

Tween Bridge Solar Farm

Environmental Statement

Appendix 9.1: Phase 1 Ground Conditions Desk Study reports for Land Parcels A to E Part 4

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

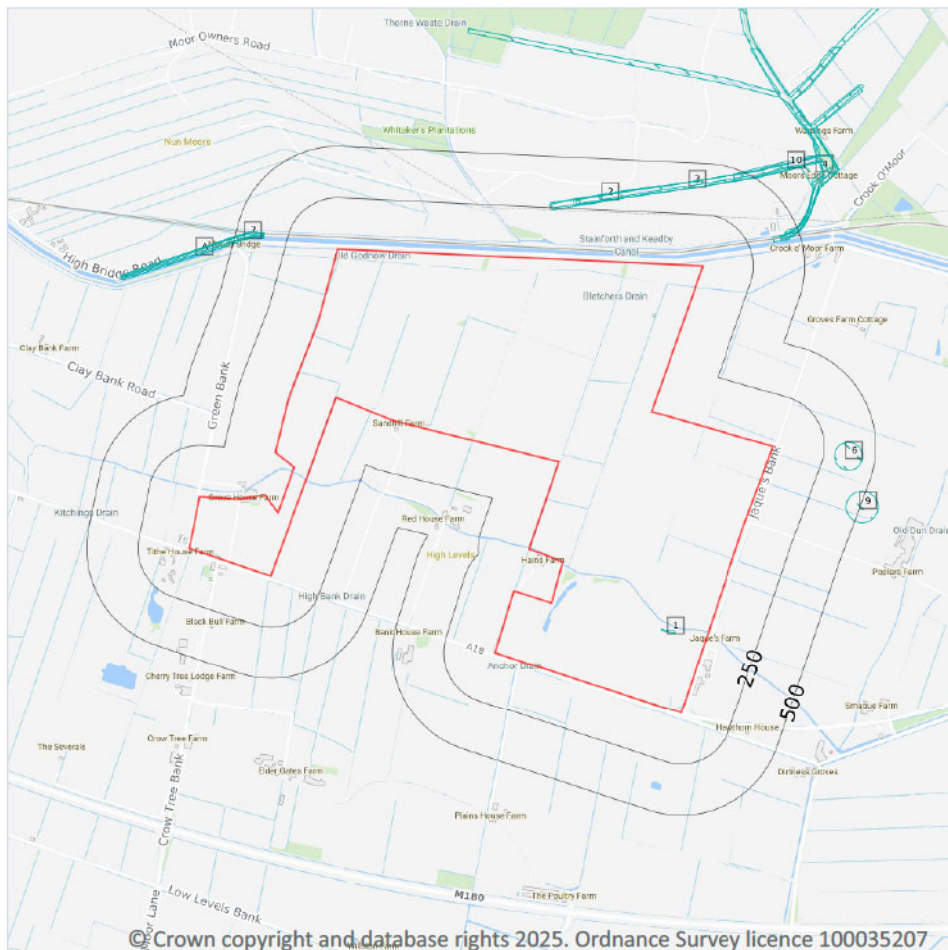
APFP Regulation 5(2)(a)

Document Reference: 6.3.9.1

August 2025

Revision 1

2 Past land use - un-grouped



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses

2.1 Historical industrial land uses

Records within 500m

16

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 17](#) >

ID	Location	Land Use	Date	Group ID
1	On site	Unspecified Ground Workings	1948	1440811
2	239m N	Tramway Sidings	1948	1564269
3	247m N	Tramway Sidings	1948	1567181



ID	Location	Land Use	Date	Group ID
4	265m N	Tramway Sidings	1908	1530217
5	274m N	Tramway Sidings	1906	1555040
6	302m E	Unspecified Levels	1948	1471188
A	360m NW	Railway Sidings	1908	1553353
A	363m NW	Railway Sidings	1955	1539820
7	369m NW	Railway Sidings	1948	1524135
A	369m NW	Railway Sidings	1891	1530277
A	391m NW	Railway Sidings	1968	1539820
B	405m NE	Tramway Sidings	1948	1553466
8	424m NE	Railway Sidings	1968	1536688
B	432m NE	Tramway Sidings	1955	1553466
9	432m E	Unspecified Levels	1948	1471187
10	444m NE	Tramway Sidings	1891	1519222

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

0

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'.

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

0

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'.

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



- Site Outline
- Search buffers in metres (m)
- Waste exemptions

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

0

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.

This data is sourced from the British Geological Survey.



3.3 Historical landfill (LA/mapping records)

Records within 500m**0**

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m**0**

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.

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

3.5 Historical waste sites

Records within 500m**0**

Waste site records derived from Local Authority planning records and high detail historical mapping.

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

3.6 Licensed waste sites

Records within 500m**0**

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

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

3.7 Waste exemptions

Records within 500m**38**

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 20](#) >

ID	Location	Site	Reference	Category	Sub-Category	Description
A	On site	Grove House Farm Scunthorpe Road Doncaster South Yorkshire Dn8 5sh	EPR/ZE5588CJ /A001	Disposing of waste exemption	Agricultural waste only	Burning waste in the open
A	On site	Grove House Farm Scunthorpe Road Doncaster South Yorkshire Dn8 5sh	EPR/ZE5588CJ /A001	Using waste exemption	Agricultural waste only	Spreading waste on agricultural land to confer benefit
A	On site	Grove House Farm Scunthorpe Road Doncaster South Yorkshire Dn8 5sh	EPR/ZE5588CJ /A001	Disposing of waste exemption	Agricultural waste only	Deposit of waste from dredging of inland waters
A	On site	Grove House Farm Scunthorpe Road Doncaster South Yorkshire Dn8 5sh	EPR/ZE5588CJ /A001	Using waste exemption	Agricultural waste only	Incorporation of ash into soil
A	On site	Grove House Farm Scunthorpe Road Doncaster South Yorkshire Dn8 5sh	EPR/ZE5588CJ /A001	Using waste exemption	Both agricultural and non- agricultural waste	Use of waste in construction
B	82m W	-	WEX236588	Storing waste exemption	On a farm	Storage of sludge
B	97m W	-	WEX370093	Storing waste exemption	On a farm	Storage of sludge
1	354m N	Dairy Farm, Eglins Road, Thorne, Doncaster, Dn8 5rx	WEX150258	Storing waste exemption	On a farm	Storage of sludge
2	367m N	Paul Burtwistle Dairy Farm - Thorne Field - 35 North Side Of Field	WEX262268	Storing waste exemption	On a farm	Storage of sludge
3	392m N	Dairy Farm, Eglins Road, Thorne, Doncaster, Dn8 5rx	WEX150257	Storing waste exemption	On a farm	Storage of sludge
C	397m N	-	WEX349835	Storing waste exemption	On a farm	Storage of sludge
D	417m SW	Red House Farm Scunthorpe Road Doncaster South Yorkshire Dn8 5sj	EPR/DF0237FF /A001	Disposing of waste exemption	Both agricultural and non- agricultural waste	Burning waste in the open



ID	Location	Site	Reference	Category	Sub-Category	Description
D	417m SW	Red House Farm Scunthorpe Road Doncaster South Yorkshire Dn8 5sj	EPR/DF0237FF /A001	Disposing of waste exemption	Both agricultural and non- agricultural waste	Deposit of waste from dredging of inland waters
D	417m SW	Red House Farm Scunthorpe Road Doncaster South Yorkshire Dn8 5sj	EPR/DF0237FF /A001	Treating waste exemption	Both agricultural and non- agricultural waste	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
D	417m SW	Red House Farm Scunthorpe Road Doncaster South Yorkshire Dn8 5sj	EPR/DF0237FF /A001	Using waste exemption	Both agricultural and non- agricultural waste	Use of waste in construction
D	417m SW	Red House Farm Scunthorpe Road Doncaster South Yorkshire Dn8 5sj	EPR/DF0237FF /A001	Using waste exemption	Both agricultural and non- agricultural waste	Burning of waste as a fuel in a small appliance
D	417m SW	Red House Farm Scunthorpe Road Doncaster South Yorkshire Dn8 5sj	EPR/DF0237FF /A001	Using waste exemption	Both agricultural and non- agricultural waste	Use of waste for a specified purpose
E	419m S	-	WEX349265	Storing waste exemption	On a farm	Storage of sludge
E	419m S	-	WEX350686	Storing waste exemption	On a farm	Storage of sludge
F	430m SW	Bank House Farm Scunthorpe Road Doncaster South Yorkshire Dn8 5sl	EPR/EE5288CR /A001	Disposing of waste exemption	Agricultural waste only	Burning waste in the open
F	430m SW	Bank House Farm Scunthorpe Road Doncaster South Yorkshire Dn8 5sl	EPR/EE5288CR /A001	Using waste exemption	Both agricultural and non- agricultural waste	Spreading waste on agricultural land to confer benefit
F	430m SW	Bank House Farm Scunthorpe Road Doncaster South Yorkshire Dn8 5sl	EPR/EE5288CR /A001	Disposing of waste exemption	Agricultural waste only	Deposit of waste from dredging of inland waters



ID	Location	Site	Reference	Category	Sub-Category	Description
F	430m SW	Bank House Farm Scunthorpe Road Doncaster South Yorkshire Dn8 5sl	EPR/EE5288CR /A001	Treating waste exemption	Agricultural waste only	Cleaning, washing, spraying or coating relevant waste
F	430m SW	Bank House Farm Scunthorpe Road Doncaster South Yorkshire Dn8 5sl	EPR/EE5288CR /A001	Using waste exemption	Agricultural waste only	Incorporation of ash into soil
F	430m SW	Bank House Farm Scunthorpe Road Doncaster South Yorkshire Dn8 5sl	EPR/EE5288CR /A001	Using waste exemption	Both agricultural and non- agricultural waste	Use of waste in construction
F	430m SW	Bank House Farm Scunthorpe Road Doncaster South Yorkshire Dn8 5sl	EPR/EE5288CR /A001	Using waste exemption	Both agricultural and non- agricultural waste	Use of waste for a specified purpose
C	444m N	-	WEX349833	Storing waste exemption	On a farm	Storage of sludge
4	478m N	Dairy Farm, Eglins Road, Thorne, Doncaster, Dn8 5rx	WEX086076	Storing waste exemption	On a farm	Storage of sludge
G	486m SW	Cherry Tree Lodge Farm Crow Tree Bank Thorne South Yorkshire Dn8 5tf	EPR/WF0330K Q/A001	Disposing of waste exemption	Agricultural waste only	Burning waste in the open
G	486m SW	Cherry Tree Lodge Farm Crow Tree Bank Thorne South Yorkshire Dn8 5tf	EPR/WF0330K Q/A001	Using waste exemption	Agricultural waste only	Spreading waste on agricultural land to confer benefit
G	486m SW	Cherry Tree Lodge Farm Crow Tree Bank Thorne South Yorkshire Dn8 5tf	EPR/WF0330K Q/A001	Using waste exemption	Agricultural waste only	Use of mulch
G	486m SW	Cherry Tree Lodge Farm Crow Tree Bank Thorne South Yorkshire Dn8 5tf	EPR/WF0330K Q/A001	Disposing of waste exemption	Agricultural waste only	Deposit of waste from dredging of inland waters
G	486m SW	Cherry Tree Lodge Farm Crow Tree Bank Thorne South Yorkshire Dn8 5tf	EPR/WF0330K Q/A001	Storing waste exemption	Agricultural waste only	Storage of waste in secure containers
G	486m SW	Cherry Tree Lodge Farm Crow Tree Bank Thorne South Yorkshire Dn8 5tf	EPR/WF0330K Q/A001	Using waste exemption	Agricultural waste only	Use of waste in construction



ID	Location	Site	Reference	Category	Sub-Category	Description
G	486m SW	Cherry Tree Lodge Farm Crow Tree Bank Thorne South Yorkshire Dn8 5tf	EPR/WF0330K Q/A001	Using waste exemption	Agricultural waste only	Spreading of plant matter to confer benefit
G	486m SW	Cherry Tree Lodge Farm Crow Tree Bank Thorne South Yorkshire Dn8 5tf	EPR/WF0330K Q/A001	Using waste exemption	Agricultural waste only	Pig and poultry ash
G	486m SW	Cherry Tree Lodge Farm Crow Tree Bank Thorne South Yorkshire Dn8 5tf	EPR/WF0330K Q/A001	Using waste exemption	Agricultural waste only	Burning of waste as a fuel in a small appliance
G	486m SW	Cherry Tree Lodge Farm Crow Tree Bank Thorne South Yorkshire Dn8 5tf	EPR/WF0330K Q/A001	Using waste exemption	Agricultural waste only	Use of waste derived biodiesel as fuel

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
- Licensed Discharges to controlled waters
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m

9

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on [page 26](#) >

ID	Location	Company	Address	Activity	Category
1	On site	Pump	South Yorkshire, DN8	Water Pumping Stations	Industrial Features
2	10m NW	Pylon	South Yorkshire, DN8	Electrical Features	Infrastructure and Facilities
A	25m S	L & J Price Transport	Haines Farm, High Levels Bank, Belton, Lincolnshire, DN8 5SJ	Distribution and Haulage	Transport, Storage and Delivery



ID	Location	Company	Address	Activity	Category
A	46m S	Pump	Lincolnshire, DN8	Water Pumping Stations	Industrial Features
3	87m NW	Pylon	South Yorkshire, DN8	Electrical Features	Infrastructure and Facilities
5	237m N	Pylon	South Yorkshire, DN8	Electrical Features	Infrastructure and Facilities
6	239m N	Pylon	South Yorkshire, DN8	Electrical Features	Infrastructure and Facilities
7	241m NE	Pylon	South Yorkshire, DN8	Electrical Features	Infrastructure and Facilities
8	244m NE	Pylon	Lincolnshire, DN8	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m

0

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m

0

High voltage underground electricity transmission cables.

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**0**

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.

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**0**

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.

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m**0**

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

0

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

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

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

Records within 500m

0

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.

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

5

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 26 >](#)

ID	Location	Address	Details	
B	448m SW	REDHOUSEFARM&COTTAGES,T HORNELEVELS,THORNE,DONCASTER,SOUTH YORKSHIRE, DN85SJ	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: T/83/02135/S Permit Version: 1 Receiving Water: BOATING DYKE	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 02/01/1968 Effective Date: 02/01/1968 Revocation Date: -
B	448m SW	REDHOUSEFARM&COTTAGES,T HORNELEVELS,THORNE,DONCASTER,SOUTH YORKSHIRE, DN85SJ	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: T/83/02135/S Permit Version: 1 Receiving Water: BOATING DYKE	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 02/01/1968 Effective Date: 02/01/1968 Revocation Date: -



ID	Location	Address	Details	
C	473m SW	BANKHOUSEFARM,THORNELEVES,THORNE,NRDONCASTER,YORKSHIRE,DN85SL	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: T/83/14334/TG Permit Version: 1 Receiving Water: UNDERGROUND STRATA	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 28/06/1974 Effective Date: 28/06/1974 Revocation Date: 13/12/2011
C	473m SW	BANKHOUSEFARM,THORNELEVES,THORNE,NRDONCASTER,YORKSHIRE,DN85SL	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: T/83/14334/TG Permit Version: 2 Receiving Water: UNDERGROUND STRATA	Status: VARIED UNDER EPR 2010 Issue date: 14/12/2011 Effective Date: 14/12/2011 Revocation Date: -
11	483m SW	BANKHOUSEFARM,THORNELEVES,THORNE,NRDONCASTER,YORKSHIRE,DN85SL	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 3/28/83/2630 Permit Version: 1 Receiving Water: UNDERGROUND STRATA	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 28/06/1974 Effective Date: 28/06/1974 Revocation Date: -

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

3

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 26](#) >

ID	Location	Details	
4	111m SE	Incident Date: 24/07/2001 Incident Identification: 18760 Pollutant: Oils and Fuel Pollutant Description: Unidentified Oil	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
9	351m SW	Incident Date: 25/07/2001 Incident Identification: 18861 Pollutant: Oils and Fuel Pollutant Description: Unidentified Oil	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
10	357m SE	Incident Date: 19/03/2002 Incident Identification: 64989 Pollutant: Oils and Fuel Pollutant Description: Diesel	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) 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

0

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.

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



4.20 Pollution inventory waste transfers

Records within 500m**0**

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.

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.

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive
- Unknown

Records within 500m	9
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Features are displayed on the Hydrogeology map on [page 33](#) >

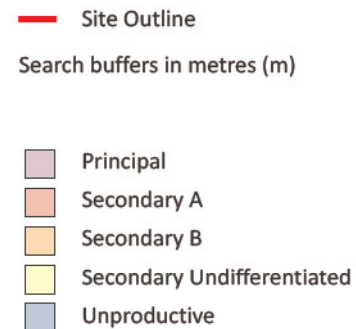
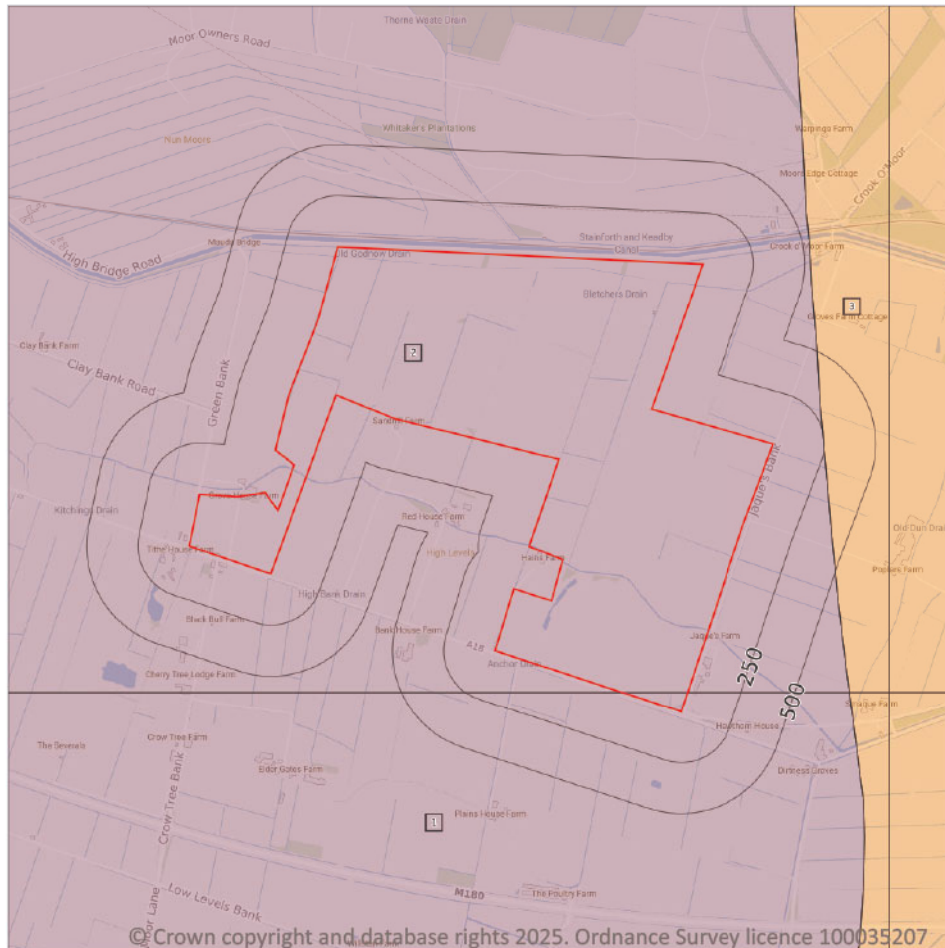
ID	Location	Designation	Description
1	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
2	On site	Secondary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

ID	Location	Designation	Description
3	On site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
4	74m NE	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
5	107m NE	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
6	109m NE	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
7	308m SE	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
8	493m NE	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
9	500m N	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

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

3

Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on [page 35](#) >

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

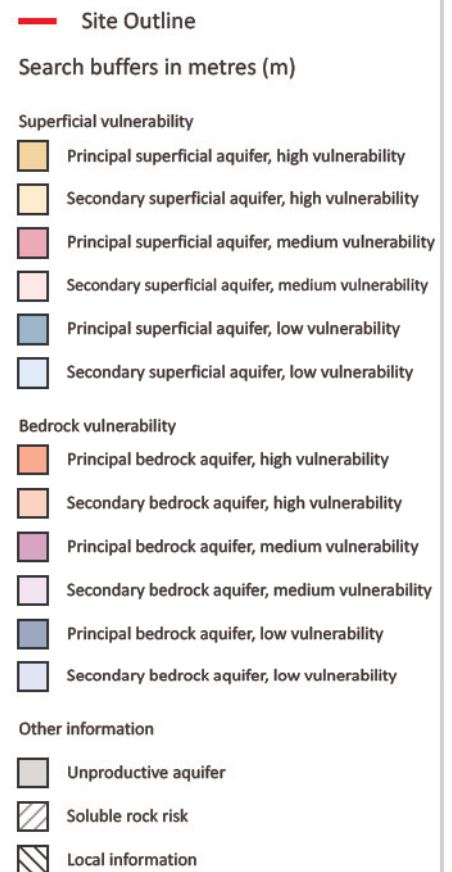
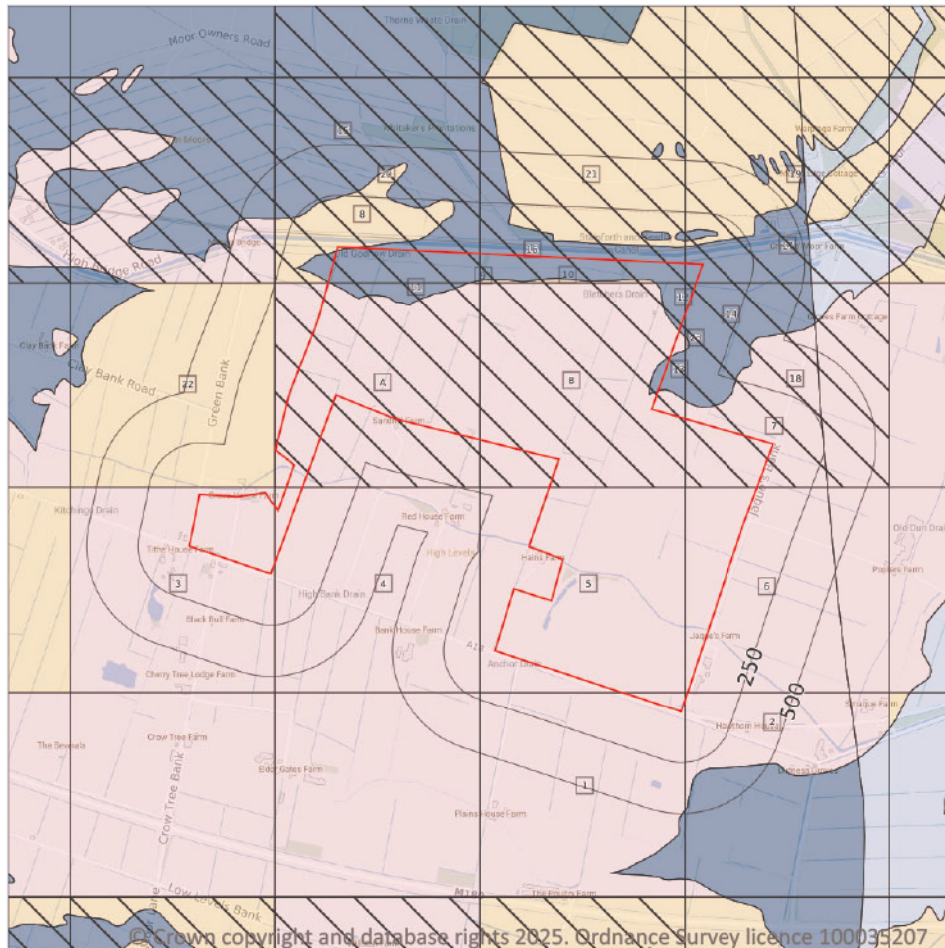


ID	Location	Designation	Description
3	246m E	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers

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

21

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 37](#) >



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
2	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Principal Flow mechanism: Well connected fractures
3	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
4	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
5	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
6	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: 40- 70% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Principal Flow mechanism: Well connected fractures
7	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: 40- 70% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Well connected fractures
8	On site	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: High Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
9	On site	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: High Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
10	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: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
11	On site	Summary Classification: Principal bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Low Infiltration value: 40- 70% Dilution value: <300mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
12	On site	Summary Classification: Principal bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Intermediate Infiltration value: 40- 70% Dilution value: <300mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
13	On site	Summary Classification: Principal bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Intermediate Infiltration value: 40- 70% Dilution value: <300mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
14	On site	Summary Classification: Principal bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Low Infiltration value: 40- 70% Dilution value: <300mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Well connected fractures
15	On site	Summary Classification: Principal bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
16	On site	Summary Classification: Principal bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
17	On site	Summary Classification: Principal bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Principal Flow mechanism: Well connected fractures



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
A	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
B	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: 40-70% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
22	2m W	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: High Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
23	35m NE	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: 40-70% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low 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

0

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

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



5.5 Groundwater vulnerability- local information

Records on site

6

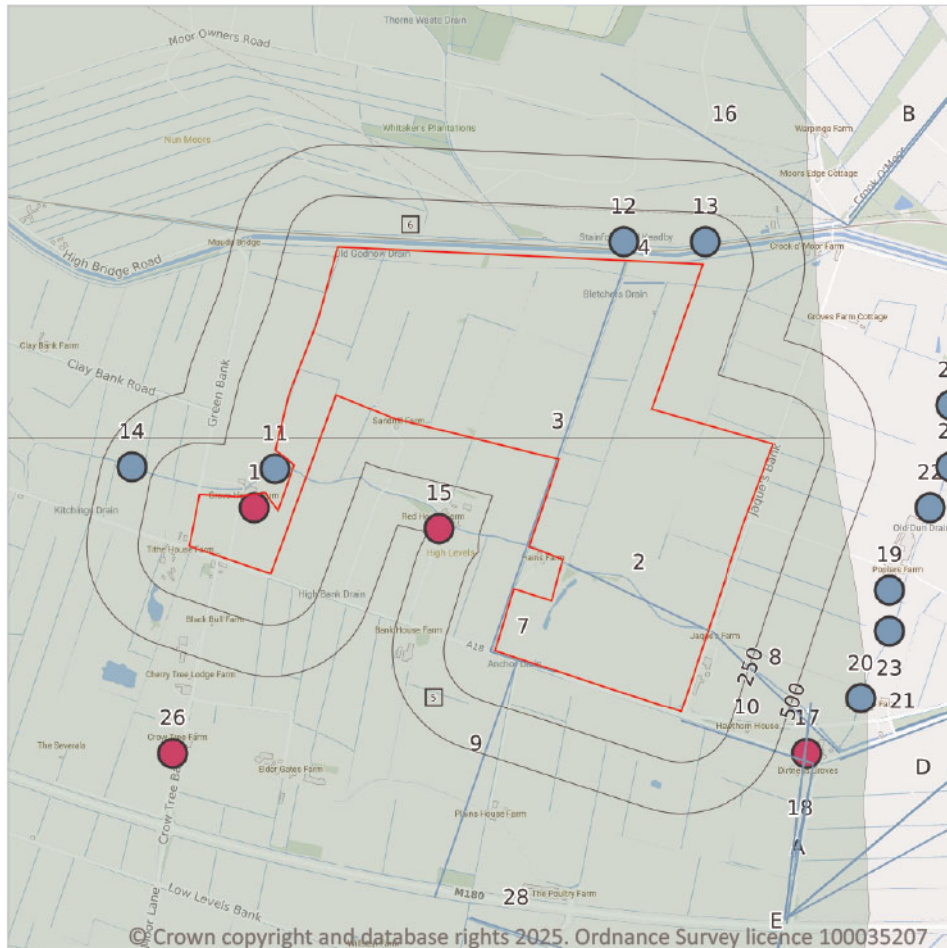
This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506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

ID	Summary	Additional information
18	Increased vulnerability of aquifers due to limited protection by superficial deposits and a high water table	Local studies indicate a thin unsaturated zone and uncertainties in the extent and thickness of peat cover
19	Increased vulnerability of aquifers due to limited protection by superficial deposits and a high water table	Local studies indicate a thin unsaturated zone and uncertainties in the extent and thickness of peat cover
20	Increased vulnerability of aquifers due to limited protection by superficial deposits and a high water table	Local studies indicate a thin unsaturated zone and uncertainties in the extent and thickness of peat cover
21	Increased vulnerability of aquifers due to limited protection by superficial deposits and a high water table	Local studies indicate a thin unsaturated zone and uncertainties in the extent and thickness of peat cover
A	Increased vulnerability of aquifers due to limited protection by superficial deposits and a high water table	Local studies indicate a thin unsaturated zone and uncertainties in the extent and thickness of peat cover
B	Increased vulnerability of aquifers due to limited protection by superficial deposits and a high water table	Local studies indicate a thin unsaturated zone and uncertainties in the extent and thickness of peat cover

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

9

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 43](#) >

ID	Location	Details	
1	On site	Status: Historical Licence No: 03/28/83/0023 Details: General Farming & Domestic Direct Source: Groundwater Midlands Region Point: GROVE FARM - BOREHOLE Data Type: Point Name: J S BROOKE AND SONS Easting: 471900 Northing: 410900	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 13/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2000 Version End Date: -
15	448m SW	Status: Historical Licence No: 03/28/83/0016 Details: General Farming & Domestic Direct Source: Groundwater Midlands Region Point: RED HOUSE FARM - BOREHOLE Data Type: Point Name: B I & A ATKINSON Easting: 472800 Northing: 410800	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 02/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2000 Version End Date: -
17	652m SE	Status: Historical Licence No: 03/28/83/0090 Details: General Farming & Domestic Direct Source: Groundwater Midlands Region Point: DIRTNESS BRIDGE FARM,CROWLE - BOREHOLE Data Type: Point Name: CUNDALL Easting: 474600 Northing: 409700	Annual Volume (m³): 5727.96 Max Daily Volume (m³): 81.828 Original Application No: - Original Start Date: 07/04/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2008 Version End Date: -
26	987m SW	Status: Historical Licence No: 03/28/83/0011 Details: General Farming & Domestic Direct Source: Groundwater Midlands Region Point: CROWTREE FARMS - BOREHOLE Data Type: Point Name: J TOWN & SONS Easting: 471500 Northing: 409700	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 29/10/1965 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2000 Version End Date: -
-	1293m W	Status: Active Licence No: MD/028/0082/018 Details: Dust Suppression Direct Source: Groundwater Midlands Region Point: BANK END QUARRY Data Type: Poly4 Name: North Lincs Sand & Gravel Ltd Easting: 468824 Northing: 400038	Annual Volume (m³): 1982000 Max Daily Volume (m³): 7220 Original Application No: NPS/WR/039752 Original Start Date: 07/11/2022 Expiry Date: 31/03/2038 Issue No: 2 Version Start Date: 20/09/2024 Version End Date: -



ID	Location	Details	
-	1293m W	Status: Active Licence No: MD/028/0082/017 Details: Dewatering Direct Source: Groundwater Midlands Region Point: BANK END QUARRY Data Type: Poly4 Name: North Lincs Sand & Gravel Ltd Easting: 468824 Northing: 400038	Annual Volume (m ³): 1980000 Max Daily Volume (m ³): 7200 Original Application No: NPS/WR/038804 Original Start Date: 07/11/2022 Expiry Date: 31/03/2038 Issue No: 2 Version Start Date: 20/09/2024 Version End Date: -
-	1293m W	Status: Active Licence No: MD/028/0082/018 Details: Mineral Washing Direct Source: Groundwater Midlands Region Point: BANK END QUARRY Data Type: Poly4 Name: North Lincs Sand & Gravel Ltd Easting: 468824 Northing: 400038	Annual Volume (m ³): 1982000 Max Daily Volume (m ³): 7220 Original Application No: NPS/WR/039752 Original Start Date: 07/11/2022 Expiry Date: 31/03/2038 Issue No: 2 Version Start Date: 20/09/2024 Version End Date: -
-	1450m W	Status: Historical Licence No: 03/28/83/0024 Details: General Farming & Domestic Direct Source: Groundwater Midlands Region Point: THE LEVELS FARM - BOREHOLE Data Type: Point Name: BROOKE Easting: 470200 Northing: 411200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 13/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2000 Version End Date: -
-	1950m NW	Status: Historical Licence No: 03/28/83/0050 Details: General Farming & Domestic Direct Source: Groundwater Midlands Region Point: FOUR WINDS FARM - BOREHOLE Data Type: Point Name: JOHNSON Easting: 470400 Northing: 412600	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 23/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2000 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m

54

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 43](#) >



ID	Location	Details	
2	On site	Status: Active Licence No: 03/28/83/0057 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: BOATING DYKE DRAIN Data Type: Line Name: Bramhall Farming Ltd Easting: 473429 Northing: 410626	Annual Volume (m³): 31000 Max Daily Volume (m³): 818 Original Application No: NPS/WR/034997 Original Start Date: 18/02/1966 Expiry Date: - Issue No: 103 Version Start Date: 01/04/2022 Version End Date: -
3	On site	Status: Active Licence No: 03/28/83/0066 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: DIRTNESS GROVES, CROWLE - BLETCHERS DRAIN Data Type: Line Name: J S BROOKE & SONS Easting: 473050 Northing: 410200	Annual Volume (m³): 15274.56 Max Daily Volume (m³): 545.52 Original Application No: - Original Start Date: 04/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 21/10/1999 Version End Date: -
4	On site	Status: Active Licence No: 03/28/83/0066 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: DIRTNESS GROVES,CROWLE - UNNAMED DRAIN (2) Data Type: Line Name: J S BROOKE & SONS Easting: 473700 Northing: 412000	Annual Volume (m³): 15274.56 Max Daily Volume (m³): 545.52 Original Application No: - Original Start Date: 04/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 21/10/1999 Version End Date: -
7	6m S	Status: Active Licence No: 03/28/83/0066 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: DIRNESS GROVES, CROWLE - ANCHOR DRAIN (1) Data Type: Line Name: J S BROOKE & SONS Easting: 473050 Northing: 410200	Annual Volume (m³): 15274.56 Max Daily Volume (m³): 545.52 Original Application No: - Original Start Date: 04/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 21/10/1999 Version End Date: -
8	16m SE	Status: Active Licence No: 03/28/83/0114 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: DIRTNESS BRIDGE FARM - BOATING DYKE Data Type: Line Name: CUNDALL Easting: 474130 Northing: 410300	Annual Volume (m³): 9092 Max Daily Volume (m³): 545.5 Original Application No: - Original Start Date: 30/11/1976 Expiry Date: - Issue No: 100 Version Start Date: 03/12/2018 Version End Date: -



ID	Location	Details	
9	18m S	Status: Active Licence No: 03/28/83/0066 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: DIRTNESS GROVES,CROWLE - ANCHOR DRAIN (2) Data Type: Line Name: J S BROOKE & SONS Easting: 473180 Northing: 410150	Annual Volume (m ³): 15274.56 Max Daily Volume (m ³): 545.52 Original Application No: - Original Start Date: 04/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 21/10/1999 Version End Date: -
10	46m SE	Status: Active Licence No: 03/28/83/0066 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: DIRTNESS GROVES,CROWLE - UNNAMED DRAIN (1) Data Type: Line Name: J S BROOKE & SONS Easting: 474630 Northing: 409650	Annual Volume (m ³): 15274.56 Max Daily Volume (m ³): 545.52 Original Application No: - Original Start Date: 04/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 21/10/1999 Version End Date: -
11	73m W	Status: Active Licence No: 03/28/83/0068 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: GROVE HOUSE CROWLE - BOATING DYKE POINT B Data Type: Point Name: J S BROOKE & SONS Easting: 472000 Northing: 411090	Annual Volume (m ³): 5437.02 Max Daily Volume (m ³): 909.2 Original Application No: - Original Start Date: 10/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 21/10/1999 Version End Date: -
12	90m NE	Status: Active Licence No: 03/28/83/0067 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: NEW WARP FARM - THE NORTH SOAK DRAIN (2) Data Type: Point Name: H BARKER & SONS Easting: 473700 Northing: 412200	Annual Volume (m ³): 13638 Max Daily Volume (m ³): 1200 Original Application No: - Original Start Date: 08/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/12/1982 Version End Date: -
13	109m NE	Status: Active Licence No: 03/28/83/0067 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: NEW WARP FARM - THE NORTH SOAK DRAIN (1) Data Type: Point Name: H BARKER & SONS Easting: 474100 Northing: 412200	Annual Volume (m ³): 13638 Max Daily Volume (m ³): 1200 Original Application No: - Original Start Date: 08/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/12/1982 Version End Date: -



ID	Location	Details	
14	358m W	Status: Active Licence No: 03/28/83/0068 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: GROVE HOUSE,CROWLE - BOATING DYKE POINT A Data Type: Point Name: J S BROOKE & SONS Easting: 471300 Northing: 411100	Annual Volume (m ³): 5437.02 Max Daily Volume (m ³): 909.2 Original Application No: - Original Start Date: 10/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 21/10/1999 Version End Date: -
16	533m NE	Status: Historical Licence No: 03/28/83/0072 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: CROWLE - CROOK O'MOOR DRAIN (REACH) Data Type: Line Name: DAN ALBONE & SON LTD Easting: 474800 Northing: 412280	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 05/08/1997 Expiry Date: - Issue No: 100 Version Start Date: 16/01/1998 Version End Date: -
A	590m SE	Status: Active Licence No: MD/028/0083/005 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: EPWORTH & BELTON - NORTH IDLE DRAIN (3) Data Type: Line Name: Maw Easting: 474491 Northing: 408890	Annual Volume (m ³): 36363 Max Daily Volume (m ³): 2273 Original Application No: NPS/WR/012485 Original Start Date: 01/04/2014 Expiry Date: 31/03/2026 Issue No: 1 Version Start Date: 13/04/2020 Version End Date: -
A	590m SE	Status: Historical Licence No: 03/28/83/0197 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: EPWORTH & BELTON - NORTH IDLE DRAIN (3) Data Type: Line Name: Maw Easting: 474491 Northing: 408890	Annual Volume (m ³): 36363 Max Daily Volume (m ³): 2273 Original Application No: - Original Start Date: 07/02/1995 Expiry Date: 31/03/2014 Issue No: 103 Version Start Date: 29/07/2010 Version End Date: -
18	697m SE	Status: Active Licence No: 03/28/83/0066 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: DIRTNESS GROVES,CROWLE - NORTH IDLE DRAIN Data Type: Line Name: J S BROOKE & SONS Easting: 474500 Northing: 408870	Annual Volume (m ³): 15274.56 Max Daily Volume (m ³): 545.52 Original Application No: - Original Start Date: 04/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 21/10/1999 Version End Date: -



ID	Location	Details	
A	704m SE	Status: Active Licence No: 03/28/83/0114 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: DIRTNESS BRIDGE FARM - NORTH IDLE DRAIN Data Type: Line Name: CUNDALL Easting: 474540 Northing: 409190	Annual Volume (m ³): 9092 Max Daily Volume (m ³): 545.5 Original Application No: - Original Start Date: 30/11/1976 Expiry Date: - Issue No: 100 Version Start Date: 03/12/2018 Version End Date: -
B	737m NE	Status: Historical Licence No: 03/28/83/0072 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: CROWLE - CROOK O'MOOR DRAIN (REACH) Data Type: Line Name: DAN ALBONE & SON LTD Easting: 474800 Northing: 412280	Annual Volume (m ³): 31000 Max Daily Volume (m ³): 1000 Original Application No: - Original Start Date: 05/08/1997 Expiry Date: - Issue No: 101 Version Start Date: 30/05/2007 Version End Date: -
B	753m NE	Status: Active Licence No: 03/28/83/0072 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: CROWLE - CROOK O'MOOR DRAIN (REACH) Data Type: Line Name: DAN ALBONE & SON LTD Easting: 474805 Northing: 412320	Annual Volume (m ³): 31000 Max Daily Volume (m ³): 1000 Original Application No: NPS/WR/031598 Original Start Date: 05/08/1997 Expiry Date: - Issue No: 103 Version Start Date: 01/04/2020 Version End Date: -
19	778m SE	Status: Active Licence No: 03/28/83/0067 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: POPLARS FARM - DUNN DRAIN (2) Data Type: Point Name: H BARKER & SONS Easting: 475000 Northing: 410500	Annual Volume (m ³): 13638 Max Daily Volume (m ³): 1200 Original Application No: - Original Start Date: 08/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/12/1982 Version End Date: -
20	813m SE	Status: Active Licence No: 03/28/83/0255 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: SMAQUE FARM - OLD RIVER DON Data Type: Point Name: J S BROOKE AND SONS Easting: 474860 Northing: 409970	Annual Volume (m ³): 15450 Max Daily Volume (m ³): 1100 Original Application No: A/28/83/130 Original Start Date: 28/01/2000 Expiry Date: - Issue No: 1 Version Start Date: 28/01/2000 Version End Date: -



ID	Location	Details	
21	813m SE	Status: Active Licence No: 03/28/83/0114 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: DIRTNESS BRIDGE FARM - ANCHOR DRAIN Data Type: Line Name: CUNDALL Easting: 475370 Northing: 409900	Annual Volume (m ³): 9092 Max Daily Volume (m ³): 545.5 Original Application No: - Original Start Date: 30/11/1976 Expiry Date: - Issue No: 100 Version Start Date: 03/12/2018 Version End Date: -
22	827m E	Status: Active Licence No: 03/28/83/0067 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: POPLARS FARM - DUNN DRAIN (3) Data Type: Point Name: H BARKER & SONS Easting: 475200 Northing: 410900	Annual Volume (m ³): 13638 Max Daily Volume (m ³): 1200 Original Application No: - Original Start Date: 08/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/12/1982 Version End Date: -
23	841m SE	Status: Active Licence No: 03/28/83/0067 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: POPLARS FARM - DUNN DRAIN (1) Data Type: Point Name: H BARKER & SONS Easting: 475000 Northing: 410300	Annual Volume (m ³): 13638 Max Daily Volume (m ³): 1200 Original Application No: - Original Start Date: 08/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/12/1982 Version End Date: -
24	873m E	Status: Active Licence No: 03/28/83/0067 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: POPLARS FARM - DUNN DRAIN (4) Data Type: Point Name: H BARKER & SONS Easting: 475300 Northing: 411100	Annual Volume (m ³): 13638 Max Daily Volume (m ³): 1200 Original Application No: - Original Start Date: 08/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/12/1982 Version End Date: -
25	886m E	Status: Active Licence No: 03/28/83/0067 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: POPLARS FARM - DUNN DRAIN (5) Data Type: Point Name: H BARKER & SONS Easting: 475300 Northing: 411400	Annual Volume (m ³): 13638 Max Daily Volume (m ³): 1200 Original Application No: - Original Start Date: 08/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/12/1982 Version End Date: -



ID	Location	Details	
C	1024m SE	Status: Active Licence No: MD/028/0083/005 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: EPWORTH & BELTON - NORTH ENGINE DRAIN Data Type: Line Name: Maw Easting: 475030 Northing: 409811	Annual Volume (m ³): 36363 Max Daily Volume (m ³): 2273 Original Application No: NPS/WR/012485 Original Start Date: 01/04/2014 Expiry Date: 31/03/2026 Issue No: 1 Version Start Date: 13/04/2020 Version End Date: -
C	1024m SE	Status: Historical Licence No: 03/28/83/0197 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: EPWORTH & BELTON - NORTH ENGINE DRAIN Data Type: Line Name: Maw Easting: 475030 Northing: 409811	Annual Volume (m ³): 36363 Max Daily Volume (m ³): 2273 Original Application No: - Original Start Date: 07/02/1995 Expiry Date: 31/03/2014 Issue No: 103 Version Start Date: 29/07/2010 Version End Date: -
C	1025m SE	Status: Historical Licence No: 03/28/83/0197 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: EPWORTH & BELTON - NORTH ENGINE DRAIN Data Type: Line Name: Maw Easting: 475030 Northing: 409810	Annual Volume (m ³): 36363 Max Daily Volume (m ³): 2273 Original Application No: - Original Start Date: 07/02/1995 Expiry Date: 31/03/2014 Issue No: 103 Version Start Date: 29/07/2010 Version End Date: -
D	1104m SE	Status: Historical Licence No: 03/28/83/0197 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: EPWORTH & BELTON - WOODCARR DRAIN Data Type: Line Name: Maw Easting: 474490 Northing: 408890	Annual Volume (m ³): 36363 Max Daily Volume (m ³): 2273 Original Application No: - Original Start Date: 07/02/1995 Expiry Date: 31/03/2014 Issue No: 103 Version Start Date: 29/07/2010 Version End Date: -
D	1105m SE	Status: Active Licence No: MD/028/0083/005 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: EPWORTH & BELTON - WOODCARR DRAIN Data Type: Line Name: Maw Easting: 474491 Northing: 408890	Annual Volume (m ³): 36363 Max Daily Volume (m ³): 2273 Original Application No: NPS/WR/012485 Original Start Date: 01/04/2014 Expiry Date: 31/03/2026 Issue No: 1 Version Start Date: 13/04/2020 Version End Date: -



ID	Location	Details	
D	1105m SE	Status: Historical Licence No: 03/28/83/0197 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: EPWORTH & BELTON - WOODCARR DRAIN Data Type: Line Name: Maw Easting: 474491 Northing: 408890	Annual Volume (m ³): 36363 Max Daily Volume (m ³): 2273 Original Application No: - Original Start Date: 07/02/1995 Expiry Date: 31/03/2014 Issue No: 103 Version Start Date: 29/07/2010 Version End Date: -
27	1135m SE	Status: Historical Licence No: 03/28/83/0197 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: EPWORTH & BELTON - NORTH IDLE DRAIN (3) Data Type: Line Name: Maw Easting: 474490 Northing: 408890	Annual Volume (m ³): 36363 Max Daily Volume (m ³): 2273 Original Application No: - Original Start Date: 07/02/1995 Expiry Date: 31/03/2014 Issue No: 103 Version Start Date: 29/07/2010 Version End Date: -
E	1190m SE	Status: Historical Licence No: 03/28/83/0197 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: EPWORTH & BELTON - NORTH IDLE DRAIN (2) Data Type: Line Name: Maw Easting: 474430 Northing: 408600	Annual Volume (m ³): 36363 Max Daily Volume (m ³): 2273 Original Application No: - Original Start Date: 07/02/1995 Expiry Date: 31/03/2014 Issue No: 103 Version Start Date: 29/07/2010 Version End Date: -
E	1195m SE	Status: Active Licence No: MD/028/0083/005 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: EPWORTH & BELTON - NORTH IDLE DRAIN (2) Data Type: Line Name: Maw Easting: 474429 Northing: 408596	Annual Volume (m ³): 36363 Max Daily Volume (m ³): 2273 Original Application No: NPS/WR/012485 Original Start Date: 01/04/2014 Expiry Date: 31/03/2026 Issue No: 1 Version Start Date: 13/04/2020 Version End Date: -
E	1195m SE	Status: Historical Licence No: 03/28/83/0197 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: EPWORTH & BELTON - NORTH IDLE DRAIN (2) Data Type: Line Name: Maw Easting: 474429 Northing: 408596	Annual Volume (m ³): 36363 Max Daily Volume (m ³): 2273 Original Application No: - Original Start Date: 07/02/1995 Expiry Date: 31/03/2014 Issue No: 103 Version Start Date: 29/07/2010 Version End Date: -



ID	Location	Details	
28	1277m S	Status: Historical Licence No: 03/28/83/0197 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: LAND AT SANDTOFT Data Type: Line Name: Maw Easting: 472950 Northing: 408900	Annual Volume (m ³): 36363 Max Daily Volume (m ³): 2273 Original Application No: - Original Start Date: 07/02/1995 Expiry Date: 31/03/2014 Issue No: 103 Version Start Date: 29/07/2010 Version End Date: -
-	1311m S	Status: Active Licence No: 03/28/83/0060 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: SANDTOFT,YORKS - CATALINE DRAIN Data Type: Line Name: DENT Easting: 474100 Northing: 408600	Annual Volume (m ³): 3636.8 Max Daily Volume (m ³): 454.6 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 03/12/2018 Version End Date: -
-	1328m SE	Status: Active Licence No: 03/28/83/0114 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: DIRTNESS BRIDGE FARM - ANCHOR DYKE Data Type: Line Name: CUNDALL Easting: 475400 Northing: 409220	Annual Volume (m ³): 9092 Max Daily Volume (m ³): 545.5 Original Application No: - Original Start Date: 30/11/1976 Expiry Date: - Issue No: 100 Version Start Date: 03/12/2018 Version End Date: -
-	1524m SE	Status: Active Licence No: 03/28/83/0138 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: SANDTOFT GRANGE - HATFIELD WASTE DRAIN Data Type: Point Name: T A WHITE & SONS Easting: 474800 Northing: 408620	Annual Volume (m ³): 4546 Max Daily Volume (m ³): 655 Original Application No: - Original Start Date: 27/05/1983 Expiry Date: - Issue No: 101 Version Start Date: 31/01/2007 Version End Date: -
-	1664m E	Status: Active Licence No: 03/28/83/0259 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: CROWLE - OLD RIVER DRAIN Data Type: Line Name: DAN ALBONE & SON LTD Easting: 475900 Northing: 412000	Annual Volume (m ³): 24000 Max Daily Volume (m ³): 2945 Original Application No: NPS/WR/035308 Original Start Date: 21/11/2001 Expiry Date: - Issue No: 2 Version Start Date: 27/04/2021 Version End Date: -



ID	Location	Details	
-	1664m E	Status: Historical Licence No: 03/28/84/0010 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: CROWLE - OLD RIVER DRAIN Data Type: Line Name: H BARKER & SONS Easting: 475900 Northing: 412000	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 31/03/1994 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1995 Version End Date: -
-	1698m SE	Status: Active Licence No: 03/28/83/0147 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: SMAQUE FARM - CATALINE DRAIN Data Type: Line Name: J S BROOKE AND SONS Easting: 475350 Northing: 408900	Annual Volume (m ³): 15450 Max Daily Volume (m ³): 1100 Original Application No: - Original Start Date: 02/09/1985 Expiry Date: - Issue No: 101 Version Start Date: 27/01/2000 Version End Date: -
-	1701m SE	Status: Active Licence No: 03/28/83/0114 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: DIRTNESS BRIDGE FARM - HATFIELD WASTE DRAIN Data Type: Line Name: CUNDALL Easting: 475870 Northing: 409220	Annual Volume (m ³): 9092 Max Daily Volume (m ³): 545.5 Original Application No: - Original Start Date: 30/11/1976 Expiry Date: - Issue No: 100 Version Start Date: 03/12/2018 Version End Date: -
-	1756m S	Status: Active Licence No: 03/28/83/0060 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: SANDTOFT,YORKS - NEW IDLE DRAIN Data Type: Line Name: DENT Easting: 474400 Northing: 408200	Annual Volume (m ³): 3636.8 Max Daily Volume (m ³): 454.6 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 03/12/2018 Version End Date: -
-	1770m SE	Status: Active Licence No: MD/028/0083/032 Details: Transfer Between Sources (Post Water Act 2003) Direct Source: Surface Water Midlands Region Point: POINT A HATFIELD WASTE DRAIN AT STANCHE BRIDGE Data Type: Point Name: ENVIRONMENT AGENCY Easting: 475441 Northing: 408904	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: NPS/NA/000818 Original Start Date: 22/12/2022 Expiry Date: 31/03/2038 Issue No: 1 Version Start Date: 22/12/2022 Version End Date: -



ID	Location	Details	
-	1770m S	Status: Active Licence No: 03/28/83/0115 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: WILLOW LODGE FARM,THORNE - MOOR DRAIN Data Type: Line Name: ULLEY Easting: 473130 Northing: 407350	Annual Volume (m ³): 2273 Max Daily Volume (m ³): 545.5 Original Application No: NPS/WR/037084 Original Start Date: 30/11/1976 Expiry Date: - Issue No: 101 Version Start Date: 10/01/2022 Version End Date: -
-	1772m S	Status: Active Licence No: 03/28/83/0209 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: SANDTOFT - HATFIELD WASTE DRAIN Data Type: Point Name: J T HOPKINS & SONS Easting: 473500 Northing: 408200	Annual Volume (m ³): 10000 Max Daily Volume (m ³): 550 Original Application No: - Original Start Date: 31/03/1994 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2003 Version End Date: -
-	1881m E	Status: Active Licence No: 03/28/83/0067 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: GLEBE FARM - THE SOUTH SOAK DRAIN Data Type: Point Name: H BARKER & SONS Easting: 476300 Northing: 411450	Annual Volume (m ³): 13638 Max Daily Volume (m ³): 1200 Original Application No: - Original Start Date: 08/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/12/1982 Version End Date: -
-	1906m S	Status: Historical Licence No: 03/28/83/0197 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: EPWORTH & BELTON - NORTH IDLE DRAIN (1) Data Type: Line Name: Maw Easting: 474210 Northing: 407450	Annual Volume (m ³): 36363 Max Daily Volume (m ³): 2273 Original Application No: - Original Start Date: 07/02/1995 Expiry Date: 31/03/2014 Issue No: 103 Version Start Date: 29/07/2010 Version End Date: -
-	1909m S	Status: Active Licence No: MD/028/0083/005 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: EPWORTH & BELTON - NORTH IDLE DRAIN (1) Data Type: Line Name: Maw Easting: 474210 Northing: 407452	Annual Volume (m ³): 36363 Max Daily Volume (m ³): 2273 Original Application No: NPS/WR/012485 Original Start Date: 01/04/2014 Expiry Date: 31/03/2026 Issue No: 1 Version Start Date: 13/04/2020 Version End Date: -



ID	Location	Details	
-	1909m S	Status: Historical Licence No: 03/28/83/0197 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: EPWORTH & BELTON - NORTH IDLE DRAIN (1) Data Type: Line Name: Maw Easting: 474210 Northing: 407452	Annual Volume (m ³): 36363 Max Daily Volume (m ³): 2273 Original Application No: - Original Start Date: 07/02/1995 Expiry Date: 31/03/2014 Issue No: 103 Version Start Date: 29/07/2010 Version End Date: -
-	1914m E	Status: Historical Licence No: 03/28/83/0057 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: BELTON GRANGE - RIVER TORNE Data Type: Line Name: Bramhall Farming Ltd Easting: 476100 Northing: 410200	Annual Volume (m ³): 34095 Max Daily Volume (m ³): 818 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/04/2020 Version End Date: -
-	1970m E	Status: Active Licence No: 03/28/83/0057 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: HATFIELD WASTE DRAIN NEAR SANDTOFT Data Type: Line Name: Bramhall Farming Ltd Easting: 476150 Northing: 410175	Annual Volume (m ³): 31000 Max Daily Volume (m ³): 818 Original Application No: NPS/WR/034997 Original Start Date: 18/02/1966 Expiry Date: - Issue No: 103 Version Start Date: 01/04/2022 Version End Date: -
-	1972m E	Status: Active Licence No: 03/28/83/0201 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: BELTON - HATFIELD WASTE DRAIN Data Type: Line Name: H BARKER & SONS Easting: 475900 Northing: 409040	Annual Volume (m ³): 45000 Max Daily Volume (m ³): 2945 Original Application No: - Original Start Date: 21/03/1994 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2024 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**2**

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination. Features are displayed on the Abstractions and Source Protection Zones map on [page 43](#) >

ID	Location	Type	Description
5	On site	3	Total catchment
6	On site	3	Total catchment

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

5.10 Source Protection Zones (confined aquifer)

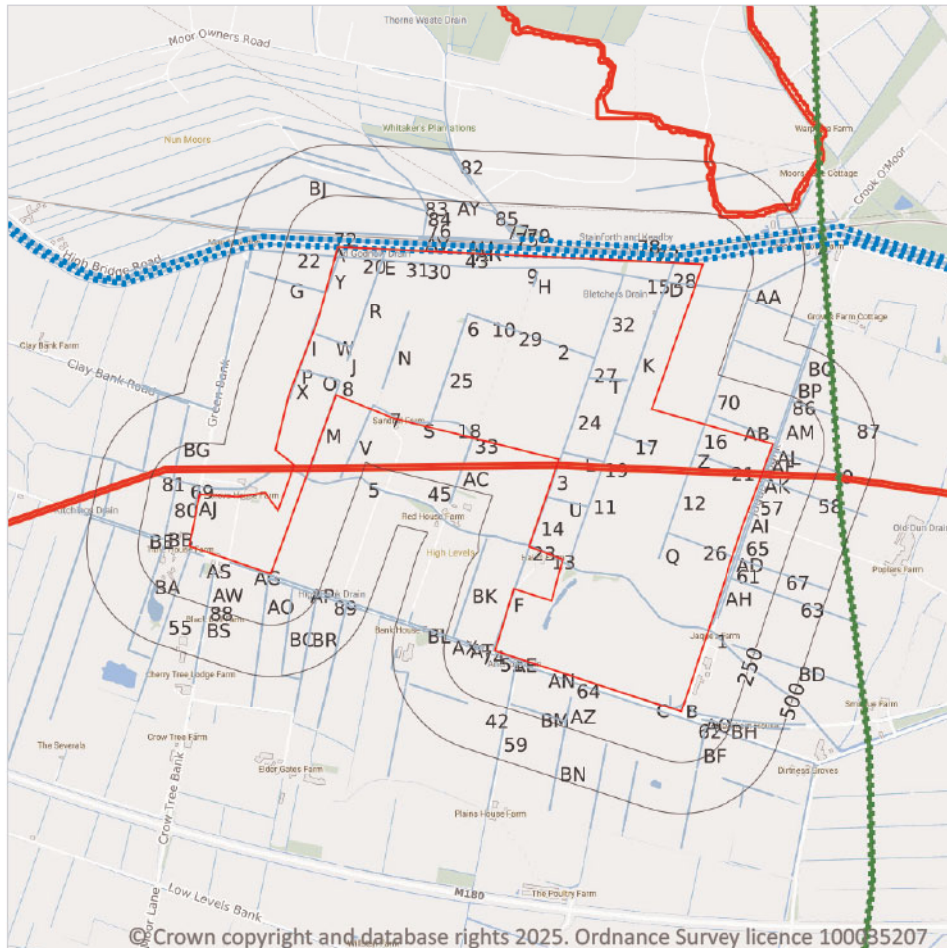
Records within 500m**0**

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



- Site Outline
- Search buffers in metres (m)
- Water Network (OS MasterMap)
- Surface water features (wider than 5m)
- Surface water features (narrower than 5m)
- WFD River, canal and surface water transfer water bodies
- WFD Lake water bodies
- WFD Transitional and coastal water bodies
- WFD Surface water body catchments boundaries
- WFD Groundwater body boundaries

6.1 Water Network (OS MasterMap)

Records within 250m

165

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 58](#) >

ID	Location	Type of water feature	Ground level	Permanence	Name
1	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Boating Dike Drain



ID	Location	Type of water feature	Ground level	Permanence	Name
2	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
3	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Bletchers Drain
4	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	South Soak Drain
5	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Boating Dike Drain
6	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
7	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
8	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
9	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Old Godnow Drain
10	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
11	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
12	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
13	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Boating Dike Drain
14	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Bletchers Drain



ID	Location	Type of water feature	Ground level	Permanence	Name
15	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Bletchers Drain
16	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
17	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
18	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
19	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
20	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Old Godnow Drain
21	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
22	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Old Godnow Drain
23	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Boating Dike Drain
24	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Bletchers Drain
25	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
26	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
27	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Bletchers Drain



ID	Location	Type of water feature	Ground level	Permanence	Name
28	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
29	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
30	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Old Godnow Drain
31	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Old Godnow Drain
32	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Bletchers Drain
33	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
A	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	South Soak Drain
B	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Bletchers Drain



ID	Location	Type of water feature	Ground level	Permanence	Name
D	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Bletchers Drain
D	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Bletchers Drain
E	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Old Godnow Drain
E	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
F	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
H	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
I	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
J	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
K	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
L	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
M	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
N	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
O	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
P	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
P	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Q	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
R	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
T	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
U	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
W	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
X	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
Y	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Z	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
Z	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Z	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AA	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Bletchers Drain
AC	2m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AD	7m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AE	7m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AF	8m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AH	9m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AG	10m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AJ	10m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AK	11m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
AK	11m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AI	12m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AD	16m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
49	20m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AF	20m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Chester Bank Drain
AL	20m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Chester Bank Drain
AL	20m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Chester Bank Drain
AM	20m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Chester Bank Drain
51	21m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	High Bank Drain
55	23m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AK	23m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Chester Bank Drain
AL	24m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AE	24m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Anchor Drain



ID	Location	Type of water feature	Ground level	Permanence	Name
AN	24m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Anchor Drain
AK	24m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Chester Bank Drain
57	24m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Chester Bank Drain
58	24m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
59	24m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Anchor Drain
AE	24m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Anchor Drain
AO	24m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	High Bank Drain
AH	25m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
61	27m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
62	27m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Anchor Drain
63	27m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
64	27m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Anchor Drain
AP	28m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
AI	28m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Chester Bank Drain
65	29m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Chester Bank Drain
67	30m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AB	31m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AM	32m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AQ	33m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AR	35m NW	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Sheffield and South Yorkshire Navigation
69	39m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Boating Dike Drain
AS	54m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AT	55m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
70	55m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AS	61m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AU	63m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
72	71m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	North Soak Drain
73	72m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	North Soak Drain
AU	72m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	North Soak Drain
AV	72m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Top Boating Dike
AW	73m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AV	75m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Top Boating Dike
74	75m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	High Bank Drain
75	80m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Thorne Waste Drain
AX	80m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	High Bank Drain
76	81m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Top Boating Dike
77	85m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
78	94m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AZ	99m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
AQ	107m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
79	115m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
80	122m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BA	123m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BB	125m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BC	127m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
81	130m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Boating Dike Drain
BD	132m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BE	132m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BF	144m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BG	151m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
82	154m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Thorne Waste Drain
BE	174m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Kitchings Drain



ID	Location	Type of water feature	Ground level	Permanence	Name
BH	194m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BH	194m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
83	194m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Top Boating Dike
84	194m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
BJ	197m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BK	204m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
85	209m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AY	209m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BL	215m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BM	223m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BN	226m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
86	227m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
87	228m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
BO	228m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BP	234m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AP	240m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	High Bank Drain
88	241m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
89	244m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	High Bank Drain
BR	246m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BE	248m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Kitchings Drain
BS	248m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

50

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 58](#) >

This data is sourced from the Ordnance Survey.



6.3 WFD Surface water body catchments

Records on site

2

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 58](#) >

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
42	On site	River	Hatfield Waste Drain Catchment (trib of Torne/Three Rivers)	GB104028064330	Isle of Axholme	Idle and Torne
43	On site	River	North Soak Drain Catchment (trib of Torne/Three Rivers)	GB104028064350	Isle of Axholme	Idle and Torne

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

6.4 WFD Surface water bodies

Records identified

3

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 58](#) >

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
44	On site	River	North Soak Drain Catchment (trib of Torne/Three Rivers)	GB104028064350 ↗	Moderate	Fail	Moderate	2019
AR	34m NW	Canal	Sheffield and South Yorkshire Navigation (New Junction and Stainf	GB70410281 ↗	Moderate	Fail	Good	2019



ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	707m SE	River	Hatfield Waste Drain Catchment (trib of Torne/Three Rivers)	GB104028064330 ↗	Poor	Fail	Poor	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.

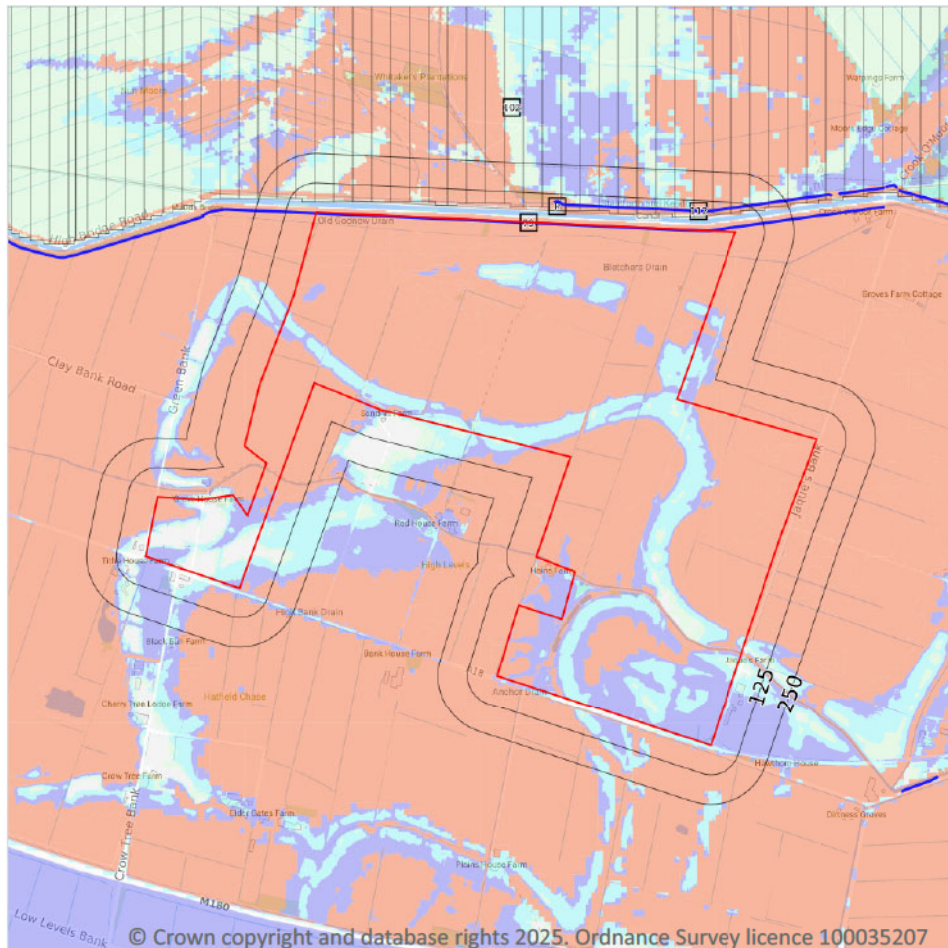
Features are displayed on the Hydrology map on [page 58 >](#)

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
45	On site	Idle Torne - PT Sandstone Nottinghamshire & Doncaster	GB40401G301500 ↗	Poor	Poor	Poor	2019

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



7 River and coastal flooding



— Site Outline
Search buffers in metres (m)

River and coastal flooding:

- High
- Medium
- Low
- Very Low
- Historical Flood Events
- Areas Used for Flood Storage
- Areas Benefiting from Flood Defences
- Flood Defences

7.1 Risk of flooding from rivers and the sea

Records within 50m

132

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 74 >](#)



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	4
----------------------------	----------

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.

Features are displayed on the River and coastal flooding map on [page 74 >](#)

ID	Location	Update
79	On site	08/11/2022
P	68m N	08/11/2022
P	81m N	08/11/2022
112	81m NE	08/11/2022

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

7.4 Areas Benefiting from Flood Defences

Records within 250m	1
----------------------------	----------

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.

Features are displayed on the River and coastal flooding map on [page 74 >](#)



ID	Location	
102	45m NW	Area benefiting from flood defences

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

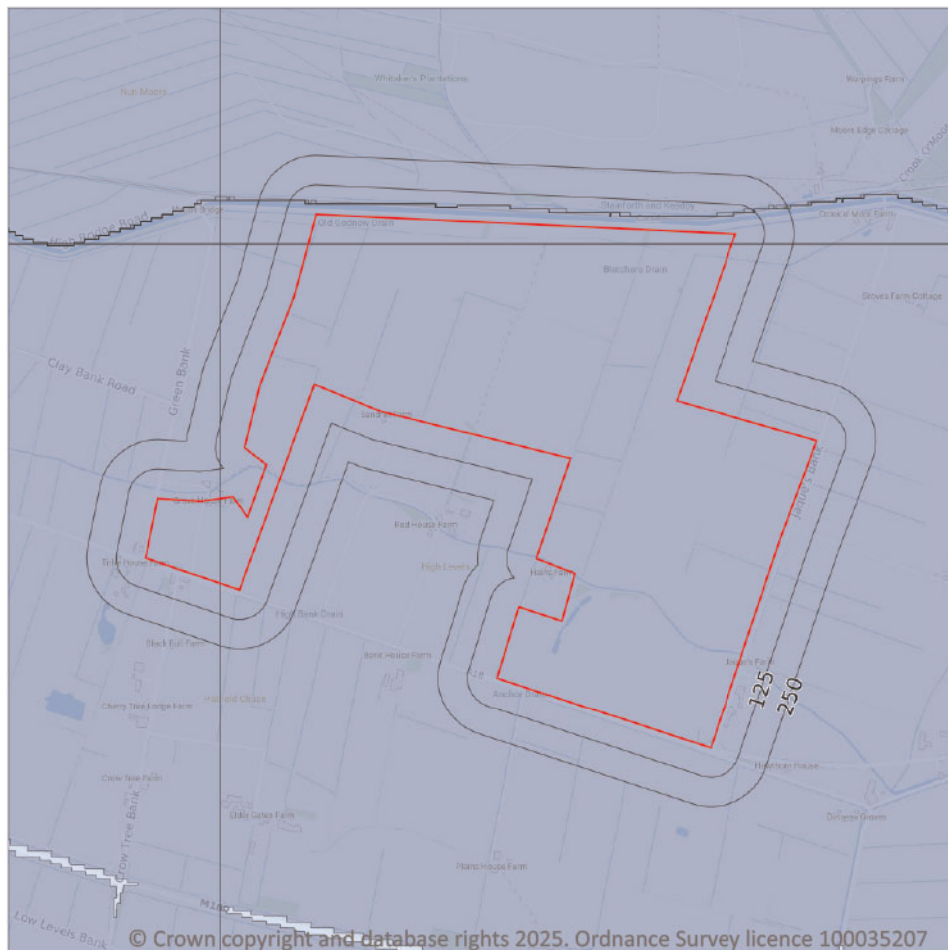
7.5 Flood Storage Areas

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



- Site Outline
- Search buffers in metres (m)
- Flood zone 2
- Flood zone 3

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 74 >](#)

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 74](#) >

Location	Type
On site	Zone 3 - (Fluvial Models)

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



8 Surface water flooding



— Site Outline

Search buffers in metres (m)

1 in 1000 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 250 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 100 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 30 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

8.1 Surface water flooding

Highest risk on site

1 in 30 year, Greater than 1.0m

Highest risk within 50m

1 in 30 year, Greater than 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 79 >](#)

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	Greater than 1.0m
1 in 250 year	Greater than 1.0m
1 in 100 year	Greater than 1.0m
1 in 30 year	Greater than 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

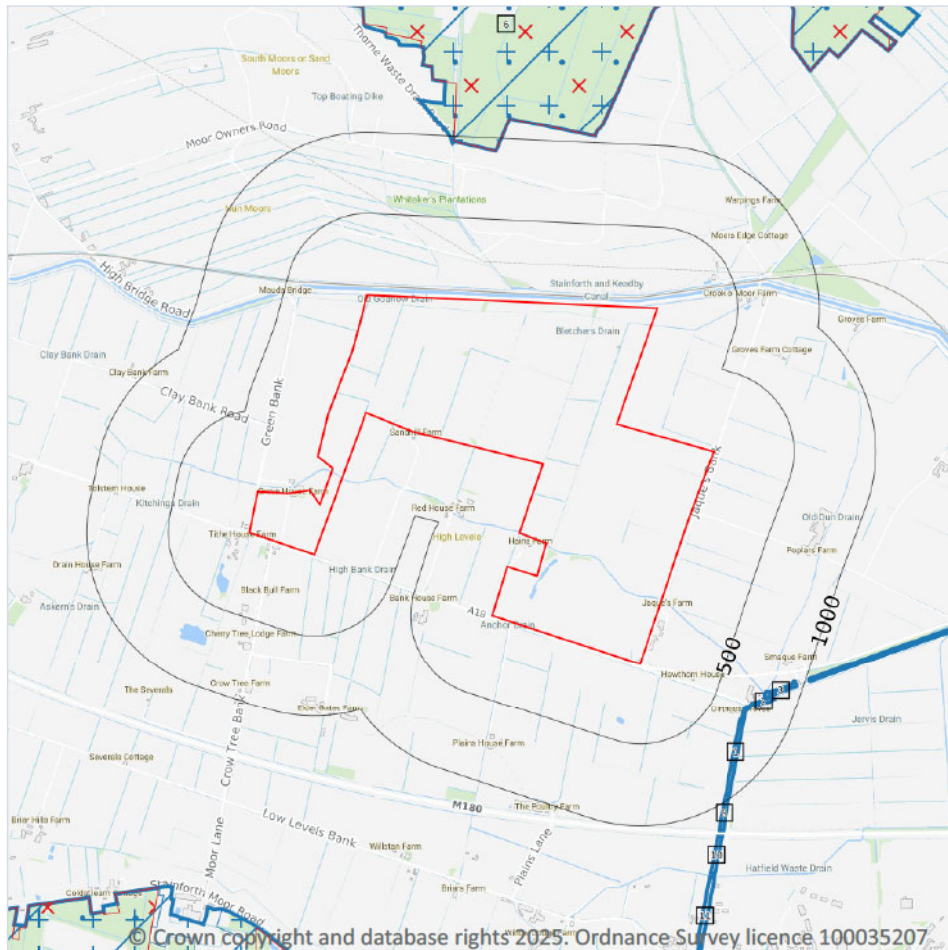
High

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 81](#) >

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- Sites of Special Scientific Interest (SSSI)
- Special Areas of Conservation (SAC)
- Special Protection Areas (SPA)
- National Nature Reserves (NNR)

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

10

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 82](#) >

ID	Location	Name	Data source
1	703m SE	Hatfield Chase Ditches	Natural England



ID	Location	Name	Data source
2	731m SE	Hatfield Chase Ditches	Natural England
3	793m SE	Hatfield Chase Ditches	Natural England
4	921m N	Thorne, Crowle and Goole Moors	Natural England
8	967m SE	Hatfield Chase Ditches	Natural England
9	1019m SE	Hatfield Chase Ditches	Natural England
10	1167m SE	Hatfield Chase Ditches	Natural England
11	1377m SE	Hatfield Chase Ditches	Natural England
12	1743m NE	Thorne, Crowle and Goole Moors	Natural England
-	1870m S	Hatfield Chase Ditches	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

1

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.

