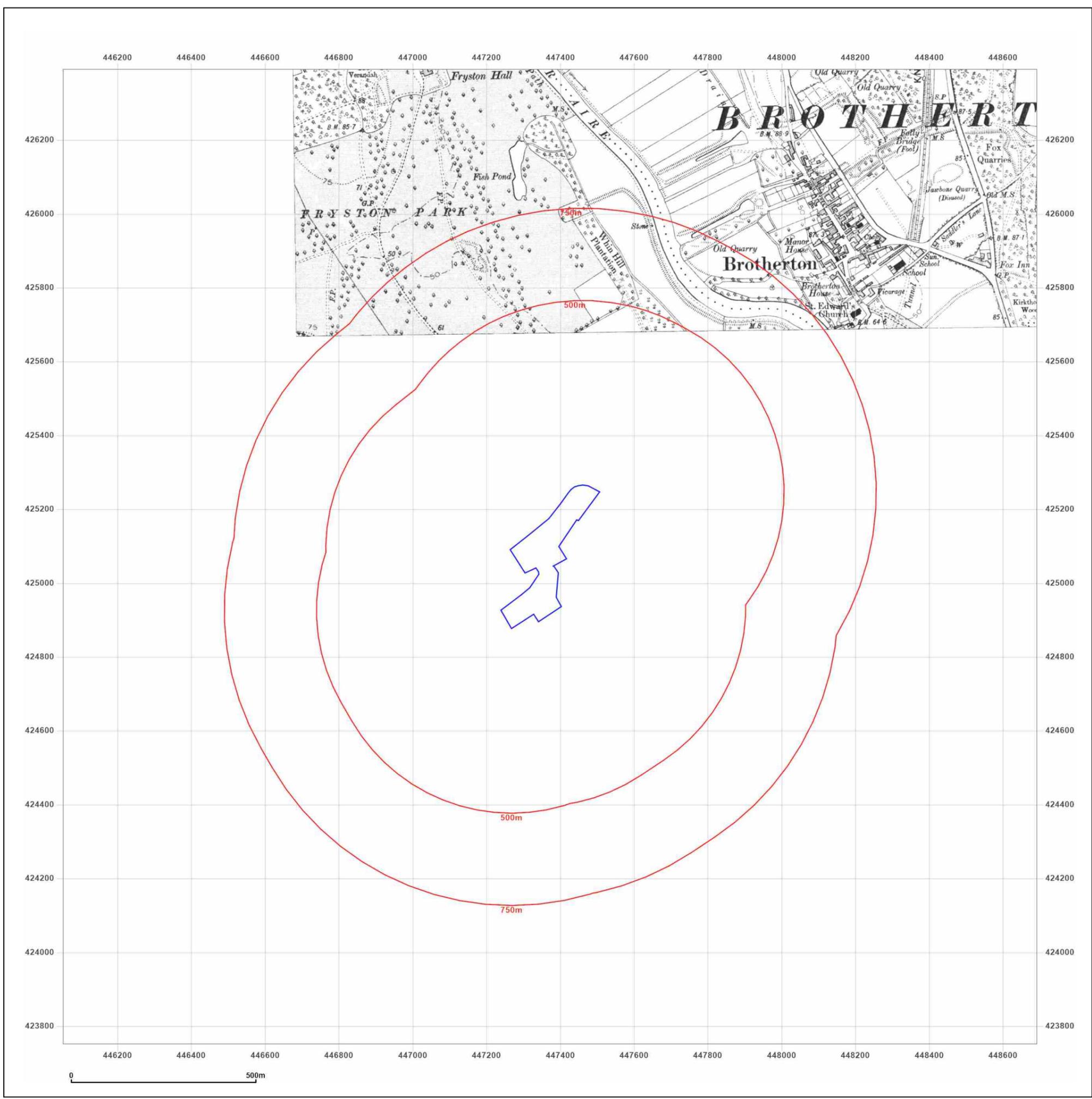


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Site Details:

447362,425069

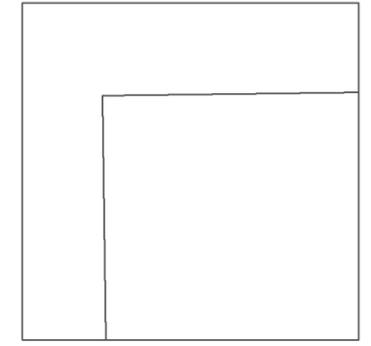
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Report Ref: GS-2KF-BEO-I91-7FG
Grid Ref: 447371, 425071

Map Name: County Series

Map date: 1931

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1849
 Revised 1931
 Edition N/A
 Copyright N/A
 Levelled N/A

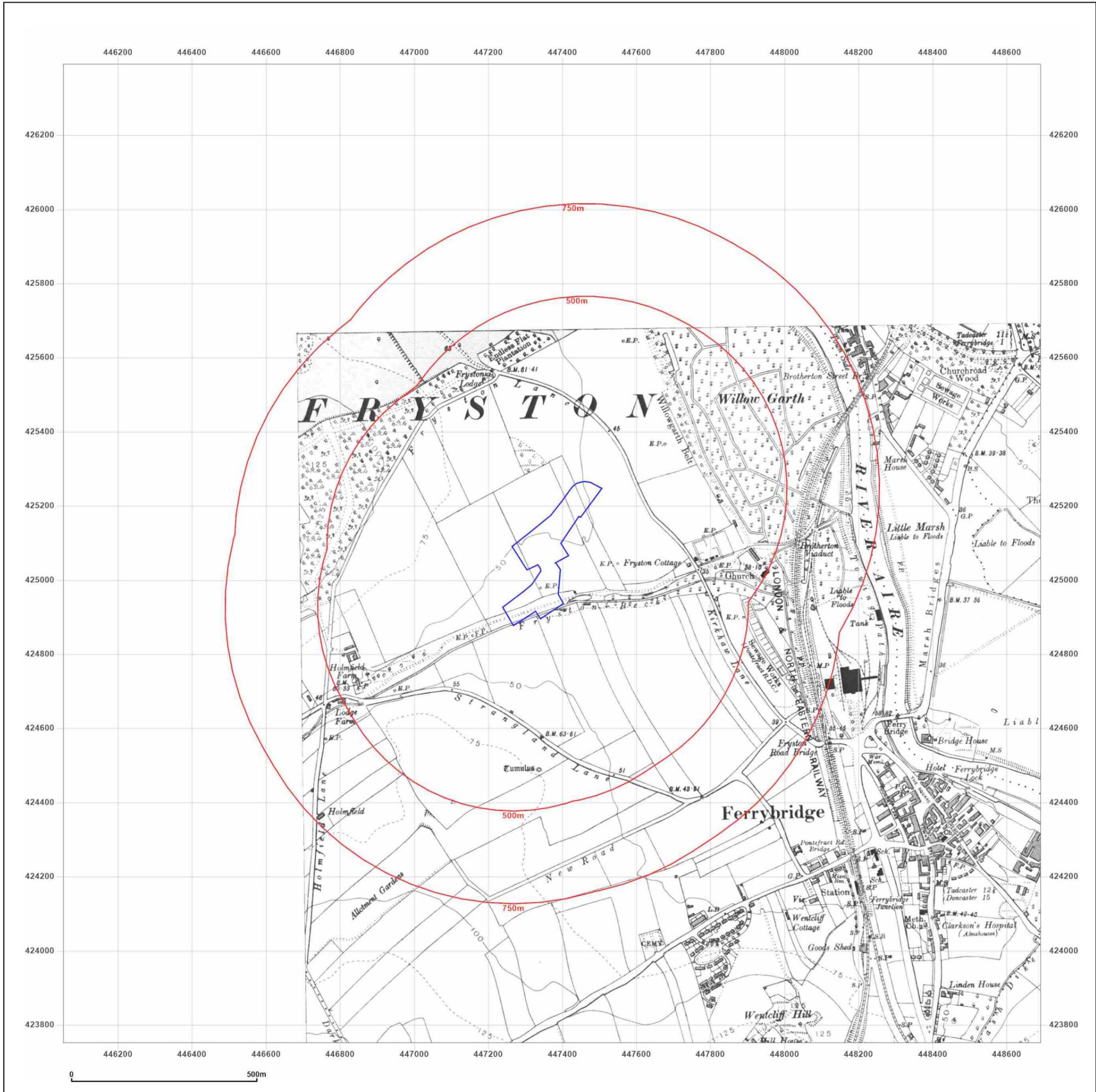


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Site Details:

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Client Ref: UK-70093613-067_Ferrybridge_C
Report Ref: GS-2KF-BEO-I91-7FG
Grid Ref: 447371, 425071

Map Name: County Series

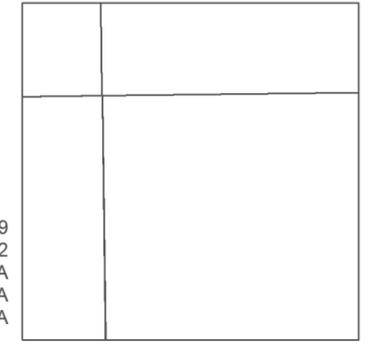
Map date: 1931-1932

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1848
 Revised 1932
 Edition N/A
 Copyright N/A
 Levelled N/A



Surveyed 1849
 Revised 1932
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1849
 Revised 1931
 Edition N/A
 Copyright N/A
 Levelled N/A

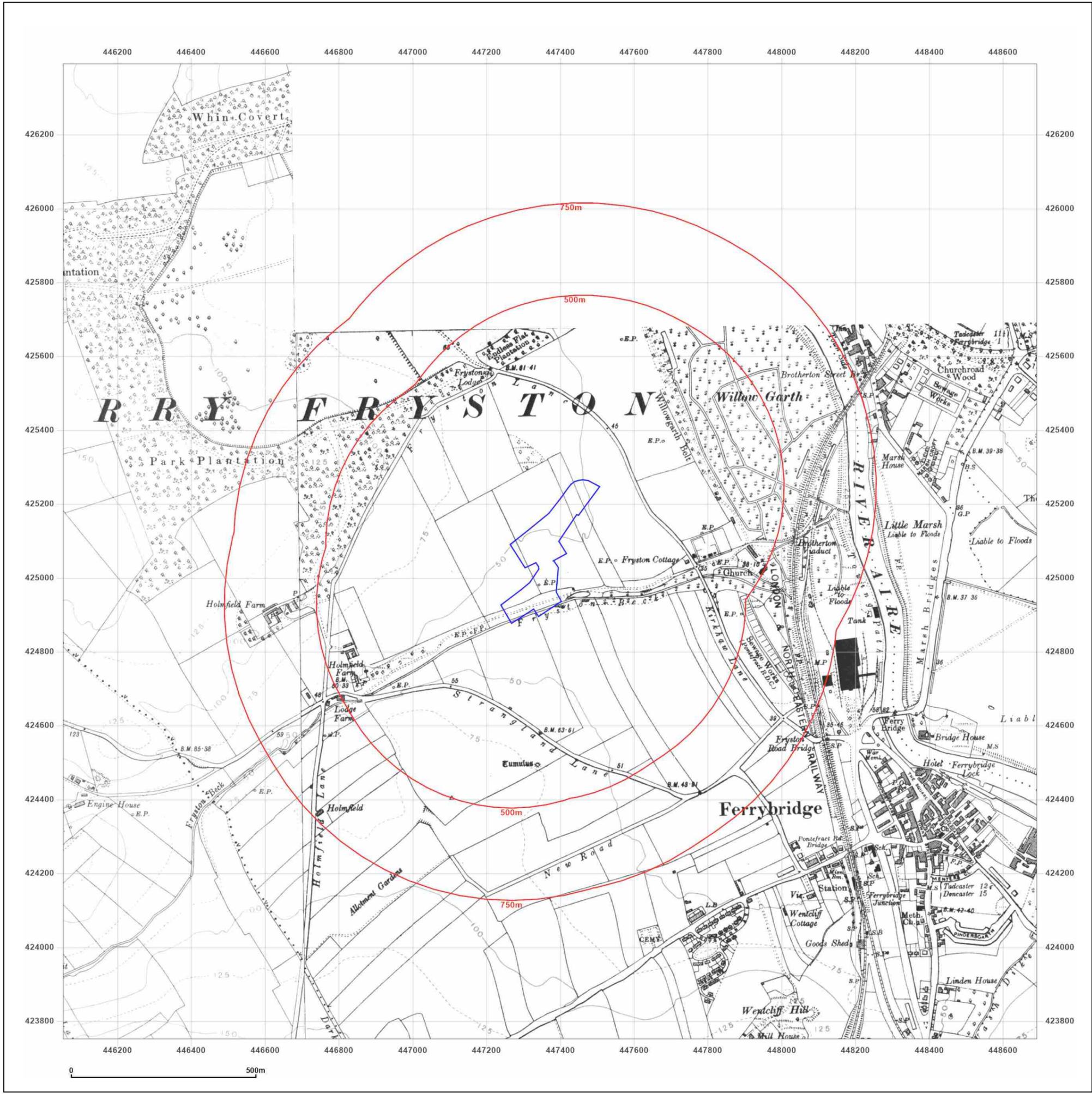


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Site Details:

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Client Ref: UK-70093613-067_Ferrybridge_C
Report Ref: GS-2KF-BEO-I91-7FG
Grid Ref: 447371, 425071

Map Name: County Series

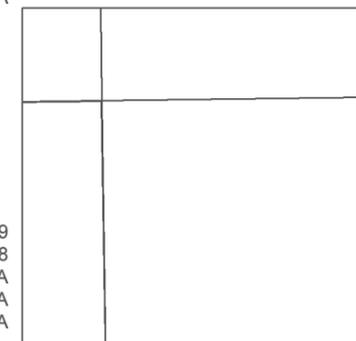
Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1848
 Revised 1938
 Edition N/A
 Copyright N/A
 Levelled N/A



Surveyed 1849
 Revised 1938
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1849
 Revised 1938
 Edition 1938
 Copyright N/A
 Levelled N/A

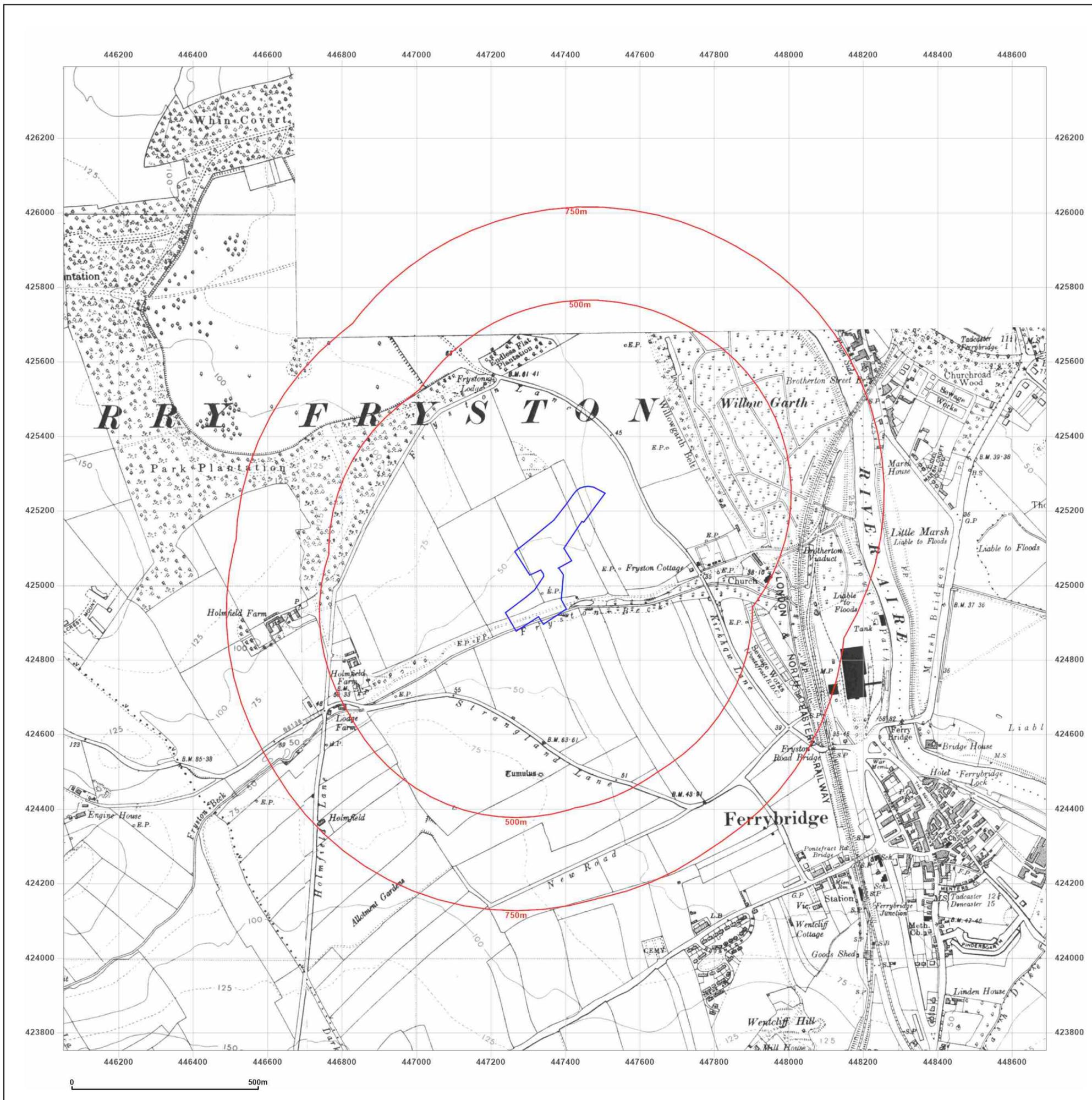


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Site Details:

447362,425069

Client Ref: UK-70093613-067_Ferrybridge_C
Report Ref: GS-2KF-BEO-I91-7FG
Grid Ref: 447371, 425071

Map Name: County Series

Map date: 1950

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1849
 Revised 1950
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1849
 Revised 1950
 Edition N/A
 Copyright N/A
 Levelled N/A

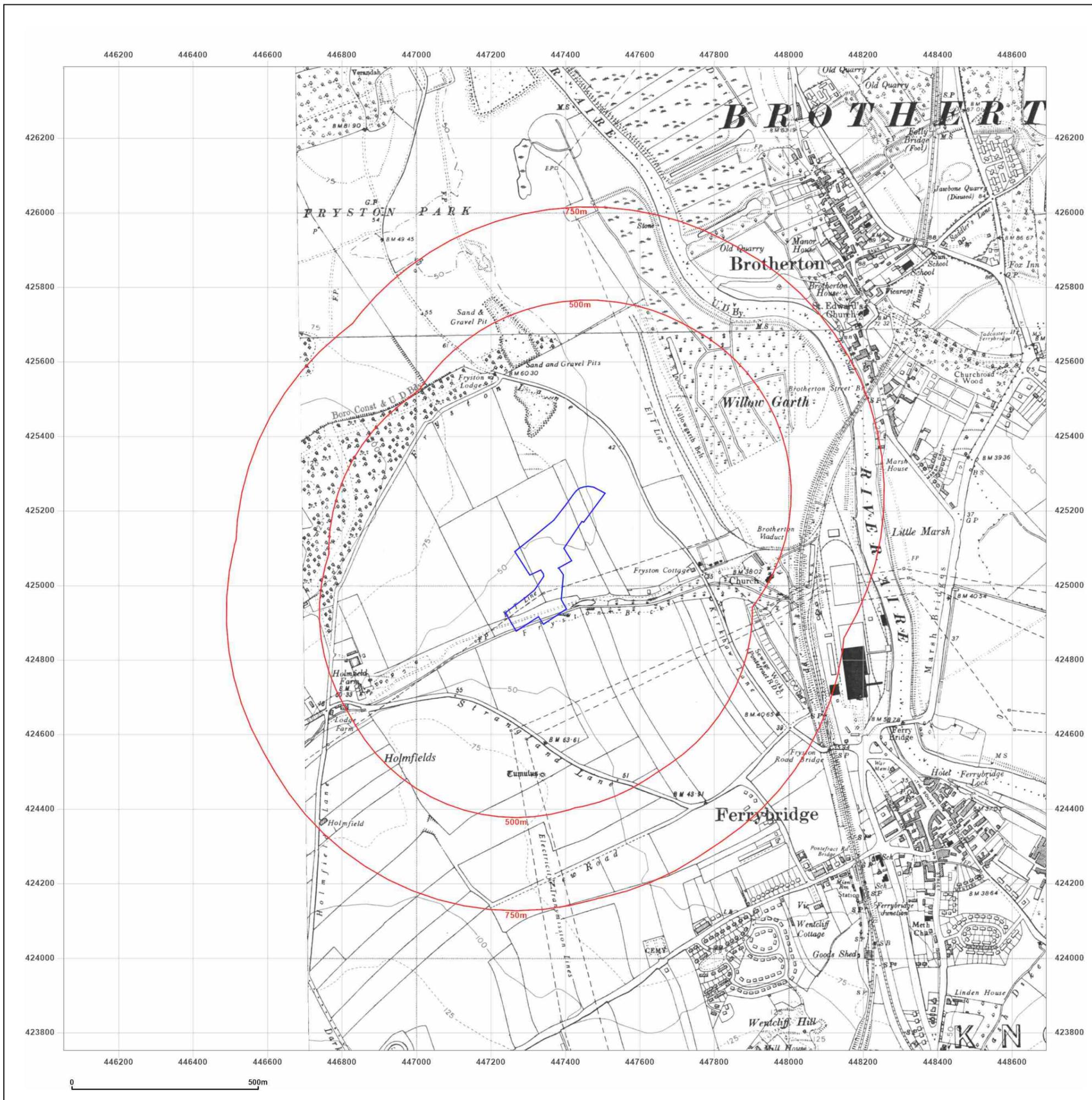


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Site Details:

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Client Ref: UK-70093613-067_Ferrybridge_C
Report Ref: GS-2KF-BEO-I91-7FG
Grid Ref: 447371, 425071

Map Name: Provisional

Map date: 1953

Scale: 1:10,560

Printed at: 1:10,560



Surveyed N/A
 Revised 1953
 Edition 1953
 Copyright N/A
 Levelled N/A

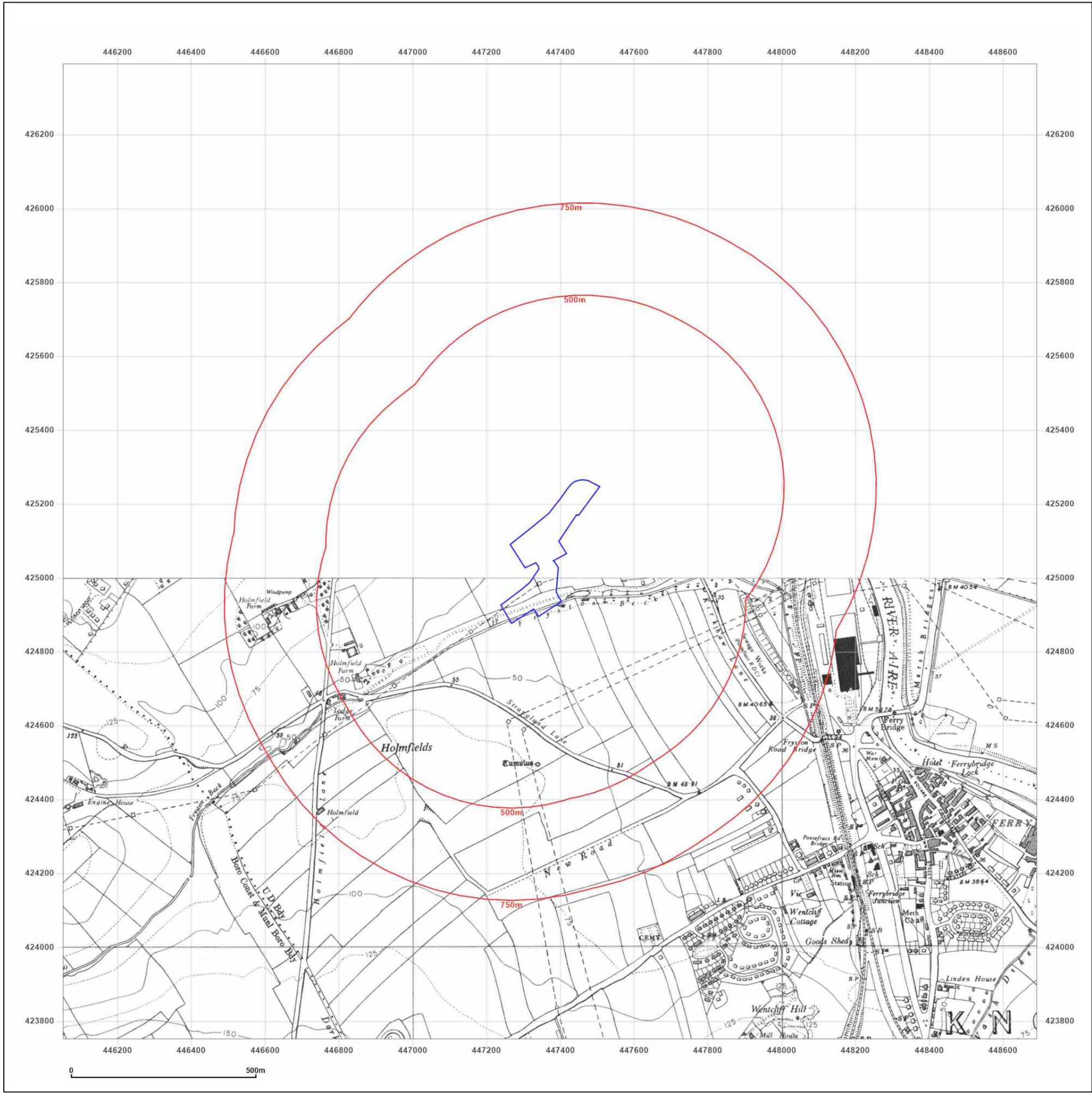


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Site Details:

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Client Ref: UK-70093613-067_Ferrybridge_C
Report Ref: GS-2KF-BEO-I91-7FG
Grid Ref: 447371, 425071