Features are displayed on the Environmental designations map on [page 82 >](#)



ID	Location	Name	Features of interest	Habitat description	Data source
5	921m N	Thorne Moor	Active raised bogs; Degraded raised bog.	Heath, Scrub, Maquis and Garrigue, Phygrana; Inland water bodies (Standing water, Running water); Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites); Broad-leaved deciduous woodland; Bogs, Marshes, Water fringed vegetation, Fens	Natural England

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

10.4 Special Protection Areas (SPA)

Records within 2000m	2
-----------------------------	----------

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.

Features are displayed on the Environmental designations map on [page 82 >](#)

ID	Location	Name	Species of interest	Habitat description	Data source
6	921m N	Thorne & Hatfield Moors	European nightjar	Inland water bodies (Standing water, Running water); Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites); Broad-leaved deciduous woodland; Coniferous woodland; Bogs, Marshes, Water fringed vegetation, Fens; Heath, Scrub, Maquis and Garrigue, Phygrana	Natural England
13	1743m NE	Thorne & Hatfield Moors	European nightjar	Inland water bodies (Standing water, Running water); Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites); Broad-leaved deciduous woodland; Coniferous woodland; Bogs, Marshes, Water fringed vegetation, Fens; Heath, Scrub, Maquis and Garrigue, Phygrana	Natural England

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

10.5 National Nature Reserves (NNR)

Records within 2000m	1
-----------------------------	----------

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.

Features are displayed on the Environmental designations map on [page 82 >](#)

ID	Location	Name	Data source
7	921m N	Humberhead Peatlands	Natural England



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**0**

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

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

7

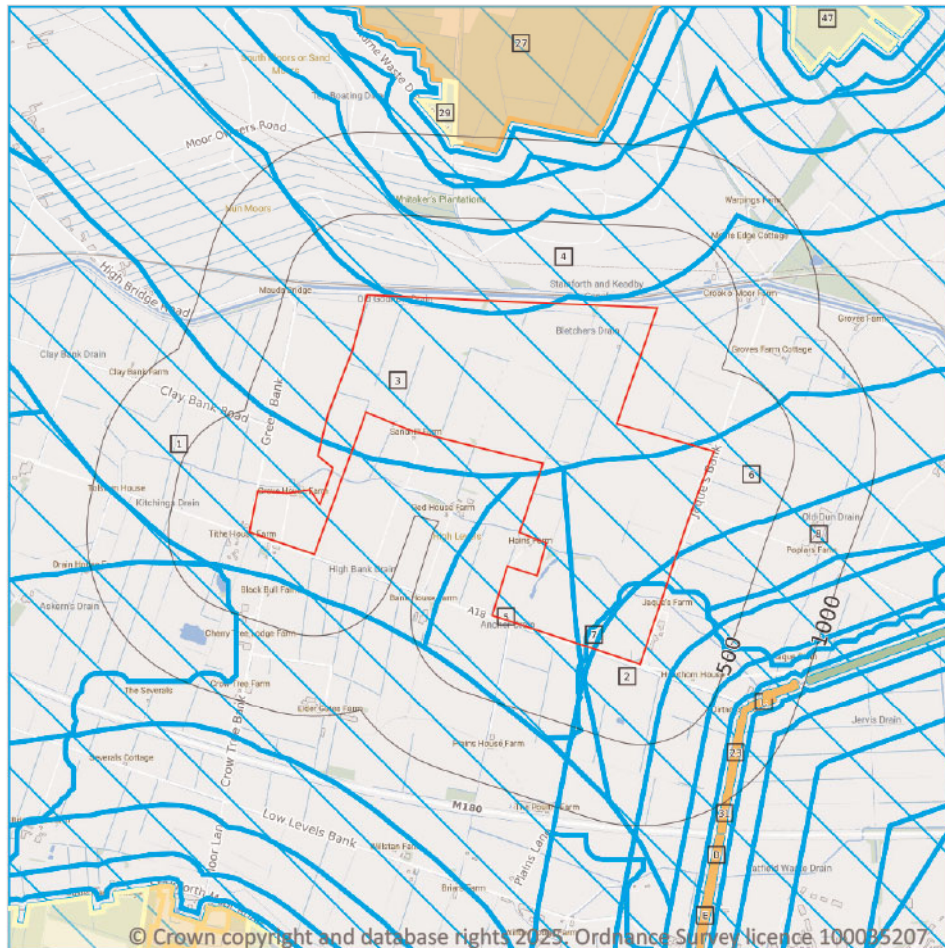
Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

Location	Name	Type	NVZ ID	Status
On site	North Soak Drain (trib of R Torne / Three Rivers) NVZ	Surface Water	352	Existing
On site	North Soak Drain (trib of R Torne / Three Rivers) NVZ	Surface Water	352	Existing
20m SE	R Torne / Three Rivers from Mother Dr to R Trent NVZ	Surface Water	351	Existing
23m S	R Torne / Three Rivers from Mother Dr to R Trent NVZ	Surface Water	351	Existing
1336m SW	Nottinghamshire	Groundwater	40	Existing
1799m NE	Swinefleet Warping Drain Source to River Ouse NVZ	Surface Water	281	Existing
1934m N	Swinefleet Warping Drain Source to River Ouse NVZ	Surface Water	281	Existing

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



SSSI Impact Zones and Units



- Site Outline
- Search buffers in metres (m)
- SSSI Impact Risk Zones
- SSSI Units
- Not recorded
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Partially destroyed
- Destroyed

10.17 SSSI Impact Risk Zones

Records on site

8

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 88](#) >



ID	Location	Type of developments requiring consultation
1	On site	<p>Infrastructure - Airports, helipads and other aviation proposals.</p> <p>Wind and Solar - 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>Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t).</p> <p>Combustion - General combustion processes >50MW 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>Discharges - Any discharge of water or liquid waste of more than 5m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.</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 net additional gross internal floorspace is > 1,000m² or footprint exceeds 0.2ha.</p> <p>Residential - Residential development of 100 units or more.</p> <p>Rural residential - Any residential development of 50 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 500 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.</p> <p>Discharges - Any discharge of water or liquid waste of more than 2m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.</p> <p>Water supply - Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m² or any development needing its own water supply .</p>



ID	Location	Type of developments requiring consultation
3	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>Residential - Residential development of 50 units or more.</p> <p>Rural residential - Any residential development of 50 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>Discharges - Any discharge of water or liquid waste of more than 5m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.</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>
4	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 500 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.</p> <p>Discharges - Any discharge of water or liquid waste of more than 2m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.</p> <p>Water supply - Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m² or any development needing its own water supply .</p>



ID	Location	Type of developments requiring consultation
5	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 - 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>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>Discharges - Any discharge of water or liquid waste of more than 5m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.</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>
6	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>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>Discharges - Any discharge of water or liquid waste of more than 5m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.</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>



ID	Location	Type of developments requiring consultation
7	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 100 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>Discharges - Any discharge of water or liquid waste of more than 5m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.</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>
8	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>Residential - Residential development of 100 units or more.</p> <p>Rural residential - Any residential development of 50 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 500 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.</p> <p>Discharges - Any discharge of water or liquid waste of more than 5m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.</p> <p>Water supply - Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m² or any development needing its own water supply .</p>

This data is sourced from Natural England.



10.18 SSSI Units

Records within 2000m

13

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 88](#) >

ID: 23
 Location: 703m SE
 SSSI name: Hatfield Chase Ditches
 Unit name: Nid - M180 To Dirtiness Pumping Station (ldb)
 Broad habitat: Standing Open Water And Canals
 Condition: Unfavourable - Declining
 Reportable features:

Feature name	Feature condition	Date of assessment
Ditches	Unfavourable - Declining	09/05/2017

ID: C
 Location: 731m SE
 SSSI name: Hatfield Chase Ditches
 Unit name: Nid - M180 To Dirtiness Pumping Station (ldb)
 Broad habitat: Standing Open Water And Canals
 Condition: Unfavourable - Declining
 Reportable features:

Feature name	Feature condition	Date of assessment
Ditches	Unfavourable - Declining	09/05/2017

ID: C
 Location: 793m SE
 SSSI name: Hatfield Chase Ditches
 Unit name: Nid - M180 To Dirtiness Pumping Station (ldb)
 Broad habitat: Standing Open Water And Canals
 Condition: Unfavourable - Declining
 Reportable features:

Feature name	Feature condition	Date of assessment
Ditches	Unfavourable - Declining	09/05/2017



ID: 27
 Location: 921m N
 SSSI name: Thorne, Crowle and Goole Moors
 Unit name: Pony Bridge Wood
 Broad habitat: Bogs - Lowland
 Condition: Unfavourable - Declining
 Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of breeding birds - Nightjar, <i>Caprimulgus europaeus</i>	Favourable	01/12/2015
Assemblages of breeding birds - Mixed: Lowland damp grassland, Lowland heath, Scrub, Woodland	Favourable	22/12/2021
H7120 Degraded raised bogs (still capable of natural regeneration)	Unfavourable - Declining	22/08/2022
Invert. assemblage W312 sphagnum bog	Unfavourable - Recovering	15/11/2010
Raised bog (lowland)	Unfavourable - Declining	22/08/2022

ID: 29
 Location: 955m N
 SSSI name: Thorne, Crowle and Goole Moors
 Unit name: Burtwistle's Land
 Broad habitat: Bogs - Lowland
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of breeding birds - Nightjar, <i>Caprimulgus europaeus</i>	Favourable	01/12/2015
Assemblages of breeding birds - Mixed: Lowland damp grassland, Lowland heath, Scrub, Woodland	Favourable	22/12/2021
H7120 Degraded raised bogs (still capable of natural regeneration)	Unfavourable - Recovering	04/10/2010
Invert. assemblage W312 sphagnum bog	Unfavourable - Recovering	04/10/2010
Raised bog (lowland)	Unfavourable - Recovering	04/10/2010

ID: 31
 Location: 967m SE
 SSSI name: Hatfield Chase Ditches
 Unit name: Nid - M180 To Dirtiness Pumping Station (Idb)
 Broad habitat: Standing Open Water And Canals
 Condition: Unfavourable - Declining



Reportable features:

Feature name	Feature condition	Date of assessment
Ditches	Unfavourable - Declining	09/05/2017

ID: 33
Location: 1019m SE
SSSI name: Hatfield Chase Ditches
Unit name: Ned - Dirtiness Pumping Station To Belton Grange
Broad habitat: Standing Open Water And Canals
Condition: Favourable
Reportable features:

Feature name	Feature condition	Date of assessment
Ditches	Favourable	30/10/2018

ID: D
Location: 1167m SE
SSSI name: Hatfield Chase Ditches
Unit name: North Idle Drain Gatehouse To M180 (ldb)
Broad habitat: Standing Open Water And Canals
Condition: Unfavourable - Declining
Reportable features:

Feature name	Feature condition	Date of assessment
Ditches	Unfavourable - Declining	09/05/2017

ID: E
Location: 1377m SE
SSSI name: Hatfield Chase Ditches
Unit name: North Idle Drain Gatehouse To M180 (ldb)
Broad habitat: Standing Open Water And Canals
Condition: Unfavourable - Declining
Reportable features:

Feature name	Feature condition	Date of assessment
Ditches	Unfavourable - Declining	09/05/2017



ID: 47
 Location: 1743m NE
 SSSI name: Thorne, Crowle and Goole Moors
 Unit name: Crowle Southern Reserve
 Broad habitat: Bogs - Lowland
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of breeding birds - Nightjar, Caprimulgus europaeus	Favourable	01/12/2015
Assemblages of breeding birds - Mixed: Lowland damp grassland, Lowland heath, Scrub, Woodland	Favourable	22/12/2021
H7120 Degraded raised bogs (still capable of natural regeneration)	Unfavourable - Recovering	04/10/2012
Invert. assemblage W312 sphagnum bog	Unfavourable - Recovering	04/10/2012
Raised bog (lowland)	Unfavourable - Recovering	04/10/2012

ID: -
 Location: 1870m S
 SSSI name: Hatfield Chase Ditches
 Unit name: North Idle Drain Gatehouse To M180 (ldb)
 Broad habitat: Standing Open Water And Canals
 Condition: Unfavourable - Declining
 Reportable features:

Feature name	Feature condition	Date of assessment
Ditches	Unfavourable - Declining	09/05/2017

ID: -
 Location: 1929m NW
 SSSI name: Thorne, Crowle and Goole Moors
 Unit name: Burtwistle's Land
 Broad habitat: Bogs - Lowland
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of breeding birds - Nightjar, Caprimulgus europaeus	Favourable	01/12/2015
Assemblages of breeding birds - Mixed: Lowland damp grassland, Lowland heath, Scrub, Woodland	Favourable	22/12/2021



Feature name	Feature condition	Date of assessment
H7120 Degraded raised bogs (still capable of natural regeneration)	Unfavourable - Recovering	04/10/2010
Invert. assemblage W312 sphagnum bog	Unfavourable - Recovering	04/10/2010
Raised bog (lowland)	Unfavourable - Recovering	04/10/2010

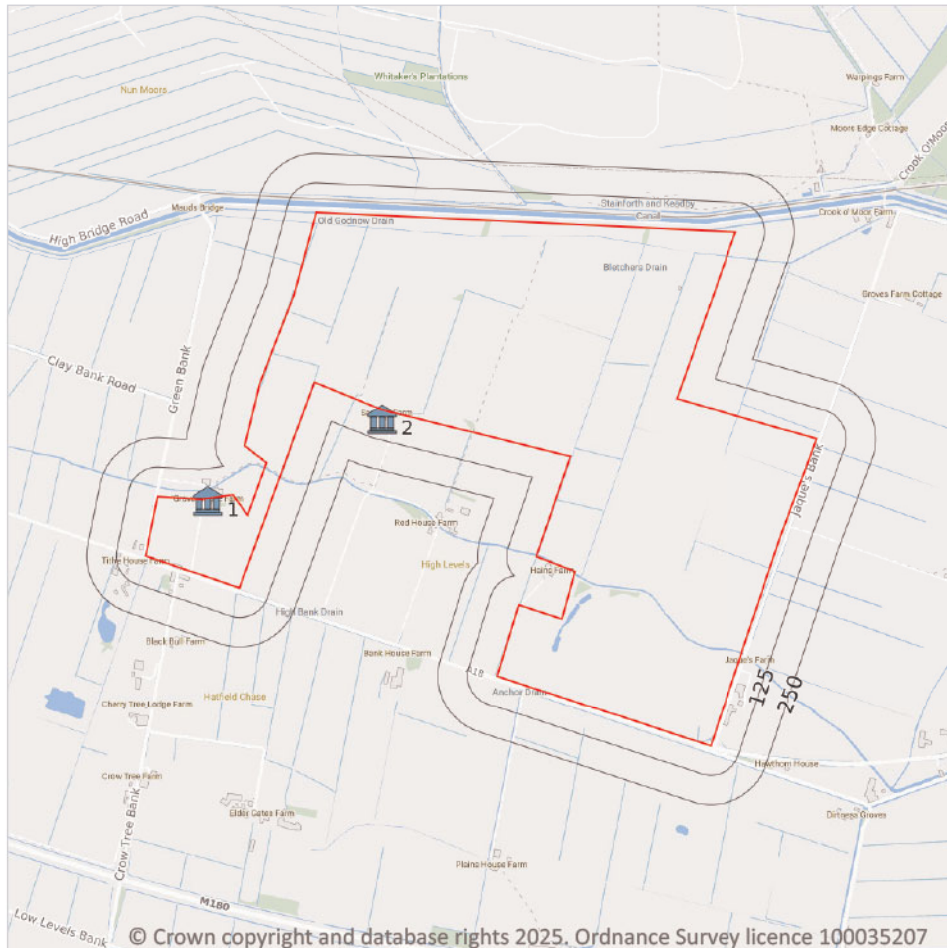
ID: -
 Location: 1952m N
 SSSI name: Thorne, Crowle and Goole Moors
 Unit name: Pony Bridge Marsh
 Broad habitat: Bogs - Lowland
 Condition: Unfavourable - Declining
 Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of breeding birds - Nightjar, Caprimulgus europaeus	Favourable	01/12/2015
Assemblages of breeding birds - Mixed: Lowland damp grassland, Lowland heath, Scrub, Woodland	Favourable	22/12/2021
H7120 Degraded raised bogs (still capable of natural regeneration)	Unfavourable - Declining	22/08/2022
Invert. assemblage W312 sphagnum bog	Unfavourable - Recovering	28/08/2012
Raised bog (lowland)	Unfavourable - Declining	22/08/2022

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



11 Visual and cultural designations



- Site Outline
- Search buffers in metres (m)
- Listed buildings
- Conservation areas
- Conservation areas - no data
- National Parks
- Areas of Outstanding Natural Beauty
- Registered parks and gardens
- Scheduled Monuments
- World Heritage Sites

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

2

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.

Features are displayed on the Visual and cultural designations map on [page 98](#) >

ID	Location	Name	Grade	Reference Number	Listed date
1	On site	Grove House Farmhouse	II	1192943	29/09/1987
2	42m W	Sandhill Farmhouse	II	1151565	29/09/1987

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

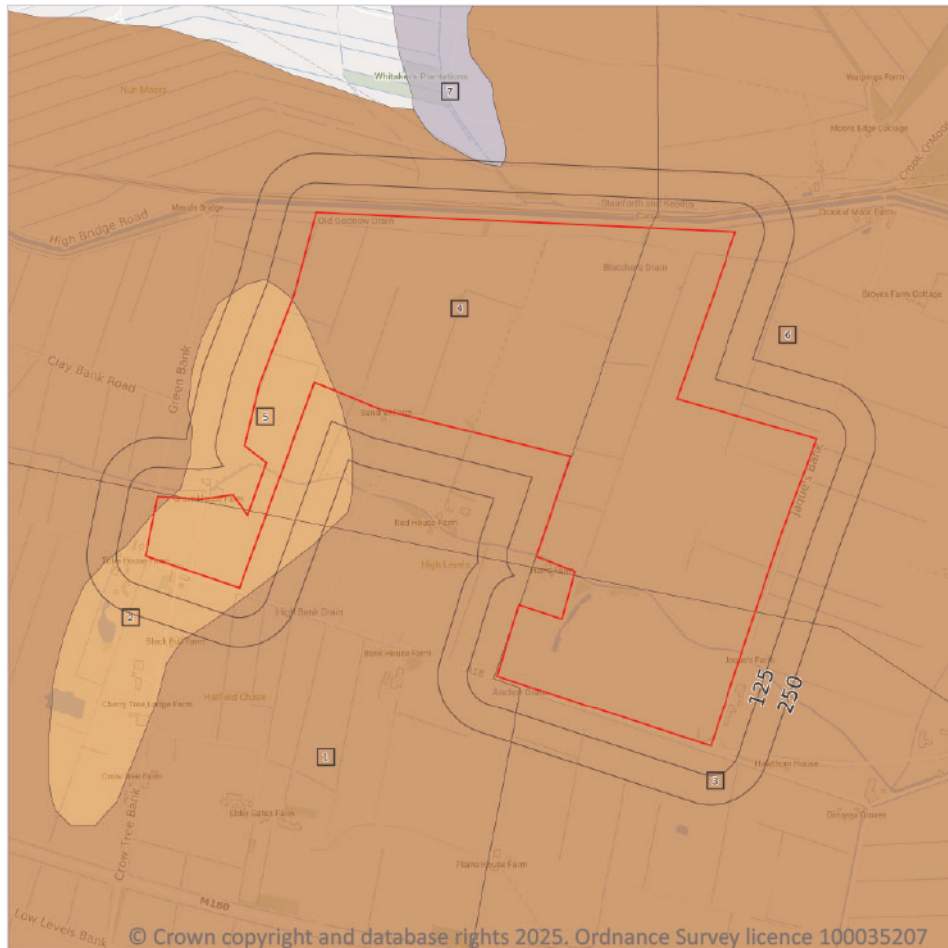
0

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



- Site Outline
- Search buffers in metres (m)
- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m

7

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 101](#) >



ID	Location	Classification	Description
1	On site	Grade 2	Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.
2	On site	Grade 3	Good to moderate quality agricultural land. Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2.
3	On site	Grade 2	Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.
4	On site	Grade 2	Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.
5	On site	Grade 3	Good to moderate quality agricultural land. Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2.
6	On site	Grade 2	Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.
7	232m N	Grade 5	Very poor quality agricultural land. Land with very severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.

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

0

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.

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

10

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.

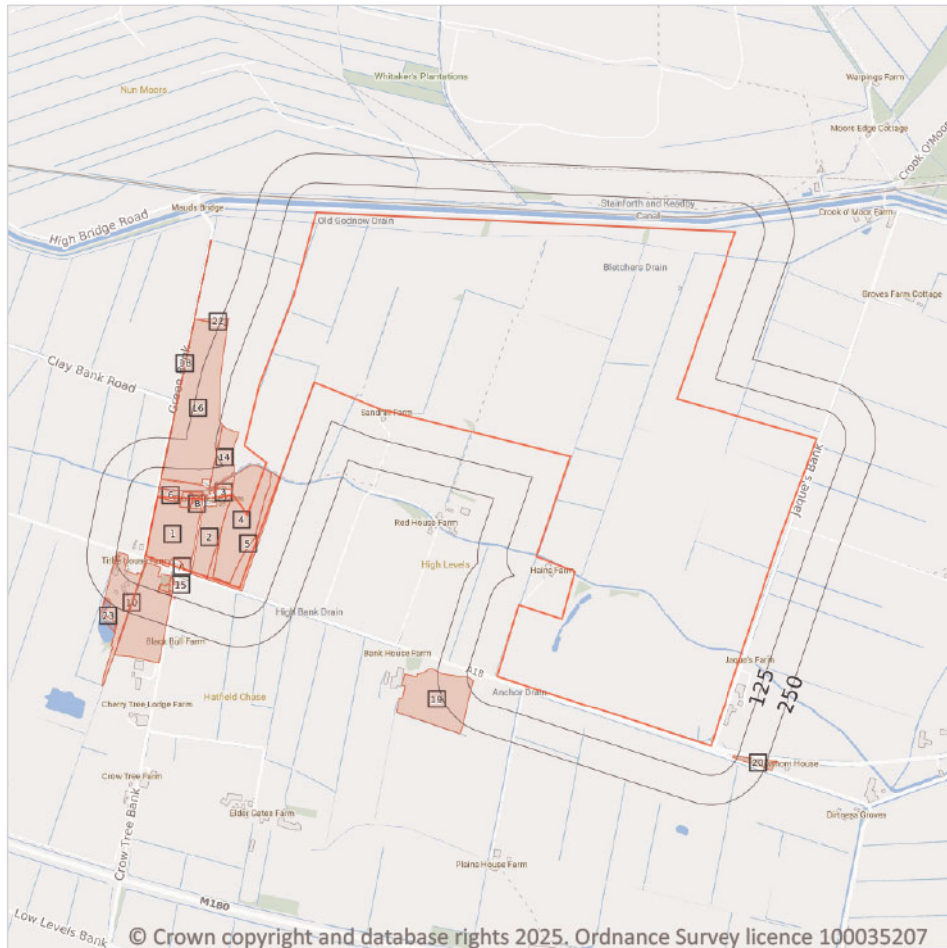
Location	Reference	Scheme	Start Date	End Date
On site	1601485	Countryside Stewardship (Middle Tier)	01/01/2024	31/12/2028
On site	1446682	Countryside Stewardship (Middle Tier)	01/01/2023	31/12/2027
On site	1446682	Countryside Stewardship (Middle Tier)	01/01/2023	31/12/2027
On site	1446682	Countryside Stewardship (Middle Tier)	01/01/2023	31/12/2027
23m S	1446682	Countryside Stewardship (Middle Tier)	01/01/2023	31/12/2027
26m S	1061406	Countryside Stewardship (Middle Tier)	01/01/2021	31/12/2025
31m SE	1446682	Countryside Stewardship (Middle Tier)	01/01/2023	31/12/2027
71m NW	1258680	Countryside Stewardship (Middle Tier)	01/01/2022	31/12/2026
76m NE	828238	Countryside Stewardship (Middle Tier)	01/01/2020	31/12/2024
126m W	1061406	Countryside Stewardship (Middle Tier)	01/01/2021	31/12/2025



This data is sourced from Natural England.



13 Habitat designations



- Site Outline
- Search buffers in metres (m)
- Priority Habitat Inventory
- Open Mosaic Habitat
- Limestone Pavement Orders
- Habitat Networks
- Primary Habitat
- Restorable Habitat
- Associated Habitats
- Habitat Restoration-Creation
- Network Enhancement Zone 1
- Network Enhancement Zone 2

13.1 Priority Habitat Inventory

Records within 250m

35

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

Features are displayed on the Habitat designations map on [page 105 >](#)

ID	Location	Main Habitat	Other habitats
1	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
2	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
3	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
4	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)



ID	Location	Main Habitat	Other habitats
5	On site	No main habitat but additional habitats present	Additional: CFPGM (INV 50%)
6	On site	No main habitat but additional habitats present	Main habitat: CFPGM (INV > 50%)
7	On site	Traditional orchard	Overruled by Traditional Orchards HAP Inventory dataset
8	On site	Traditional orchard	Overruled by Traditional Orchards HAP Inventory dataset
A	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
A	On site	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
B	On site	Deciduous woodland	Main habitat: CFPGM (INV > 50%); DWOOD (INV > 50%)
B	On site	Traditional orchard	Main habitat: CFPGM (INV > 50%); TORCH (INV > 50%); DWOOD (INV > 50%)
C	5m W	Traditional orchard	Overruled by Traditional Orchards HAP Inventory dataset
9	10m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
C	14m W	Deciduous woodland	Main habitat: CFPGM (INV > 50%); DWOOD (INV > 50%)
D	16m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
D	19m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
10	22m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
11	23m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
12	24m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
13	24m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
C	26m W	Deciduous woodland	Main habitat: CFPGM (INV > 50%); DWOOD (INV > 50%)
14	37m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
D	38m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
15	53m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
E	55m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%); Additional: TORCH (INV 50%)
16	63m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
17	68m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
18	78m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
E	82m W	Traditional orchard	Overruled by Traditional Orchards HAP Inventory dataset
19	102m S	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)



ID	Location	Main Habitat	Other habitats
20	107m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
21	121m SW	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
22	216m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)
23	241m W	Coastal and floodplain grazing marsh	Main habitat: CFPGM (INV > 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m

0

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.

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

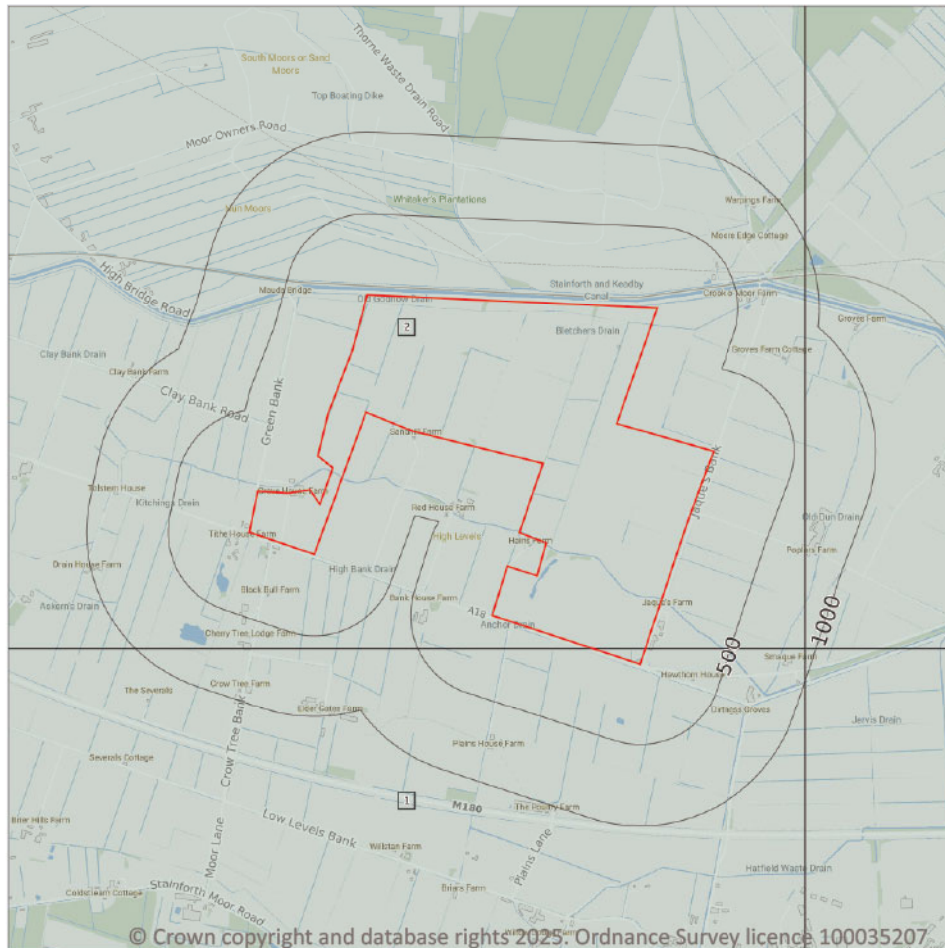
0

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 108](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	Full	Full	No coverage	SE70NW
2	On site	No coverage	Full	Full	No coverage	SE71SW

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

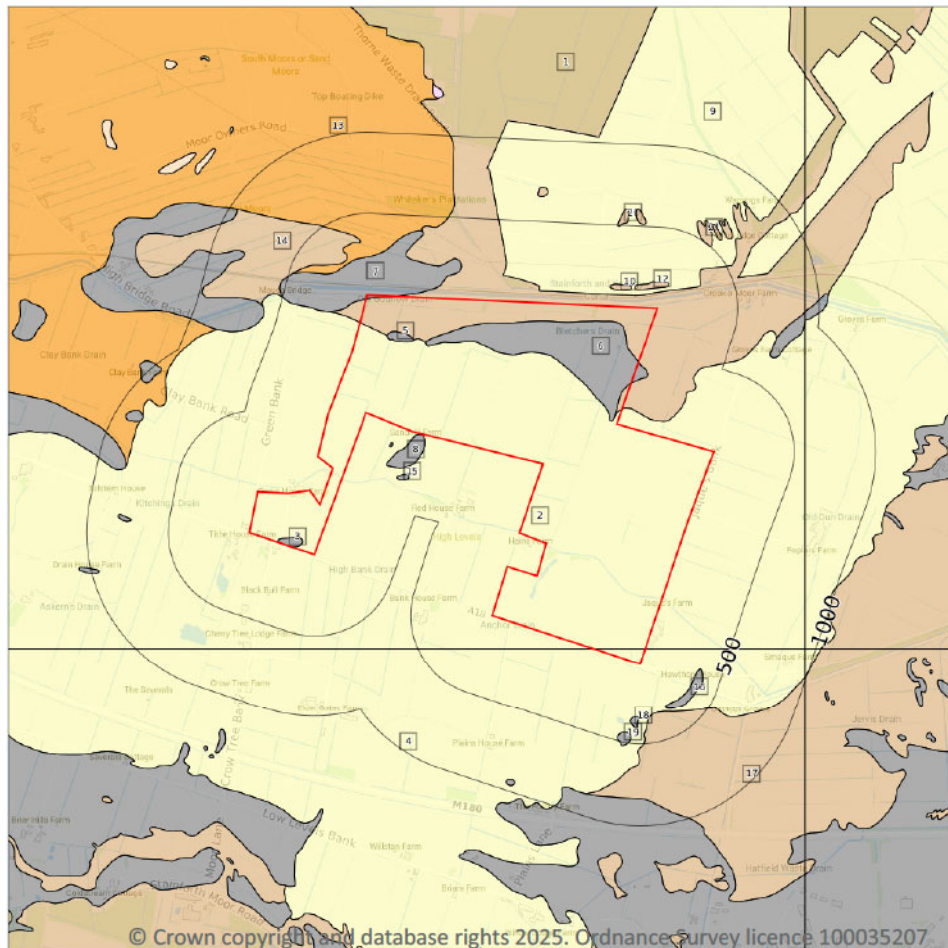
0

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.

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

21

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 110](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	PEAT-P	Peat - Peat	Peat
2	On site	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
3	On site	BSA1-S	Blown Sand, 1 - Sand	Sand
4	On site	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel



ID	Location	LEX Code	Description	Rock description
5	On site	BSA1-S	Blown Sand, 1 - Sand	Sand
6	On site	BSA1-S	Blown Sand, 1 - Sand	Sand
7	On site	BSA1-S	Blown Sand, 1 - Sand	Sand
8	4m W	BSA1-S	Blown Sand, 1 - Sand	Sand
9	72m NE	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
10	100m NE	PEAT-P	Peat - Peat	Peat
11	110m W	BSA1-S	Blown Sand, 1 - Sand	Sand
12	110m NE	PEAT-P	Peat - Peat	Peat
13	225m NW	HEM-CZ	Hemingbrough Glaciolacustrine Formation - Silty Clay	Clay, Silty
14	246m NW	PEAT-P	Peat - Peat	Peat
15	265m W	BSA1-S	Blown Sand, 1 - Sand	Sand
16	306m SE	BSA1-S	Blown Sand, 1 - Sand	Sand
17	322m SE	PEAT-P	Peat - Peat	Peat
18	331m S	BSA1-S	Blown Sand, 1 - Sand	Sand
19	435m S	BSA1-S	Blown Sand, 1 - Sand	Sand
20	494m NE	PEAT-P	Peat - Peat	Peat
21	499m NE	PEAT-P	Peat - Peat	Peat

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

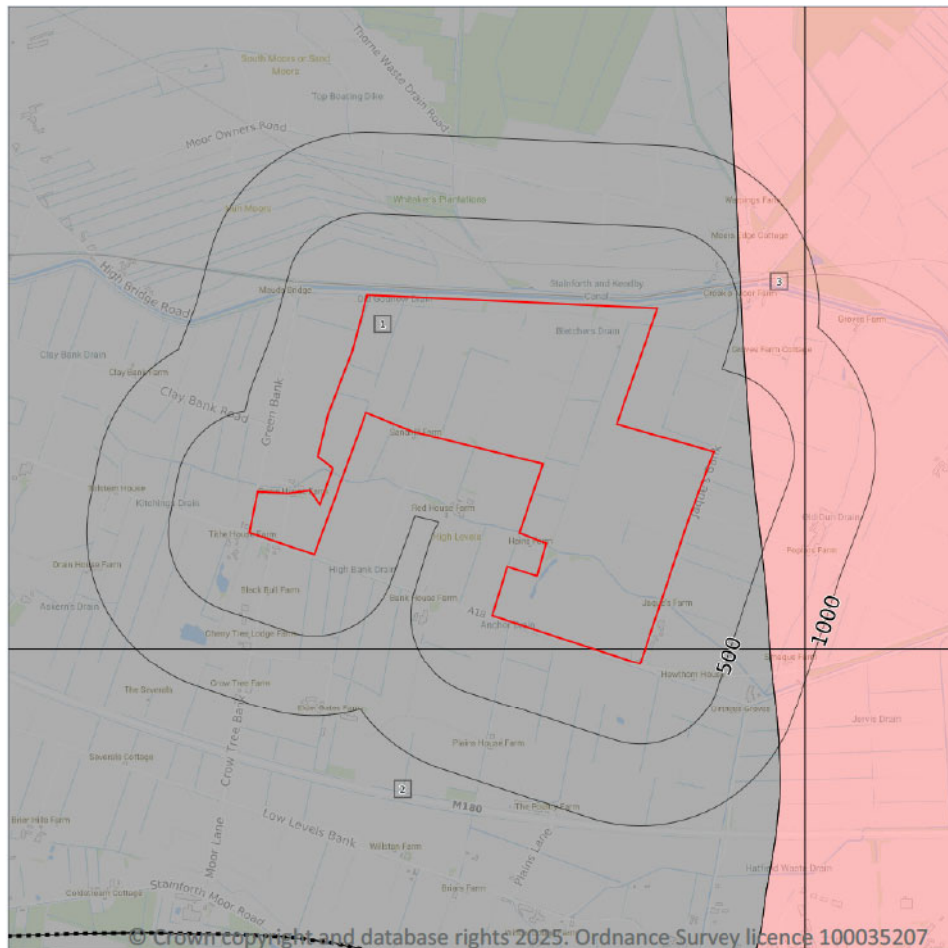
0

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

3

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 112](#) >

ID	Location	LEX Code	Description	Rock age
1	On site	NTC-SDST	Nottingham Castle Sandstone Formation - Sandstone	Early Triassic Epoch
2	On site	NTC-SDST	Nottingham Castle Sandstone Formation - Sandstone	Early Triassic Epoch
3	237m E	MMG-MDST	Mercia Mudstone Group - Mudstone	Rhaetian Age - Early Triassic Epoch

This data is sourced from the British Geological Survey.



14.6 Bedrock faults and other linear features (10k)

Records within 500m

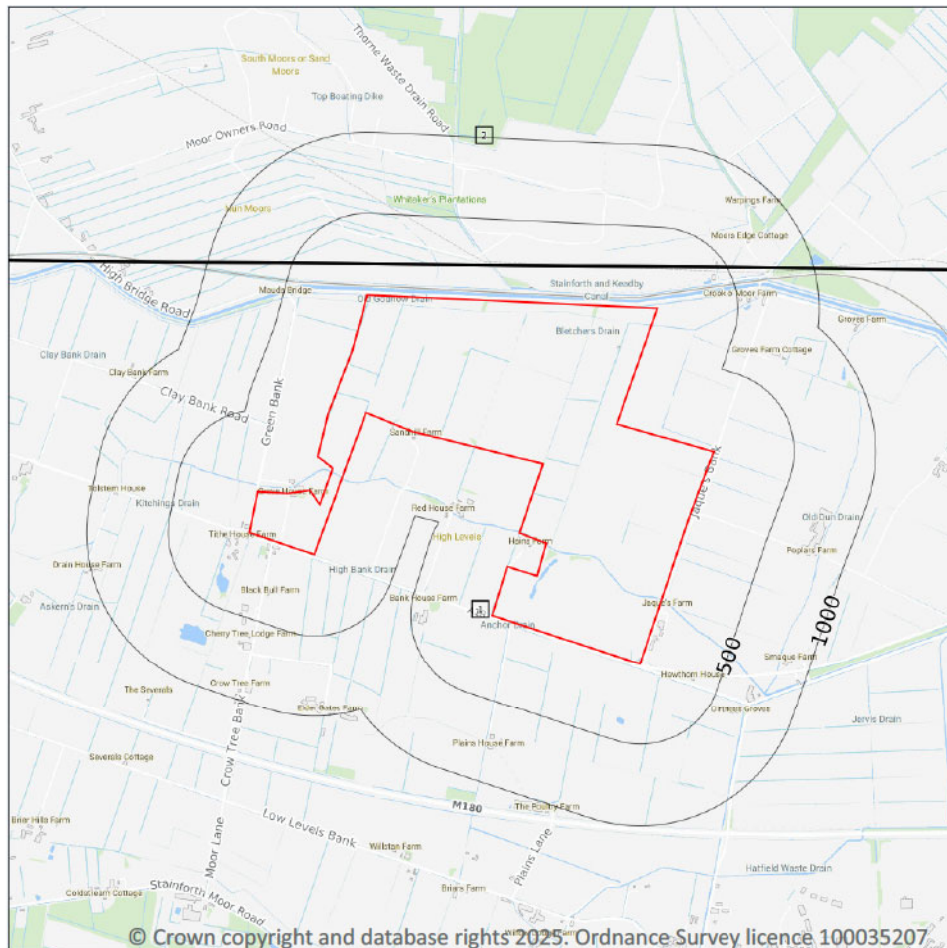
0

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.

This data is sourced from the British Geological Survey.



15 Geology 1:50,000 scale - Availability



Site Outline
Search buffers in metres (m)

☐ Geological map tile

15.1 50k Availability

Records within 500m

2

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 114](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	Full	Full	No coverage	EW088_doncaster_v4
2	191m NW	No coverage	Full	Full	No coverage	EW079_goole_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

0

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.

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

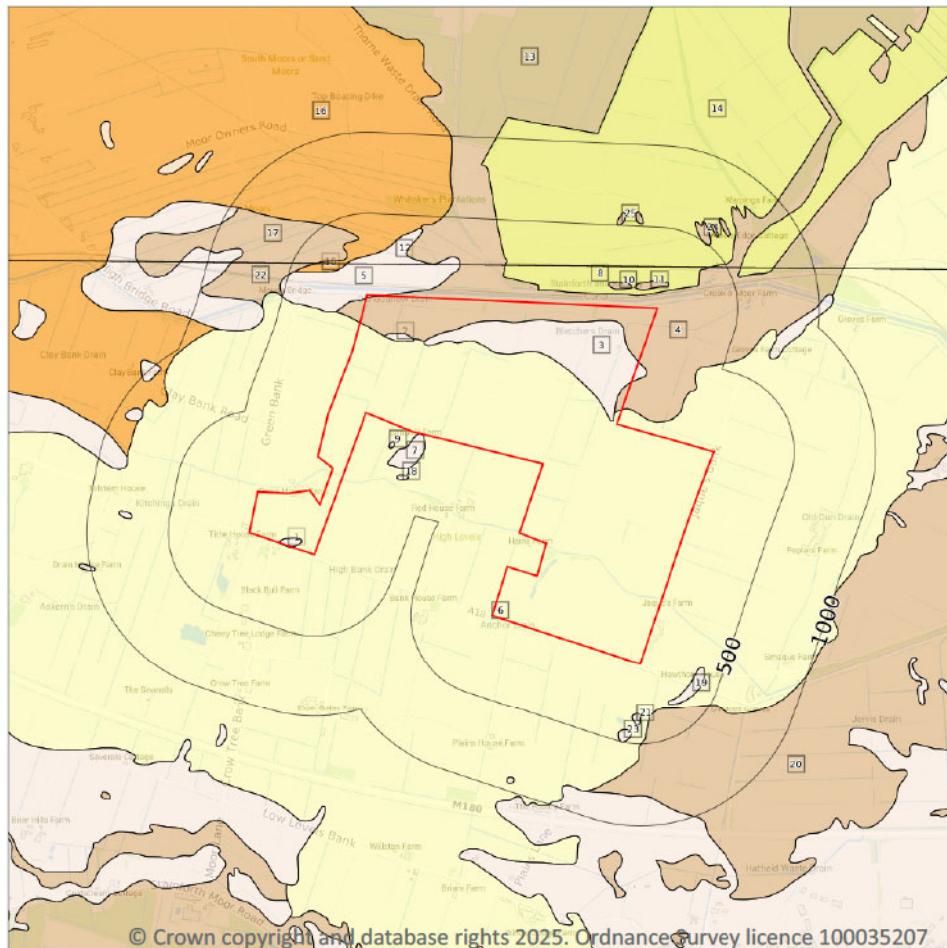
Records within 50m

0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial 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 - 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

25

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 116](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	SUTN-S	SUTTON SAND FORMATION	SAND
2	On site	SUTN-S	SUTTON SAND FORMATION	SAND
3	On site	SUTN-S	SUTTON SAND FORMATION	SAND
4	On site	PEAT-P	PEAT	PEAT



ID	Location	LEX Code	Description	Rock description
5	On site	SUTN-S	SUTTON SAND FORMATION	SAND
6	On site	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
7	1m W	SUTN-S	SUTTON SAND FORMATION	SAND
8	74m NE	WARP-XCZ	WARP	CLAY AND SILT
9	101m W	SUTN-S	SUTTON SAND FORMATION	SAND
10	107m NE	PEAT-P	PEAT	PEAT
11	109m NE	PEAT-P	PEAT	PEAT
12	190m NW	SUTN-S	SUTTON SAND FORMATION	SAND
13	209m NW	PEAT-P	PEAT	PEAT
14	222m N	WARP-XCZ	WARP	CLAY AND SILT
15	227m NW	HEM-CZ	HEMINGBROUGH GLACIOLACUSTRINE FORMATION	CLAY, SILTY
16	230m NW	HEM-CZ	HEMINGBROUGH GLACIOLACUSTRINE FORMATION	CLAY, SILTY
17	257m NW	PEAT-P	PEAT	PEAT
18	271m W	SUTN-S	SUTTON SAND FORMATION	SAND
19	292m SE	SUTN-S	SUTTON SAND FORMATION	SAND
20	308m SE	PEAT-P	PEAT	PEAT
21	314m SE	SUTN-S	SUTTON SAND FORMATION	SAND
22	363m NW	PEAT-P	PEAT	PEAT
23	420m S	SUTN-S	SUTTON SAND FORMATION	SAND
24	493m NE	PEAT-P	PEAT	PEAT
25	500m N	PEAT-P	PEAT	PEAT

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m

8

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	Very Low
On site	Intergranular	High	High
On site	Intergranular	High	High
On site	Intergranular	High	High
On site	Intergranular	High	High
On site	Mixed	Low	Very Low
1m W	Intergranular	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

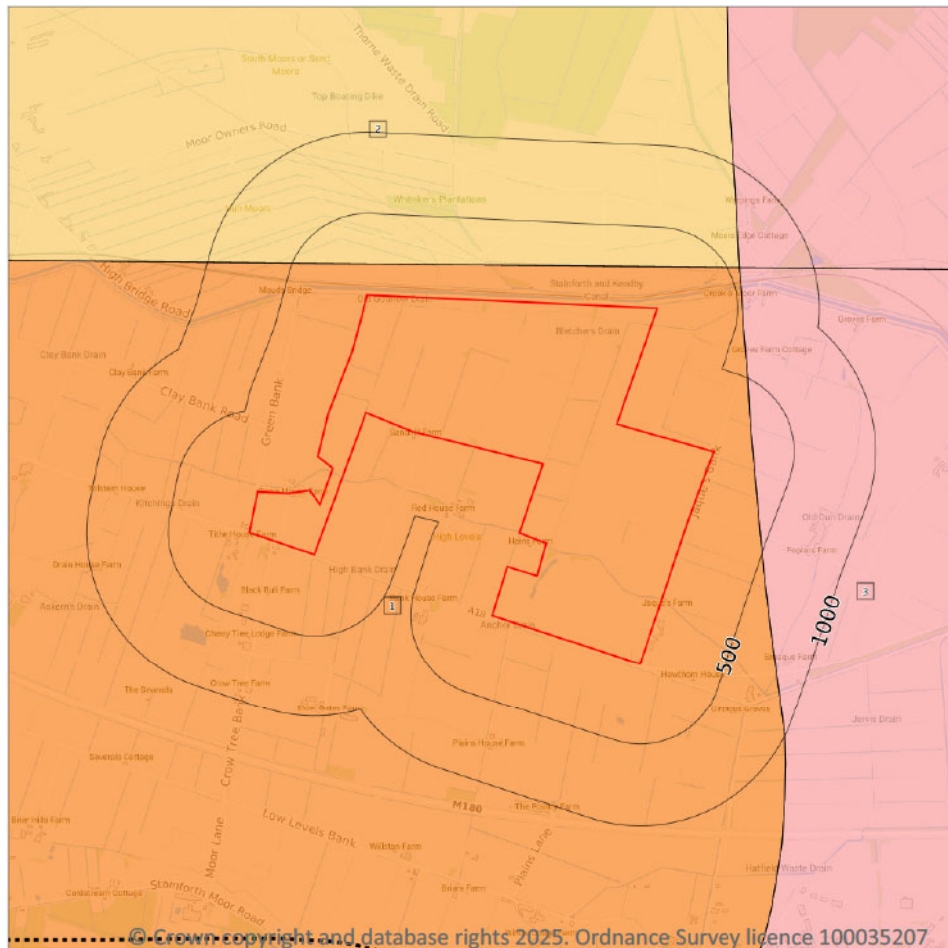
0

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 119](#) >

ID	Location	LEX Code	Description	Rock age
1	On site	CHES-PESST	CHESTER FORMATION - SANDSTONE, PEBBLY (GRAVELLY)	OLENEKIAN
2	190m NW	SSG-SDST	SHERWOOD SANDSTONE GROUP - SANDSTONE	-
3	246m E	MMG-MDST	MERCIA MUDSTONE GROUP - MUDSTONE	-

This data is sourced from the British Geological Survey.



15.9 Bedrock permeability (50k)

Records within 50m**2**

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	Mixed	High	Moderate
On site	Mixed	High	Moderate

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

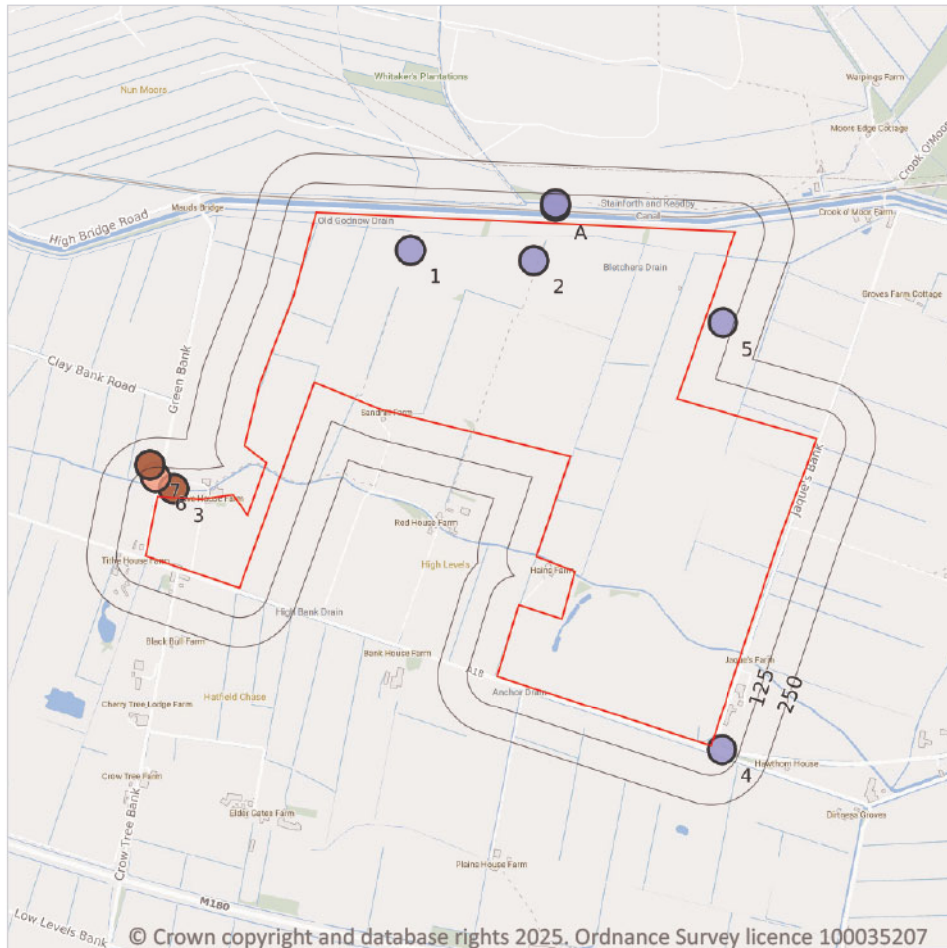
Records within 500m**0**

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.

This data is sourced from the British Geological Survey.



16 Boreholes



— Site Outline
Search buffers in metres (m)

- Confidential
- 0 - 10m
- 10 - 30m
- 30m+
- Unknown

16.1 BGS Boreholes

Records within 250m

9

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 121](#) >

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	On site	472706 412014	M180 PRELIM SURVEY	6.1	N	124802 ↗
2	On site	473230 411970	A18 SCUNTHORPE 7	6.1	N	124803 ↗
3	38m W	471700 411000	GROVE HOUSE	-1.0	N	124820 ↗

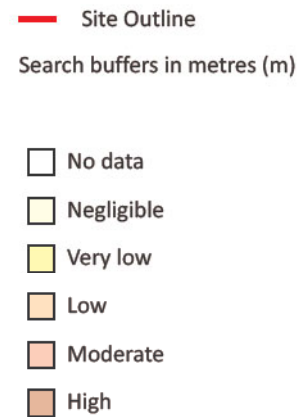
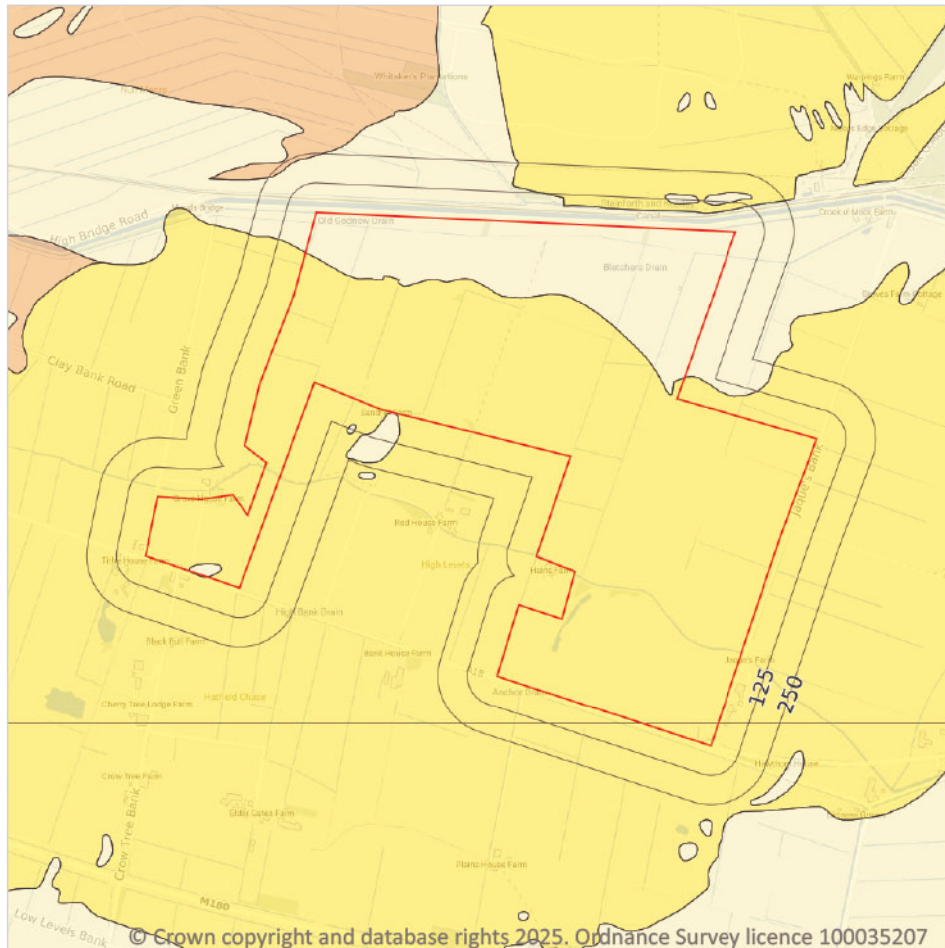


ID	Location	Grid reference	Name	Length	Confidential	Web link
4	51m SE	474030 409890	A18 THORNE/SCUNTHORPE 88	3.66	N	124550 ↗
A	73m N	473320 412200	NEW ZEALND P.S. 2	9.95	N	124822 ↗
5	77m NE	474033 411704	M180 PRELIM SURVEY	6.1	N	124806 ↗
A	83m N	473320 412210	NEW ZEALND P.S. 1	9.65	N	124821 ↗
6	83m W	471625 411049	GROVE HOUSE	783.64	N	124794 ↗
7	137m W	471600 411100	GROVE HOUSE	-1.0	N	124819 ↗

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



17.1 Shrink swell clays

Records within 50m

3

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 123 >](#)

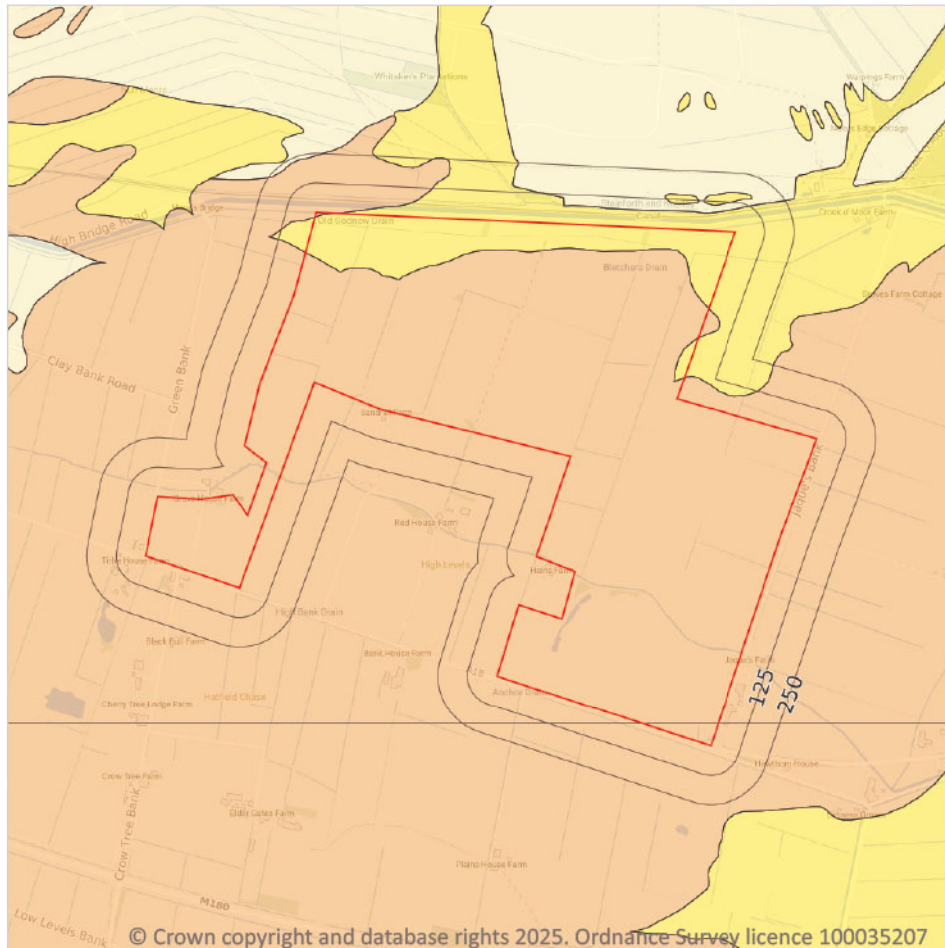
Location	Hazard rating	Details
On site	Negligible	Ground conditions predominantly non-plastic.
On site	Very low	Ground conditions predominantly low plasticity.
1m W	Negligible	Ground conditions predominantly non-plastic.



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 125 >](#)

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
On site	Low	Running sand conditions may be present. Constraints may apply to land uses involving excavation or the addition or removal of water.

This data is sourced from the British Geological Survey.



This is a detailed topographic map of a rural area in Dorset, England, showing a proposed development site outlined in red. The site is situated between High Levels Farm and High Bridge Farm, with a large area of woodland to the north. The map includes contour lines, roads (High Bridge Road, Clay Bank Road), and various farm buildings and structures. A scale bar indicates distances up to 250 meters. The map is overlaid with a grid system.

Key features on the map include:

- Proposed Development Site:** Outlined in red, located between High Levels Farm and High Bridge Farm.
- Woodland:** A large area of woodland to the north of the proposed site, labeled 'Woodland'.
- Roads:** High Bridge Road, Clay Bank Road, and a road labeled '125'.
- Farms and Buildings:** High Levels Farm, High Bridge Farm, Red House Farm, and various other farm buildings and structures.
- Contour Lines:** Indicating the topography of the area.
- Scale Bar:** Shows distances up to 250 meters.
- Grid System:** Overlaid on the map for reference.

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

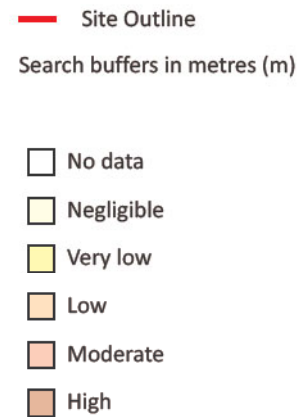
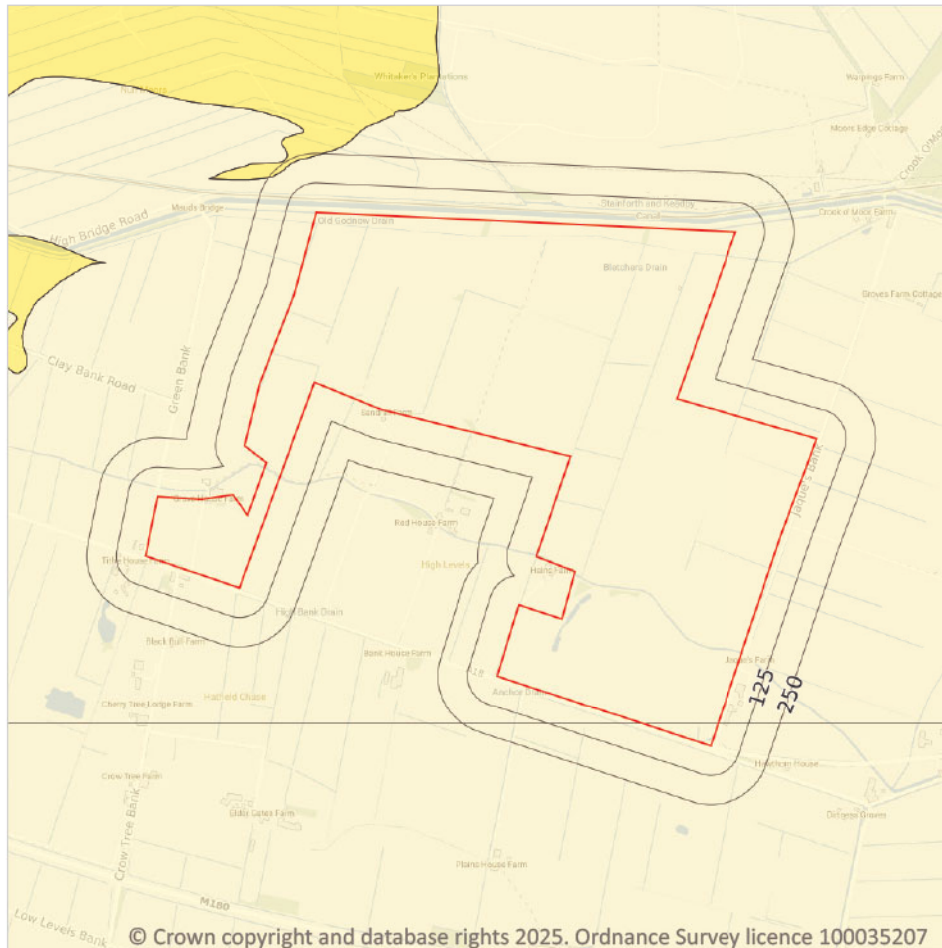
127)

Location	Hazard rating	Details
On site	High	Highly compressible strata present. Significant constraint on land use depending on thickness.
1m W	Negligible	Compressible strata are not thought to occur.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



17.4 Collapsible deposits

Records within 50m

1

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.

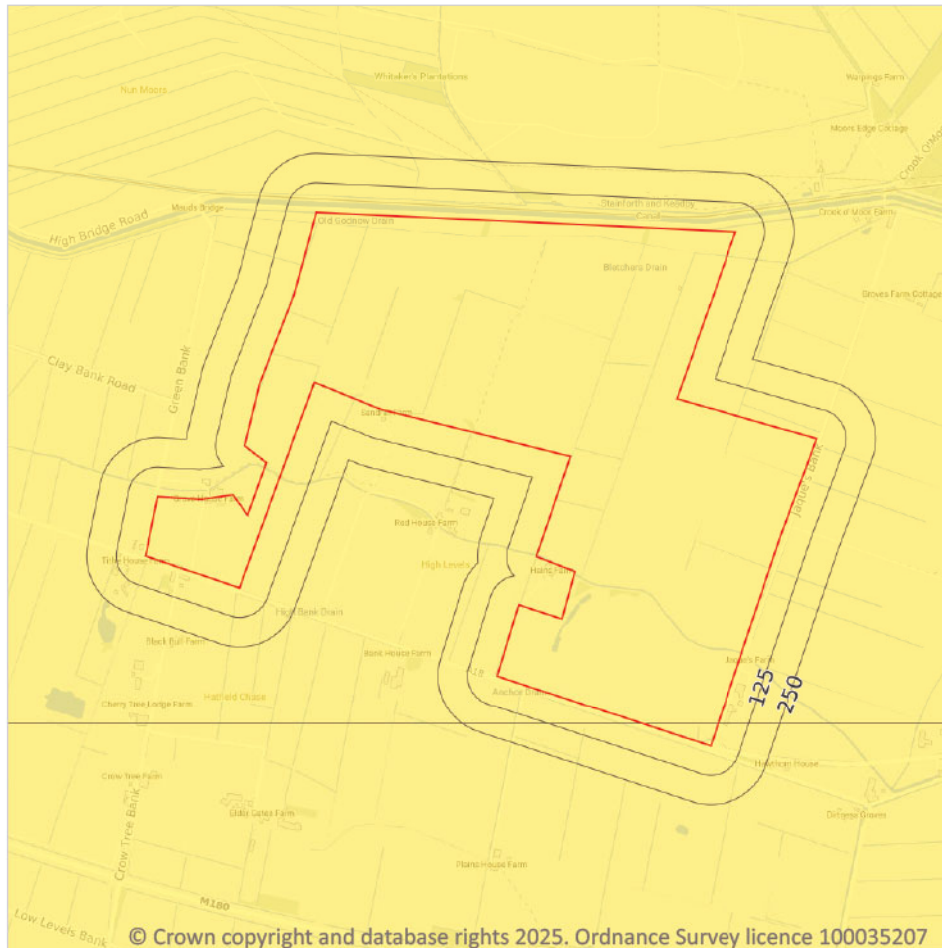
Features are displayed on the Natural ground subsidence - Collapsible deposits map on [page 129](#) >

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

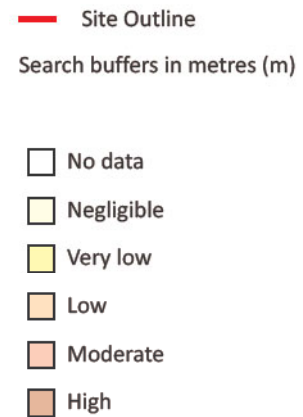
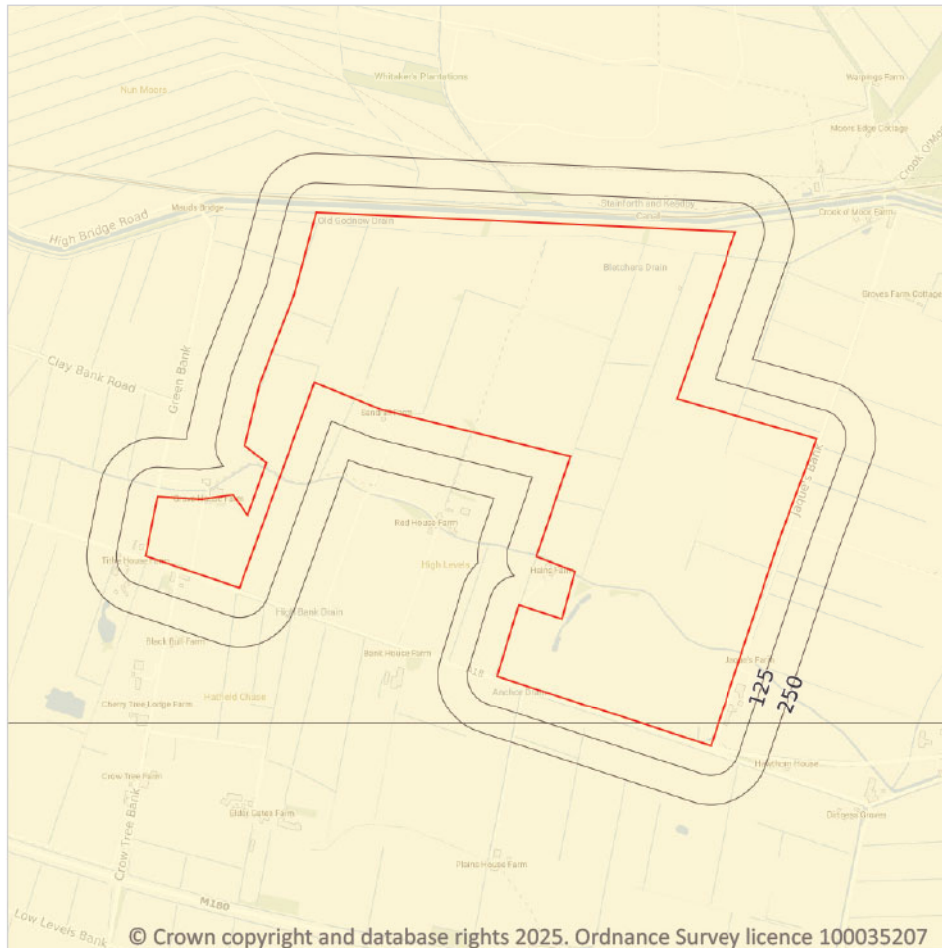
Features are displayed on the Natural ground subsidence - Landslides map on [page 130](#) >

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



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 131](#) >

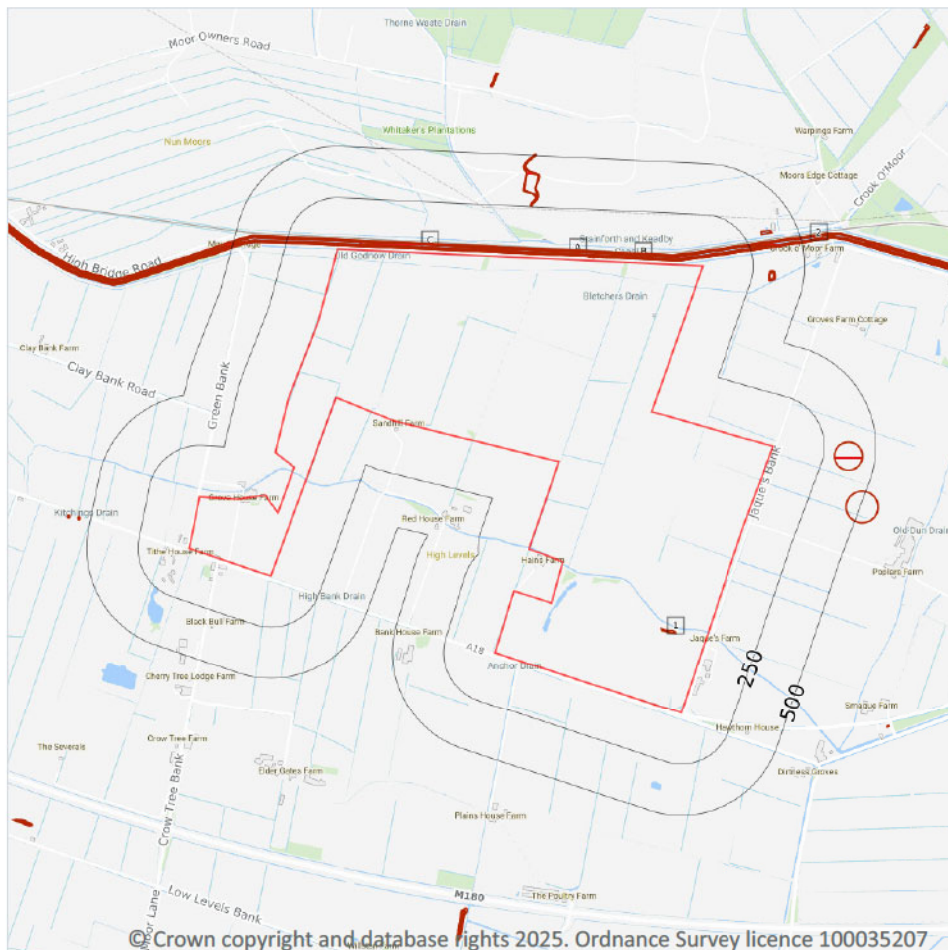
Location	Hazard rating	Details
On site	Negligible	Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.



This data is sourced from the British Geological Survey.



18 Mining and ground workings



- 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

0

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.

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m
13

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 133](#) >

ID	Location	Land Use	Year of mapping	Mapping scale
1	On site	Unspecified Ground Workings	1948	1:10560
A	18m N	Canal	1948	1:10560
A	18m N	Canal	1891	1:10560
A	19m NW	Canal	1908	1:10560
B	19m N	Canal	1885	1:10560
B	19m N	Canal	1904	1:10560
C	21m NW	Canal	1948	1:10560
C	21m NW	Canal	1906	1:10560
B	24m NE	Canal	1908	1:10560
B	24m N	Canal	1948	1:10560
D	25m NE	Canal	1968	1:10000
D	25m NE	Canal	1955	1:10560
2	245m NE	Canal	1948	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m
0

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

This is 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**0**

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.

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m**0**

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).

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, Tithe 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

0

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.

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**0**

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.

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.

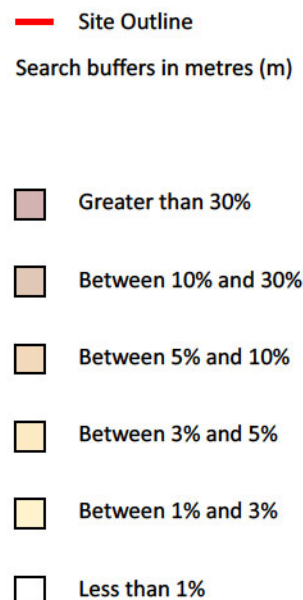
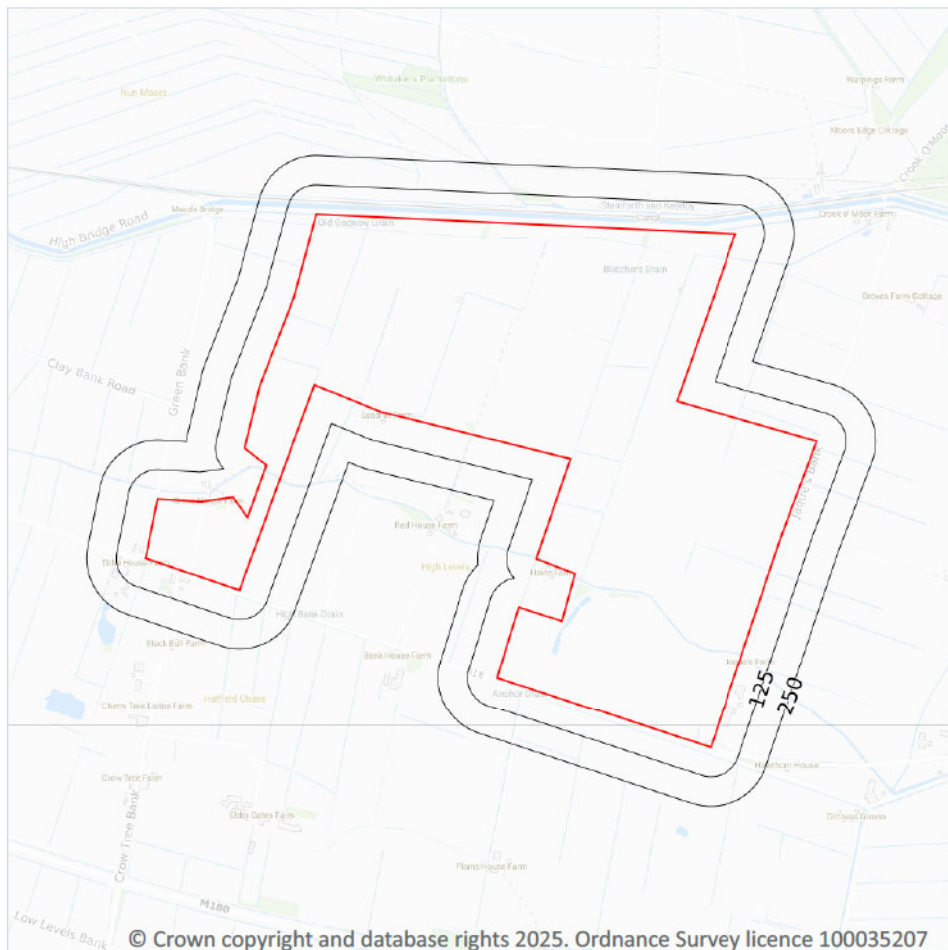
Not all 'holes' noted on Ordnance Survey mapping will necessarily be present within this dataset.



This data is sourced from Groundsure.



20 Radon



20.1 Radon

Records on site

1

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 140](#) >

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

73

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 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 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	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	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	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	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	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	20 - 40 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 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	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	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	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	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	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	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	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	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	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	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	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	60 - 90 mg/kg	15 - 30 mg/kg




 Contact us with any questions at: info@groundsure.com  **Date:** 4 March 2025 

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	20 - 40 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	20 - 40 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	20 - 40 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	20 - 40 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	20 - 40 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	20 - 40 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 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	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	20 - 40 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	20 - 40 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	20 - 40 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	20 - 40 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	20 - 40 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	20 - 40 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	20 - 40 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	20 - 40 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	20 - 40 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	20 - 40 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	20 - 40 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	20 - 40 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	20 - 40 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	20 - 40 mg/kg	15 mg/kg
1m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	20 - 40 mg/kg	15 mg/kg
2m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
2m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	40 - 60 mg/kg	15 - 30 mg/kg
18m NW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	20 - 40 mg/kg	15 mg/kg
35m NE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	20 - 40 mg/kg	15 mg/kg
35m NE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	20 - 40 mg/kg	15 mg/kg

This data is sourced from the British Geological Survey.



Contact us with any questions at:

info@groundsure.com ↗

01273 257 755

Date: 4 March 2025

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

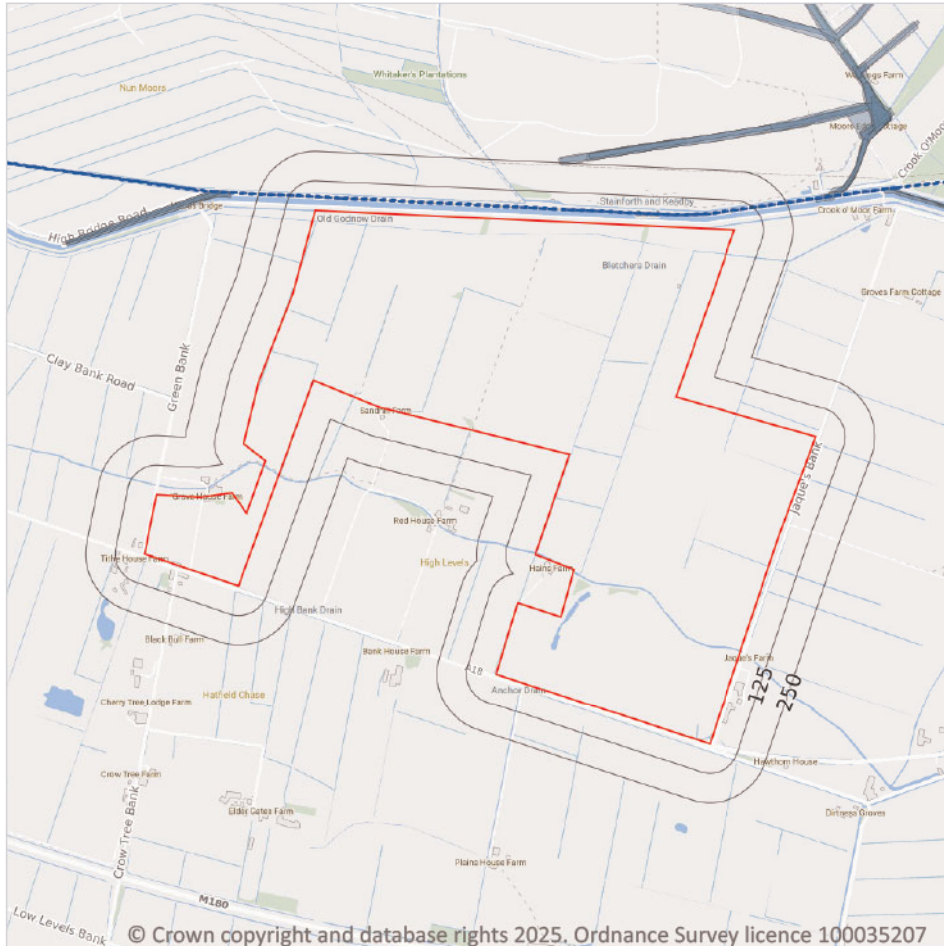
Records within 50m**0**

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



- Site Outline
- Search buffers in metres (m)
- C2 Crossrail 2 Stations
- Crossrail 2 Route
- Crossrail 2 Worksites
- Crossrail 2 Safeguarding
- Crossrail 2 Headhouses
- Railway stations
- Active railways
- Active tunnels
- Abandoned railways
- Historic railways
- Historic tunnels
- Underground stations
- Underground Lines
- Royal Mail tunnels
- HS2 optimised route
- HS2 Stations
- HS2 Depots
- HS2 Surface Safeguarding
- HS2 Subsurface Safeguarding

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

2

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 146 >](#)

Location	Land Use	Year of mapping	Mapping scale
239m N	Tramway Sidings	1948	10560
247m N	Tramway Sidings	1948	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

8

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 146 >](#)

Location	Name	Type
50m NE	South Humberside Main Line	rail
52m NE	Not given	Multi Track
53m N	Not given	Multi Track
53m N	Not given	Multi Track
53m N	Not given	Multi Track
54m NE	South Humberside Main Line	rail
56m NW	Not given	Multi Track
61m NE	Not given	Multi Track

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 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.

22.9 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> ↗.

Terms and conditions

Groundsure's Terms and Conditions can be accessed at this link: www.groundsure.com/terms-and-conditions-april-2023/ ↗.



Appendix E

THIRD PARTY DATA



(*12988) Wt. 30370/0870 10,000 9/80 A & B.W.L.D. Gp. 688

Name and Number of Shaft or Bore given by Geological Survey:

72901084

SE 71 SW 19

71

GEOLOGICAL
CLASSIFICATION

DESCRIPTION

Mr. Geo. B. B. B.
Red House, Thorne, 1914

Sand Blown Sand } alluvium
Clay } 25' Drift } mostly on
Sand & gravel } 25-foot Drift
Gray sandstone Bunter Sst.

4.57
3.66
6.40
38.11
127

13 1/2

3' rise to 71'

R.W.L. 7'

Eng. Geo. J. T. Hyman, May 1941

Collected from north bank of J.V. Cress, June

Red House Farm (Mr. Atkinson)

Hand pump supply farm, which are also cottage nearby.

O.P. c. 10 3.05 J. n.

Like a YORKS 266 SE-W.

J.S.
11.8.98



BGS ID: 124785 : BGS Reference: SE71SW1
British National Grid (27700) : 472894,410841

Contact BGS: ngdc@bgs.ac.uk

INSPECTION REPORT	WATER QUALITY	DATE OF INSPECTION:-
Present Owner:-	Date	Other Comments:-
Access (Yes or No)	pH	
1" Probe	Total hard	
3" Instruments	Temp.hard	
Landrover	Alk.	
Access Agreed	Ca	
	Mg	
	Na	
	K	
		Sketch Plan of Location
Water Level at time of insp.	HCO ₃	
..... metres below	SO ₄	
Date	Cl	
Datum above O.D.	NO ₃	
R.W.L. above O.D.	Fe	
Date		



BGS ID: 124785 : BGS Reference: SE71SW1
British National Grid (27700) : 472894,410841

(*11938) Wt.50870/0370 10,000 9/20 A.& E.W.Ltd. Op.685

Name and Number of Shaft or Bore given by Geological Survey:

88 SEP 15 71

Contact BGS: ngdc@bgs.ac.uk



RECORD OF WELL (SHAFT OR BORE)

(1) 70941219

At Orchard Farm, Moor Edges.

Thorne, NR. DONCASTER.

Town or Village. Thorne.

County. YORKSHIRE.

Six-inch quarter sheet York 266 SW/E

For Mr. C.S. Stenton.

State whether owner, tenant, builder,
contractor, consultant, etc.:— Tenant

Address (if different from above)

Level of ground surface

above sea-level (O.D.)

If well-top is not at ground level, state how far

{ above;
below; G.L.

SHAFT. ft.; diameter. ft.; Full details of headings (dimensions and directions)

BORE 125 ft.; diameter of bore: at top. 4 ins.; at bottom 3 1/2 ins.

Full details of permanent lining tubes (position, length, diameter, plain, slotted etc.)

92 1/2" of 4" plain.

Water struck at depths of 90 - 125 ft. below well-top.

Rest level of water 7 ft. above well-top. Suction at 26 ft. Yield on 10 hours' test

pumping at 420 galls. per hour with depression to 22 ft. below well-top.

Recovery to rest-level in mins. Capacity of pump 420 g.p.h. Date of measurements Nov. 1954

DESCRIPTION OF PERMANENT PUMPING EQUIPMENT:

Make and/or type Motive power

Capacity gallons per hour. Suction at ft.

Amount pumped galls. per day. Estimated consumption galls. per week.

Well made by Doncaster Well Boreers Limited Date of well

Information from

ADDITIONAL NOTES

ANALYSIS (please attach copy if available)

Sited by G on 6" map Yorks 266 SE/E 3856. 1954

LOG OF STRATA OVERLEAF.

GEOLOGICAL SURVEY AND MUSEUM,
SOUTH KENSINGTON,
LONDON, S.W.7.

Section 6.

Date
Received

1" O.S. Map
No.

Site marked
on 1" Map

(use symbol)
on 6" Map

9.7.56

Contact BGS: ngdc@bgs.ac.uk



SE 71 SW 3 10

91222/16/2315

N.7705

88/134

MINISTRY OF HOUSING AND LOCAL GOVERNMENT

WATER ACT, 1945

LICENCE

to construct works in the area defined in the Gault Area (Conservation of Water)
Order, 1945 made under section 14 (1) of the Water Act, 1945.

THE MINISTER OF HOUSING AND LOCAL GOVERNMENT, on the application of
Mr. C.B. Stanton of Orchard Farm, near Edgus, Thorne, Doncaster and in pursuance
of his powers under section 14 (5) of the Water Act, 1945, hereby licenses the
said Mr. C.B. Stanton to execute the work of sinking a borehole 4 inches in
diameter and a 100 feet in depth at Orchard Farm the situation of which is
more particularly shown in the plan annexed hereto and thereon marked B, subject
to the condition that the maximum quantity of water which shall be abstracted
from the borehole in any day of 24 hours shall be 600 gallons.

GIVEN under the Official Seal of the Minister of Housing and Local

Government this

day of

1954

Assistant Secretary,

Ministry of Housing and Local Government.

L.S.

22 JUL 1954



The attention of the licensee is drawn to subsection (8), (9) (10) and (12) of Section 14 of the Water Act, 1945, which are as follows:-

14(8) Any person who contravenes any of the foregoing provisions of this section or any requirements imposed thereunder or any condition attached to a licence granted for the purposes of subsection (3) or subsection (5) of this section shall be guilty of an offence against this Act.

(9) No person shall in any area to which this section applies -

- (a) cause or allow any underground water to run to waste from any well, borehole or other work, except for the purpose of testing the extent or quality of the supply or cleaning, sterilising, examining or repairing the well, borehole or other work; or
- (b) abstract from any well, borehole, or other work water in excess of his reasonable requirements;

Provided that, where underground water interferes or threatens to interfere with the execution or operation of any underground works (whether waterworks or not), it shall not be an offence under this subsection to cause or allow the water to run to waste so far as may be necessary to enable the works to be executed or operated, if no other method of disposing of the water is reasonably practicable.

(10) A person who contravenes any provision of the last foregoing subsection shall, in respect of each offence, be liable on summary conviction to a fine not exceeding ten pounds and the court may, on the conviction of any person, order that the well, borehole or other work shall be effectively sealed or may make such other order as appears to the court to be necessary to prevent waste of water.

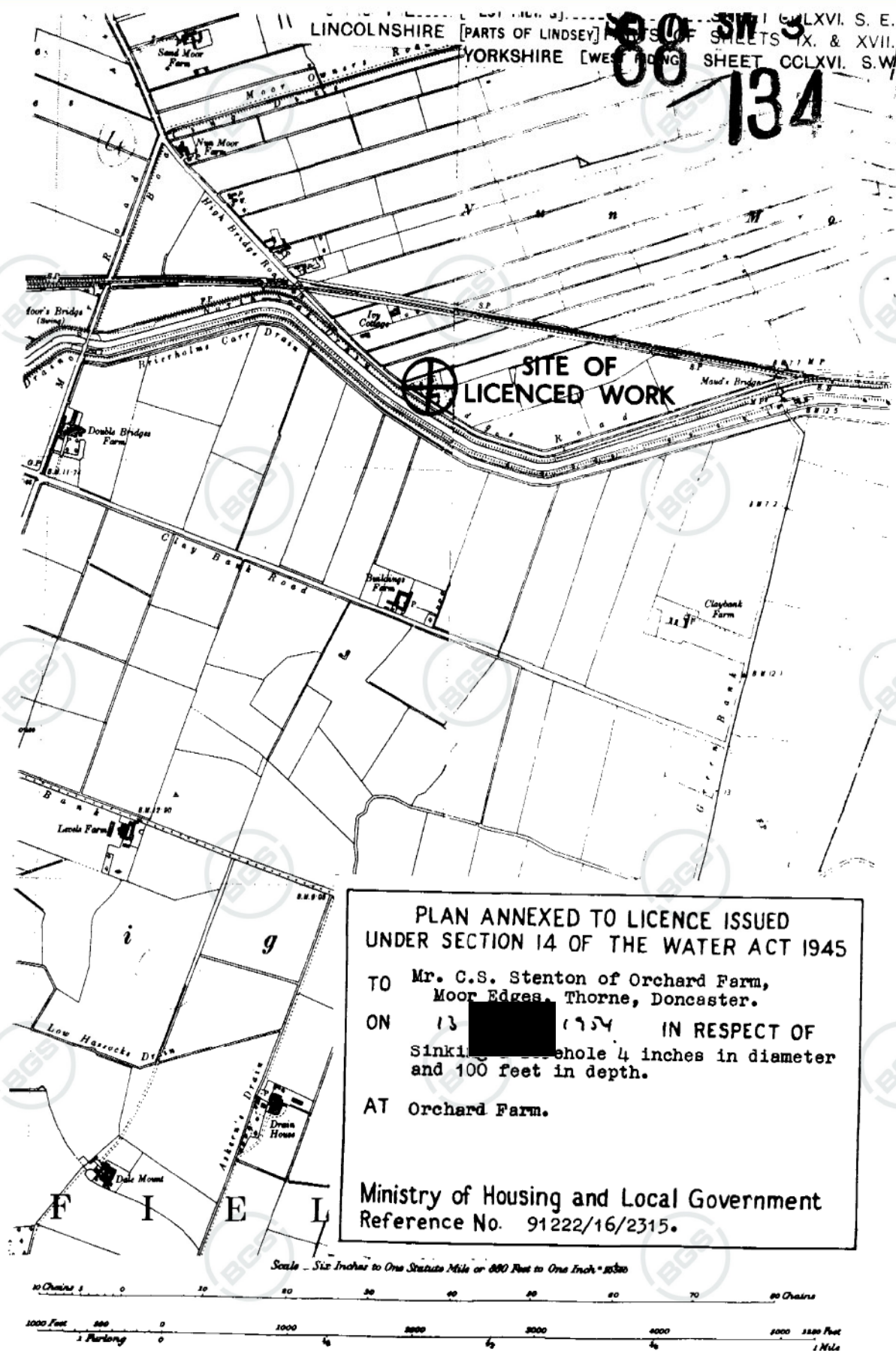
If any person fails to comply with any such order of the court, the court may (without prejudice to the imposition of any penalty for contempt of court), on the application of any local authority within whose county or district the well, borehole or other work is situated or of any statutory water undertakers affected or likely to be affected by the waste, authorise the authority or undertakers to take such steps as may be necessary to execute the order, and any expense incurred in taking any such steps shall be recoverable as a civil debt from the person convicted.

(12) Any officer of a local authority whose county or district is comprised wholly or partly in an area to which this section applies, and any officer of any statutory water undertakers likely to be affected by any failure to enforce the provisions of this section in any such area, being an officer authorised for the purpose by the local authority or undertakers concerned shall, on producing, if so required, some duly authenticated document showing his authority, have a right at all reasonable hours -

- (a) to enter any premises in the area for the purpose of ascertaining whether there is, or has been, on or in connection with the premises any contravention of the provisions of this section; or
- (b) to enter any premises in which the authority or undertakers have been authorised to execute an order of the court made under subsection (10) of this section, for the purpose of executing that order;

and the section of this Act relating to entry of premises shall apply to any such right of entry.

Attention is also drawn to Section 7 of the Act which requires that any person who proposes to sink, for the purpose of searching for or abstracting water, a well or borehole intending to reach a depth of more than 50 feet below the surface shall, inter alia, before he begins to do so give notice to the Geological Survey and shall keep a journal of the progress of the work, and send a complete copy of it to the Survey. For more detailed and precise information on this subject, the licensee is referred to the pamphlet "Notification of New Wells and Boreholes for Water", obtainable from the Director, Geological Survey and Museum, Exhibition Road, South Kensington, S.W.7.





* YORKSHIRE RIVER AUTHORITY - Survey of Existing Boreholes		SEVEN-THEW WENCE.
I.G.S. Ref. No <u>SE/138</u> N.G.R. <u>SE.709.122....</u>		Licence No. <u>8816</u>
OWNERS NAME <u>Mr. R.S. Standen</u>		App No
ADDRESS <u>Oxland Farm, Moor, Easingwold, Yorks.</u>		Authorised Abstraction
9.45 day		g.p.h.
Depth		g.p.d.
Thames		m.g.a.
1.66 cum 0.365		Revoked
Dia. 4"		Depth ... 12.5' ... 38.10'
Depth ... 12.5' ... 38.10'		Lining 4" to 9.2' 28.04'
Lining 4" to 9.2' 28.04'		Well sinker D.W.B.
Well sinker D.W.B.		Date ... 1954 ...
Date ... 1954 ...		R.W.L. ... 7' ... 2.13'
R.W.L. ... 7' ... 2.13'		Date
Date		P.W.L. 2 420 SPL
P.W.L. 2 420 SPL		= 22' 6.71'
= 22' 6.71'		

Contact BGS: ngdc@bgs.ac.uk



RECORD OF WELL (SHAFT OR BORE)

SE7114
For Survey use only

88/134
N. 7105

EXACT SITE
OF WELL

At Orchard Farm, Moor Edges, SE71SW13

Thorne, NR. DONCASTER.

Town or Village Thorne, SE71SW 7093 1223

Licence No. 91222/16/2215

County YORKSHIRE.

Six-inch quarter sheet Yorks 266 SW/E

For Mr. C.S. Stenton.

State whether owner, tenant, builder,
contractor, consultant, etc.:— Tenant

Address (if different from above)

Level of ground surface

above sea-level (O.D.) ft.

If well-top is not at ground level, state how far

{ above;
below; 6.1 ft.

SHAFT ft.; diameter ft.; Full details of headings (dimensions and directions)

BORE 125 ft.; diameter of bore: at top 4 ins.; at bottom 3 1/2 ins.

Full details of permanent lining tubes (position, length, diameter, plain, slotted etc.)

92'0" of 4" plain.

Water struck at depths of 90 - 125 ft. below well-top.

TEST
CONDITIONS

Rest level of water 7 ft. below well-top. Suction at 26 ft. Yield on 10 hours' test

pumping at 420 galls. per hour with depression to 22 ft. below well-top.

Recovery to rest-level in mins. Capacity of pump 420 g.p.h. Date of measurements Nov. 1954

NORMAL
CONDITIONS

DESCRIPTION OF PERMANENT PUMPING EQUIPMENT:

Make and/or type Motive power.

Capacity gallons per hour. Suction at ft.

Amount pumped gallons per day. Estimated consumption gallons per week.

Well made by Doncaster Well Borens Limited Date of well

Information from

ADDITIONAL NOTES

ANALYSIS (please attach copy if available)

Sited by O on 6" map Yorks 266 SE/E 32.6. 1954

LOG OF STRATA OVERLEAF.

GEOLOGICAL SURVEY AND MUSEUM,
SOUTH KENSINGTON,
LONDON, S.W.7.

Section 6.

Date
Received

9.7.56

1" O.S. Map
No.

Site marked
on 1" Map

(use symbol
on 6" Map)

[illegible]



9/222/16/2315

88 SE 71/14
134

(3)

MINISTRY OF HOUSING AND LOCAL GOVERNMENT

1943

1943

to construct works in the area defined in the Gales Area (Conservation of Water)
Order, 1943 made under section 14 (1) of the Water Act, 1943.

THE MINISTER OF HOUSING AND LOCAL GOVERNMENT, on the application of
Mr. U.S. Stanton of Orchard Farm, Moor Edges, Thorne, Doncaster and in pursuance
of his powers under section 14 (6) of the Water Act, 1943, hereby licenses the
said Mr. U.S. Stanton to execute the work of sinking a borehole 4 inches in
diameter and a 100 feet in depth at Orchard Farm the situation of which is
more particularly shown in the plan annexed hereto and thereon marked B, subject
to the condition that the maximum quantity of water which shall be abstracted
from the borehole in any day of 24 hours shall be 600 gallons.

GIVEN under the Official Seal of the Minister of Housing and Local
Government this *thirteenth* day of [REDACTED] 19 *54*

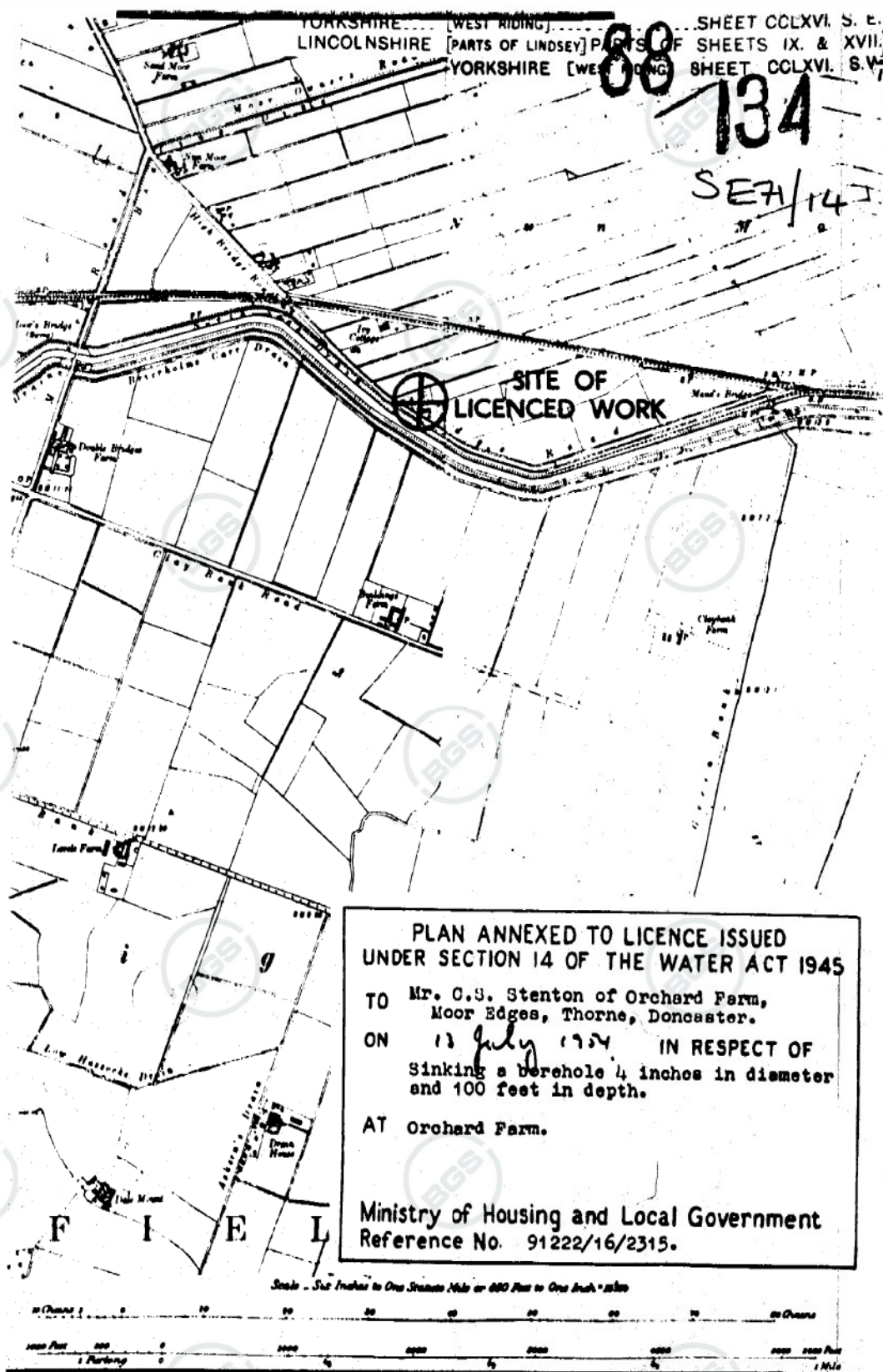
E.H.T. WILKINS.

Assistant Secretary,

Ministry of Housing and Local Government.

L.S.

22 JUL 1954





DATA ACQUISITION SHEET

CSC/D/199

NRA region: **Yorks**

LICENCE
File Number: **83/6**

SE71/14

Pump Well Identification:

NRA id No:

166 No: **88/134**

BGS (WL) No: **SE71/14**

NGR: **SE 709 122**

Elevation:

Measuring Point:

Site Name: **ORCHARD FARM**

Locality: **THORNE**

Well details:

depth of pumping well: **38.10m (125')**

diameter: **100mm (4")**

casing details: **28.04 (4" x 22')**

☐ observation boreholes

number of obs bhs:

obs bh details:

Aquifer Details:

confined / ~~unconfined~~

If confined, confining layer: **superficial (glacial?) clay.**

Aquifer Geology	from	to	Aquifer Geology	from	to
Sand clay + mar		22.76			
SANDSTONE		38.10			

SSG
*

Pumping Test Details:

date of test:

1964

length of test:

16 hours

RWL:

2.73m (7')

PWL:

6.71m (22')

pumping rate:

1.909 m³/h 420gph



Additional Well Information:

<input type="checkbox"/> Well Loss Data:	B.....	C.....	Efficiency.....
<input type="checkbox"/> Well Acidified			
<input type="checkbox"/> Flow Logs			
<input type="checkbox"/> Other Geophysical Logs			
<input type="checkbox"/> Fissure Information:	major inflows from.....to.....		
	from.....to.....		
	from.....to.....		

Aquifer Parameters:

Analysis Type: <i>THIN STEADY STATE</i>	Analysis Type:
Transmissivity: <i>15 m²d</i>	Transmissivity:
Storage Coefficient: <i>-</i>	Storage Coefficient:

Analysis Type:	Other Data:
Transmissivity:	
Storage Coefficient:	

Confidence:

excellent ☐ ☐ ☐ ☒ ☐ very poor

Notes: <i>used drillers test data + assumed steady state</i>
<i>see notes of CSC/D/168/169</i>



389
RECORD OF WELL (SHAFT OR BORE)

70441263

For Survey use only

N. 8237
SE71SW/4
201

Licence No. 9122/16/3018

EXACT SITE
OF WELL

At J. Johnson, Esq.,

Four Winds Farm,

Town or Village Thorne, Nr. Doncaster.

County Yorkshire.

Six-inch quarter sheet 266 SW/E

For State whether owner, tenant, builder,
contractor, consultant, etc.:-

Address (if different from above)

Level of ground surface

above sea-level (O.D.) + 4m ? ft.

If well-top is not at ground level, state how far above:
below; _____ ft.

SHAFT _____ ft.; diameter _____ ft.; Full details of headings (dimensions and directions)

BORE 114 ft.; diameter of bore: at top 6 ins.; at bottom 4 ins.

Full details of permanent lining tubes (position, length, diameter, plain, slotted etc.)

74 feet of 4" I.D. tubes.

Water struck at depths of 80 - 110 ft. below well-top.

TEST
CONDITIONS

Rest level of water 9 ft. above well-top. Suction at 20 ft. Yield on 9 hours' test

pumping at 300 galls. per Hour with depression to 16 ft. below well-top.

Recovery to rest-level in immediate hours Capacity of pump 300 g.p.h. Date of measurements May
1957

DESCRIPTION OF PERMANENT PUMPING EQUIPMENT:

NORMAL
CONDITIONS

Make and/or type Motive power

Capacity gallons per hour. Suction at ft.

Amount pumped galls. per day. Estimated consumption galls. per week.

Well made by Doncaster Well Bore Co. Ltd. Date of well

Information from

ADDITIONAL NOTES

ANALYSIS (please attach copy if available)

Sited by 0m 6" Yorks 266 SW/E Int 22/11/57

LOG OF STRATA OVERLEAF.

GEOLOGICAL SURVEY AND MUSEUM,
SOUTH KENSINGTON,
LONDON, S.W.7.

Section 6.

Date
Received

1" O.S. Map
No.

Site marked
on 1" Map

(use symbol)
on 6" Map

28.10.57

(For Survey use only) GEOLOGICAL CLASSIFICATION		NATURE OF STRATA If measurements start below ground surface, state how far ..	THICKNESS		DEPTH	
			Feet ..	Inches ..	Feet ..	Inches ..
Soil	Soil	1	0			
	Sandy Clay	1	6	2	6	
25' Drift	Sand	2	6	5	0	
	Running Sand	2	0	7	0	
DRIFT AND/OR SHEARWOOD SANDSTONE GROUP	Clay	17	0	24	0	
	Running Sand	16	0	40	0	
Bunter Set	Red Marl	11	0	51	0	
	Compact Sand	9	0	60	0	
	Sandstone Red	54	0	114	0	



91222/16/3018 391 N.8237.

79/201

MINISTRY OF HOUSING AND LOCAL GOVERNMENT

WATER ACT, 1945

LICENCE

- SE 71 SW/4

to construct works in the area defined in the Goole (1948)
Area (Conservation of Water) Order Made under section 14 (1) of the
Water Act, 1945.

THE MINISTER OF HOUSING AND LOCAL GOVERNMENT, on the application
of J. Johnson, Esq., of Four Winds Farm, Thorne, Doncaster hereinafter
called the Applicant and in pursuance of his powers under section 14 (6)
of the Water Act, 1945, hereby licenses the said Applicant, to execute
the work of Constructing a borehole at Four Winds Farm the situation of
which is more particularly shown in the plan annexed hereto and thereon
marked #, subject to the condition that the total amount of water
abstracted during any day of twenty four hours shall not exceed 800 gallons.

GIVEN under the Official Seal of the Minister of Housing and Local

Government this 28 MAR 1957 day of 19

Assistant Secretary,

Ministry of Housing and Local Government.

L.S.

xy 4-7.52



The attention of the licensee is drawn to subsection (8), (9), (10) and (12) of Section 14 of the Water Act, 1945, which are as follows:-

- 14(8) Any person who contravenes any of the foregoing provisions of this section or any requirements imposed thereunder or any condition attached to a licence granted for the purposes of subsection (3) or subsection (5) of this section shall be guilty of an offence against this Act.
- (9) No person shall in any area to which this section applies -
- (a) cause or allow any underground water to run to waste from any well, borehole or other work except for the purpose of testing the extent or quality of the supply or cleaning, sterilising, examining or repairing the well, borehole or other work; or
 - (b) abstract from any well, borehole, or other work water in excess of his reasonable requirements;

Provided that, where underground water interferes or threatens to interfere with the execution or operation of any underground works (whether waterworks or not), it shall not be an offence under this subsection to cause or allow the water to run to waste so far as may be necessary to enable the works to be executed or operated, if no other method of disposing of the water is reasonably practicable.

- (10) A person who contravenes any provision of the last foregoing subsection shall, in respect of each offence, be liable on summary conviction to a fine not exceeding ten pounds and the court may, on the conviction of any person, order that the well, borehole or other work shall be effectively sealed or may make such other order as appears to the court to be necessary to prevent waste of water.

If any person fails to comply with any such order of the court the court may (without prejudice to the imposition of any penalty for contempt of court), on the application of any local authority within whose county or district the well, borehole or other work is situated or of any statutory water undertakers affected or likely to be affected by the waste, authorise the authority or undertakers to take such steps as may be necessary to execute the order, and any expense incurred in taking any such steps shall be recoverable as a civil debt from the person convicted.

- (12) Any officer of a local authority whose county or district is comprised wholly or partly in an area to which this section applies, and any officer of any statutory water undertakers likely to be affected by any failure to enforce the provisions of this section in any such area, being an officer authorised for the purpose by the local authority or undertakers concerned shall, on producing, if so required, some duly authenticated document showing his authority, have a right at all reasonable hours -
- (a) to enter any premises in the area for the purpose of ascertaining whether there is, or has been, on or in connection with the premises any contravention of the provisions of this section; or
 - (b) to enter any premises in which the authority or undertakers have been authorised to execute an order of the court made under subsection (10) of this section, for the purpose of executing that order;

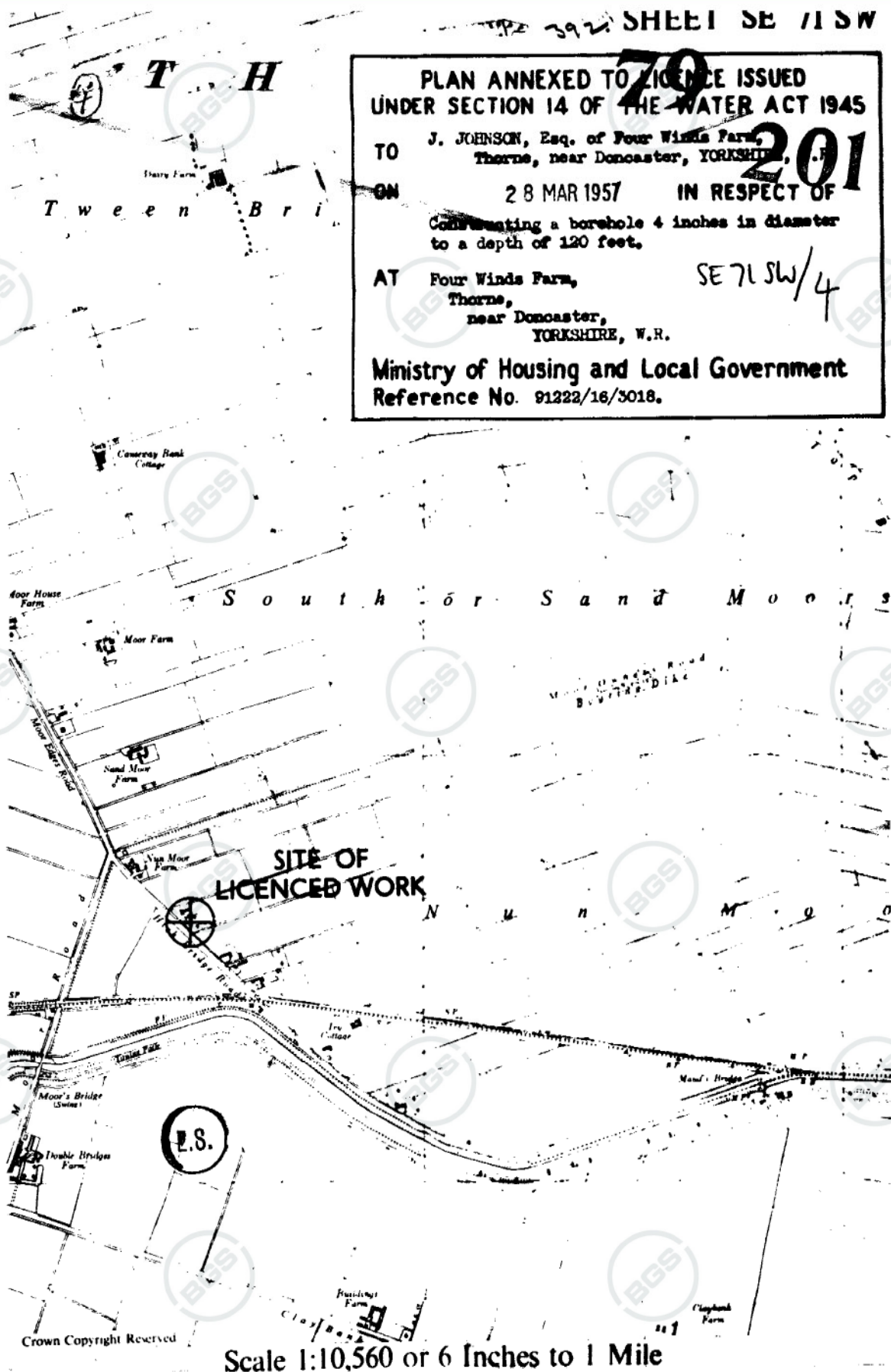
and the section of this Act relating to entry of premises shall apply to any such right of entry.

Attention is also drawn to Section 7 of the Act which requires that any person who proposes to sink, for the purpose of searching for or abstracting water, a well or borehole intending to reach a depth of more than 50 feet below the surface shall, inter alia, before he begins to do so give notice to the Geological Survey and shall keep a journal of the progress of the work, and send a complete copy of it to the Survey. For more detailed and precise information on this subject, the licensee is referred to the pamphlet "Notification of New Wells and Boreholes for Water", obtainable from the Director, Geological Survey and Museum, Exhibition Road, South Kensington, S.W.7.



British
Geological
Survey

BGS ID: 124788 : BGS Reference: SE71SW4
British National Grid (27700) : 470442,412634



YORKSHIRE RIVER AUTHORITY - Survey of Existing Boreholes						
I.G.S. Ref. No.	<i>79/201 SE 21 SW 1/4</i>			N.G.R.	<i>SE. 7.945. 1862.</i>	
OWNERS NAME	<i>Mr. J. Johnson</i>			Licence No.	<i>Sewer from licence</i>	
ADDRESS	<i>Fair Winds Farm,</i>			App No		
Town	<i>Jarne</i>			Authorised Abstraction		
Depth	1.52	2.13	7.32	12.10	15.64	18.29 <i>24.78</i>
Thick ⁿ s	5'	2' 0.61	5.88	4.88	2.35	2.74 60' 11.9'
STRATA DETAILS	<i>Red Clay + Sand</i>	<i>Burning Sand</i>	<i>Clay</i>	<i>Burning Sand</i>	<i>Rest Mud</i>	<i>Campbed Sand</i> <i>Red Sandstone</i>
Dia.	<i>6"/4"</i>					
Depth	<i>114' 24 7/8</i>					
Lining	<i>4" to 7.0 2256</i>					
Well sinker	<i>O.W.B.</i>					
Date	<i>1957</i>					
R.W.L.	<i>9' 2.74</i>					
Date	<i>P.W.C 2300 SPL = 16' 4.88</i>					
Elev at 0.30						

INSPECTION REPORT	WATER QUALITY	DATE OF INSPECTION:-
Present Owner:-	Date	Other Comments:-
Access (Yes or No)	pH	
1" Probe	Total hard	
3" Instruments	Temp.hard	
Landrover	Alk.	
Access Agreed	Ca	
	Mg	
	Na	
	K	
		Sketch Plan of Location
Water Level at time of insp. metres below	HCO ₃	
Date	SO ₄	
Datum above O.D.	Cl	
R.W.L. above O.D.	NO ₃	
Date	Fe	



RECORD OF WELL (SHAFT OR BORE)

NGR SE 7044 1262

For Survey use only

79 N. 8237
SE 71/12
201

Licence No. 91322/16/3018

At J. Johnson, Esq.,

Four Winds Farm,

Town or Village Thorne, Nr. Doncaster.

County Yorkshire.

Six-inch quarter sheet 266 SW/E

For State whether owner, tenant, builder, contractor, consultant, etc.:-

Address (if different from above)

Level of ground surface

above sea-level (O.D.) ft.

If well-top is not at ground

level, state how far

{ above:

below: ft.

SHAFT ft.; diameter ft.; Full details of headings (dimensions and directions)

BORE 114 ft.; diameter of bore: at top 6 ins.; at bottom 4 ins.

Full details of permanent lining tubes (position, length, diameter, plain, slotted etc.)

74 feet of 4" I.D. tubes.

Water struck at depths of 80 - 110 ft. below well-top.

Rest level of water 9 ft. above well-top. Suction at 20 ft. Yield on 9 hours' test

pumping at 300 galls. per Hour with depression to 16 ft. below well-top.

Recovery to rest-level in 10 minutes Capacity of pump 300 g.p.h. Date of measurements May 1957

DESCRIPTION OF PERMANENT PUMPING EQUIPMENT:

Make and/or type Motive power

Capacity gallons per hour. Suction at ft.

Amount pumped galls. per day. Estimated consumption galls. per week.

Well made by Doncaster Well Boreas Ltd. Date of well

Information from

ADDITIONAL NOTES

ANALYSIS (please attach copy if available)

Sited by Omb" Yorks 266 SW/E. Feb 24/57

LOG OF STRATA OVERLEAF.

GEOLOGICAL SURVEY AND MUSEUM,
SOUTH KENSINGTON,
LONDON, S.W.7.

Section 6.

Date
Received

28.10.57

1" O.S. Map
No.

Site marked
on 1" Map

(use symbol)
on 6" Map

[illegible]



91222/16/3018

N.8237.

79 SE71/12
201

(3)

MINISTRY OF HOUSING AND LOCAL GOVERNMENT

WATER ACT, 1945

LICENCE

to construct works in the area defined in the Goole (1948)
Area (Conservation of Water) Order Made under section 14 (1) of the
Water Act, 1945.

THE MINISTER OF HOUSING AND LOCAL GOVERNMENT, on the application
of J. Johnson, Esq., of Four Winds Farm, Thorne, Doncaster hereinafter
called the Applicant and in pursuance of his powers under section 14 (6)
of the Water Act, 1945, hereby licenses the said Applicant, to execute
the work of Constructing a borehole at Four Winds Farm the situation of
which is more particularly shown in the plan annexed hereto and thereon
marked n, subject to the condition that the total amount of water
abstracted during any day of twenty four hours shall not exceed 800 gallons.

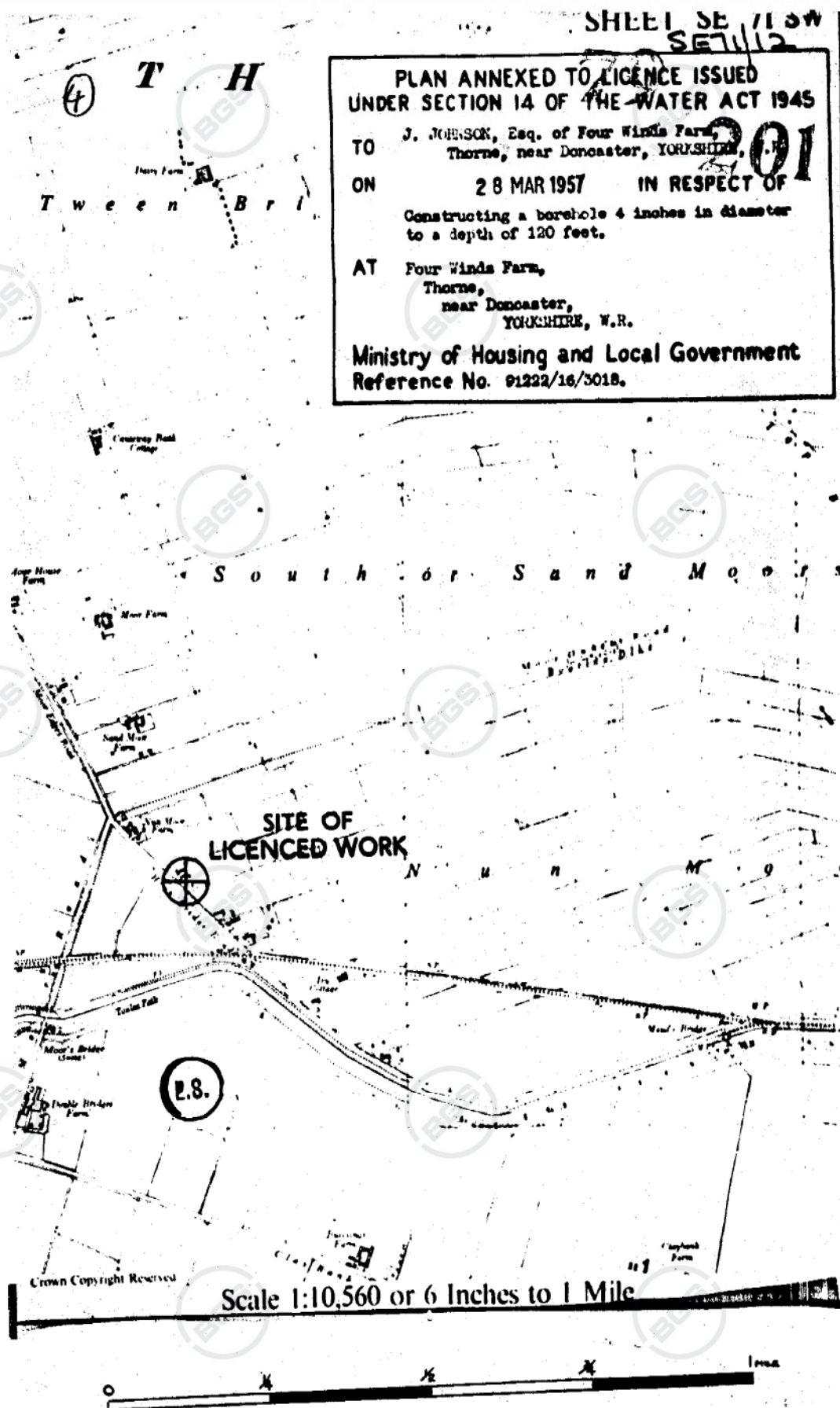
GIVEN under the Official Seal of the Minister of Housing and Local
Government this 28 MAR 1957 day of 19 ..

..... T. D. WICKENDEN

(L.S.)

Assistant Secretary,
Ministry of Housing and Local Government.

re 4-7-57





DATA ACQUISITION SHEET

CSC/D/198

NRA region: **Yorks**

SE71/12

File Number: **—**

Pump Well Identification:

NRA id No:

IGS No: 72/201

BGS (WL) No: **SE71/12**

NGR: **SE 7045 1262**

Elevation: **—**

Measuring Point:

Site Name: **Four Winds Farm**

Locality: **THORNE**

Well details:

depth of pumping well: **34.75m (114')**

diameter: **100mm (4")**

casing details: **22.56m (4" x 74')**

☐ observation boreholes

number of obs bhs:

obs bh details:

Aquifer Details:

confined / ~~unconfined~~

If confined, confining layer: **Drift clay**

Aquifer Geology	from	to	Aquifer Geology	from	to
SAND RUNNING + CLAY		18.29			
RED SANDSTONE		34.75			

SSG

Pumping Test Details:

date of test: **1957**

length of test: **9 hours**

RWL: **2.74m (9')**

PWL: **4.58m (16')**

pumping rate: **1.364 m³/h (300 gph)**



Additional Well Information:

<input type="checkbox"/>	Well Loss Data:	B.....	C.....	Efficiency.....
<input type="checkbox"/>	Well Acidified			
<input type="checkbox"/>	Flow Logs			
<input type="checkbox"/>	Other Geophysical Logs			
<input type="checkbox"/>	Fissure Information: major inflows from.....to.....			
		from.....to.....		
		from.....to.....		

Aquifer Parameters:

Analysis Type: <i>Therm Steady State</i>	Analysis Type:
Transmissivity: <i>20 m²/d</i>	Transmissivity:
Storage Coefficient: <i>-</i>	Storage Coefficient:

Analysis Type:	Other Data:
Transmissivity:	
Storage Coefficient:	

Confidence:

excellent ☐ ☐ ☐ ☒ ☐ very poor

Notes: <i>used driller test data + assumed steady state</i>
<i>see notes on CSC/D/168+169</i>



Cementation Ground Engineering		soil mechanics department		BOREHOLE No. 3			
CONTRACT A.18 - SCUNTHORPE			REPORT No. 7468/SEQ				
Bored for North Eastern Road Construction Unit			Ground Level 5.2 0.D. ± 1.58m				
Site Address Thorne, Yorkshire			Boring Commenced 21.7.69 Boring Completed 21.7.69				
Type and Dia. of Boring Shell and Auger - 8" diameter			SE71SW15				
Water Levels Recorded During Boring							
Water Strikes	Hole Depth	14'6"	25'0"				
1. 10'6"	Casing Depth	23'0"	13'6"	25'0"			
2.	Water Level	-	None	None			
3.							
Remarks 7061 1175							
Description		Scale 1 inch = 5 ft.		Samples & S.P.T.			
		Depth	Legend	Ref. No.	Type	Depth	N blows/ft
Topsoil		1'3"					
Firm grey and brown mottled peaty clay		2'6"		8614	J	3'0"	
Firm grey and brown mottled sandy clay				8615	J	6'0"	11
Soft to firm brown silty clay		6'6"		8616	J	6'6"	
				8617	U	7'0"-8'6"	
		8'6"		8618	J	8'6"	
Soft to firm brown laminated clay				8619	U	9'0"-10'6"	
				8620	J	11'6"	
		13'0"		8621	J	13'0"	
Soft to firm brown laminated clay with silt in partings				8622	U	13'6"-15'0"	
				8623	J	16'0"	
				8624	U	18'6"-20'0"	
				8625	J	21'0"	
		25'0"		8626	U	23'6"-25'0"	
				8627	W	(10'6")	

Code: U—Undisturbed Sample D—Large Disturbed Sample J—Jar Sample W—Water Sample

Note.—Unless classification tests have been made and the results are included in this Report, the descriptions of strata given above have been obtained by inspection in accordance with British Standard Code of Practice CP 2001 (1967) Site Investigations. To ensure agreement as to interpretation, clients are requested to check.



BGS ID: 124800 : BGS Reference: SE71SW16
British National Grid (27700) : 471250,411980

Code: U—Undisturbed Sample D—Large Disturbed Sample J—Jar Sample W—Water Sample

Note.—Unless classification tests have been made and the results are included in this Report, the descriptions of strata given above have been obtained by inspection in accordance with British Standard Code of Practice CP 2001 (1957) Site Investigations. To ensure agreement as to interpretation, clients are requested to check the descriptive against the samples submitted.



BGS ID: 124801 : BGS Reference: SE71SW17
British National Grid (27700) : 471856,412142

Cementation Ground Engineering		soil mechanics department		BOREHOLE No. 5			
CONTRACT A.18 - SCUNTHORPE			REPORT No. 7468/SEQ				
Bored for North Eastern Road Construction Unit			Ground Level 4.9 0.0. ±1.49m				
Site Address Thorne, Yorkshire			Boring Commenced 22.7.69 Boring Completed 23.7.69				
Type and Dia. of Boring Shell and Auger - 8" diameter			SE 71 SW 17				
Water Strikes		Water Levels Recorded During Boring					
1. 6'0"	Hole Depth	-	10'0"	35'6"			
2.	Casing Depth	32'0"	9'0"	None			
3.	Water Level	-	None	6'0"			
Remarks 7186 1214							
Description		Scale 1 inch = 5 ft		Samples & S.P.T.			
		Depth	Legend	Ref. No.	Type	Depth	N blows/ft
Topsoil		1'0" 0-30		8639	J	2'6"	
Firm brown and grey mottled sandy clay		4'6" 1-39		8640	D	6'0"	5
Loose brown silty sand		8'6" 2-59		8641	J	8'6"	
Soft to firm brown laminated clay with silt in partings				8642	U	9'0"-10'6"	
				8643	J	11'6"	
				8644	U	14'0"-15'6"	
				8645	J	16'6"	
				8646	U	19'0"-20'6"	
Loose grey/brown silty sand				8647	J	21'6"	
				8648	U	24'0"-25'6"	
		25'6" 7-79		8649	J	26'6"	5
				8650	J	28'6"	
				8651	J	30'6"	
Soft to firm brown laminated clay with silt in partings		32'0" 9-75		8652	U	32'0"-33'6"	
Medium dense grey/brown silty sand		33'0" 10-06		8653	J	34'6"	23
		35'6" 10-81		8654	J	36'6" (6'0")	
Code: U—Undisturbed Sample D—Large Disturbed Sample J—Jar Sample W—Water Sample							

Note.—Unless classification tests have been made and the results are included in this Report, the descriptions of stress given above have been obtained by inspection



Cementation Ground Engineering		soil mechanics department				BOREHOLE No. 6	
CONTRACT A.18 - SCUNTHORPE					REPORT No. 7468/SEQ		
Bored for North Eastern Road Construction Unit					Ground Level 6.1 O.D. + 1.8 Gm		
Site Address Thorne, Yorkshire					Boring Commenced 17.7.69 Boring Completed 17.7.69		
Type and Dis. of Boring Shell and Auger - 8" diameter					SE 71 SW 18		
Water Strikes		Water Levels Recorded During Boring					
1. 6'0"	Hole Depth	-	13'6"	20'0"	20'0"		
2.	Casing Depth	15'0"	13'0"	18'0"	None		
3.	Water Level	-	None	None	6'0"		
Remarks					7271 1201		
Description		Scale 1 inch = 5 ft.		Samples & S.P.T.			
		Depth	Legend	Ref. No.	Type	Depth	N blows/ft
Topsoil		2'6" 0-7.6		8202	J	2'0"	
Firm brown very sandy clay				8203	J	4'0"	13
				8204	J	7'0"	
				8205	J	9'0"	14
				8206	J	12'0"	
Soft to firm brown laminated clay with silt in partings		13'0" 3-16		8207	U	13'6"-15'0"	
				8209	J	17'0"	
				8210	U	18'6"-20'0"	
		20'0" 6-10		8211	W	(6'0")	

Code: U—Undisturbed Sample

D—Large Disturbed Sample

J—Jar Sample

W—Water Sample

Note.—Unless classification tests have been made and the results are included in this Report, the descriptions of strata given above have been obtained by inspection



Cementation Ground Engineering		soil mechanics department		BOREHOLE No. 7	
CONTRACT A.18 - SCUNTHORPE			REPORT No. 7468/SEQ		
Bored for North Eastern Road Construction Unit			Ground Level 7.9 O.D. +2.41m		
Site Address Thorne, Yorkshire			Boring Commenced 16.7.69 Boring Completed 16.7.69		
Type and Dia. of Boring Shell and Auger - 8" diameter			SE71SW19		
Water Strikes		Water Levels Recorded During Boring			
1. 15'0"	Hole Depth	-	20'0"		
2.	Casing Depth	18'0"	18'0"		
3.	Water Level	-	10'0"		
Remarks 7323 1197					
Description		Scale 1 inch = 5 ft.		Samples & S.P.T.	
	Depth	Legend	Ref. No.	Type	Depth
Topsoil	1'6" 0.46		7776 +1.95	J	1'0"
Medium-dense brown silty sand			7777	J	2'0"
			7778	J	4'0"
			7779	J	7'0"
	8'0" 2.44		7780	U	8'6"-10'0"
Soft to firm brown silty clay with lenses of silt			7781	J	12'0"
			7782	U	13'6"-15'0"
	16'0" 4.88		7783	J	17'0"
Medium-dense brown sand			7784	J	19'0"
	20'0" 6.10		7785	W	(15'0")

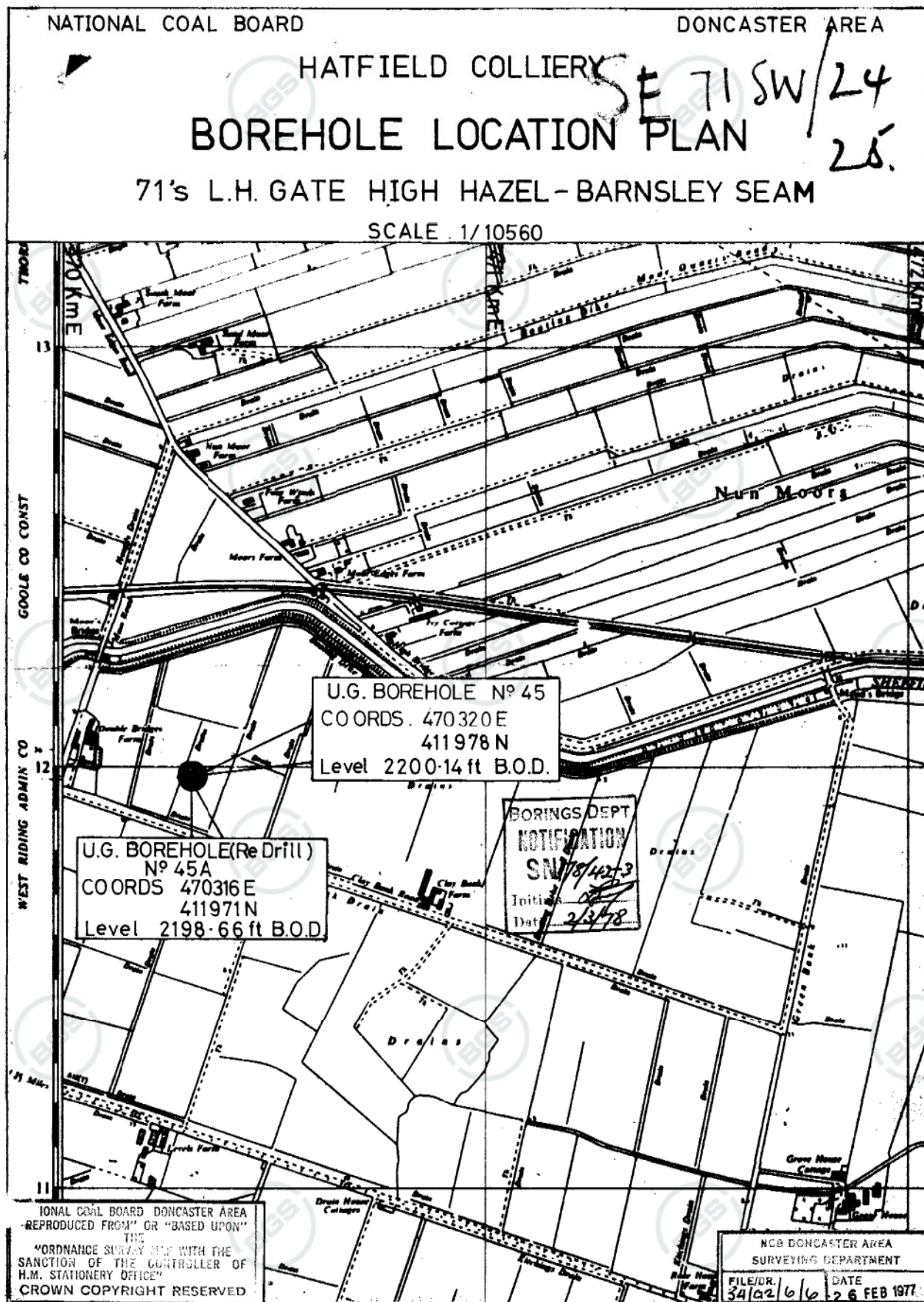
Code: U—Undisturbed Sample D—Large Disturbed Sample J—Jar Sample W—Water Sample

Note.—Unless classification tests have been made and the results are included in this Report, the descriptions of strata given above have been obtained by inspection in accordance with British Standard Code of Practice CP 2001 (1967) Site Investigations. To ensure agreement as to interpretation, clients are requested to check



British
Geological
Survey

BGS ID: 124808 : BGS Reference: SE71SW24
British National Grid (27700) : 470323,411982





MEMORANDUM.

SE 71 SW
SE 71 SW / 24

FROM: Unit Surveyor

Our Ref: -----

TO: F.A. Paling Esq., Area Surveyor & Minerals Manager

Your Ref: ----- /G2/6/

Subject: UNDERGROUND BOREHOLE NO. 45

Date: 19.12.1975

20 SEP 1978

Attached are details of a borehole drilled at this colliery.

Colliery:

HATFIELD

Seam:

HIGH HAZEL

Seam bored to:

BARNDSLEY

O.S. 6" Sheet No.:

S.E 71 S.W.

National Grid Co-Ordinates

44/7011/320.978

Level of borehole datum

2200.14 B.O.D.

Level of Seam at borehole

2200.14 B.O.D.

UNIT SUR



SE 71 SW/24
Survey Branch

N.C.B. Doncaster Area

HATFIELD COLLIERY

BOREHOLE U/G. N^o 45

From HIGH HAZEL SEAM

to BARNESLEY SEAM

Located by W. ROXBV

Date DECEMBER 1975

6" Quarter Sheet SE 71 SW

Ref. No. 34/G2/6/6 (FILE)
204 (6" SHEET)

N.G. Co-ordinates E. 470320
N. 411978

Boring Datum relative to O.D. 2200.14 Ft. B.O.D.

Length of hole 267.75 Ft.

Level at end of hole to O.D. 2407.89 Ft. B.O.D.

Verticality Details.

Borehole Logging

H.R. Density Detail, Caliper Detail.

Gamma Ray Density, Caliper Log.

L.S. Density, Detail Log.

Gamma Ray, Detail Log.

Electric Log.

Casing & Sealing Details

SEE SEALING REPORT DATED 13th FEB. 1976



SE 71 SW 24

Listed below are those seams which are currently regarded as workable
which were encountered in the borehole.

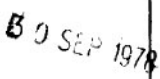
4.0.0.1. 1978

Seam	Depth ft./m.	Level to O.D. ft./m.
Blyth		
Shafton		
Sharlston Top - (Cudworth)		
Sharlston Low		
Sharlston Y ard		
Newhill		
Meltonfield		
Winter		
Kilnhurst or Top Beamshaw (High Hazel)		
Beamshaw		
Kents Thick		
Warren House		
Barnsley		
Dunsil		
Swallow Wood		
Top Haigh Moor		
Flockton Thick		
Parkgate		
Thorncliffe		
Silkstone		
Beeston		

Other Seams Encountered

All seams between High Hazel and Barnsley

Remarks





FORM P 70
SERIES 680

COMMERCIAL IN CONFIDENCE
51 MAY 1979

Section of HATFIELD COLLIERY
No. 45 and 45A Underground Boreholes
Purpose To prove the Kents Thick and Barnsley Seams
Exact Site No. 45 O.S. N.G.R. SE/70320/11978
No. 45A (redrill) SE/70316/11971 : Underground location
H71's Left hand at SM 2705 (No. 45) and SM 2675 (No. 45A)
shaft
Level at which bore commenced relative to O.D. 2200.14 (No. 45)
drift B.O.D.
(Floor of the High Hazel seam) 2198.66 (No. 45A)
Date of sinking or boring Dec. 1975-March 1976/B.O.D.
Borer: Area drilling team
Cores other than coal examined by J.E. Johnson
No. 45 (70' - 107'4") and D. Foster No. 45 and 45A (151'7" - 207'") *Delete as appropriate

6-INCH MAP	B/M REGD. No.
Yorks. 266 SW (County, Sheet and Qtr.)	
SE 71 SW (Nat. Grid, Sheet & Qtr.)	24/25

Attach tracing from a map or
sketch map if possible

SE 71 SW/24
25.