Map Name: Provisional

Map date: 1953-1956

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1940
 Revised 1953
 Edition 1953
 Copyright N/A
 Levelled 1950

Surveyed 1956
 Revised 1956
 Edition N/A
 Copyright N/A
 Levelled N/A

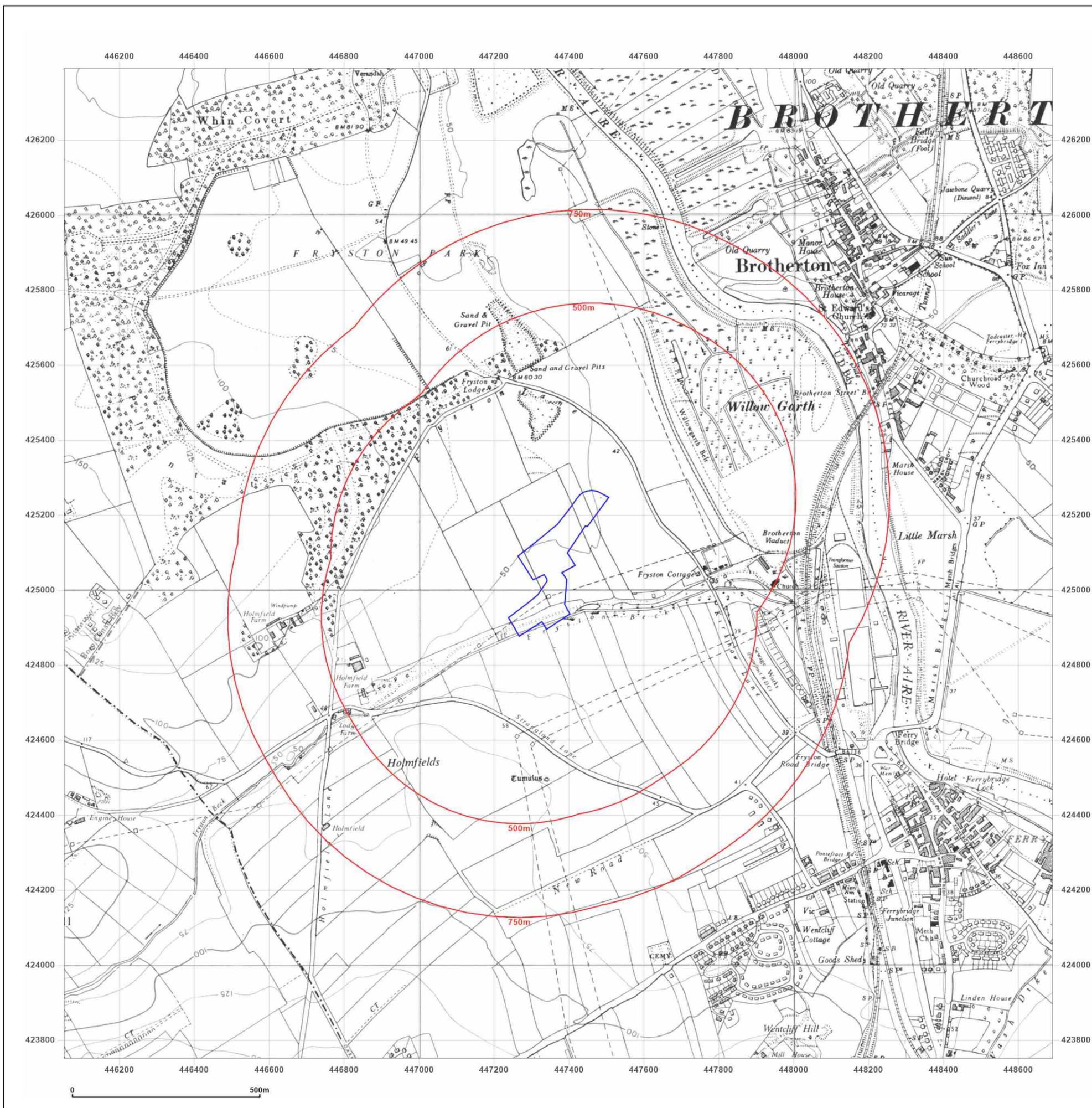


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Client Ref: UK-70093613-067_Ferrybridge_C
Report Ref: GS-2KF-BEO-I91-7FG
Grid Ref: 447371, 425071

Map Name: Provisional

Map date: 1965-1967

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1967
 Revised 1967
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed N/A
 Revised 1965
 Edition N/A
 Copyright N/A
 Levelled N/A

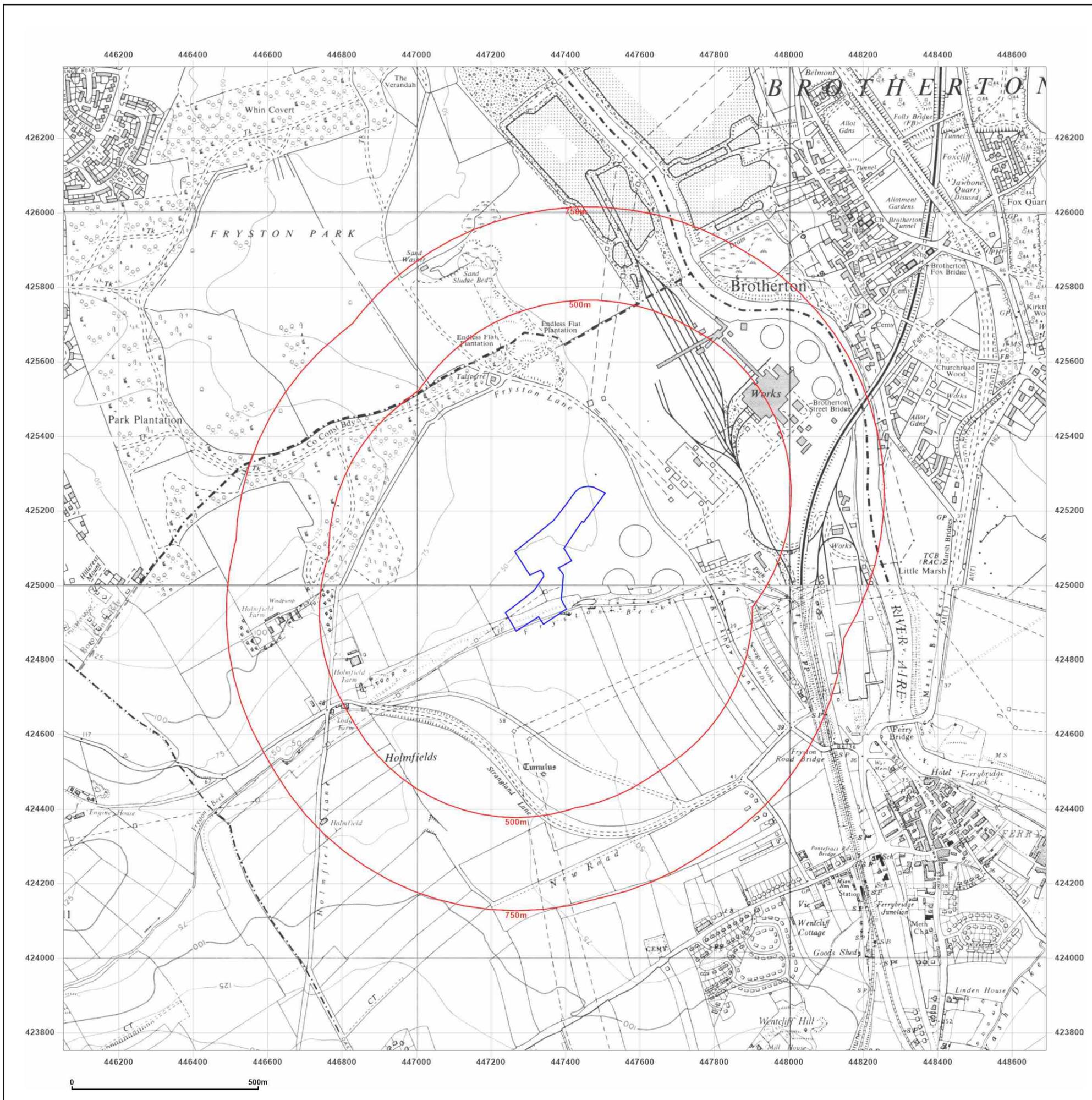


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Report Ref: GS-2KF-BEO-I91-7FG
Grid Ref: 447371, 425071

Map Name: Provisional

Map date: 1968

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1968
 Revised 1968
 Edition N/A
 Copyright N/A
 Levelled N/A



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Client Ref: UK-70093613-067_Ferrybridge_C
Report Ref: GS-2KF-BEO-I91-7FG
Grid Ref: 447371, 425071

Map Name: National Grid

Map date: 1975

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1975
 Revised 1975
 Edition N/A
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Client Ref: UK-70093613-067_Ferrybridge_C
Report Ref: GS-2KF-BEO-I91-7FG
Grid Ref: 447371, 425071

Map Name: National Grid

Map date: 1982

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1981
 Revised 1982
 Edition N/A
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 Levelled N/A

Surveyed 1981
 Revised 1982
 Edition N/A
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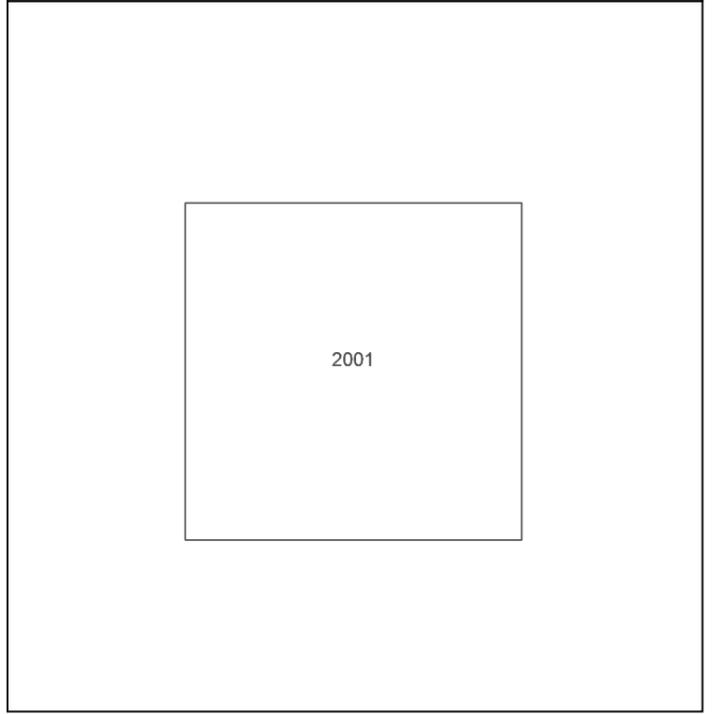
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Site Details:
447362,425069

Client Ref: UK-70093613-067_Ferrybridge_C
Report Ref: GS-2KF-BEO-I91-7FG
Grid Ref: 447371, 425071

Map Name: National Grid
Map date: 2001
Scale: 1:10,000
Printed at: 1:10,000

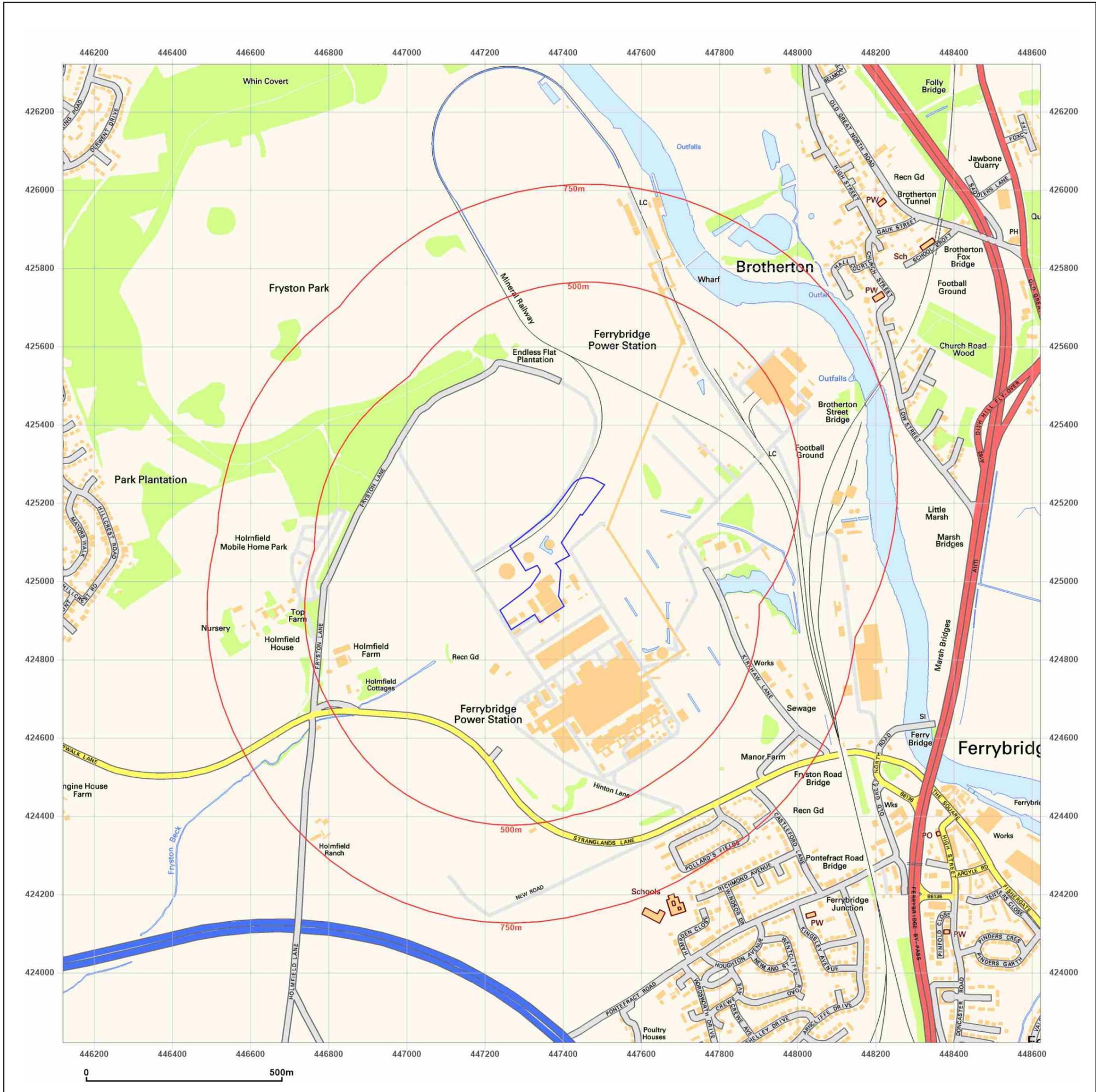


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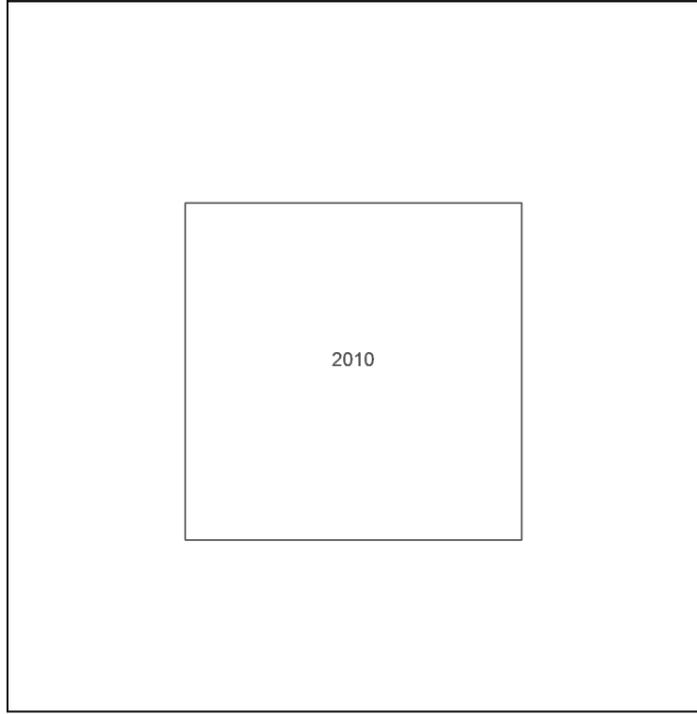
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Report Ref: GS-2KF-BEO-I91-7FG
Grid Ref: 447371, 425071

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000

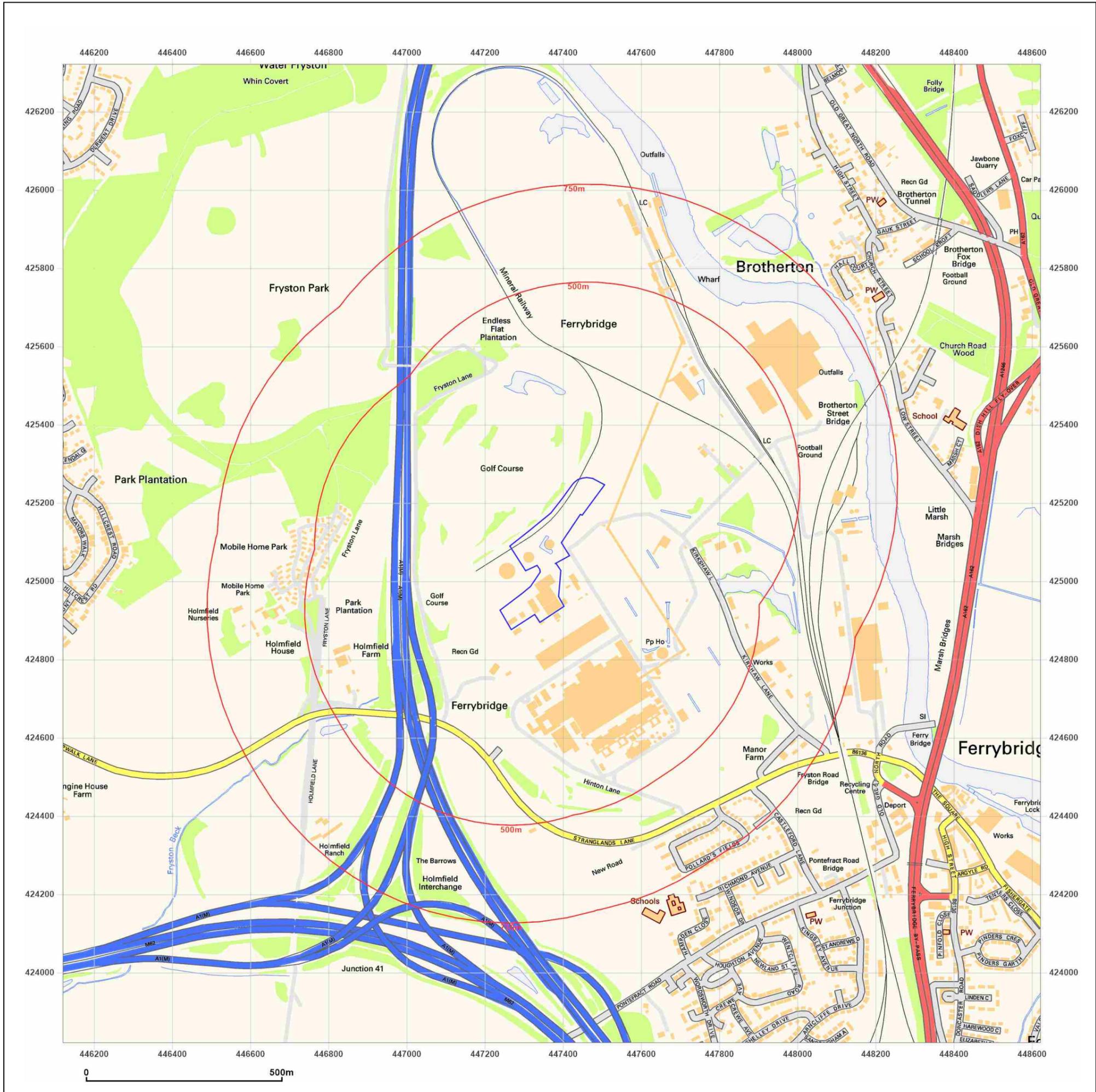


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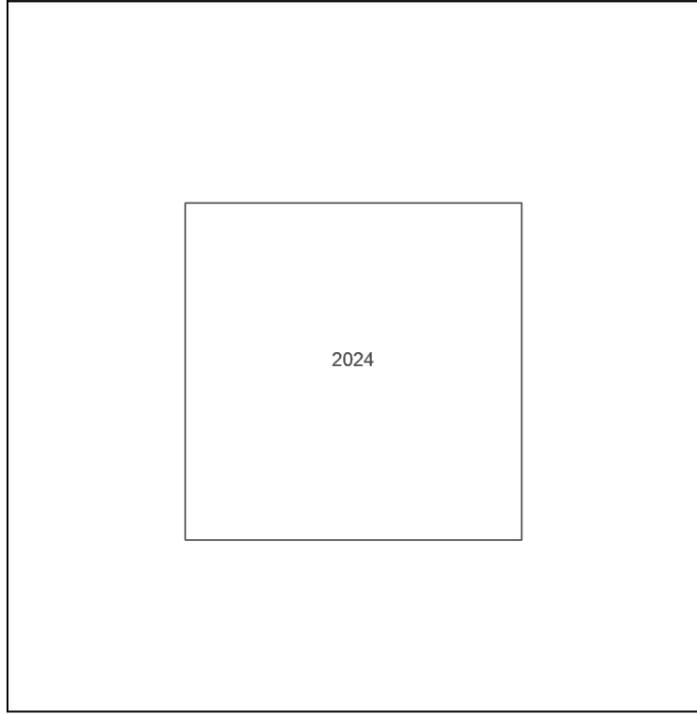
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Report Ref: GS-2KF-BEO-I91-7FG
Grid Ref: 447371, 425071

Map Name: National Grid

Map date: 2024

Scale: 1:10,000

Printed at: 1:10,000

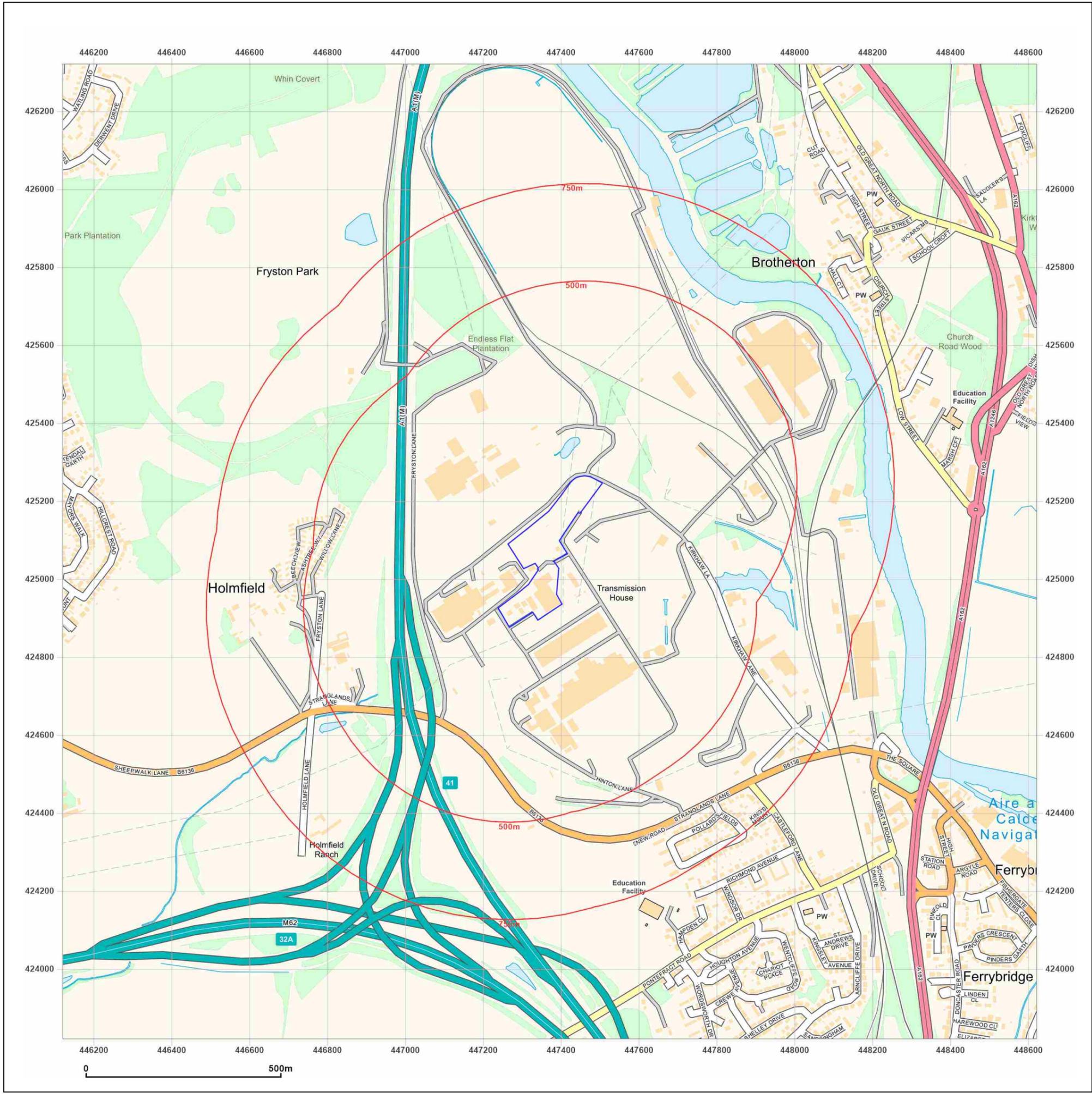


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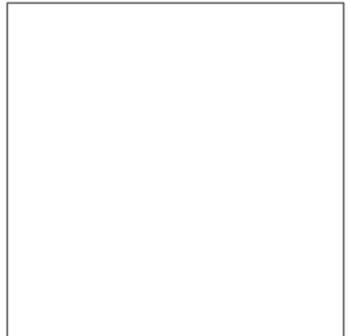
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Site Details:
447362,425069