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS		DEPTH	
		ft	m	ft	m
KENTS THICK	OPEN HOLE	70	0	70	0
	Fine grey siltstone with sandy laminae				
	ironstone layers and plant debris	3	1	73	1
	Smooth grey mudstone with occasional vague				
	ironstone layers		11	74	0
	Grey silty mudstone with sandy laminae		9	74	9
	Grey siltstone, very sandy		7	75	4
	Strong grey silty mudstone with plant debris				
	and vague ironstone nodules	1	9	77	1
	Smooth strong grey mudstone silty in parts				
	with some plant and shell debris,				
	becoming darker down	2	9	79	10
	Grey siltstone		2	80	0
	Dark grey shaly mudstone with vague				
	ironstones and plants	1	1	81	1
	Ironstone		4	81	5
	Dark grey mudstone, paler to base with some				
	plant debris	4	0	85	5
	Medium grey smooth shaly mudstone with				
	occasional plant fragments, some thin				
	ironstone layers	1	1 1/2	86	6 1/2
	Black shale with mussels and Spirorbis				
	becoming cannelloid to base		9 1/2	87	4
	COAL inferior 0' 10 1/2"				
	COAL bright 0' 5 1/2"	2	5	89	9
	COAL (missing core) 1' 1"				
	Carbonaceous mudstone seat-earth	0	1 1/2	89	10 1/2
	Grey silty mudstone seat-earth	1	1 1/2	91	0
	Grey siltstone seat-earth with occasional				
	ironstone nodules	1	11	92	11
	Grey siltstone with occasional rootlets,				
	sandier in places	5	1	98	0
	Strong grey siltstone with sandy laminae	4	2 1/2	102	2 1/2
	CORE NOT ACCOUNTED FOR	5	1 1/2	107	4
*	OPEN HOLE	44	3	151	7
	Smooth grey mudstone		6	152	1
	Dark grey/black mudstone with fish fragments		6	152	7
	CORE LOST		3	152	10
	Dark grey/black carbonaceous mudstone				
	seat-earth		8	153	6
	Grey mudstone seat-earth with large rootlets	1	0	154	6
	Strong grey mudstone with occasional rootlets				
	and plant debris	2	8	157	2
	Weaker grey mudstone with plants including				
	Neuropteris and Calamites	2	10	160	0
	Grey silty mudstone with ironstone nodules,				
	less silty in parts	1	7	161	7
	Grey mudstone with many plants, including				
	Calamites & Neuropteris, and some	8	5	170	0
	ironstone nodules				



BGS ID: 124808 : BGS Reference: SE71SW24
British National Grid (27700) : 470323,411982

COMMERCIAL OR CONFIDENTIAL

Section of **HATFIELD COLLIERY**
No. 45 and 45A Underground Boreholes

1/4 INCH MAP	B/N
Yorks. 266 SW	
SE 71 SW	24. 25

*Delete as appropriate

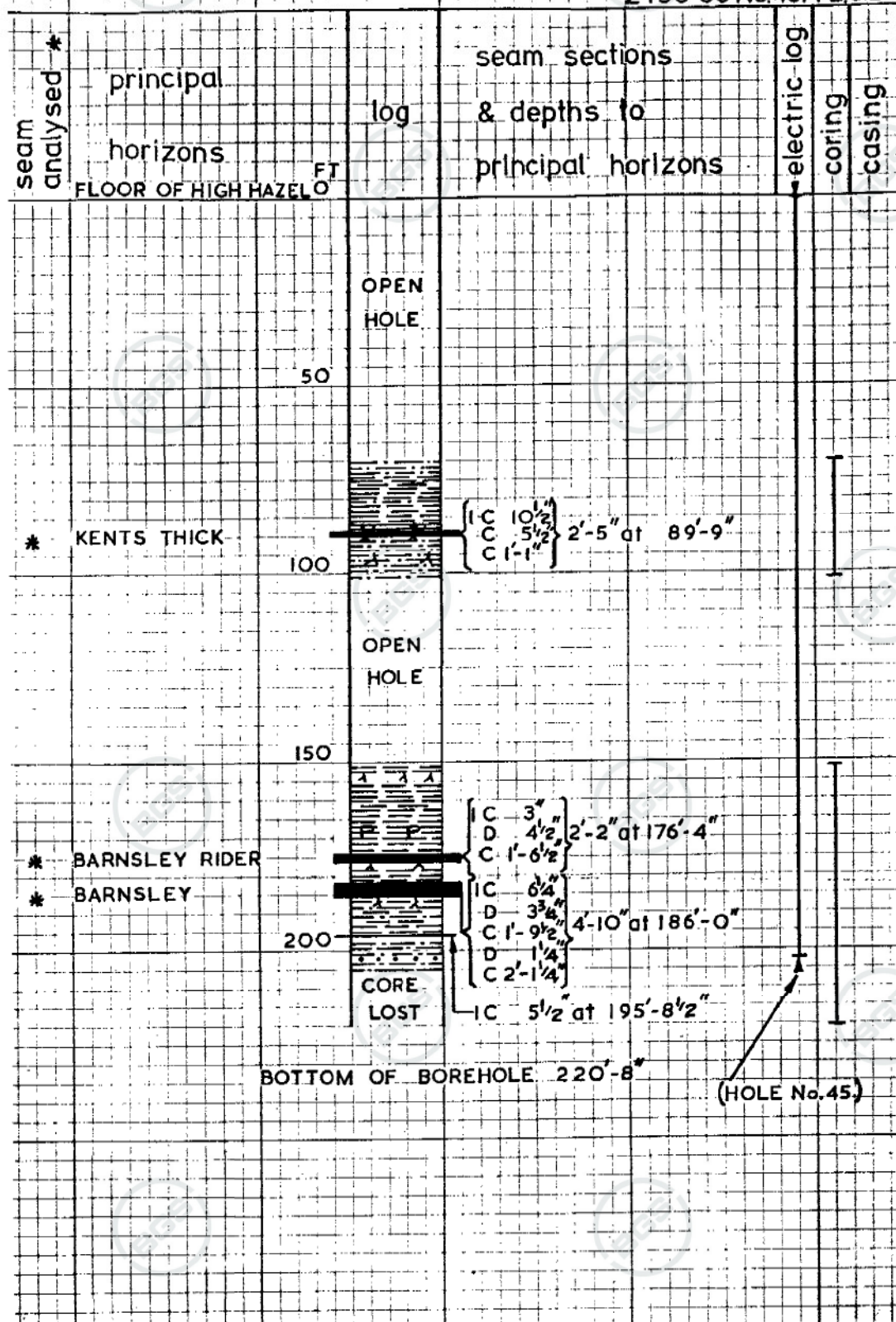
[illegible]

Contact BGS: ngdc@bgs.ac.uk



YORKSHIRE 266 SW.
HATFIELD COLLIERY
No. 45 & 45A UG. BOREHOLE

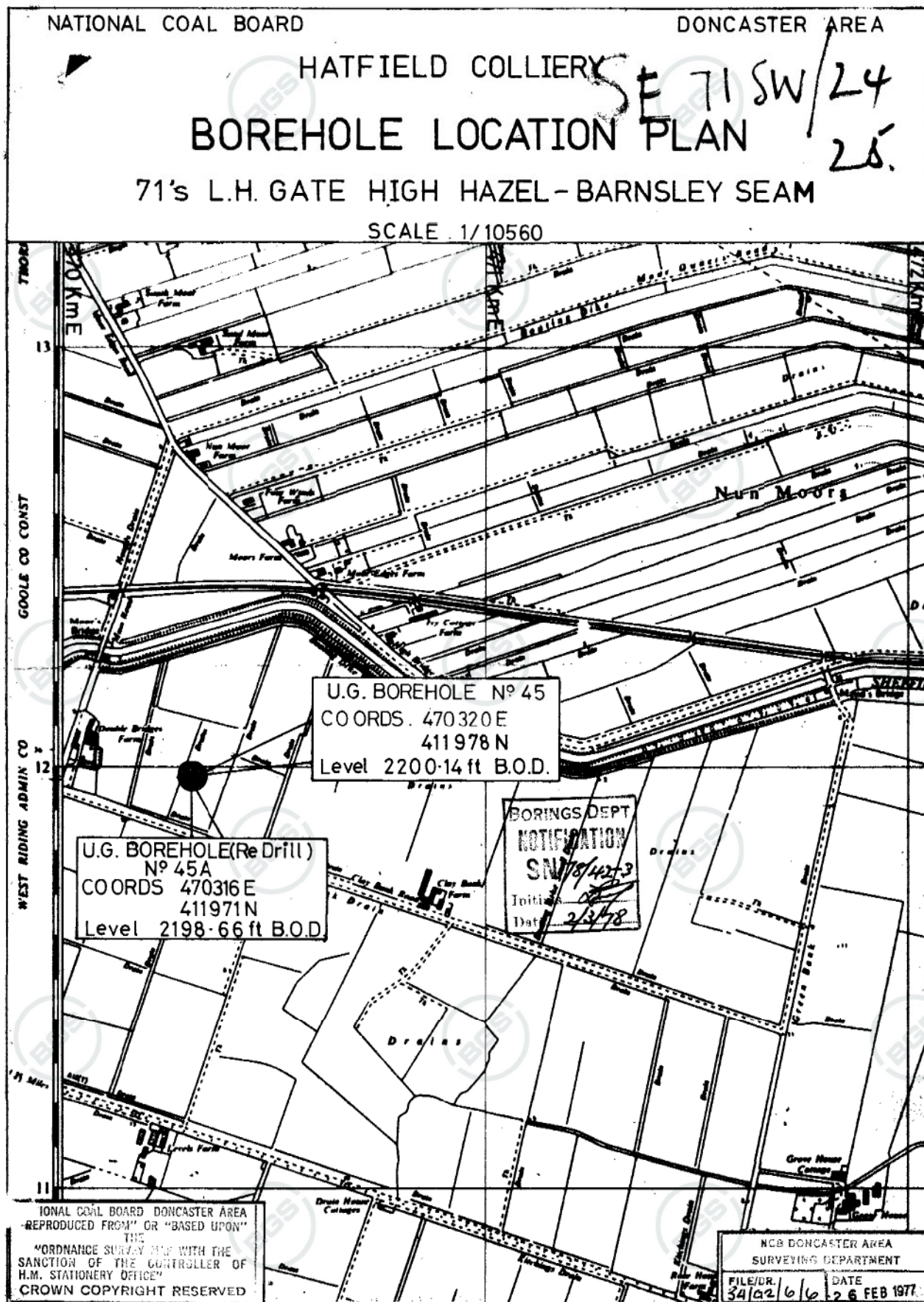
SE 71 SW. | 24.25.
Dec. 1975/March 1976.
2200.14' No. 45 B.O.D.
2198.66' No. 45A B.O.D.





British
Geological
Survey

BGS ID: 124809 : BGS Reference: SE71SW25
British National Grid (27700) : 470322,411965





MEMORANDUM.

SE 71 SW
SE 71 SW / 25

FROM: Unit Surveyor

Our Ref: _____

TO: F.A. Paling Esq., Area Surveyor & Minerals Manager

Your Ref: _____/G2/6/

Subject: UNDERGROUND BOREHOLE NO. *4545w*

Date: 17.3.1976

40 SEP 1978

Attached are details of a borehole drilled at this colliery.

Colliery:

HATFIELD

Seam:

HIGH HAZEL

Seam bored to:

BARNSLEY

O.S. 6" Sheet No.:

SE 71 SW

National Grid Co-Ordinates

44/7011/316.971

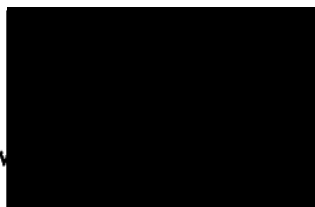
Level of borehole datum

2198.66 B.O.D.

Level of Seam at borehole

2198.66 B.O.D.

UNIT SURV





SE 71 SW 25

N.C.B. Doncaster Area

HATFIELD COLLIERY

Survey Branch

BOREHOLE O/G N° 45A

From HIGH HAZEL SEAM to BARNSELEY SEAM

Located by W. ROXBY

Date MARCH 1970

6" Quarter Sheet SE 71 SW

Ref. No. 34/G2/6/6 (FINE)
204 (6" SHEET)

N.G. Co-ordinates E. 470316
N. 411971

Boring Datum relative to O.D. - 2198.60'

Length of hole 220'8"

Level at end of hole to O.D. - 2419.32'

Verticality Details.

Borehole Logging

H.R. Density Detail, Caliper Detail.

Gamma Ray Density, Caliper Log.

L.S. Density, Detail Log.

Gamma Ray, Detail Log.

Electric Log.

Casing & Sealing Details

See Sealing report dated 15.12.77.



SE 71 SW 25

Listed below are those seams which are currently regarded as workable
which were encountered in the borehole.

Seam	Depth ft./yr.	Level to O.D. ft./yr.
Blyth		
Shafton		
Sharlston Top - (Cudworth)		
Sharlston Low		
Sharlston Y ard		
Newhill		
Meltonfield		
Winter		
Kilnhurst or Top Beamshaw (High Hazel)		- 2198.66
Beamshaw		
Kents Thick	2'-5" 89'-9"	-2288.41 B.O.D
Warren House		
Barnsley	Rickel 2'2" 4'10" 180'-0"	-2384.66 B.O.D
Dunsil		
Swallow Wood		
Top Haigh Moor		
Flockton Thick		
Parkgate		
Thorncliffe		
Silkstone		
Beeston		

Other Seams Encountered

all between High Hazel and Low Barnsley.

Remarks



FORM P 70
SERIES 680

COMMERCIAL IN CONFIDENCE
51 MAY 1978

Section of HATFIELD COLLIERY
No. 45 and 45A Underground Boreholes
Purpose To prove the Kents Thick and Barnsley Seams
Exact Site No. 45 O.S. N.G.R. SE/70320/11978
No. 45A (redrill) SE/70316/11971 : Underground location
H71's Left hand at SM 2705 (No. 45) and SM 2675 (No. 45A)
shaft
Level at which bore commenced relative to O.D. 2200.14 (No. 45)
drift B.O.D.
(Floor of the High Hazel seam) 2198.66 (No. 45A)
Date of sinking or boring Dec. 1975-March 1976/B.O.D.
Borer: Area drilling team
Cores other than coal examined by J.E. Johnson
No. 45 (70' - 107'4") and D. Foster No. 45 and 45A (151'7" - 207'") *Delete as appropriate

6-INCH MAP	B/M REGD. No.
Yorks. 266 SW (County, Sheet and Qtr.)	
SE 71 SW (Nat. Grid, Sheet & Qtr.)	24/25

Attach tracing from a map or
sketch map if possible

SE 71 SW/24
25.

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS		DEPTH	
		feet	inches	feet	inches
	OPEN HOLE	70	0	70	0
	Fine grey siltstone with sandy laminae				
	ironstone layers and plant debris	3	1	73	1
	Smooth grey mudstone with occasional vague				
	ironstone layers		11	74	0
	Grey silty mudstone with sandy laminae		9	74	9
	Grey siltstone, very sandy		7	75	4
	Strong grey silty mudstone with plant debris				
	and vague ironstone nodules	1	9	77	1
	Smooth strong grey mudstone silty in parts				
	with some plant and shell debris,				
	becoming darker down	2	9	79	10
	Grey siltstone		2	80	0
	Dark grey shaly mudstone with vague				
	ironstones and plants	1	1	81	1
	Ironstone		4	81	5
	Dark grey mudstone, paler to base with some				
	plant debris	4	0	85	5
	Medium grey smooth shaly mudstone with				
	occasional plant fragments, some thin				
	ironstone layers	1	1 1/2	86	6 1/2
	Black shale with mussels and Spirorbis				
	becoming cannelloid to base		9 1/2	87	4
KENTS THICK	COAL inferior 0' 10 1/2"				
	COAL bright 0' 5 1/2"				
	COAL (missing core) 1' 1"	2	5	89	9
	Carbonaceous mudstone seat-earth	0	1 1/2	89	10 1/2
	Grey silty mudstone seat-earth	1	1 1/2	91	0
	Grey siltstone seat-earth with occasional				
	ironstone nodules	1	11	92	11
	Grey siltstone with occasional rootlets,				
	sandier in places	5	1	98	0
	Strong grey siltstone with sandy laminae	4	2 1/2	102	2 1/2
	CORE NOT ACCOUNTED FOR	5	1 1/2	107	4
	OPEN HOLE	44	3	151	7
	Smooth grey mudstone		6	152	1
	Dark grey/black mudstone with fish fragments		6	152	7
	CORE LOST		3	152	10
	Dark grey/black carbonaceous mudstone				
	seat-earth		8	153	6
	Grey mudstone seat-earth with large rootlets	1	0	154	6
	Strong grey mudstone with occasional rootlets				
	and plant debris	2	8	157	2
	Weaker grey mudstone with plants including				
	Neuropteris and Calamites	2	10	160	0
	Grey silty mudstone with ironstone nodules,				
	less silty in parts	1	7	161	7
	Grey mudstone with many plants, including				
	Calamites & Neuropteris, and some	8	5	170	0
	ironstone nodules				



Form P 71
Series 680

COMMERCIAL OR CONFIDENTIAL

Section of HATFIELD COLLIERY
No. 45 and 45A Underground Boreholes

MAY 1978

STITCH MAP	B/N
Yorks. 266 SW	
SE 71 SW	24.25

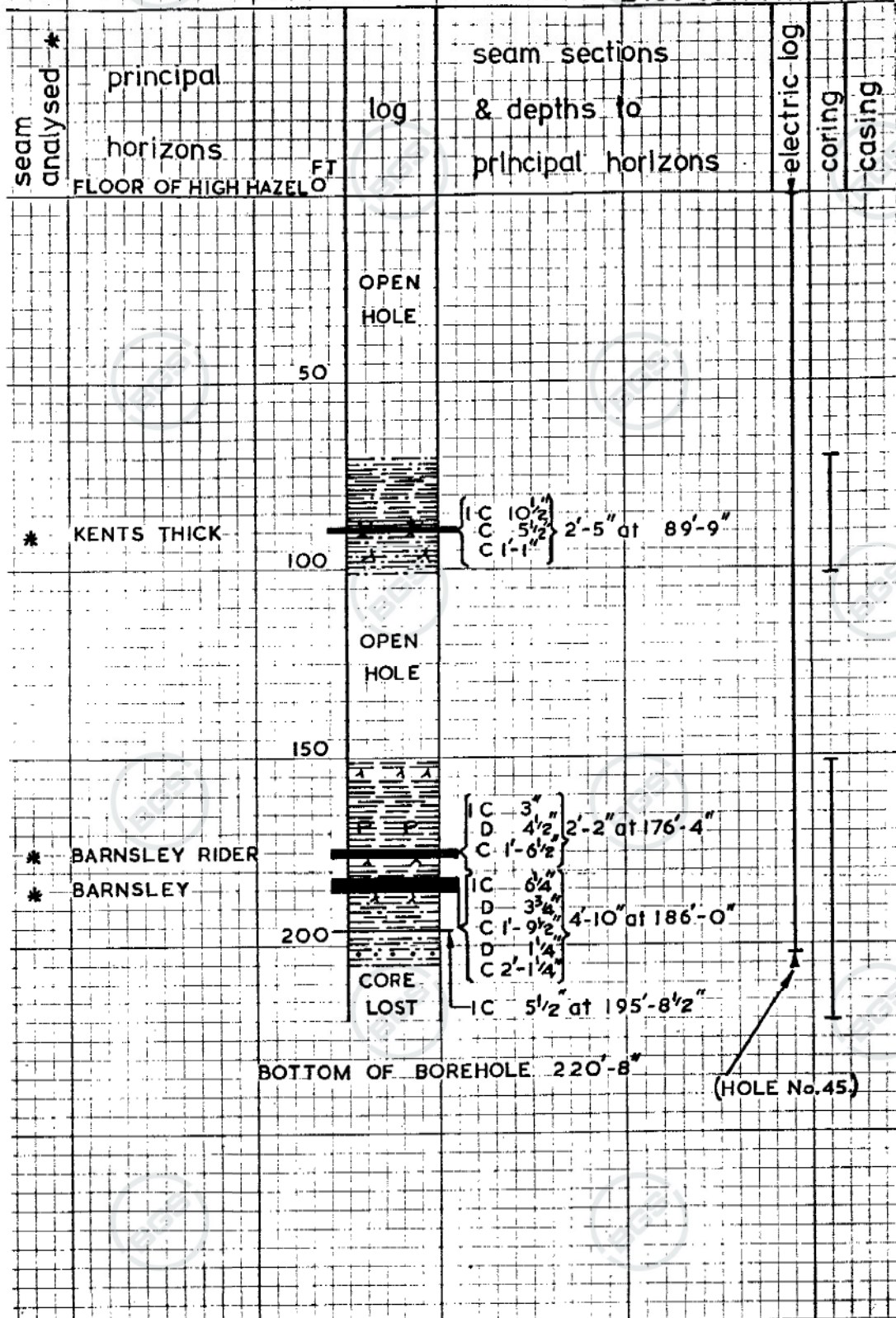
GEOLOGICAL CLASSIFICATION	NATURE OF STRATA	THICKNESS		DEPTH	
		XXX 11'	XXX 10'	XXX 11'	XXX 10'
BARNSELY RIDER	Grey planty mudstone, silty in parts, becoming darker with coal threads	4	2	174	2
	COAL inferior 0' 3"				
	Dark grey mudstone with coal streaks 0' 4"	2	2	176	4
	COAL bright 1' 6"				
DAY BEDS	Mudstone seat-earth, occasional coal streaks, tending to be bedded and planty down	3	2	179	6
	Dark grey mudstone, very planty and carbonaceous to base with some coal streaks	1	8	181	2
	COAL inferior 0' 6"				
	Dark grey mudstone 0' 3"				
TOP SOFTS	COAL bright 1' 9"				
	Dark grey mudstone 0' 11"	4	10	186	0
LOW BARNSELY	COAL dull 0' 8"				
	COAL (missing core) 1' 3"				
	COAL 0' 1"				
	Carbonaceous mudstone seat-earth		1	186	1
	Grey siltstone seat-earth	1	2	187	3
	Grey silty mudstone with rootlets		10	188	1
	Grey siltstone with rootlets		3	188	4
	Grey silty mudstone with rootlets, some sandy laminae to base		8	189	0
	Grey siltstone with plants, including Calamites some rootlets	2	10	191	10
	Grey silty mudstone with small ironstone nodules		10	192	8
*	Grey mudstone with occasional rootlets, becoming darker to base	2	7	195	3
	COAL inferior at base	5	195	8	
	Carbonaceous mudstone seat-earth	5	196	1	
	Soft weak dark grey mudstone seat-earth	3	196	5	
	Grey mudstone seat-earth	7	197	0	
	Grey silty mudstone seat-earth	9	197	9	
	Fine grey siltstone with rootlets	1	2	198	11
	Grey laminated siltstone	3	11	202	10
	Strong coarse grained pale grey sandstone		8	203	6
	Grey laminated siltstone	1	11	205	5
	CORE NOT ACCOUNTED FOR	1	7	207	0
	CORE NOT EXAMINED (LOST IN PIT)	13	8	220	8
	BASE OF HOLE 220' 8"				
	The original borehole No. 45 was drilled to 207' 9"				
	NB. Items marked with an asterisk are taken from the original No. 45 UGBH. The rest of the log is taken from the redrill No. 45A UGBH.				
	Hole No. 45 was electric logged				

YPU.918



YORKSHIRE 266 SW.
HATFIELD COLLIERY
No. 45 & 45A UG. BOREHOLE

SE 71 SW. | 24.25.
Dec. 1975/March 1976.
2200.14' No. 45 B.O.D.
2198.66' No. 45A B.O.D.





WATER RESOURCES BOARD WELL RECORD		W.R.B. REF. No. <u>SE71/6</u> <u>B</u>	
SHEET 1		R.A. LICENCE No.	
1. WELL IDENTITY		NATIONAL GRID REFERENCE <u>717 110</u>	
Well at <u>B/H. N.R. Grove House</u>		I.G.S. REF. NO. <u>DECLASSIFIED</u>	
Town <u>Thorne</u>		RIVER AUTHORITY	
County		HYDROMETRIC AREA <u>3.1 AUG 1999</u>	
Owner of well <u>N.C.B.</u>		SUB-CATCHMENT <u>RECEIVED</u>	
Well made by		date of sinking	
Information from		Date received <u>26/6/73</u>	
2. WELL DESCRIPTION			
Level of ground surface m. If well top is not at above* m. above sea level (O.D.) ft. ground level how far below ft.			
Shaft m. deep; Diameter at top m.; at bottom m. ft. ft.			
Bore m. deep; Diameter at top m.; at bottom m. ft. ft.			
Details of headings			
DETAILS OF PERMANENT LINING TUBES			
Length m.; Diam. m.; Plain m.; Slotted m.; Top m. above* surface ft. ft.			
Length m.; Diam. m.; Plain m.; Slotted m.; Top m. above* surface ft. ft.			
Length m.; Diam. m.; Plain m.; Slotted m.; Top m. above* surface ft. ft.			
Details of well screen			
DETAILS OF REST WATER LEVELS DURING CONSTRUCTION			
Water struck at depths of below well top			
Rest level of water m. above* O.D.* m. deep. Date ft. below well top when bore ft.			
Rest level of water m. above* O.D.* m. deep. Date ft. below well top when bore ft.			
Rest level of water on completion of bore m. above* O.D.* m. deep. Date ft. below well top when bore ft.			
Method of drilling			
Brief details of well development e.g. acid treatment etc.			

* delete as applicable

(9494/1)



<h2 style="margin: 0;">Norwest Holst Soil Engineering Ltd.</h2>						Borehole No. 1			
Contract No. F9252		BOREHOLE LOG		Sheet 1 of 1		Chainage			
Location New Zealand P.S.		Client National Rivers Authority		Ground Level 1.00 m.A.O.D.		Date 15/7/91-16/7/91			
Method of Boring Cable Percussion		Diameter of Borehole 150mm		SE 71SW/37 NGR 473320 412210		Ground Level 1.00 m.A.O.D.			
Description of Strata	Legend	Depth Below G.L.(m)	* Level (m)	Casing Depth at Sampling	Sampling and Coring	"N"/ R.Q.D. %	Daily Progress		
MADE GROUND: Soft brown sandy CLAY with occasional coarse gravel sized fragments of ash and slag	[Cross-hatch pattern]	1.20	-0.20						
Soft to firm very silty sandy odorous CLAY with occasional organic fragments	[Dotted pattern]				1.20-1.65 (18)				
					2.20-2.65 (88)				
		3.40	-2.40		3.20-3.65 (22)				
Very soft yellow brown silty very sandy CLAY with occasional organic fragments	[Dotted pattern]				4.20-4.65	"2"			
		5.20	-4.20		5.20-5.65	"9"			
Loose to medium dense brown fine to coarse SAND	[Dotted pattern]				6.20-6.65	"15"			
		6.80	-5.80		7.20-7.65	"35"			
Dense reddish brown slightly silty fine to medium SAND with occasional fine to coarse sub angular to sub rounded gravel with occasional lenses of brown fine to medium sand	[Dotted pattern]				8.20-8.65	"18"			
					9.20-9.65	"34"			
Borehole complete at 9.65m depth		9.65	-8.65						
<table border="0" style="width: 100%;"> <tr> <td style="width: 30%; vertical-align: top;"> Type of Sample Is S.P.T. ■ Undisturbed Ic C.P.T. X Vane O Jar △ Water ● Bulk ■ Piezometer </td> <td style="width: 70%; vertical-align: top;"> Remarks (Observations of Ground Water etc.) () U100 blows Groundwater struck at 3.40m rising to 2.20m after 20 minutes Casing at 3.00m Trial Pit dug to 1.20m depth * Relative to site datum level Cased finally to 9.00m Water levels are subject to seasonal or tidal variations and should not be taken as constant </td> </tr> </table>								Type of Sample Is S.P.T. ■ Undisturbed Ic C.P.T. X Vane O Jar △ Water ● Bulk ■ Piezometer	Remarks (Observations of Ground Water etc.) () U100 blows Groundwater struck at 3.40m rising to 2.20m after 20 minutes Casing at 3.00m Trial Pit dug to 1.20m depth * Relative to site datum level Cased finally to 9.00m Water levels are subject to seasonal or tidal variations and should not be taken as constant
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SE 71SW/37-38

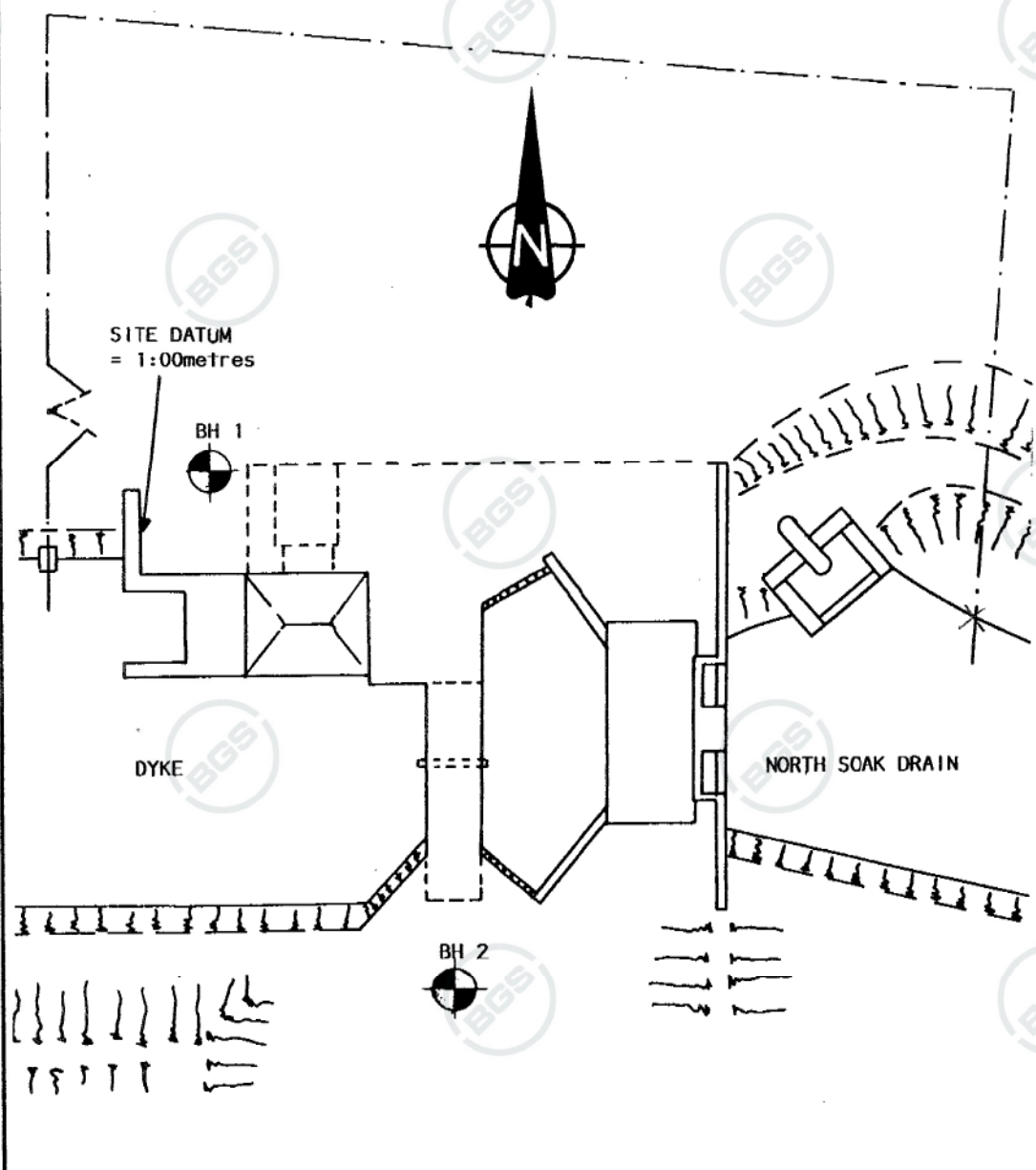
SE 71SW

1982

Norwest Holst Soil Engineering Ltd GROUND INVESTIGATION

Client; N . R . A .

Location; NEW ZEALAND P.S.



NB. Positions of Boreholes and/or Trial Pits are only indicative unless dimensioned.

Contract No; F9252

Title;

Scale; NOT TO SCALE

BOREHOLE LOCATION PLAN

Fig;

1

REF: 1000/99



Norwest Holst Soil Engineering Ltd.						Borehole No. 2	
Contract No. <u>F9252</u>		BOREHOLE LOG		Sheet <u>1</u> of <u>1</u>			
Location <u>New Zealand P.S.</u>		SE 71 SW / <u>38</u>		Chainage <u> </u>			
Client <u>National Rivers Authority</u>		NGR 7332 4220		Ground Level <u>1.25</u> m.A.O.D.			
Method of Boring <u>Cable Percussion</u>		Diameter of Borehole <u>150mm</u>		Date <u>17/7/91</u>			
Description of Strata	Legend	Depth Below G.L.(m)	* Level (m)	Casing Depth at Sampling	Sampling and Coring	"N"/ R.O.D.%	Daily Progress
Brown silty fine SAND with black organic debris and occasional silt lenses	X	1.00	0.25		0.50-0.95 (25)		
Soft dark grey odorous, clayey SILT with occasional organic debris	X	3.40	-2.15		1.50-1.95 (20) 2.50-2.95 (18)		
Firm grey brown silty CLAY	X	4.50	-3.25		3.50-3.95 (22) NR		
Medium dense grey brown fine to coarse SAND	X	5.00	-3.75		4.50-4.95	"17"	
Medium dense yellowish brown silty SAND.	X	6.80	-5.55		5.50-5.95 6.50-6.95	"24" "21"	
Dense reddish brown silty fine to medium SAND with occasional fine to coarse sub angular to subrounded gravel	X	9.95	-8.70		7.50-7.95 8.50-8.95 9.50-9.95	"40" "38" "43"	
Type of Sample Is S.P.T. ■ Undisturbed Ic C.P.T. X Vane O Jar △ Water ● Bulk ■ Piezometer		Remarks (Observations of Ground Water etc.) () U100 Blows NR - No Recovery Groundwater Struck at 4.50m rising to 4.10m after 20 minutes Casing at 4.50m * Relative to site datum level Cased finally to 9.50m Water levels are subject to seasonal or tidal variations and should not be taken as constant					



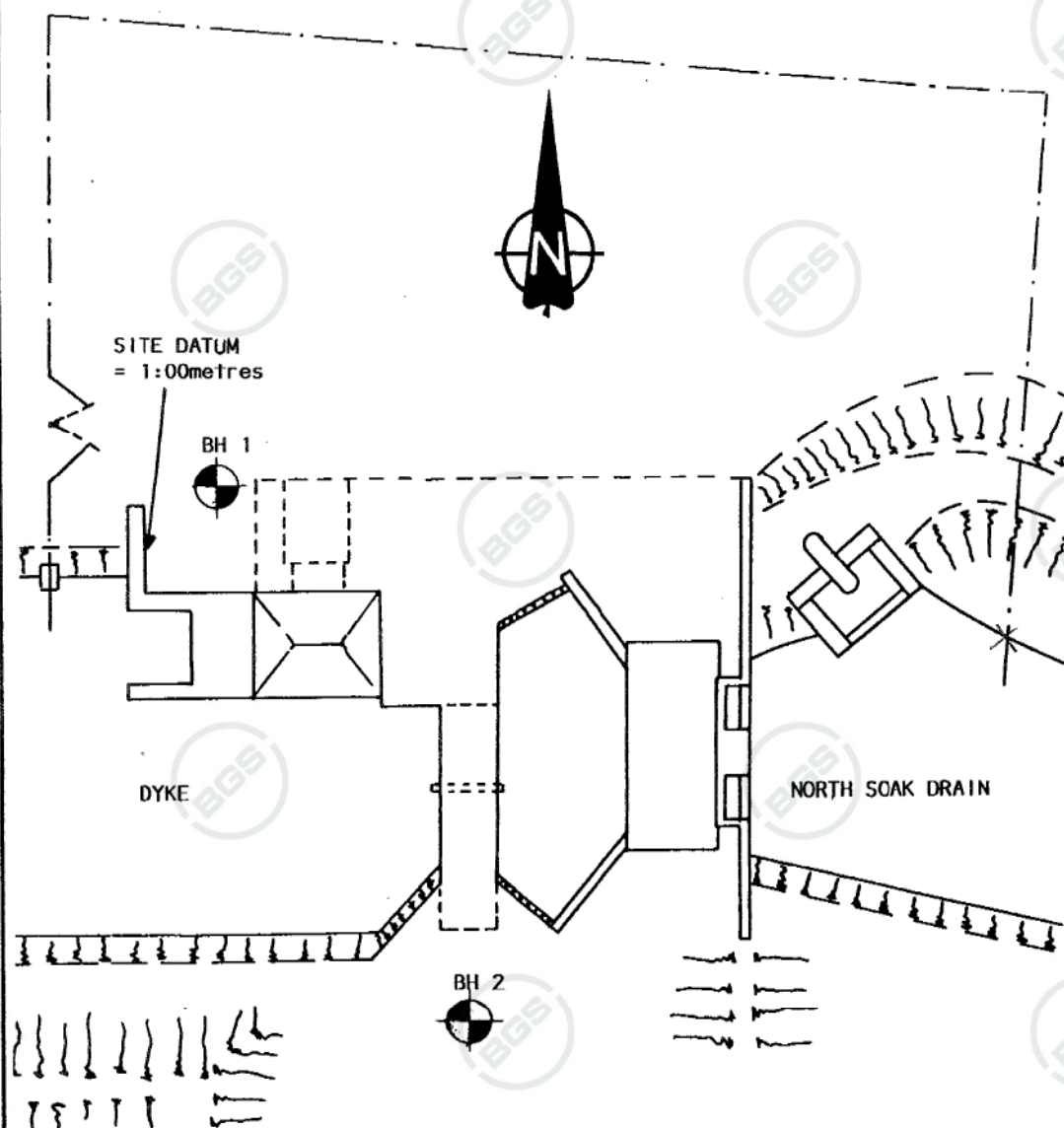
SE 71SW/37-38

SE 71SW/37-38

Norwest Holst Soil Engineering Ltd GROUND INVESTIGATION

Client; N . R . A .

Location; NEW ZEALAND P.S.



NB. Positions of Boreholes and/or Trial Pits are only indicative unless dimensioned.

Contract No; F9252

Title;

Scale; NOT TO SCALE

BOREHOLE LOCATION PLAN

Fig;

1

REF: 1000/99

UNEXPLODED BOMB RISK MAP

SITE LOCATION

Location: DN8 5SF,
Map Centre: 471808,412178



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](#).

Zetica cannot guarantee the accuracy or completeness of the information or data used and cannot accept any liability for any use of the maps. These maps can be used as part of a technical report or similar publication, subject to acknowledgement. The copyright remains with Zetica Ltd.

Appendix F

TECHNICAL BACKGROUND

Desk Study

Aquifer designation and Source protection zones (England and Wales)

Principal aquifer: layers of rock or drift deposit that have high intergranular and/or fracture permeability (usually providing a high level of water storage). They may support water supply and/or river base flow on a strategic scale.

Secondary A aquifer: 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.

Secondary B aquifer: predominantly lower permeability layers that may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering.

Secondary undifferentiated aquifer: it has not been possible to attribute either a category A or B to a rock type. In most cases this means that it was previously designated as both a minor and non-aquifer in different locations owing to the variable characteristics.

Unproductive strata: low permeability with negligible significance for water supply or river base flow.

The EA generally adopts a three-fold classification of source protection zones (SPZ) surround abstractions for public water supply. The Site is situated in an area defined as follows:

- Zone 1 or the 'inner protection zone' is located immediately adjacent to the groundwater source and is based on a 50-day travel time from any point below the water table to the source. It is designed to protect against the effects of human activity and biological/chemical contaminants that may have an immediate effect on the source
- Zone 2 or the 'outer protection zone' is defined by a 400-day travel time from a point below the water table to the source. The travel time is designed to provide delay and attenuation of slowly degrading pollutants
- Zone 3 or the 'total catchment' is the area around the source within which all groundwater recharge is presumed to be discharged at the source.

Future climate change considerations

Several data sources, based on UKCP18 data, are available with which climate change projections can be viewed. These are detailed in the following table. In order to enable a consistent approach in our risk assessment we have based our initial assessment on data available for RCP8.5 data for the far future (2080s) for an initial conservative risk screen.

Climate change induced effect	Source	Notes	Comment
Temperature	https://uk-cri.org	RCP 8.5 average temperature maps for far future (2071-2100), UKCP18 Regional, median, 12 x 12 km spatial resolution	Anticipated to be conservative. It has been assumed that a change of +/- 5% is unlikely to have a significant impact
Rainfall/recharge	https://uk-cri.org	RCP 8.5 annual rainfall for far future (2017-2100), UKCP18 Regional, median, 12 x	Anticipated to be conservative. It is anticipated that a change of +/- 5% is unlikely to have a significant impact for all sites. If a site is located in an urban

Climate change induced effect	Source	Notes	Comment
		12 km or Local Authority spatial resolution	area away from sensitive dependent receptors then a change of +/- 10% is unlikely to have a significant impact.
Flood risk maps for England/ Wales/ Scotland	https://check-long-term-flood-risk.service.gov.uk/risk (England), https://flood-map-for-planning.naturalresources.wales (Wales), https://map.sepa.org.uk/floodmaps/FloodRisk/FutureFloodMaps (Scotland)	Future flood maps are only available for England and Scotland.	Identify areas likely to be affected or at an increased risk from future flooding
Coastal erosion	https://www.gov.uk/check-coastal-erosion-management-in-your-area (England), https://naturalresources.wales/flooding/check-your-coastal-erosion-risk-national-coastal-erosion-risk-management-map/?lang=en (Wales), https://www.dynamiccoast.com/webmaps (Scotland)		Predicted coastal erosion rates. Includes for potential future scenarios to show how erosion may increase with rising sea levels because of climate change based on UKCP18 projections for a high missions scenario.
Shrink and swell potential	BGS Geoindex layer for GeoClimate UKCP18	GeoClimate UKCP18 (2030 to 2070)	Impossible, possible or probable that foundations will be affected by increased clay-shrink-swell

Preliminary risk assessment methodology

LCRM outlines the framework to be followed for risk assessment in the UK. The framework is designed to be consistent with UK legislation and policies including planning. An outline conceptual model should be formed at the preliminary risk assessment stage that collates all the existing information pertaining to a site in text, tabular or diagrammatic form. The outline conceptual model identifies potentially complete (termed possible) contaminant linkages (contaminant–pathway–receptor) and is used as the basis for the design of the site investigation. The outline conceptual model is updated as further information becomes available, for example as a result of the site investigation.

Production of a conceptual model requires an assessment of risk to be made. Risk is a combination of the likelihood of an event occurring and the magnitude of its consequences. Therefore, both the likelihood and the consequences of an event must be taken into account when assessing risk. RSK has adopted guidance provided in CIRIA C552 for use in the production of conceptual models.

The likelihood of an event can be classified on a four-point system using the following terms and definitions based on CIRIA C552:

- highly likely: the event 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: it is probable that an event will occur or circumstances are such that the event is not inevitable, but possible in the short term and likely over the long term



- low likelihood: circumstances are possible under which an event could occur, but it is not certain even in the long term that an event would occur and it is less likely in the short term
- unlikely: circumstances are such that it is improbable the event would occur even in the long term.

RSK also adopt a 'very unlikely' probability to account for where there may be increased certainty over whether an event is probable in the long term.

The severity can be classified using a similar system also based on CIRIA C552. The terms and definitions relating to severity are:

- severe: short term (acute) risk to human health likely to result in 'significant harm' as defined by the Environment Protection Act 1990, Part IIA. Short-term risk of pollution of sensitive water resources. Catastrophic damage to buildings or property. Short-term risk to an ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Draft Circular on Contaminated Land', DETR 2000)
- medium: chronic damage to human health ('significant harm' as defined in 'Draft Circular on Contaminated Land', DETR 2000), pollution of sensitive water resources, significant change in an ecosystem or organism forming part of that ecosystem
- mild: pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services ('significant harm' as defined in 'Draft Circular on Contaminated Land', DETR 2000). Damage to sensitive buildings, structures or the environment
- minor: harm, not necessarily significant, but that could result in financial loss or expenditure to resolve. Non-permanent human health effects easily prevented by use of personal protective clothing. Easily repairable damage to buildings, structures and services.

Once the probability of an event occurring and its consequences have been classified, a risk category can be assigned according to the following:

		Consequences			
		Severe	Medium	Mild	Minor
Probability	Highly likely	Very high	High	Moderate	Moderate/low
	Likely	High	Moderate	Moderate/low	Low
	Low likelihood	Moderate	Moderate/low	Low	Very low
	Unlikely	Moderate/low	Low	Very low	Very low
	Very Unlikely	Low	Very Low	Negligible	Negligible

Definitions of these risk categories are as follows together with an assessment of the further work that may be required:

- very high: there is a high probability that severe harm could occur or there is evidence that severe harm is currently happening. This risk, if realised, could result in substantial liability; urgent investigation and remediation are likely to be required



- high: harm is likely to occur. Realisation of the risk is likely to present a substantial liability. Urgent investigation is required. Remedial works may be necessary in the short term and are likely over the long term
- moderate: it is possible that harm could arise, but it is unlikely that the harm would be severe and it is more likely that the harm would be relatively mild. Investigation is normally required to clarify the risk and determine the liability. Some remedial works may be required in the longer term
- low: it is possible that harm could occur, but it is likely that if realised this harm would at worst normally be mild
- very low: there is a low possibility that harm could occur and if realised the harm is unlikely to be severe.



Pegasus Group

Tween Bridge Solar Farm – Area B

Phase 1 Desk Study

12081-R03(01)

RSK GENERAL NOTES

Project No.: 12081

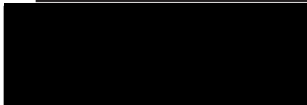
Title: Phase 1 Desk Study: Tween Bridge Solar Farm – Area B, Thorne , South Yorkshire, DN8 5SF


Client: Pegasus Group

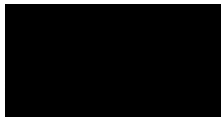
Date: August 2025


Office: RSK Environment Limited, Fourways House, 57 Hilton Street, Manchester, M1 2EJ. Tel 0161 2362757

Status: Final Version

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Signature

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Quality reviewer Maeve Quigley-Bramhall

Signature

Revision control sheet				
Revision ref.	Date	Reason for revision	Amended by:	Approved by:
00	26/06/25	First issue	n/a	see above
01	22/08/25	Amends to drawing	Alex Smiles	Emma Hobbs

RSK Environment Limited (RSK) has prepared this report for the sole use of the client, showing reasonable skill and care, for the intended purposes as stated in the agreement under which this work was completed. The report may not be relied upon by any other party without the express agreement of the client and RSK. No other warranty, expressed or implied, is made as to the professional advice included in this report.

Where any data supplied by the client or from other sources have been used, it has been assumed that the information is correct. No responsibility can be accepted by RSK for inaccuracies in the data supplied by any other party. The conclusions and recommendations in this report are based on the assumption that all relevant information has been supplied by those bodies from whom it was requested.

This work has been undertaken in accordance with the quality management system of RSK Environment Ltd. No part of this report may be copied or duplicated without the express permission of RSK and the party for whom it was prepared.

Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

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FIGURES

- Figure 1 Site location plan
- Figure 2 Area boundary plan

APPENDICES

Appendix A	Service constraints
Appendix B	Project-related sustainability considerations
Appendix C	Development drawings
Appendix D	Environmental database report
Appendix E	Third party data
Appendix F	Technical background

1 EXECUTIVE SUMMARY

Commissioning and purpose of assessment	<p>RSK Environment Limited (RSK) was commissioned by Pegasus Group to carry out a Phase 1 Desk Study of the land at Tween Bridge, Thorne, South Yorkshire, DN8 5SF, at approximate grid reference 471579 413695.</p> <p>The overall aim of the project was to assess geo-environmental and geotechnical constraints to the proposed development to inform the Ground Conditions element of an Environmental Impact Assessment (EIA).</p>
DESK-BASED ASSESSMENT	
Site description and proposed development	<p>The site, covering 131 hectares, consists of agricultural land with a structured drainage network, including primary channels along Moor Bottom Road. Key landscape features include Lovers Ground. The Warpings, and the Old River Don channel, which flows south to northeast. The proposed development is for a ground mounted solar photovoltaic electricity generating scheme covering approximately 1300 hectares over six 'areas' labelled Area A to Area E. This report presents information relating to Area B of the development.</p>
History of site and surrounding area	<p>The site has been extensively drained since at least the 1850s, supporting long-term agricultural use. By 1890, Warping activities were introduced to enhance soil fertility, while the Medge Hall Peat Works, operational between circa 1890 and 1951, contributed to peat extraction and processing, with tramway lines facilitating transport. Off-site, a disused brickworks (1885–1955) was located south of the site, and the Crowle Sewage Treatment Works, established in 1951, remains active southeast of the site.</p> <p>Two World War II airfields are located at a significant distance from the site, however Heritage Environmental Records identify two possible crash sites within the site boundary, with reports suggesting the wreckage sank into the peat. Given these findings, a detailed UXO risk assessment is recommended prior to construction.</p> <p>Potential on-site contamination sources include made ground linked to Medge Hall Peat Works and Lovers Ground Farm, as well as former tramway sidings in the southwestern section. Surrounding potentially contaminative activities include made ground from brickworks demolition, peat works to the north, an active railway line along the southern boundary, and sewage works southeast of the site.</p>
Previous site investigation (SI) reports	<p>There are no previous SI reports available for the site.</p>
Geology and environmental setting	<p>The site is underlain by Flandrian alluvium and peat, with peaty, loamy, and clayey topsoil and subsoil, likely incorporating warp material from historical silt deposition.</p> <p>Environmental receptors identified comprise:</p> <ul style="list-style-type: none"> • Groundwater within the warp and alluvium deposits classified as a secondary A aquifer. • Surface water within multiple drainage ditches and the Old River Don located on site. • The site is located near several designated sensitive land uses, including a Special Area of Conservation (SAC), Special Protection

	Area (SPA), Site of Special Scientific Interest (SSSI), and National Nature Reserve (NNR), adjacent north of site.
Geotechnical constraints assessment	<ul style="list-style-type: none"> • Made ground associated with the development and demolition of Lover's Ground Farm and Medge Hall Peat Works. • Made ground present offsite associated with the development and demolition of the brick works to the south and peat works to the north. • Worked peat deposits (condition and stability remain uncertain at this stage). • Unknown extent of existing buried services. • Highly compressible strata anticipated in areas of peat and soft alluvium clay of which may affect ground engineering and foundation design and construction of substation compounds. • Silt-rich soils such as glaciolacustrine deposits and warp material susceptible to rapid loss of strength in wet conditions of which may affect ground engineering and foundation design of larger structures. • High groundwater tables are unlikely to impact temporary or permanent works in well-drained areas of the site however, they may pose a consideration in peatland zones. • Potential made ground present in isolated areas of the site may be susceptible to differential settlement, which could impact ground engineering, foundation design, and construction stability.
Initial conceptual site model (CSM) and preliminary risk assessment (PRA)	<p>Potentially complete contaminant linkages identified with a risk estimate of moderate to low or above include:</p> <ul style="list-style-type: none"> • Moderate/Low: On-site made ground and historic tramway land – Surface water within drainage ditches and the Old River Don – Migration via runoff through drainage. <p>Uncertainties and data gaps have been identified in the CSM at desk study stage and should be considered in the design of future intrusive investigation if proposed.</p>
<p><i>The information given in this summary is necessarily incomplete and is provided for initial briefing purposes only. The summary must not be used as a substitute for the full text of the report.</i></p>	

2 INTRODUCTION

2.1 Commissioning

RSK Environment Limited (RSK) were engaged by Pegasus Group, herein referred to as the 'Client', to carry out a phase 1 Desk Study at the land at Tween Bridge, Thorne, South Yorkshire DN8 5SF.

The proposed development is for a ground mounted solar photovoltaic electricity generating scheme covering approximately 1300 hectares over six land parcels labelled Area A to Area E. This report presents information relating to Area B of the development.

The works were undertaken by means of RSK fee proposal reference 12081 TL01 (01) dated 19 March 2025 including RSK Standard Terms and Conditions which forms the appointment between ourselves and the Client.

References in this report to 'we', 'us', or 'our' shall mean RSK Geosciences a trading name of RSK Environment Limited (company no.SC115530) at registered address 65 Sussex Street, Glasgow, G41 1DX.

The site location is provided in **Figure 1** and the area boundary plan to which this report refers is presented in **Figure 2**.

The report should be read and used in accordance with the limitations and constraints identified in the report text, and at **Appendix A – Service Constraints**.

2.2 Objectives

The site is being considered for development for industrial use as a solar farm.

The objective of the work is:

- To identify contamination and geotechnical constraints to the proposed development.
- To develop a baseline assessment of contamination and geotechnical data to support the Ground Condition elements of an Environmental Impact Assessment (EIA).

2.3 Scope of works

The scope of works has been developed in accordance with relevant British Standards and authoritative technical guidance as referenced through the report. The assessment of the contamination status of the site is in line with the technical approach presented in Land Contamination Risk Management (LCRM) (Environment Agency, 2023) and in general accordance with BS 10175: 2011 + A2 2017 (BSI, 2017). It is also compliant with relevant planning policy and guidance, i.e. national planning frameworks and policies.

The scope of works for the assessment has included the following:

- Obtain and review all historical, local authority, geological, permitting and other statutory records for the site via the purchase of a Groundsure site report.

- Review and summarise the most salient points from these records into a factual account of site conditions such that an appreciation of the sites history, environmental setting and geological characteristics can be obtained.
- Where available, review and briefly summarise any ground investigation information for the site.
- Collate a preliminary conceptual model of the site within which geo-environmental and geotechnical risks are considered and rated in accordance with the EA LCRM methodology.
- Recommendations for further investigations, if required.
- Produce factual and interpretive Preliminary Risk Assessment Report (this report).

2.4 Existing reports

No existing reports relevant to the site assessment have been provided to RSK.

2.5 Sustainability considerations

One of RSK's guiding principles is 'promoting the concept of sustainability in all that we do'. The RSK Group Second Nature 2030 Sustainability Strategy (RSK, 2023) confirms our commitment to embedding sustainability throughout our business and creating lasting positive impact for our planet and its people by delivering sustainability in all that we do.

This is supported by RSK Geosciences' Sustainability Policy, which sets our aspiration to provide industry-leading site assessment services to our clients to achieve more sustainable and climate resilient development and to support circular economy, decarbonisation and nature-based solutions. We also recognise that we have a responsibility to reduce our own business-related emissions. In this way our business activities are aligned with and contribute to meeting several of the UN Sustainable Development Goals (SDGs), as well as supporting pathways to net zero and circular economy.

Sustainability considerations have therefore been taken into account during the design, planning and implementation stages of the project as described in this report. Our approach prioritises sustainability by integrating Sustainable Management Practices (SMPs) across the project lifecycle, to reduce our project-related emissions and help our client achieve more sustainable outcomes for their projects. SMPs were originally published by CL:AIRE (CL:AIRE, 2021a) and further developed by RSK Geosciences as an in-house tool. Further detail is provided in **Appendix B**.

Where applicable, consideration has been made throughout this report to align the recommendations with circular economy, sustainable development and climate resilience.

2.6 Limitations

This report is subject to the RSK service constraints given in **Appendix A** and limitations that may be described below and throughout this document.

This report was prepared in accordance with good practice guidance and available datasets at the time of issue. Consideration should be considered in the light of changes in legislation, statutory requirements, or industry practices subsequent to the date of issue.

The opinions expressed in this report, and the comments and recommendations given, are based on the information obtained from the desk assessment. No intrusive investigations have been undertaken to confirm the actual ground conditions and hence the environmental status of the site.

The study aims to principally identify and assess the potential risks and liabilities associated with contamination of the ground, on and in the vicinity of the site. While this includes consideration of current operations and housekeeping on the site, the report does not constitute a comprehensive environmental audit of the site, as covered under ISO 14001.

Although asbestos may not have been encountered as part of these works, asbestos could be present in soil in discrete areas and may be encountered in future ground investigation.

A detailed survey of invasive plant species is outside the scope of this investigation therefore detailed comments with regards to such species have been omitted from this report.

The comments given in this report and the opinions expressed are primarily based on third party data and investigations, while RSK have undertaken a review of the information provided RSK cannot be held liable for the quality of the data provided. There may be conditions pertaining to the site that have not been disclosed by the investigations and therefore could not be taken into account.

3 SITE DETAILS

3.1 Site location

Site location details are presented in **Table 1** and a site location plan is provided on **Figure 1**.

Table 1 Site location details

Site name	Tween Bridge Solar Farm
Full site address and Post code	Thorne, South Yorkshire, DN8 5SF
National Grid reference (centre of site)	475348, 412647

3.2 Site description

The area boundary plan is shown on **Figure 2**. The site, covering approximately 131 hectares, is irregular in shape and situated east of Tween Bridge Wind Farm and west of Crowle. It is primarily composed of agricultural land, lying between 1 - 4 meters Above Ordnance Datum (AOD).

To the north, the site is bounded by Crowle Moors, a lowland raised bog that forms part of the Humberhead Peatlands. The southern boundary is defined by the Thorne South railway line, which runs parallel to the Stainforth and Keadby Canal, flanked by the North and South Soak Drains.

The site's drainage network is structured, with primary drainage features running alongside Moor Bottom Road, channelling water from the southwest to northeast through a series of rectilinear subsidiary drains. In the southwestern section, the area known as 'Lovers Ground' is notable, while the central-northwest portion includes a landscape termed 'The Warpings'. The Old River Don channel crosses the southeastern section as a relatively narrow drainage ditch, exhibiting a south-to-northeast flow.

3.3 Surrounding land uses

The site is located in Doncaster, within a predominantly agricultural setting. Immediate surrounding land uses are described in **Table 2**.

Table 2 Surrounding land uses

North	Crowle Moors borders the site to the north
East	Crowle town is situated approximately 500 m east
South	Thorne South railway line defines the southern boundary, beyond which lies the Dirtiness Levels
West	Tween Bridge Wind Farm situated circa 850 m west

3.4 Proposed development plans

The proposed development comprises the construction, operation, maintenance and decommissioning of a ground mounted solar farm with an intended design capacity of over 50 MWp (megawatts peak), and a battery energy storage facility with an export/import connection to the National Grid.

The scheme is likely to include the following key works, the indicative locations of some of which are shown on RWE Figure 2.2: Indicative Operational Layout Plan (Rev 1) dated June 2025 included in **Appendix C**.

- Solar PV modules and associated mounting structures.
- On-site supporting equipment including inverters, transformers and switchgear.
- A battery energy storage system (BESS), indicatively split into four separate compounds. They would each be located next to one of the seven on-site 33 kV/132 kV substations.
- The solar PV modules and BESS would be connected to one of the seven on-site 33 kV/132 kV substation compounds. These are necessary to step up the voltage of the electricity delivered by the solar PV modules from 33 kV to 132 kV for onward transmission to the RWE on-site 400 kV Substation.
- Works to establish environmental and ecological mitigation and enhancement measures.
- Upgrades to existing tracks/roads and creation of new access tracks and site entrances.
- Directional drilling for cable works for various crossing including: drainage ditches, canal, railway, and the M180.
- Culverts and upgrades to existing culverts.
- Fencing and Security Measures.
- Permissive pathways and bird viewing gallery.
- Temporary development during the construction phase of the Scheme including construction compounds, parking and temporary access roadways to facilitate access to all parts of the site.

No details of the proposed ground levels have been provided therefore for the purpose of this report it has been assumed that the current levels will remain unchanged.

4 DESK-BASED ASSESSMENT

The desk-based assessment was designed to generally meet the objectives of a preliminary or Phase 1 investigation, as defined by BS 10175:2011+A2:2017 (BSI, 2017) and BS 5930:2015, and is set in context of a Tier 1 preliminary risk assessment as defined in LCRM.

The "vicinity" of the site for the purposes of this report is defined as locations situated within an approximate 250 m radius of the site, although certain sources and/or sensitive targets further than 250 m distance from the site may also have been considered.

4.1 Site history

4.1.1 Historical development record

The development history of the site and surrounding area based upon assessment of historical plans and records is detailed in **Table 3** and **Table 4**, respectively.

The historical maps reviewed are shown within the environmental database report in **Appendix D**.

Table 3 Summary of historical development on site

Date from	Date to	Historical Land Use (on-site)	Area of site
1853	Present	Agricultural fields	Encompasses the site
1853	2010	Lover's Ground Farm	Southern portion
1885	Present	Old River Don	Transects southeastern portion
1890	Present	Moor Middle Drain	Northwestern portion
1890	Present	Moor Bottom Drain	Transects central portion
1890	Present	The Warpings	Central and northwest portions
1890	1951	Tramway lines	Transverse southwestern leg
1890	2001	Medge Hall Peat Works	Transverse southwestern leg
1906	Present	Crook o' Moor Drain	Partially define the sites western boundary

Date from	Date to	Historical Land Use (on-site)	Area of site
2001	Present	Water Pumping Station	Southwestern corner of the site

Table 4 Summary of historical development in the vicinity of the site

Date from	Date to	Historical Land Use (off-site)	Distance (m) and orientation
1853	Present	Stainforth and Keadby Canal	45 m S
1853	Present	North Soak Drain and South Soak Drain	Flanking the Stainforth and Keadby Canal
1885	Present	Thorne South Railway Line	Adjacent S of the site
1885	1955	Disused Brick Works	159 m S
1906	Present	Crowle Waste or Moors	Adjacent N of the site
1951	Present	Crowle Sewage Treatment Works	143 m SE
1968	2001	Peat Works	238 m N
2010	Present	Pond feature	25 m SW

Historical maps indicate that the site has been drained by a network of rectilinear subsidiary drains since the 1850s, facilitating its long-standing use as agricultural land. The Old River Don, recorded on maps since 1885, crosses the southeastern section.

In the northwestern and central portions, an area known as The Warpings appears from 1890, suggesting the deliberate deposition of river sediment onto fields to improve soil fertility; a practice historically used to enhance agricultural productivity.

The BGS Memoir confirms that Warp is artificial improved soil created by historical ‘floodwarping’, or occasionally ‘cartwarping’, undertaken between the 1700’s to mid 20th Century. It used the suspended silt and clay in rivers and reversal of flow during high tides. An area is embanked and a warping drain cut from it to the nearest river. Sluice gates at the river end of the drain are opened at high tide, allowing sediment-rich water to flood in and deposit silt. The water is let back slowly into the river at low tide.

Each flooding creates c. 2 mm of deposit, and up to 300 mm could be left in a single year. The thickest known floodwarp is 1.5 m. The soil deposited is light, silty and well-drained. It is recognisable by laminations below plough level, pre-existing soil beneath, traces of old embankments, differences in field levels or documentary evidence.

The Medge Hall Peat Works, located on the southwestern leg of the site, operated between circa 1890 and 1951, indicating a period of peat extraction and processing. Tramway lines, also present within this area, likely supported peat operations by facilitating the transport of harvested peat. These railways connected local extraction sites to processing facilities and distribution networks, integrating the site into the broader peat industry of the Isle of Axholme.

The key potential contaminative land uses identified from the available historical maps include:

- On-site:
 - Possible made ground associated with Medge Hall Peat Works, a water pumping station and Lovers Ground Farm.
 - Former tramway sidings traversing the sites southwestern leg.
- Off-site:
 - Made ground resulting from development and demolition of the brick works to the south.
 - Possible made ground associated with the peat works located north of the site.
 - Active railway line adjacent to the sites southern boundary.
 - Sewage works positioned to the southeast of the site.

4.1.2 Unexploded ordnance

A review of publicly available UXO risk maps indicates that Areas B is located in an area with low potential for wartime ordnance (Zetica, 2025). However, it's important to note two World War II airfields were situated outside the sites boundary. RAF Lindholme, approximately four miles south of Thorne, was used for bomber command, training and radar operations before later becoming HM Prison Lindholme in 1985. RAD Sandtoft, a satellite airfield to Lindholme, closed in 1945 and is now used for vehicle storage, a flying club and the Trolleybus Museum.

While the majority of RAF Sandtoft was located south of the M180, a bomb store area extended near Woodcarr Small Drain, with potential ordnance storage bunkers identified at 475550, 409150. Anecdotal reports suggest several WWII air crashes occurred in the vicinity, including a Lancaster bomber, though its exact location remains unclear. Heritage Environment Records indicate two possible crash sites within the site boundary at Lover's Ground and the Old River Don, with accounts suggesting the wreckage sank into the peat.

Given these historical factors, a detailed UXO risk assessment of the site and its surrounding area is recommended prior to construction.

4.2 Information from environmental database report

Relevant environmental permits and incidents detailed within the environmental database report (see **Appendix D**) are summarised below in **Table 5**.

Table 5 Summary of environmental permits, landfills and incidents

Data type	Entries on-site	Entries <250 m from site	Entries >250 m from site of relevance	Details
Agency and hydrological				
Environmental permits – incorporating Environmental Permitting Regulations (EPR) and/or Pollution Prevention and Control (PPC) permits; former Integrated Pollution Controls (IPC), Local Authority Pollution Control (LAPC)	0	0	0	-
Enforcement and prohibition notices	0	0	0	-
Pollution incidents to controlled waters, Prosecutions relating to controlled waters, Substantiated pollution incident register, Water Industry Act referrals	0	2	6	Offsite <250 m: 19 m SW, incident identification: 340918 dated 24/08/2005. Pollutant: sewage material Water impact: Cat 2 (significant) Offsite <250 m: 90 m SW, incident identification: 1321857 dated 19/03/2015. Pollutant: oils and fuel Water impact: Cat 2 (significant)
Discharge consents	0	1	16	Offsite <250 m: 196 m SW, Crook O'Moor Farm, Crowle, permit number: T/83/00850/S version 1. Effluent type: Sewage discharges- final/treated. Receiving water: Trib of Brierholme Carr Drain. Effective date: 14/08/1961. Status: Post NRA legislation where issue date >31/08/1989 (historic only) Offsite >250 m: 282 m E, Crowle STW, permit number: T/84/08177/R version 1. Effluent type: Sewage discharge-final/treated. Receiving water: Paupers Drain. Effective date: 14/10/1980. Status: Pre NRA legislation where issue date 01/09/1989 (historic only)

Data type	Entries on-site	Entries <250 m from site	Entries >250 m from site of relevance	Details
Registered radioactive substances	0	0	0	-
Landfill and waste				
Active landfills	0	0	0	-
Historic/closed landfills	0	0	0	-
Other waste management licences	4	9	57	On site: Storing waste exemption. Description: Storage of waste in secure containers. Offsite <250 m: Crook O'Moor Farm DN8 5SP. Disposing of waste exemption on a farm-burning waste in the open.
Potentially in-filled land (pit, quarry, pond, marsh, river, stream, dock etc)	0	0	0	-
Hazardous substances/industrial land uses				
Control of Major Accident Hazards (COMAH) sites	0	0	0	-
Explosives sites, Notification of Installations Handling Hazardous Substances (NIHHS), Planning hazardous substance consents/enforcements	0	0	0	-
Contaminated land Part 2A register entries and notices	0	0	0	-
Fuel station entries	0	0	0	-
<i>Note: Entries have only been included within the table where they are located within a 250 m radius of the site or, where they fall outside of this radius but are considered to comprise a significant entry.</i>				

4.2.1 Contemporary trade directory entries

Active potentially contaminative land uses identified in the contemporary trade directory and with potential to affect the site are identified as:

- Tween Bridge Moor Turbine located 97 m west.

- Crowle Sewage Treatment Works located 143 m southeast.

Inactive potentially contaminative land uses identified in the contemporary trade directory includes:

- Medge Hall Peat Works located within the sites southwestern leg.
- Brick Works located 159 m south.

4.3 Information from regulatory authorities

4.3.1 Planning records

There are no planning records held by the Local Authority Planning Department pertaining to the site and relevant to the current assessment.

4.3.2 Site services

Obtaining a full set of service plans was outside the scope of this report.

Buried utility services and their backfill can represent a constraint to development and act as preferential migration pathways for gas, vapour or groundwater towards a receptor.

4.4 Site geology

4.4.1 Anticipated geological sequence

Published records (British Geological Survey, 2025) for the area and available historical borehole logs indicate the geology of the site to be characterised by the succession recorded in **Table 6**.

There are six publicly available BGS historical boreholes located in the vicinity of the site, a selection of which are presented in **Appendix E**.

Table 6 Site geology

Strata	Strata	Description	Depth (m)
Area B – (Old River Don) (based on sparse borehole information immediately south of Area B and the canal)	Topsoil/Subsoil	Peaty, loamy and clayey	GL to 0.1 – 1.0
	Flandrian Alluvium and Peat	Very soft grey and brown organic alluvial clay/silt	0.3 – 1.0 to 1.5 – 2.5
		Very soft or soft clayey peat	0.3 – 1.0 to 1.5 – 9.5
		Soft organic alluvial clay/silt or firm clayey sandy silt	1.5 – 9.5 to 5.0 – 12.0
	Hemingbrough Formation	Loose becoming medium dense laminated clayey sandy silt and firm silt/clay, gravelly in parts	5.0 – 12.0 to 10.0 – 12.0
	Sherwood Sandstone Group	Weak, occasionally very weak red brown medium to coarse grained sandstone, becoming weak to medium strong. With occasional very weak to weak thinly laminated mudstone	Below 11.0 – 14.5+
	Mercia Mudstone Group	Medium dense or dense red brown clayey sand to very weak sandstone/mudstone	10.0 – 12.0+
Relevant information sources: BGS Geoindex ☒ BGS borehole logs ☒ Previous SI reports ☐			

4.4.2 Peat

Peat working has historically taken place at Crowle Moor (east of Area B). Thick peat deposits also occur to the south on Hatfield Moor (south of Area C) and to the north on Thorne Moors (north of Area A), which were exploited for centuries by block cutting, and more recently by surface milling.

Although not proven, peat is anticipated to be present in the Old Don River channel at depths between 0.3 – 1.0 to 1.5 – 9.5 m.

The deposits are the remains of lowland raised bog, or raised mire fenland, extending beyond the designated conservation moorland. The deposits lie both within and beneath the Alluvium, in areas flanking the deep incised river courses, in particular due to poor drainage and waterlogging in the late Flandrian period.

The BGS reports that Thorne Moor was formerly more extensive before peat cutting in the west and southwest, and floodwarping northeast, east and south. Original estimated thicknesses of 6 m on Thorne Moor have been significantly reduced by workings to around 3 m, and some areas are flooded. BGS state that peat cropping out between Crowle and Sandtoft has not been proven to more than 0.7 m depth, despite a significant lateral extent.

Irregular peat outcrops between Thorne Moors and Crowle Moor, are reported to thin out against the underlying Hemingbrough silts and clays or Blown Sutton Sand, or pass under floodwarp or natural Alluvium of the old River Don. There has been compression of the original peat thickness where floodwarp deposits overlie it.

Peat stability will therefore require consideration during detailed design at any specific locations where intrusive investigation proves a sufficient peat thickness would be intersected by the proposed construction (e.g. new accesses, structures).

4.4.3 Radon

A radon 'Affected Area' is where 1% or more homes are estimated to be above the radon Action Level of 200 Bq m⁻³. Although the radon data used in production of the radon atlas comes from measurements in homes, the maps indicate the likely extent of the local radon hazard and is thus applied in all buildings.

The environmental database report indicates that the site is not located within a radon 'Affected Area' and therefore radon protection measures are not considered to be necessary in the construction of non-domestic buildings.

4.5 Mining and quarrying

A review has been conducted to identify past and present mining, quarrying, landfilling, and land reclamation activities within 1 km of the site. The initial site appraisal is based on information from the Mining Remediation Authority Interactive Viewer (UK Coalfield areas) and a commercial environmental database report detailing non-coal mining activities.

4.5.1 Coal mining area

The site lies within the Mining Remediation Coal Reporting Area, underlain by Coal Measures bedrock, with the Kent Thin Coal Seam mapped at approximately 700 m bgl (Geological Survey of England and Wales, New Series 1:63 360/1:50 000). However, due to the depth of the coal seam and the site's exclusion from the Development High Risk Area, there are likely no recorded coal mining legacy hazards at shallow depths that could pose a risk to public safety or surface stability. In these locations there is no requirement under the current planning regime to complete a CMRA.

4.5.2 Areas of other (rock or mineral) mining

There is localised evidence of near surface workings where extractable deposits occur at the surface. The following details on aggregate workings, ponds and peat workings have been summarised within **Table 7**.

Table 7 Site geology

Location	Surface Working Type	Comment
33 m NW	Water body (former River Don)	1908 map
160 – 165 m S	Brickworks disused	1885 – 1951 maps
Off Site to the N	Peat Workings	Historical

4.6 Hydrogeology

A summary of the hydrogeological setting of the site, with respect to the anticipated geological sequence set out in Section 4.5 is presented below in **Table 8**.

Table 8 Summary of hydrogeological setting

Condition	Description
Aquifer characteristics	<p>The permeable horizons within the warp and alluvium superficial deposits function as Secondary A Aquifers, whilst the peat and laminated silt/clay deposits are classified as unproductive strata. The underlying Mercia Mudstone Group forms a Secondary B Aquifer, providing limited groundwater storage and flow due to its lower permeability. Meanwhile, the Sherwood Sandstone Group serves as a Principal Bedrock Aquifer, characterised by high permeability and significant groundwater resources.</p> <p>Groundwater vulnerability within the Secondary Superficial Aquifers varies across the site. The majority of the area exhibits high vulnerability, whereas the western portion, where peat deposits are anticipated, demonstrates a low to medium vulnerability classification.</p>
Depth to groundwater and flow	<p>The anticipated depth to the groundwater table is in the order of 1.5 – 3.5 m below ground level (bgl) estimated from BGS logs. However, in locations near drainage ditches, groundwater may be maintained at greater depths due to local drainage influences.</p> <p>Shallow groundwater in the site area is anticipated to flow in a northeast direction, towards and in the direction of flow of the Old River Don.</p>
Rising groundwater levels	<p>Peat deposits are anticipated within the site, as evidenced by data from the BGS map viewer and borehole records. Groundwater levels in these areas may be subject to fluctuation, influenced by a range of factors. These include variations in precipitation, land management interventions such as the obstruction of drainage ditches or rewetting efforts and natural hydrological changes that modify the movement of water into the peatland.</p>
Groundwater recharge/attenuation	<p>As the site is unsurfaced, water is expected to infiltrate directly into the ground. The organic-rich and fibrous properties of peat naturally slow the movement of water, acting as a buffer that moderates flow, stabilises groundwater levels, and reduces the risk of downstream flooding.</p>
Historical implications for hydrogeology	<p>The site's hydrogeology has been significantly influenced by historical peat extraction and an extensive drainage network. The removal of peat reduces groundwater retention, leading to lower water tables and an elevated risk of subsidence, as the organic-rich material is depleted.</p> <p>The extensive system of drainage ditches, originally established to regulate water flow, promotes rapid surface runoff, restricting groundwater recharge and shaping local hydraulic gradients.</p>
Licensed groundwater abstractions	<p>The environmental database report indicates that there are no groundwater abstractions within a 1 km radius of the site.</p>
Source protection zones	<p>Information available in the Envirocheck report/MAGIC website indicates that the sites southwestern leg falls within Zone 3 (Total Catchment) of the groundwater Source Protection Zone (SPZ). The designation is associated with an abstraction borehole at Sandtoft Road Pumping Station, located over 2 km southwest of the site.</p> <p>Details of the SPZ designation are contained in Appendix D.</p>

4.7 Hydrology

A summary of the hydrology within the site area is summarised in **Table 9**.

Table 9 Summary of hydrology in site area

Condition	Description
Surface watercourses/features	<p>Mapping indicates numerous drainage ditches forming a rectilinear grid of interconnected water channels across the site, with additional water courses within influential distance of the site. Key watercourses include:</p> <ul style="list-style-type: none"> • Old River Don – flows in a northeastern direction and crosses the southeastern section of the site. • Main drainage – Crook o' Moor Drain, Moor Middle Drain and Moor Bottom Drain flow southwest to northeast. • Stainforth and Keadby Canal (Sheffield and South Yorkshire Navigation) – with North and South Soak Drains running parallel on either side, adjacent to the sites southern boundary. • Pond Feature – situated 25 m southwest of the site.
Surface water abstractions	The environmental database report indicates that there are nine current licensed surface water abstractions within a 1 km radius of the site. Of these, three are located on site, directly utilised for spray irrigation from Old River Drain and Crook o' Moor Drain.
Site drainage	This low-lying site has undergone extensive artificial drainage modifications for centuries, as evidenced by historical records. The landscape is defined by a network of rectilinear ditches, creating an interconnected system of water channels. Over time, significant interventions, including major river diversions, the excavation of additional drainage ditches and dykes, and localised field drainage improvements, have been necessary to mitigate flooding, control surface water runoff, and enhance agricultural productivity, shaping both historical and modern land use.
Preliminary flood risk assessment	According to EA Flood Map for Planning data, the site is classified as Flood Zone 3 for river and sea flooding, indicating a high annual probability of flooding, exceeding 3.3%. While a flood risk assessment is not included in this report, considerations for long-term flood risks are addressed in Section 4.10.

4.8 Sensitive land uses

Table 10 provides a summary of any environmentally sensitive areas identified within 250 m of the site based on the environmental database report.

Table 6 Environmentally sensitive areas

Feature	Present within 250 m of site?	Details	Likely pathways from site?
International designations – Ramsar wetland, Special Area of Conservation (SAC), Special Protection Area (SPA)	Yes	<p>SAC: Thorne Moor, adjacent north (active and degraded raised bogs).</p> <p>SPA: Thorne and Hatfield Moors, adjacent north (European</p>	<p>Yes</p> <p>Potential for surface water runoff, drainage system connectivity and groundwater movement</p>

Feature	Present within 250 m of site?	Details	Likely pathways from site?
		nightjar habitat).	
National designations – Site of Special Scientific Interest (SSSI), National Nature Reserve (NNR), ancient woodland	Yes	SSSI: Thorne, Crowle and Goole Moors, adjacent north NNR: Humberland Peatlands, adjacent north	Yes Potential for surface water runoff, drainage system connectivity and groundwater movement
Local designations – Local Nature Reserve, Site of Importance for Nature Conservation (SINC)	No	-	-
Nearest high sensitivity development, e.g. residential	No	-	-

4.9 Future climate change impacts

In accordance with planning policies and guidance (e.g. LCRM), there is a need to consider the effects of future climate change and associated *extreme weather events* (EWE) on the CSM and identified potential contaminant linkages, along with the implications for risk assessment and *remediation*. Further background details are provided in **Appendix B**.

Table 11 contains a preliminary assessment of future projected climate change impacts that may be relevant to the site. As all parts of the UK are projected to experience temperature rises so this is not included in the table. Cascading effects of temperature rise are considered via changes in precipitation, flood, heatwaves and drought. This is based on a 'reasonable worst case' scenario. Where considered necessary, qualitative consideration of climate change is provided for specific linkages in the risk assessment and as an uncertainty in the CSM.

Extreme weather has historically occurred and will always occur in the UK. Extreme weather can include extremes of precipitation, heat, drought and cold. As a result of climate change extreme is anticipated to become more intense and frequent across the UK.

RSK considers that sites that are likely to be more susceptible to climate change effects to be those located on or near to the coast and at risk of coastal flooding, or erosion and those located within the flood plain.

Table 7 Potentially relevant future projected climate change and EWE site impacts

Climate impact risk factors	Relevant to site?	Discussion
Projected significant changes in annual infiltration rates (+/- 5%)	Y	<ul style="list-style-type: none"> Ground cover (the site is covered by soft standing) Network of drainage ditches transecting across the site
Future flood risk areas due to river and/or coastal flooding	Y	<p>The nearest waterbody is the Old River Don. The yearly chance of flooding based on the current climate is assessed as high. The yearly chance of flooding projected between 2036 and 2069 as a result of climate change is assessed to be high. The overall long term flood risk is anticipated to increase as a result of climate change.</p>
Future surface water flood risk (i.e. due to inundation of drainage systems)	Y	<p>The yearly chance of flooding based on current climate is assessed as very low. The yearly chance of flooding projected between 2040 and 2060 as a result of climate change is assessed to be very low.</p> <p>The overall long term flood risk is anticipated to stay the same as a result of climate change.</p>

5 SITE RECONNAISSANCE FINDINGS

A site reconnaissance survey has not been undertaken by RSK, as a previous survey was conducted by Intégrale in early November 2022. Using desk based information, it is evident that the majority of the site has remained unchanged since that time. Additionally, time constraints associated with the current project scope limited the feasibility of conducting an updated survey.

6 PRELIMINARY GEOTECHNICAL CONSTRAINTS

6.1 Design class

BS EN 1997-1 defines three different Geotechnical Categories that structures may fall into, which are summarised as follows:

- Category 1: Small and relatively simple structures for which it is possible to ensure that the fundamental requirements will be satisfied on the basis of experience and qualitative geotechnical investigations; with negligible risk.
- Category 2: Conventional types of structure and foundation with no exceptional risk or difficult ground or loading conditions.
- Category 3: Structures or part of structures, which fall outside limits of Geotechnical Categories 1 and 2. Examples include very large or unusual structures; structures involving abnormal risks, or unusual or exceptionally difficult ground or loading conditions; structures in highly seismic areas; structures in areas of probable site instability or persistent ground movements that require separate investigation or special measures.

Based on the information provided above on the proposed development and in view of the anticipated ground conditions, a Geotechnical Category of Category 1 has been assumed for the purposes of designing the geotechnical investigation. This should be reviewed at all stages of the investigation and revised where necessary.

6.2 Preliminary geotechnical hazards assessment

A summary of commonly occurring geotechnical hazards associated with the anticipated geology outlined in Section 4.5 above is given in **Table 12** together with an assessment of whether the site may be affected by each of the stated hazards.

Table 8 Summary of preliminary geotechnical risks that may affect site

Hazard category	Hazard status based on desk study findings and proposed development		Engineering considerations if hazard affects site
	Could be present and/or affect site	Unlikely to be present and/or affect site	
Sudden lateral changes in ground conditions	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Unlikely to affect ground engineering and foundation design and construction
Shrinkable clay soils ¹⁾	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Ground conditions with low plasticity resulting in the hazard rating being low

Hazard category	Hazard status based on desk study findings and proposed development		Engineering considerations if hazard affects site
	Could be present and/or affect site	Unlikely to be present and/or affect site	
Highly compressible and low bearing capacity soils, (including peat and soft clay)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Highly compressible strata anticipated in areas of peat and soft alluvium clay therefore may affect ground engineering and foundation design and construction
Silt-rich soils susceptible to rapid loss of strength in wet conditions ¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Potential presence of glaciolacustrine deposits and warp material may affect ground engineering and foundation design and construction
Running sand at and below water table	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Unlikely to affect ground engineering and foundation design and construction
Karstic dissolution features (including 'swallow holes' in Chalk terrain) ¹⁾	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Chalk not encountered on site
Evaporite dissolution features and/or subsidence ¹⁾	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Dissolution features are unlikely to be present on the site
Ground subject to or at risk from landslides ¹⁾	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered
Ground subject to peri-glacial valley cambering with gulls possibly present	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Unlikely to affect ground engineering and foundation design and construction
Ground subject to or at risk from coastal or river erosion ¹⁾	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Unlikely to require special protection/stabilisation measures
High groundwater table (including waterlogged ground) ¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	High groundwater tables are unlikely to impact temporary or permanent works in well-drained areas of the site. However, they may pose a consideration in peatland zones, where water retention and seasonal fluctuations could influence ground conditions.
Rising groundwater table due to diminishing abstraction in urban areas ¹⁾	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Unlikely to affect deep foundations, basements and tunnels
Geological faults, fissures and break lines	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Unlikely to affect ground engineering and foundation design and construction

Hazard category	Hazard status based on desk study findings and proposed development		Engineering considerations if hazard affects site
	Could be present and/or affect site	Unlikely to be present and/or affect site	
Underground mining including shafts and adits (e.g. coal, mineral)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Unlikely to require further assessment including potentially special stabilisation measures
Effects of extreme temperature (e.g. cold stores or brick kilns/furnaces)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Likely to affect ground engineering and foundation design and construction
Existing sub-structures (e.g. tunnels, foundations, basements, and adjacent sub-structures)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Unlikely to affect ground engineering and foundation design and construction
Filled and made ground (including embankments, infilled ponds and quarries)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Potential made ground on site may affect ground engineering and foundation design and construction
Adverse ground chemistry (including expansive slags and weathering of sulphides to sulphates)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Unlikely to affect ground engineering and foundation design and construction
Site topography, including presence of steep slopes	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Very low or negligible gradients and therefore its unlikely to affect ground engineering and foundation design and construction
<p>Note: Seismicity is not included in the above table as this is not normally a design consideration in the UK.</p> <p>¹⁾ The potential for these geohazards to impact the site may be exacerbated by climate change related fluctuations in temperature and precipitation.</p>			

7 INITIAL CONCEPTUAL SITE MODEL

In the UK land contamination is assessed using a risk-based approach taking account of the magnitude (severity of the hazard) and likelihood (probability) of occurrence. A 'receptor' is something that could be adversely affected by contamination (e.g. people, an ecological system, property or a water body). A 'pathway' is a route or means by which a receptor is or could be exposed to or affected by a contaminant. A 'contaminant source' is a hazard but it can only pose a risk to a receptor where a pathway is present.

The relationship between sources, pathways and receptors are referred to as a conceptual site model. A risk can only be realised where a contaminant source, pathway and receptor are all in place, referred to as a 'contaminant linkage'.

In line with LCRM (Environment Agency, 2023) and BS 10175: 2011 + A2 2017 (BSI, 2017), RSK has used information in the preceding sections to identify hazards (sources of contaminants), receptors that may be impacted and plausible linking pathways. Where all three are present this is termed a potentially complete contaminant linkage and a qualitative risk estimation is made.

The conceptual site model has been considered in context of the proposed development as understood at the time of writing this report. Should the site development proposal change, the CSM and the associated contaminant linkages identified may need to be revised.

7.1 Potential soil, soil vapour and groundwater linkages

7.1.1 Potential sources of contamination

Potential sources of soil and groundwater contamination identified from current activities and the history of the site and surrounding area are presented in Table 13.

Table 9 Potential sources of soil and groundwater contamination

Potential sources	Contaminants of concern
On-site	
Made ground (associated with Medge Hall Peat Works and Lover's Ground Farm)	Unknown fill material but potentially including brick, concrete, rubble, ash and burnt debris and containing toxic and phytotoxic metals, inorganics, polycyclic aromatic hydrocarbons (PAHs), asbestos
Historic tramway sidings associated with past peat workings	Petroleum hydrocarbons, toxic and phytotoxic metals, inorganics, PAHs, asbestos
Off-site	
Active railway line	Petroleum hydrocarbons, toxic and phytotoxic metals, inorganics, PAHs, asbestos
Made ground (associated with the development and demolition of the brick works to the south and peat works to the north)	Unknown fill material but potentially including brick, ash and clinker and containing phytotoxic metals, inorganics, polycyclic aromatic hydrocarbons (PAH), asbestos

Potential sources	Contaminants of concern
Crowle Sewage Treatment Works	Microbial organisms, treatment chemicals, organic and inorganic compounds, heavy metals, metalloids and their compounds

7.1.2 Sensitive receptors

The proposed future use of the site as a solar energy scheme, alongside the continued agricultural use of the surrounding land, has been considered in identifying potential sensitive receptors. Given the minimal ground disturbance required for the installation of solar panels, along with the shallow depth of service trenches, access tracks/roadways and areas designated for substations and battery storage, it is anticipated that the primary receptors potentially exposed to any contamination present in the soils on site, or migrating from adjacent land, include:

- Construction workers (during installation or maintenance, and eventually decommissioning).
- Groundwater in the secondary A superficial aquifers (Sutton Sand Formation and Alluvium).
- Groundwater in the Principal Bedrock Aquifer (Sherwood Sandstone Group and Chester Formation).
- Surface water within the drainage ditches and watercourses throughout the site.
- Solar scheme infrastructure (including solar array cabling throughout the site, substations and inverter stations at specific locations, battery energy storage system compound and building materials i.e., buried concrete and services).

7.1.3 Potential contaminant pathways

Exposure pathways applicable to human health receptors include:

- Direct ingestion, inhalation and dermal contact with soil and soil-derived dust.
- Vapour migration followed by outdoor inhalation.

Pathways applicable to environmental receptors include:

- Direct contact of foundations/services with contamination in soil and/or groundwater.
- Leaching from soil followed by migration in groundwater.
- Migration via run-off through drainage.
- Discharge to surface water.

7.2 Potential ground gas linkages

7.2.1 Ground gas generation potential

Potential ground gas sources identified for the site and surrounding are shown in **Table 14**.

Table 10 Potential ground gas sources (excludes mine gas)

Potential sources	Indicative ground gas generation potential (CIEH, 2008)	Additional information
On-site		
Natural soil strata with a low degradable organic content (alluvium and peat)	Low	Alluvium and peat suspected on site
Made ground with low degradable organic content (e.g. up to 5% organic material and no easily degradable waste).	Very low	Potential made ground associated with Lovers Ground Farm and Medge Hall Peat Works
Off-site		
Made ground with low degradable organic content (e.g. up to 5% organic material and no easily degradable waste).	Very low	Potential made ground associated with the brick works and peat works within 250 m of the site

The assessment of ground gas generation potential considers the anticipated site conditions and the composition of underlying materials. The alluvium and peat deposits present on-site have been identified as potential sources of ground gas, due to the presence of organic matter capable of degradation.

In contrast, the potential made ground, suspected to have been introduced over 20 years ago, is assessed as having a very low generation potential. This classification is based on the likelihood that any initially high organic content has since undergone decomposition, leaving behind predominantly stable, inert materials that no longer contribute meaningfully to gas production.

Although the potential for ground gas generation from natural soil strata is considered low, the composition and quality of these deposits remain uncertain. Given this uncertainty, the linkage between these natural deposits and gas generation has been incorporated into the Conceptual Site Model (CSM) for further consideration.

7.2.2 Sensitive receptors and ground gas linking pathways

Sensitive receptors identified at or in the vicinity of the site that could be affected by the potential ground gas sources identified above comprise:

- Construction/maintenance workers - migration and ingress of ground gases into confined spaces (i.e., substations, control rooms) followed by explosion/asphyxiation.
- Future structures and services - migration and ingress of ground gases into confined spaces followed by explosion.

The assessment has identified receptors to include building structures and current/proposed end-users.

It is understood that the site will not be permanently staffed and structures will not be manned apart from infrequent and short duration maintenance use. Therefore, excavations during the construction works, and any service trenches and manholes, are the only viable spaces that could permit the build-up of any ground gases present and present a risk to human health.

Construction workers should undertake appropriate risk assessments and risks should be managed through health and safety procedures and the use of PPE.

7.3 Preliminary risk assessment

The preliminary risk assessment findings and potentially complete contaminant linkages are shown in **Table 15**.

The risk classification is based on the combination of hazard consequence and probability using a risk matrix from CIRIA C552 (Rudland et al., 2001). The requirement for a preliminary qualitative risk assessment is in accordance with LCRM (Environment Agency, 2023). A summary of the risk assessment process is in **Appendix F**.

Table 11 Risk estimation for potentially complete contaminant linkages

Potential source	Potential receptor	Possible pathway	Likelihood	Severity	Risk Rating	Justification
On-site						
Made ground (associated with the development and demolition of Lover's Ground Farm and the Medge Hall Peat Works)	Current and future construction/ maintenance workers	Direct oral ingestion, inhalation and dermal contact with soil and soil-derived dust	Unlikely	Medium	Low	The site comprises agricultural fields, with minimal expected disturbance beyond the shallow earthworks required for the proposed solar farm development. The severity is classified as medium, acknowledging potential exposure to chemical constituents during short-duration activities. However, contaminants are likely confined to localised areas, and the overall risk remains low, given the use of appropriate PPE.
Historic tramway sidings associated with past peat workings		Accumulation of ground gas leading to explosion or asphyxiation	Very Unlikely	Severe	Low	The potential for ground gas generation from natural soils at the site remains uncertain. However, the low degradable organic content anticipated within the soil strata suggests a limited capacity for significant gas production. While the potential consequences of hazardous ground gas can be severe, the site's predominantly outdoor use, combined with the shallow construction depths required for the proposed solar panel installation, minimises the likelihood of gas accumulation. Additionally, the infrequent and short-duration access to site structures further reduces the potential for exposure, making the development low risk in terms of ground gas migration.
Naturally occurring peat and alluvium						

Potential source	Potential receptor	Possible pathway	Likelihood	Severity	Risk Rating	Justification
	Groundwater (Secondary A and Principal aquifer)	Leaching to soil followed by vertical migration in groundwater	Unlikely	Medium	Low	Groundwater within the secondary A and Principal aquifers are classified as having moderate - high vulnerability, with no active licensed groundwater abstractions identified within 1 km of the site. Additionally, the sites southwestern leg is within a Zone 3 SPZ. Despite this, the minimal groundworks required for the installation of the solar arrays are considered to pose a negligible risk of causing or increasing leaching, even if contaminated soils are present at shallow depths.
	Surface water (drainage ditches and the Old River Don)	Migration via runoff through drainage	Low Likelihood	Medium	Moderate/ Low	A substantial portion of the site has been subject to tidal silt deposition, contributing to the presence of fine-grained sediments within the shallow soil profile. The extensive network of drainage ditches across the site may act as a pathway for contaminant migration, particularly during heavy rainfall or ground disturbance. Shallow earthworks could displace underlying warp material, increasing the likelihood of contaminants being mobilised into surface runoff, which may enter the interconnected drainage system and pose a potential water quality risk. However, during future use, the rate of runoff is unlikely to alter much from its current rate throughout the array area.
	Solar scheme infrastructure	Direct contact with soils/groundwater and migration of combustible	Unlikely	Medium	Low	The presence of chemical constituents within the site's shallow soils is unlikely to reach concentrations that could cause damage to the underlying infrastructure. Additionally, due to the site's predominantly outdoor use and its wasted peat regime, the formation of a viable pathway for contamination remains low. While the probability of an adverse event is minimal, the potential severity of impact is classified as medium. Consequently, the

Potential source	Potential receptor	Possible pathway	Likelihood	Severity	Risk Rating	Justification
Off-site sources						
Made ground (associated with the demolition of the brick works and peat works) Active railway line Crowle Sewage Treatment Works	Current and future construction/ maintenance workers	Direct oral ingestion, inhalation and dermal contact with soil and soil-derived dust	Unlikely	Medium	Low	Potential residual contaminants from historical industrial activities may remain however, the buried and compacted nature of the soil likely limits dust generation, reducing the risk of inhalation and ingestion of contaminated particles. Additionally, vegetation cover acts as a further barrier, minimising direct dermal contact with potentially affected soils while also stabilising surface materials, preventing airborne dispersion of dust. Given that the proposed solar farm development involves only shallow earthworks, disruption of deeper soil layers, where contaminants may be concentrated, is expected to be minimal. Furthermore, the absence of permanent site occupancy, including the use of appropriate PPE, ensures that potential exposure remains limited and controlled.

Potential source	Potential receptor	Possible pathway	Likelihood	Severity	Risk Rating	Justification
		Accumulation of ground gas leading to explosion or asphyxiation	Very Unlikely	Severe	Low	The potential for ground gas generation from offsite sources remains uncertain; however, the low degradable organic content anticipated within the natural soil strata suggests a limited capacity for significant gas production. While the potential consequences of hazardous ground gas can be severe, the site's predominantly outdoor usage, coupled with the nature of the proposed development - which involves solar panel installations with shallow construction depths - minimises the risk of gas accumulation. Furthermore, access to site structures is expected to be infrequent and short in duration, significantly limiting the possibility of a viable pathway for gas migration.
Notes: * denotes linkages that may be influenced by impacts of climate change and extreme weather events.						

Risk matrix		Consequences			
		Severe	Medium	Mild	Minor
Probability	Highly likely	Very high	High	Moderate	Moderate/low
	Likely	High	Moderate	Moderate/low	Low
	Low likelihood	Moderate	Moderate/low	Low	Very low
	Unlikely	Moderate/low	Low	Very low	Very low
	Very Unlikely	Low	Very Low	Negligible	Negligible

Potentially complete contaminant linkages with a potential risk of moderate to low or higher comprise:

- Moderate/Low: On-site made ground and historic tramway land – Surface water within drainage ditches and the Old River Don – Migration via runoff through drainage.

In line with LCRM, these potentially complete contaminant linkages need to be assessed further through an appropriate scope of site investigation and/or mitigation incorporated into the development as may be appropriate.

7.4 Data gaps and uncertainties

Key data gaps and uncertainties identified in the CSM at desk study stage include:

- There may have been other previous uses of the site that have not been specified.
- There are no previous investigations available on the site, therefore no information on actual ground conditions and the contamination status within this location at this stage.
- Gaps in available historical OS maps.
- A site reconnaissance survey was not undertaken due to the availability of recent survey data from an assessment conducted in November 2022. Additionally, time constraints associated with the current project scope limited the feasibility of conducting an updated survey.
- Potential uncertainties relating to climate change/EWE impacts and potential effects on contaminant sources, including changes to chemical properties/behaviour in solid, liquid, vapour or gaseous phases, physical changes to source zone, changes to microbial behaviour or deposition of contaminants from off-site sources.
- Potential uncertainties relating to climate change/EWE impacts and potential effects on pathways and receptors, including changes to hydrogeological or hydrological conditions (including sea level rise/tidal effects), changes to proximity of receptor, changes to indoor/outdoor exposure pathways, predicted increases in extreme weather events (e.g. affecting risks such as those associated with ground or mine gas).

8 CONCLUSIONS AND RECOMMENDATIONS

8.1 Geo-environmental assessment

The key findings of the geo-environmental assessment are as follows:

- The site is irregularly shaped, covering approximately 131 hectares of agricultural land at elevations between 1 – 4 m AOD. It is bordered to the north by Crowle Moors, part of the Humberhead Peatland, and to the south by the Thorne South railway line, which runs parallel to the Stainforth and Keadby Canal, flanked by the North and South Soak Drains. The sites structured drainage network directs water from southwest to northeast, with primary drainage features along Moor Bottom road, supported by a network of rectilinear subsidiary drains. Notable landscape features include Lover's Ground in the southwest and The Warpings in the central-northwest. The Old River Don channel crosses the southeastern section as a narrow drainage ditch, flowing south to northeast.
- Historical records indicate that the site has been managed through a structured network of subsidiary drains since at least the 1850s, supporting its long-term agricultural use. From 1890, the Warpings emerged in the northeastern and central portions, reflecting a historical practice of river sediment deposition aimed at enhancing soil fertility and boosting agricultural productivity. Meanwhile, the Medge Hall Peat Works, active between circa 1890 and 1951, represents a significant era of peat extraction and processing, with tramway lines facilitating the transport of harvested peat, linking extraction sites to processing facilities and distribution networks, reinforcing the site's integration into the broader Isle of Axholme peat industry. Off-site, a disused brickworks, recorded between 1885 and 1955, was located south of the site, while the Crowle Sewage Treatment Works, first documented in 1951, remains active on land southeast of the site.
- Two World War II airfields have been observed at significant distance from the site however, Heritage Environmental Records indicate two possible crash sites within the site boundary, with accounts suggesting the wreckage sank into the peat. Therefore, a detailed UXO risk assessment of the site is recommended prior to construction.
- The site's geology comprises peaty, loamy, and clayey topsoil and subsoil, likely incorporating warp material from historical silt deposition, overlying superficial deposits of Flandrian alluvium and peat. Beneath these, the Hemingbrough Formation consists of laminated clayey sandy silt and firm silt/clay, transitioning into the Sherwood Sandstone Group, characterised by medium to coarse-grained sandstone with occasional thinly laminated mudstone, encountered at depths ranging from 11.0 m to 14.5 m bgl. The Mercia Mudstone Group, comprising dense clayey sand to weak sandstone and mudstone, is present from approximately 10.0 m to 12.0 m and beyond.
- The site is situated within a moderate/low risk environmental setting, with several designated sensitive land uses in close proximity, including a Special Area of Conservation (SAC), Special Protection Area (SPA), Site of Special Scientific Interest (SSSI), and National Nature Reserve (NNR), adjacent north. While these designations reflect high ecological sensitivity, the limited disturbance associated with the proposed solar farm development significantly reduces the likelihood of viable contamination pathways affecting these protected areas. However, a potential contaminant linkage has been identified, primarily related to surface water runoff carrying contaminants through the site's extensive drainage network, which ultimately

discharges into the Old River Don. To mitigate this risk, appropriate recommendations will be provided to manage surface water runoff and minimise any potential environmental impact.

8.2 Geotechnical assessment

The key findings of the geotechnical assessment are as follows:

- Made ground associated with the development and demolition of Lover's Ground Farm and Medge Hall Peat Works.
- Made ground present offsite associated with the development and demolition of the brick works to the south and peat works to the north.
- Worked peat deposits (condition and stability remain uncertain at this stage).
- Unknown extent of existing buried services.
- Highly compressible strata anticipated in areas of peat and soft alluvium clay of which may affect ground engineering and foundation design and construction of substation compounds.
- Silt-rich soils such as glaciolacustrine deposits and warp material susceptible to rapid loss of strength in wet conditions of which may affect ground engineering and foundation design of larger structures.
- High groundwater tables are unlikely to impact temporary or permanent works in well-drained areas of the site however, they may pose a consideration in peatland zones.
- Potential made ground present in isolated areas of the site may be susceptible to differential settlement, which could impact ground engineering, foundation design, and construction stability.

8.3 Recommendations

The following recommendations are made for further assessment of the site to investigate the risks identified above and/or to address remaining uncertainties:

- Targeted peat probing at selected locations where peat deposits are expected, following a transverse alignment to evaluate geotechnical stability and environmental conditions. This assessment will help determine whether foundation modifications are required.
- Development of a Construction Environmental Management Plan (CEMP) to monitor and regulate surface water runoff during construction activities. The design strategy should incorporate buffer zones and restricted access areas near drainage ditches and watercourses, reducing the risk of contaminant migration.
- Implementation of best working practices to minimise ground disturbance, particularly in areas where soil conditions are vulnerable to degradation. Heavy traffic movement should be restricted during adverse weather conditions to prevent soil poaching, over-compaction, rutting, and sediment-laden runoff mobilisation. To mitigate these risks, the use of protective cover systems or track matting on primary haulage routes should be integrated into construction planning.

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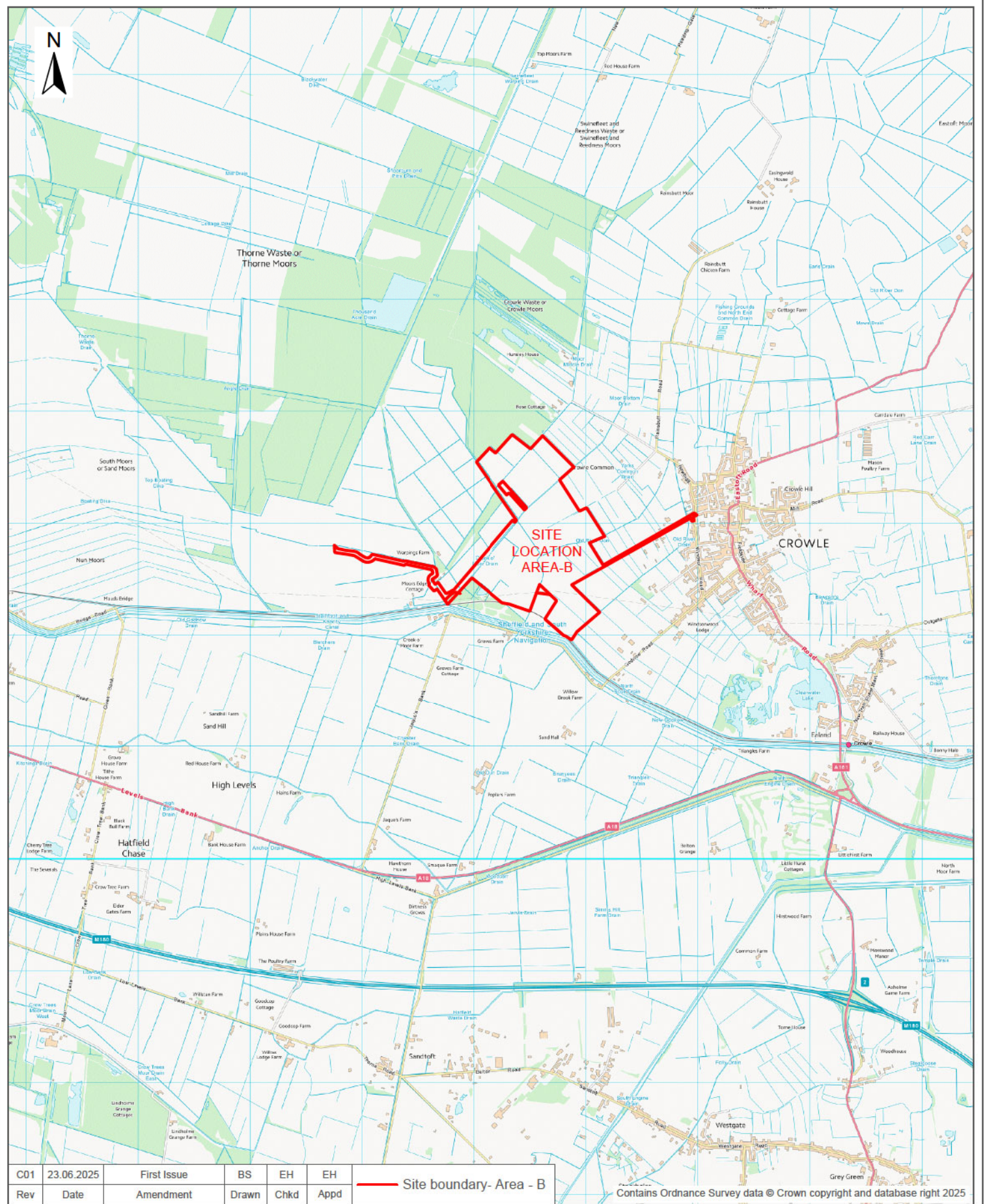
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FIGURES

Figure 1 SITE LOCATION PLAN



C01	23.06.2025	First Issue	BS	EH	EH
Rev	Date	Amendment	Drawn	Chkd	Appd



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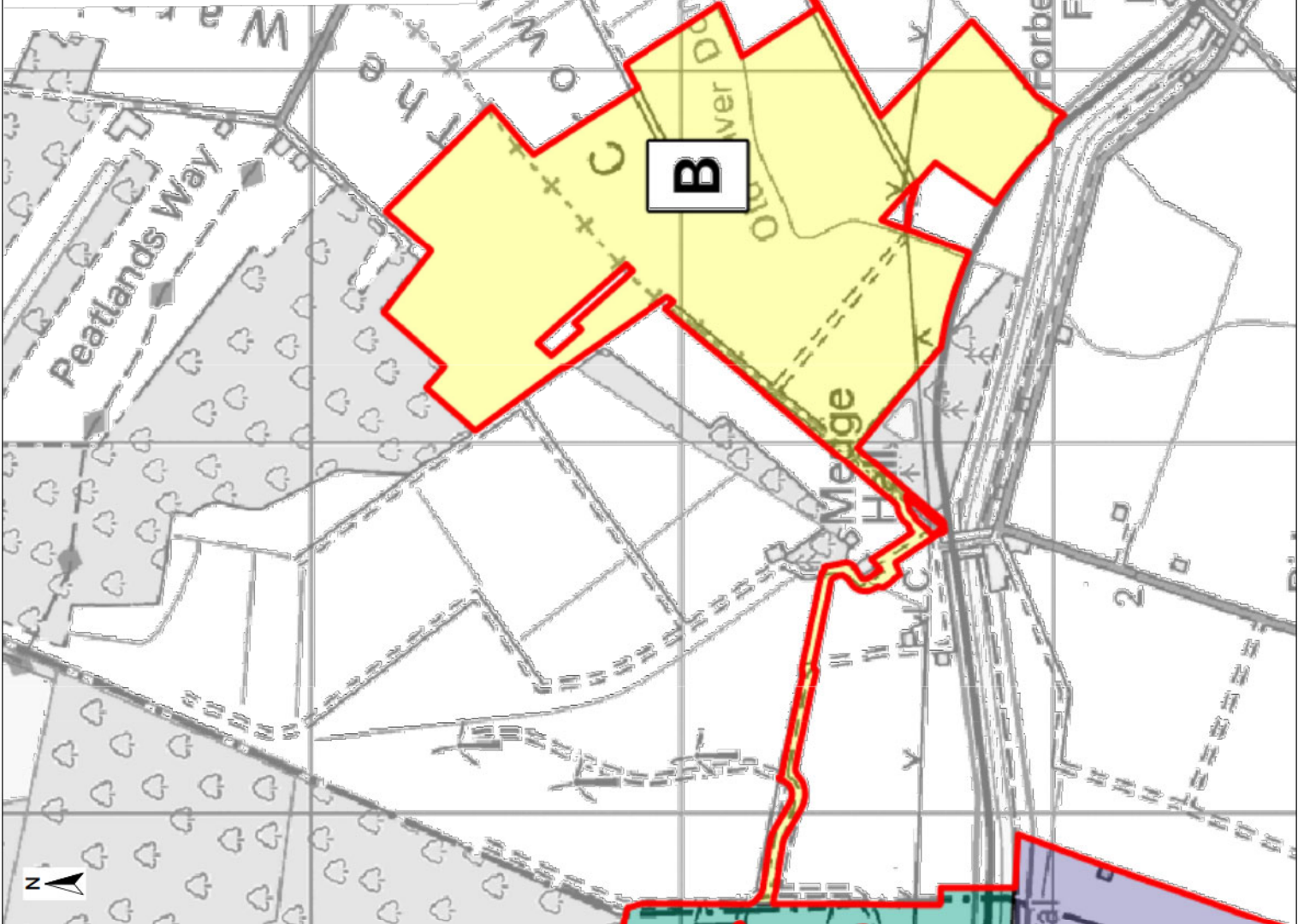
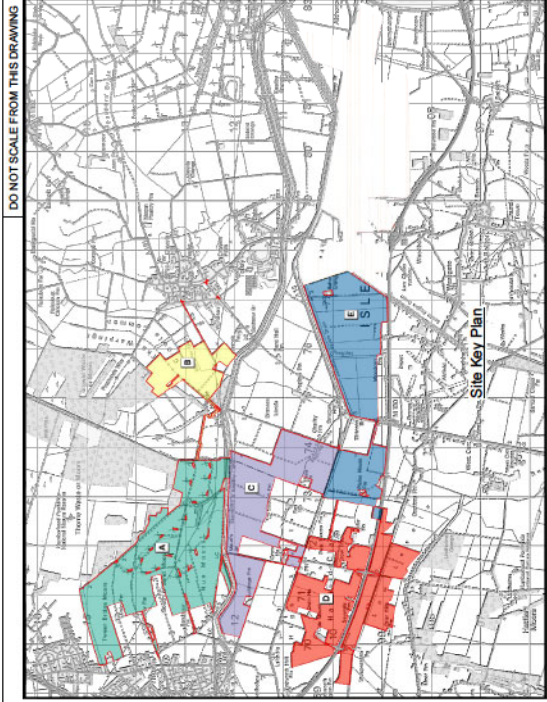
Client
Pegasus Group

Project Name
Tween Bridge Solar Farm

Description
Site Location - Area - B

Dimension	Size	Scale	Geolocation	Project ID	Drawing no.	Rev	File name
m	A4	NTS	475800,412890	12081	11102	C01	12081-MA-111-XX-D-G-11102-C01

Figure 2 AREA BOUNDARY PLAN



LEGEND

— Site boundary

Notes

Base plan provided by Client
Drawing Ref: P21-3484_EN_0024_C - LAND PARCEL PLAN.pdf

Rev	Date	Amendment	Drawn	Chkd	Appd
C02	20.08.2025	Second Issue	BS	EH	BH
C01	23.08.2025	First Issue	BS	EH	BH



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Project Name

Tween Bridge Solar Farm

Description

Area Boundary Plan - Area - B

Project ID	Drawing no.	Revision
12801	11202	C02

File name
12081-MA-112-XX-D-G-11202-C02

Dimensions	Scale	NTS	Size
m			A3

APPENDICES

APPENDIX A

SERVICE CONSTRAINTS

1. Service Constraints

1.1. This Report (the "Report") and any study, inspection, investigation, sampling, testing and or interpretation carried out in connection with the Report (together the "Services") were compiled and carried out by RSK Environment Limited (RSK) trading as Carbon Zero Consulting, Leap Environmental or RSK Geosciences, for the Client named in the first paragraph of the Report (the "Client") in accordance with the terms of an RSK Fee Proposal including RSK Environment Standard Terms and Conditions (the "Appointment") between RSK and the Client, unless otherwise stated in the first paragraph of the Report. The Services were performed by RSK with the reasonable skill and care ordinarily exercised by a geo-environmental consultant at the time the Services were performed. Nothing in this Report shall be construed as imposing any fitness for purpose obligation. Further, and in particular, the Services were performed by RSK taking into account the limits of the scope of works required by the Client, the time scale involved and the resources, including financial and manpower resources, agreed between RSK and the Client.

1.2 Other than that, expressly contained in paragraph 1 above, RSK provides no other representation or warranty whether express or implied, in relation to the Services. RSK shall not be liable in respect of any action or proceedings arising out of or in connection with this Report whether in contract, in tort, for breach of statutory duty or otherwise after the expiry of six (6) years from either (i) the date of the Report or (ii) such earlier date as prescribed by law, unless varied in the terms of the Appointment.

1.3 Unless otherwise agreed in writing, the Services were performed by RSK exclusively for the purposes of the Client. RSK is not aware of any interest of or reliance by any party other than the Client in or on the Services. Unless expressly provided in writing, RSK does not authorise, consent, or condone any party, other than the Client relying upon the Services. Should this Report or any part of this Report, or details of the Services or any part of the Services, be made known to any such party, and such party relies thereon, that party does so wholly at its own and sole risk, and RSK disclaims any liability to such parties. Any such party would be well advised to seek independent advice from a competent geo-environmental consultant and/or lawyer.

1.4 The Client shall not, without the prior written consent of RSK, assign, transfer, charge, mortgage, subcontract, or deal in any other manner with all or any of the benefits provided in this Report. Unless specified in the Appointment, RSK shall not be obliged to assign the benefit of the Report whether by collateral warranty, third party rights pursuant to the Contracts (Rights of Third Parties) Act 1999, letter of reliance or otherwise. If RSK agrees to any assignment of the benefit of this Report, in whatever form, benefits to third parties through collateral warranties, third party rights or letters of reliance shall not be provided unless a fee for each right, warranty or letter is agreed. The form of wording used in the warranty or letter shall be provided by RSK for agreement by the Client. Any reasonable changes to the form of wording will be implemented by mutual agreement, however the terms in the warranty or letter cannot offer the third party any greater benefit than the Appointment offered to the Client.

1.5 It is the understanding of RSK that this Report is to be used for the purpose described in the introduction to the Report. That purpose was a significant factor in determining the scope and level of the Services. Should the purpose for which the Report is used, or the proposed use of the site change, this Report may no longer be valid and any further use of or reliance upon the Report in those circumstances by the Client without the review and advice of RSK shall be at the Client's sole and own risk. RSK shall not be liable for any use of this Report for any purpose other than that for which it was provided.

1.6 The passage of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the Report inaccurate or unreliable. The information and conclusions contained in this Report should not be relied upon in the future without the written advice of RSK. In the absence of such written advice of RSK, reliance on the Report in the future shall be at the Client's own and sole risk.

1.7 The observations and conclusions described in this Report are based solely upon the Services which were provided pursuant to the agreement between the Client and RSK. RSK has not performed any observations, investigations, studies or testing not specifically set out, or required by the Appointment between the Client and RSK. RSK is not liable for the existence of any condition, the discovery of which would require performance of services not otherwise contained in the Services. For the avoidance of doubt, unless otherwise expressly referred to in the introduction to this Report, RSK did not seek to evaluate the presence on or off site of asbestos, invasive plants, electromagnetic fields, lead paint, heavy metals, radon gas, fuel storage, persistent bio-accumulative or toxic chemicals (including PFAS and related compounds) or other radioactive or hazardous materials, unless specifically identified in the Services.

1.8 The Services are based upon RSK's observations of existing physical conditions at the Site gained from a visual inspection of the site together with RSK's interpretation of desk based publicly available information, including documentation, obtained from third parties and from the Client on the history and usage of the site, unless specifically identified in the Services and the limitations below:

- a. The Services were based on information and/or analysis provided by independent testing and information services or laboratories upon which RSK was reasonably entitled to rely.
- b. The Services were limited by the accuracy of the information, including documentation, reviewed by RSK and the observations possible at the time of the visual inspection.
- c. The Services did not attempt to independently verify the accuracy or completeness of information, documentation or materials received from the Client or third parties, including laboratories and information services, during the performance of the Services.
- d. The Client has identified in writing to RSK, the information, reports, findings, surveys and preliminary works RSK may not rely upon when providing the Services.

RSK is not liable for any inaccurate information or conclusions, the discovery of which inaccuracies required the doing of any act including the gathering of any information which was not reasonably available to RSK, and including the doing of any independent investigation of the information provided to RSK, save as otherwise provided in the terms of the Appointment between the Client and RSK.

1.9 Any site drawing(s) provided in this Report is (are) not meant to be an accurate base plan for scale measurement but is (are) used to present the general relative locations of features on, and surrounding, the site. Features (intrusive and sample locations etc) annotated on site plans are not drawn to scale but are centred over the approximate location. Such features should not be used for accurate setting out and should be considered indicative only.

1.10 Should RSK be requested to review the Report after the date of issue of this Report, RSK shall be entitled to additional payment at the existing rates, or such other terms as agreed between RSK and the Client.

2. Service Constraints where the Report provides an intrusive assessment of ground conditions:

2.1 The intrusive environmental ground investigation aspects of the Services are a limited sampling of soil from the site, at pre-determined locations based on the known historic / operational configuration of the site. The conclusions given in this Report are based on information gathered at the specific test locations and can only be extrapolated to an undefined limited area around those locations. The extent

of the limited area depends on the properties of the materials adjacent and local conditions, together with the position of any current structures and underground utilities and facilities, and natural and other activities on site. In addition, chemical analysis was carried out for a limited number of parameters (as stipulated in the scope agreed between the Client and RSK, based on an understanding of the available operational and historical information) and it should not be inferred that other chemical species (not tested) are not present.

2.2 The comments given in this Report and the opinions expressed are based on the ground conditions encountered during the site work and on the results of tests made in the field and in the laboratory. The extent of the exploratory holes, laboratory testing and monitoring undertaken may have been restricted due to a number of factors including accessibility, the presence of buried or overhead services, current development, site usage, timescales or the Client's specification. The exploratory holes only assess a small proportion of the site area with respect to the site as a whole, and as such may only provide an indicative assessment of ground conditions on site. There may be conditions pertaining to the site that have not been disclosed by the investigation and therefore could not be taken into account. In particular, it should be noted that there may be areas of made ground not detected due to the limited nature of the investigation or the thickness and quality of made ground across the site may be variable. In addition, groundwater levels and ground gas concentrations and flows, may vary from those reported due to seasonal, or other, effects and the limitations stated in the data should be recognised. The presence of hotspots of undisclosed contamination or exceptional and unforeseen ground conditions cannot be discounted.

2.3 Where the Services include Investigation of an exploratory nature or relating to physical ground works, any costings and prices provided in the Report are estimated and provided for guidance purposes only. The actual cost and time quantities shall be remeasured and shall be dependent upon the ground or other conditions, constraints present, and number and depth of the investigation locations, which shall influence the number of samples and tests required, and the quantities of soil being classified.

2.4 Asbestos is often observed to be present in soils in discrete areas. Whilst asbestos-containing materials may have been locally encountered during the fieldworks or supporting laboratory analysis, the history of brownfield and demolition sites indicates that asbestos fibres may be present more widely in soils and aggregates, which could be encountered during more extensive ground works. However, this Report does not constitute an asbestos survey. On this basis, the presence of asbestos on site cannot be discounted and a full asbestos survey should be undertaken.

2.5 Unless stated otherwise, only preliminary geotechnical recommendations are presented in this Report and these should be verified in a Geotechnical Design Report, once proposed construction and structural design proposals are confirmed. Eurocode 7 gives guidance on the type of sampling, sample quality, number and spacing of intrusive investigations, and number of laboratory tests required. It is intended that the Geotechnical Information section of this Report will fulfil the general requirements of the Ground Investigation Report as set out in section 6 of Eurocode7, although this is subject to the restrictions imposed on the investigation, as listed above. For geotechnical design, Eurocode 7 requires the Geotechnical Design Report to address both the geotechnical and structural aspects of the geotechnical design for both the limit and serviceability states. The Geotechnical Appraisal section of this Report will not meet the requirements of a Geotechnical Design Report (GDR) and should therefore be used for preliminary guidance only.

3. Service Constraints where the Report relates to Surface Water Management:

3.1 The Surface Water Management Inspection (SWMI) Report, documents provided, observations, actions, and recommendations, with respect to the management of potential pollution issues to surface waters, made during the site Inspection visit, are those present at the time of the visit, and may not represent those recorded by others on the same day.

3.2 The comments given in this Report and the opinions expressed are based on the weather, ground and ground water conditions encountered during the site work and on the results of tests made in the field and in the laboratory. However, there may be conditions pertaining to the site that have not been disclosed by the inspection and therefore could not be taken into account. In addition, groundwater levels and flows, may vary from those Reported due to seasonal, or other, effects and the limitations stated in the data should be recognised.

3.3 RSK places a degree of dependence upon oral information provided by site representatives, which is not readily verifiable through visual inspection, or supported by any available written documentation. RSK shall not be held responsible for conditions or consequences arising from relevant facts that were not fully disclosed by facility or site representatives at the time this Report was prepared.

3.4 This Report is a live document, to be continually reviewed and updated as the development progresses or other changes occur on site. RSK can only maintain the currency of this Report through the Client requesting support with supplementary site visits or attendance at meetings ahead of key stages of the development in relation to surface water management. Our risk rating assesses a number of risk factors in line with the source-pathway- receptor model and is therefore subject to constant change.

3.5 Standard design drawings are indicative. Material types, dimensions and construction details will need to be adjusted by the Client to suit the specific conditions / flows on Site.

3.6 The full responsibility for implementing the site-specific protection and maintenance measures to protect the surface water system as stated in this Report, remains with the Client and their site management team. Additional control measures may be required to achieve the objectives set out in the Surface Water Management Plan to be implemented and financed by the Client.

4. Service Constraints where the Report relates to Waste Management:

4.1 In accordance with the definition provided in the Waste Framework Directive (WFD), materials are only considered waste if 'they are discarded, intended to be discarded or required to be discarded, by the holder'. Naturally occurring soils are not considered waste if re-used on the site of origin for the purposes of development. Soils such as made ground that are not of clean and natural origin (irrespective of whether they are contaminated or not) and other materials such as recycled aggregate, do not necessarily become waste until the criteria above are met. Excavation arisings from the development may therefore be classified as waste if surplus to requirements and/or unsuitable for re-use.

4.2 It is the duty of the waste producer, to ensure that all waste is accurately classified prior to waste disposal. Technical Guidance WM3 (EA, 2018) sets out in its Appendix D requirements for waste sampling. It is a legal requirement to correctly assess and classify waste. The level of sampling should be proportionate to the volume of waste and its heterogeneity. Unless otherwise stated, the waste assessment presented in this Report should be considered as preliminary and further testing and assessment of the waste under the provisions of a Waste Sampling Plan may be required to obtain the necessary level of data required for basic characterisation of the waste in support of disposal.

4.3 Unless stated otherwise in the Report, information relating to historical operations at the site was not reviewed as part of the assessment by RSK. In addition, unless otherwise stated in the Services, RSK was not present during the collection of the samples nor had any input on the chemical testing suite. Therefore, the waste assessment and classification detailed in this Report are based solely on any information that were provided to RSK (e.g., laboratory chemical data, exploratory hole records) and were completed without prejudice for our Client.

4.4 RSK assumes that any ground investigation data, chemical testing results etc., that were provided by the Client to inform the waste assessment and supporting review were carried out in accordance with current best practice and relevant guidance/ standards, where applicable. Thus, the

comments given in this Report and the opinions expressed are based solely on the information provided by the Client. However, it is noted that there may be conditions pertaining to the site that have not been disclosed by the investigation and therefore could not be taken into account as part of the RSK assessment.

5. Service Constraints for Construction Environmental Management Plan Reports:

5.1 This Report should be considered in the light of any changes in legislation, statutory requirement or industry practices that may have occurred subsequent to the date of issue.

5.2 The measures and comments outlined in this Report and any opinions expressed are based on the plans provided at the time and discussions with relevant parties. However, there may be conditions pertaining to the site that have not been disclosed by investigations and therefore could not be taken into account.

5.3 This CEMP is a live document and is subject to change throughout the project, as and when necessary, to ensure management of environmental aspects remains relevant, and to ensure continued compliance with legislation and commitments as they may change. RSK understands that this CEMP will be reviewed by the Client every six months and updated as and when necessary.

5.4 It is the full responsibility of the Principal Contractor/ Client to ensure that their works do not contravene legal requirements, and adherence to this CEMP alone cannot be a full defence regarding legal action against the Principal Contractor.

6. Service Constraints where the Report relates to Ground Gas Membrane Verification:

6.1 This Report is limited to the verification of the gas resistant membrane/vapour membrane/radon barrier after installation and no inspections were undertaken of the substrate (i.e. prepared ground). The Report therefore does not constitute as a full verification of ground gas protection system.

6.2 The comments given in this Report and the opinions expressed, are based on the condition of the ground gas membrane as encountered at the time of inspection by suitably qualified personnel. RSK cannot accept liability for any subsequent change to the status of the gas membrane by follow-on trades or other construction activity.

6.3 Where not designed by RSK, the verification of protection measures is carried out with reference to the gas protection design provided by the Client. RSK assume the scope of gas protection measures as determined by third parties to be correct and to have achieved any required approval from authorities.

6.4 The Ground Gas Design Report/Remediation Strategy and Verification Plan contains details of the procedures to be adopted for inspection and validation of the works. However, it should be noted that responsibility for the correct implementation of the strategy lies with the appointed contractor. RSK cannot be held responsible for any remedial works that are carried out without the agreed procedures involving either direct supervision by RSK, or inspection and validation of the works by a representative from RSK.

7. Service Constraints for Environmental Due Diligence (EDD) Reports:

7.1 The comments given in this Report and the opinions expressed are based on the information obtained and reviewed as part of the desk-based assessment. However, there may be conditions pertaining to the Site that have not been disclosed by the assessment and therefore could not be taken into account. Furthermore, no intrusive investigations, monitoring or sampling have been undertaken to confirm the environmental status of the site, therefore any comments relating to ground conditions and subsurface contamination are based solely on a review of desk-based information.

7.2 This Report describes the results of the EDD exercise. The scope of this EDD Report, where appropriate, covers legal or regulatory compliance with respect to UK or international regulations associated with environmental matters.

7.3 As with any EDD exercise, there is a certain degree of dependence upon information provided by the target company. The EDD does not include a site walkover / visit or liaison with site representatives unless identified in the Services. Therefore, the assessment is based on the available desk study information. Also, there is a certain degree of dependence upon oral information provided by site representatives, which is not readily verifiable through visual inspection, or supported by any available written documentation. RSK shall not be held responsible for conditions or consequences arising from relevant facts that were not fully disclosed by facility or site representatives at the time this EDD exercise was performed.

7.4 This Report, including all supporting data and notes (collectively referred to hereinafter as "information"), was prepared or collected by RSK for the benefit of its Client.

7.5 The comments given in this Report and the opinions expressed are based on the information obtained and reviewed as part of the desk-based assessment and the site inspection visit. However, there may be conditions pertaining to the Site that have not been disclosed by the assessment and therefore could not be taken into account. Furthermore, no intrusive investigations, monitoring or sampling have been undertaken to confirm the environmental status of the Site therefore any comments relating to ground conditions and subsurface contamination are based solely on a review of desk-based information and observations collected during the site inspection visit.

8. Service Constraints for Ground source heat energy Reports:

8.1 It is understood that this is a desktop survey only and that there are no requirements for a site walkover, service utility survey, or provision of service plans. These services can be provided upon request if required.

8.2 At a later stage, it is possible that a thermal response test (TRT) will need to be completed, for which a test borehole will have to be drilled, and these would be costed at the time. RSK can provide all aspects of subsequent site work for a GSHP system if required.

9. Service Constraints for Water Abstraction Borehole Reports:

9.1 The Report aims principally to only identify and assess the suitability of the site for a water abstraction borehole. This Report should be considered in the light of any changes in legislation, statutory requirements, and industry practices, that have occurred subsequent to the date of the Report.

9.2 Unless stated in the Report, the opinions expressed in this Report including all comments and recommendations provided are on the basis of the information obtained from a desk-based assessment.

Appendix B

PROJECT-RELATED SUSTAINABILITY CONSIDERATIONS

As introduced in Section 2.5, sustainability considerations have been taken into account during the design, planning and implementation stages of the project. We manage and monitor this using the RSK Geosciences Sustainable Management Practices (SMP) tool. More detail is provided on this below.

Sustainable management practices (SMPs)

The UK Sustainable Remediation Forum (SuRF-UK) was established to develop a sustainable remediation framework that allows assessors to identify remediation strategies and techniques that are more explicitly linked to the goals of sustainable development. However, it was recognised that the same sustainability principles discussed in the framework underpin all aspects of land contaminated management and can be applied across the full range of activities. These include aspects such as site characterisation that would not normally have a formal sustainability assessment, but where sustainability-related benefits may be gained.

SuRF-UK defines Sustainable Management Practices (SMPs) as 'relatively simple, common sense actions that can be implemented at any stage in a land contamination management project to improve its environmental, social and/or economic performance. SMPs can be used to improve the benefits (e.g. resource efficiency, community satisfaction) or reduce the negative impacts (e.g. spillages, complaints, cost) of a project, leading to project 'sustainability gains', without requiring a formal sustainability assessment. SMPs may also be used where sustainability gains are sought at a programme of work level using generic criteria or standards that can apply to a range of project types' (CL:AIRE, 2021a).

RSK Geosciences has developed these SMPs further to identify those that are relevant to each phase of geo-environmental and geotechnical site assessment, along with methods of measurement and reporting. Some of the SMPs are mandatory as they are an intrinsic requirement of our ISO-certified Safety, Health, Environment and Quality management system (SHEQMS) or of other procedures. In addition, for each project, optional items are selected either to:

- identify opportunities to reduce emissions during project delivery, and/or
- support achievement of more sustainable outcomes for clients.

Further details are available on request.

Sustainability-related considerations relevant to the project

The following sustainability-related considerations have been identified to be relevant to this project. Relevant aspects have been included in the appropriate section of the report.

Effective site investigation

Undertaking effective site investigations in accordance with standards, technical standards and good practice informs a better understanding of below ground issues. Where applicable, RSK recommends the application of geophysical surveys to optimise and supplement data from intrusive investigations. These aspects contribute to the overall sustainability of the development and reductions in associated carbon emissions.

For geo-environmental assessments, effective site investigation informs more site-specific land contamination risk assessment. This means that where remediation is required, it is targeted to have the greatest benefit in mitigating identified risks to human health and the environment, and avoids emissions and other negative environmental impacts associated with unnecessary remediation. Effective site assessment undertaken in accordance with good practice supports the achievement of wider sustainability goals including:

- Supporting the beneficial reuse of brownfield and other degraded land, or the development of nature-based solutions.
- Reducing risks from historical land contamination or on-going releases to groundwater, surface waters and ecological receptors.
- Supporting decarbonisation of the energy and other sectors through undertaking effective site assessment and providing advice on mitigation of ground-based risks.

For geotechnical assessments, effective site investigation informs lean, optimal design of foundations and structures ensuring efficient use of materials, long-term performance and stability including climate resilience, and a reduction in community disruption during construction. It also allows for early identification of geotechnical hazards to aid in the prevention of environmentally damaging issues during construction, for example, soil erosion and landslips. In earthworks, site investigations aid in confirming the material types and properties allowing for their reuse in construction. Furthermore, early identification of materials enables better planning and management of site resources, reducing waste and promoting retention and reuse of soils and other excavated materials.

Reuse and disposal of excavated materials

Reuse and disposal of excavated materials is a key issue on many development or construction projects. In accordance with the definition provided in the Waste Framework Directive (WFD), materials are only considered waste if 'they are discarded, intended to be discarded or required to be discarded, by the holder'. Naturally occurring soils are not considered waste if reused on the site of origin for the purposes of development.

Excavated materials that are not of 'clean and natural origin' (irrespective of whether they are contaminated or not), such as made ground and other anthropogenic materials, may be considered waste after excavation. This means that they cannot be reused unless 'recovered' through use of waste licensing controls, such as exemptions, or a waste recovery permit. Alternatively, in limited circumstances, the CL:AIRE Definition of Waste Code of Practice (DoWCoP; CL:AIRE, 2011)) can be applied, in specific scenarios, to support suitable reuse on or off-site using materials management plans (MMPs). Otherwise, disposal is required, typically off-site, under an appropriate landfill permit. This has important implications for the assessment, excavation, temporary storage, reuse and disposal of excavated materials.

In accordance with the waste hierarchy (Ref. Defra, 2011) and circular economy principles, there are a range of approaches to reduce the volume of waste materials created from development projects with the following order of preference:

- Prevention – designing out the need for excavation and identifying during the development planning phase the potential for surplus soils to be generated during construction.
- Minimisation – implementing effective segregation, stockpile and materials management during construction.

- Reuse – assessing potential for reuse without treatment, either on or off-site.
- Recycling/recovery – processing of materials to allow reuse and support waste recovery.
- Disposal – the last resort, either on or off-site.

The potential for the generation of waste materials through land redevelopment must therefore be considered as part of any construction activity. Reuse of excavated materials, including topsoil, subsoil, aggregates and rock, generated through the works may also offer opportunities to reduce the amount of waste created, diverting it away from landfill, resulting in a more sustainable development. The materials may have reuse potential on the site of origin or at other development sites. In some instances, generated waste materials have the potential for beneficial reuse, with some non-waste materials needing to be disposed of to landfill.

Early consideration, planning and effective implementation are all needed to maximise the reuse of materials. As well as reducing cost for off-site disposal, sustainability-related benefits include reducing the volumes of materials for transport and disposal, quality and import of virgin materials and associated carbon emissions.

Assessment of the potential for reuse materials is essential, with information on the soil quality being collected and understood as part of the intrusive investigation phases where relevant.

Soil as a resource

Soil forms an important sub-category of excavated material. Soil contains approximately three times as much carbon as the atmosphere. As well as avoiding the generation of waste, minimising the disturbance of soils on site minimises the loss of carbon during soil handling and storage. Retaining as much soil as possible without damage also reduces flooding, dust and silt management risks, nutrient retention, and supports biodiversity net gain. Soil is therefore a valuable resource in its own right, requiring careful planning at an early stage in the project lifetime to ensure that it can be successfully retained or reused. Defra has published a Code of Practice for the sustainable use of soil on construction sites (Defra, 2009). This is intended to be a practical guide to assist anyone involved in the construction industry to protect the soil resources with which they work, with a focus on England.

Site-won topsoil should, where possible, be left in situ or handled carefully to prevent damage to the soil structure. Where topsoil is to be stripped, stockpiled and re-used such activities should be undertaken during dry weather (generally June to September). Once stockpiled, topsoil should be kept dry. Significant working of topsoil whilst wet can damage the soil structure, reducing the soils' ability to drain and resulting in anaerobic rather than aerobic soil conditions.

Anaerobic soil conditions can have a negative impact on plants and their roots, which will impact the ability of plants to take root once the soil has been placed for its proposed end use. Machinery tracking over recently placed topsoil should be avoided. Should prolonged poor storage result in degradation of the soil some treatment is likely to be required. This may include sand amelioration to improve the soil structure or the addition of composts to reduce nutrient deficiency.

Where site-won topsoil cannot be reused on site, it may then be classed as a waste and consideration should be given to the donation of this material to another construction site where a deficit of topsoil material has been calculated. This would need to be carried out under an MMP. Alternatively, to prevent a valuable resource from going to landfill, consideration could be given to donating topsoil to a Soil Treatment Facility (STF) where it can be treated, processed and reused on other sites, assuming the STF has an appropriate Environmental Permit.

Where relevant, the presence of topsoil and subsoil is considered in site investigation interpretative reports, and how it may be valuable to retain this within the development. By assessing the quality of soils at the investigation phase, together with the anticipated volumes generated from the project, the potential for reuse of excavated soils can also be considered. This may include identifying opportunities for the reuse of surplus soils and minimising the generation of materials classified as waste. Where improvements in soil quality are needed or possible, recommendations can be given to assist in the reuse of this valuable resource.

DoWCoP and MMPs

DoWCoP was developed in consultation with the Environment Agency and the development industry to enable the reuse of materials under certain scenarios subject to demonstrating that specific criteria are met. The current re-use scenarios covered by DoWCoP comprise:

- Reuse on the site of origin (with or without treatment).
- Direct transfer of clean and natural soils between sites.
- Use in the development of land other than the site of origin following treatment at an authorised Hub site (including a fixed Soil Treatment Facility).

The importation of made ground soils (irrespective of contamination status) or crushed demolition materials is not permitted under the CoP and requires either a standard rules environmental permit or a U1 waste exemption.

In the context of excavated materials used on sites undergoing development, four factors are considered to be of particular relevance in determining if the material is a waste or when it ceases to be waste:

- The aim of the Waste Framework Directive is not undermined, i.e. if the use of the material will create an unacceptable risk of pollution of the environment or harm to human health it is likely to be waste.
- The material is certain to be used.
- The material is suitable for use both chemically and geotechnically, and
- Only the required quantity of material will be used.

DoWCoP requires the preparation of a MMP that confirms the above factors will be met. This plan needs to be reviewed by a 'Qualified Person' (QP) who will then issue a declaration form to the EA. As the project progresses, data must be collated and on completion a verification report produced that shows the MMP was followed and describes any changes. The MMP establishes whether specific materials are classified as waste and how excavated materials will be treated and/or re-used in line with the CoP. The MMP is likely to form part of the site waste management plan (SWMP), where applicable.

Future climate change considerations

Future global climate change has been numerically modelled by the Intergovernmental Panel on Climate Change (IPCC) to the year 2100 based on potential anthropogenic greenhouse gas emissions scenarios. The modelling output results in projections, which the Met Office has used to determine the potential impacts of climatic change for the UK. 'UKCP18' is the most up to date set of climate projections for the UK and are based on Representative Concentration Pathways (RCP) greenhouse gas emission scenarios. All scenarios project warming with RCP 8.5 being the most extreme scenario with global temperatures increasing by 4.3°C. Typically projections indicate

changes will increase in magnitude with time. It is noted that RCPs have been superseded by Shared Socioeconomic Pathways (SSP) which were published by the IPCC in 2021, although the Met Office has yet to publish updated projections based on SSP data.

The Met Office defines climate change as the large-scale, long-term shift in average weather patterns and average temperatures and is assessed by averaging data over a 30-year period. The most recent reference period is 1991-2020. The UKCP18 data indicate that the UK climate is changing resulting in hotter drier summers and warmer wetter winters, with an increase in the frequency and intensity of extreme weather and significant weather events with a higher likelihood of heat waves, flash floods and droughts. Sea level is also rising. Further details on the technical background and data sources are provided in **Appendix F**.

The key pieces of legislation associated with climate change are the Climate Change Act (2008) and the Climate Change (Scotland) Act 2009. They established the Committee on Climate Change (CCC) and require a UK Climate Change Risk Assessment (CCRA) to be published every five years to assess 'the risks for the UK from the current and predicted impacts of climate change', combined with a National Adaptation Programme. The adaptation programmes place requirements on the planning regime to incorporate the effects of climate change within their decision making. This is implemented through national planning frameworks and planning policy.

The need to incorporate the predicted effects of future climate change and associated extreme weather events (EWE) into qualitative and quantitative land contamination risk assessments is set out within Land Contamination Risk Management (LCRM) LCRM Stage 1 risk assessment (Environment Agency, 2023). BS 21365:2020 'Soil Quality: Conceptual site models for potentially contaminated sites' (BSI, 2020) includes the requirement to identify possible foreseeable events that could affect contaminant impacts or create new exposure pathways including potential for flooding (rivers, sea, groundwater), rising groundwater or seawater levels, extreme weather conditions and change of use. While there is currently no statutory guidance detailing how the effects of future climate change should be considered within land contamination assessments, several industry-led publications have been produced which provide details on how this can be incorporated, including:

- CL:AIRE, March 2007. Climate Change, Pollutant Linkage and Brownfield Regeneration (CL:AIRE, 2007).
- CL:AIRE, October 2021. Good Practice for Risk Assessment for Coal Mine Gas Emissions (CL:AIRE, 2021a).
- SoBRA, August 2022. Guidance on Assessing Risk to Controlled Waters from UK Land Contamination Under Conditions of Future Climate Change" version 1.0, (SoBRA, 2022).
- NHBC, 2023. NF94: Hazardous ground gas – an essential guide for housebuilders (NHBC, 2023).

Climate change-related impacts on the CSM and land contamination risk assessment are considered at each stage of the site assessment as per LCRM.

Climate change and EWE also have substantial implications for future geotechnical ground conditions, influencing the stability and durability of geotechnical structures, such as foundations, retaining walls, slopes and pavements to mention but a few. Therefore climate change will significantly impact the design of land development projects going forward over their lifecycle and beyond. Furthermore, climate change will significantly impact the future performance of existing

land development projects that have not been designed taking into account these issues. Relevant standards and guidance are referred to in the relevant sections of the report.

Potential for ground source heating and cooling

Most locations in the UK are suitable for the installation of ground source heating or cooling (GSHC) systems. The most appropriate type of installation is determined by the available space, heating and cooling demands of the proposed development and a number of geological and hydrogeological factors, and drilling risks (amongst other factors). We have undertaken an initial assessment of the suitability of the site for this technology in Section 4.7.

Embodied ground carbon assessment

As part of achieving pathways to net zero for the construction sector, there is an urgent need to significantly reduce carbon emissions without compromising suitable and climate resilient development. Created by Leap Environmental (part of RSK Geosciences) in collaboration with the University of Surrey, CReDiT is a suite of carbon calculator tools designed to assess the embodied carbon in materials and associated transport. The tools provide information on relative embodied carbon for below ground aspects, such as foundations, cover systems, and reuse and disposal of soils and excavated materials. The results are intended to inform discussions with relevant parties about embodied carbon at an early stage in the design process and enable comparison and evaluation of different design options.

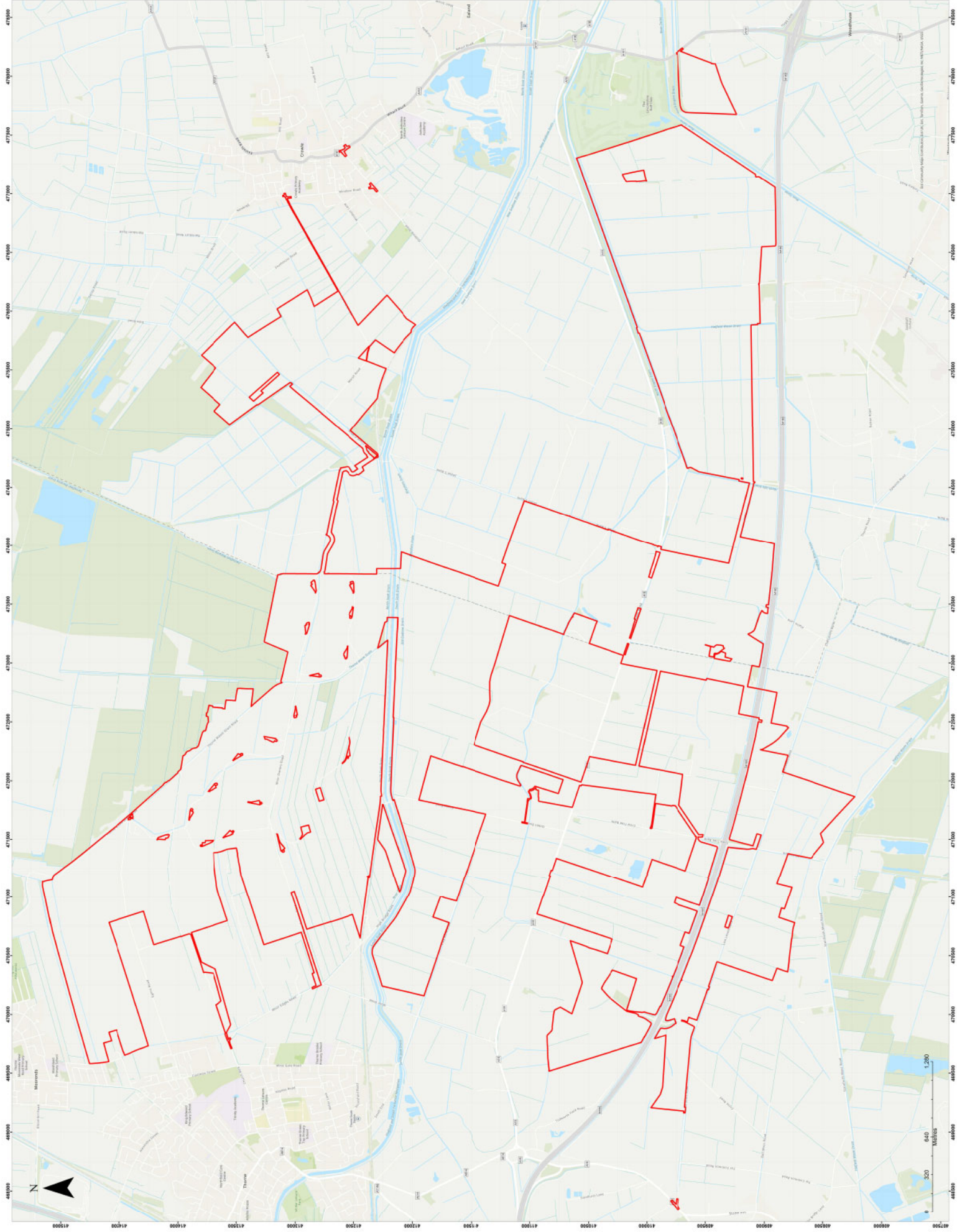
Support to biodiversity net gain/rewilding projects

The quality and condition of soils is a key factor in the establishment or enhancement of flora, which then supports goals of achieving biodiversity net gain (BNG) or rewilding projects. For example, low fertility soils promote the establishment of wildflowers that support insect populations, which would otherwise be outcompeted by grasslands. Where applicable, RSK Geosciences undertakes soil sampling, soil fertility testing and assessments to support nature-positive actions.