Client Ref: UK-70093613-067_Ferrybridge_C
Report Ref: GS-2KF-BEO-I91-7FG_2500
Grid Ref: 447371, 425071

Map Name: County Series
Map date: 1893
Scale: 1:2,500
Printed at: 1:2,500

Surveyed 1893
Revised 1893
Edition N/A
Copyright N/A
Levelled N/A

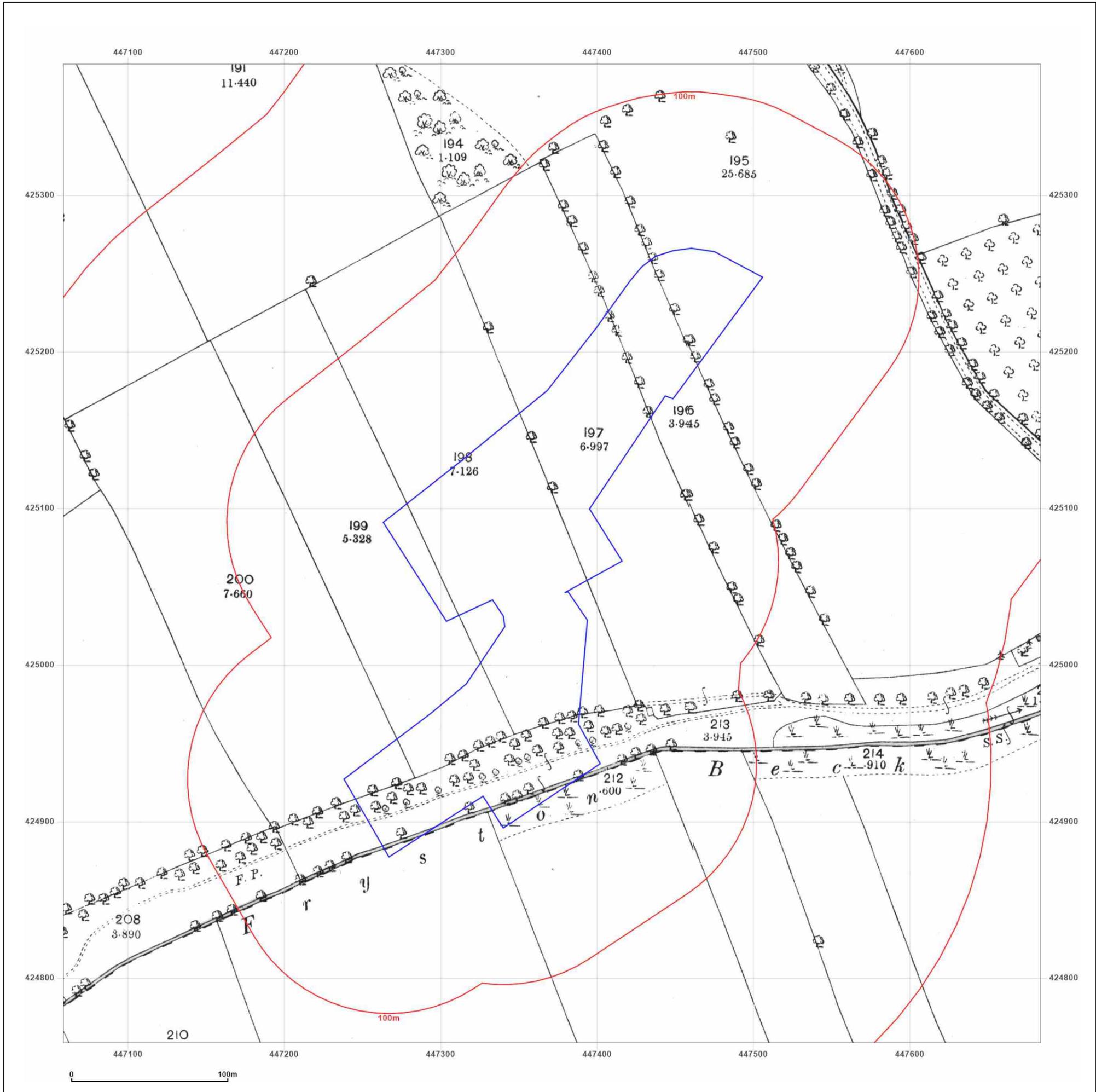


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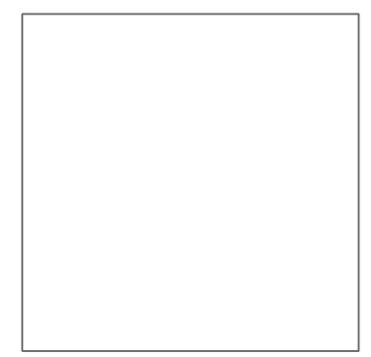
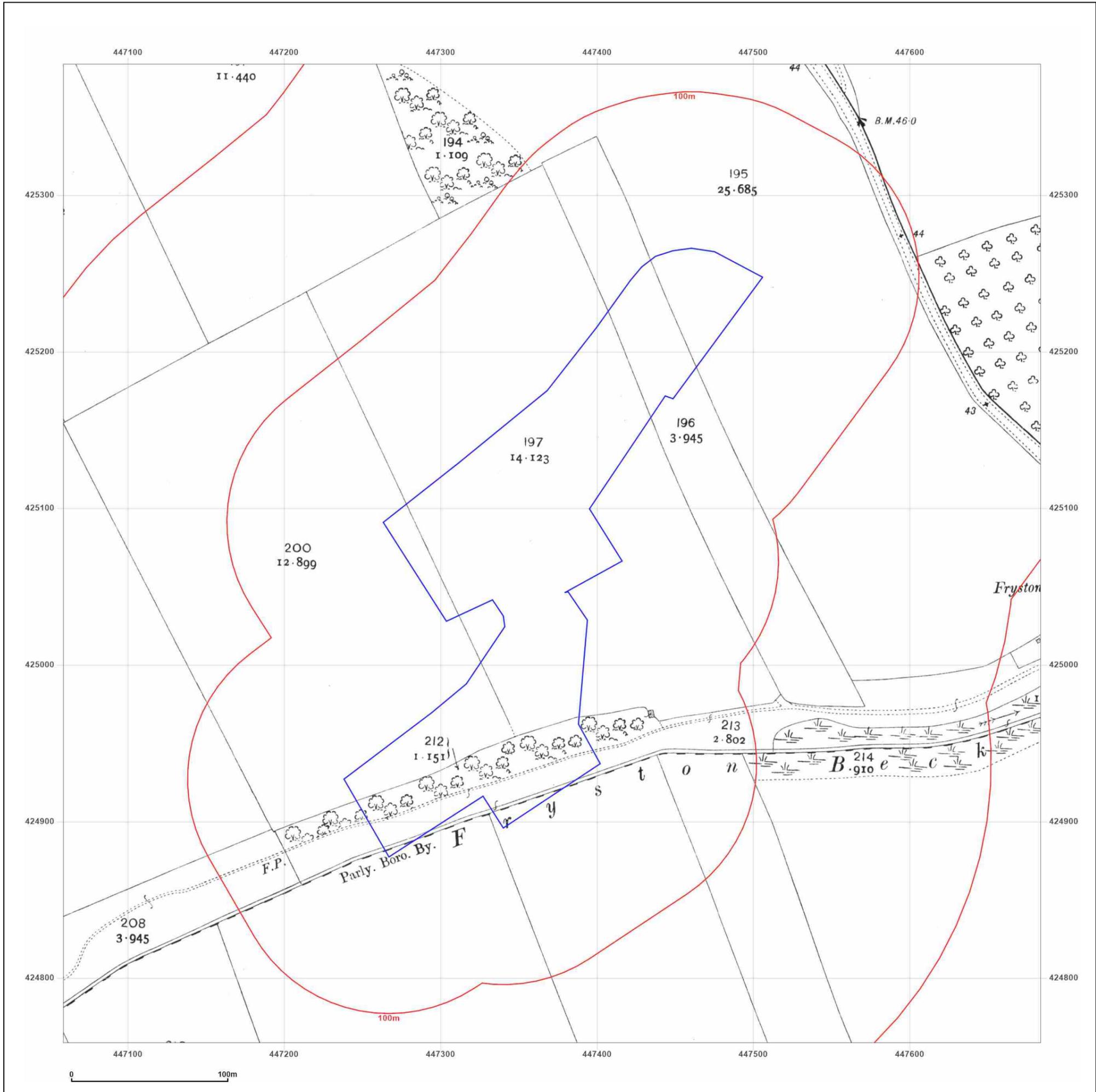
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Report Ref: GS-2KF-BEO-I91-7FG_2500
Grid Ref: 447371, 425071

Map Name: County Series

Map date: 1907

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1907
 Revised 1907
 Edition N/A
 Copyright N/A
 Levelled N/A



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Client Ref: UK-70093613-067_Ferrybridge_C
Report Ref: GS-2KF-BEO-I91-7FG_2500
Grid Ref: 447371, 425071

Map Name: County Series

Map date: 1933

Scale: 1:2,500

Printed at: 1:2,500





Surveyed 1933
 Revised 1933
 Edition N/A
 Copyright N/A
 Levelled N/A

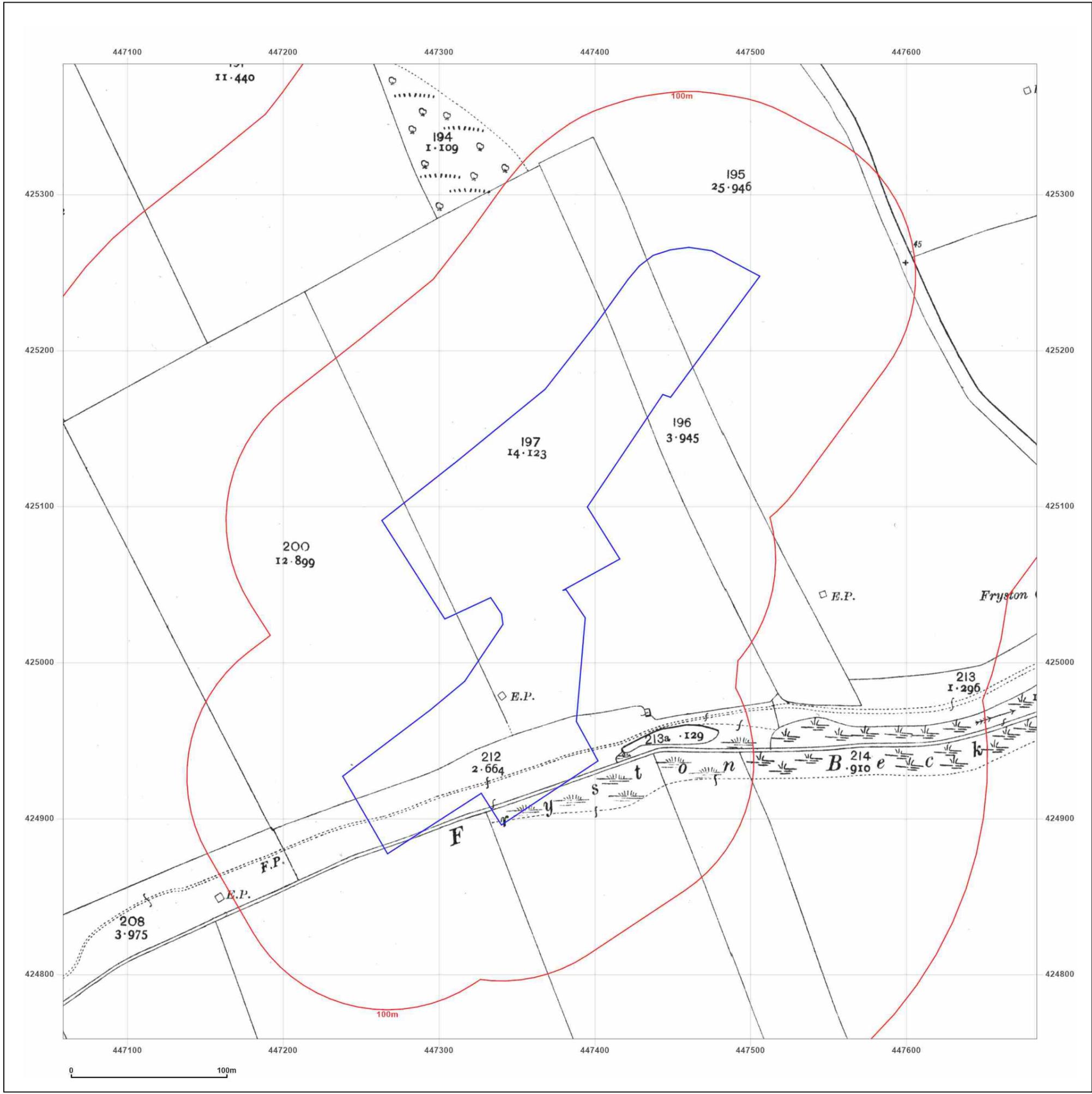


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Client Ref: UK-70093613-067_Ferrybridge_C
Report Ref: GS-2KF-BEO-I91-7FG_2500
Grid Ref: 447371, 425071

Map Name: National Grid

Map date: 1959

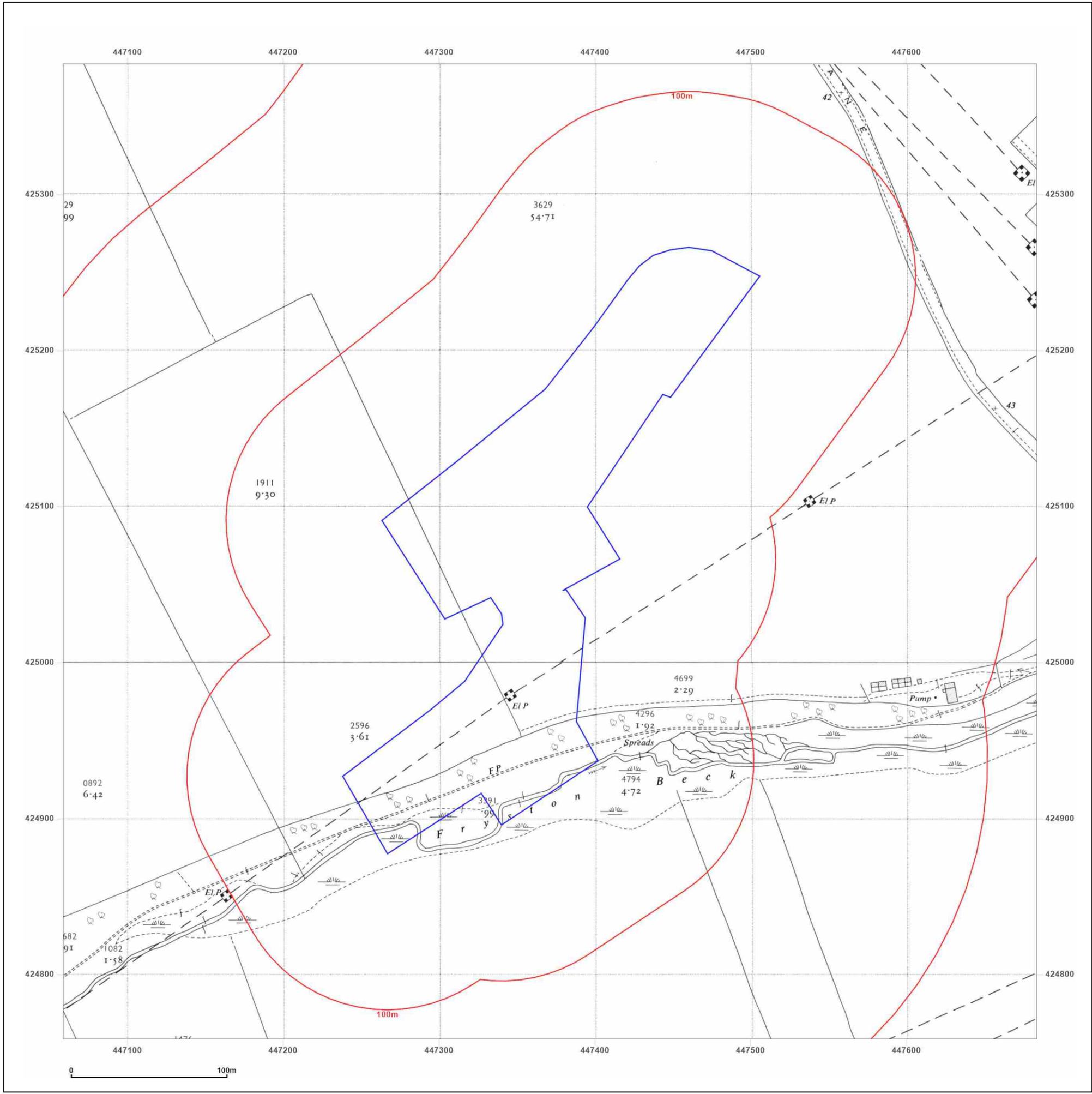
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Printed at: 1:2,500



Surveyed 1958
 Revised 1958
 Edition N/A
 Copyright 1959
 Levelled 1950

Surveyed 1958
 Revised 1958
 Edition N/A
 Copyright 1959
 Levelled 1950



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Client Ref: UK-70093613-067_Ferrybridge_C
Report Ref: GS-2KF-BEO-I91-7FG_2500
Grid Ref: 447371, 425071

Map Name: National Grid

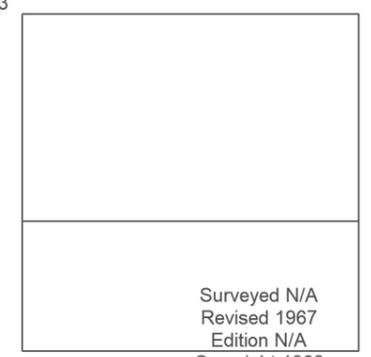
Map date: 1968-1970

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1958
 Revised 1969
 Edition N/A
 Copyright 1970
 Levelled 1963



Surveyed N/A
 Revised 1967
 Edition N/A
 Copyright 1968
 Levelled 1963



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Site Details:

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Client Ref: UK-70093613-067_Ferrybridge_C
Report Ref: GS-2KF-BEO-I91-7FG_2500
Grid Ref: 447371, 425071

Map Name: National Grid

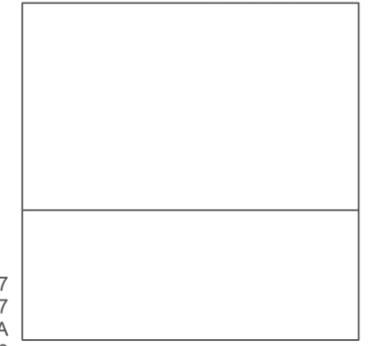
Map date: 1968-1973

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled N/A



Surveyed 1967
 Revised 1967
 Edition N/A
 Copyright 1968
 Levelled 1963

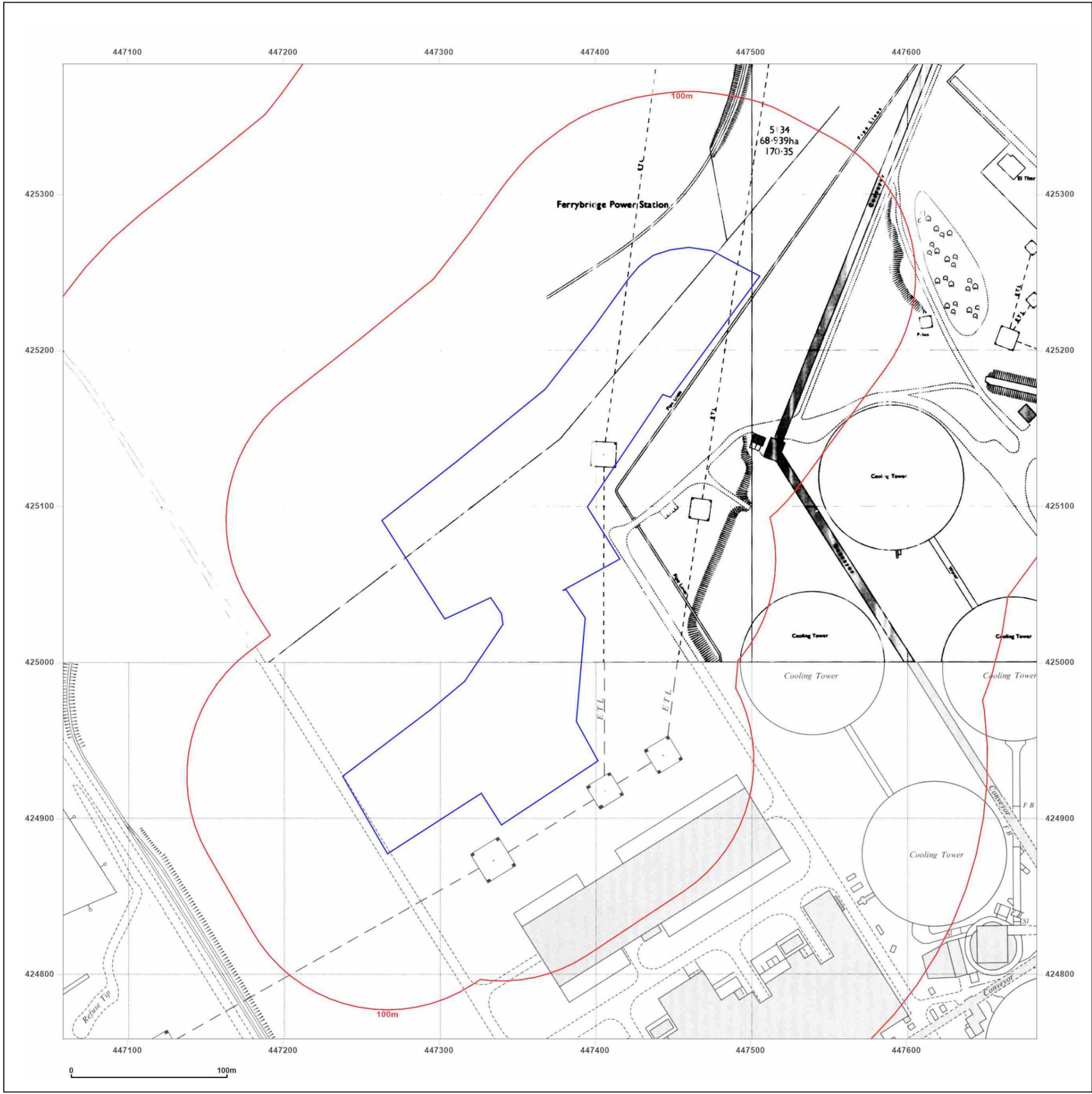


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Site Details:

447362,425069

Client Ref: UK-70093613-067_Ferrybridge_C
Report Ref: GS-2KF-BEO-I91-7FG_2500
Grid Ref: 447371, 425071

Map Name: National Grid

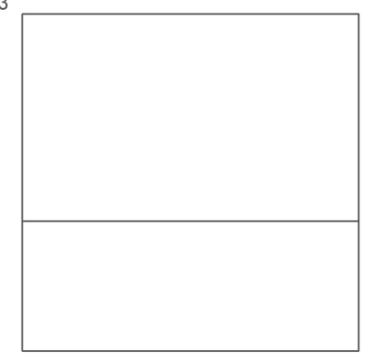
Map date: 1973

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1971
 Revised 1972
 Edition N/A
 Copyright 1973
 Levelled 1963