Appendix C

DEVELOPMENT DRAWINGS

LEGEND



Appendix D

ENVIRONMENTAL DATABASE REPORT



Tween Bridge Solar Farm

A Nationally Significant Infrastructure Project in the Energy Sector

Preliminary Environmental Information Report

Technical Appendix 9.2

Phase 1 Ground Conditions Desk Study Volume 2 – Appendix H – Groundsure Data Reports

October 2023



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Land at Tween Bridge
Thorne, South Yorkshire**

PHASE I GROUND CONDITIONS DESK STUDY

REPORT NO. 22072 Vers. 2, July 2023

VOLUME 2 APPENDIX H GROUNDSURE DATA REPORTS

Environmental Data Reports by area:

Area 1	Old River Don (North Lincolnshire)
Area 2	North Engine Drain to River Torne (North Lincolnshire)
Areas 3, 4	Plains Lane, Bletchers Drain (North Lincolnshire)
Areas 5, 6, 7	Elder Gates, High Levels, Hatfield Chase, Ferne Carrs (Doncaster)
Areas 8, 9, 10	Clay Bank, Tween Bridge Wind Farm East, Tween Bridge Moors & Wind Farm West (Doncaster)
Additional Area 7	Ferne Carrs East, Low Levels Bank (Doncaster)

Historical Maps:	1:2500 Scale Grid Index *
	Maps at 1:2500 scale by Edition
	1:10,560 or 1:10,000 Scale Grid Index *
	Maps at 1:10,560 / 1:10,000 scale by Edition

* Check Initial Grid Index map for Sheet Nos.
which are given at top right of each Sheet in Site Details box

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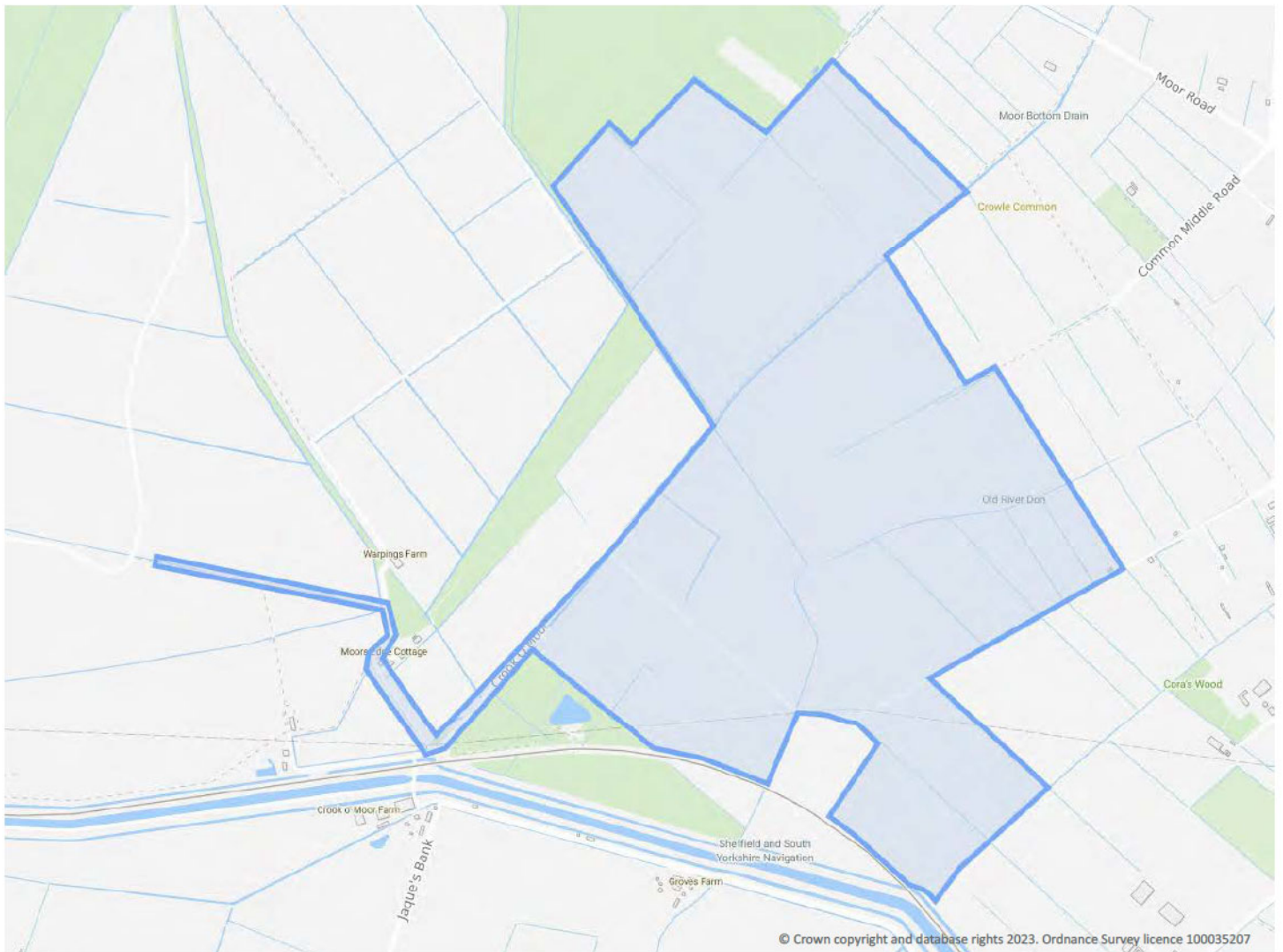
Thorne

Order Details

Date: 03/03/2023
Your ref: Thorne
Our Ref: GSIP-2023-13386-12980_e

Site Details

Location: 475348 412647
Area: 131.41 ha
Authority: [North Lincolnshire Council](#)



Summary of findings

p. 2

Aerial image

p. 8

OS MasterMap site plan

N/A: >10ha

groundsure.com/insightuserguide

Contact us with any questions at:

info@groundsure.com

01273 257 755

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
13	1.1	<u>Historical industrial land uses</u>	16	8	16	8	-
15	1.2	Historical tanks	0	0	0	0	-
16	1.3	Historical energy features	0	0	0	0	-
16	1.4	Historical petrol stations	0	0	0	0	-
16	1.5	Historical garages	0	0	0	0	-
16	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
17	2.1	<u>Historical industrial land uses</u>	18	9	22	10	-
20	2.2	Historical tanks	0	0	0	0	-
20	2.3	Historical energy features	0	0	0	0	-
20	2.4	Historical petrol stations	0	0	0	0	-
20	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
21	3.1	Active or recent landfill	0	0	0	0	-
21	3.2	Historical landfill (BGS records)	0	0	0	0	-
22	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
22	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
22	3.5	Historical waste sites	0	0	0	0	-
22	3.6	Licensed waste sites	0	0	0	0	-
22	3.7	<u>Waste exemptions</u>	4	2	7	57	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
29	4.1	<u>Recent industrial land uses</u>	5	1	5	-	-
30	4.2	Current or recent petrol stations	0	0	0	0	-
30	4.3	Electricity cables	0	0	0	0	-
31	4.4	Gas pipelines	0	0	0	0	-
31	4.5	Sites determined as Contaminated Land	0	0	0	0	-



31	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
31	4.7	Regulated explosive sites	0	0	0	0	-
31	4.8	Hazardous substance storage/usage	0	0	0	0	-
32	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
32	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
32	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
32	4.12	Radioactive Substance Authorisations	0	0	0	0	-
32	4.13	<u>Licensed Discharges to controlled waters</u>	0	0	1	16	-
35	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
35	4.15	Pollutant release to public sewer	0	0	0	0	-
36	4.16	List 1 Dangerous Substances	0	0	0	0	-
36	4.17	List 2 Dangerous Substances	0	0	0	0	-
36	4.18	<u>Pollution Incidents (EA/NRW)</u>	0	1	1	6	-
37	4.19	Pollution inventory substances	0	0	0	0	-
37	4.20	Pollution inventory waste transfers	0	0	0	0	-
38	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
39	5.1	<u>Superficial aquifer</u>	Identified (within 500m)				
41	5.2	<u>Bedrock aquifer</u>	Identified (within 500m)				
43	5.3	<u>Groundwater vulnerability</u>	Identified (within 50m)				
47	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
48	5.5	<u>Groundwater vulnerability- local information</u>	Identified (within 0m)				
49	5.6	Groundwater abstractions	0	0	0	0	0
50	5.7	<u>Surface water abstractions</u>	7	0	1	2	29
58	5.8	Potable abstractions	0	0	0	0	0
58	5.9	<u>Source Protection Zones</u>	1	0	0	0	-
58	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
59	6.1	<u>Water Network (OS MasterMap)</u>	91	40	108	-	-



78	6.2	<u>Surface water features</u>	1	25	40	-	-
78	6.3	<u>WFD Surface water body catchments</u>	2	-	-	-	-
79	6.4	<u>WFD Surface water bodies</u>	0	1	1	-	-
79	6.5	<u>WFD Groundwater bodies</u>	2	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
81	7.1	<u>Risk of flooding from rivers and the sea</u>	High (within 50m)				
82	7.2	Historical Flood Events	0	0	0	-	-
82	7.3	<u>Flood Defences</u>	0	5	7	-	-
83	7.4	<u>Areas Benefiting from Flood Defences</u>	2	0	0	-	-
83	7.5	Flood Storage Areas	0	0	0	-	-
84	7.6	<u>Flood Zone 2</u>	Identified (within 50m)				
85	7.7	<u>Flood Zone 3</u>	Identified (within 50m)				
Page	Section	Surface water flooding					
86	8.1	<u>Surface water flooding</u>	1 in 30 year, Greater than 1.0m (within 50m)				
Page	Section	Groundwater flooding					
88	9.1	<u>Groundwater flooding</u>	High (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
89	10.1	<u>Sites of Special Scientific Interest (SSSI)</u>	1	0	0	0	1
90	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
90	10.3	<u>Special Areas of Conservation (SAC)</u>	1	0	0	0	0
90	10.4	<u>Special Protection Areas (SPA)</u>	1	0	1	0	2
91	10.5	<u>National Nature Reserves (NNR)</u>	2	0	1	0	4
92	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
92	10.7	Designated Ancient Woodland	0	0	0	0	0
92	10.8	Biosphere Reserves	0	0	0	0	0
92	10.9	Forest Parks	0	0	0	0	0
93	10.10	Marine Conservation Zones	0	0	0	0	0
93	10.11	Green Belt	0	0	0	0	0
93	10.12	Proposed Ramsar sites	0	0	0	0	0



93	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
93	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
94	10.15	Nitrate Sensitive Areas	0	0	0	0	0
94	10.16	<u>Nitrate Vulnerable Zones</u>	1	0	2	0	3
95	10.17	<u>SSSI Impact Risk Zones</u>	7	-	-	-	-
99	10.18	<u>SSSI Units</u>	1	1	2	1	18
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
110	11.1	World Heritage Sites	0	0	0	-	-
110	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
110	11.3	National Parks	0	0	0	-	-
110	11.4	Listed Buildings	0	0	0	-	-
111	11.5	Conservation Areas	0	0	0	-	-
111	11.6	Scheduled Ancient Monuments	0	0	0	-	-
111	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
112	12.1	<u>Agricultural Land Classification</u>	Non Agricultural (within 250m)				
113	12.2	<u>Open Access Land</u>	0	0	1	-	-
113	12.3	<u>Tree Felling Licences</u>	0	0	2	-	-
114	12.4	<u>Environmental Stewardship Schemes</u>	1	0	0	-	-
114	12.5	<u>Countryside Stewardship Schemes</u>	3	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
115	13.1	<u>Priority Habitat Inventory</u>	3	8	10	-	-
117	13.2	<u>Habitat Networks</u>	3	0	3	-	-
117	13.3	Open Mosaic Habitat	0	0	0	-	-
117	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
119	14.1	<u>10k Availability</u>	Identified (within 500m)				
120	14.2	Artificial and made ground (10k)	0	0	0	0	-
121	14.3	<u>Superficial geology (10k)</u>	8	4	6	4	-

122	14.4	Landslip (10k)	0	0	0	0	-
123	14.5	<u>Bedrock geology (10k)</u>	3	0	0	0	-
124	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
125	15.1	<u>50k Availability</u>	Identified (within 500m)				
126	15.2	Artificial and made ground (50k)	0	0	0	0	-
126	15.3	Artificial ground permeability (50k)	0	0	-	-	-
127	15.4	<u>Superficial geology (50k)</u>	9	4	7	4	-
128	15.5	<u>Superficial permeability (50k)</u>	Identified (within 50m)				
129	15.6	Landslip (50k)	0	0	0	0	-
129	15.7	Landslip permeability (50k)	None (within 50m)				
130	15.8	<u>Bedrock geology (50k)</u>	3	0	1	0	-
131	15.9	<u>Bedrock permeability (50k)</u>	Identified (within 50m)				
131	15.10	Bedrock faults and other linear features (50k)	0	0	0	0	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
132	16.1	<u>BGS Boreholes</u>	0	1	3	-	-
Page	Section	Natural ground subsidence					
134	17.1	<u>Shrink swell clays</u>	Very low (within 50m)				
136	17.2	<u>Running sands</u>	Low (within 50m)				
138	17.3	<u>Compressible deposits</u>	High (within 50m)				
140	17.4	<u>Collapsible deposits</u>	Negligible (within 50m)				
141	17.5	<u>Landslides</u>	Very low (within 50m)				
142	17.6	<u>Ground dissolution of soluble rocks</u>	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
144	18.1	Natural cavities	0	0	0	0	-
145	18.2	<u>BritPits</u>	0	0	0	1	-
145	18.3	<u>Surface ground workings</u>	0	16	13	-	-
146	18.4	Underground workings	0	0	0	0	0
147	18.5	<u>Historical Mineral Planning Areas</u>	1	0	1	0	-



147	18.6	Non-coal mining	0	0	0	0	0
147	18.7	Mining cavities	0	0	0	0	0
147	18.8	JPB mining areas	None (within 0m)				
148	18.9	<u>Coal mining</u>	Identified (within 0m)				
148	18.10	Brine areas	None (within 0m)				
148	18.11	Gypsum areas	None (within 0m)				
148	18.12	Tin mining	None (within 0m)				
148	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
149	19.1	<u>Radon</u>	Less than 1% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
151	20.1	<u>BGS Estimated Background Soil Chemistry</u>	46	17	-	-	-
155	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
155	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
156	21.1	Underground railways (London)	0	0	0	-	-
156	21.2	Underground railways (Non-London)	0	0	0	-	-
157	21.3	Railway tunnels	0	0	0	-	-
157	21.4	<u>Historical railway and tunnel features</u>	10	4	7	-	-
158	21.5	Royal Mail tunnels	0	0	0	-	-
158	21.6	Historical railways	0	0	0	-	-
158	21.7	<u>Railways</u>	0	21	5	-	-
159	21.8	Crossrail 1	0	0	0	0	-
160	21.9	Crossrail 2	0	0	0	0	-
160	21.10	HS2	0	0	0	0	-

Recent aerial photograph



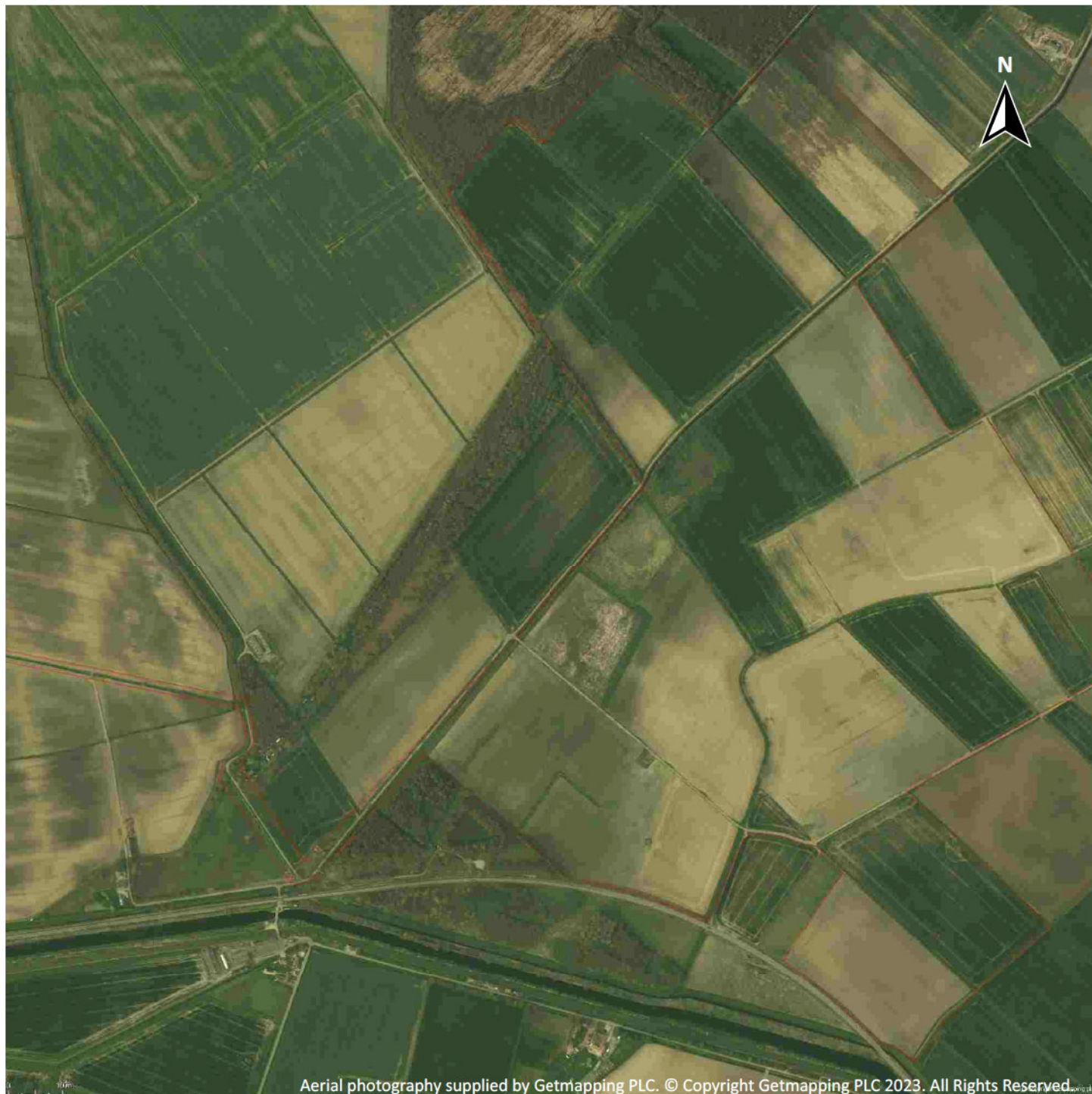
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Capture Date: 20/10/2019

Site Area: 131.41ha



Recent site history - 2016 aerial photograph



Capture Date: 21/04/2016

Site Area: 131.41ha



Contact us with any questions at:

info@groundsure.com

01273 257 755

Date: 3 March 2023

Recent site history - 2013 aerial photograph



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Capture Date: 07/06/2013

Site Area: 131.41ha



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Recent site history - 2009 aerial photograph



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Capture Date: 11/09/2009

Site Area: 131.41ha



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Recent site history - 1999 aerial photograph



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Capture Date: 03/05/1999

Site Area: 131.41ha



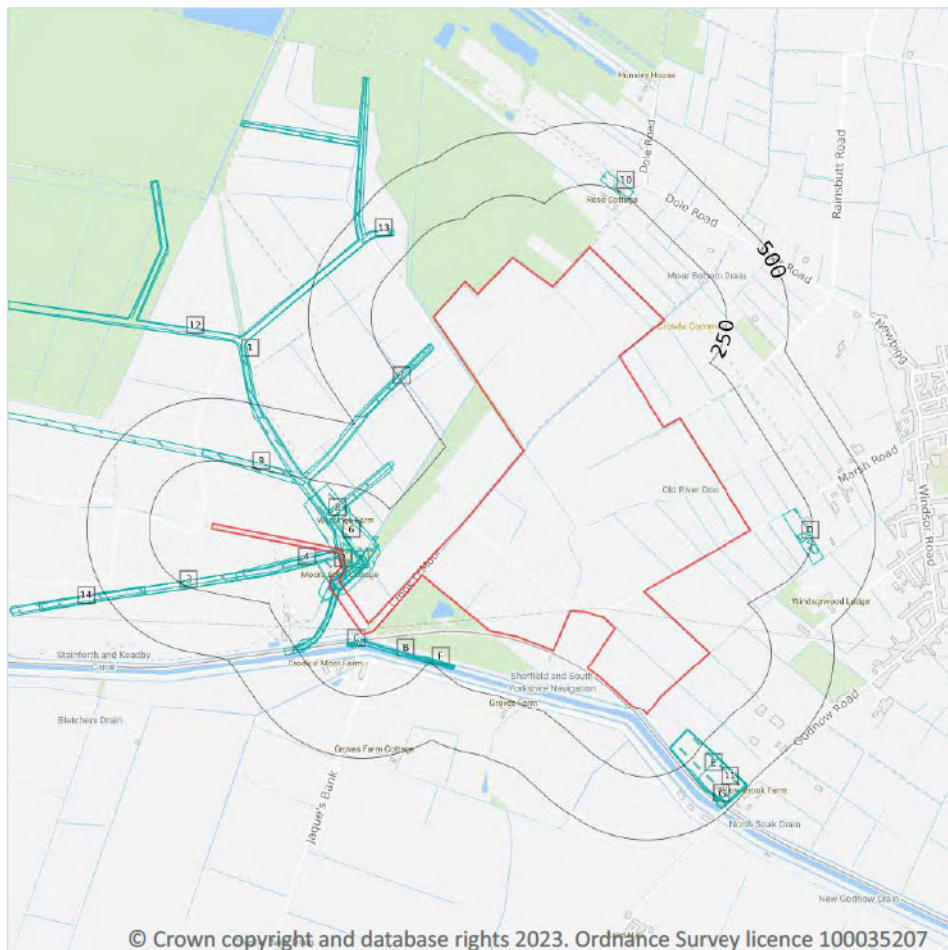
Contact us with any questions at:

info@groundsure.com

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Date: 3 March 2023

1 Past land use



— Site Outline

Search buffers in metres (m)

 Historical industrial land uses

1.1 Historical industrial land uses

Records within 500m

48

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 13**

ID	Location	Land use	Dates present	Group ID
1	On site	Tramway Sidings	1906	1472097

ID	Location	Land use	Dates present	Group ID
2	On site	Tramway Sidings	1908	1476055
3	On site	Tramway Sidings	1948	1481028
4	On site	Tramway Sidings	1891	1498438
5	On site	Railway Sidings	1968	1498829
6	On site	Peat Works	1948	1527788
A	On site	Disused Works	1966	1418404
A	On site	Unspecified Works	1891	1473595
A	On site	Tramway Sidings	1968	1483303
A	On site	Unspecified Works	1948	1483668
A	On site	Railway Sidings	1948	1487004
A	On site	Peat Works	1955 - 1968	1492146
A	On site	Peat Works	1908	1494382
A	On site	Tramway Sidings	1948 - 1955	1503073
A	On site	Railway Sidings	1966	1516537
A	On site	Peat Works	1906	1534272
B	19m SW	Tramway Sidings	1908	1430906
B	19m SW	Railway Sidings	1948	1477870
B	25m SW	Railway Sidings	1966	1465424
C	40m SW	Railway Station	1948 - 1955	1532933
C	42m SW	Railway Station	1906	1489995
C	45m SW	Railway Station	1891	1472570
C	47m SW	Railway Station	1948	1522088
C	47m SW	Railway Station	1908	1527963
7	73m NW	Tramway Sidings	1948	1551727
8	89m W	Tramway Sidings	1948	1490971
D	143m E	Sewage Works	1951 - 1973	1537007
E	159m S	Disused Brick Works	1885	1492087
E	159m S	Disused Brick Works	1948 - 1951	1524000



ID	Location	Land use	Dates present	Group ID
E	161m S	Disused Brick Works	1904 - 1908	1548738
E	162m S	Disused Brick Works	1885 - 1890	1471021
F	187m SW	Railway Sidings	1908	1493818
D	190m E	Filter Beds	1973	1425653
F	191m SW	Railway Sidings	1948	1476314
F	200m SW	Railway Sidings	1951	1515574
9	218m W	Tramway Sidings	1891	1548457
D	223m E	Filter Beds	1973	1425652
D	232m E	Filter Beds	1973	1425654
10	238m N	Peat Works	1973	1443642
D	250m E	Unspecified Tanks	1951 - 1973	1473381
11	325m SE	Disused Brick Works	1885	1468896
12	346m NW	Tramway Sidings	1948	1497099
13	346m NW	Tramway Sidings	1948	1538247
14	355m W	Tramway Sidings	1948	1503072
G	430m SE	Railway Station	1948	1515694
G	433m SE	Railway Station	1904 - 1908	1524281
G	434m SE	Railway Station	1885	1544402
G	447m SE	Unspecified Station	1890	1457520

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

0

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'.

This data is sourced from Ordnance Survey / Groundsure.



1.3 Historical energy features

Records within 500m**0**

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'.

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

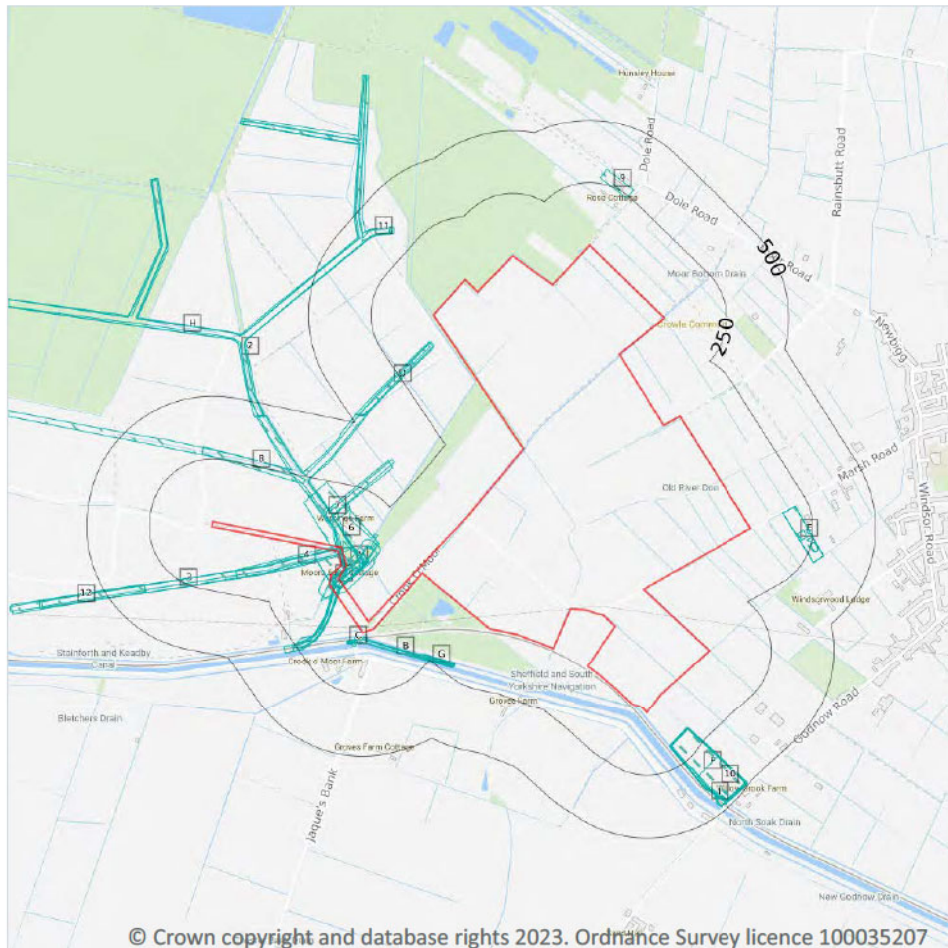
Records within 500m**0**

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

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 17**

ID	Location	Land Use	Date	Group ID
1	On site	Railway Sidings	1968	1498829
2	On site	Tramway Sidings	1906	1472097
3	On site	Tramway Sidings	1948	1481028

ID	Location	Land Use	Date	Group ID
4	On site	Tramway Sidings	1891	1498438
5	On site	Tramway Sidings	1908	1476055
6	On site	Peat Works	1948	1527788
A	On site	Tramway Sidings	1968	1483303
A	On site	Peat Works	1968	1492146
A	On site	Peat Works	1906	1534272
A	On site	Unspecified Works	1948	1483668
A	On site	Railway Sidings	1948	1487004
A	On site	Peat Works	1955	1492146
A	On site	Railway Sidings	1966	1516537
A	On site	Disused Works	1966	1418404
A	On site	Tramway Sidings	1955	1503073
A	On site	Unspecified Works	1891	1473595
A	On site	Peat Works	1908	1494382
A	On site	Tramway Sidings	1948	1503073
B	19m SW	Tramway Sidings	1908	1430906
B	19m SW	Railway Sidings	1948	1477870
B	25m SW	Railway Sidings	1966	1465424
C	40m SW	Railway Station	1955	1532933
C	42m SW	Railway Station	1906	1489995
C	42m SW	Railway Station	1948	1532933
C	45m SW	Railway Station	1891	1472570
C	47m SW	Railway Station	1948	1522088
C	47m SW	Railway Station	1908	1527963
D	73m NW	Tramway Sidings	1948	1551727
D	85m NW	Tramway Sidings	1908	1476055
7	89m W	Tramway Sidings	1948	1490971
E	143m E	Sewage Works	1951	1537007



ID	Location	Land Use	Date	Group ID
E	143m E	Sewage Works	1973	1537007
F	159m S	Disused Brick Works	1948	1524000
F	159m S	Disused Brick Works	1885	1492087
F	161m S	Disused Brick Works	1904	1548738
F	162m S	Disused Brick Works	1908	1548738
F	162m S	Disused Brick Works	1885	1471021
F	164m S	Disused Brick Works	1890	1471021
F	165m S	Disused Brick Works	1951	1524000
G	187m SW	Railway Sidings	1908	1493818
E	190m E	Filter Beds	1973	1425653
G	191m SW	Railway Sidings	1948	1476314
G	200m SW	Railway Sidings	1951	1515574
8	218m W	Tramway Sidings	1891	1548457
E	223m E	Filter Beds	1973	1425652
E	232m E	Filter Beds	1973	1425654
9	238m N	Peat Works	1973	1443642
E	250m E	Unspecified Tanks	1951	1473381
E	250m E	Unspecified Tanks	1973	1473381
10	325m SE	Disused Brick Works	1885	1468896
H	346m NW	Tramway Sidings	1948	1497099
11	346m NW	Tramway Sidings	1948	1538247
H	347m NW	Tramway Sidings	1908	1476055
12	355m W	Tramway Sidings	1948	1503072
I	430m SE	Railway Station	1948	1515694
I	433m SE	Railway Station	1908	1524281
I	434m SE	Railway Station	1885	1544402
I	434m SE	Railway Station	1904	1524281
I	447m SE	Unspecified Station	1890	1457520

This data is sourced from Ordnance Survey / Groundsure.



2.2 Historical tanks

Records within 500m**0**

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'.

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m**0**

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'.

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.

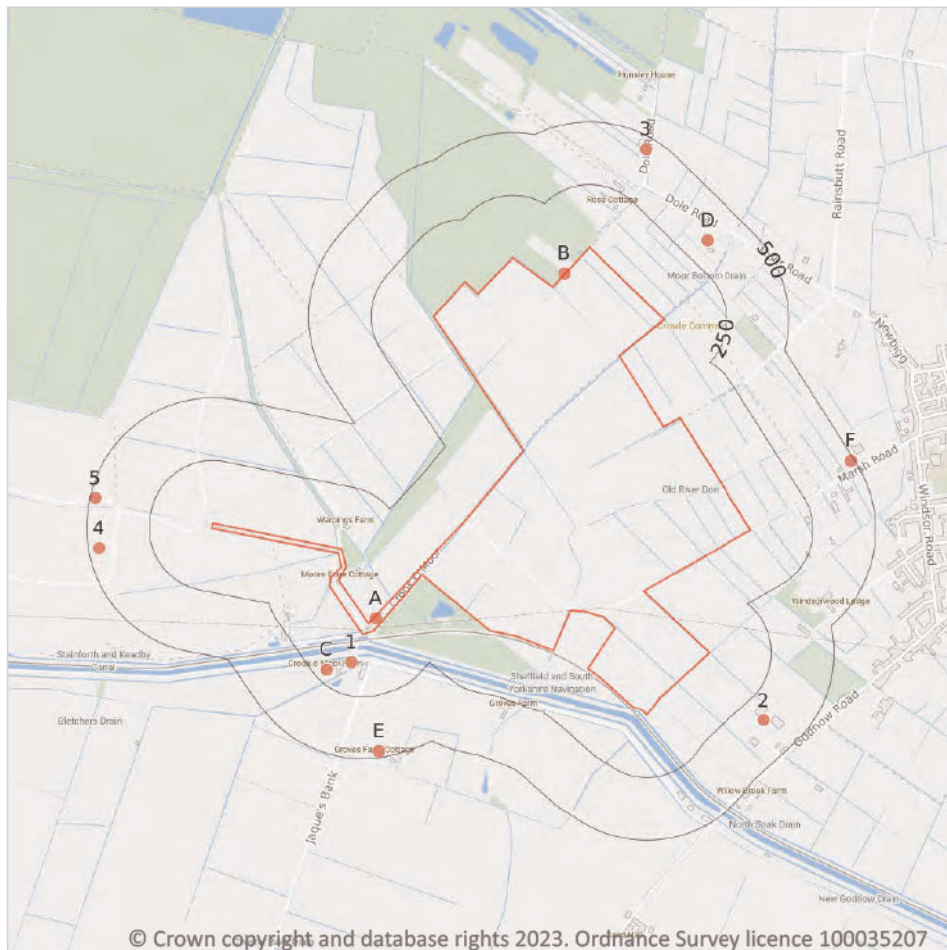
2.5 Historical garages

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



Site Outline

Search buffers in metres (m)

Waste exemptions

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

0

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.

This data is sourced from the British Geological Survey.



3.3 Historical landfill (LA/mapping records)

Records within 500m**0**

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m**0**

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.

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

3.5 Historical waste sites

Records within 500m**0**

Waste site records derived from Local Authority planning records and high detail historical mapping.

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

3.6 Licensed waste sites

Records within 500m**0**

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

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

3.7 Waste exemptions

Records within 500m**70**

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 21**

ID	Location	Site	Reference	Category	Sub-Category	Description
A	On site	-	WEX278416	Storing waste exemption	Not on a farm	Storage of waste in secure containers



ID	Location	Site	Reference	Category	Sub-Category	Description
A	On site	-	WEX278416	Storing waste exemption	Not on a farm	Storage of waste in a secure place
A	On site	-	WEX138796	Storing waste exemption	Not on a farm	Storage of waste in a secure place
A	On site	-	WEX138796	Storing waste exemption	Not on a farm	Storage of waste in secure containers
B	5m N	-	WEX291970	Using waste exemption	On a Farm	Use of waste in construction
B	5m N	-	WEX153920	Using waste exemption	On a Farm	Use of waste in construction
1	122m SW	CROOK O MOOR FARM, MEDGE HALL, DONCASTER, DN8 5SP	WEX210309	Disposing of waste exemption	On a Farm	Burning waste in the open
C	204m SW	Crook o Moor Farm Medge Hall Doncaster DN8 5SP	EPR/VE5781H Z/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of waste from dredging of inland waters
C	204m SW	Crook o Moor Farm Medge Hall Doncaster DN8 5SP	EPR/VE5781H Z/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of agricultural waste consisting of plant tissue under a Plant Health notice
C	204m SW	Crook o Moor Farm Medge Hall Doncaster DN8 5SP	EPR/VE5781H Z/A001	Treating waste exemption	Agricultural Waste Only	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
C	204m SW	Crook o Moor Farm Medge Hall Doncaster DN8 5SP	EPR/VE5781H Z/A001	Disposing of waste exemption	Both agricultural and non-agricultural waste	Burning waste in the open
C	204m SW	Crook o Moor Farm Medge Hall Doncaster DN8 5SP	EPR/VE5781H Z/A001	Using waste exemption	Both agricultural and non-agricultural waste	Use of waste in construction
C	204m SW	Crook o Moor Farm Medge Hall Doncaster DN8 5SP	EPR/VE5781H Z/A001	Using waste exemption	Both agricultural and non-agricultural waste	Use of waste for a specified purpose
D	347m NE	MIDDLE MOOR FARM, DOLE ROAD, CROWLE, SCUNTHORPE, DN17 4BL	WEX238142	Disposing of waste exemption	On a Farm	Deposit of waste from dredging of inland waters



ID	Location	Site	Reference	Category	Sub-Category	Description
D	347m NE	MIDDLE MOOR FARM, DOLE ROAD, CROWLE, SCUNTHORPE, DN17 4BL	WEX238142	Using waste exemption	On a Farm	Use of waste in construction
D	347m NE	MIDDLE MOOR FARM, DOLE ROAD, CROWLE, SCUNTHORPE, DN17 4BL	WEX238142	Using waste exemption	On a Farm	Use of baled end-of-life tyres in construction
D	347m NE	MIDDLE MOOR FARM, DOLE ROAD, CROWLE, SCUNTHORPE, DN17 4BL	WEX238142	Using waste exemption	On a Farm	Burning of waste as a fuel in a small appliance
D	347m NE	MIDDLE MOOR FARM, DOLE ROAD, CROWLE, SCUNTHORPE, DN17 4BL	WEX238142	Using waste exemption	On a Farm	Use of waste for a specified purpose
D	347m NE	MIDDLE MOOR FARM, DOLE ROAD, CROWLE, SCUNTHORPE, DN17 4BL	WEX238142	Using waste exemption	On a Farm	Spreading waste on agricultural land to confer benefit
D	347m NE	MIDDLE MOOR FARM, DOLE ROAD, CROWLE, SCUNTHORPE, DN17 4BL	WEX238142	Using waste exemption	On a Farm	Spreading waste on non-agricultural land to confer benefit
D	347m NE	MIDDLE MOOR FARM, DOLE ROAD, CROWLE, SCUNTHORPE, DN17 4BL	WEX238142	Using waste exemption	On a Farm	Use of mulch
D	347m NE	MIDDLE MOOR FARM, DOLE ROAD, CROWLE, SCUNTHORPE, DN17 4BL	WEX238142	Using waste exemption	On a Farm	Spreading of plant matter to confer benefit
D	347m NE	MIDDLE MOOR FARM, DOLE ROAD, CROWLE, SCUNTHORPE, DN17 4BL	WEX238142	Using waste exemption	On a Farm	Incorporation of ash into soil
D	347m NE	MIDDLE MOOR FARM, DOLE ROAD, CROWLE, SCUNTHORPE, DN17 4BL	WEX238142	Using waste exemption	On a Farm	Pig and poultry ash
D	347m NE	MIDDLE MOOR FARM, DOLE ROAD, CROWLE, SCUNTHORPE, DN17 4BL	WEX238142	Treating waste exemption	On a Farm	Preparatory treatments (baling, sorting, shredding etc)
D	347m NE	MIDDLE MOOR FARM, DOLE ROAD, CROWLE, SCUNTHORPE, DN17 4BL	WEX238142	Treating waste exemption	On a Farm	Screening and blending of waste
D	347m NE	MIDDLE MOOR FARM, DOLE ROAD, CROWLE, SCUNTHORPE, DN17 4BL	WEX238142	Disposing of waste exemption	On a Farm	Disposal by incineration



ID	Location	Site	Reference	Category	Sub-Category	Description
D	347m NE	MIDDLE MOOR FARM, DOLE ROAD, CROWLE, SCUNTHORPE, DN17 4BL	WEX238142	Disposing of waste exemption	On a Farm	Burning waste in the open
D	347m NE	MIDDLE MOOR FARM, DOLE ROAD, CROWLE, SCUNTHORPE, DN17 4BL	WEX238142	Storing waste exemption	On a Farm	Storage of waste in secure containers
D	347m NE	MIDDLE MOOR FARM, DOLE ROAD, CROWLE, SCUNTHORPE, DN17 4BL	WEX238142	Storing waste exemption	On a Farm	Storage of waste in a secure place
D	347m NE	MIDDLE MOOR FARM, DOLE ROAD, CROWLE, SCUNTHORPE, DN17 4BL	WEX238142	Treating waste exemption	On a Farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
D	347m NE	MIDDLE MOOR FARM, DOLE ROAD, CROWLE, SCUNTHORPE, DN17 4BL	WEX238142	Treating waste exemption	On a Farm	Sorting mixed waste
D	347m NE	MIDDLE MOOR FARM, DOLE ROAD, CROWLE, SCUNTHORPE, DN17 4BL	WEX238142	Treating waste exemption	On a Farm	Treatment of waste food
D	347m NE	MIDDLE MOOR FARM, DOLE ROAD, CROWLE, SCUNTHORPE, DN17 4BL	WEX238142	Treating waste exemption	On a Farm	Aerobic composting and associated prior treatment
D	347m NE	MIDDLE MOOR FARM, DOLE ROAD, CROWLE, SCUNTHORPE, DN17 4BL	WEX238142	Treating waste exemption	On a Farm	Treatment of sheep dip for disposal
D	347m NE	MIDDLE MOOR FARM, CROWLE MOORS, CROWLE, SCUNTHORPE, DN17 4BL	WEX092903	Disposing of waste exemption	On a farm	Burning waste in the open
D	347m NE	MIDDLE MOOR FARM, CROWLE MOORS, CROWLE, SCUNTHORPE, DN17 4BL	WEX092903	Storing waste exemption	On a farm	Storage of waste in secure containers
D	347m NE	MIDDLE MOOR FARM, CROWLE MOORS, CROWLE, SCUNTHORPE, DN17 4BL	WEX092903	Treating waste exemption	On a farm	Treatment of waste food
D	347m NE	MIDDLE MOOR FARM, CROWLE MOORS, CROWLE, SCUNTHORPE, DN17 4BL	WEX092903	Treating waste exemption	On a farm	Aerobic composting and associated prior treatment



ID	Location	Site	Reference	Category	Sub-Category	Description
D	347m NE	MIDDLE MOOR FARM, CROWLE MOORS, CROWLE, SCUNTHORPE, DN17 4BL	WEX092903	Treating waste exemption	On a farm	Screening and blending of waste
D	347m NE	MIDDLE MOOR FARM, CROWLE MOORS, CROWLE, SCUNTHORPE, DN17 4BL	WEX092903	Using waste exemption	On a farm	Use of waste in construction
D	347m NE	MIDDLE MOOR FARM, CROWLE MOORS, CROWLE, SCUNTHORPE, DN17 4BL	WEX092903	Using waste exemption	On a farm	Spreading waste on non- agricultural land to confer benefit
D	347m NE	MIDDLE MOOR FARM, CROWLE MOORS, CROWLE, SCUNTHORPE, DN17 4BL	WEX092903	Using waste exemption	On a farm	Spreading of plant matter to confer benefit
D	347m NE	MIDDLE MOOR FARM, CROWLE MOORS, CROWLE, SCUNTHORPE, DN17 4BL	WEX092903	Using waste exemption	On a farm	Incorporation of ash into soil
D	347m NE	MIDDLE MOOR FARM, CROWLE MOORS, CROWLE, SCUNTHORPE, DN17 4BL	WEX092903	Using waste exemption	On a farm	Burning of waste as a fuel in a small appliance
D	347m NE	MIDDLE MOOR FARM, CROWLE MOORS, CROWLE, SCUNTHORPE, DN17 4BL	WEX092903	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
D	347m NE	MIDDLE MOOR FARM, CROWLE MOORS, CROWLE, SCUNTHORPE, DN17 4BL	WEX092903	Disposing of waste exemption	On a farm	Disposal by incineration
D	347m NE	MIDDLE MOOR FARM, CROWLE MOORS, CROWLE, SCUNTHORPE, DN17 4BL	WEX092903	Storing waste exemption	On a farm	Storage of waste in a secure place
D	347m NE	MIDDLE MOOR FARM, CROWLE MOORS, CROWLE, SCUNTHORPE, DN17 4BL	WEX092903	Treating waste exemption	On a farm	Sorting mixed waste



ID	Location	Site	Reference	Category	Sub-Category	Description
D	347m NE	MIDDLE MOOR FARM, CROWLE MOORS, CROWLE, SCUNTHORPE, DN17 4BL	WEX092903	Treating waste exemption	On a farm	Treatment of sheep dip for disposal
D	347m NE	MIDDLE MOOR FARM, CROWLE MOORS, CROWLE, SCUNTHORPE, DN17 4BL	WEX092903	Treating waste exemption	On a farm	Preparatory treatments (baling, sorting, shredding etc)
D	347m NE	MIDDLE MOOR FARM, CROWLE MOORS, CROWLE, SCUNTHORPE, DN17 4BL	WEX092903	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
D	347m NE	MIDDLE MOOR FARM, CROWLE MOORS, CROWLE, SCUNTHORPE, DN17 4BL	WEX092903	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
D	347m NE	MIDDLE MOOR FARM, CROWLE MOORS, CROWLE, SCUNTHORPE, DN17 4BL	WEX092903	Using waste exemption	On a farm	Use of mulch
D	347m NE	MIDDLE MOOR FARM, CROWLE MOORS, CROWLE, SCUNTHORPE, DN17 4BL	WEX092903	Using waste exemption	On a farm	Pig and poultry ash
D	347m NE	MIDDLE MOOR FARM, CROWLE MOORS, CROWLE, SCUNTHORPE, DN17 4BL	WEX092903	Using waste exemption	On a farm	Use of baled end-of-life tyres in construction
D	347m NE	MIDDLE MOOR FARM, CROWLE MOORS, CROWLE, SCUNTHORPE, DN17 4BL	WEX092903	Using waste exemption	On a farm	Use of waste for a specified purpose
2	349m SE	59, FIELDSIDE, CROWLE, SCUNTHORPE, DN17 4HH	WEX023042	Storing waste exemption	On a farm	Storage of sludge
3	449m N	Humberhead Peatlands nature reserve, Moorends, Goole, DN17 4BL	WEX113255	Using waste exemption	Not on a farm	Use of waste in construction
4	460m W	DAIRY FARM BUNGALOW, EGLINS ROAD, THORNE, DONCASTER, DN8 5RX	WEX086131	Storing waste exemption	On a farm	Storage of sludge



ID	Location	Site	Reference	Category	Sub-Category	Description
E	475m SW	Groves Cottage Medge Hall Doncaster DN8 5SP	EPR/GH0779M R/A001	Disposing of waste exemption	Both agricultural and non- agricultural waste	Deposit of waste from dredging of inland waters
E	475m SW	Groves Cottage Medge Hall Doncaster DN8 5SP	EPR/GH0779M R/A001	Disposing of waste exemption	Both agricultural and non- agricultural waste	Burning waste in the open
E	475m SW	Groves Cottage Medge Hall Doncaster DN8 5SP	EPR/GH0779M R/A001	Treating waste exemption	Both agricultural and non- agricultural waste	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
E	475m SW	Groves Cottage Medge Hall Doncaster DN8 5SP	EPR/GH0779M R/A001	Using waste exemption	Both agricultural and non- agricultural waste	Use of waste in construction
E	475m SW	Groves Cottage Medge Hall Doncaster DN8 5SP	EPR/GH0779M R/A001	Using waste exemption	Both agricultural and non- agricultural waste	Spreading of plant matter to confer benefit
E	475m SW	Groves Cottage Medge Hall Doncaster DN8 5SP	EPR/GH0779M R/A001	Using waste exemption	Both agricultural and non- agricultural waste	Burning of waste as a fuel in a small appliance
5	482m W	DAIRY FARM, EGLINS ROAD, THORNE, DONCASTER, DN8 5RX	WEX086073	Storing waste exemption	On a farm	Storage of sludge
F	485m E	MARSHGATE FARM, MARSH ROAD, CROWLE, SCUNTHORPE, DN17 4EU	WEX203601	Disposing of waste exemption	On a Farm	Burning waste in the open
F	485m E	MARSHGATE FARM, MARSH ROAD, CROWLE, SCUNTHORPE, DN17 4EU	WEX054575	Disposing of waste exemption	On a farm	Burning waste in the open
F	485m E	MARSHGATE FARM, MARSH ROAD, CROWLE, SCUNTHORPE, DN17 4EU	WEX054575	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit

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
- Licensed Discharges to controlled waters
- Pollution Incidents (EA/NRW)

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4.1 Recent industrial land uses

Records within 250m

11

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 29**

ID	Location	Company	Address	Activity	Category
1	On site	Pylon	Lincolnshire, DN8	Electrical Features	Infrastructure and Facilities
2	On site	Pylon	Lincolnshire, DN8	Electrical Features	Infrastructure and Facilities
3	On site	Pylon	Lincolnshire, DN8	Electrical Features	Infrastructure and Facilities



ID	Location	Company	Address	Activity	Category
4	On site	Pumping Station	Lincolnshire, DN8	Water Pumping Stations	Industrial Features
A	On site	Pylon	Lincolnshire, DN8	Electrical Features	Infrastructure and Facilities
A	49m SW	Mast (Telecommunication)	Lincolnshire, DN8	Telecommunications Features	Infrastructure and Facilities
6	97m W	Tween Bridge Moor Turbine	Lincolnshire, DN8	Energy Production	Industrial Features
7	120m SW	Pylon	Lincolnshire, DN8	Electrical Features	Infrastructure and Facilities
8	132m SW	Moorings	Lincolnshire, DN8	Moorings and Unloading Facilities	Water
9	148m SE	Pylon	Lincolnshire, DN17	Electrical Features	Infrastructure and Facilities
11	222m SW	Pylon	Lincolnshire, DN8	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	0
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High voltage underground electricity transmission cables.

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

0

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.

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

0

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.

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m**0**

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**0**

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

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

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

Records within 500m**0**

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.

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**17**

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 29**

ID	Location	Address	Details	
10	196m SW	CROOK O MOOR FARM, MEDGE HALL, HEDGE HALL, NEAR CROWLE, LINCOLNSHIRE	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: T/83/00850/S Permit Version: 1 Receiving Water: TRIB OF BRIER-HOLME CARR DRAIN	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 14/08/1961 Effective Date: 14/08/1961 Revocation Date: -
B	282m E	CROWLE STW	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: T/84/08177/R Permit Version: 1 Receiving Water: PAUPERS DRAIN	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: 14/10/1980 Effective Date: 14/10/1980 Revocation Date: 14/11/1999
12	284m N	CROWLE PEATLAND RAILWAY, VISITOR CENTRE AND LOCOSHED, DOLE ROAD, SCUNTHORPE, LINCOLNSHIRE, DN17 4BL	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: EPRPB3196ER Permit Version: 1 Receiving Water: TRIB HUMBER ESTUARY	Status: NEW ISSUED UNDER EPR 2010 Issue date: 11/11/2019 Effective Date: 11/11/2019 Revocation Date: -
B	292m E	CROWLE SEWAGE TREATMENT WORKS, MARSH ROAD, CROWLE, NR. SCUNTHORPE, SOUTH HUMBERSIDE, DN17 4EU	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: T/84/45204/R Permit Version: 1 Receiving Water: OLD RIVER DRAIN	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 15/11/1999 Effective Date: 15/11/1999 Revocation Date: 30/03/2005
B	292m E	CROWLE SEWAGE TREATMENT WORKS, MARSH ROAD, CROWLE, NR. SCUNTHORPE, SOUTH HUMBERSIDE, DN17 4EU	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: T/84/45204/R Permit Version: 1 Receiving Water: OLD RIVER DRAIN	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 15/11/1999 Effective Date: 15/11/1999 Revocation Date: 30/03/2005
B	292m E	CROWLE SEWAGE TREATMENT WORKS, MARSH ROAD, CROWLE, NR. SCUNTHORPE, SOUTH HUMBERSIDE, DN17 4EU	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: T/84/45204/R Permit Version: 2 Receiving Water: OLD RIVER DRAIN	Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 29/09/2000 Effective Date: 31/03/2005 Revocation Date: 10/11/2005
B	292m E	CROWLE SEWAGE TREATMENT WORKS, MARSH ROAD, CROWLE, NR. SCUNTHORPE, SOUTH HUMBERSIDE, DN17 4EU	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: T/84/45204/R Permit Version: 2 Receiving Water: OLD RIVER DRAIN	Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 29/09/2000 Effective Date: 31/03/2005 Revocation Date: 10/11/2005



ID	Location	Address	Details	
B	292m E	CROWLE-SCUNTHORPE STW, MARSH ROAD, CROWLE, SCUNTHORPE, LINCOLNSHIRE, DN17 4EU	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: T/84/46212/R Permit Version: 1 Receiving Water: OLD RIVER DRAIN	Status: CONSENTS WITHOUT APPLICATION (WRA 91, SCHED 10) Issue date: 11/11/2005 Effective Date: 11/11/2005 Revocation Date: 31/12/2005
B	292m E	CROWLE-SCUNTHORPE STW, MARSH ROAD, CROWLE, SCUNTHORPE, LINCOLNSHIRE, DN17 4EU	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: T/84/46212/R Permit Version: 1 Receiving Water: OLD RIVER DRAIN	Status: CONSENTS WITHOUT APPLICATION (WRA 91, SCHED 10) Issue date: 11/11/2005 Effective Date: 11/11/2005 Revocation Date: 31/12/2005
B	292m E	CROWLE-SCUNTHORPE STW, MARSH ROAD, CROWLE, SCUNTHORPE, LINCOLNSHIRE, DN17 4EU	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: T/84/46212/R Permit Version: 2 Receiving Water: OLD RIVER DRAIN	Status: CONSENTS WITHOUT APPLICATION (WRA 91, SCHED 10) Issue date: 11/11/2005 Effective Date: 01/01/2006 Revocation Date: 31/12/2009
B	292m E	CROWLE-SCUNTHORPE STW, MARSH ROAD, CROWLE, SCUNTHORPE, LINCOLNSHIRE, DN17 4EU	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: T/84/46212/R Permit Version: 2 Receiving Water: OLD RIVER DRAIN	Status: CONSENTS WITHOUT APPLICATION (WRA 91, SCHED 10) Issue date: 11/11/2005 Effective Date: 01/01/2006 Revocation Date: 31/12/2009
B	292m E	CROWLE-SCUNTHORPE STW, MARSH ROAD, CROWLE, SCUNTHORPE, LINCOLNSHIRE, DN17 4EU	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: T/84/46212/R Permit Version: 3 Receiving Water: OLD RIVER DRAIN	Status: CONSENTS WITHOUT APPLICATION (WRA 91, SCHED 10) Issue date: 14/10/2008 Effective Date: 01/01/2010 Revocation Date: 30/03/2010
B	292m E	CROWLE-SCUNTHORPE STW, MARSH ROAD, CROWLE, SCUNTHORPE, LINCOLNSHIRE, DN17 4EU	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: T/84/46212/R Permit Version: 3 Receiving Water: OLD RIVER DRAIN	Status: CONSENTS WITHOUT APPLICATION (WRA 91, SCHED 10) Issue date: 14/10/2008 Effective Date: 01/01/2010 Revocation Date: 30/03/2010
B	292m E	CROWLE-SCUNTHORPE STW, MARSH ROAD, CROWLE, SCUNTHORPE, LINCOLNSHIRE, DN17 4EU	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: T/84/46212/R Permit Version: 4 Receiving Water: OLD RIVER DRAIN	Status: CONSENTS WITHOUT APPLICATION (WRA 91, SCHED 10) Issue date: 31/03/2010 Effective Date: 31/03/2010 Revocation Date: 06/12/2021



ID	Location	Address	Details	
B	292m E	CROWLE-SCUNTHORPE STW, MARSH ROAD, CROWLE, SCUNTHORPE, LINCOLNSHIRE, DN17 4EU	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: T/84/46212/R Permit Version: 4 Receiving Water: OLD RIVER DRAIN	Status: CONSENTS WITHOUT APPLICATION (WRA 91, SCHED 10) Issue date: 31/03/2010 Effective Date: 31/03/2010 Revocation Date: 06/12/2021
B	298m E	CROWLE-SCUNTHORPE STW, MARSH ROAD, CROWLE, SCUNTHORPE, LINCOLNSHIRE, DN17 4EU	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: T/84/46212/R Permit Version: 5 Receiving Water: TRIBUTARY OF PAUPER¿S DRAIN	Status: VARIED UNDER EPR 2010 Issue date: 07/12/2021 Effective Date: 07/12/2021 Revocation Date: -
B	298m E	CROWLE-SCUNTHORPE STW, MARSH ROAD, CROWLE, SCUNTHORPE, LINCOLNSHIRE, DN17 4EU	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: T/84/46212/R Permit Version: 5 Receiving Water: TRIBUTARY OF PAUPER¿S DRAIN	Status: VARIED UNDER EPR 2010 Issue date: 07/12/2021 Effective Date: 07/12/2021 Revocation Date: -

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

8

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 29**

ID	Location	Details	
A	19m SW	Incident Date: 24/08/2005 Incident Identification: 340918 Pollutant: Sewage Materials Pollutant Description: Storm Sewage	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
5	90m SW	Incident Date: 19/03/2015 Incident Identification: 1321857 Pollutant: Oils and Fuel Pollutant Description: Mixed/Waste Oils	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
13	362m E	Incident Date: 04/09/2002 Incident Identification: 105453 Pollutant: Contaminated Water Pollutant Description: Firefighting Run-Off	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
C	464m SE	Incident Date: 11/08/2004 Incident Identification: 276444 Pollutant: Agricultural Materials and Wastes : Inert Materials and Wastes : Oils and Fuel : Other Pollutant Pollutant Description: Other Agricultural Material or Waste :Construction and Demolition Materials and Wastes :Gas and Fuel Oils :Other	Water Impact: Category 3 (Minor) Land Impact: Category 2 (Significant) Air Impact: Category 4 (No Impact)



ID	Location	Details	
C	464m SE	Incident Date: 08/11/2004 Incident Identification: 276444 Pollutant: Agricultural Materials and Wastes Pollutant Description: Other Agricultural Material or Waste	Water Impact: Category 3 (Minor) Land Impact: Category 2 (Significant) Air Impact: Category 4 (No Impact)
C	464m SE	Incident Date: 08/11/2004 Incident Identification: 276444 Pollutant: Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes	Water Impact: Category 3 (Minor) Land Impact: Category 2 (Significant) Air Impact: Category 4 (No Impact)
C	464m SE	Incident Date: 08/11/2004 Incident Identification: 276444 Pollutant: Oils and Fuel Pollutant Description: Gas and Fuel Oils	Water Impact: Category 3 (Minor) Land Impact: Category 2 (Significant) Air Impact: Category 4 (No Impact)
C	464m SE	Incident Date: 08/11/2004 Incident Identification: 276444 Pollutant: Other Pollutant Pollutant Description: Other	Water Impact: Category 3 (Minor) 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	0
----------------------------	----------

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.

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

4.20 Pollution inventory waste transfers

Records within 500m	0
----------------------------	----------

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.

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

4.21 Pollution inventory radioactive waste

Records within 500m

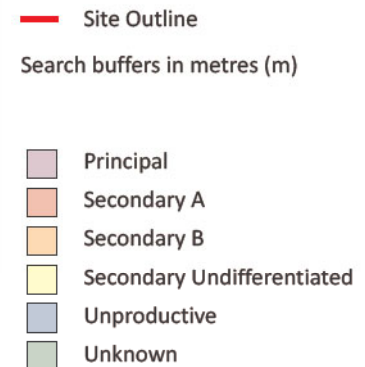
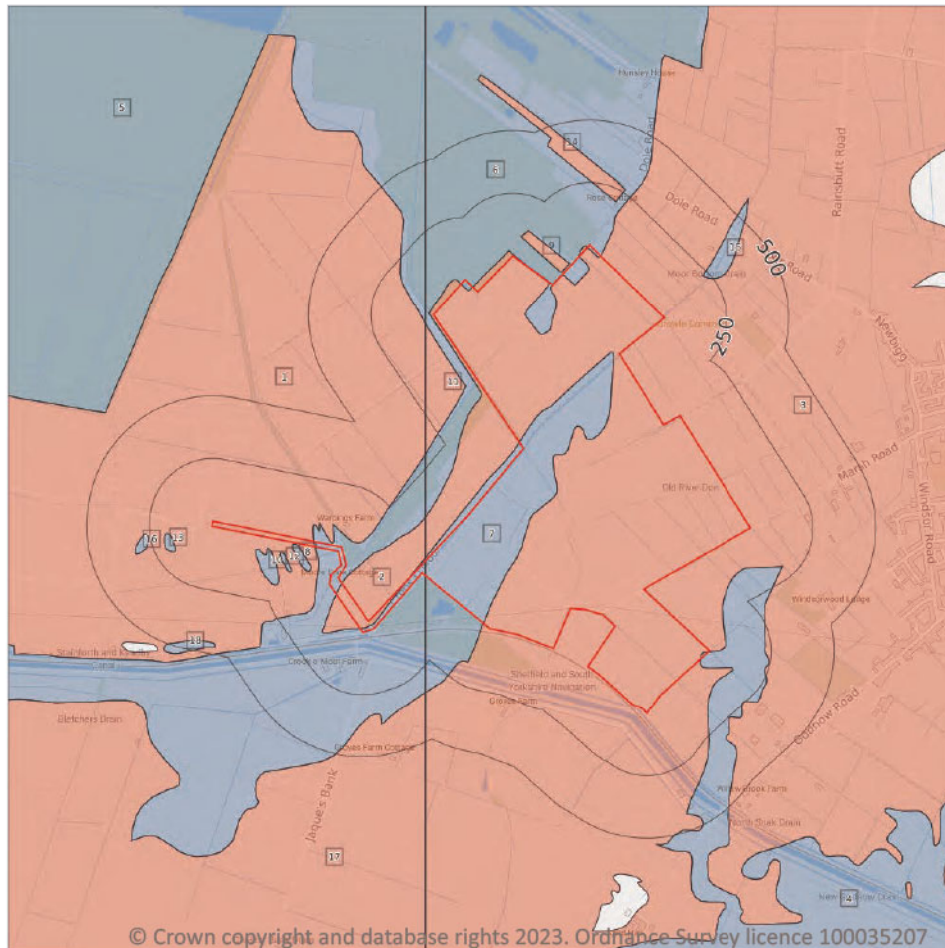
0

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

18

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 39**

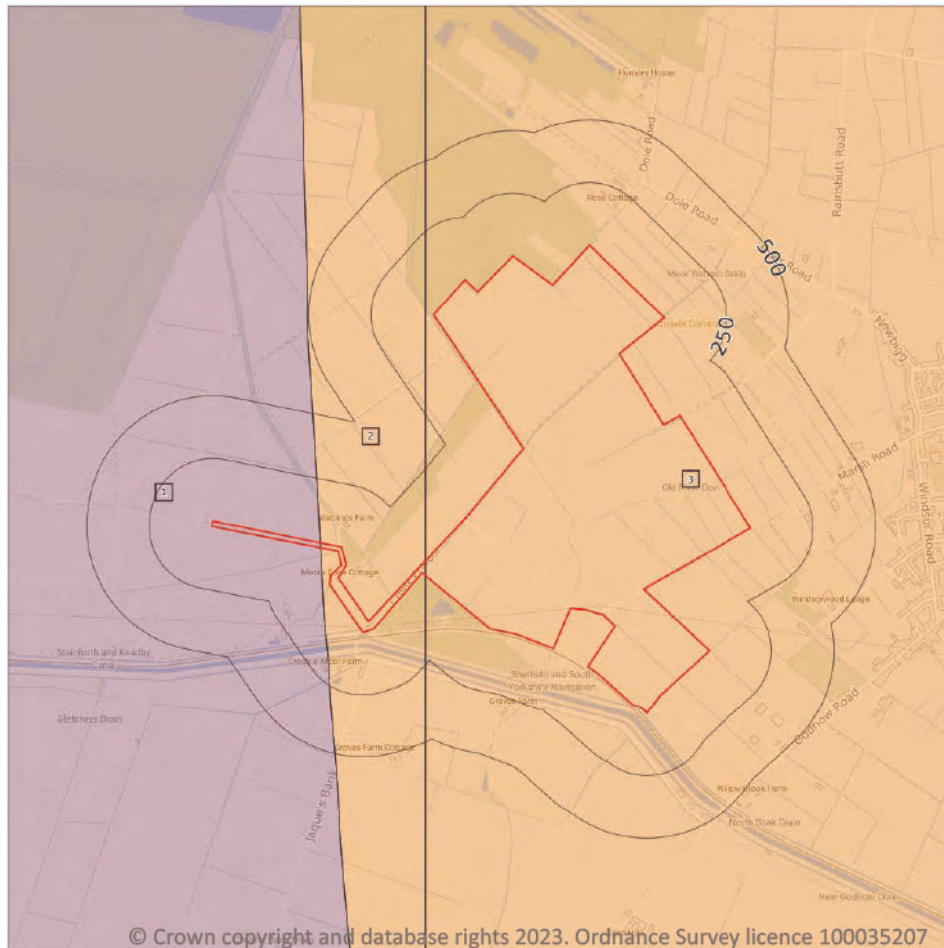
ID	Location	Designation	Description
1	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
2	On site	Secondary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

ID	Location	Designation	Description
3	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
4	On site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
5	On site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
6	On site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
7	On site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
8	5m W	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
9	8m N	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
10	44m W	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
11	47m NW	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
12	49m W	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
13	167m W	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
14	203m N	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
15	227m NE	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
16	261m W	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
17	327m SW	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
18	454m SW	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

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



Bedrock aquifer



- Site Outline**
- Search buffers in metres (m)**
- Principal
 - Secondary A
 - Secondary B
 - Secondary Undifferentiated
 - Unproductive

5.2 Bedrock aquifer

Records within 500m

3

Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 41**

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	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers

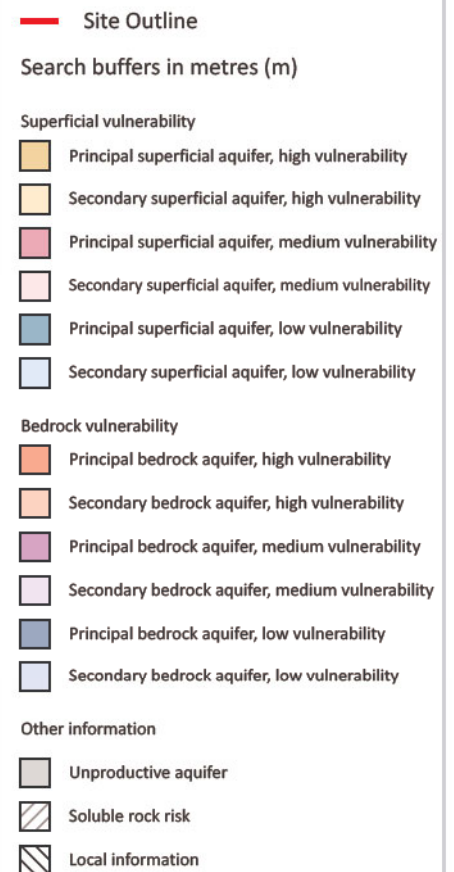
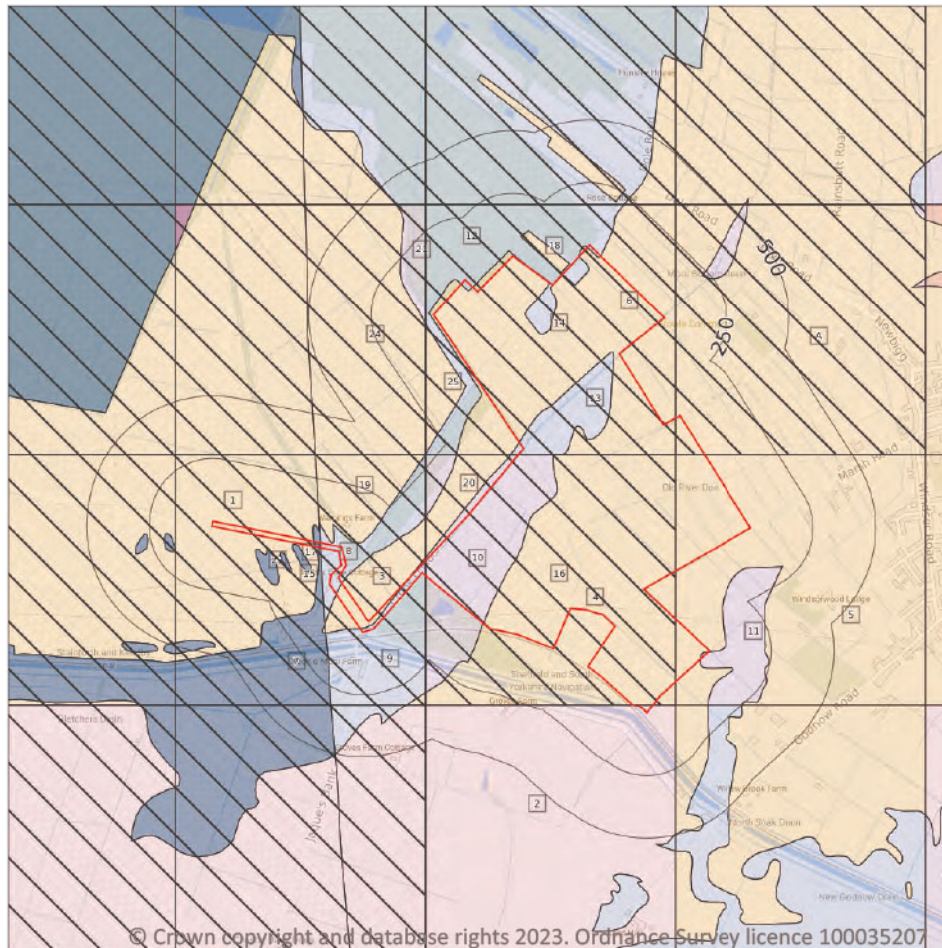


ID	Location	Designation	Description
3	On site	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers

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

23

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 43**



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: Intermediate Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: High Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Principal Flow mechanism: Well connected fractures
2	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: 40- 70% Dilution value: <300mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
3	On site	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: High Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
4	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: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
5	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: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
6	On site	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: High Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
7	On site	Summary Classification: Principal bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Principal Flow mechanism: Well connected fractures
8	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
9	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
10	On site	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
11	On site	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
12	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
13	On site	Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
A	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: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
17	5m W	Summary Classification: Principal bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Principal Flow mechanism: Well connected fractures
18	7m N	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: High Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
19	8m W	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: High Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
20	8m SW	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: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
21	32m NW	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
23	43m W	Summary Classification: Principal bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Principal Flow mechanism: Well connected fractures
24	45m NW	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: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
25	47m NW	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: High Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
26	49m W	Summary Classification: Principal bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low 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

0

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

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



5.5 Groundwater vulnerability- local information

Records on site

4

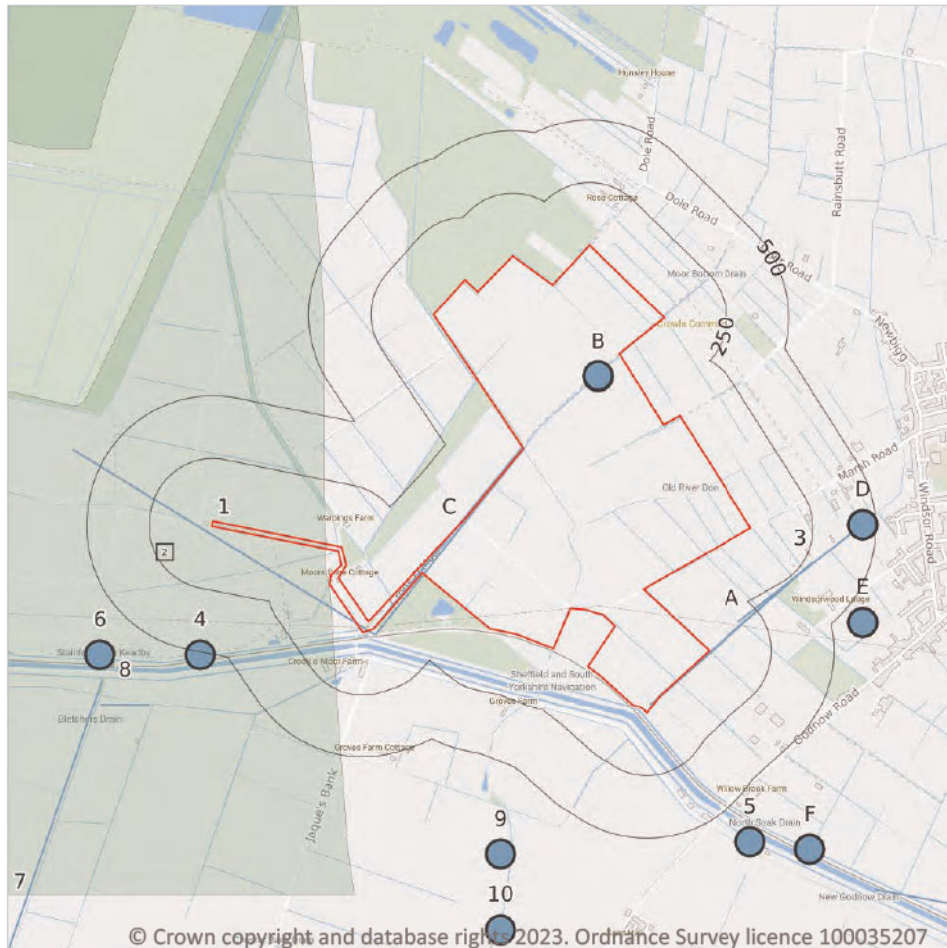
This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506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

ID	Summary	Additional information
14	Increased vulnerability of aquifers due to limited protection by superficial deposits and a high water table	Local studies indicate a thin unsaturated zone and uncertainties in the extent and thickness of peat cover
15	Increased vulnerability of aquifers due to limited protection by superficial deposits and a high water table	Local studies indicate a thin unsaturated zone and uncertainties in the extent and thickness of peat cover
16	Increased vulnerability of aquifers due to limited protection by superficial deposits and a high water table	Local studies indicate a thin unsaturated zone and uncertainties in the extent and thickness of peat cover
A	Increased vulnerability of aquifers due to limited protection by superficial deposits and a high water table	Local studies indicate a thin unsaturated zone and uncertainties in the extent and thickness of peat cover

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

0

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.

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

5.7 Surface water abstractions

Records within 2000m

39

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 49**

ID	Location	Details	
1	On site	Status: Historical Licence No: 03/28/83/0072 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: CROWLE - CROOK O'MOOR DRAIN (REACH) Data Type: Line Name: DAN ALBONE & SON LTD Easting: 474800 Northing: 412280	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 05/08/1997 Expiry Date: - Issue No: 100 Version Start Date: 16/01/1998 Version End Date: -
A	On site	Status: Historical Licence No: 03/28/84/0010 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: CROWLE - OLD RIVER DRAIN Data Type: Line Name: H BARKER & SONS Easting: 475900 Northing: 412000	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 31/03/1994 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1995 Version End Date: -
A	On site	Status: Active Licence No: 03/28/83/0259 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: CROWLE - OLD RIVER DRAIN Data Type: Line Name: DAN ALBONE & SON LTD Easting: 475900 Northing: 412000	Annual Volume (m ³): 24,000 Max Daily Volume (m ³): 2,945 Original Application No: NPS/WR/035308 Original Start Date: 21/11/2001 Expiry Date: - Issue No: 2 Version Start Date: 27/04/2021 Version End Date: -
B	On site	Status: Historical Licence No: 03/28/83/0072 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: CROWLE - CROOK O'MOOR DRAIN (POINT) Data Type: Point Name: DAN ALBONE & SON LTD Easting: 475690 Northing: 413310	Annual Volume (m ³): 31000 Max Daily Volume (m ³): 1000 Original Application No: - Original Start Date: 05/08/1997 Expiry Date: - Issue No: 101 Version Start Date: 30/05/2007 Version End Date: -



ID	Location	Details	
B	On site	Status: Active Licence No: 03/28/83/0072 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: CROWLE - CROOK O'MOOR DRAIN (POINT) Data Type: Point Name: DAN ALBONE & SON LTD Easting: 475690 Northing: 413315	Annual Volume (m³): 31,000 Max Daily Volume (m³): 1,000 Original Application No: NPS/WR/031598 Original Start Date: 05/08/1997 Expiry Date: - Issue No: 103 Version Start Date: 01/04/2020 Version End Date: -
C	On site	Status: Historical Licence No: 03/28/83/0072 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: CROWLE - CROOK O'MOOR DRAIN (REACH) Data Type: Line Name: DAN ALBONE & SON LTD Easting: 474800 Northing: 412280	Annual Volume (m³): 31000 Max Daily Volume (m³): 1000 Original Application No: - Original Start Date: 05/08/1997 Expiry Date: - Issue No: 101 Version Start Date: 30/05/2007 Version End Date: -
C	On site	Status: Active Licence No: 03/28/83/0072 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: CROWLE - CROOK O'MOOR DRAIN (REACH) Data Type: Line Name: DAN ALBONE & SON LTD Easting: 474805 Northing: 412320	Annual Volume (m³): 31,000 Max Daily Volume (m³): 1,000 Original Application No: NPS/WR/031598 Original Start Date: 05/08/1997 Expiry Date: - Issue No: 103 Version Start Date: 01/04/2020 Version End Date: -
3	161m SE	Status: Historical Licence No: 03/28/84/0004 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: SOUTH END FARM - OLD RIVER DRAIN Data Type: Line Name: PROCTOR Easting: 476750 Northing: 412720	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 31/01/1985 Expiry Date: - Issue No: 100 Version Start Date: 31/01/1985 Version End Date: -
D	448m E	Status: Historical Licence No: 03/28/84/0004 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: SOUTH END FARM - OLD RIVER DRAIN Data Type: Point Name: PROCTOR Easting: 476750 Northing: 412720	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 31/01/1985 Expiry Date: - Issue No: 100 Version Start Date: 31/01/1985 Version End Date: -

ID	Location	Details	
D	448m E	Status: Historical Licence No: 03/28/83/0264 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: SOUTH END FARM - OLD RIVER DRAIN Data Type: Point Name: PROCTOR Easting: 476750 Northing: 412720	Annual Volume (m ³): 9210 Max Daily Volume (m ³): 264 Original Application No: - Original Start Date: 21/11/2001 Expiry Date: - Issue No: 1 Version Start Date: 21/11/2001 Version End Date: -
4	512m SW	Status: Active Licence No: 03/28/83/0067 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: NEW WARP FARM - THE NORTH SOAK DRAIN (1) Data Type: Point Name: H BARKER & SONS Easting: 474100 Northing: 412200	Annual Volume (m ³): 13,638 Max Daily Volume (m ³): 1,200 Original Application No: - Original Start Date: 08/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/12/1982 Version End Date: -
E	585m SE	Status: Historical Licence No: 03/28/84/0004 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: SOUTH END FARM - OLD RIVER DRAIN 2 Data Type: Point Name: PROCTOR Easting: 476750 Northing: 412330	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 31/01/1985 Expiry Date: - Issue No: 100 Version Start Date: 31/01/1985 Version End Date: -
E	585m SE	Status: Historical Licence No: 03/28/83/0264 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: SOUTH END FARM - OLD RIVER DRAIN 2 Data Type: Point Name: PROCTOR Easting: 476750 Northing: 412330	Annual Volume (m ³): 9210 Max Daily Volume (m ³): 264 Original Application No: - Original Start Date: 21/11/2001 Expiry Date: - Issue No: 1 Version Start Date: 21/11/2001 Version End Date: -
5	661m SE	Status: Active Licence No: 03/28/83/0067 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: GLEBE FARM - THE SOUTH SOAK DRAIN Data Type: Point Name: H BARKER & SONS Easting: 476300 Northing: 411450	Annual Volume (m ³): 13,638 Max Daily Volume (m ³): 1,200 Original Application No: - Original Start Date: 08/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/12/1982 Version End Date: -

ID	Location	Details	
6	680m W	Status: Active Licence No: 03/28/83/0067 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: NEW WARP FARM - THE NORTH SOAK DRAIN (2) Data Type: Point Name: H BARKER & SONS Easting: 473700 Northing: 412200	Annual Volume (m ³): 13,638 Max Daily Volume (m ³): 1,200 Original Application No: - Original Start Date: 08/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/12/1982 Version End Date: -
7	752m SW	Status: Active Licence No: 03/28/83/0066 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: DIRTNESS GROVES, CROWLE - BLETCHERS DRAIN Data Type: Line Name: J S BROOKE & SONS Easting: 473050 Northing: 410200	Annual Volume (m ³): 15,274.56 Max Daily Volume (m ³): 545.52 Original Application No: - Original Start Date: 04/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 21/10/1999 Version End Date: -
8	754m SW	Status: Active Licence No: 03/28/83/0066 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: DIRTNESS GROVES,CROWLE - UNNAMED DRAIN (2) Data Type: Line Name: J S BROOKE & SONS Easting: 473700 Northing: 412000	Annual Volume (m ³): 15,274.56 Max Daily Volume (m ³): 545.52 Original Application No: - Original Start Date: 04/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 21/10/1999 Version End Date: -
9	799m S	Status: Active Licence No: 03/28/83/0067 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: POPLARS FARM - DUNN DRAIN (5) Data Type: Point Name: H BARKER & SONS Easting: 475300 Northing: 411400	Annual Volume (m ³): 13,638 Max Daily Volume (m ³): 1,200 Original Application No: - Original Start Date: 08/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/12/1982 Version End Date: -
F	852m SE	Status: Historical Licence No: 03/28/84/0005 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: SOUTH END FARM - NORTH SOAK DRAIN Data Type: Point Name: PROCTOR Easting: 476540 Northing: 411420	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 31/01/1985 Expiry Date: - Issue No: 100 Version Start Date: 31/01/1985 Version End Date: -



ID	Location	Details	
F	852m SE	Status: Historical Licence No: 03/28/83/0266 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: SOUTH END FARM - NORTH SOAK DRAIN Data Type: Point Name: T C BREARS & SONS Easting: 476540 Northing: 411420	Annual Volume (m ³): 4440 Max Daily Volume (m ³): 264 Original Application No: - Original Start Date: 21/09/2001 Expiry Date: - Issue No: 2 Version Start Date: 01/04/2003 Version End Date: -
10	1043m S	Status: Active Licence No: 03/28/83/0067 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: POPLARS FARM - DUNN DRAIN (4) Data Type: Point Name: H BARKER & SONS Easting: 475300 Northing: 411100	Annual Volume (m ³): 13,638 Max Daily Volume (m ³): 1,200 Original Application No: - Original Start Date: 08/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/12/1982 Version End Date: -
11	1154m SE	Status: Historical Licence No: 03/28/83/0254 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: LAND AT CROWLE - STAINFORTH AND KEADBY CANAL Data Type: Line Name: BRITISH WATERWAYS BOARD Easting: 476800 Northing: 411260	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 17/05/2000 Expiry Date: 31/03/2008 Issue No: 1 Version Start Date: 17/05/2000 Version End Date: -
-	1265m S	Status: Active Licence No: 03/28/83/0067 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: POPLARS FARM - DUNN DRAIN (3) Data Type: Point Name: H BARKER & SONS Easting: 475200 Northing: 410900	Annual Volume (m ³): 13,638 Max Daily Volume (m ³): 1,200 Original Application No: - Original Start Date: 08/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/12/1982 Version End Date: -
-	1711m S	Status: Active Licence No: 03/28/83/0067 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: POPLARS FARM - DUNN DRAIN (2) Data Type: Point Name: H BARKER & SONS Easting: 475000 Northing: 410500	Annual Volume (m ³): 13,638 Max Daily Volume (m ³): 1,200 Original Application No: - Original Start Date: 08/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/12/1982 Version End Date: -



ID	Location	Details	
-	1742m S	Status: Historical Licence No: 03/28/83/0057 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: BELTON GRANGE - RIVER TORNE Data Type: Line Name: Bramhall Farming Ltd Easting: 476100 Northing: 410200	Annual Volume (m ³): 34,095 Max Daily Volume (m ³): 818 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/04/2020 Version End Date: -
-	1746m S	Status: Historical Licence No: 03/28/83/0197 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: EPWORTH & BELTON - NORTH ENGINE DRAIN Data Type: Line Name: Maw Easting: 475030 Northing: 409811	Annual Volume (m ³): 36363 Max Daily Volume (m ³): 2273 Original Application No: - Original Start Date: 07/02/1995 Expiry Date: 31/03/2014 Issue No: 103 Version Start Date: 29/07/2010 Version End Date: -
-	1746m S	Status: Active Licence No: MD/028/0083/005 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: EPWORTH & BELTON - NORTH ENGINE DRAIN Data Type: Line Name: Maw Easting: 475030 Northing: 409811	Annual Volume (m ³): 36,363 Max Daily Volume (m ³): 2,273 Original Application No: NPS/WR/012485 Original Start Date: 01/04/2014 Expiry Date: 31/03/2026 Issue No: 1 Version Start Date: 13/04/2020 Version End Date: -
-	1746m S	Status: Historical Licence No: 03/28/83/0197 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: EPWORTH & BELTON - NORTH ENGINE DRAIN Data Type: Line Name: Maw Easting: 475030 Northing: 409810	Annual Volume (m ³): 36363 Max Daily Volume (m ³): 2273 Original Application No: - Original Start Date: 07/02/1995 Expiry Date: 31/03/2014 Issue No: 103 Version Start Date: 29/07/2010 Version End Date: -
-	1775m S	Status: Active Licence No: 03/28/83/0057 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: HATFIELD WASTE DRAIN NEAR SANDTOFT Data Type: Line Name: Bramhall Farming Ltd Easting: 476150 Northing: 410175	Annual Volume (m ³): 31,000 Max Daily Volume (m ³): 818 Original Application No: NPS/WR/034997 Original Start Date: 18/02/1966 Expiry Date: - Issue No: 103 Version Start Date: 01/04/2022 Version End Date: -

ID	Location	Details	
-	1814m S	Status: Active Licence No: 03/28/83/0201 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: BELTON - HATFIELD WASTE DRAIN Data Type: Line Name: H BARKER & SONS Easting: 475900 Northing: 409040	Annual Volume (m ³): 45,000 Max Daily Volume (m ³): 2,945 Original Application No: - Original Start Date: 21/03/1994 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1995 Version End Date: -
-	1885m S	Status: Active Licence No: 03/28/83/0067 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: POPLARS FARM - DUNN DRAIN (1) Data Type: Point Name: H BARKER & SONS Easting: 475000 Northing: 410300	Annual Volume (m ³): 13,638 Max Daily Volume (m ³): 1,200 Original Application No: - Original Start Date: 08/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/12/1982 Version End Date: -
-	1925m S	Status: Active Licence No: 03/28/83/0114 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: DIRTNESS BRIDGE FARM - HATFIELD WASTE DRAIN Data Type: Line Name: CUNDALL Easting: 475870 Northing: 409220	Annual Volume (m ³): 9,092 Max Daily Volume (m ³): 545.50 Original Application No: - Original Start Date: 30/11/1976 Expiry Date: - Issue No: 100 Version Start Date: 03/12/2018 Version End Date: -
-	1935m S	Status: Historical Licence No: 03/28/83/0197 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: EPWORTH & BELTON - WOODCARR DRAIN Data Type: Line Name: Maw Easting: 474490 Northing: 408890	Annual Volume (m ³): 36363 Max Daily Volume (m ³): 2273 Original Application No: - Original Start Date: 07/02/1995 Expiry Date: 31/03/2014 Issue No: 103 Version Start Date: 29/07/2010 Version End Date: -
-	1938m S	Status: Historical Licence No: 03/28/83/0197 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: EPWORTH & BELTON - WOODCARR DRAIN Data Type: Line Name: Maw Easting: 474491 Northing: 408890	Annual Volume (m ³): 36363 Max Daily Volume (m ³): 2273 Original Application No: - Original Start Date: 07/02/1995 Expiry Date: 31/03/2014 Issue No: 103 Version Start Date: 29/07/2010 Version End Date: -



ID	Location	Details	
-	1938m S	Status: Active Licence No: MD/028/0083/005 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: EPWORTH & BELTON - WOODCARR DRAIN Data Type: Line Name: Maw Easting: 474491 Northing: 408890	Annual Volume (m ³): 36,363 Max Daily Volume (m ³): 2,273 Original Application No: NPS/WR/012485 Original Start Date: 01/04/2014 Expiry Date: 31/03/2026 Issue No: 1 Version Start Date: 13/04/2020 Version End Date: -
-	1973m SE	Status: Active Licence No: 03/28/83/0188 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: HIRST PRIORY - HATFIELD WASTE DRAIN Data Type: Line Name: HIRST PRIORY PARK GOLF COURSE LTD Easting: 477290 Northing: 410580	Annual Volume (m ³): 1,455 Max Daily Volume (m ³): 153 Original Application No: A/28/83/73 Original Start Date: 28/05/1983 Expiry Date: - Issue No: 101 Version Start Date: 01/04/2008 Version End Date: -
-	1987m SE	Status: Historical Licence No: 03/28/83/0197 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: EPWORTH & BELTON - HATFIELD WASTE DRAIN Data Type: Line Name: Maw Easting: 475903 Northing: 409046	Annual Volume (m ³): 36363 Max Daily Volume (m ³): 2273 Original Application No: - Original Start Date: 07/02/1995 Expiry Date: 31/03/2014 Issue No: 103 Version Start Date: 29/07/2010 Version End Date: -
-	1987m SE	Status: Active Licence No: MD/028/0083/005 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: EPWORTH & BELTON - HATFIELD WASTE DRAIN Data Type: Line Name: Maw Easting: 475903 Northing: 409046	Annual Volume (m ³): 36,363 Max Daily Volume (m ³): 2,273 Original Application No: NPS/WR/012485 Original Start Date: 01/04/2014 Expiry Date: 31/03/2026 Issue No: 1 Version Start Date: 13/04/2020 Version End Date: -
-	1987m SE	Status: Historical Licence No: 03/28/83/0197 Details: Spray Irrigation - Direct Direct Source: Surface Water Midlands Region Point: EPWORTH & BELTON - HATFIELD WASTE DRAIN Data Type: Line Name: Maw Easting: 475900 Northing: 409050	Annual Volume (m ³): 36363 Max Daily Volume (m ³): 2273 Original Application No: - Original Start Date: 07/02/1995 Expiry Date: 31/03/2014 Issue No: 103 Version Start Date: 29/07/2010 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

1

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination. Features are displayed on the Abstractions and Source Protection Zones map on **page 49**

ID	Location	Type	Description
2	On site	3	Total catchment

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

5.10 Source Protection Zones (confined aquifer)

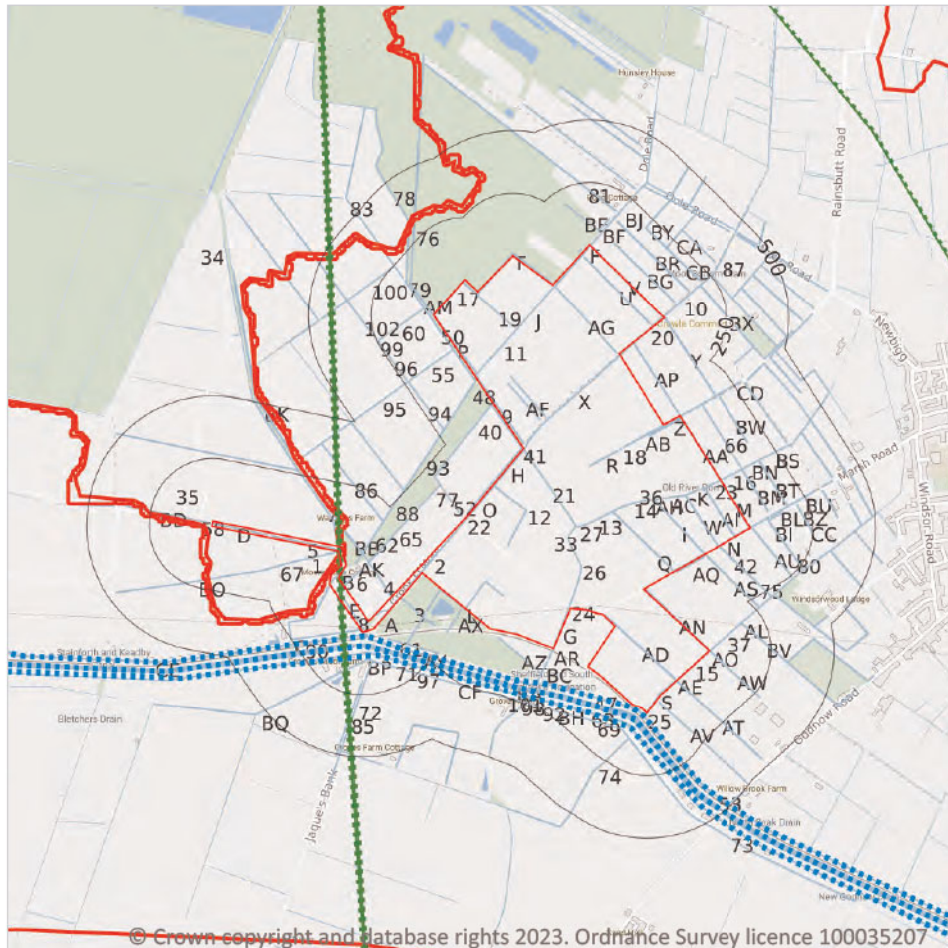
Records within 500m

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



- Site Outline
- Search buffers in metres (m)
- Water Network (OS MasterMap)
- Surface water features (wider than 5m)
- Surface water features (narrower than 5m)
- WFD River, canal and surface water transfer water bodies
- WFD Lake water bodies
- WFD Transitional and coastal water bodies
- WFD Surface water body catchments boundaries
- WFD Groundwater body boundaries

6.1 Water Network (OS MasterMap)

Records within 250m

239

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 59**

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



ID	Location	Type of water feature	Ground level	Permanence	Name
2	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Crook o' Moor Drain
3	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
4	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
5	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
6	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
7	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
8	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
9	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
10	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Moor Bottom Drain
11	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Moor Middle Drain
12	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
13	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Old River Don
14	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Old River Don



ID	Location	Type of water feature	Ground level	Permanence	Name
15	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Old River Drain
16	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Old River Don
17	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
18	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
19	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
20	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Moor Bottom Drain
21	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
22	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Crook o' Moor Drain
23	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Old River Don
24	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Old River Don
25	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Old River Drain
26	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Old River Don
27	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Old River Don



ID	Location	Type of water feature	Ground level	Permanence	Name
A	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Crook o' Moor Drain
A	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Crook o' Moor Drain
A	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
A	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
C	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
F	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Moor Middle Drain
G	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Old River Don
H	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Crook o' Moor Drain



ID	Location	Type of water feature	Ground level	Permanence	Name
I	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
J	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Moor Middle Drain
J	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Moor Middle Drain
J	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Moor Middle Drain
J	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Moor Middle Drain
J	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Moor Middle Drain
J	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Moor Middle Drain
J	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Moor Middle Drain
J	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Moor Middle Drain
J	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Moor Middle Drain
J	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Moor Middle Drain
K	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Old River Don
K	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Old River Don

ID	Location	Type of water feature	Ground level	Permanence	Name
L	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
M	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
N	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
N	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
N	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
N	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
N	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
N	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
O	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Crook o' Moor Drain
P	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Q	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
R	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
S	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Old River Drain



ID	Location	Type of water feature	Ground level	Permanence	Name
T	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
U	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
V	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
W	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
X	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Moor Bottom Drain
X	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Y	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Z	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Z	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Z	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
Z	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AA	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AB	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
AC	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Old River Don
AD	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AE	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AE	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Old River Drain
AE	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Old River Drain
AE	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AF	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AF	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AG	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AH	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Old River Don
AH	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Old River Don
AI	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AM	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
AN	On site	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
37	1m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Old River Drain
AO	1m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Z	1m NE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
Z	1m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AP	1m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
40	3m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
41	3m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
N	4m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AO	4m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
42	5m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AQ	5m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AR	5m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Old River Don



ID	Location	Type of water feature	Ground level	Permanence	Name
H	6m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AS	6m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
O	7m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AT	7m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AU	9m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
47	9m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	North Soak Drain
48	9m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AV	10m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AW	10m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AX	11m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AY	11m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	North Soak Drain
50	12m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
P	12m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
52	15m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AR	15m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Old River Don
53	18m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	North Soak Drain
P	19m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AZ	25m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
55	27m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AK	35m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AM	43m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AM	43m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BA	46m S	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Sheffield and South Yorkshire Navigation
BB	47m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AM	47m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
58	48m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
60	51m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AK	54m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
BC	54m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Old River Don
AK	57m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BD	59m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AK	59m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AK	64m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
61	69m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BE	70m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BF	70m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BF	71m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Moor Middle Drain
BG	73m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
62	75m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
AK	75m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AK	75m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BI	77m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BJ	77m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Moor Middle Drain
63	80m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	South Soak Drain
Z	83m NE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AK	83m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AK	85m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BF	90m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Z	90m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Middle Road Drain
AK	90m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BK	90m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
65	91m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
BL	94m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AX	94m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BM	96m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
66	97m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Gibsons Drain
BN	97m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Old River Don
Z	99m NE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
Z	99m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Middle Road Drain
AX	100m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
67	102m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
BO	106m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
69	109m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	New Godnow Drain West
AX	110m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BP	111m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Bletchers Drain



ID	Location	Type of water feature	Ground level	Permanence	Name
BC	112m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Old River Don
AY	115m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AY	118m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AY	118m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
71	118m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	New Godnow Drain West
BP	118m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
72	120m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BP	124m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Bletchers Drain
AY	124m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
73	124m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	New Godnow Drain
74	125m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AY	127m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AY	129m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
AY	130m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Z	135m NE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
BC	136m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Old River Don
75	136m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BQ	136m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Bletchers Drain
AY	139m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Z	142m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BR	144m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BC	148m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Old River Don
76	152m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Z	162m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
Z	162m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BL	162m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
77	163m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
78	166m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
79	166m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BN	166m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Old River Don
80	168m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BL	170m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BN	171m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Old River Don
BT	171m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BU	171m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
AL	171m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
AL	171m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Old River Drain
81	172m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BS	172m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Old River Don



ID	Location	Type of water feature	Ground level	Permanence	Name
BV	172m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BW	173m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
83	186m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
85	190m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BX	193m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
86	193m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
87	194m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Moor Bottom Drain
88	195m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
90	203m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	North Soak Drain
BY	205m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
BZ	206m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CA	206m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CB	206m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
BH	218m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	New Godnow Drain West
CC	219m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CD	219m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
92	219m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	New Godnow Drain West
93	221m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
94	221m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
95	234m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
96	235m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
CE	237m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	North Soak Drain
97	237m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	New Godnow Drain West
CF	241m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	New Godnow Drain West
98	242m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	New Godnow Drain West
BA	242m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
99	245m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
100	246m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
101	247m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	New Godnow Drain West
102	247m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

66

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 59**

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site

2

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 59**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
33	On site	River	North Soak Drain Catchment (trib of Torne/Three Rivers)	GB104028064350	Isle of Axholme	Idle and Torne
34	On site	Coastal Catchment	Not part of a river WB catchment	100	Lower Don	Don and Rother



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

6.4 WFD Surface water bodies

Records identified

2

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 59**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
49	11m S	River	North Soak Drain Catchment (trib of Torne/Three Rivers)	GB104028064350	Moderate	Fail	Moderate	2019
BA	52m S	Canal	Sheffield and South Yorkshire Navigation (New Junction and Stainf	GB70410281	Moderate	Fail	Good	2019

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

6.5 WFD Groundwater bodies

Records on site

2

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 59**

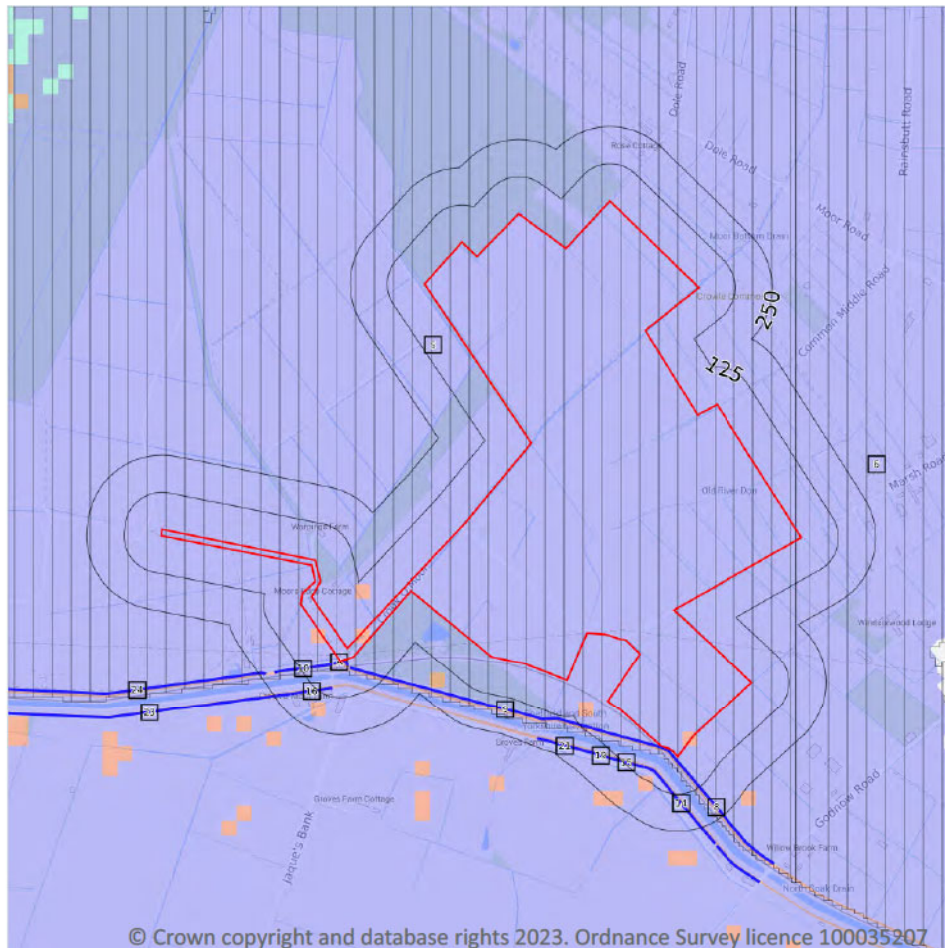
ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
35	On site	Idle Torne - PT Sandstone Nottinghamshire& Doncaster	GB40401G301500	Poor	Poor	Poor	2019
36	On site	Idle Torne - Secondary Mudrocks	GB40402G992200	Good	Good	Good	2019



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



7 River and coastal flooding



- Site Outline
- Search buffers in metres (m)
- River and coastal flooding:
- High
- Medium
- Low
- Very Low
- Historical Flood Events
- Areas Used for Flood Storage
- Areas Benefiting from Flood Defences
- Flood Defences

7.1 Risk of flooding from rivers and the sea

Records within 50m

6

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 81**



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
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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	12
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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.

Features are displayed on the River and coastal flooding map on **page 81**

ID	Location	Update
A	2m SW	08/11/2022
8	4m S	08/11/2022
9	4m S	08/11/2022
A	6m SW	08/11/2022
10	28m SW	08/11/2022
14	85m S	08/11/2022
15	91m S	08/11/2022
16	96m SW	08/11/2022
19	147m S	08/11/2022
21	171m S	08/11/2022

ID	Location	Update
23	201m SW	08/11/2022
24	235m SW	08/11/2022

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

7.4 Areas Benefiting from Flood Defences

Records within 250m

2

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.

Features are displayed on the River and coastal flooding map on **page 81**

ID	Location	
5	On site	Area benefiting from flood defences
6	On site	Area benefiting from flood defences

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



- Site Outline
- Search buffers in metres (m)
- Flood zone 2
- Flood zone 3

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 81**

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 81**

Location	Type
On site	Zone 3 - (Fluvial /Tidal Models)

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

8 Surface water flooding



— Site Outline

Search buffers in metres (m)

1 in 1000 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 250 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 100 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 30 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

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, Greater than 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 86**

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.

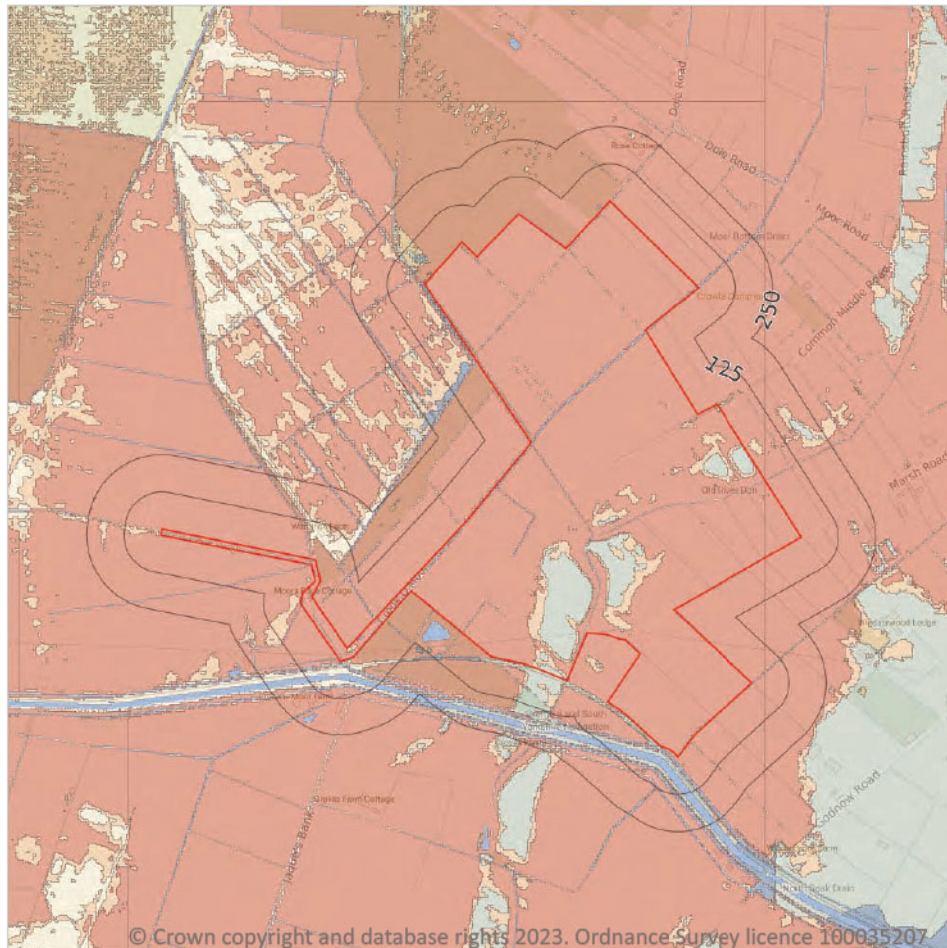
The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Greater than 1.0m
1 in 250 year	Greater than 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 Ambiantal 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

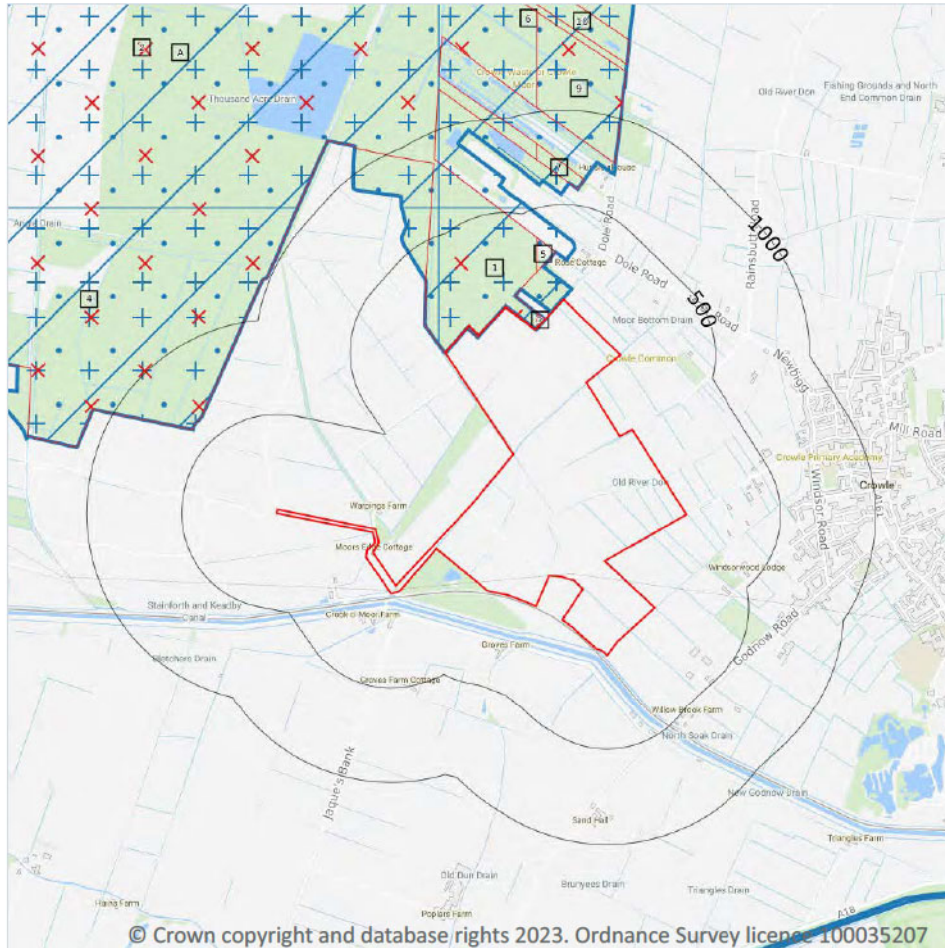
High

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 88**

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- Sites of Special Scientific Interest (SSSI)
- + Special Areas of Conservation (SAC)
- Special Protection Areas (SPA)
- × National Nature Reserves (NNR)

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

2

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 89**

ID	Location	Name	Data source
A	On site	Thorne, Crowle and Goole Moors	Natural England



ID	Location	Name	Data source
12	1733m S	Hatfield Chase Ditches	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
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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	1
-----------------------------	----------

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.

Features are displayed on the Environmental designations map on **page 89**

ID	Location	Name	Features of interest	Habitat description	Data source
A	On site	Thorne Moor	Active raised bogs; Degraded raised bog.	Heath, Scrub, Maquis and Garrigue, Phygrana; Inland water bodies (Standing water, Running water); Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites); Broad-leaved deciduous woodland; Bogs, Marshes, Water fringed vegetation, Fens	Natural England

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

10.4 Special Protection Areas (SPA)

Records within 2000m	4
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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.

Features are displayed on the Environmental designations map on **page 89**

ID	Location	Name	Species of interest	Habitat description	Data source
1	On site	Thorne & Hatfield Moors	European nightjar	Inland water bodies (Standing water, Running water); Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites); Broad-leaved deciduous woodland; Coniferous woodland; Bogs, Marshes, Water fringed vegetation, Fens; Heath, Scrub, Maquis and Garrigue, Phygrana	Natural England
4	51m NW	Thorne & Hatfield Moors	European nightjar	Inland water bodies (Standing water, Running water); Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites); Broad-leaved deciduous woodland; Coniferous woodland; Bogs, Marshes, Water fringed vegetation, Fens; Heath, Scrub, Maquis and Garrigue, Phygrana	Natural England
6	514m N	Thorne & Hatfield Moors	European nightjar	Inland water bodies (Standing water, Running water); Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites); Broad-leaved deciduous woodland; Coniferous woodland; Bogs, Marshes, Water fringed vegetation, Fens; Heath, Scrub, Maquis and Garrigue, Phygrana	Natural England
8	630m NW	Thorne & Hatfield Moors	European nightjar	Inland water bodies (Standing water, Running water); Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites); Broad-leaved deciduous woodland; Coniferous woodland; Bogs, Marshes, Water fringed vegetation, Fens; Heath, Scrub, Maquis and Garrigue, Phygrana	Natural England

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

10.5 National Nature Reserves (NNR)

Records within 2000m

7

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.

Features are displayed on the Environmental designations map on **page 89**

ID	Location	Name	Data source
2	On site	Humberhead Peatlands	Natural England
3	On site	Humberhead Peatlands	Natural England
5	202m N	Humberhead Peatlands	Natural England
7	586m N	Humberhead Peatlands	Natural England
9	764m N	Humberhead Peatlands	Natural England
10	1284m N	Humberhead Peatlands	Natural England



ID	Location	Name	Data source
-	1622m N	Humberhead Peatlands	Natural England

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

10.6 Local Nature Reserves (LNR)

Records within 2000m	0
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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
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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
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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
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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**0**

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

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

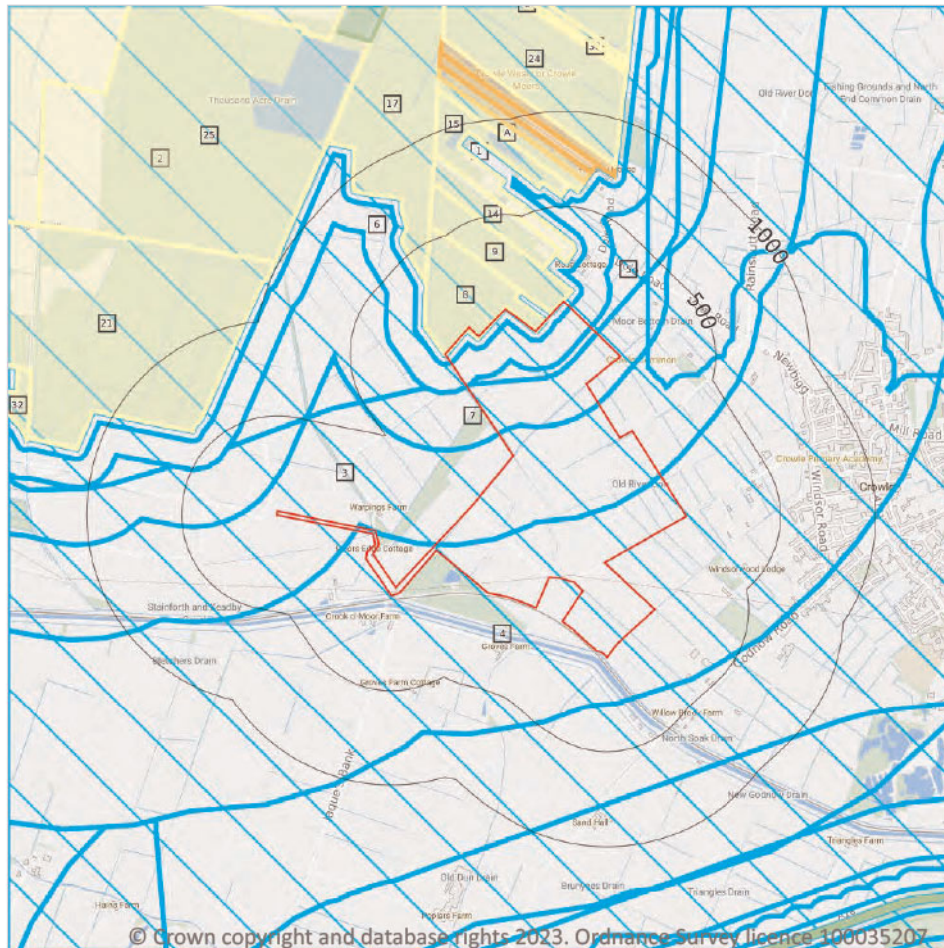
Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

Location	Name	Type	NVZ ID	Status
On site	North Soak Drain (trib of R Torne / Three Rivers) NVZ	Surface Water	352	Existing
55m W	North Soak Drain (trib of R Torne / Three Rivers) NVZ	Surface Water	352	Existing
113m N	Swinefleet Warping Drain Source to River Ouse NVZ	Surface Water	281	Existing
904m E	Paupers Drain Catchment (trib of Trent) NVZ	Surface Water	349	Existing
942m S	R Torne / Three Rivers from Mother Dr to R Trent NVZ	Surface Water	351	Existing
1062m NW	Swinefleet Warping Drain Source to River Ouse NVZ	Surface Water	281	Existing

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



SSSI Impact Zones and Units



- Site Outline
- Search buffers in metres (m)
- SSSI Impact Risk Zones
- SSSI Units
- Not recorded
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Partially destroyed
- Destroyed

10.17 SSSI Impact Risk Zones

Records on site

7

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 95**

ID	Location	Type of developments requiring consultation
1	On site	All applications - All planning applications - except householder applications.
2	On site	All applications - All planning applications.



ID	Location	Type of developments requiring consultation
3	On site	<p>Infrastructure - Pipelines, 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 500 tonnes maximum annual operational throughput. incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.</p> <p>Discharges - Any discharge of water or liquid waste of more than 2m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.</p> <p>Water supply - Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m² or any development needing its own water supply .</p>
4	On site	<p>Infrastructure - Pipelines, 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>Residential - Residential development of 50 units or more.</p> <p>Rural residential - Any residential development of 50 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>Discharges - Any discharge of water or liquid waste of more than 5m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.</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>

ID	Location	Type of developments requiring consultation
5	On site	<p>All applications - All planning applications (except householder) outside or extending outside existing settlements/urban areas affecting greenspace, farmland, semi natural habitats or landscape features such as trees, hedges, streams, rural buildings/structures.</p> <p>Infrastructure - Pipelines, 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 10 units or more.</p> <p>Rural residential - Any residential developments outside of existing settlements/urban areas with a total net gain in residential units.</p> <p>Air pollution - Any development that could cause air pollution (incl: industrial/commercial processes, livestock & poultry units, slurry lagoons & digestate stores, manure stores).</p> <p>Combustion - All general combustion processes. incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.</p> <p>Waste - Mechanical and biological waste treatment, inert landfill, non-hazardous landfill, hazardous landfill, household civic amenity recycling facilities construction, demolition and excavation waste, other waste management.</p> <p>Composting - Any composting proposal. incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.</p> <p>Discharges - Any discharge of water or liquid waste that is discharged to ground (ie to seep away) or to surface water, such as a beck or stream.</p> <p>Water supply - Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m² or any development needing its own water supply .</p>



ID	Location	Type of developments requiring consultation
6	On site	<p>All applications - All planning applications (except householder) outside or extending outside existing settlements/urban areas affecting greenspace, farmland, semi natural habitats or landscape features such as trees, hedges, streams, rural buildings/structures.</p> <p>Infrastructure - Pipelines, 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 10 units or more.</p> <p>Rural residential - Any residential developments outside of existing settlements/urban areas with a total net gain in residential units.</p> <p>Air pollution - Any development that could cause air pollution or dust either in its construction or operation (incl: industrial/commercial processes, livestock & poultry units, slurry lagoons & digestate stores, manure stores).</p> <p>Combustion - All general combustion processes. incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.</p> <p>Waste - Mechanical and biological waste treatment, inert landfill, non-hazardous landfill, hazardous landfill, household civic amenity recycling facilities construction, demolition and excavation waste, other waste management.</p> <p>Composting - Any composting proposal. incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.</p> <p>Discharges - Any discharge of water or liquid waste that is discharged to ground (ie to seep away) or to surface water, such as a beck or stream.</p> <p>Water supply - Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m² or any development needing its own water supply .</p>



ID	Location	Type of developments requiring consultation
7	On site	<p>All applications - All planning applications (except householder) outside or extending outside existing settlements/urban areas affecting greenspace, farmland, semi natural habitats or landscape features such as trees, hedges, streams, rural buildings/structures.</p> <p>Infrastructure - Pipelines, 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 developments outside of existing settlements/urban areas with a total net gain in residential units.</p> <p>Air pollution - Any development that could cause air pollution (incl: industrial/commercial processes, livestock & poultry units, slurry lagoons & digestate stores, manure stores).</p> <p>Combustion - All general combustion processes. incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.</p> <p>Waste - Mechanical and biological waste treatment, inert landfill, non-hazardous landfill, hazardous landfill, household civic amenity recycling facilities construction, demolition and excavation waste, other waste management.</p> <p>Composting - Any composting proposal. incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.</p> <p>Discharges - Any discharge of water or liquid waste that is discharged to ground (ie to seep away) or to surface water, such as a beck or stream.</p> <p>Water supply - Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m² or any development needing its own water supply .</p>

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m

23

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 95**

ID: 8
 Location: On site
 SSSI name: Thorne, Crowle and Goole Moors
 Unit name: Crowle Southern Reserve
 Broad habitat: Bogs - Lowland
 Condition: Unfavourable - Recovering
 Reportable features:



Feature name	Feature condition	Date of assessment
Aggregations of breeding birds - Nightjar, <i>Caprimulgus europaeus</i>	Favourable	01/12/2015
Assemblages of breeding birds - Mixed: Lowland damp grassland, Lowland heath, Scrub, Woodland	Favourable	22/12/2021
H7120 Degraded raised bogs (still capable of natural regeneration)	Unfavourable - Recovering	04/10/2012
Invert. assemblage W312 sphagnum bog	Unfavourable - Recovering	04/10/2012
Raised bog (lowland)	Unfavourable - Recovering	04/10/2012

ID: 9
 Location: 4m N
 SSSI name: Thorne, Crowle and Goole Moors
 Unit name: Mrs Lovells Strip
 Broad habitat: Bogs - Lowland
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of breeding birds - Nightjar, <i>Caprimulgus europaeus</i>	Favourable	01/12/2015
Assemblages of breeding birds - Mixed: Lowland damp grassland, Lowland heath, Scrub, Woodland	Favourable	22/12/2021
H7120 Degraded raised bogs (still capable of natural regeneration)	Unfavourable - Recovering	04/10/2012
Invert. assemblage W312 sphagnum bog	Unfavourable - Recovering	04/10/2012
Raised bog (lowland)	Unfavourable - Recovering	04/10/2012

ID: 14
 Location: 204m N
 SSSI name: Thorne, Crowle and Goole Moors
 Unit name: Crowle Southern Reserve
 Broad habitat: Bogs - Lowland
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of breeding birds - Nightjar, <i>Caprimulgus europaeus</i>	Favourable	01/12/2015
Assemblages of breeding birds - Mixed: Lowland damp grassland, Lowland heath, Scrub, Woodland	Favourable	22/12/2021

Feature name	Feature condition	Date of assessment
H7120 Degraded raised bogs (still capable of natural regeneration)	Unfavourable - Recovering	04/10/2012
Invert. assemblage W312 sphagnum bog	Unfavourable - Recovering	04/10/2012
Raised bog (lowland)	Unfavourable - Recovering	04/10/2012

ID: 15
 Location: 208m N
 SSSI name: Thorne, Crowle and Goole Moors
 Unit name: Mr Waters Land
 Broad habitat: Bogs - Lowland
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of breeding birds - Nightjar, Caprimulgus europaeus	Favourable	01/12/2015
Assemblages of breeding birds - Mixed: Lowland damp grassland, Lowland heath, Scrub, Woodland	Favourable	22/12/2021
H7120 Degraded raised bogs (still capable of natural regeneration)	Unfavourable - Recovering	28/09/2012
Invert. assemblage W312 sphagnum bog	Unfavourable - Recovering	28/09/2012
Raised bog (lowland)	Unfavourable - Recovering	28/09/2012

ID: 17
 Location: 332m NW
 SSSI name: Thorne, Crowle and Goole Moors
 Unit name: Yorkshire Triangle
 Broad habitat: Bogs - Lowland
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of breeding birds - Nightjar, Caprimulgus europaeus	Favourable	01/12/2015
Assemblages of breeding birds - Mixed: Lowland damp grassland, Lowland heath, Scrub, Woodland	Favourable	22/12/2021
H7120 Degraded raised bogs (still capable of natural regeneration)	Unfavourable - Recovering	17/10/2012
Invert. assemblage W312 sphagnum bog	Unfavourable - Recovering	17/10/2012
Raised bog (lowland)	Unfavourable - Recovering	17/10/2012



ID: A
 Location: 586m N
 SSSI name: Thorne, Crowle and Goole Moors
 Unit name: Ltnc Ma
 Broad habitat: Bogs - Lowland
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of breeding birds - Nightjar, <i>Caprimulgus europaeus</i>	Favourable	01/12/2015
Assemblages of breeding birds - Mixed: Lowland damp grassland, Lowland heath, Scrub, Woodland	Favourable	22/12/2021
H7120 Degraded raised bogs (still capable of natural regeneration)	Unfavourable - Recovering	28/09/2012
Invert. assemblage W312 sphagnum bog	Unfavourable - Recovering	28/09/2012
Raised bog (lowland)	Unfavourable - Recovering	28/09/2012

ID: 21
 Location: 612m W
 SSSI name: Thorne, Crowle and Goole Moors
 Unit name: Pony Bridge Wood
 Broad habitat: Bogs - Lowland
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of breeding birds - Nightjar, <i>Caprimulgus europaeus</i>	Favourable	01/12/2015
Assemblages of breeding birds - Mixed: Lowland damp grassland, Lowland heath, Scrub, Woodland	Favourable	22/12/2021
H7120 Degraded raised bogs (still capable of natural regeneration)	Unfavourable - Recovering	15/11/2010
Invert. assemblage W312 sphagnum bog	Unfavourable - Recovering	15/11/2010
Raised bog (lowland)	Unfavourable - Recovering	15/11/2010

ID: A
 Location: 640m N
 SSSI name: Thorne, Crowle and Goole Moors
 Unit name: Crow Ma
 Broad habitat: Bogs - Lowland
 Condition: Unfavourable - No change



Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of breeding birds - Nightjar, <i>Caprimulgus europaeus</i>	Favourable	01/12/2015
Assemblages of breeding birds - Mixed: Lowland damp grassland, Lowland heath, Scrub, Woodland	Favourable	22/12/2021
H7120 Degraded raised bogs (still capable of natural regeneration)	Unfavourable - No change	09/11/2012
Invert. assemblage W312 sphagnum bog	Unfavourable - No change	09/11/2012
Raised bog (lowland)	Unfavourable - No change	09/11/2012

ID: A
 Location: 696m N
 SSSI name: Thorne, Crowle and Goole Moors
 Unit name: Flear's Land
 Broad habitat: Bogs - Lowland
 Condition: Unfavourable - Declining
 Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of breeding birds - Nightjar, <i>Caprimulgus europaeus</i>	Favourable	01/12/2015
Assemblages of breeding birds - Mixed: Lowland damp grassland, Lowland heath, Scrub, Woodland	Favourable	22/12/2021
H7120 Degraded raised bogs (still capable of natural regeneration)	Unfavourable - Declining	09/11/2012
Invert. assemblage W312 sphagnum bog	Unfavourable - Declining	09/11/2012
Raised bog (lowland)	Unfavourable - Declining	09/11/2012

ID: A
 Location: 712m N
 SSSI name: Thorne, Crowle and Goole Moors
 Unit name: Ken Crow's Strip
 Broad habitat: Bogs - Lowland
 Condition: Unfavourable - Declining
 Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of breeding birds - Nightjar, <i>Caprimulgus europaeus</i>	Favourable	01/12/2015

Feature name	Feature condition	Date of assessment
Assemblages of breeding birds - Mixed: Lowland damp grassland, Lowland heath, Scrub, Woodland	Favourable	22/12/2021
H7120 Degraded raised bogs (still capable of natural regeneration)	Unfavourable - Declining	09/11/2012
Invert. assemblage W312 sphagnum bog	Unfavourable - Declining	09/11/2012
Raised bog (lowland)	Unfavourable - Declining	09/11/2012

ID: 24
 Location: 764m N
 SSSI name: Thorne, Crowle and Goole Moors
 Unit name: Crowle Northern Reserve
 Broad habitat: Bogs - Lowland
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of breeding birds - Nightjar, Caprimulgus europaeus	Favourable	01/12/2015
Assemblages of breeding birds - Mixed: Lowland damp grassland, Lowland heath, Scrub, Woodland	Favourable	22/12/2021
H7120 Degraded raised bogs (still capable of natural regeneration)	Unfavourable - Recovering	03/08/2011
Invert. assemblage W312 sphagnum bog	Unfavourable - Recovering	03/08/2011
Raised bog (lowland)	Unfavourable - Recovering	03/08/2011

ID: 25
 Location: 1018m NW
 SSSI name: Thorne, Crowle and Goole Moors
 Unit name: Pony Bridge Marsh
 Broad habitat: Bogs - Lowland
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of breeding birds - Nightjar, Caprimulgus europaeus	Favourable	01/12/2015
Assemblages of breeding birds - Mixed: Lowland damp grassland, Lowland heath, Scrub, Woodland	Favourable	22/12/2021
H7120 Degraded raised bogs (still capable of natural regeneration)	Unfavourable - Recovering	28/08/2012

Feature name	Feature condition	Date of assessment
Invert. assemblage W312 sphagnum bog	Unfavourable - Recovering	28/08/2012
Raised bog (lowland)	Unfavourable - Recovering	28/08/2012

ID: B
 Location: 1246m N
 SSSI name: Thorne, Crowle and Goole Moors
 Unit name: Mrs Revitt's Strip
 Broad habitat: Bogs - Lowland
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of breeding birds - Nightjar, Caprimulgus europaeus	Favourable	01/12/2015
Assemblages of breeding birds - Mixed: Lowland damp grassland, Lowland heath, Scrub, Woodland	Favourable	22/12/2021
H7120 Degraded raised bogs (still capable of natural regeneration)	Unfavourable - Recovering	23/05/2011
Invert. assemblage W312 sphagnum bog	Unfavourable - Recovering	23/05/2011
Raised bog (lowland)	Unfavourable - Recovering	23/05/2011

ID: 30
 Location: 1261m N
 SSSI name: Thorne, Crowle and Goole Moors
 Unit name: Crowle Northern Reserve
 Broad habitat: Bogs - Lowland
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of breeding birds - Nightjar, Caprimulgus europaeus	Favourable	01/12/2015
Assemblages of breeding birds - Mixed: Lowland damp grassland, Lowland heath, Scrub, Woodland	Favourable	22/12/2021
H7120 Degraded raised bogs (still capable of natural regeneration)	Unfavourable - Recovering	03/08/2011
Invert. assemblage W312 sphagnum bog	Unfavourable - Recovering	03/08/2011
Raised bog (lowland)	Unfavourable - Recovering	03/08/2011

ID: B
 Location: 1284m N
 SSSI name: Thorne, Crowle and Goole Moors
 Unit name: Mrs Revitt's Strip
 Broad habitat: Bogs - Lowland
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of breeding birds - Nightjar, <i>Caprimulgus europaeus</i>	Favourable	01/12/2015
Assemblages of breeding birds - Mixed: Lowland damp grassland, Lowland heath, Scrub, Woodland	Favourable	22/12/2021
H7120 Degraded raised bogs (still capable of natural regeneration)	Unfavourable - Recovering	23/05/2011
Invert. assemblage W312 sphagnum bog	Unfavourable - Recovering	23/05/2011
Raised bog (lowland)	Unfavourable - Recovering	23/05/2011

ID: 31
 Location: 1316m N
 SSSI name: Thorne, Crowle and Goole Moors
 Unit name: Crowle Northern Reserve
 Broad habitat: Bogs - Lowland
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of breeding birds - Nightjar, <i>Caprimulgus europaeus</i>	Favourable	01/12/2015
Assemblages of breeding birds - Mixed: Lowland damp grassland, Lowland heath, Scrub, Woodland	Favourable	22/12/2021
H7120 Degraded raised bogs (still capable of natural regeneration)	Unfavourable - Recovering	03/08/2011
Invert. assemblage W312 sphagnum bog	Unfavourable - Recovering	03/08/2011
Raised bog (lowland)	Unfavourable - Recovering	03/08/2011

ID: 32
 Location: 1366m W
 SSSI name: Thorne, Crowle and Goole Moors
 Unit name: Burtwistle's Land
 Broad habitat: Bogs - Lowland
 Condition: Unfavourable - Recovering

Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of breeding birds - Nightjar, Caprimulgus europaeus	Favourable	01/12/2015
Assemblages of breeding birds - Mixed: Lowland damp grassland, Lowland heath, Scrub, Woodland	Favourable	22/12/2021
H7120 Degraded raised bogs (still capable of natural regeneration)	Unfavourable - Recovering	04/10/2010
Invert. assemblage W312 sphagnum bog	Unfavourable - Recovering	04/10/2010
Raised bog (lowland)	Unfavourable - Recovering	04/10/2010

ID: 37
 Location: 1582m N
 SSSI name: Thorne, Crowle and Goole Moors
 Unit name: Will Pits
 Broad habitat: Broadleaved, Mixed And Yew Woodland - Lowland
 Condition: Favourable
 Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of breeding birds - Nightjar, Caprimulgus europaeus	Favourable	21/12/2017
Assemblages of breeding birds - Mixed: Lowland damp grassland, Lowland heath, Scrub, Woodland	Favourable	22/12/2021
Invert. assemblage W312 sphagnum bog	-	-
Raised bog (lowland)	-	-

ID: -
 Location: 1633m N
 SSSI name: Thorne, Crowle and Goole Moors
 Unit name: Crowle Northern Reserve
 Broad habitat: Bogs - Lowland
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of breeding birds - Nightjar, Caprimulgus europaeus	Favourable	01/12/2015
Assemblages of breeding birds - Mixed: Lowland damp grassland, Lowland heath, Scrub, Woodland	Favourable	22/12/2021

Feature name	Feature condition	Date of assessment
H7120 Degraded raised bogs (still capable of natural regeneration)	Unfavourable - Recovering	03/08/2011
Invert. assemblage W312 sphagnum bog	Unfavourable - Recovering	03/08/2011
Raised bog (lowland)	Unfavourable - Recovering	03/08/2011

ID: 40
 Location: 1682m NW
 SSSI name: Thorne, Crowle and Goole Moors
 Unit name: New Moor South
 Broad habitat: Bogs - Lowland
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of breeding birds - Nightjar, Caprimulgus europaeus	Favourable	01/12/2015
Assemblages of breeding birds - Mixed: Lowland damp grassland, Lowland heath, Scrub, Woodland	Favourable	22/12/2021
H7120 Degraded raised bogs (still capable of natural regeneration)	Unfavourable - Recovering	30/06/2010
Invert. assemblage W312 sphagnum bog	Not Recorded	01/01/1900
Raised bog (lowland)	Unfavourable - Recovering	15/01/2021

ID: 42
 Location: 1733m S
 SSSI name: Hatfield Chase Ditches
 Unit name: Ned - Dirtiness Pumping Station To Belton Grange
 Broad habitat: Standing Open Water And Canals
 Condition: Favourable
 Reportable features:

Feature name	Feature condition	Date of assessment
Ditches	Favourable	30/10/2018

ID: 43
 Location: 1845m SE
 SSSI name: Hatfield Chase Ditches
 Unit name: Ned - Hirst Priory To Belton Grange (Ea)
 Broad habitat: Standing Open Water And Canals
 Condition: Favourable



Reportable features:

Feature name	Feature condition	Date of assessment
Ditches	Favourable	30/10/2018

ID: 45
Location: 1959m NW
SSSI name: Thorne, Crowle and Goole Moors
Unit name: Dutch Canals
Broad habitat: Bogs - Lowland
Condition: Unfavourable - Recovering
Reportable features:

Feature name	Feature condition	Date of assessment
Aggregations of breeding birds - Nightjar, <i>Caprimulgus europaeus</i>	Favourable	01/12/2015
Assemblages of breeding birds - Mixed: Lowland damp grassland, Lowland heath, Scrub, Woodland	Favourable	22/12/2021
H7120 Degraded raised bogs (still capable of natural regeneration)	Unfavourable - Recovering	28/08/2012
Invert. assemblage W312 sphagnum bog	Unfavourable - Recovering	28/08/2012
Raised bog (lowland)	Unfavourable - Recovering	28/08/2012

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

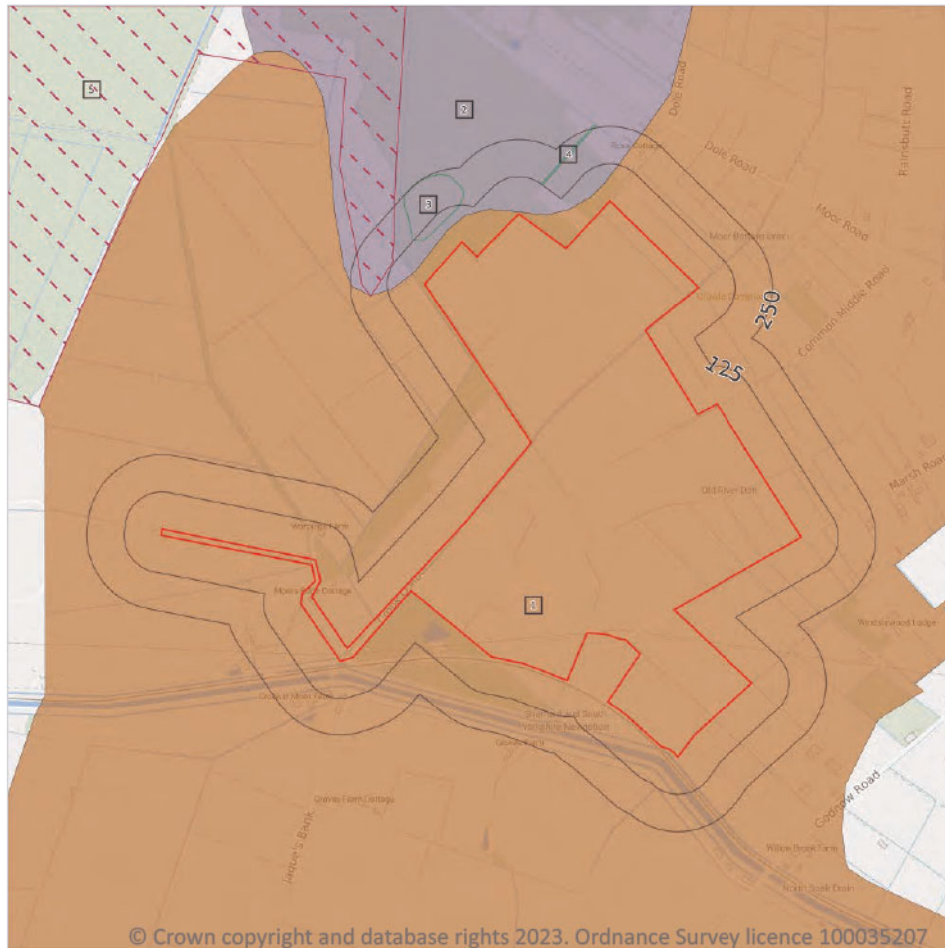
0

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



- Site Outline
- Search buffers in metres (m)
- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m

2

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 112**

ID	Location	Classification	Description
1	On site	Grade 2	Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.
2	7m N	Non Agricultural	-

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m

1

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.

Features are displayed on the Agricultural designations map on **page 112**

ID	Location	Name	Classification	Other relevant legislation
5	130m NW	Thorne Moors or Thorne Waste	Section 4 Conclusive Registered Common Land	-

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

12.3 Tree Felling Licences

Records within 250m

2

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 112**

ID	Location	Description	Reference	Application date
3	92m NW	Selective Fell/Thin (Unconditional)	012/109/07-08	07/01/2008
4	127m N	Clear Fell (Unconditional)	012/94/11-12	21/12/2011

This data is sourced from the Forestry Commission.



12.4 Environmental Stewardship Schemes

Records within 250m

1

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.

Location	Reference	Scheme	Start Date	End date
On site	AG00289489	Higher Level Stewardship	01/10/2009	30/09/2020

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m

3

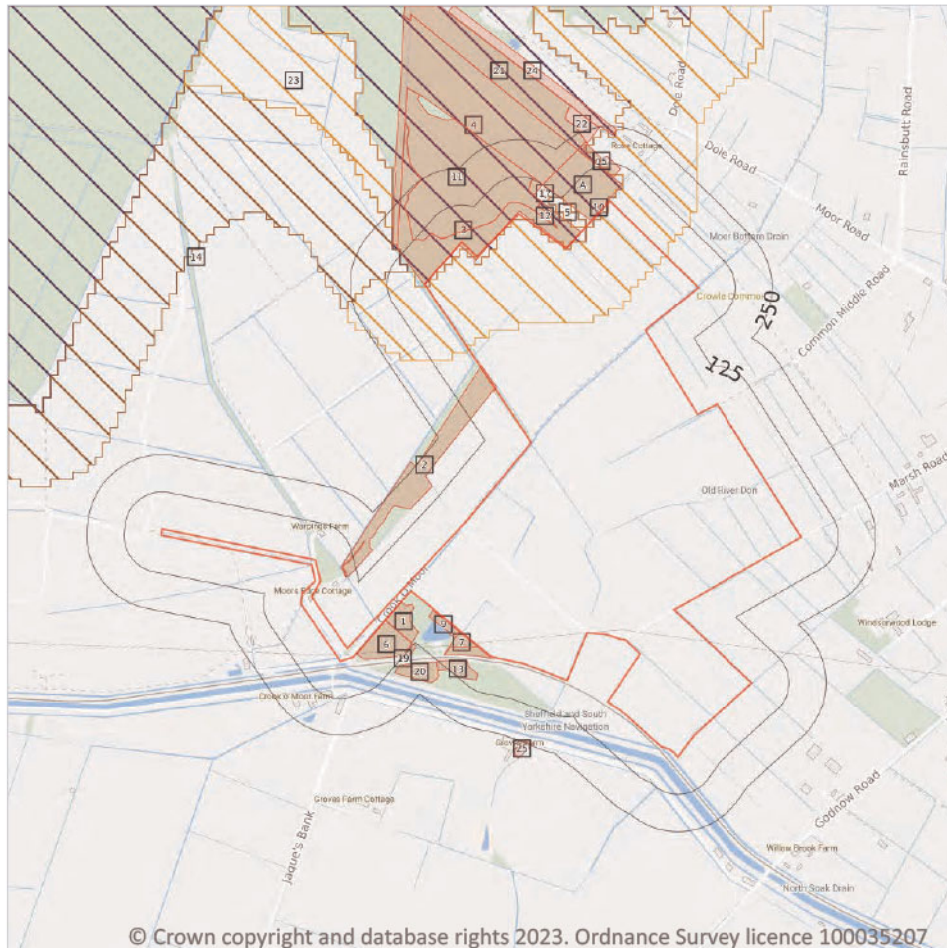
Countryside Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. Main objectives are to improve the farmed environment for wildlife and to reduce diffuse water pollution.

Location	Reference	Scheme	Start Date	End Date
On site	824806	Countryside Stewardship (Middle Tier)	01/01/2020	31/12/2024
On site	828238	Countryside Stewardship (Middle Tier)	01/01/2020	31/12/2024
On site	828238	Countryside Stewardship (Middle Tier)	01/01/2020	31/12/2024

This data is sourced from Natural England.