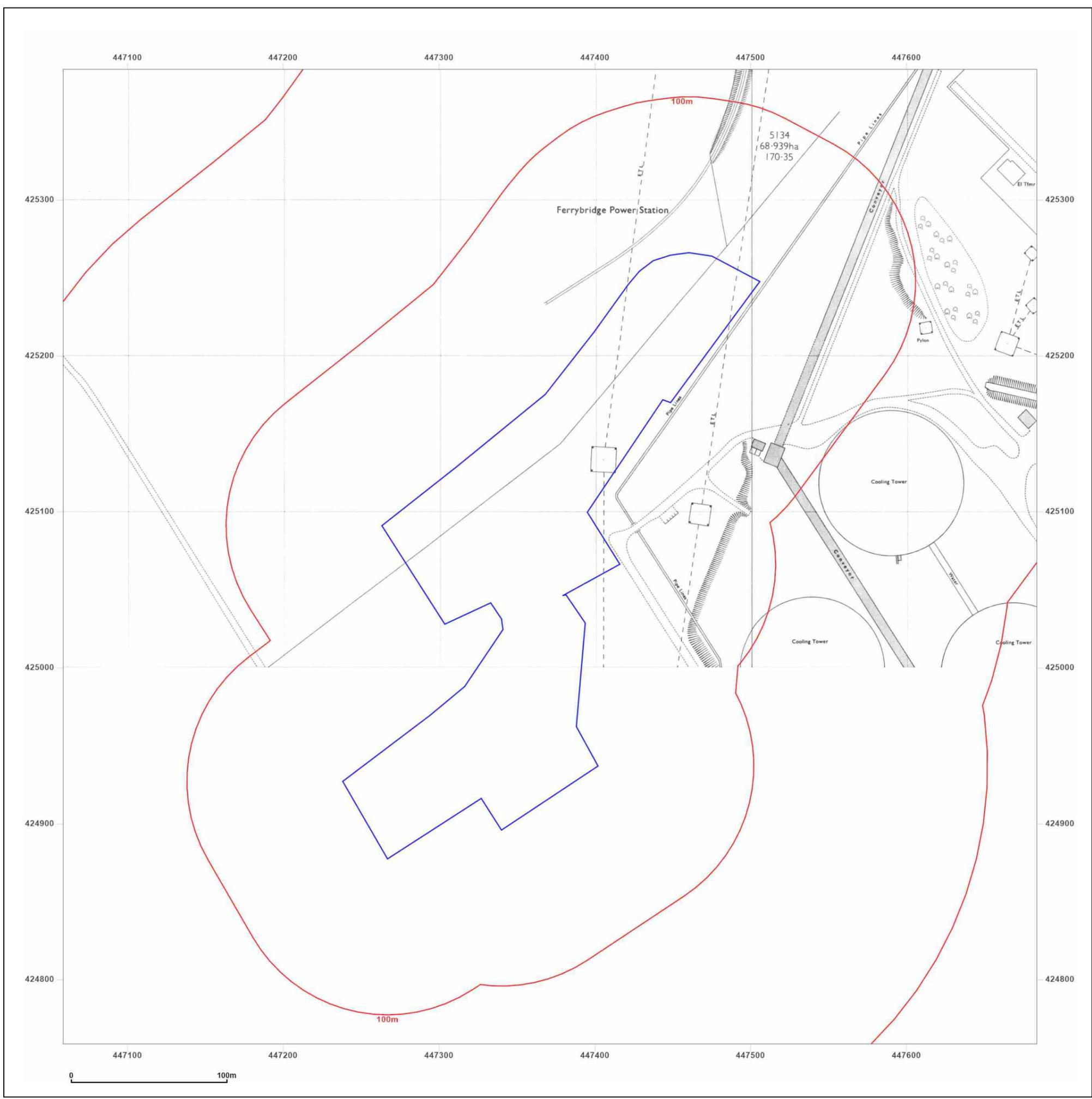


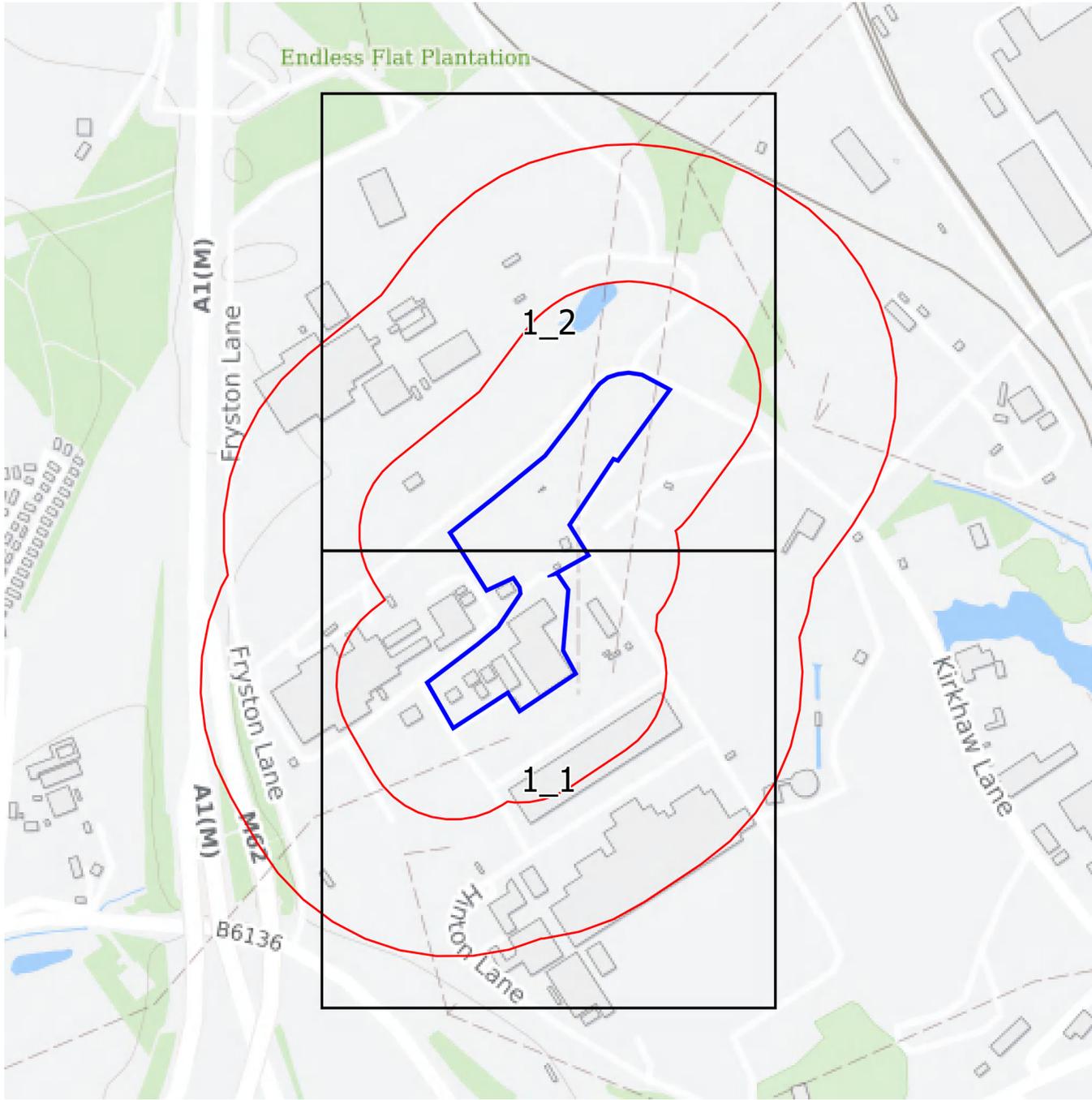
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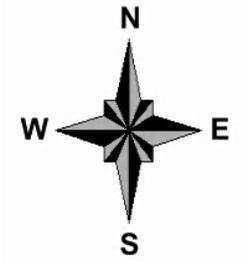




Groundsure

INSIGHTS

1:1,250 Scale Grid Index



Site Details:

447362,425069

Client Ref: UK-70093613-067_Ferrybridge_C
Report Ref: GS-2KF-BEO-I91-7FG_1250_1_2
Grid Ref: 447371, 425321

Map Name: National Grid

Map date: 1972

Scale: 1:1,250

Printed at: 1:2,000



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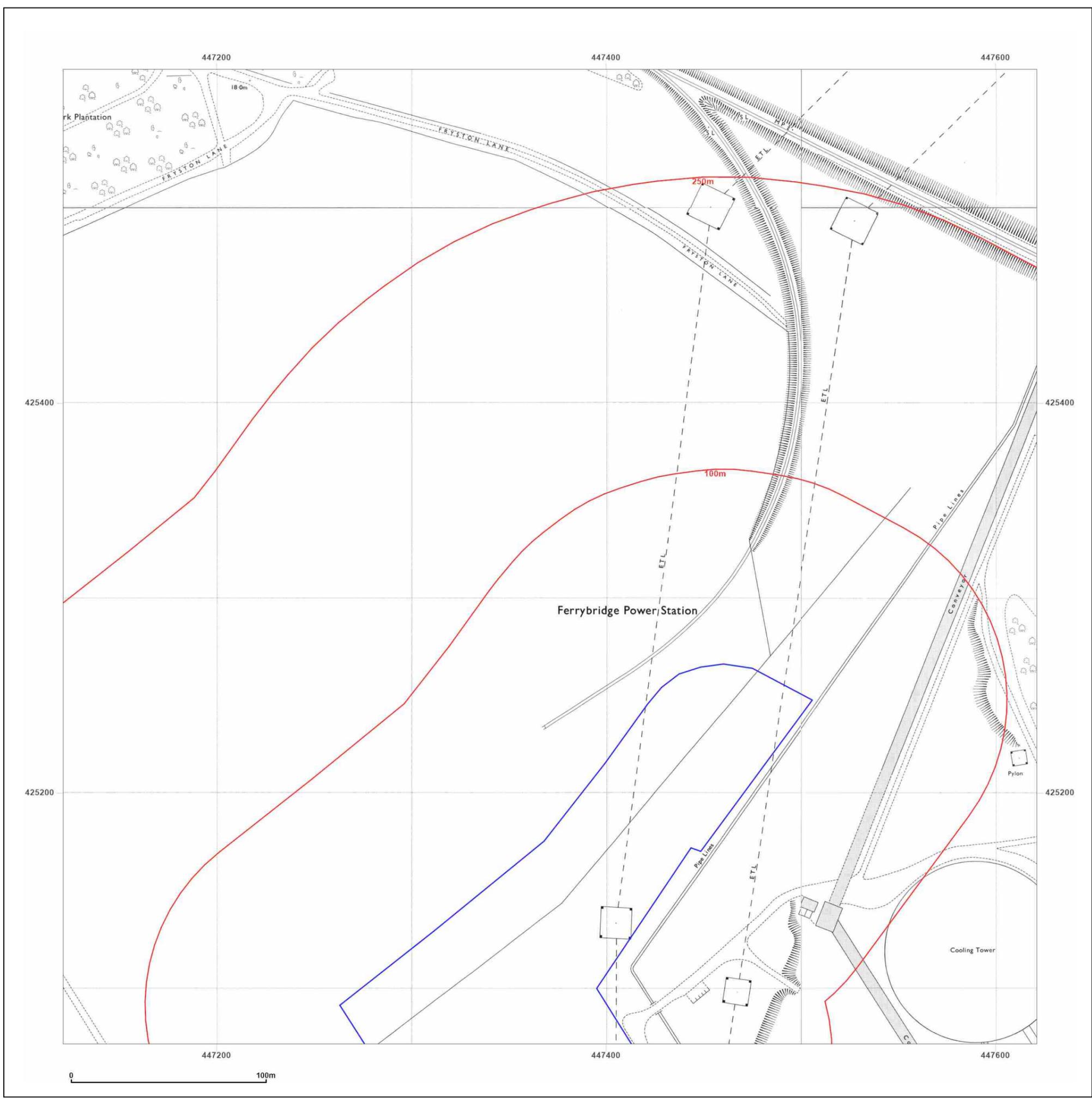


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Site Details:

447362,425069

Client Ref: UK-70093613-067_Ferrybridge_C
Report Ref: GS-2KF-BEO-I91-7FG_1250_1_2
Grid Ref: 447371, 425321

Map Name: National Grid

Map date: 1985

Scale: 1:1,250

Printed at: 1:2,000



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 Revised 1985
 Edition N/A
 Copyright 1985
 Levelled 1963

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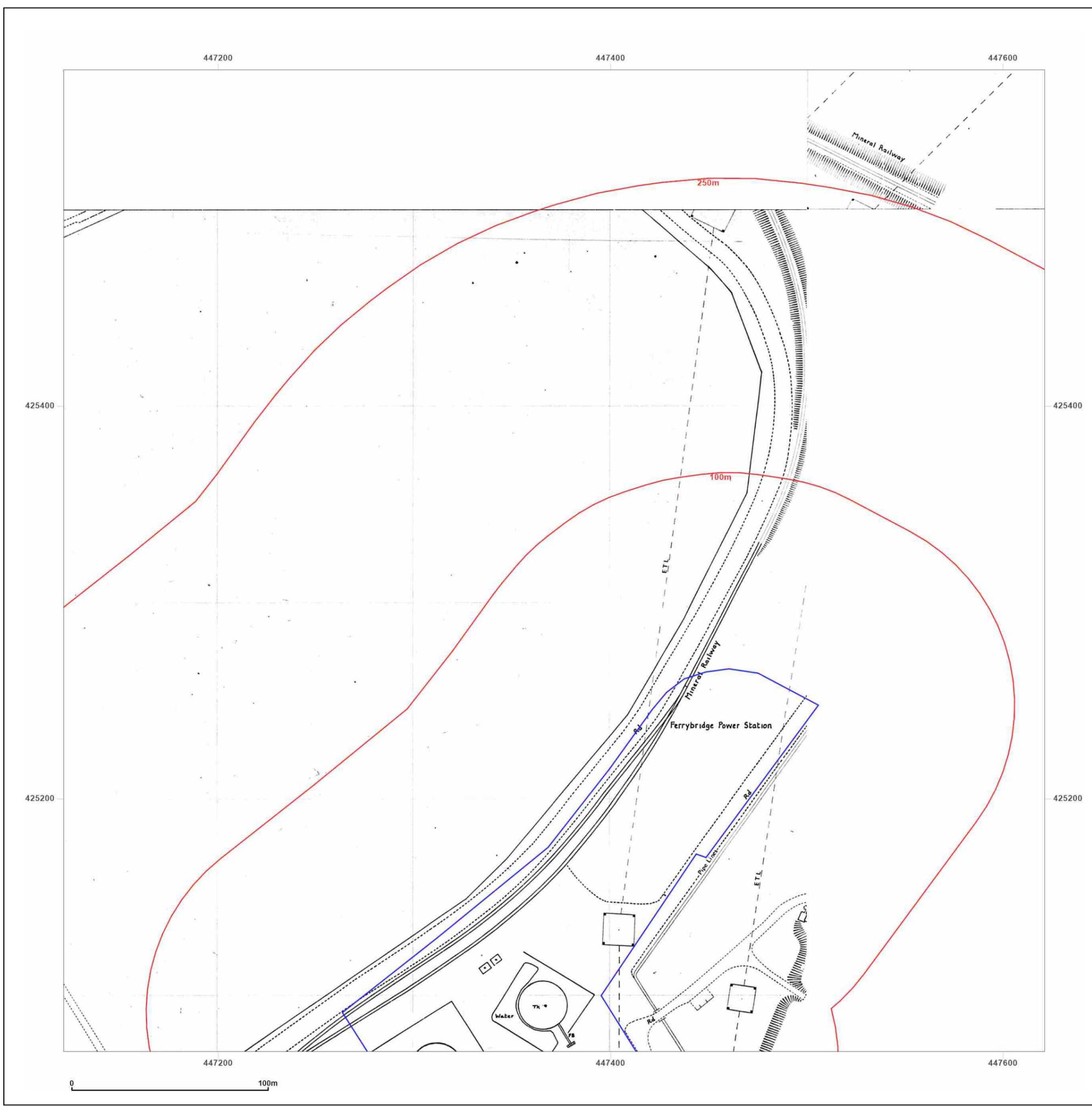


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Site Details:

447362,425069

Client Ref: UK-70093613-067_Ferrybridge_C
Report Ref: GS-2KF-BEO-I91-7FG_1250_1_2
Grid Ref: 447371, 425321

Map Name: National Grid

Map date: 1993

Scale: 1:1,250

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Site Details:

447362,425069

Client Ref: UK-70093613-067_Ferrybridge_C
Report Ref: GS-2KF-BEO-I91-7FG_1250_1_1
Grid Ref: 447371, 424821

Map Name: National Grid

Map date: 1972-1973

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Printed at: 1:2,000



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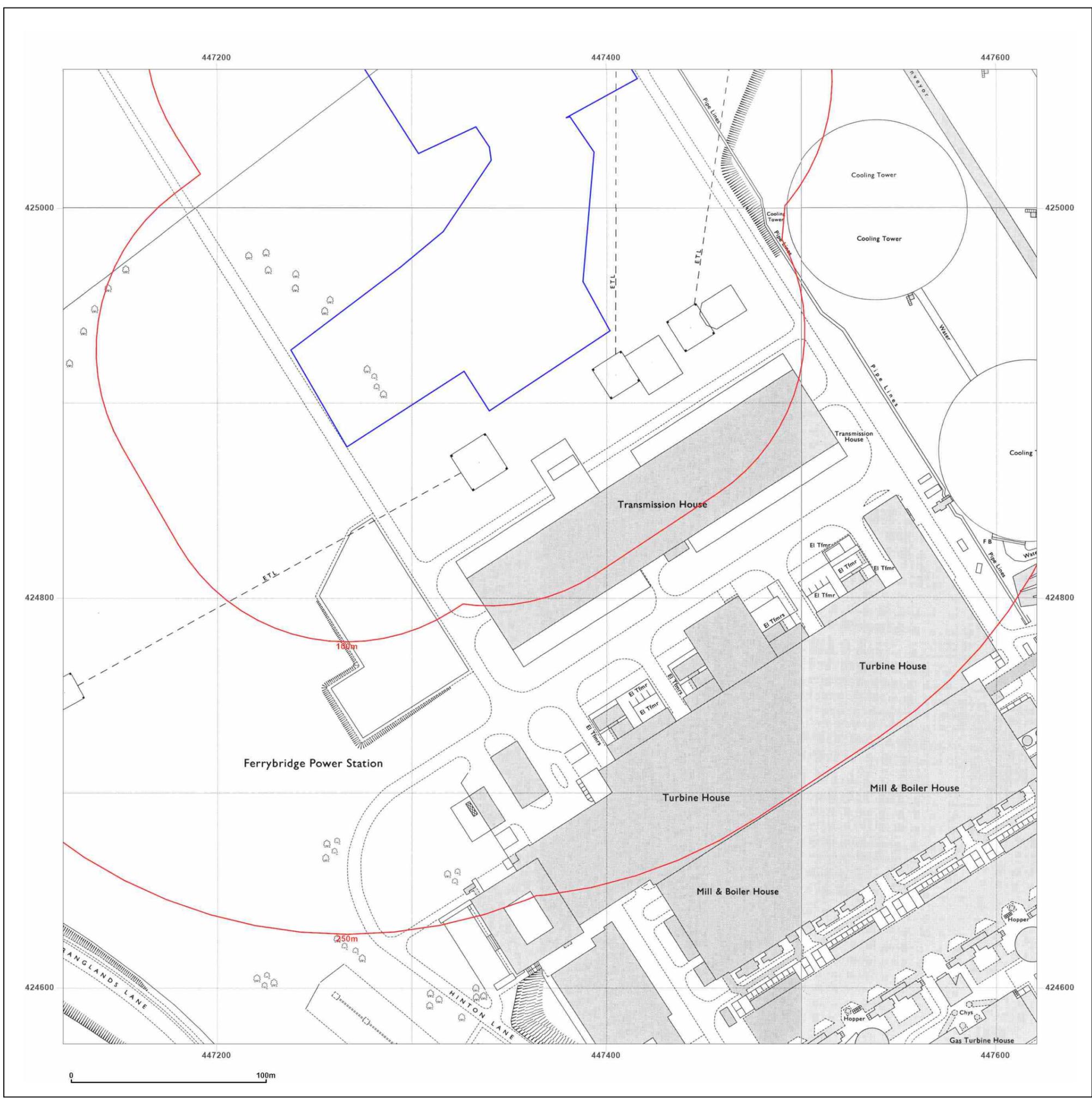


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Site Details:

447362,425069

Client Ref: UK-70093613-067_Ferrybridge_C
Report Ref: GS-2KF-BEO-I91-7FG_1250_1_1
Grid Ref: 447371, 424821

Map Name: National Grid

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Site Details:

447362,425069

Client Ref: UK-70093613-067_Ferrybridge_C
Report Ref: GS-2KF-BEO-I91-7FG_1250_1_1
Grid Ref: 447371, 424821

Map Name: National Grid

Map date: 1993-1994

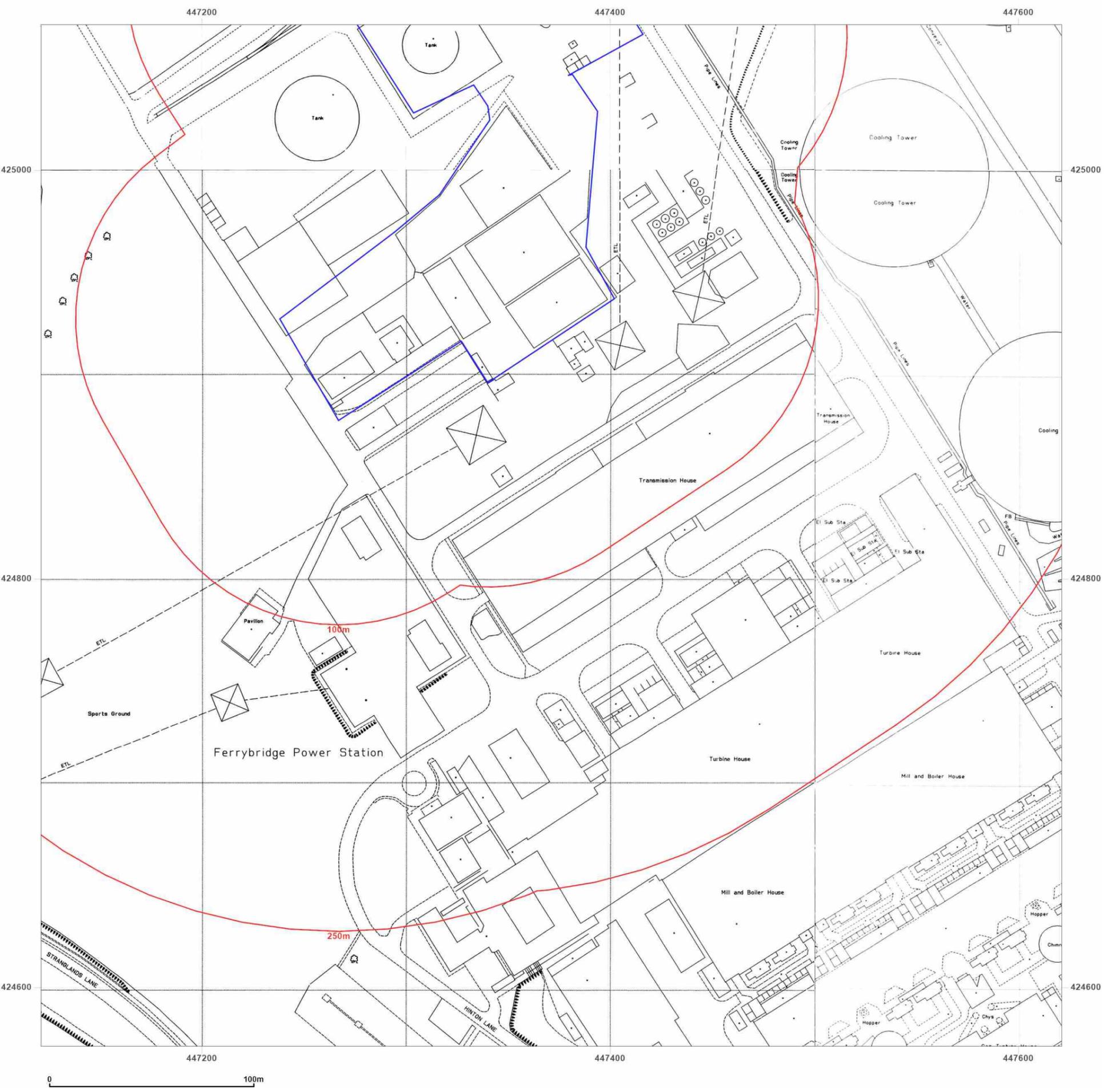
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Site Details:

447362,425069

Client Ref: UK-70093613-067_Ferrybridge_C
Report Ref: GS-2KF-BEO-I91-7FG_1250_1_1
Grid Ref: 447371, 424821

Map Name: National Grid

Map date: 1994

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Printed at: 1:2,000



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Surveyed N/A Revised N/A Edition N/A Copyright 1994 Levelled N/A	Surveyed 1994 Revised 1994 Edition N/A Copyright 1994 Levelled N/A
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Site Details:

447362,425069

Client Ref: UK-70093613-067_Ferrybridge_C
Report Ref: GS-2KF-BEO-I91-7FG_1250_1_1
Grid Ref: 447371, 424821

Map Name: National Grid

Map date: 1993-1994

Scale: 1:1,250

Printed at: 1:2,000



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Appendix C

COAL AUTHORITY COAL MINING REPORT





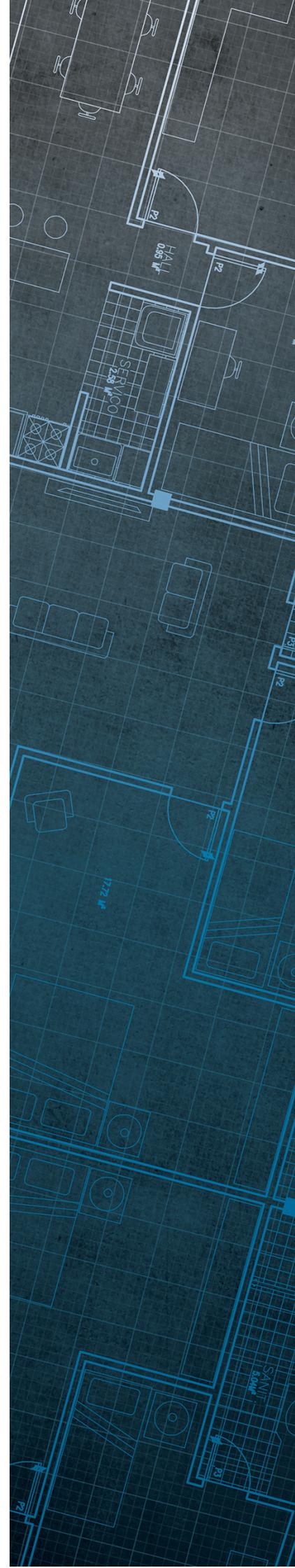
The Coal
Authority

Consultants Coal Mining Report

447362,425069,
West Yorkshire

Date of enquiry: 3 October 2024
Date enquiry received: 3 October 2024
Issue date: 3 October 2024

Our reference: 51003454259001
Your reference: GS-ID4-P9A-9DO-A7S



Consultants

Coal Mining Report

This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

Client name

GROUNDSURE LIMITED

Enquiry address

447362,425069,
West Yorkshire

How to contact us

0345 762 6848 (UK)
+44 (0)1623 637 000 (International)

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

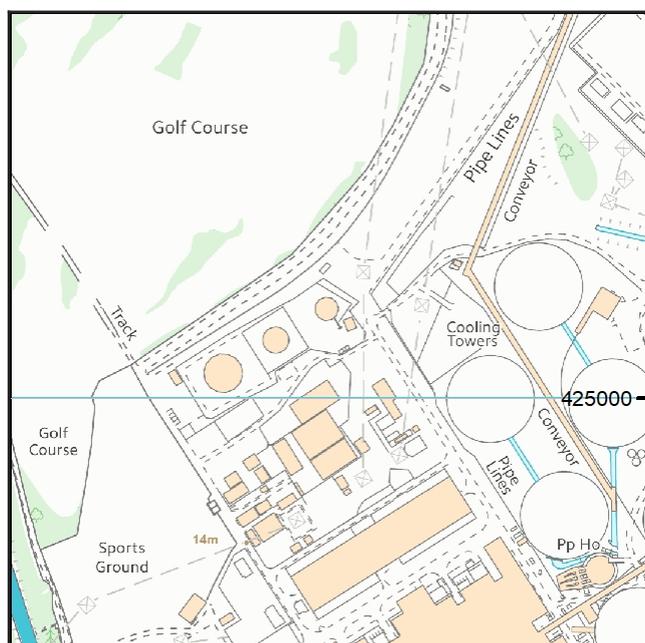
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 /company/the-coal-authority

 /thecoalauthority

 /thecoalauthority



Approximate position of property



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Section 1 – Mining activity and geology

Past underground mining

Colliery	Seam	Mineral	Coal Authority reference	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
unnamed	TOP HAIGH MOOR	Coal	6IX1	327	West	0.5	South	135	1949
unnamed	WARREN HOUSE	Coal	6IX0	329	South-West	1.9	West	112	1958
unnamed	TOP HAIGH MOOR	Coal	6IXH	330	North-West	1.1	South-East	140	1979
unnamed	FLOCKTON THICK	Coal	6IXK	411	North-West	0.7	South	117	1964
unnamed	FLOCKTON THICK	Coal	6IXJ	411	North-West	0.0	East	122	1966
unnamed	TOP BEESTON	Coal	6IXN	573	Beneath Property	3.3	South-West	204	1939
unnamed	TOP BEESTON	Coal	6IX8	575	North-West	0.8	South-East	130	1930

Probable unrecorded shallow workings

None.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

Entry type	Reference	Grid reference	Treatment description	Mineral	Conveyancing details
Adit	447424-001	447270 424940		Coal	

Abandoned mine plan catalogue numbers

The following abandoned mine plan catalogue numbers intersect with some, or all, of the enquiry boundary:

NE970	NE969	NE791
NE744		

Please contact us on 0345 762 6848 to determine the exact abandoned mine plans you require based on your needs.

Outcrops

No outcrops recorded.

Geological faults, fissures and breaklines

No faults, fissures or breaklines recorded.

Opencast mines

None recorded within 500 metres of the enquiry boundary.

Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

Section 2 – Investigative or remedial activity

Please refer to the 'Summary of findings' map (on separate sheet) for details of any activity within the area of the site boundary.

Site investigations

None recorded within 50 metres of the enquiry boundary.

Remediated sites

None recorded within 50 metres of the enquiry boundary.

Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

Mine gas

None recorded within 500 metres of the enquiry boundary.

Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

Section 3 – Licensing and future mining activity

Future underground mining

None recorded.

Coal mining licensing

None recorded within 200 metres of the enquiry boundary.

Court orders

None recorded.

Section 46 notices

No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

Withdrawal of support notices

The property is in an area where a notice to withdraw support was given in 1977.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Section 4 – Further information

The following potential risks have been identified and as part of your risk assessment should be investigated further.

Future development

If development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply specialist engineering practice required for former mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or coal mines without first obtaining the permission of the Coal Authority.

MINE GAS: Please note, if there are no recorded instances of mine gas within 500m of the enquiry boundary, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded. Developers should be aware that the investigation of coal seams, mine workings or mine entries may have the potential to generate and/or displace underground gases. Associated risks both to the development site and any neighbouring land or properties should be fully considered when undertaking any ground works. The need for effective measures to prevent gases migrating onto any land or into any properties, either during investigation or remediation work, or after development must also be assessed and properly addressed. In these instances, the Coal Authority recommends that a more detailed Gas Risk Assessment is undertaken by a competent assessor.

Development advice

The site is within an area of historical coal mining activity. Should you require advice and/or support on understanding the mining legacy, its risks to your development or what next steps you need to take, please contact us.

For further information on specific site or ground investigations in relation to any issues raised in Section 4, please call us on 0345 762 6848 or email us at groundstability@coal.gov.uk.

Section 5 – Data definitions

The datasets used in this report have limitations and assumptions within their results. For more guidance on the data and the results specific to the enquiry boundary, please **call us on 0345 762 6848** or **email us at groundstability@coal.gov.uk**.

Past underground coal mining

Details of all recorded underground mining relative to the enquiry boundary. Only past underground workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination, will be included.

Probable unrecorded shallow workings

Areas where the Coal Authority believes there to be unrecorded coal workings that exist at or close to the surface (less than 30 metres deep).

Spine roadways at shallow depth

Connecting roadways either, working to working, or, surface to working, both in-seam and cross measures that exist at or close to the surface (less than 30 metres deep), either within or within 10 metres of the enquiry boundary.

Mine entries

Details of any shaft or adit either within, or within 100 metres of the enquiry boundary including approximate location, brief treatment details where known, the mineral worked from the mine entry and conveyance details where the mine entry has previously been sold by the Authority or its predecessors British Coal or the National Coal Board.

Abandoned mine plan catalogue numbers

Plan numbers extracted from the abandoned mines catalogue containing details of coal and other mineral abandonment plans deposited via the Mines Inspectorate in accordance with the Coal Mines Regulation Act and Metalliferous Mines Regulation Act 1872. A maximum of 9 plan extents that intersect with the enquiry boundary will be included. This does not infer that the workings and/or mine entries shown on the abandonment plan will be relevant to the site/property boundary.

Outcrops

Details of seam outcrops will be included where the enquiry boundary intersects with a conjectured or actual seam outcrop location (derived by either the British Geological Survey or the Coal Authority) or intersects with a defined 50 metres buffer on the coal (dip) side of the outcrop. An indication of whether the Coal Authority believes the seam to be of sufficient thickness and/or quality to have been worked will also be included.

Geological faults, fissures and breaklines

Geological disturbances or fractures in the bedrock. Surface fault lines (British Geological Survey derived data) and fissures and breaklines (Coal Authority derived data) intersecting with the enquiry boundary will be included. In some circumstances faults, fissures or breaklines have been known to contribute to surface subsidence damage as a consequence of underground coal mining.

Opencast mines

Opencast coal sites from which coal has been removed in the past by opencast (surface) methods and where the enquiry boundary is within 500 metres of either the licence area, site boundary, excavation area (high wall) or coaling area.

Coal Authority managed tips

Locations of disused colliery tip sites owned and managed by the Coal Authority, located within 500 metres of the enquiry boundary.

Site investigations

Details of site investigations within 50 metres of the enquiry boundary where the Coal Authority has received information relating to coal mining risk investigation and/or remediation by third parties.

Remediated sites

Sites where the Coal Authority has undertaken remedial works either within or within 50 metres of the enquiry boundary following report of a hazard relating to coal mining under the Coal Authority's Emergency Surface Hazard Call Out procedures.

Coal mining subsidence

Details of alleged coal mining subsidence claims made since 31 October 1994 either within or within 50 metres of the enquiry boundary. Where the claim relates to the enquiry boundary confirmation of whether the claim was accepted, rejected or whether liability is still being determined will be given. Where the claim has been discharged, whether this was by repair, payment of compensation or a combination of both, the value of the claim, where known, will also be given.

Details of any current 'Stop Notice' deferring remedial works or repairs affecting the property/site, and if so the date of the notice.

Details of any request made to execute preventative works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991. If yes, whether any person withheld consent or failed to comply with any request to execute preventative works.

Mine gas

Reports of alleged mine gas emissions received by the Coal Authority, either within or within 500 metres of the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission. Please note, if there are no recorded instances of mine gas reported, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded.

Mine water treatment schemes

Locations where the Coal Authority has constructed or operates assets that remove pollutants from mine water prior to the treated mine water being discharged into the receiving water body.

These schemes are part of the UK's strategy to meet the requirements of the Water Framework Directive. Schemes fall into 2 basic categories: Remedial – mitigating the impact of existing pollution or Preventative – preventing a future pollution incident.

Mine water treatment schemes generally consist of one or more primary settlement lagoons and one or more reed beds for secondary treatment. A small number are more specialised process treatment plants.

Future underground mining

Details of all planned underground mining relative to the enquiry boundary. Only those future workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination will be included.

Coal mining licensing

Details of all licenses issued by the Coal Authority either within or within 200 metres of the enquiry boundary in relation to the under taking of surface coal mining, underground coal mining or underground coal gasification.

Court orders

Orders in respect of the working of coal under the Mines (Working Facilities and Support) Acts of 1923 and 1966 or any statutory modification or amendment thereof.

Section 46 notices

Notice of proposals relating to underground coal mining operations that have been given under section 46 of the Coal Mining Subsidence Act 1991.

Withdrawal of support notices

Published notices of entitlement to withdraw support and the date of the notice. Details of any revocation notice withdrawing the entitlement to withdraw support given under Section 41 of the Coal Industry Act 1994.

Payment to owners of former copyhold land

Relevant notices which may affect the property and any subsequent notice of retained interests in coal and coal mines, acceptance or rejection notices and whether any compensation has been paid to a claimant.

The map highlights any specific surface or subsurface features within or near to the boundary of the site.

Key

- Approximate position of the enquiry boundary shown 
- Disused adit 

How to contact us
0345 762 6848 (UK)
+44 (0)1623 637 000 (International)
www.groundstability.com



Appendix D

ZETICA PDSA



PA020561 — ENFINIUM FERRYBRIDGE, KNOTTINGLEY

DOCUMENT DETAILS

Site name:	Enfinium Ferrybridge, Knottingley		
Reference:	PA020561	Client:	WSP
Date:	14 th October 2024	Contact:	Tom Turner

RECOMMENDATION

While always prudent, a detailed desk study is not considered essential in this instance.

SUMMARY OF FINDINGS

Military Activity	No significant military activity affecting the Site has been identified.
WWI Bombing	<p>Potential targets within approximately 5km of the Site:</p> <ul style="list-style-type: none"> ▪ Transport infrastructure and public utilities. ▪ Anti-invasion defences. <p>No readily available records have been found indicating that the Site was bombed.</p>
WWII Bombing	<p>The Site was located in Knottingley Urban District (UD), near Castleford UD. Knottingley UD officially recorded no High Explosive (HE) bombing. Castleford UD officially recorded 19No. HE bombs, with a density of 4.3 bombs per 405ha.</p> <p>Potential targets within approximately 5km of the Site:</p> <ul style="list-style-type: none"> ▪ Transport infrastructure and public utilities. ▪ Chemical works. ▪ Military establishments and training areas. ▪ AA and anti-invasion defences. <p>No readily available records have been found indicating that the Site was bombed.</p>
Bombing Decoys	None identified within 5km of the Site.

FURTHER INFORMATION

These findings are based on a cursory review of readily available records; caution is advised if you plan to action work based on this PDSA.

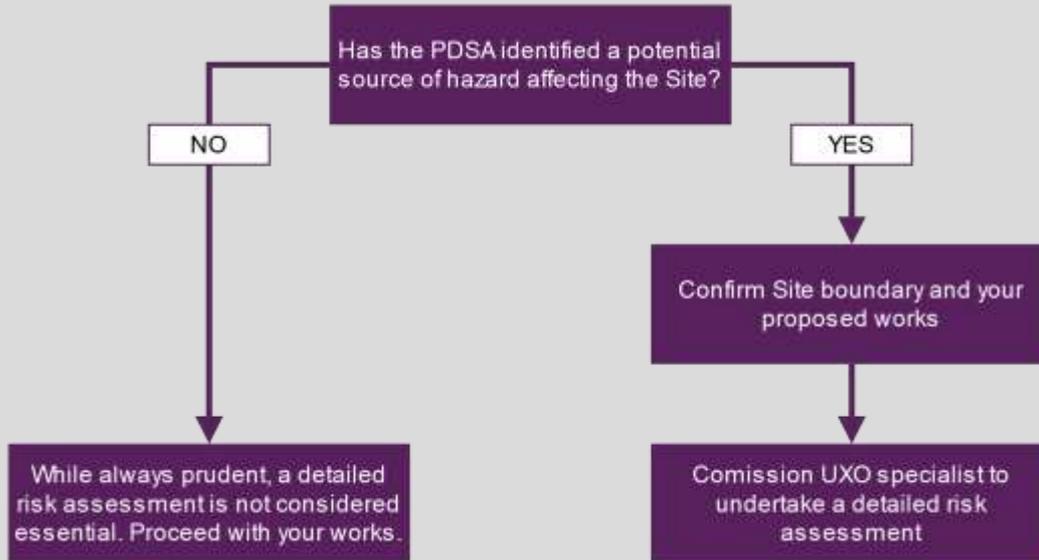
Where a potentially significant UXO hazard source has been identified on the Site, no further research has been undertaken. A detailed UXO desk study and risk assessment may identify other potential UXO hazard sources on the Site.

Visit www.zeticauxo.com to learn more about Zetica’s detailed UXO desk studies and other UXO services. Click [here](#) for more information about the most common UXO hazard sources in the UK.

If you have any further queries, please don’t hesitate to contact us at uxo@zetica.com or 01993 886 682.

NEXT STEPS

Follow the steps below to determine the appropriate course of action:



Potential UXO hazard identified? If the PDSA has identified a potential source of UXO hazard affecting your site, then a detailed UXO risk assessment is recommended.

No obvious source of UXO hazard? If the PDSA has not identified any obvious source of potential UXO, works can proceed.

It is good practice to raise awareness of the background UXO risk in the UK as part of a standard site induction. This will ensure that appropriate action is taken in the unlikely event that UXO is discovered.

Don't skip a stage: If you skip the detailed risk assessment stage, you could end up undertaking unnecessary work (e.g. trying to detect a UXO hazard that has already been removed).

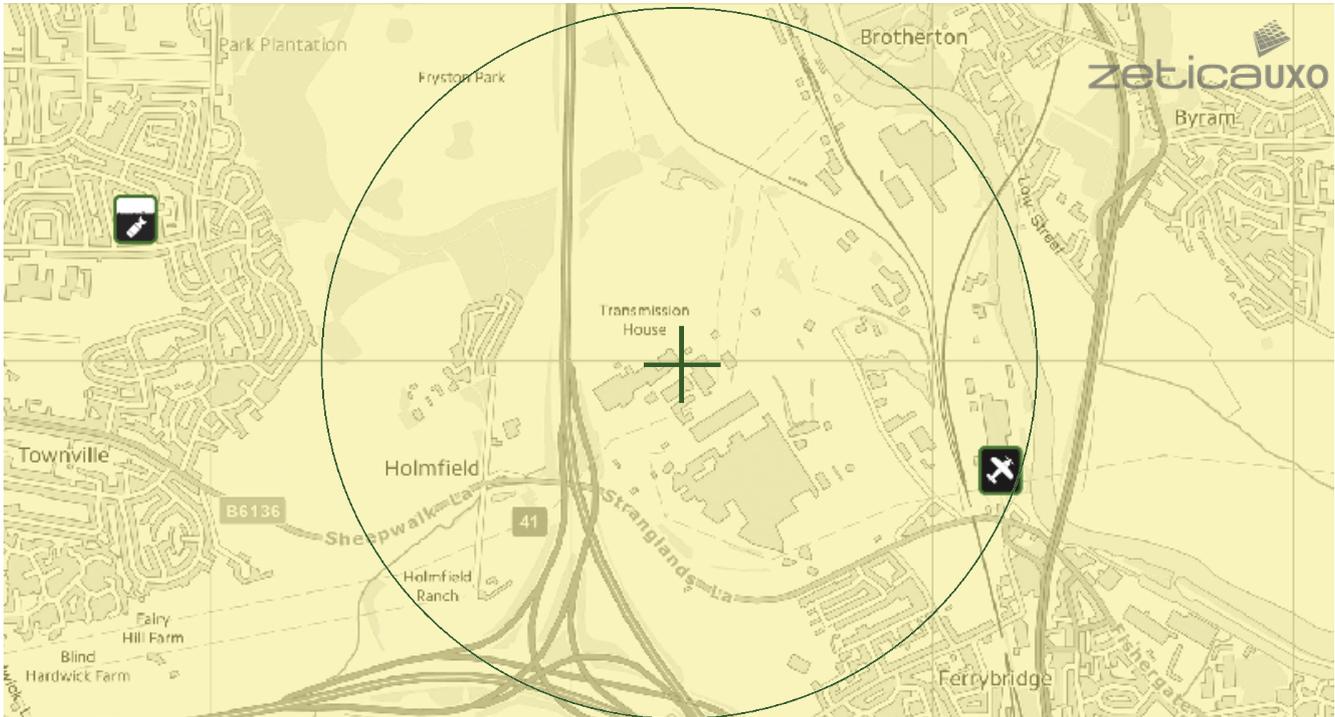
Similarly, a detailed risk assessment might find that the UXO hazard is worse than expected and has a greater potential to cause harm, requiring a different mitigation approach than would otherwise be undertaken.

UNEXPLODED BOMB RISK MAP



SITE LOCATION

Location: WF11 8DX,
Map Centre: 447270,425000



This map principally indicates a hazard from Unexploded Bombs (UXB) due to WWII bombardment. Other sources of Unexploded Ordnance (UXO) may be present. It should be noted that this map does not represent UXO risk and should not be reported as such when reproduced.

LEGEND

- **High:** Areas indicated as having a bombing density of 50 bombs per 1000acre or higher.
- **Moderate:** Areas indicated as having a bombing density of 15 to 49 bombs per 1000acre.
- **Low:** Areas indicated as having 15 bombs per 1000acre or less.

Military	Industry	UXO find	Other
Transport	Docks	Luftwaffe targets	
Utilities	Bombing decoy	Airfields	

How to use your Unexploded Bomb (UXB) risk map?

This map indicates the potential for UXBs to be present because of World War Two (WWII) bombing. It can be incorporated into a technical report, such as a Phase 1 Desk Study, or similar document as an indication of the potential for UXO encounter on a Site. Other sources of UXO may also be indicated, although note that these are not comprehensive and more detailed research is required to confirm their presence.

What if my Site is in a moderate or high density area?

We typically recommend that a detailed UXO desk study and risk assessment is undertaken for sites in an area with a moderate or high bombing density. Additionally, if your site is in close proximity to a strategic target, military establishment, airfield or bombing decoy, then [additional detailed research](#) is recommended.

If my site is in a low risk area, do I need to do anything?

If both the map and other research confirm that there is a low potential for UXO to be present on your site, then, subject to your own comfort and risk tolerance, works can proceed with no special precautions.

If you are unsure whether other sources of UXO may be present, you can request one of our [pre-desk study assessments \(PDSA\)](#) by emailing a site boundary and location to pdsa@zetica.com.

You should never plan site work or undertake a risk assessment using these maps alone. More detail is required, to include an assessment of the likelihood of a source of UXO hazard from other military activity not reflected on these maps.

If I have any questions, who do I contact?

tel: [+44 \(0\) 1993 886682](tel:+441993886682) email: uxo@zetica.com web: www.zeticauxo.com

The information in this UXB risk map is derived from a range of sources and should be used with the [accompanying notes on our website](#).

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Appendix E

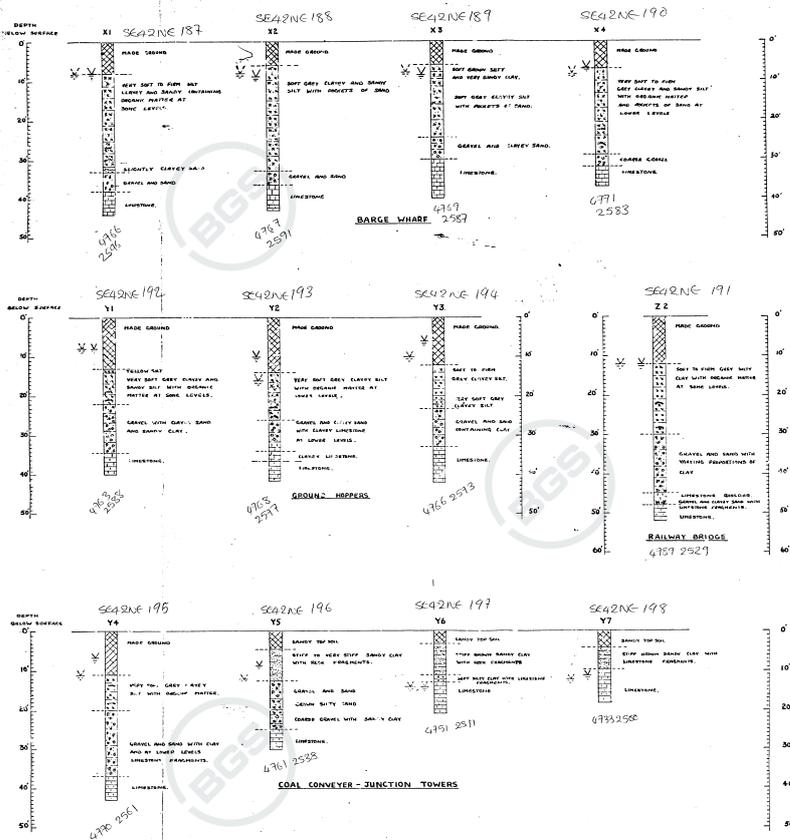
BGS BOREHOLE RECORDS



Map Key

Borehole records

- Unknown Length
- Confidential
- 0 - 10m
- 10 - 30m
- 30m+



WATER STRUCK
 STANDING WATER LEVEL

THIS INFORMATION, WHEN USED IN CONJUNCTION WITH EXPLORATIONS LTD.'S IS INTENDED FOR GUIDANCE PURPOSES ONLY.

GENERAL ELECTRICITY GENERATING BOARD
 PROJECT GROUP
 BRISTOL VILL
 AREA OF CONCERN 2
 FC 31 00 3001
 DRG. No 1450/4/10
CEGB FERRYBRIDGE 'C'
 SITE INVESTIGATION
 BOREHOLE SECTIONS
 Drawn by: [Signature] Date: 17/10/66
 Checked by: [Signature] Date: 17/10/66
C. S. ALLOTT & CO
 CONSULTING ENGINEERS
 30, ABchurch Lane, LONDON

CON
 TENDER DRAWING
 See CON 1450/4/10



SURVEY OF EXISTING BOREHOLES



0245

B.G.S. Ref. No.

N.G.R. SE 4719 2507

Licence No.

Owners Name Ferrybridge Golf Club
Address Ferrybridge 'C' Powerstation, Straglands Lane,
Knottingley, W. Yorks, WF11 8SQ

App No.

Authorised Abstraction

7 tcma
40 cu m/d
4.5 cu m/h

STRATA DETAILS	Depth	Thick										
	_m	_m										
Top Soil	0.30	0.30										
Fill	0.30	0.60										
LIMESTONE	30.00	27.40										

Dia. 150 mm
Depth 30.00 m
Lining 6.5m plain
slotted to 30.0m
Well Sinker M+D Drilling
Date May 2004
R.W.L. 6.95 m (02/06/04)
P.W.L. 7.02 m (AS=0.07m)
Rate 4.56 m³/h

FORM WR - 38

Agency No:



ENVIRONMENT AGENCY

SE42/83

BOREHOLE RECORD

A. SITE DETAILS

NORTHEAST E.A. SOUTHERN L.S

78

SE42NE/296

Borehole drilled for	FERRYBRIDGE GOLF CLUB	
Location	FERRYBRIDGE 'C' POWER STATION KNOTTINGLEY	
NGR (8 fig) Ground Level (if known)	SE4719 2507	Please attach site plan
Drilling Company	MJD DRILLING	
Date of drilling	Commenced: 10-5-2004 Completed: 19-5-2004	

B. CONSTRUCTION DETAILS

Borehole datum (if not ground level).....	<u>GROUND LEVEL</u>	above
(point from which all measurements of depth are taken eg flange, edge of chamber, etc)		m below GL
Borehole drilled diameter	<u>250</u> mm from <u>0</u>	to <u>6-50</u> m/depth
	<u>150</u> mm from <u>6-50</u>	to <u>30-00</u> m/depth
	_____ mm from _____	to _____ m/depth
Casing material _____ diameter	_____ mm from _____	to _____ m/depth
and type (eg plain steel, plastic slotted)		
- <u>STEEL</u> diameter	<u>150</u> mm from <u>0</u>	to <u>6-50</u> m/depth
PLASTIC <u>PLAIN</u> diameter	<u>100</u> mm from <u>0</u>	to <u>30-00</u> m/depth
<u>SLOTTED</u> diameter	_____ mm from _____	to _____ m/depth
_____ diameter	_____ mm from _____	to _____ m/depth
Grouting details	<u>ANNUALS GROUTED</u>	
Water struck at	<u>9-00</u>	m (depth below datum - mbd)
	_____	m (depth below datum - mbd)
Rest water level on completion	<u>6-00 (6-95)</u>	m (depth below datum - mbd)

FERRYBRIDGE 30



C. TEST PUMPING SUMMARY (Please supply fully details on Form WR - 39)

SE42/83

Test Pumping Datum (if different from borehole datum)	<u>0.78</u>	above m below borehole datum (mbd)
Pump Suction Depth	<u>18.0</u>	mbd
Water Level (Start of Test)	<u>6.95</u>	mbd
Water Level (End of Test)	<u>7.02</u>	mbd
Pumping rate	<u>4.56 m³/hr</u>	m ³ /d : 1/3 hr
for	<u>24</u>	days/hours
Recovery to (from end of pumping)	<u>6.95</u> mbd in <u>10</u> mins : hrs : days	
Date(s) of measurements	<u>22/3/04</u>	
Please Supply Chemical Analysis If Available		
<u>Attached.</u>		

D. STRATA LOG

Geological Classification (BGS only)	Description of Strata	Thickness	Depth
		m	m
	TOP SOIL	0-30	0-30
	FILL	0-30	0-60
	LIMESTONE	29-40	30-00
[continue on separate page if necessary]			
Other Comments (eg gas encountered, saline water intercepted, etc)			

FOR OFFICIAL USE ONLY

FILE CONSENT NO BGS REF NO
LICENCE NO USE OF BH NGR.....



ALcontrol Laboratories

Bradford Laboratory, George Street, Bradford. BD1 5PZ (UKAS Lab No. 0996)
Rotherham Laboratory, Mill Close, Rotherham. S60 1BZ (UKAS Lab No. 2300)
Telephone: 01709 841096 Fax: 01709 841079 E-mail: customer.services@alcontrol.co.uk

SE42/83

Certificate ID : 99519192/S/0/1

Certificate of Analysis

Marral Chemicals Ltd
260a Castleford Road
Normanton
Wakefield
WF6 1PY

Sample Date: 12/08/04
Sample Received: 13/08/04
Analysis Completed: 23/08/04

Batch Number: 2019597

Laboratory Number: 99519192

Borehole
Site: Ferrybridge Golf Club
Job Ref: Bore Hole

Method	Determination	Result	Units
RP901.0	Conductivity 20C	1410	uS/cm
RP901.0	pH	7.3	-
RP901.0	Turbidity	< 0.15	NTU
RP902	Nitrate	98.358	mg/l NO3
RP902	Nitrite	0.0240	mg/l NO2
RP902	Nitrogen tot oxid	98.390	mg/l NO3
RP902	Ammoniacal Nitrogen	< 0.01	mg/l NH4
R8P	Iron	< 12	ug/l Fe
R8P	Aluminium	< 7	ug/l Al
R8P	Manganese	< 2.7	ug/l Mn
RP901.0	Colour True	< 1.7	mg/l Pt/Co
R8P	Copper	< 3	ug/l Cu
R8P	Lead	< 0.14	ug/l Pb
RP902	Chloride	179	mg/l Cl
R8P	Sulphate	246	mg/l SO4
R8P	Calcium	163	mg/l Ca
R8P	Magnesium	62.8	mg/l Mg

Page 1 of 2

Tests marked \$ in this report are subcontracted. Method prefix denotes the Lab where the analysis has been performed, R = Rotherham, B = Bradford, L = Langley Labs. Tests Marked * in the report are not included in the UKAS Accreditation Schedule for our laboratory. Sampling, opinions and interpretations expressed herein are outside the scope of UKAS Accreditation. Method details and performance characteristics are available on request. < = Less than, > = greater than. For taste and odour: 1 = present, 0 = absent. # = data supplied by client For softened water supply minimum concentrations apply for hardness (60mg/l as Ca) and alkalinity (30mg/l as HCO3)



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0995
2996
2300



ALcontrol Laboratories

SE42/83

Certificate ID : 99519192/S/0/1

Bradford Laboratory, George Street, Bradford. BD1 5PZ (UKAS Lab No. 0996)
Rotherham Laboratory, Mill Close, Rotherham. S60 1BZ (UKAS Lab No. 2300)
Telephone: 01709 841096 Fax: 01709 841079 E-mail: customer.services@alcontrol.co.uk

Certificate of Analysis

Marral Chemicals Ltd
260a Castleford Road
Normanton
Wakefield
WF6 1PY

Sample Date: 12/08/04
Sample Received: 13/08/04
Analysis Completed: 23/08/04

Batch Number: 2019597

Laboratory Number: 99519192

Borehole
Site: Ferrybridge Golf Club
Job Ref: Bore Hole

Method	Determination	Result	Units
R8P	Sodium	97.0	mg/l Na
RP903.4	Fluoride	242	ug/l F
R8P	Hardness total	266	mg/l Ca
RP902	Alkalinity total	359.9	mg/l HCO ₃
BP50.15	Total coliforms	0	CFU/100ml
BP50.15	Escherichia coli	0	CFU/100ml
BP50.5	Colonies 2 day 37c	3	CFU/ml
BP50.5	Colonies 3 day 22c	4	CFU/ml
BP50.12	Sulphite red clostridia	0	CFU/100ml
BP50.7	Faecal streptococci	0	CFU/100ml

Approved by

Jane Thompson (Laboratory Manager Spec Micro)
24/08/04

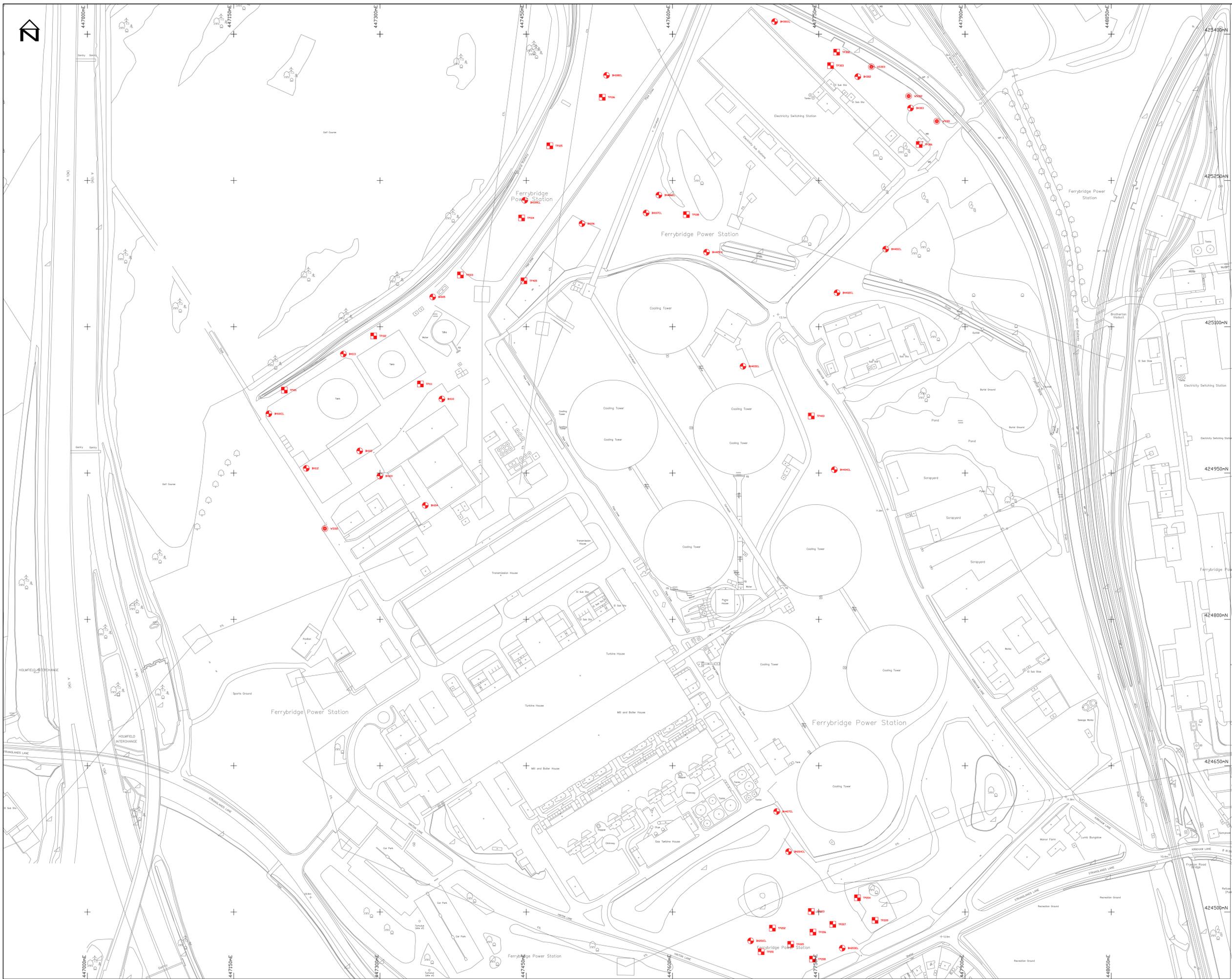
Page 2 of 2

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0995
0996
2300

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GENERAL NOTES

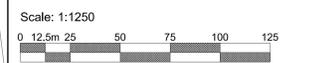
1) Coordinates and levels related to Ordnance Survey National Grid and Datum using Letalis VIVA dual frequency geodesic GPS receiver and Smartnet RTK correction. WGS84 position transformed using the Ordnance Survey OSTN02GM02 definitive transformation for the United Kingdom.
 2) Background mapping provided in digital format by client. Reproduced with the Permission of Ordnance Survey on the behalf of the Controller of Her Majesty's Stationery Office. Crown Copyright. All Rights Reserved. Licence No. 100000000.

CO-ORDINATES

Reference	East	North	Elevation
BH101			14.94
BH101CL	447186.09	425010.87	15.23
BH102	447279.25	424972.75	13.93
BH103	447299.90	424947.00	13.84
BH104	447346.53	424916.96	13.89
BH105	447354.08	425130.62	14.41
BH106	447507.19	425205.80	13.89
BH107			12.91
BH107CL	447572.93	425216.73	12.43
BH108			12.13
BH108CL	447532.35	425357.80	12.43
BH109			15.99
BH109CL	447448.52	425229.76	16.26
BH110	447363.56	425026.03	13.77
BH112	447224.48	424954.91	14.09
BH113	447262.52	425072.08	14.25
BH201			12.87
BH201CL	447680.12	424470.51	13.11
BH203			12.87
BH203CL	447774.05	424463.03	13.11
BH204			13.42
BH204CL	447719.06	424561.96	13.93
BH301			12.37
BH301CL	447704.69	425412.91	12.64
BH302	447790.01	425356.47	11.93
BH303	447844.10	425324.26	12.26
BH401			12.59
BH401CL	447818.58	425179.64	12.78
BH402			12.59
BH402CL	447768.71	425134.91	12.81
BH403			12.75
BH403CL	447672.30	425059.51	13.10
BH404			12.00
BH404CL	447765.93	424953.49	12.54
BH405			12.76
BH405CL	447634.91	425176.49	13.15
BH406			12.00
BH406CL	447586.05	425235.04	12.30
BH407			14.41
BH407CL	447706.82	424603.08	14.77
TP101	447201.96	425035.12	15.09
TP102	447293.60	425090.63	14.21
TP103	447382.54	425153.17	15.14
TP104	447445.28	425211.62	16.09
TP105	447474.21	425285.57	13.94
TP106	447528.01	425335.34	12.95
TP108	447614.25	425215.01	12.55
TP111	447341.52	425041.39	13.86
TP201	447690.92	424459.32	12.82
TP202	447702.43	424463.52	12.87
TP203	447742.31	424500.62	12.61
TP204	447789.62	424514.63	13.24
TP205	447721.20	424466.96	12.80
TP206	447744.05	424479.43	12.70
TP207	447764.40	424487.40	12.54
TP208	447743.60	424451.75	12.90
TP209	447807.67	424491.49	13.45
TP302	447768.29	425381.54	11.44
TP303	447762.05	425367.81	11.47
TP306	447852.97	425286.89	12.60
TP403	447742.33	425008.58	12.00
TP405	447447.67	425147.16	15.18
WS102	447243.53	424893.14	13.54
WS301	447871.02	425310.79	11.94
WS302	447842.16	425336.52	12.26
WS303	447803.96	425366.56	12.07

LEGEND TO SYMBOLS

- Denotes Borehole Location
- Denotes Trial Pit Location
- Denotes Window Sample Location



Rev	Drawn	Date	Appov.	Date	Modification Details
0	DPJ	OCT '10	PMJ	OCT '10	Approved

AMENDMENTS

Title

SITE PLAN

Project
FERRYBRIDGE MULTI-FUEL POWER STATION

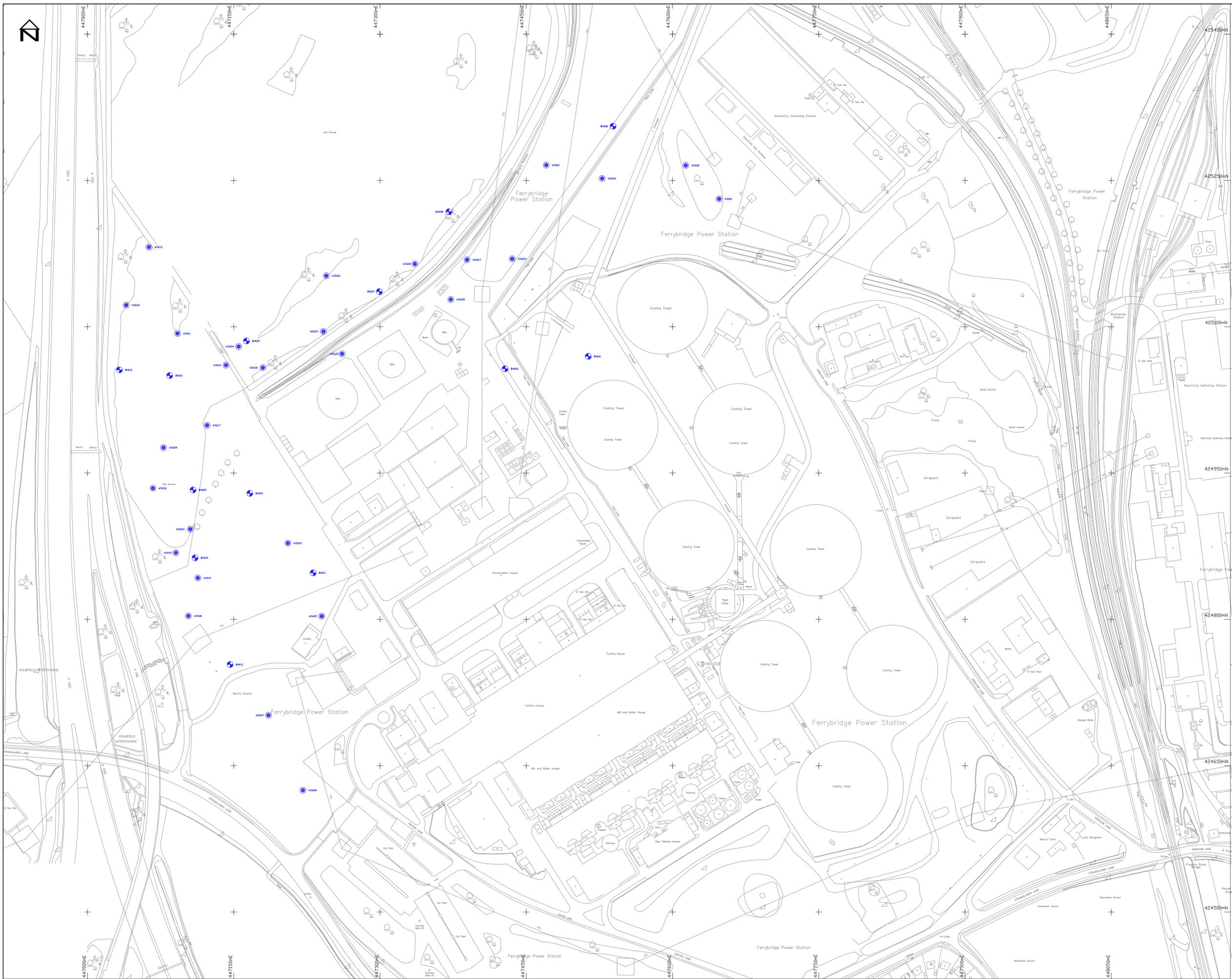
Client
Scottish and Southern Energy Generation Ltd



Date	Drawn By	Appov. By
11/10/10	PMJ	BS

Sheet Size	Scale	Project No
A0	1:1250	A0054-10

Figure No	Rev
F2	0



GENERAL NOTES

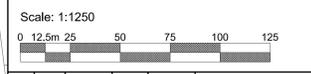
1) Coordinates and levels related to Ordnance Survey National Grid and Datum using Letica's VIVA dual frequency geodesic GPS receiver and Smartnet RTK correction. WGS84 position transformed using the Ordnance Survey OSTN02GM02 definitive transformation for the United Kingdom.
 2) Background mapping provided in digital format by client. Reproduced with the Permission of Ordnance Survey on the behalf of The Controller of Her Majesty's Stationery Office. Crown Copyright. All Rights Reserved. Licence No. 10000600.

CO-ORDINATES

Reference	East	North	Elevation
BH601	447513.60	425069.65	12.69
BH602	447428.36	425056.98	14.62
BH603	447166.58	424929.26	14.13
BH604	447110.46	424863.18	14.54
BH605	447108.39	424932.79	14.66
BH606	447539.06	425305.63	13.26
BH607	447299.44	425136.13	14.30
BH608	447370.75	425217.95	15.04
BH609	447163.18	425085.46	16.46
BH610	447084.39	425050.00	18.09
BH611	447231.55	424847.77	13.66
BH612	447032.86	425055.82	20.56
BH613	447146.37	424793.79	16.25
WS601	447647.76	425231.13	12.14
WS602	447613.59	425265.45	12.52
WS603	447205.60	424878.21	13.84
WS605	447420.33	424803.30	14.02
WS606	447103.56	424803.56	15.77
WS607	447103.56	424701.78	17.03
WS608	447221.03	424624.84	19.33
WS609	447078.11	424976.15	17.79
WS610	447142.13	425060.66	16.70
WS611	447092.44	425093.11	18.20
WS612	447039.82	425122.27	22.05
WS613	447063.15	425181.77	21.32
WS614	447113.29	424842.51	15.02
WS615	447090.78	424868.36	13.87
WS616	447067.27	424934.49	15.77
WS617	447122.78	424998.99	16.45
WS618	447179.97	425058.10	15.02
WS619	447241.97	425095.23	14.63
WS620	447335.81	425164.50	14.47
WS621	447470.53	425265.73	14.26
WS622	447527.84	425252.09	12.97
WS623	447105.49	424892.52	14.23
WS624	447155.14	425072.80	17.20
WS625	447261.14	425072.30	14.21
WS626	447244.97	425152.30	15.37
WS627	447389.28	425168.69	15.18
WS628	447372.68	425128.02	14.85
WS629	447435.66	425169.67	15.23

LEGEND TO SYMBOLS

- Denotes Borehole Location
- Denotes Window Sample Location



Rev	Drawn	Date	Appov.	Date	Modification Details
1	AW	MAR '11	JH	MAR '11	Phase 2 positions
0	DPJ	OCT '10	PMJ	OCT '10	Approved

AMENDMENTS

Title

SITE PLAN

Project

FERRYBRIDGE MULTI-FUEL POWER STATION - PHASE 2

Client

Scottish and Southern Energy PLC



Date	Drawn By	Appov. By
11/10/10	PMJ	MT

Sheet Size	Scale	Project No
A0	1:1250	A1008-11

Figure No	Rev
F2	1

Borehole Log



Soil Mechanics

Drilled CS/GB	Start 14/09/2010	Equipment, Methods and Remarks Dando, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.	Depth from 0.00m	to 2.00m	Diameter 200mm	Casing Depth 2.00m	Ground Level +13.93 mOD
Logged PM	End 16/09/2010		2.00m	5.00m	150mm	5.00m	Coordinates E 447279.25
Checked MS			5.00m	25.00m	121mm	6.00m	National Grid N 424972.75

Samples and Tests				Strata			Depth, Level/ (Thickness)	Legend	Backfill/ Instruments
Depth	Type & No	Records	Date Casing	Time Water	Description				
0.20-0.30 0.30	B 2 ES 1	0.00-1.20 m Hand excavated inspection pit.			Yellowish brown sandy GRAVEL. Gravel is subangular fine to coarse of limestone. (MADE GROUND)	0.20 +13.73			
0.50	ES 3				Firm dark brown grey sandy slightly gravelly CLAY. Sand is ash. Gravel is fine to coarse of coal, mudstone and brick. (MADE GROUND)	(0.50)			
0.75-1.00	B 4					0.70 +13.23			
1.00	ES 5					(0.60)			
1.20-1.65 1.20-1.65	SPT S D 6	N=13 (2,3/3,4,3,3)		dry	Yellowish brown sandy GRAVEL. Gravel is subangular fine to coarse of limestone and mudstone. (MADE GROUND)	1.30 +12.63			
1.65-2.00	B 7					(0.70)			
2.00	ES 8				Firm orangish brown sandy slightly gravelly CLAY. Gravel is subrounded fine to medium of limestone.	2.00 +11.93			
2.10-2.55	U 9	31 blows	1.80	dry					
2.55-2.75	D 10				Stiff thinly laminated brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is subangular fine to medium of mudstone.	(1.10)			
2.75-3.00	B 11								
3.00-3.45 3.00	SPT S ES 12	N=31 (8,9/7,6,8,10)	3.00	dry		3.10 +10.83			
3.00-3.45 3.10-4.00	D 13 D 14				Dense yellowish cream sandy GRAVEL. Gravel is angular to subangular fine to coarse of limestone. (Weathered LIMESTONE)	(1.20)		SP	
4.00-4.45 4.00-4.45 4.00-5.20	SPT S D 15 B 16	N=41 (7,9/10,10,9,12)	4.00	dry		4.30 +9.63			
			14/09/2010 4.50	dry	Very weak to weak yellowish cream LIMESTONE. (Recovered as sandy gravel)	(0.90)			
5.20-5.37 5.20-5.35	SPT G D 18	50 (25/50 for 70mm)	16/09/2010 4.50	0800 dry 4.90	Weak to medium strong yellowish cream LIMESTONE. Fractures are closely to medium spaced subhorizontal rough planar.	5.20 +8.73			
5.20-6.30	100 42 0								
6.30-7.80 7.25-7.40	79 51 16	CS 19							
7.80-9.30	70 54 0								
9.82-9.91		CS 20							
Depth	TCR ROD	If	Records/Samples	Date Casing	Time Water	Stratum continues to 23.37 m			

Groundwater Entries			Depth Related Remarks *		Chiselling			
No.	Struck (m)	Post strike behaviour	Depth sealed (m)	From	to (m)	Depths (m)	Time	Tools used
1	6.10	-	-			3.10-5.20	80 mins	

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.	Project FERRYBRIDGE MULTIFUEL POWERSTATION	Borehole BH102
Scale 1:50	Project No. A0054-10	Sheet 1 of 3
(c) ESGL www.esgl.co.uk 408.24 10/02/2011 09:20:05	Carried out for SSE Generation	

Borehole Log



Soil Mechanics

Drilled CS/GB Logged PM Checked MS	Start 14/09/2010 End 16/09/2010	Equipment, Methods and Remarks Dando, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.	Depth from 0.00m to 2.00m Diameter 200mm Casing Depth 2.00m	Ground Level +13.93 mOD Coordinates E 447279.25 National Grid N 424972.75 Chainage
---	--	---	--	---

Samples and Tests						Strata			
Depth	TCR SCR ROD	If	Records/Samples	Date Casing	Time Water	Description (Continued from Sheet 1)	Depth, Level/ (Thickness)	Legend	Backfill/ Instruments
9.30-10.80	93 70 29					Weak to medium strong yellowish cream LIMESTONE. Fractures are closely to medium spaced subhorizontal rough planar.			
10.80-12.20	107 100 51	NI 70 140	CS 21				10.80-10.85 m NI		
11.60-11.70									
							11.98-12.50 m 1 No subvertical undulose fracture		
							12.50-12.67 m AZCL		
12.20-13.80	83 74 26						12.67-12.76 m multiple vugs up to 30mm.		
							13.80-13.95 m AZCL		
13.80-15.20	96 66 23		CS 22					(18.17)	
14.68-14.82							14.82-14.86 m 1 No large vug with calcium deposit		
							15.80-16.50 m multiple vugs up to 400mm		
15.20-16.80	94 71 35								
							16.85-16.92 m 1 No vug with calcium deposit		
17.32-17.61	100 91 71		CS 23						
16.80-18.20									
							17.79-17.85 m NI		
							18.33-18.45 m NI		
18.85-18.94	94 76 52		CS 24						
18.20-19.80									
							19.07-19.11 m NI		
							19.30-19.37 m NI		
							19.37-19.48 m 1 No 60 degree rough planar fracture		
							19.80-19.96 m NI		
19.98-20.20			CS 25						
Depth	TCR SCR ROD	If	Records/Samples	Date Casing	Time Water	Stratum continues to 23.37 m			

Groundwater Entries No. Struck (m) Post strike behaviour	Depth sealed (m)	Depth Related Remarks * From to (m)	Chiselling Depths (m) Time Tools used
--	------------------	--	---------------------------------------



Borehole Log



Soil Mechanics

Drilled CS/GB Logged PM Checked MS	Start 14/09/2010 End 16/09/2010	Equipment, Methods and Remarks Dando, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.	Depth from 0.00m to 2.00m Diameter 200mm Casing Depth 2.00m	Depth from 2.00m to 5.00m Diameter 150mm Casing Depth 5.00m	Depth from 5.00m to 25.00m Diameter 121mm Casing Depth 6.00m	Ground Level +13.93 mOD Coordinates E 447279.25 National Grid N 424972.75 Chainage
---	--	---	--	--	---	---

Samples and Tests						Strata			Ground Level		
Depth	TCR SCR ROD	If	Records/Samples	Date Casing	Time Water	Description (Continued from Sheet 2)	Depth, Level/ (Thickness)	Legend	Backfill/ Instruments		
19.80-21.30	100 75 71	NI 160 420	CS 26			Weak to medium strong yellowish cream LIMESTONE. Fractures are closely to medium spaced subhorizontal rough planar.	19.96-21.00 m multiple vugs up to 300mm				
21.30-21.41											
21.30-22.80	100 93 64										
22.80-24.30	100 89 76		CS 27	16/09/2010 6.00	5.60	Strong to very strong grey LIMESTONE. Fractures are subhorizontal medium spaced rough planar.	23.12-23.20 m 1 large vug with calcium deposits	23.37	-9.44		
24.30-24.84											
24.30-25.00	76 76 76	330 330 520									
						EXPLORATORY HOLE ENDS AT 25.00 m	25.00	-11.07			

Groundwater Entries No. Struck (m) Post strike behaviour	Depth sealed (m)	Depth Related Remarks * From to (m)	Chiselling Depths (m) Time Tools used
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Borehole Log



Soil Mechanics

Drilled CS Logged PM Checked MS	Start 29/09/2010 End 29/09/2010	Equipment, Methods and Remarks Dando Cable percussion boring.	Depth from 0.00m to 6.17m Diameter 150mm Casing Depth 5.50m	Ground Level +13.84 mOD Coordinates E 447299.90 National Grid N 424947.00 Chainage
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Samples and Tests					Strata		Depth, Level/ (Thickness)	Legend	Backfill/ Instruments
Depth	Type & No	Records	Date Casing	Time Water	Description				
0.30	ES 1	0.00-1.20 m Hand excavated inspection pit.			Gravelly HARDCORE . (Foreman's description)		0.20 +13.64		
0.50	B 2				Soft dark brown sandy slightly sandy CLAY . Gravel is subangular fine to coarse of limestone, brick and concrete. (MADE GROUND)		(1.00)		
0.50	ES 3								
0.55-1.00	B 4								
1.00	ES 5	N=18 (3,5/5,4,4,5)			Medium dense clayey very silty gravelly SAND . Gravel is subangular fine to coarse of limestone, locally grades to sandy clay.		1.20 +12.64		
1.20-1.65	SPT S								
1.20-1.65	D 6								
1.30-1.80	B 7						(0.95)		
2.00-2.45	SPT S	N=13 (2,3/4,3,3,3)	2.00	dry	Soft brown slightly gravelly sandy CLAY . Gravel is subangular fine to medium of sandstone and mudstone.		2.15 +11.69		
2.00	ES 8								
2.00-2.45	D 9								
2.50-3.00	B 10						(0.85)		
3.00-3.45	U 11	38 blows	3.00	dry	Stiff reddish brown mottled grey slightly sandy slightly gravelly CLAY . Gravel is subangular to subrounded fine to coarse of mudstone and sandstone.		3.00 +10.84		
3.45-3.65	D 12								
3.65-4.00	B 13				3.65-4.00 m slightly sandy clay		(1.15)		
4.10-4.55	SPT S	N=15 (3,3/3,4,4,4)	4.00	dry	Brown clayey slightly gravelly SAND . Gravel is subangular fine to coarse of limestone. (Weathered LIMESTONE)		4.15 +9.69		
4.10-4.55	D 14								
4.30	D 15								
4.50-5.00	D 16						(0.40)		
5.00-5.45	SPT S	N=68 (9,12/15,15,18,20)	5.00	dry	Very weak LIMESTONE . (Recovered as silty sand)		4.55 +9.29		
5.00-5.45	D 17								
6.00-6.17	SPT S	50 (25/50 for 70mm)	29/09/2010	dry	Weak light brown LIMESTONE . (Recovered as sandy gravel)		5.00 +8.84		
6.00-6.17	D 18								
					EXPLORATORY HOLE ENDS AT 6.17 m		6.17 +7.67		

Groundwater Entries No. Struck Post strike behaviour (m) None observed (see Key Sheet)	Depth sealed (m)	Depth Related Remarks * From to (m) 5.00 6.00 Water added.	Chiselling Depths (m) Time Tools used 5.00-6.00 60 mins
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Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column. Scale 1:50 (c) ESGL www.esgl.co.uk 408.24 10/02/2011 09:18:16	Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation	Borehole BH103 Sheet 1 of 1
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Borehole Log



Soil Mechanics

Drilled CS/GB Logged PM Checked MS	Start 28/09/2010 End 29/09/2010	Equipment, Methods and Remarks Dando, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.	Depth from 0.00m to 10.00m Diameter 150mm Casing Depth 9.90m 10.00m	Ground Level +13.89 mOD Coordinates E 447346.53 National Grid N 424916.96 Chainage
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Samples and Tests					Strata		Depth, Level / (Thickness)	Legend	Backfill/ Instruments
Depth	Type & No	Records	Date Casing	Time Water	Description				
0.30	ES 1	0.00-1.20 m Hand excavated inspection pit.			TARMAC. (Foreman's description)		0.14 +13.75	[Cross-hatched pattern]	
0.45-0.60	B 2				Light brown gravelly SAND. Gravel is subangular to subrounded fine to coarse of limestone and concrete.		(0.46)		
0.50	ES 3				(MADE GROUND)		0.60 +13.29		
0.60-1.00	B 4						(0.50)		
1.00	ES 5	N=14 (3,2/3,3,4,4)		dry	Reddish brown gravelly SAND. Sand is ash. Gravel is subangular fine to coarse of brick, clinker and concrete.		1.10 +12.79	[Cross-hatched pattern]	
1.20-1.65	SPT S D 6				(MADE GROUND)				
1.65-2.00	B 7	N=16 (2,3/4,5,4,3)	2.10	dry	Medium dense light brown sandy, gravelly SILT. Gravel is subangular fine to medium of limestone.			[Stippled pattern]	
2.00	ES 8								
2.10-2.55	SPT S D 9								
2.10-2.55	B 10								
3.00-3.45	SPT S D 11	N=9 (2,2/2,2,2,3)	3.00	dry	3.00-4.45 m locally loose			[Stippled pattern]	
3.00-3.45	B 12								
3.50-4.00									
4.00-4.45	SPT S D 13 B 14	N=9 (2,3/2,3,2,2)	4.00	dry	(5.90)				
4.67	EWM	N=13 (2,3/2,5,3,3)	5.00	dry				[Stippled pattern]	
5.00-5.45	SPT S D 15								
5.50-6.00	B 16	N=13 (2,3/2,3,4,4)	6.50	dry				[Stippled pattern]	
6.50-6.95	SPT S								
7.00-7.50	B 17	N=26 (5,5/6,5,7,8)	7.50	dry	Medium dense, light brown silty very sandy GRAVEL. Gravel is subangular fine to coarse of limestone.		7.00 +6.89	[Stippled pattern]	
7.50-7.95	SPT S W 19 B 20 D 18				7.50-8.50 m silty very sandy gravel		(2.00)		
7.50-8.50									
7.55-7.95									
9.00-9.45	SPT S D 21 B 22	N=67 (10,15/20,14,14,19)	9.00	5.40	Weak light brown LIMESTONE. (Recovered as sandy gravel)		9.00 +4.89	[Stippled pattern]	
9.00-9.45							(1.00)		
9.90-10.00	SPT S	50 (25 for 50mm/50 for 50mm)	28/09/2010 9.90	5.45				[Stippled pattern]	

Groundwater Entries No. 1 Struck (m) 7.50 Post strike behaviour Rose to 6.05 m after 20 minutes.			Depth sealed (m) -	Depth Related Remarks * From to (m)	Chiselling Depths (m) 0.00 -0.14 9.00 -9.90 Time 30 mins 60 mins Tools used
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Borehole Log



Soil Mechanics

Drilled CS/GB Logged PM Checked MS	Start 28/09/2010 End 29/09/2010	Equipment, Methods and Remarks Dando, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.	Depth from 0.00m to 10.00m Diameter 150mm Casing Depth 9.90m to 15.00m 121mm 10.00m	Ground Level +13.89 mOD Coordinates E 447346.53 National Grid N 424916.96 Chainage
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Samples and Tests						Strata			Ground Level		
Depth	TCR SCR ROD	If	Records/Samples	Date Casing	Time Water	Description (Continued from Sheet 1)	Depth, Level/ (Thickness)	Legend	Backfill/ Instruments		
9.90-10.00		D 23		29/09/2010	0800	Very weak to weak light brown LIMESTONE. Fractures are very closely to closely spaced subhorizontal rough planar.	10.00-10.45 m AZCL				+3.89
10.00-11.50	70 44 0			9.90	5.30		10.43-10.68 m 1 No subvertical rough undulose fracture				
							11.06-11.13 m NI				
							11.28-11.42 m NI				
11.83-12.00		NI 66 117	CS 24				11.50-11.56 m AZCL				
11.50-13.00	96 63 25					Flush: 10.00-15.00 Air Mist, 100 %	12.38-12.39 m 1 No 70 degree rough planar fracture	(5.00)			
							12.60-13.00 m 1 No subvertical rough undulose fracture				
							13.00-13.16 m NI				
13.00-14.50	100 69 0						13.53 m multiple vugs				
							13.56-13.68 m NI				
							13.81-13.86 m 1 No 30 degree rough planar fracture				
14.42-14.50		NI 50 70	CS 25				14.50-14.68 m AZCL				
14.50-15.00	64 40 0			29/09/2010	10.00		14.73-14.80 m 1 No 70 degree rough planar fracture				
						EXPLORATORY HOLE ENDS AT 15.00 m	15.00	-1.11			

Groundwater Entries No. Struck (m) Post strike behaviour	Depth sealed (m)	Depth Related Remarks * From to (m)	Chiselling Depths (m) Time Tools used
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Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.	Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation	Borehole BH104 Sheet 2 of 2
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Borehole Log



Soil Mechanics

Drilled GB Logged PM Checked MS	Start 22/09/2010 End 23/09/2010	Equipment, Methods and Remarks Beretta T44 Rotary open hole drilling. Rotary core drilling (PWF size) using water flush.	Depth from 0.00m to 2.20m Diameter 131mm Casing Depth 2.20m 7.50m	Ground Level +14.41 mOD Coordinates E 447354.08 National Grid N 425130.62 Chainage
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Samples and Tests						Strata					
Depth	TCR SCR ROD	If	Records/Samples	Date Casing	Time Water	Description (Continued from Sheet 1)	Depth, Level/ (Thickness)	Legend	Backfill/ Instruments		
9.30-10.80	96 53 14		CS 9			fractures are closely spaced subhorizontal rough planar.	10.28-10.42 m NI	(5.74)			
10.57-10.68						10.80-10.96 m AZCL					
10.80-12.30	89 69 33		CS 10			10.96-11.10 m NI					
12.90-13.04	94 63 21	20 80 140				12.30-12.39 m AZCL					
12.30-13.80						12.46-12.55 m NI					
14.27-14.53	97 83 61		CS 11			12.72-12.86 m 1 No 70 degree rough planar fracture					
13.80-15.30						13.08-13.13 m NI					
						13.39-13.51 m 1 No subvertical rough planar fracture					
						13.51-13.55 m NI					
						13.80-13.85 m AZCL					
						14.11-14.14 m NI					
						14.73-14.76 m NI					
						14.79-14.82 m NI					
						EXPLORATORY HOLE ENDS AT 15.30 m	15.30	-0.89			

Groundwater Entries No. Struck Post strike behaviour (m) None observed (see Key Sheet)	Depth sealed (m)	Depth Related Remarks * From to (m)	Chiselling Depths (m) Time Tools used
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Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column. Scale 1:50 (c) ESGL www.esgl.co.uk 408.24 10/02/2011 09:25:36	Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation	Borehole BH105 Sheet 2 of 2
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Borehole Log



Soil Mechanics

Drilled CS/GB Logged PM Checked MS	Start 16/09/2010 End 21/09/2010	Equipment, Methods and Remarks Dando, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.	Depth from 0.00m to 4.80m Diameter 150mm Casing Depth 4.00m	Ground Level +13.89 mOD Coordinates E 447507.19 National Grid N 425205.80 Chainage
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Samples and Tests				Strata			Depth, Level/ (Thickness)	Legend	Backfill/ Instruments
Depth	Type & No	Records	Date Casing	Time Water	Description				
0.25-0.35 0.30 0.30 0.60-1.00	B 2 ES 1 ES 3 B 4	0.00-1.20 m Hand excavated inspection pit.			Grey HARDCORE . (Foreman's description)	0.15 +13.74			
1.00 1.20-1.65	ES 5 U 6	34 blows		dry	Firm dark brown sandy slightly gravelly CLAY . Sand is ash. Gravel is angular to subangular fine to medium of coal, clinker and limestone. (MADE GROUND)	0.40 +13.49			
1.65-1.85 1.85-2.00 2.00	D 7 B 8 ES 9								
2.20-2.65 2.20-2.65 2.40-3.00	SPT S D 10 B 11	N=17 (2,3/3,4,5,5)	2.00	dry		(3.60)			
3.00-3.45	U 12	48 blows	3.00	dry	Stiff reddish brown mottled grey slightly sandy slightly gravelly CLAY . Gravel is subangular fine to coarse of mudstone and limestone.				
3.45-3.65 3.65-4.00	D 13 B 14								
4.00-4.18 4.00-4.18 4.00-4.65	SPT S D 15 B 16	50 (25/50 for 70mm)	4.00	dry	Weak yellowish cream LIMESTONE . (Recovered as silty sandy gravel)	4.00 +9.89			
4.65-4.83 4.65-4.80		SPT S 50 (25/50 for 60mm) D 17	16/09/2010 4.00	dry dry	4.50-4.96 m AZCL	(0.96)			
4.50-6.00	69 22 0		21/09/2010 4.00	0800 4.30	Soft brown black cream sandy gravelly CLAY . Gravel is subangular fine to coarse of limestone.	4.96 +8.93 5.20 +8.69			
6.32-6.42		CS 18			Weak to medium strong light brown cream LIMESTONE . Fractures are subhorizontal very closely to closely spaced rough planar.				
6.00-7.50	97 85 23				5.20-5.26 m NI 5.37-5.40 m 1 No 30 degree rough planar fracture 5.41-5.65 m 1 No subvertical rough undulose fracture 5.83-6.00 m NI 6.00-6.05 m AZCL 6.16-6.17 m NI				
7.50-9.00	55 23 0				6.83 m 1 No 30 degree rough planar fracture 7.20-7.50 m 1 No subvertical rough planar fracture 7.46-7.50 m NI 7.50-8.17 m AZCL				
9.00-10.50 9.82-9.94	93 43 7	Flush: 4.50-15.00 Air Mist, 100 % CS 19			8.20-8.30 m NI 8.47-8.74 m 1 No subvertical rough planar fracture 8.62-8.72 m NI 8.84-8.89 m NI 9.00-9.10 m AZCL 9.10-9.20 m NI 9.36-9.39 m NI 9.45-9.59 m NI 9.69-9.76 m NI 9.88-10.50 m 1 No				
Depth	TCR ROD	If	Records/Samples	Date Casing	Time Water	Stratum continues to 15.00 m			

Groundwater Entries No. Struck (m) Post strike behaviour 1 7.30 Rose to 6.80 m after 20 minutes.	Depth sealed (m) -	Depth Related Remarks * From to (m) 7.60 8.30 Void (foreman's description)	Chiselling Depths (m) Time Tools used
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Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column. Scale 1:50	Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation	Borehole BH106 Sheet 1 of 2
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Borehole Log



Soil Mechanics

Drilled CS/GB Logged PM Checked MS	Start 16/09/2010 End 21/09/2010	Equipment, Methods and Remarks Dando, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.	Depth from 0.00m to 4.80m Diameter 150mm Casing Depth 4.00m	Ground Level +13.89 mOD Coordinates E 447507.19 National Grid N 425205.80 Chainage
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Samples and Tests						Strata			
Depth	TCR SCR ROD	If	Records/Samples	Date Casing	Time Water	Description (Continued from Sheet 1)	Depth, Level/ (Thickness)	Legend	Backfill/ Instruments
10.50-12.00 11.41-11.56	100 71 18		CS 20			Weak to medium strong light brown cream LIMESTONE. Fractures are subhorizontal very closely to closely spaced rough planar. subvertical rough undulose fracture 10.37-10.50 m NI 10.50-10.71 m NI 10.71-11.29 m 1 No subvertical rough undulose fracture 10.97-11.07 m NI	(9.80)		
12.71-12.86 12.00-13.50	100 80 38	NI 80 170	CS 21			11.62-11.63 m NI 11.68-11.80 m 1 No subvertical rough planar fracture 12.00-12.21 m NI 13.20-13.32 m 1 No subvertical rough planar fracture 13.50-13.60 m NI			
14.22-14.37 13.50-15.00	100 91 35		CS 22			13.70-13.82 m 1 No subvertical rough planar fracture			
				21/09/2010 4.50	0.80				
						EXPLORATORY HOLE ENDS AT 15.00 m	15.00	-1.11	

Groundwater Entries No. Struck (m) Post strike behaviour	Depth sealed (m)	Depth Related Remarks * From to (m)	Chiselling Depths (m) Time Tools used
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Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.	Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation	Borehole BH106 Sheet 2 of 2
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Borehole Log



Soil Mechanics

Drilled CS/GB Logged PM Checked MS	Start 28/09/2010 End 28/09/2010	Equipment, Methods and Remarks Dando, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.	Depth from 0.00m to 4.80m Diameter 150mm Casing Depth 4.50m 6.00m	Ground Level +13.77 mOD Coordinates E 447363.56 National Grid N 425026.03 Chainage
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Samples and Tests					Strata			
Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, Level / (Thickness)	Legend	Backfill/ Instruments
0.30 0.40-0.50 0.50 0.70-1.00	ES 1 B 2 ES 3 B 4	0.00-1.20 m Hand excavated inspection pit.			Grey sandy GRAVEL. Gravel is angular to subangular fine to coarse of brick and concrete. (MADE GROUND)	(0.40) 0.40 +13.37 0.60 +13.17		
1.00 1.20-1.65 1.20-1.65	ES 5 SPT S D 6	N=14 (3,3/3,4,3,4)		dry	Greyish brown sandy GRAVEL with low cobble content. Gravel is angular to subangular fine to coarse of brick and concrete. Cobbles are angular of brick and concrete. (MADE GROUND)	(0.60) 1.20 +12.57		
1.65-2.00 2.00-2.45 2.00 2.00-2.45	B 7 SPT S ES 8 D 9	N=10 (3,3/3,2,2,3)	2.00	dry	Soft dark brown sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of limestone and coal. (MADE GROUND)	(1.00) 2.20 +11.57		
2.50-3.00 3.00-3.45	B 10 U 11	50 blows	3.00		Medium dense light brown gravelly SAND. Gravel is angular to subangular fine to coarse of limestone.	(1.25) 3.45 +10.32		
3.45-3.65 3.65-3.71 3.65-3.80 3.65-4.70	D 12 SPT S D 13 B 14	50 (25 for 10mm/50 for 50mm)	3.65	dry	Soft brown sandy slightly gravelly CLAY. Gravel is subangular fine to coarse of limestone.	(1.05) 4.50 +9.27		
4.65 4.70-4.80 4.70-4.80		SPT S 50 (25 for 50mm/50 for 50mm)	4.50	dry	Very weak light creamy brown LIMESTONE. Fractures are very closely spaced subhorizontal rough planar.			
4.50-6.00	90 34 0	EWM D 15			4.50-4.65 m AZCL 4.65-4.87 m NI 5.04-5.20 m 1 No subhorizontal rough planar fracture 5.20-5.39 m NI 5.35-6.00 m NI 5.39-5.59 m 1 No subvertical rough planar fracture 5.59-5.66 m NI 5.76-5.85 m 1 No subvertical rough planar fracture 6.00-6.19 m AZCL 6.19-6.33 m NI 6.52-6.77 m 1 No subvertical rough planar fracture 6.94-6.99 m 1 No 70 degree rough planar fracture 7.05-7.10 m 1 No subvertical rough planar fracture 7.40-7.50 m 1 No subvertical rough planar fracture 7.50-7.56 m NI 7.56-7.70 m 1 No subvertical rough planar fracture 7.86-7.96 m 1 No 70 degree rough planar fracture 8.58-8.80 m NI - recovered as gravelly sand 8.58-9.30 m weak 8.80-9.00 m AZCL 9.23-9.50 m 1 No 70 degree rough planar fracture			
6.00-7.50 6.80-6.90	87 49 0	NI 60 90						
7.50-9.00	87 49 0							
9.54-9.69 9.00-10.50	100 90 10	CS 17 Flush: 4.50-15.00 Air Mist, 100 %				(10.50)		
Depth	TCR ROD	If	Records/Samples	Date Casing	Time Water	Stratum continues to 15.00 m		

Groundwater Entries No. 1 Struck (m) 9.00 Post strike behaviour Rose to 7.40 m after 20 minutes. Depth sealed (m) -	Depth Related Remarks * From 3.65 to 4.70 m Water added.	Chiselling Depths (m) 3.65-4.70 Time 60 mins Tools used
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Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column. Scale 1:50 (c) ESGL www.esgl.co.uk 408.24 10/02/2011 09:21:51	Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation	Borehole BH110 Sheet 1 of 2
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Borehole Log



Soil Mechanics

Drilled CS/GB Logged PM Checked MS	Start 28/09/2010 End 28/09/2010	Equipment, Methods and Remarks Dando, Beretta T44 Cable percussion boring. Rotary core drilling (PWF size) using air mist flush.	Depth from 0.00m to 4.80m Diameter 150mm Casing Depth 4.50m 6.00m	Ground Level +13.77 mOD Coordinates E 447363.56 National Grid N 425026.03 Chainage
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Samples and Tests						Strata			
Depth	TCR SCR ROD	If	Records/Samples	Date Casing	Time Water	Description (Continued from Sheet 1)	Depth, Level/ (Thickness)	Legend	Backfill/ Instruments
10.50-12.00	100		CS 18			Very weak light creamy brown LIMESTONE. Fractures are very closely spaced subhorizontal rough planar.	10.26-10.44 m 1 no subvertical stepped fracture		
11.48-11.62	59						10.75-10.84 m NI - multiple fractures		
12.00-13.50	20	NI 90 180	CS 19				11.60-11.65 m multiple vugs up to 40mm		
13.17-13.31	18						11.80-12.00 m NI		
13.50-15.00	95		CS 20	28/09/2010	6.00		12.79-12.85 m NI		
14.64-14.79	73						12.85-12.89 m 1 No subvertical rough planar fracture		
	25						13.66-13.70 m NI		
							13.75-13.87 m NI		
							13.87-13.95 m AZCL		
							13.95-15.00 m medium strong		
						EXPLORATORY HOLE ENDS AT 15.00 m	15.00	-1.23	

Groundwater Entries No. Struck (m) Post strike behaviour	Depth sealed (m)	Depth Related Remarks * From to (m)	Chiselling Depths (m) Time Tools used
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Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.	Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation	Borehole BH110 Sheet 2 of 2
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Window Sampler Hole Log



Soil Mechanics

Drilled OR Logged PM Checked MW		Start 27/09/2010 End 27/09/2010		Equipment, Methods and Remarks Windowless sampling. Competitor 130		Depth from 0.00m to 5.00m Diameter 87mm Casing Depth 3.00m		Ground Level +13.54 mOD Coordinates E 447243.53 National Grid N 424893.14 Chainage	
Samples and Tests					Strata				
Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, Level/ (Thickness)	Legend	Backfill/ Instruments	
0.30	ES 1	0.00-1.20 m Hand excavated inspection pit.			CONCRETE. (MADE GROUND)	(0.30)			
0.50	ES 2				Light brown sandy GRAVEL. Gravel is subangular fine to medium of limestone. (MADE GROUND)	0.30 +13.24 0.50 +13.04			
1.00	ES 3	N=13 (3,4/2,4,4,3)	1.20	dry	Medium dense light brown slightly clayey gravelly SAND. Gravel is subangular to subrounded fine to medium of limestone. (MADE GROUND)	(1.20)			
1.20-1.65 1.20-1.70	SPT S B 4								
1.70-2.00	ES 5	N=4 (2,1/1,1,1,1)	2.00	dry	Very soft dark brown locally black slightly sandy slightly gravelly CLAY. Gravel is subangular fine to coarse of brick, sandstone and limestone. (MADE GROUND)	1.70 +11.84			
2.00-2.45 2.00-2.44	SPT S B 6								
2.44-3.00	ES 7	N=4 (0,1/1,1,1,1)	3.00	dry	Brown silty slightly gravelly fine to coarse SAND. Gravel is subangular fine to medium of limestone.	(1.30)			
3.00-3.45 3.00-3.45 3.00-4.00	SPT S D 8 B 9								
4.00-4.45 4.00 4.10-4.46	SPT S D 10 ES 11	N=11 (2,1/2,3,3,3)	3.00	dry	Very soft becoming firm brown mottled grey sandy slightly gravelly CLAY. Gravel is subrounded fine to medium of limestone.	3.00 +10.54			
4.46-5.00	B 12								
5.00-5.45 5.00	SPT S D 13	N=7 (1,1/2,2,1,2)	27/09/2010 3.00	dry	EXPLORATORY HOLE ENDS AT 5.00 m	(0.54) 5.00 +8.54			
Depth	Type & No	Records	Date Casing	Time Water					
Groundwater Entries					Depth Related Remarks *		Chiselling		
No. Struck		Post strike behaviour		Depth sealed (m)	From	to (m)	Depths (m)	Time	Tools used
		None observed (see Key Sheet)							
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.					Project FERRYBRIDGE MULTIFUEL POWERSTATION		Borehole		
Scale 1:50					Project No. A0054-10		WS102		
(c) ESGL www.esgl.co.uk 408.24 10/02/2011 09:38:14					Carried out for SSE Generation		Sheet 1 of 1		

Trial Pit Log



Soil Mechanics

Logged MA Checked MW	Start 06/10/2010 End 06/10/2010	Equipment, Methods and Remarks JCB Machine excavated trial pit.	Dimensions and Orientation Width 0.70 m Length 2.70 m 	Ground Level +15.18 mOD Coordinates E 447447.67 National Grid N 425147.16 Chainage
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Samples and Tests			Strata		Depth, Level/ (Thickness)		Legend	Backfill/ Instruments
Depth	Type & No.	Date Records	Description					
0.00-0.20 0.10 0.10 0.20-1.20 0.30 0.30	B 3 ES 1 D 2 B 6 ES 4 D 5	*	1 Dark brown clayey gravelly SAND with some plant rootlets. Gravel is angular to subangular fine to coarse of limestone and sandstone. (TOPSOIL) (MADE GROUND)		0.20	+14.98		
			2 Brown clayey gravelly SAND with some stiff clay pockets and moderate cobble content. Gravel is angular to subangular fine to coarse and consists mainly of sandstone, limestone and coal. Cobbles are subangular to angular of limestone and sandstone.		(1.50)			
1.20-1.70 1.30 1.30	B 9 ES 7 D 8		1.20-1.70 m locally grades to sandy gravelly clay.					
1.70-1.80 1.80 1.80 1.80-2.60	B 12 ES 10 D 11 B 14		3 Stiff brown sandy gravelly CLAY. Gravel is angular to subrounded fine to coarse and consists mainly of sandstone, limestone, dolomite and coal.		1.70	+13.48		
			4 Medium strong to strong cream LIMESTONE.		1.80	+13.38		
		06/10/2010			(0.80)			
2.60	D 13	*	EXPLORATORY HOLE ENDS AT 2.60 m		2.60	+12.58		

Groundwater Entries No. Struck Post Strike Behaviour (m) None observed (see Key Sheet)	Depth Related Remarks * From to (m) 0.00 1.20 Hand excavated inspection pit. 2.60 Trial pit terminated due to bedrock.	Stability Stable Shoring None Weather Overcast
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.	Project FERRYBRIDGE MULTIFUEL POWERSTATION Project No. A0054-10 Carried out for SSE Generation	Trial Pit TP405 Sheet 1 of 1

Borehole Log



Soil Mechanics

Drilled CS/MB Logged BS Checked MT	Start 18/02/2011 End 21/02/2011	Equipment, Methods and Remarks Dando 150 and Mobile rotary rig. Cable percussion boring followed by rotary core drilling (PWF size) using water/polymer flush.	Depth from 0.00m to 4.10m Diameter 150mm Casing Depth 4.10m	Ground Level +14.62 mOD Coordinates E 447428.36 National Grid N 425056.98 Chainage
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Samples and Tests				Strata		Depth, Level/ (Thickness)	Legend	Backfill/ Instruments
Depth	Type & No	Records	Date Casing	Time Water	Description			
0.30 0.30-0.60 0.50	ES 1 B 2 ES 3	0.00-1.20 m Hand excavated inspection pit.			MACADAM. (Foreman's description) (MADE GROUND)	0.10 +14.52 0.24 +14.38		
1.00 1.20-1.65 1.20-1.65	ES 4 SPT S D 5	N=12 (2,2/2,3,3,4)		dry	HARDCORE. (Foreman's description) (MADE GROUND)	(0.61)		
1.65-2.00	B 6				Dark red mottled black slightly silty slightly sandy angular fine to coarse GRAVEL of red shale and coal. Slight methane odour. (MADE GROUND)	0.85 +13.77		
2.10-2.55	U 7	49 blows		dry	Soft dark brown, locally mottled grey, sandy CLAY with rare subrounded fine to medium gravel of limestone.	(1.70)		
2.55-2.75 2.75-3.20 2.75-3.80 2.75-3.20	D 8 SPT S B 10 D 9	* N=53 (9,10/12,12,14,15)	2.20	dry	Stiff thinly laminated dark pink mottled cream slightly sandy slightly gravelly CLAY. Gravel is angular fine to medium of limestone.	2.55 +12.07 2.75 +11.87		
3.80-4.10 3.80-4.10	SPT S D 11	65 (11,14/15,50 for 70mm)	3.50 18/02/2011 3.50		Weak light yellow cream LIMESTONE. Recovered as gravelly sand. (CADEBY LIMESTONE)	(1.35)		
4.10-4.50	0 0 0		21/02/2011 4.10	0800 2.40	Very weak light yellow cream LIMESTONE. (CADEBY LIMESTONE)	4.10 +10.52		
4.50-5.50	80 40 0				4.50-5.10 m NI recovered as clayey gravel			
5.50-6.70	83 33 0				5.34-5.50 m weak light grey white limestone 5.50-5.70 m AZCL 5.70-6.10 m NI recovered as fine gravel 6.10-6.20 m NI	(4.10)		
6.70-8.20	73 39 0				6.34-6.45 m 1 No. subvertical stepped rough fracture 6.50-6.60 m NI 6.70-7.10 m AZCL 7.10-7.40 m NI recovered as fine clayey gravel			
8.00-8.12		CS 12			8.10-8.20 m 1 No. subvertical planar rough fracture 8.20-9.20 m AZCL	8.20 +6.42		
8.20-9.70	33 7 0				Weak light grey white LIMESTONE. (CADEBY LIMESTONE)	(1.90)		
9.70-10.10	100 50 0				9.20-9.40 m NI 9.46-9.70 m NI			
Depth	TCR ROD	If	Records/Samples	Date Casing	Time Water	Stratum continues to 10.10 m		

Groundwater Entries		Depth sealed (m)		Depth Related Remarks *		Chiselling Depths (m) Time Tools used		
No. Struck (m)	Post strike behaviour			From	to (m)	2.75	3.80	Water added.
None observed (see Key Sheet)						2.75	-3.80	60 mins

Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.	Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2	Borehole BH602
Scale 1:50	Project No. A1008-11	Sheet 1 of 2
(c) ESGL www.esgl.co.uk 408.24 05/04/2011 16:35:27	Carried out for Scottish and Southern Energy PLC	

Borehole Log



Soil Mechanics

Drilled CS/MB Logged BS Checked MT	Start 18/02/2011 End 21/02/2011	Equipment, Methods and Remarks Dando 150 and Mobile rotary rig. Cable percussion boring followed by rotary core drilling (PWF size) using water/polymer flush.	Depth from 0.00m to 4.10m Diameter 150mm Casing Depth 4.10m	Ground Level +14.62 mOD Coordinates E 447428.36 National Grid N 425056.98 Chainage
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Samples and Tests						Strata			Ground Level		
Depth	TCR SCR ROD	If	Records/Samples	Date Casing	Time Water	Description (Continued from Sheet 1)			Depth, Level/ (Thickness)	Legend	Backfill/ Instruments
10.10-11.00	44 22 0					Weak light grey white LIMESTONE. (CADEBY LIMESTONE)	10.10-10.60 m AZCL	10.10	+4.52		
11.00-11.90	89 40 0					Very weak locally extremely weak light yellow cream LIMESTONE. Fractures are generally subhorizontal, closely spaced, undulating, rough. (CADEBY LIMESTONE)	10.60-10.83 m NI 11.00-11.10 m AZCL 11.10-11.40 m NI recovered as fine gravel				
11.90-13.00	91 82 51						11.76-11.83 m NI 11.90-12.00 m AZCL 12.18-12.21 m NI	(4.40)			
13.00-14.50	60 53 47			21/02/2011 4.10	6.40		12.50 m 1No. 15mm oval vugh 12.59-14.40 m NI recovered as gravelly clay 12.95-13.00 m medium strong light grey white limestone 13.00-13.60 m AZCL 13.86-13.90 m medium strong light grey white limestone				
						EXPLORATORY HOLE ENDS AT 14.50 m	14.40-14.50 m medium strong light grey white limestone	14.50	+0.12		

Groundwater Entries No. Struck Post strike behaviour (m) None observed (see Key Sheet)	Depth sealed (m)	Depth Related Remarks * From to (m)	Chiselling Depths (m) Time Tools used
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Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.	Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 Project No. A1008-11 Carried out for Scottish and Southern Energy PLC	Borehole BH602 Sheet 2 of 2
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Window Sampler Hole Log



Soil Mechanics

Drilled Logged Checked		Start End		Equipment, Methods and Remarks		Depth from to		Diameter Casing Depth		Ground Level Coordinates National Grid Chainage	
JB BS MT		01/03/2011 01/03/2011		Competitor rig. Windowless sampling.		0.00m 4.45m		- -		+14.26 mOD E 447470.53 N 425265.73	
Samples and Tests					Strata						
Depth	Type & No	Records	Date Casing	Time Water	Description			Depth, Level/ (Thickness)	Legend	Backfill/ Instruments	
0.00-0.50	B 4	0.00-1.20 m Hand excavated inspection pit.			Firm locally soft dark grey brown slightly sandy slightly gravelly CLAY with low cobble content. Gravel is angular to subangular fine to coarse of limestone, red shale and brick. Cobbles are subangular of brick. (MADE GROUND)			(0.50)			
0.30	ES 1										
0.50	ES 2										
0.50-1.20	B 5										
1.00	ES 3										
1.20-1.65	SPT S	N=18 (2,2/2,4,5,7)			Firm dark brown mottled grey slightly sandy slightly gravelly CLAY with high cobble content. Gravel is angular fine to medium of sandstone and limestone. Cobbles are subrounded of limestone. (MADE GROUND)			(1.30)			
1.20-1.65	D 6										
1.20-1.80	B 8										
1.80	ES 7	N=38 (6,9/10,10,9,9)			Extremely weak light yellow white LIMESTONE. Recovered as silty sand. (CADEBY LIMESTONE)			1.80 +12.46			
2.00-2.45	SPT S										
2.00-3.00	B 11										
2.00-2.45	D 9	N=5 (3,1/1,2,1,1)			Weak to extremely weak light grey white LIMESTONE. Locally recovered as gravelly clay. (CADEBY LIMESTONE)			(1.20)			
2.80	ES 10										
3.00-3.45	SPT S										
3.00-3.45	D 12	50 (7,7/7,10,20,13 for 50mm)						3.00 +11.26			
3.00-4.00	B 13										
4.00-4.43	SPT S	50 (7,7/7,10,20,13 for 50mm)		01/03/2011							
4.00-4.45	D 14										
					dry			4.45 +9.81			
					EXPLORATORY HOLE ENDS AT 4.45 m						
Depth	Type & No	Records	Date Casing	Time Water	Depth Related Remarks *			Chiselling Depths (m) Time Tools used			
Groundwater Entries					None observed (see Key Sheet)			4.45 - Hole terminated on refusal.			
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.					Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2			Borehole			
Scale 1:50					Project No. A1008-11			WS621			
(c) ESGL www.esgl.co.uk 408.24 05/04/2011 16:43:16					Carried out for Scottish and Southern Energy PLC			Sheet 1 of 1			

Window Sampler Hole Log



Soil Mechanics

Drilled JB Logged BS Checked MT	Start 01/03/2011 End 01/03/2011	Equipment, Methods and Remarks Competitor rig. Windowless sampling.	Depth from 0.00m to 2.00m Diameter - Casing Depth -	Ground Level +15.18 mOD Coordinates E 447389.28 National Grid N 425168.69 Chainage
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Samples and Tests					Strata			Depth, Level/ (Thickness)	Legend	Backfill/ Instruments	
Depth	Type & No	Records	Date Casing	Time Water	Description						
0.00-0.50	B 4	0.00-1.20 m Hand excavated inspection pit.			Dark brown slightly gravelly silty fine to medium SAND with frequent rootlets. Gravel is subangular fine to coarse of sandstone, brick and limestone.			(0.50)			
0.30	ES 1				(MADE GROUND)			0.50			+14.68
0.50	ES 2				Soft locally firm dark red brown mottled black slightly sandy slightly gravelly CLAY. Gravel is angular fine to medium of limestone.			(0.50)			
0.50-1.00	B 5							1.00			+14.18
1.00	ES 3							1.20			+13.98
1.00-1.20	B 6		01/03/2011	dry	Soft locally firm brown mottled grey slightly sandy gravelly CLAY. Gravel is angular fine to coarse of limestone.			(0.80)			
1.20-2.00	B 7				1.60-1.80 m dark brown slightly silty slightly sandy fine gravel of sandstone						
1.60-1.80	D 8				Extremely weak light yellow cream LIMESTONE Recovered as slightly gravelly silt. (CADEBY LIMESTONE)			2.00			+13.18
					EXPLORATORY HOLE ENDS AT 2.00 m						

Groundwater Entries No. Struck Post strike behaviour (m) None observed (see Key Sheet)	Depth sealed (m)	Depth Related Remarks * From to (m)	Chiselling Depths (m) Time Tools used
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Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column. Scale 1:50 (c) ESGL www.esgl.co.uk 408.24 05/04/2011 16:44:12	Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 Project No. A1008-11 Carried out for Scottish and Southern Energy PLC	Borehole WS627 Sheet 1 of 1
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Window Sampler Hole Log



Soil Mechanics

Drilled JB Logged BS Checked MT	Start 01/03/2011 End 01/03/2011	Equipment, Methods and Remarks Competitor rig. Windowless sampling.	Depth from 0.00m to 3.00m Diameter - Casing Depth -	Ground Level +14.85 mOD Coordinates E 447372.68 National Grid N 425128.02 Chainage
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Samples and Tests					Strata			
Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, Level/ (Thickness)	Legend	Backfill/ Instruments
0.00-0.90	B 4	0.00-1.20 m Hand excavated inspection pit.			Light grey slightly silty angular fine to coarse GRAVEL of limestone with low cobble content. Cobbles are of limestone. (MADE GROUND)	(0.90)		
0.30	ES 1							
0.50	ES 2							
0.90-1.20	B 5				Dark grey mottled black slightly sandy slightly silty fine to medium GRAVEL of sandstone, limestone and red shale with frequent fragments of wood and rare rootlets. Slight hydrocarbon odour present. (MADE GROUND)	0.90 +13.95		
1.00	ES 3							
1.20-2.00	B 7							
1.80	ES 6				Dark brown slightly gravelly clayey fine to medium SAND. Gravel is angular fine to coarse of limestone, sandstone and red shale. (MADE GROUND)	(1.20)		
2.50	ES 8							
2.80-3.00	B 9							
			01/03/2011	dry	Firm light red pink slightly sandy slightly gravelly CLAY. Gravel is angular fine to coarse of limestone.	2.40 +12.45		
					Extremely weak light yellow cream LIMESTONE. (CADEBY LIMESTONE)	(0.40)		
					EXPLORATORY HOLE ENDS AT 3.00 m	2.80 +12.05		
						3.00 +11.85		

Groundwater Entries No. Struck Post strike behaviour (m) None observed (see Key Sheet)	Depth sealed (m)	Depth Related Remarks * From to (m)	Chiselling Depths (m) Time Tools used
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Window Sampler Hole Log



Soil Mechanics

Drilled JB Logged BS Checked MT	Start 01/03/2011 End 01/03/2011	Equipment, Methods and Remarks Competitor rig. Windowless sampling.	Depth from 0.00m to 2.00m Diameter - Casing Depth	Ground Level +15.23 mOD Coordinates E 447435.66 National Grid N 425169.67 Chainage
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Samples and Tests				Strata					
Depth	Type & No	Records	Date Casing	Time Water	Description	Depth, Level/ (Thickness)	Legend	Backfill/ Instruments	
0.00-0.50	B 4	0.00-1.20 m Hand excavated inspection pit.	01/03/2011	dry	Dark brown slightly clayey slightly gravelly fine SAND with occasional rootlets. Gravel is subangular to subrounded fine to coarse of sandstone. (MADE GROUND) Dark brown slightly gravelly silty fine to medium SAND with low cobble and boulder content. Cobbles and boulders are of sandstone. Stiff to firm dark red brown slightly sandy gravelly CLAY. Gravel is angular fine to coarse of sandstone and limestone.	(0.50)			
0.30	ES 1					0.50 +14.73			
0.50	ES 2					(1.00)			
0.50-1.20	B 5					1.50 +13.73			
1.00	ES 3					(0.50)			
1.20-1.50	B 6					2.00 +13.23			
1.50-2.00	B 7								
EXPLORATORY HOLE ENDS AT 2.00 m									

Groundwater Entries No. Struck Post strike behaviour (m) None observed (see Key Sheet)	Depth sealed (m)	Depth Related Remarks * From to (m)	Chiselling Depths (m) Time Tools used
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Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column. Scale 1:50 (c) ESGL www.esgl.co.uk 408.24 05/04/2011 16:44:29	Project FERRYBRIDGE MULTI-FUEL POWERSTATION - PHASE 2 Project No. A1008-11 Carried out for Scottish and Southern Energy PLC	Borehole WS629 Sheet 1 of 1
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Appendix F

CIRIA RISK DEFINITIONS





CIRIA RISK DEFINITIONS

Table 1 - Consequence of risk being realised

Classification	Category	Definition	Examples
Severe Short term (acute) risks only	Humans	Short term (acute) risk to human health likely to result in “significant harm” as defined by the Environmental Protection Act 1990, Part 2a	High concentrations of cyanide on the surface of an informal recreation area
	Controlled Waters	Short term risk of pollution of sensitive water resource	Major spillage of contaminants from site into controlled waters
	Property	Catastrophic damage to buildings / property	Explosion causing building collapse
	Ecological Systems	Short term risk to a particular ecosystem or organism forming part of such ecosystem	
Medium Chronic (long term) risks; ‘significant harm’	Humans	Chronic damage to human health (“significant harm” as defined in DEFRA, 2006)	Concentrations of a contaminant from a site exceed the generic or site specific assessment criteria
	Controlled Waters	Pollution of sensitive water resources	Leaching of contaminants from a site into a Principal or Secondary A aquifer
	Ecological Systems	Significant change in a particular ecosystem or organism forming part of such ecosystem	Death of a species within a designated nature reserve
Mild Chronic (long term) risks; less sensitive receptors	Controlled Waters	Pollution of non-sensitive water resources	Pollution of non-classified surface watercourse
	Property	Significant damage to buildings, structures, crops and services (“significant harm” as defined in DEFRA, 2006) and damage to sensitive buildings / structures and services	Foundation damage to a building rendering it unsafe to occupy due to instability
	Ecological Systems	Damage to the environment	
Minor Chronic (long term) risk; mild	Humans	Non-permanent health effects to human health that are easily prevented by the use of PPE	Presence of contaminants at such concentrations that protective equipment is required during site works
	Property	Easily repairable effects of damage to buildings, structures and services	Discoloration of concrete
	Financial / Project	Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve	

CIRIA C552, 2001

Table 2 - Probability of risk being realised

Classification	Definition
High Likelihood	There is a contaminant linkage and an event that either appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution.
Likely	There is a contaminant linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.
Low Likelihood	There is a contaminant linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such an event would take place, and is less likely in the shorter term.
Unlikely	There is a contaminant linkage but circumstances are such that it is improbable that an event would occur even in the very long term.

CIRIA C552, 2001

Table 3 - Risk classification matrix

	Severe	Medium	Mild	Minor
High Likelihood	Very High Risk	High Risk	Moderate Risk	Low to Moderate Risk
Likely	High Risk	Moderate Risk	Low to Moderate Risk	Low Risk
Low Likelihood	Moderate Risk	Low to Moderate Risk	Low Risk	Very Low Risk
Unlikely	Low to Moderate Risk	Low Risk	Very Low Risk	Very Low Risk

CIRIA C552, 2001



Table 4 - Risk classification definitions

Risk Classification	Definition
Very High	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR, there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not undertaken already) and remediation are likely to be required.
High	Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short term and are likely over the longer term.
Moderate	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation (if not undertaken already) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term.
Low / Moderate	
Low	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.
Very Low	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.

CIRIA C552, 2001

Appendix G

REPORT LIMITATIONS



REPORT LIMITATIONS - GROUND AND WATER

GENERAL

1. WSP UK Limited has prepared this report solely for the use of the Client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed and outlined in the body of the report.
2. Unless explicitly agreed otherwise, in writing, this report has been prepared under WSP UK Limited standard Terms and Conditions as included within our proposal to the Client.
3. Project specific appointment documents may be agreed at our discretion and a charge may be levied for both the time to review and finalise appointments documents and also for associated changes to the appointment terms. WSP UK Limited reserves the right to amend the fee should any changes to the appointment terms create an increase risk to WSP UK Limited.
4. The report needs to be considered in the light of the WSP UK Limited proposal and associated limitations of scope. The report needs to be read in full and isolated sections cannot be used without full reference to other elements of the report and any previous works referenced within the report.

PHASE 1 GEO ENVIRONMENTAL AND PRELIMINARY RISK ASSESSMENTS

Coverage: *This section covers reports with the following titles or combination of titles: phase 1; desk top study; geo environmental assessment; development appraisal; preliminary environmental risk assessment; constraints report; due diligence report; geotechnical development review; environmental statement; environmental chapter; project scope summary report (PSSR), program environmental impact report (PEIR), geotechnical development risk register; and, baseline environmental assessment.*

5. The works undertaken to prepare this report comprised a study of available and easily documented information from a variety of sources (including the Client), together with (where appropriate) a brief walk over inspection of the Site and correspondence with relevant authorities and other interested parties. Due to the short timescales associated with these projects responses may not have been received from all parties. WSP UK Limited cannot be held responsible for any disclosures that are provided post production of our report and will not automatically update our report.
6. The opinions given in this report have been dictated by the finite data on which they are based and are relevant only for the purpose for which the report was commissioned. The information reviewed should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions. Should additional information become available which may affect the opinions expressed in this report, WSP UK Limited reserves the right to review such information and, if warranted, to modify the opinions accordingly.
7. It should be noted that any risks identified in this report are perceived risks based on the information reviewed. Actual risks can only be assessed following intrusive investigations of the site.
8. WSP UK Limited does not warrant work / data undertaken / provided by others.



REPORT LIMITATIONS - GROUND RISK AND REMEDIATION

INTRUSIVE INVESTIGATION REPORTS

Coverage: *The following report titles (or combination) may cover this category of work: geo environmental site investigation; geotechnical assessment; GIR (Ground Investigation reports); preliminary environmental and geotechnical risk assessment; and, geotechnical risk register.*

9. The investigation has been undertaken to provide information concerning either:
 - i. The type and degree of contamination present at the site in order to allow a generic quantitative risk assessment to be undertaken; or
 - ii. Information on the soil properties present at the site to allow for geotechnical development constraints to be considered.
10. The scope of the investigation was selected on the basis of the specific development and land use scenario proposed by the Client and may be inappropriate to another form of development or scheme. If the development layout was not known at the time of the investigation the report findings may need revisiting once the development layout is confirmed.
11. For contamination purposes, the objectives of the investigation are limited to establishing the risks associated with potential contamination sources with the potential to cause harm to human health, building materials, the environment (including adjacent land), or controlled waters.
12. For geotechnical investigations the purpose is to broadly consider potential development constraints associated with the physical property of the soils underlying the site within the context of the proposed future or continued use of the site, as stated within the report.
13. The amount of exploratory work, soil property testing and chemical testing undertaken has necessarily been restricted by various factors which may include accessibility, the presence of services; existing buildings; current site usage or short timescales. The exploratory holes completed assess only a small percentage of the area in relation to the overall size of the Site, and as such can only provide a general indication of conditions.
14. The number of sampling points and the methods of sampling and testing do not preclude the possible existence of contamination where concentrations may be significantly higher than those actually encountered or ground conditions that vary from those identified. In addition, there may be exceptional ground conditions elsewhere on the site which have not been disclosed by this investigation and which have therefore not been taken into account in this report.
15. The inspection, testing and monitoring records relate specifically to the investigation points and the timeframe that the works were undertaken. They will also be limited by the techniques employed. As part of this assessment, WSP UK Limited has used reasonable skill and care to extrapolate conditions between these points based upon assumptions to develop our interpretation and conclusions. The assumption made in forming our conclusions is that the ground and groundwater conditions (both chemically and physically) are the same as have been encountered during the works undertaken at the specific points of investigation. Conditions can change between investigation points and these interpretations should be considered indicative.
16. The risk assessment and opinions provided are based on currently available guidance relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of any future changes or amendments to these values. Specific assumptions associated



REPORT LIMITATIONS - GROUND RISK AND REMEDIATION

with the WSP UK Limited risk assessment process have been outlined within the body or associated appendix of the report.

17. Additional investigations may be required in order to satisfy relevant planning conditions or to resolve any engineering and environmental issues.
18. Where soil contamination concentrations recorded as part of this investigation are used for commentary on potential waste classification of soils for disposal purposes, these should be classed as indicative only. Due consideration should be given to the variability of contaminant concentrations taken from targeted samples versus bulk excavated soils and the potential variability of contaminant concentrations between sampling locations. Where major waste disposal operations are considered, targeted waste classification investigations should be designed.
19. The results of the asbestos testing are factually reported and interpretation given as to how this relates to the previous use of the site, the types of ground encountered and site conceptualisation. This does not however constitute a formal asbestos assessment. These results should be treated cautiously and should not be relied upon to provide detailed and representative information on the delineation, type and extent of bulk ACMs and / or trace loose asbestos fibres within the soil matrix at the site.
20. If costs have been included in relation to additional site works, and / or site remediation works these must be considered as indicative only and must be confirmed by a qualified quantity surveyor.

EUROCODE 7: GEOTECHNICAL DESIGN

21. On 1st April 2010, BS EN 1997-1:2004 (Eurocode 7: Geotechnical Design – Part 1) became the mandatory baseline standard for geotechnical ground investigations.
22. In terms of geotechnical design for foundations, slopes, retaining walls and earthworks, EC7 sets guidance on design procedures including specific guidance on the numbers and spacings of boreholes for geotechnical design, there are limits to methods of ground investigation and the quality of data obtained and there are also prescriptive methods of assessing soil strengths and methods of design. Unless otherwise explicitly stated, the work has not been undertaken in accordance with EC7. A standard geotechnical interpretative report will not meet the requirements of the Geotechnical Design Report (GDR) under Eurocode 7. The GDR can only be prepared following confirmation of all structural loads and serviceability requirements. The report is likely to represent a Ground Investigation Report (GIR) under the Eurocode 7 guidance.

DETAILED QUANTITATIVE RISK ASSESSMENTS AND REMEDIAL STRATEGY REPORTS

23. These reports build upon previous report versions and associated notes. The scope of the investigation, further testing and monitoring and associated risk assessments were selected on the basis of the specific development and land use scenario proposed by the Client and may not be appropriate to another form of development or scheme layout. The risk assessment and opinions provided are based on currently available approaches in the generation of Site Specific Assessment Criteria relating to contamination concentrations and are not considered to represent a risk in a specific land use scenario to a specific receptor. No liability can be accepted for the retrospective effects of any future changes or amendments to these values, associated models or associated guidance.



REPORT LIMITATIONS - GROUND RISK AND REMEDIATION

24. The outputs of the Detailed Quantitative Risk Assessments are based upon WSP UK Limited manipulation of standard risk assessment models. These are our interpretation of the risk assessment criteria.
25. Prior to adoption on site they will need discussing and agreeing with the Regulatory Authorities prior to adoption on site. The regulatory discussion and engagement process may result in an alternative interpretation being determined and agreed. The process and timescales associated with the Regulatory Authority engagement are not within the control of WSP UK Limited. All costs and programmes presented as a result of this process should be validated by a quantity surveyor and should be presumed to be indicative.

GEOTECHNICAL DESIGN REPORT (GDR)

26. The GDR can only be prepared following confirmation of all structural loads and serviceability requirements. All the relevant information needs to be provided to allow for a GDR to be produced.

MONITORING (INCLUDING REMEDIATION MONITORING REPORTS)

27. These reports are factual in nature and comprise monitoring, normally groundwater and ground gas and data provided by contractors as part of an earthworks or remedial works.
28. The data is presented and will be compared with assessment criteria.

Appendix H

WALKOVER PHOTOGRAPHS





70093613 – FERRYBRIDGE ENFINIUM

2 OCTOBER 2024 - PHOTOGRAPHIC RECORD



Photo 1: Photo taken from south-west of site, facing south-east.



Photo 2: Photo taken looking west



70093613 – FERRYBRIDGE ENFINIUM

2 OCTOBER 2024 - PHOTOGRAPHIC RECORD



Photo 3: Photo taken facing south west across the northern former tank area, looking towards the Keadby stores with Ferrybridge C substation in the background



Photo 4: Photo showing vegetated area in north-east of site. photo taken facing north-east



70093613 – FERRYBRIDGE ENFINIUM

2 OCTOBER 2024 - PHOTOGRAPHIC RECORD



Photo 5: Photo take at far north-east of site, taken facing north-east.



Photo 6: Photo showing location of historical tank area in northern area of the site. Photo taken facing south-west.



Photo 7: Photo of railway sidings at north-west of site. Photo taken facing west.



Photo 8: Area of hardstanding, former bunded tank area, in northern area of site. Photo taken facing south-east.



Photo 9: Photo showing existing sidings to northern site boundary. Photo taken facing north-east.



Photo 10: Photo showing area of hardstanding at centre-west of site. Photo taken facing west.



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