13 Habitat designations



- Site Outline
- Search buffers in metres (m)
- Priority Habitat Inventory
- Open Mosaic Habitat
- Limestone Pavement Orders
- Habitat Networks
- Primary Habitat
- Restorable Habitat
- Associated Habitats
- Habitat Restoration-Creation
- Network Enhancement Zone 1
- Network Enhancement Zone 2

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13.1 Priority Habitat Inventory

Records within 250m

21

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

Features are displayed on the Habitat designations map on **page 115**

ID	Location	Main Habitat	Other habitats
1	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
2	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%)



ID	Location	Main Habitat	Other habitats
3	On site	Lowland raised bog	Main habitat: LRBOG (INV > 50%, ENSIS L1, FEP + HLS); LHEAT (INV > 50%); DWOOD (INV > 50%); Additional: LFENS (INV 50%)
6	0m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
7	2m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
8	3m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
A	4m N	Lowland raised bog	Main habitat: LRBOG (INV > 50%, ENSIS L1); LHEAT (INV > 50%); DWOOD (INV > 50%); Additional: LFENS (INV 50%)
9	4m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
10	9m N	Lowland raised bog	Main habitat: LRBOG (INV > 50%, ENSIS L1); LHEAT (INV > 50%); DWOOD (INV > 50%); Additional: LFENS (INV 50%)
11	35m N	Lowland raised bog	Main habitat: LRBOG (INV > 50%, ENSIS L1, FEP + HLS); LHEAT (INV > 50%); Additional: LFENS (INV 50%)
12	38m N	Lowland raised bog	Main habitat: LRBOG (INV > 50%, ENSIS L1, FEP + HLS); LHEAT (INV > 50%); DWOOD (INV > 50%); Additional: LFENS (INV 50%)
13	63m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
15	80m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
16	80m N	Lowland raised bog	Main habitat: LRBOG (INV > 50%, ENSIS L1, FEP + HLS); LHEAT (INV > 50%); DWOOD (INV > 50%); Additional: LFENS (INV 50%)
18	127m N	Lowland raised bog	Main habitat: LRBOG (INV > 50%, ENSIS L1, FEP + HLS); LHEAT (INV > 50%); DWOOD (INV > 50%); Additional: LFENS (INV 50%)
19	127m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
20	131m SW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
21	203m N	Lowland raised bog	Main habitat: LRBOG (INV > 50%, ENSIS L1, FEP + HLS); LHEAT (INV > 50%); DWOOD (INV > 50%); Additional: LFENS (INV 50%)
22	207m N	Lowland raised bog	Main habitat: LRBOG (INV > 50%, ENSIS L1, FEP + HLS); LHEAT (INV > 50%); Additional: LFENS (INV 50%)
24	220m N	Lowland raised bog	Main habitat: LRBOG (INV > 50%, ENSIS L1); LHEAT (INV > 50%); Additional: LFENS (INV 50%)



ID	Location	Main Habitat	Other habitats
25	244m S	Traditional orchard	Overruled by Traditional Orchards HAP Inventory dataset

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	6
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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 115**

ID	Location	Type	Habitat
4	On site	Primary Habitat	Lowland raised bog
5	On site	Network Enhancement Zone 1	Not specified
A	On site	Network Enhancement Zone 1	Not specified
14	71m NW	Network Enhancement Zone 2	Not specified
17	90m N	Network Enhancement Zone 1	Not specified
23	208m NW	Network Enhancement Zone 1	Not specified

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	0
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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
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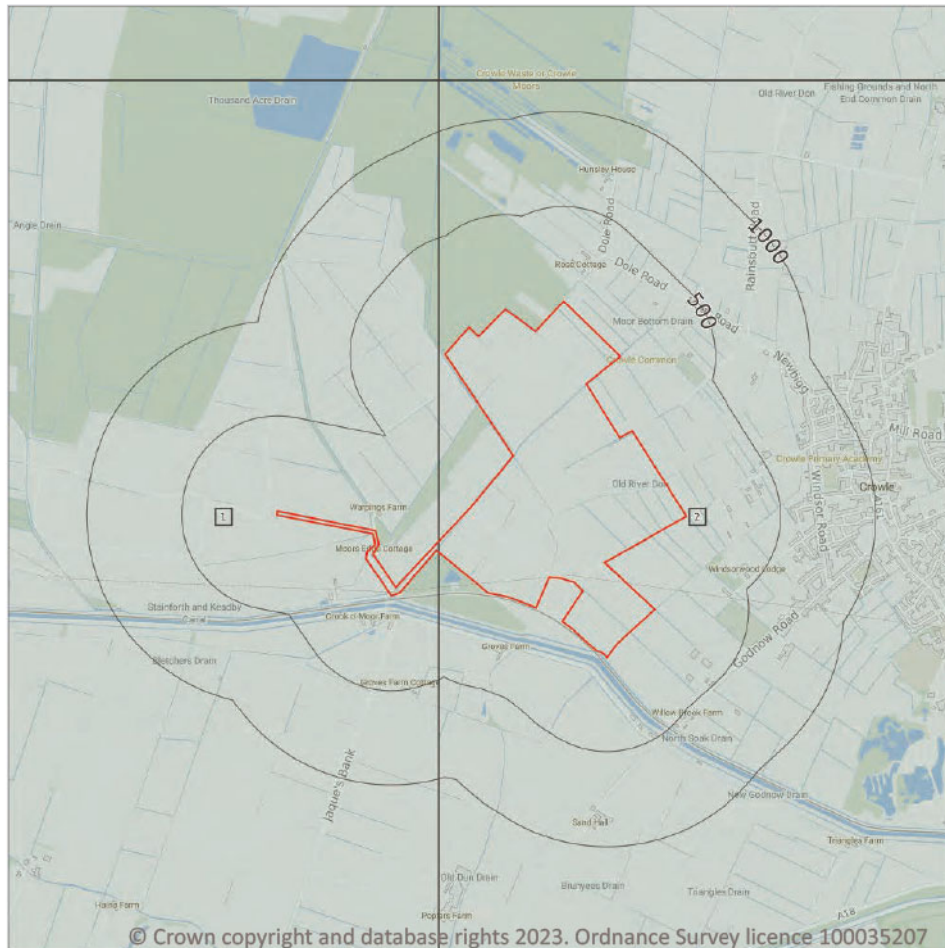
Limestone pavements are outcrops of limestone where the surface has been worn away by natural means over millennia. These rocks have the appearance of paving blocks, hence their name. Not only do they have geological interest, they also provide valuable habitats for wildlife. These habitats are threatened 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 119**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	Full	Full	No coverage	SE71SW
2	On site	No coverage	Full	Full	No coverage	SE71SE

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

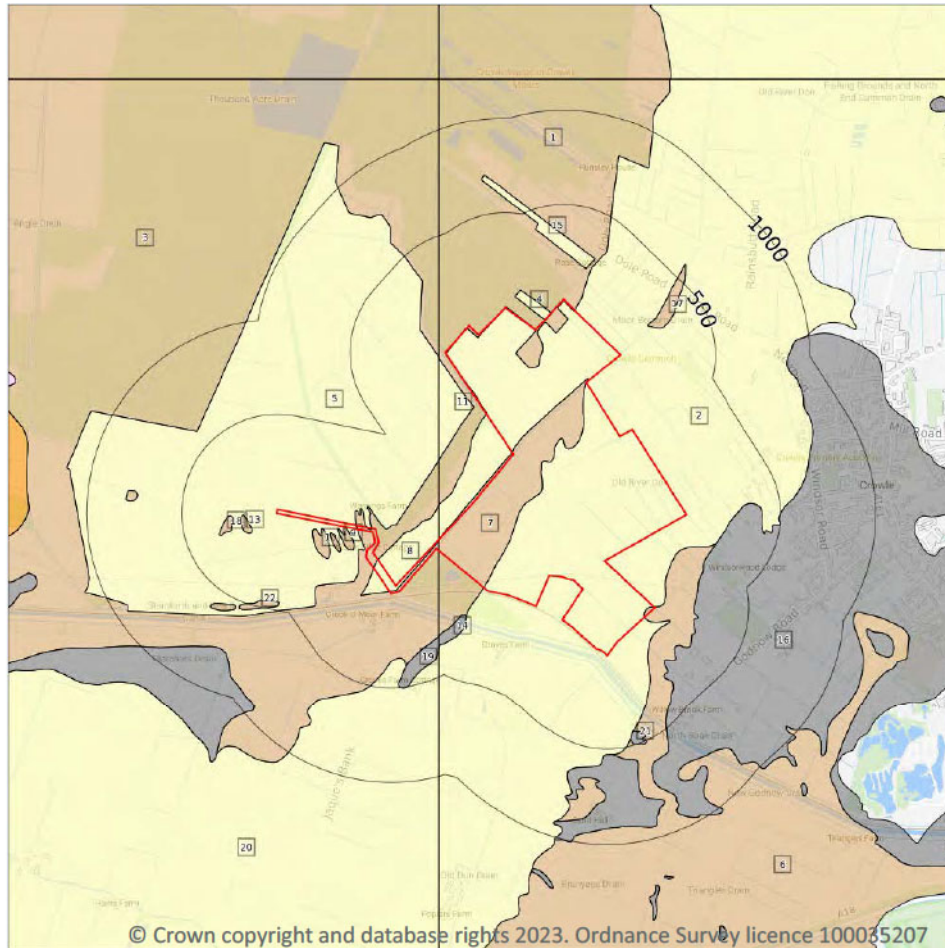
0

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.

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

22

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 121**

ID	Location	LEX Code	Description	Rock description
1	On site	PEAT-P	Peat - Peat	Peat
2	On site	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
3	On site	PEAT-P	Peat - Peat	Peat
4	On site	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel

ID	Location	LEX Code	Description	Rock description
5	On site	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
6	On site	PEAT-P	Peat - Peat	Peat
7	On site	PEAT-P	Peat - Peat	Peat
8	On site	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
9	3m W	PEAT-P	Peat - Peat	Peat
10	34m W	PEAT-P	Peat - Peat	Peat
11	35m NW	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
12	47m W	PEAT-P	Peat - Peat	Peat
13	154m W	PEAT-P	Peat - Peat	Peat
14	173m SW	BSA1-S	Blown Sand, 1 - Sand	Sand
15	202m N	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
16	206m SE	BSA1-S	Blown Sand, 1 - Sand	Sand
17	212m NE	PEAT-P	Peat - Peat	Peat
18	236m W	PEAT-P	Peat - Peat	Peat
19	314m SW	BSA1-S	Blown Sand, 1 - Sand	Sand
20	340m SW	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
21	429m S	BSA1-S	Blown Sand, 1 - Sand	Sand
22	455m SW	PEAT-P	Peat - Peat	Peat

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

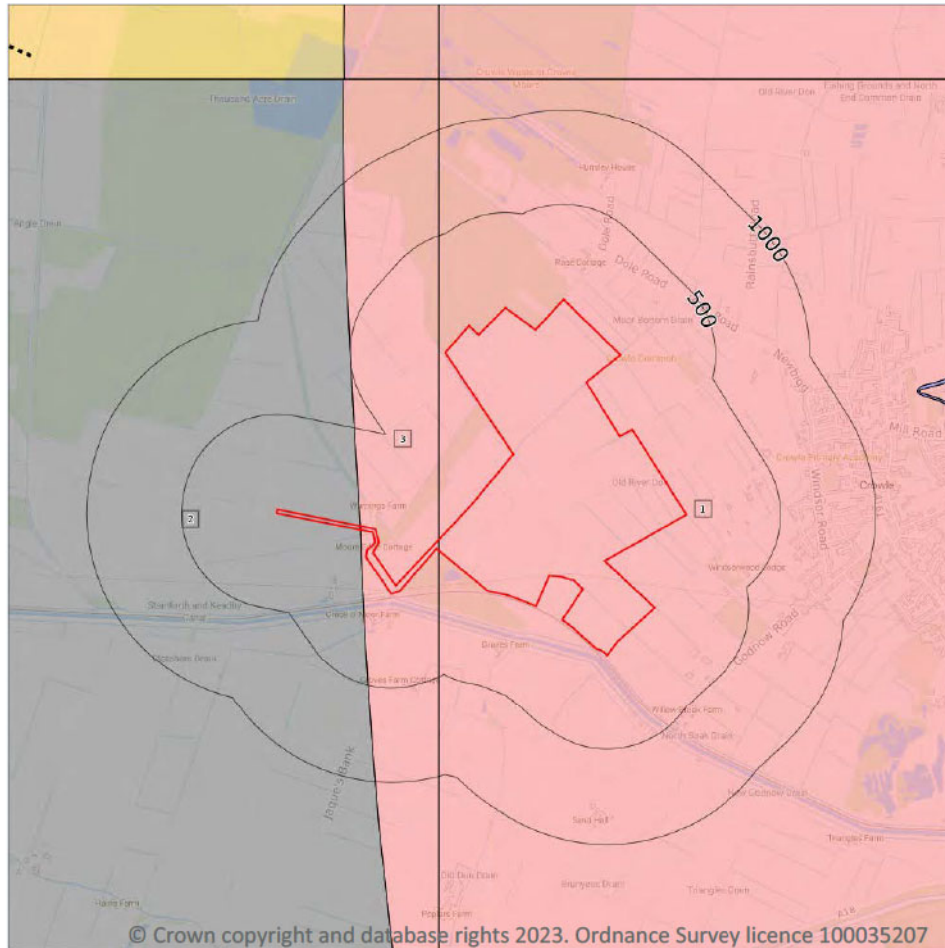
0

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

3

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 123**

ID	Location	LEX Code	Description	Rock age
1	On site	MMG-MDST	Mercia Mudstone Group - Mudstone	Rhaetian Age - Early Triassic Epoch
2	On site	NTC-SDST	Nottingham Castle Sandstone Formation - Sandstone	Early Triassic Epoch
3	On site	MMG-MDST	Mercia Mudstone Group - Mudstone	Rhaetian Age - Early Triassic Epoch



This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

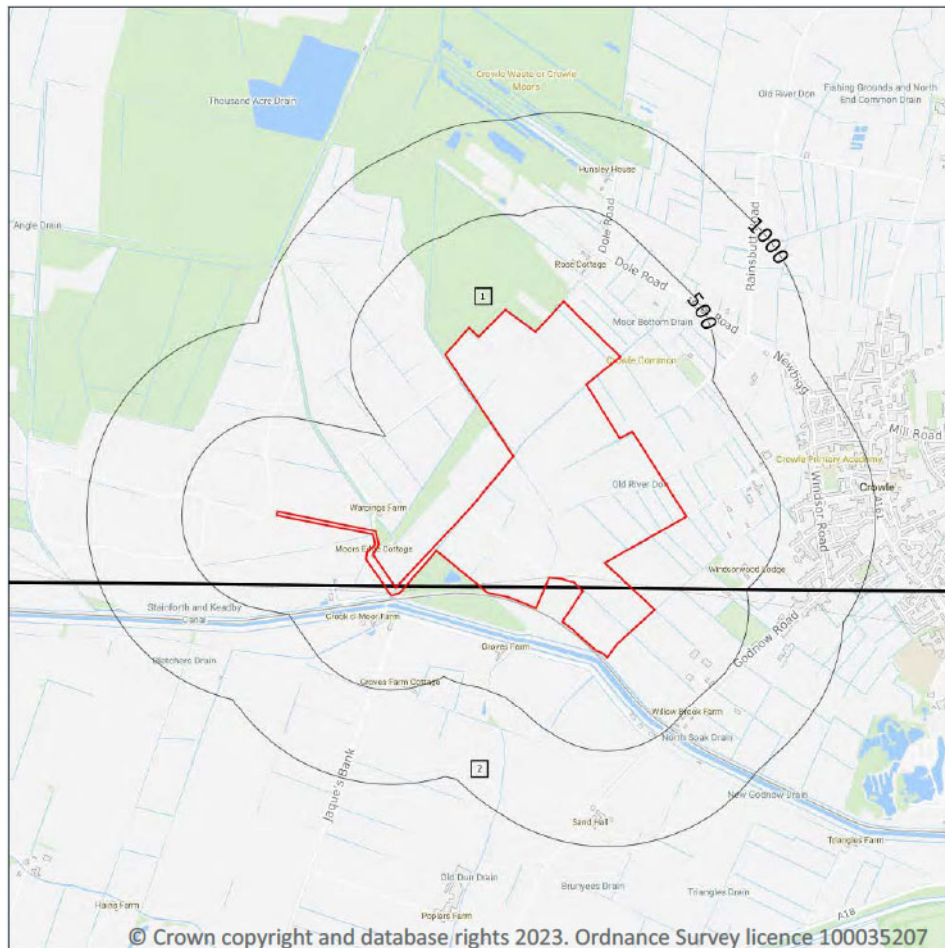
0

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.

This data is sourced from the British Geological Survey.



15 Geology 1:50,000 scale - Availability



Site Outline

Search buffers in metres (m)

☐ Geological map tile

15.1 50k Availability

Records within 500m

2

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 125**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	Full	Full	No coverage	EW079_goole_v4
2	On site	No coverage	Full	Full	No coverage	EW088_doncaster_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

0

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.

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

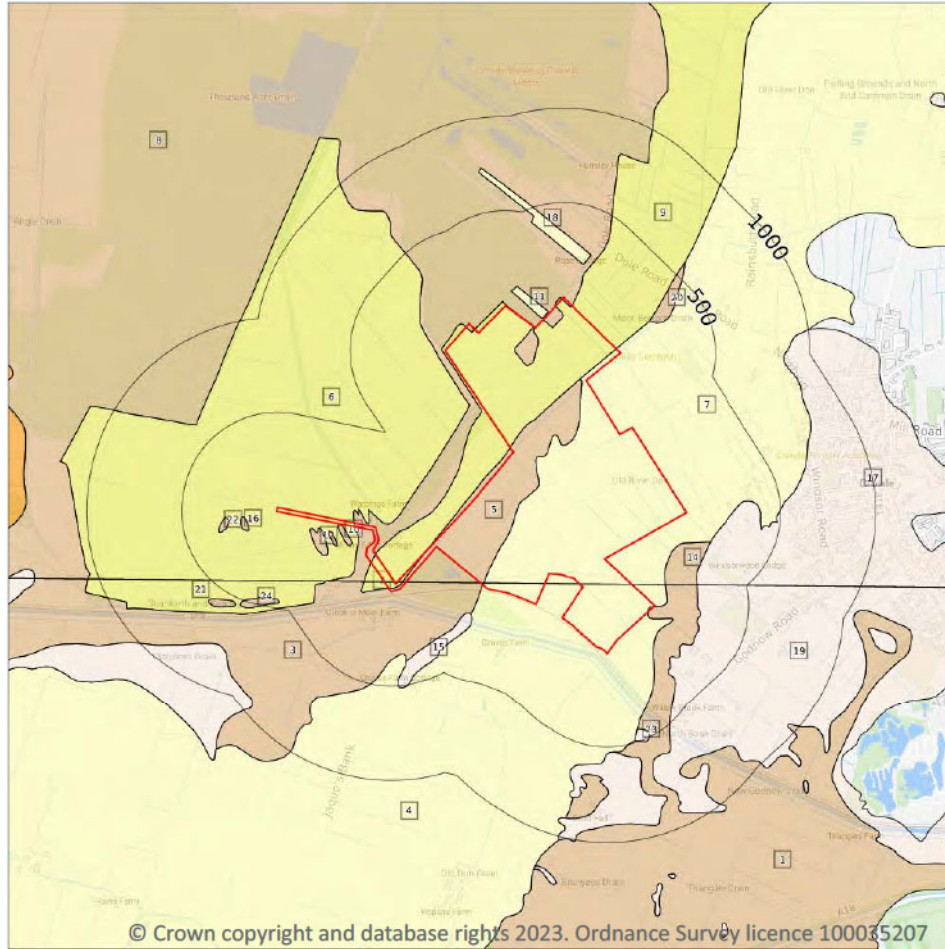
Records within 50m

0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial 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 - 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

24

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 127**

ID	Location	LEX Code	Description	Rock description
1	On site	PEAT-P	PEAT	PEAT
2	On site	WARP-XCZ	WARP	CLAY AND SILT
3	On site	PEAT-P	PEAT	PEAT
4	On site	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL



ID	Location	LEX Code	Description	Rock description
5	On site	PEAT-P	PEAT	PEAT
6	On site	WARP-XCZ	WARP	CLAY AND SILT
7	On site	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
8	On site	PEAT-P	PEAT	PEAT
9	On site	WARP-XCZ	WARP	CLAY AND SILT
10	5m W	PEAT-P	PEAT	PEAT
11	8m N	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
12	44m W	PEAT-P	PEAT	PEAT
13	49m W	PEAT-P	PEAT	PEAT
14	119m SE	PEAT-P	PEAT	PEAT
15	161m SW	SUTN-S	SUTTON SAND FORMATION	SAND
16	167m W	PEAT-P	PEAT	PEAT
17	191m E	SUTN-S	SUTTON SAND FORMATION	SAND
18	203m N	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
19	226m SE	SUTN-S	SUTTON SAND FORMATION	SAND
20	227m NE	PEAT-P	PEAT	PEAT
21	251m SW	WARP-XCZ	WARP	CLAY AND SILT
22	261m W	PEAT-P	PEAT	PEAT
23	435m S	SUTN-S	SUTTON SAND FORMATION	SAND
24	454m SW	PEAT-P	PEAT	PEAT

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m

13

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



Location	Flow type	Maximum permeability	Minimum permeability
On site	Intergranular	Low	Very Low
On site	Intergranular	Low	Very Low
On site	Intergranular	Low	Very Low
On site	Mixed	Low	Very Low
On site	Mixed	Low	Very Low
On site	Mixed	Low	Very Low
On site	Mixed	Low	Very Low
5m W	Mixed	Low	Very Low
8m N	Intergranular	High	Very Low
43m W	Mixed	Low	Very Low
47m NW	Intergranular	Low	Very Low
49m W	Mixed	Low	Very Low

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

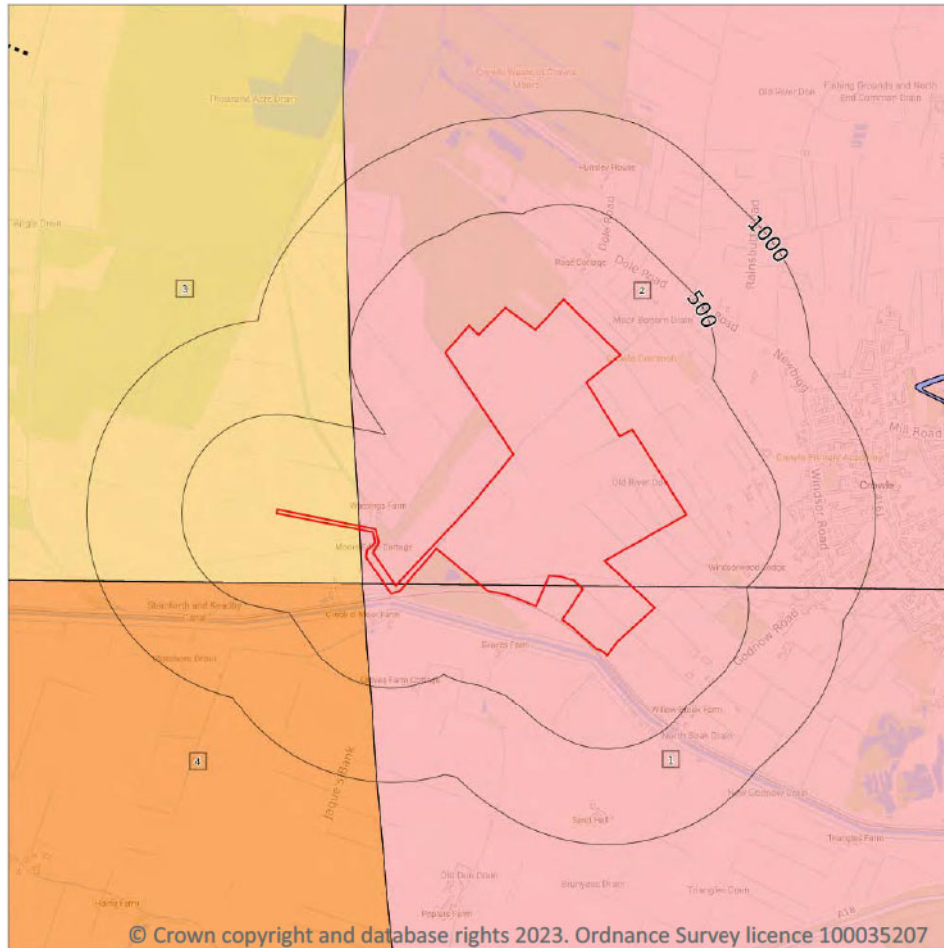
0

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

4

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 130**

ID	Location	LEX Code	Description	Rock age
1	On site	MMG-MDST	MERCIA MUDSTONE GROUP - MUDSTONE	-
2	On site	MMG-MDST	MERCIA MUDSTONE GROUP - MUDSTONE	-
3	On site	SSG-SDST	SHERWOOD SANDSTONE GROUP - SANDSTONE	-



ID	Location	LEX Code	Description	Rock age
4	96m SW	CHES-PESST	CHESTER FORMATION - SANDSTONE, PEBBLY (GRAVELLY)	OLENEKIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	3
---------------------------	----------

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	Mixed	High	High
On site	Fracture	Low	Low
On site	Fracture	Low	Low

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	0
----------------------------	----------

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.

This data is sourced from the British Geological Survey.

16 Boreholes



— Site Outline
Search buffers in metres (m)

- Confidential
- 0 - 10m
- 10 - 30m
- 30m+
- Unknown

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16.1 BGS Boreholes

Records within 250m

4

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 132**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	9m N	475520 413704	PROPOSED AIRPORT AT GOOLE/THORNE	-	Y	N/A
2	58m SW	474720 412240	MEDGE HALL SWING BRIDGE 2	14.95	N	124817
3	104m SW	474720 412190	MEDGE HALL SWING BRIDGE 1	15.45	N	124816

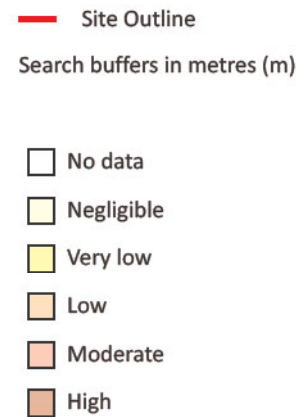
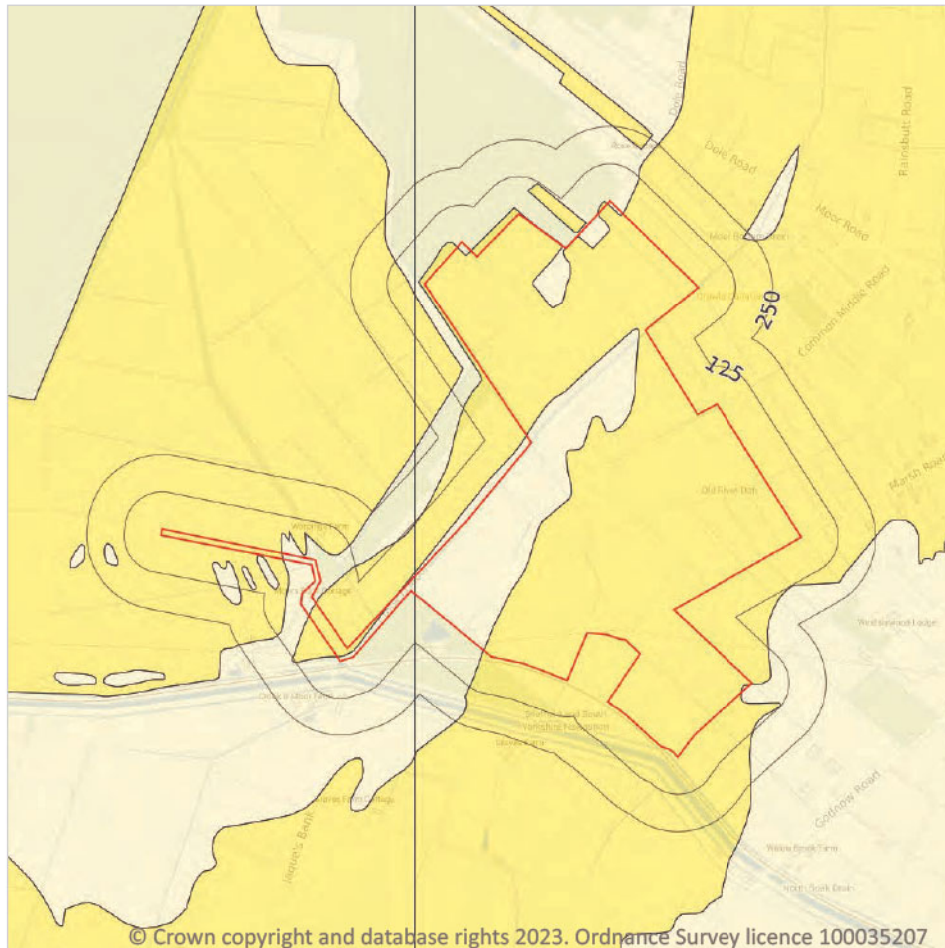


ID	Location	Grid reference	Name	Length	Confidential	Web link
4	185m S	475880 411780	A18 SCUNTHORPE 11	15.24	N	124761

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



17.1 Shrink swell clays

Records within 50m

7

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 134**

Location	Hazard rating	Details
On site	Negligible	Ground conditions predominantly non-plastic.
On site	Very low	Ground conditions predominantly low plasticity.
5m W	Negligible	Ground conditions predominantly non-plastic.

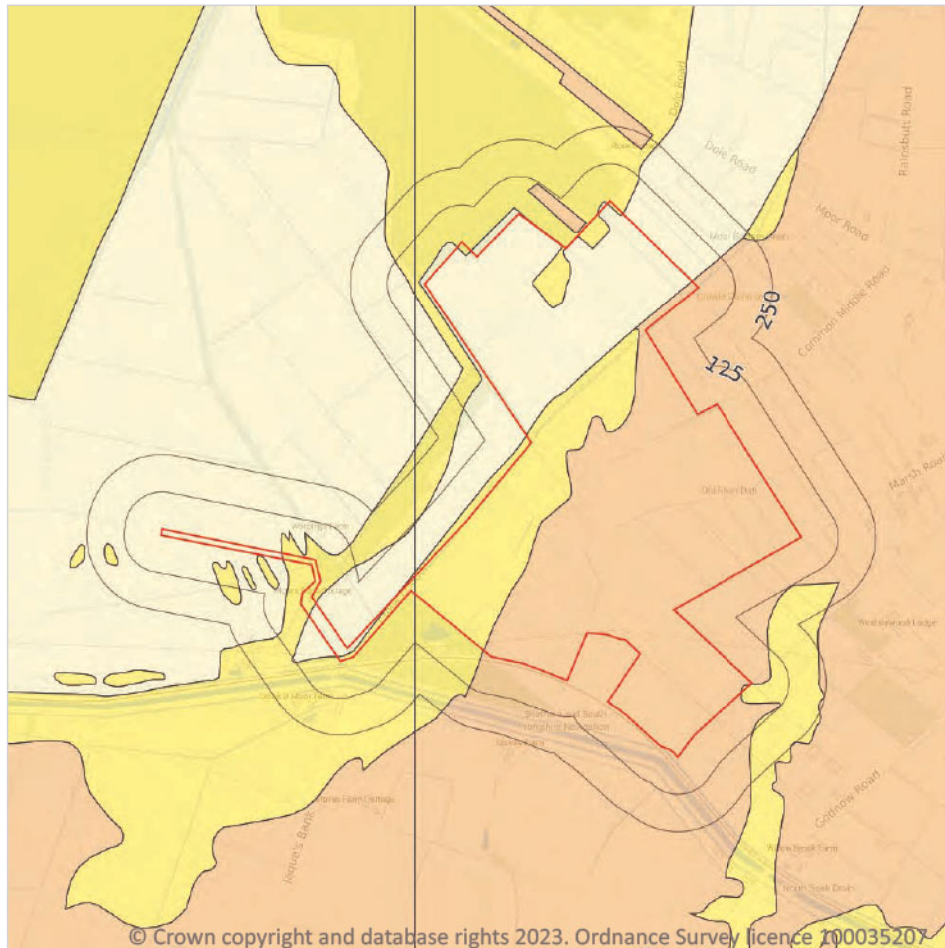


Location	Hazard rating	Details
8m N	Very low	Ground conditions predominantly low plasticity.
44m W	Negligible	Ground conditions predominantly non-plastic.
47m NW	Very low	Ground conditions predominantly low plasticity.
49m W	Negligible	Ground conditions predominantly non-plastic.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



17.2 Running sands

Records within 50m

8

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 136**

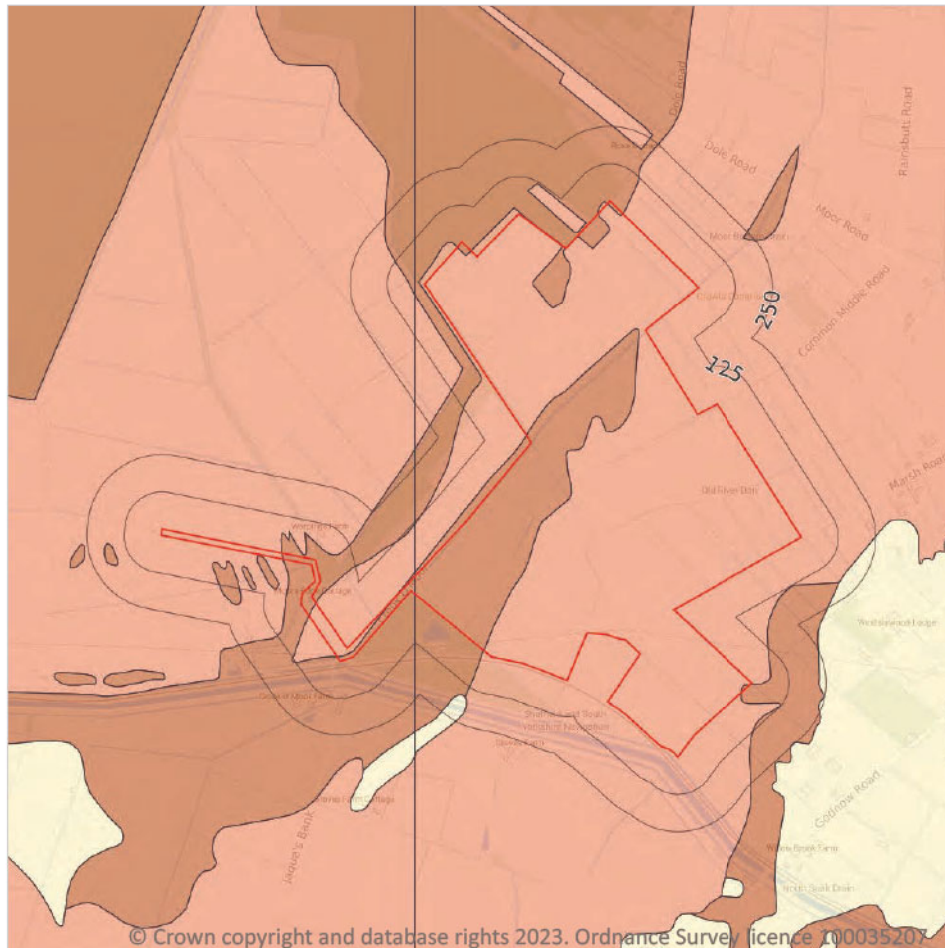
Location	Hazard rating	Details
On site	Negligible	Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.

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.
On site	Low	Running sand conditions may be present. Constraints may apply to land uses involving excavation or the addition or removal of water.
5m W	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.
8m N	Low	Running sand conditions may be present. Constraints may apply to land uses involving excavation or the addition or removal of water.
44m W	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.
47m 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.
49m W	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



17.3 Compressible deposits

Records within 50m

7

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 138**

Location	Hazard rating	Details
On site	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.
On site	High	Highly compressible strata present. Significant constraint on land use depending on thickness.

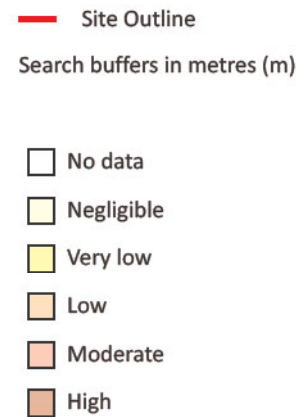
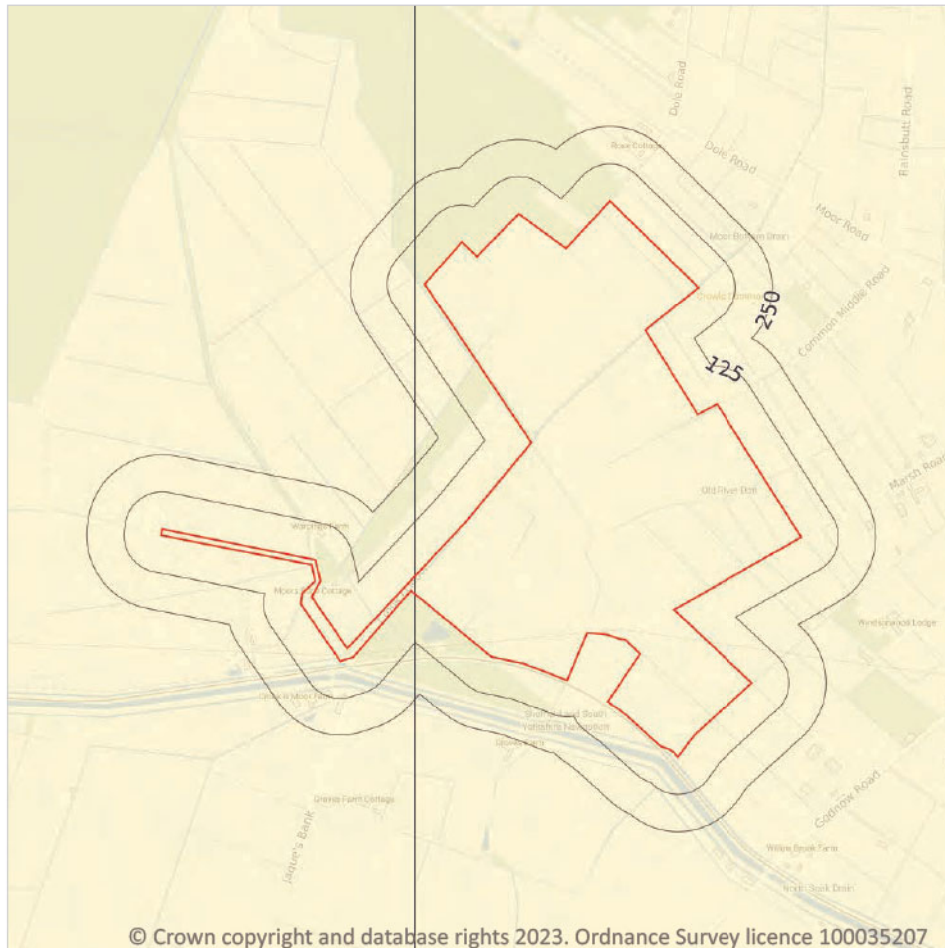


Location	Hazard rating	Details
5m W	High	Highly compressible strata present. Significant constraint on land use depending on thickness.
8m N	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.
44m W	High	Highly compressible strata present. Significant constraint on land use depending on thickness.
47m NW	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.
49m W	High	Highly compressible strata present. Significant constraint on land use depending on thickness.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



17.4 Collapsible deposits

Records within 50m

1

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.

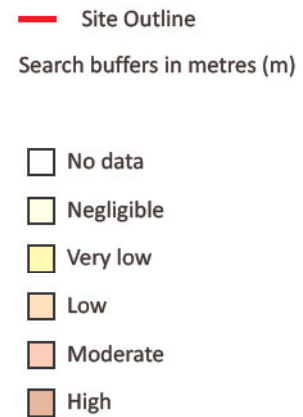
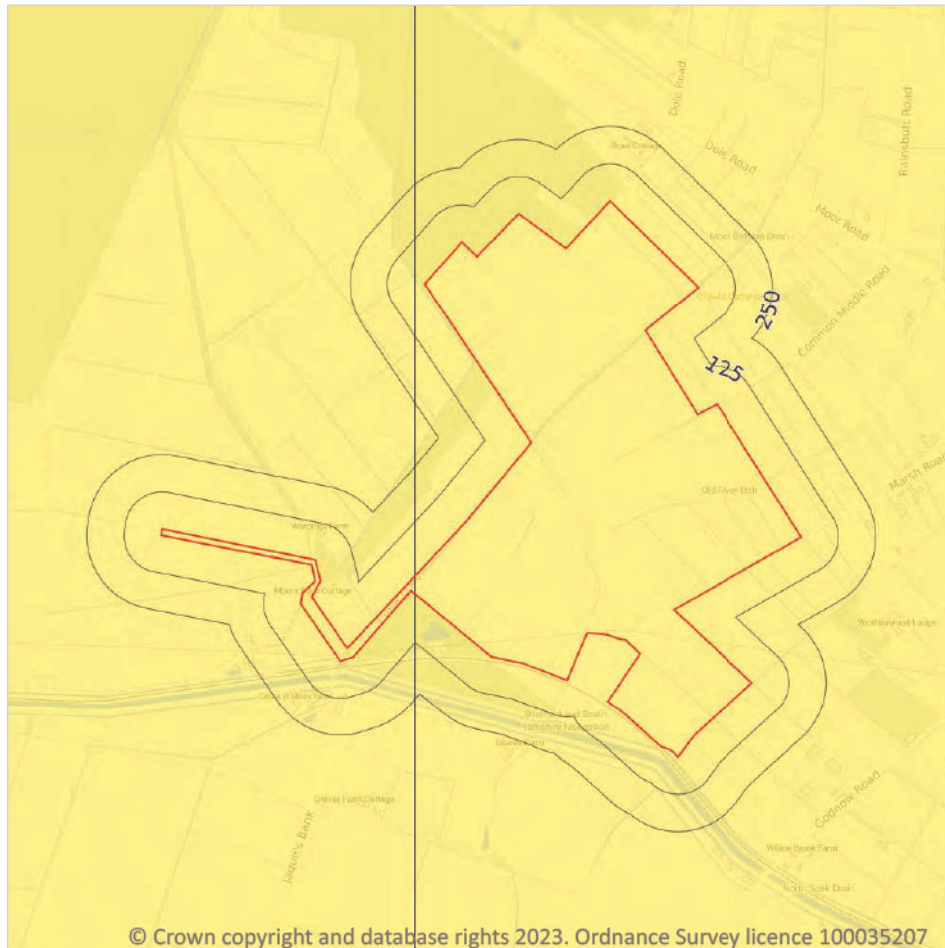
Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 140**

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Landslides



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.

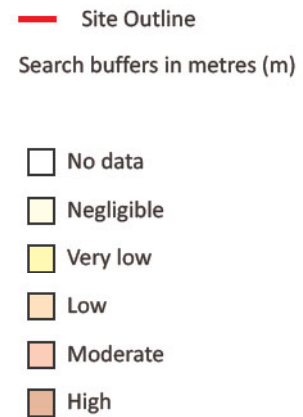
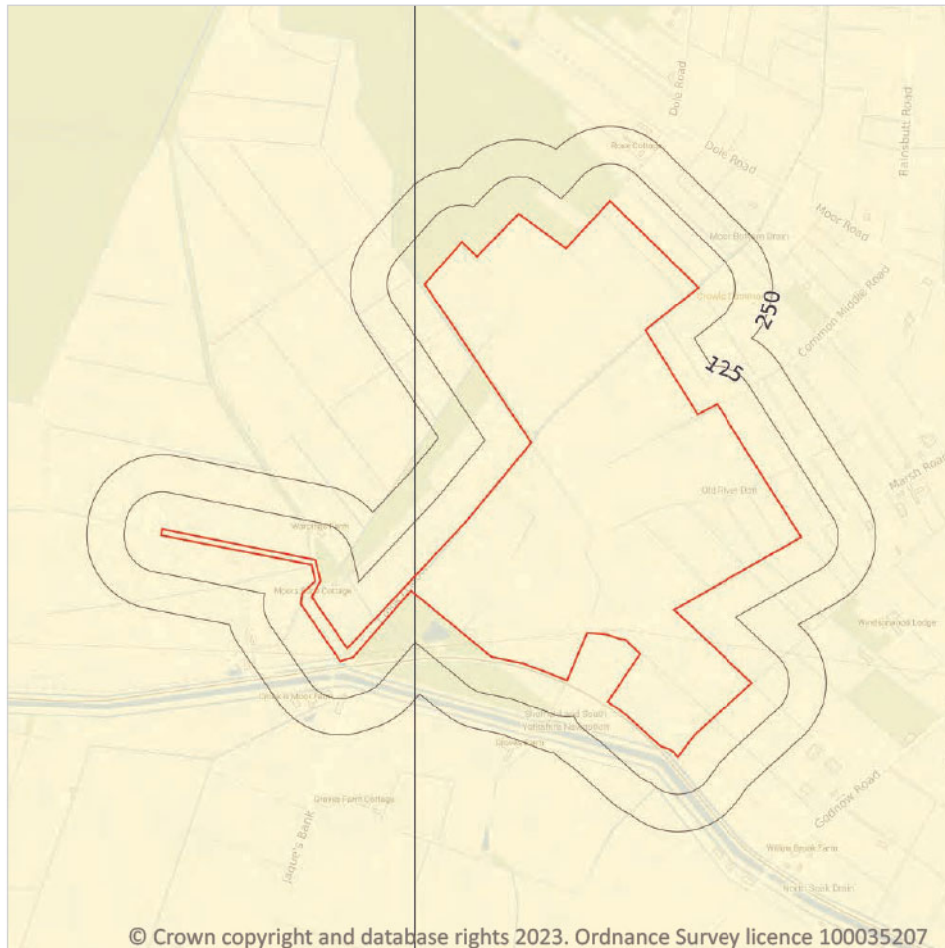
Features are displayed on the Natural ground subsidence - Landslides map on **page 141**

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 142**

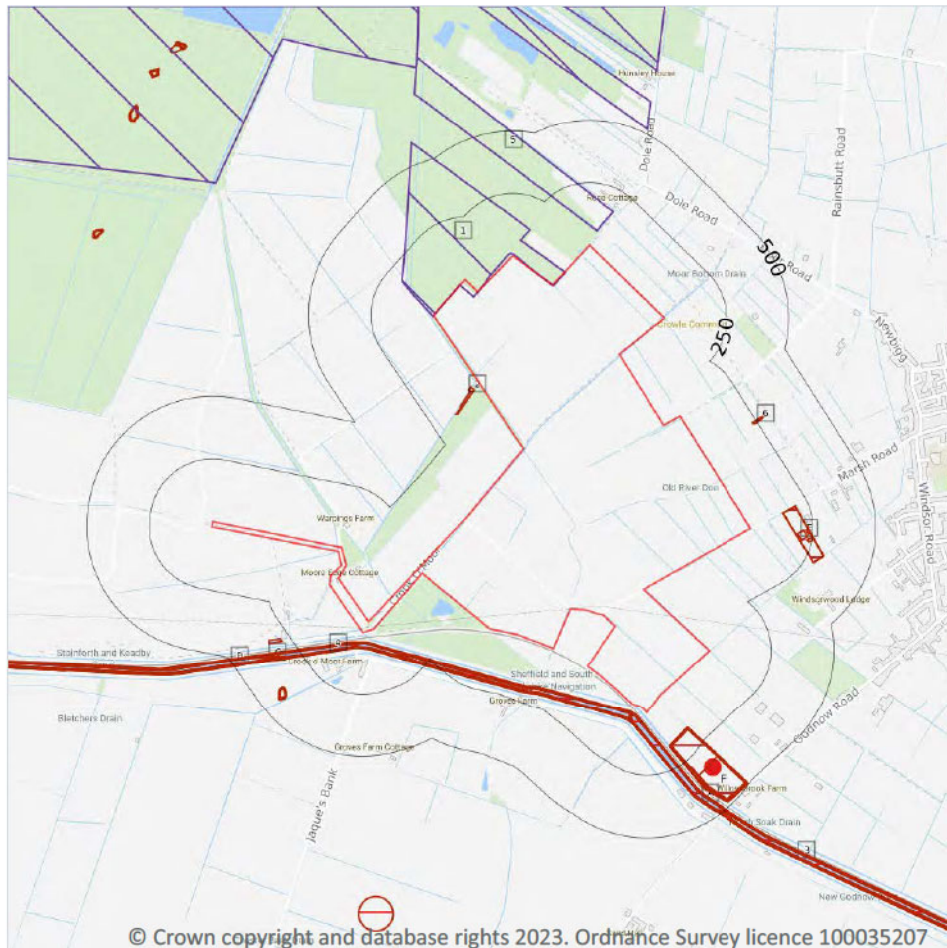
Location	Hazard rating	Details
On site	Negligible	Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.



This data is sourced from the British Geological Survey.



18 Mining, ground workings and natural cavities



- Site Outline
- Search buffers in metres (m)
- Natural cavities (Area)
- Natural cavities (Point)
- BritPits
- Surface ground workings
- Underground workings
- Historical Mineral Planning Areas
- Mining Cavities
- 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 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.

18.2 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, ground workings and natural cavities map on **page 144**

ID	Location	Details	Description
F	342m SE	Name: Crowle Brick Works Address: Crowle, SCUNTHORPE, North Lincolnshire Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m

29

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, ground workings and natural cavities map on **page 144**

ID	Location	Land Use	Year of mapping	Mapping scale
A	32m S	Canal	1948	1:10560
2	33m NW	Water Body	1908	1:10560
3	36m S	Canal	1890	1:10560
A	36m S	Canal	1908	1:10560
B	37m S	Canal	1885	1:10560
C	38m S	Canal	1948	1:10560
C	38m S	Canal	1891	1:10560
B	38m S	Canal	1885	1:10560
A	39m S	Canal	1885	1:10560
A	39m S	Canal	1904	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
A	39m S	Canal	1951	1:10560
A	39m S	Canal	1973	1:10000
D	39m SW	Canal	1968	1:10000
D	39m SW	Canal	1955	1:10560
C	42m S	Canal	1908	1:10560
4	44m SW	Canal	1948	1:10560
E	143m E	Sewage Works	1951	1:10560
E	143m E	Sewage Works	1973	1:10000
F	159m S	Disused Brick Works	1948	1:10560
F	159m S	Disused Brick Works	1885	1:10560
F	161m S	Disused Brick Works	1904	1:10560
F	162m S	Disused Brick Works	1908	1:10560
F	162m S	Disused Brick Works	1885	1:10560
F	164m S	Disused Brick Works	1890	1:10560
F	165m S	Disused Brick Works	1951	1:10560
E	190m E	Filter Beds	1973	1:10000
E	223m E	Filter Beds	1973	1:10000
E	232m E	Filter Beds	1973	1:10000
6	234m E	Pond	1890	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m

0

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

This is data is sourced from Ordnance Survey/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, ground workings and natural cavities map on **page 144**

ID	Location	Site Name	Mineral	Type	Planning Status	Planning Status Date
1	On site	Crowle Moor	Peat	Surface mineral working	Valid	Not available
5	65m N	Crowle Moor	Peat	Surface mineral working	Valid	Not available

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m

0

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).

This data is sourced from the British Geological Survey.

18.7 Mining cavities

Records within 1000m

0

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.

This data is sourced from Stantec UK Ltd.

18.8 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.



18.9 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.

18.10 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.

18.11 Gypsum areas

Records on site	0
-----------------	---

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

Records on site	0
-----------------	---

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.13 Clay mining

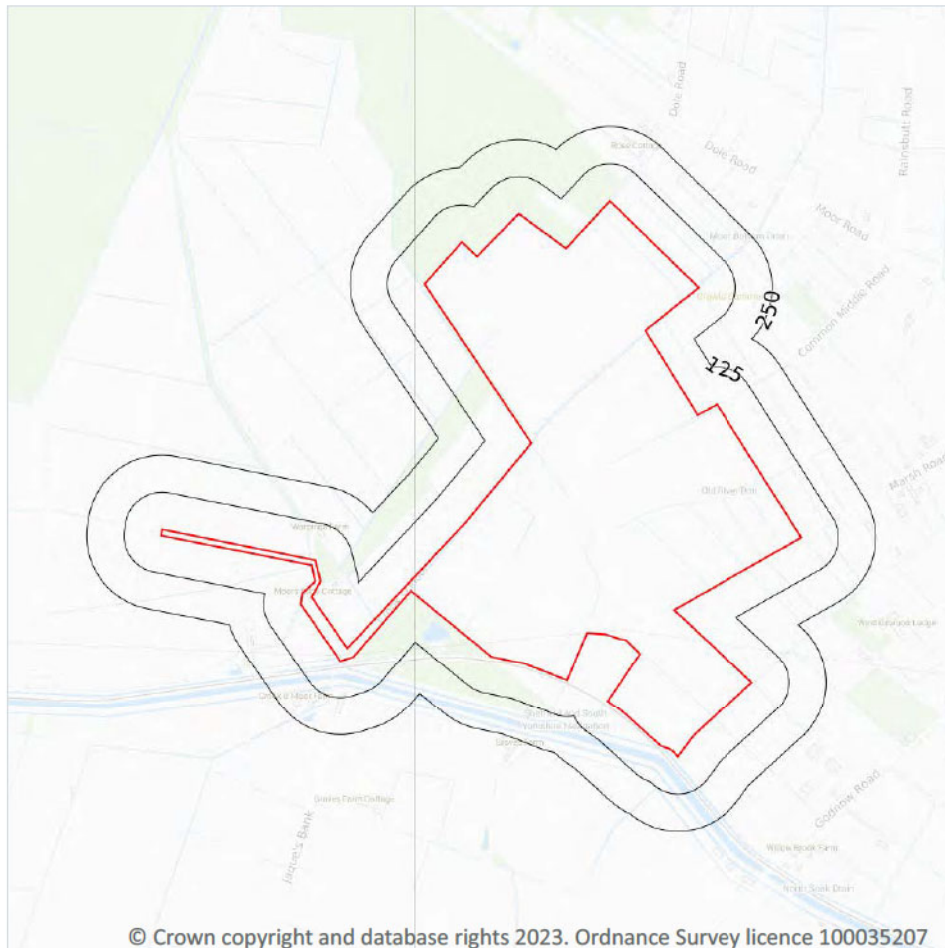
Records on site	0
-----------------	---

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 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%

19.1 Radon

Records on site

1

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 149**

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.



20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m

63

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	90 - 120 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg



Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 - 25 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 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	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	20 - 40 mg/kg	15 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg



Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 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	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	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	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	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	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	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	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	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	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 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	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	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	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	60 - 90 mg/kg	15 - 30 mg/kg
0m SW	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
5m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	20 - 40 mg/kg	15 mg/kg



Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
8m N	15 - 25 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
8m W	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
8m SW	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
12m NW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
18m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	20 - 40 mg/kg	15 mg/kg
23m W	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
27m SW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	20 - 40 mg/kg	15 mg/kg
33m NW	15 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
43m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	20 - 40 mg/kg	15 mg/kg
45m NE	15 - 25 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
45m NE	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
46m NW	15 - 25 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
47m NW	15 - 25 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
48m NW	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
49m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	20 - 40 mg/kg	15 mg/kg

This data is sourced from the British Geological Survey.



20.2 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.

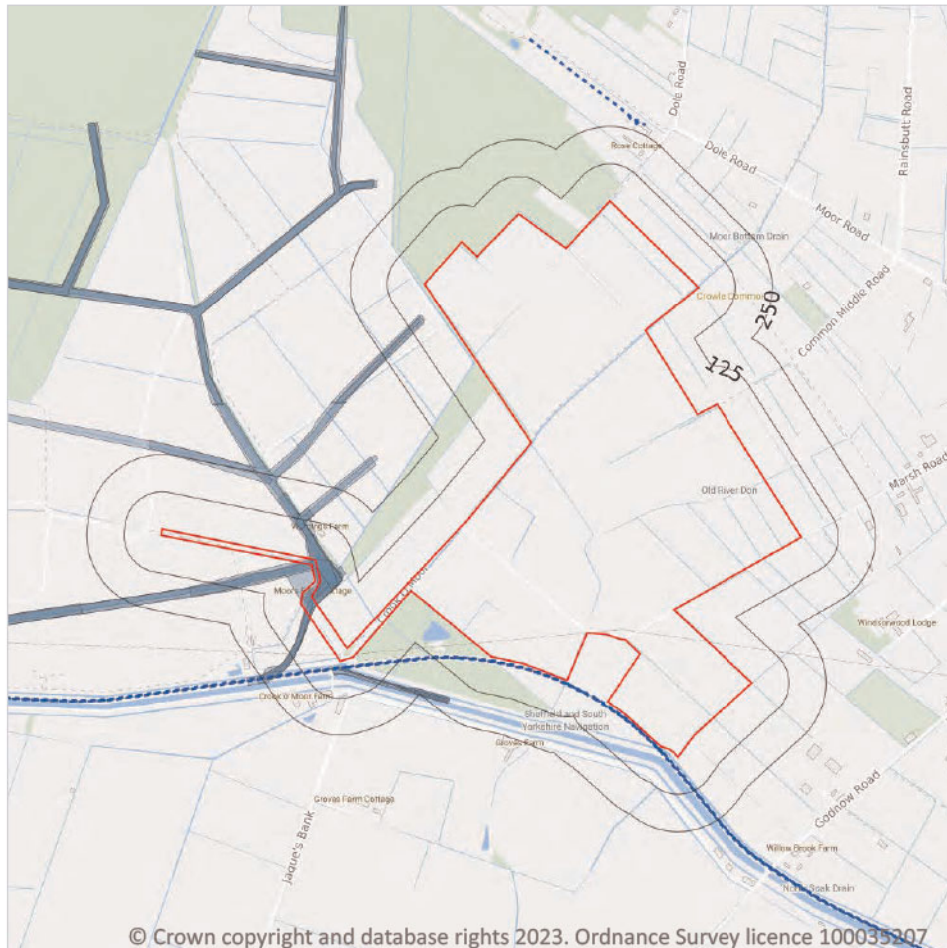
20.3 BGS Measured Urban Soil Chemistry

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.

21 Railway infrastructure and projects



- Site Outline
- Search buffers in metres (m)**
- C1 Crossrail 1 Stations
- C2 Crossrail 1 Route
- C2 Crossrail 2 Stations
- C2 Crossrail 2 Route
- Crossrail 2 Worksites
- Crossrail 2 Safeguarding
- Crossrail 2 Headhouses
- Railway stations
- Active railways
- Active tunnels
- Abandoned railways
- Historic railways
- Historic tunnels
- Underground stations
- Underground Lines
- Royal Mail tunnels
- HS2 optimised route
- HS2 Stations
- HS2 Depots
- HS2 Surface Safeguarding
- HS2 Subsurface Safeguarding

21.1 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.

21.2 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.

21.3 Railway tunnels

Records within 250m

0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m

21

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 156**

Location	Land Use	Year of mapping	Mapping scale
On site	Railway Sidings	1966	2500
On site	Railway Sidings	1968	10000
On site	Railway Sidings	1948	10560
On site	Railway Sidings	1966	2500
On site	Tramway Sidings	1906	10560
On site	Tramway Sidings	1968	10000
On site	Tramway Sidings	1948	10560
On site	Tramway Sidings	1955	10560
On site	Tramway Sidings	1908	10560
On site	Tramway Sidings	1891	10560
19m SW	Tramway Sidings	1908	10560
19m SW	Railway Sidings	1948	10560
25m SW	Railway Sidings	1966	2500
25m SW	Railway Sidings	1966	2500
73m NW	Tramway Sidings	1948	10560
85m NW	Tramway Sidings	1908	10560
89m W	Tramway Sidings	1948	10560



Location	Land Use	Year of mapping	Mapping scale
187m SW	Railway Sidings	1908	10560
191m SW	Railway Sidings	1948	10560
200m SW	Railway Sidings	1951	10560
218m W	Tramway Sidings	1891	10560

This data is sourced from Ordnance Survey/Groundsure.

21.5 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.

21.6 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.

21.7 Railways

Records within 250m

26

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 156**

Location	Name	Type
6m S	South Humberside Main Line	rail
8m S	South Humberside Main Line	rail
9m S	Not given	Multi Track
9m S	South Humberside Main Line	rail
9m S	South Humberside Main Line	rail



Location	Name	Type
10m S	South Humberside Main Line	rail
10m S	Not given	Multi Track
11m S	South Humberside Main Line	rail
12m S	South Humberside Main Line	rail
12m S	South Humberside Main Line	rail
13m S	Not given	Multi Track
18m S	South Humberside Main Line	rail
19m S	South Humberside Main Line	rail
21m SW	South Humberside Main Line	rail
22m SW	Not given	Multi Track
22m SW	South Humberside Main Line	rail
24m SW	South Humberside Main Line	rail
25m SW	Not given	Multi Track
27m SW	South Humberside Main Line	rail
41m S	Not given	Multi Track
48m SW	Not given	Multi Track
52m SW	Not given	Multi Track
72m SW	Not given	Multi Track
82m SW	Not given	Multi Track
103m SW	Not given	Multi Track
173m S	Not given	Multi Track

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 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.



21.9 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.

21.10 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.

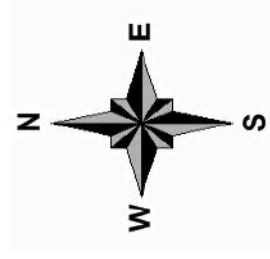


Data providers

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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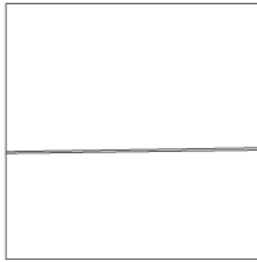
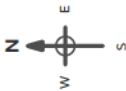
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Grid Ref: 468665, 409537

Map Name: County Series

Map date: 1906

Scale: 1:2,500

Printed at: 1:2,500



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Edition N/A
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Surveyed 1906
Revised 1906
Edition N/A
Copyright N/A
Levelled N/A



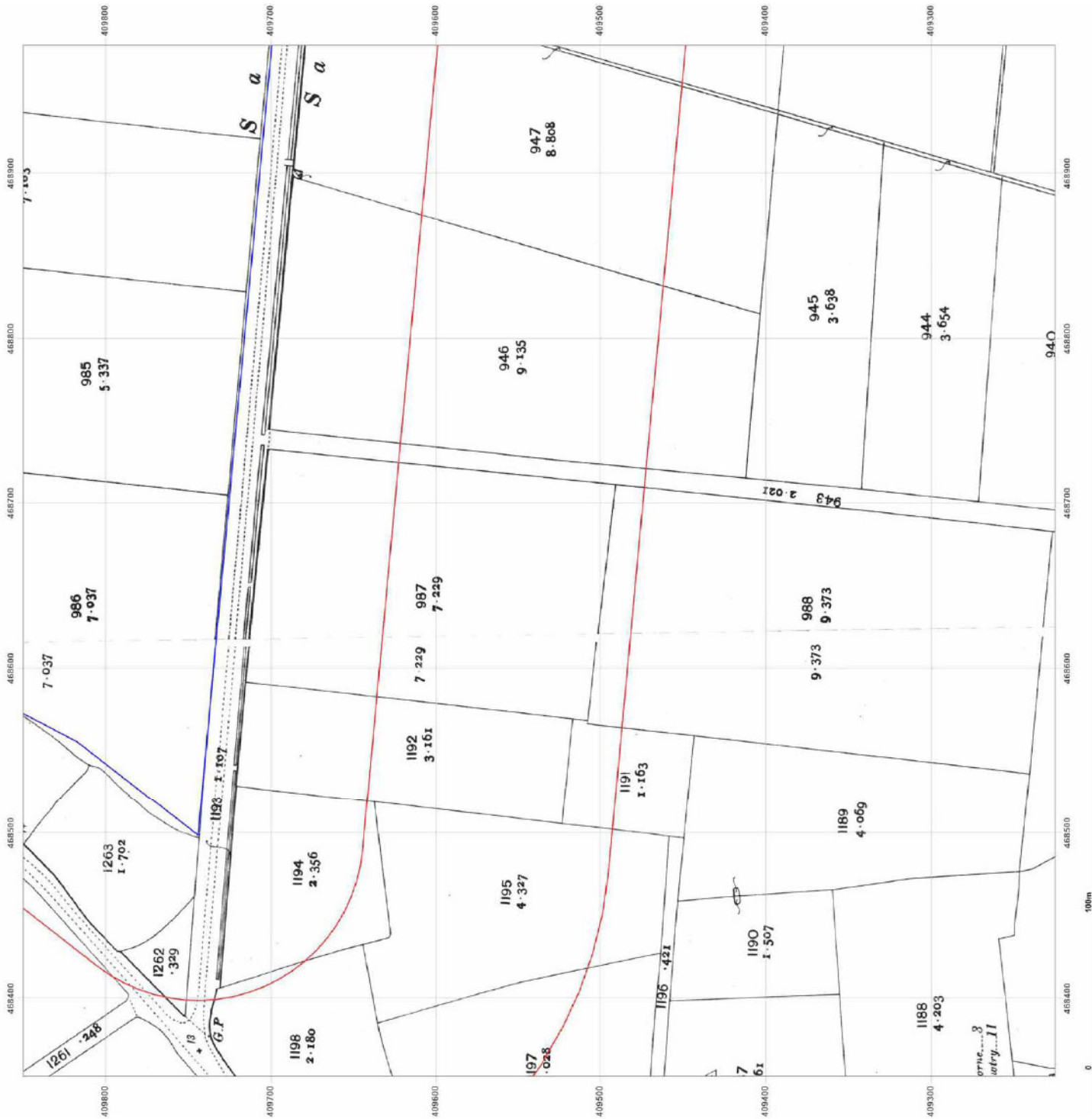
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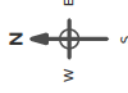
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Map Name: National Grid

Map date: 1964

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled 1964



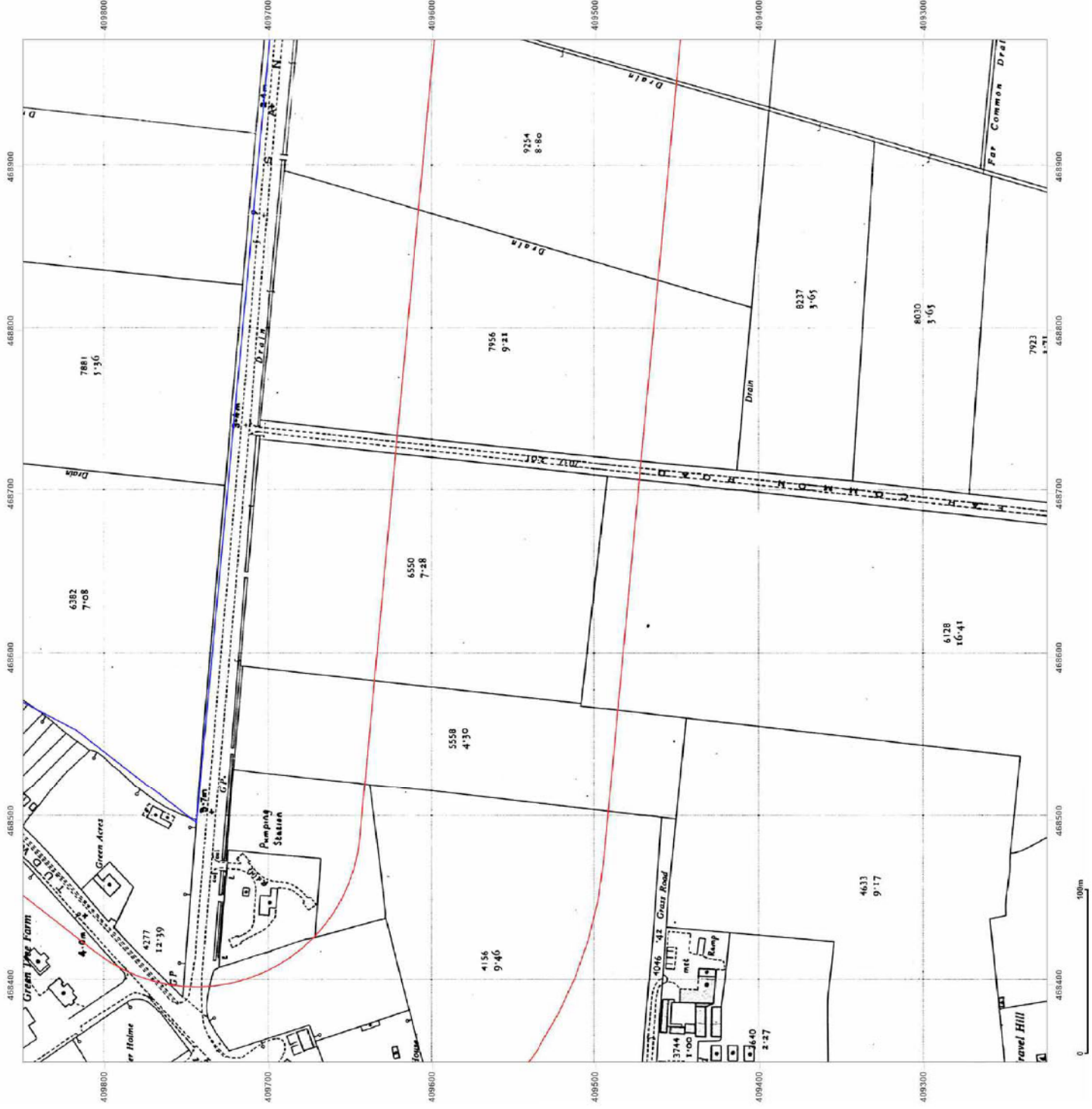
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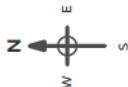
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Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled 1964



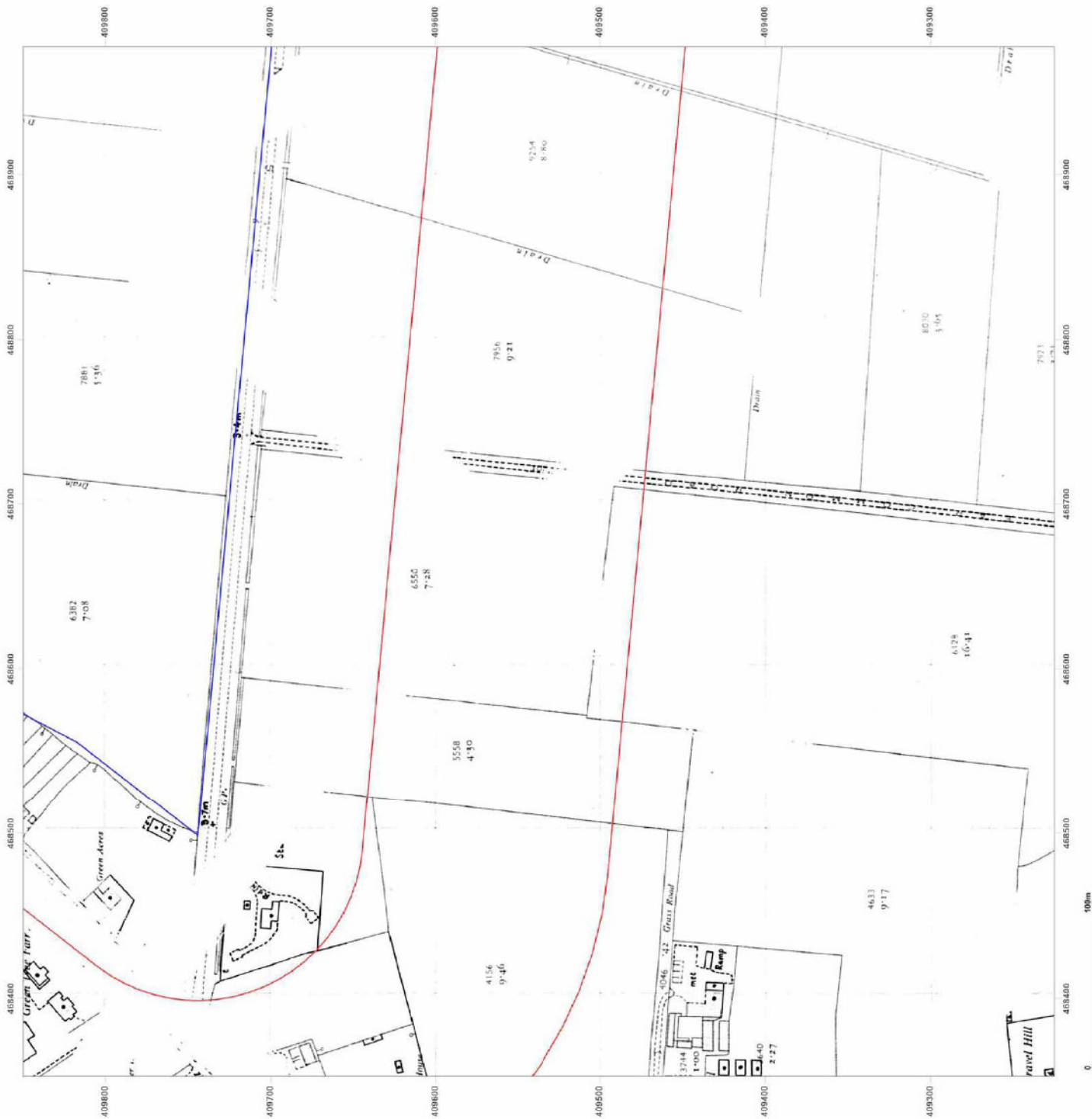
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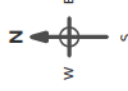
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Surveyed N/A
Revised N/A
Edition N/A
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Levelled N/A



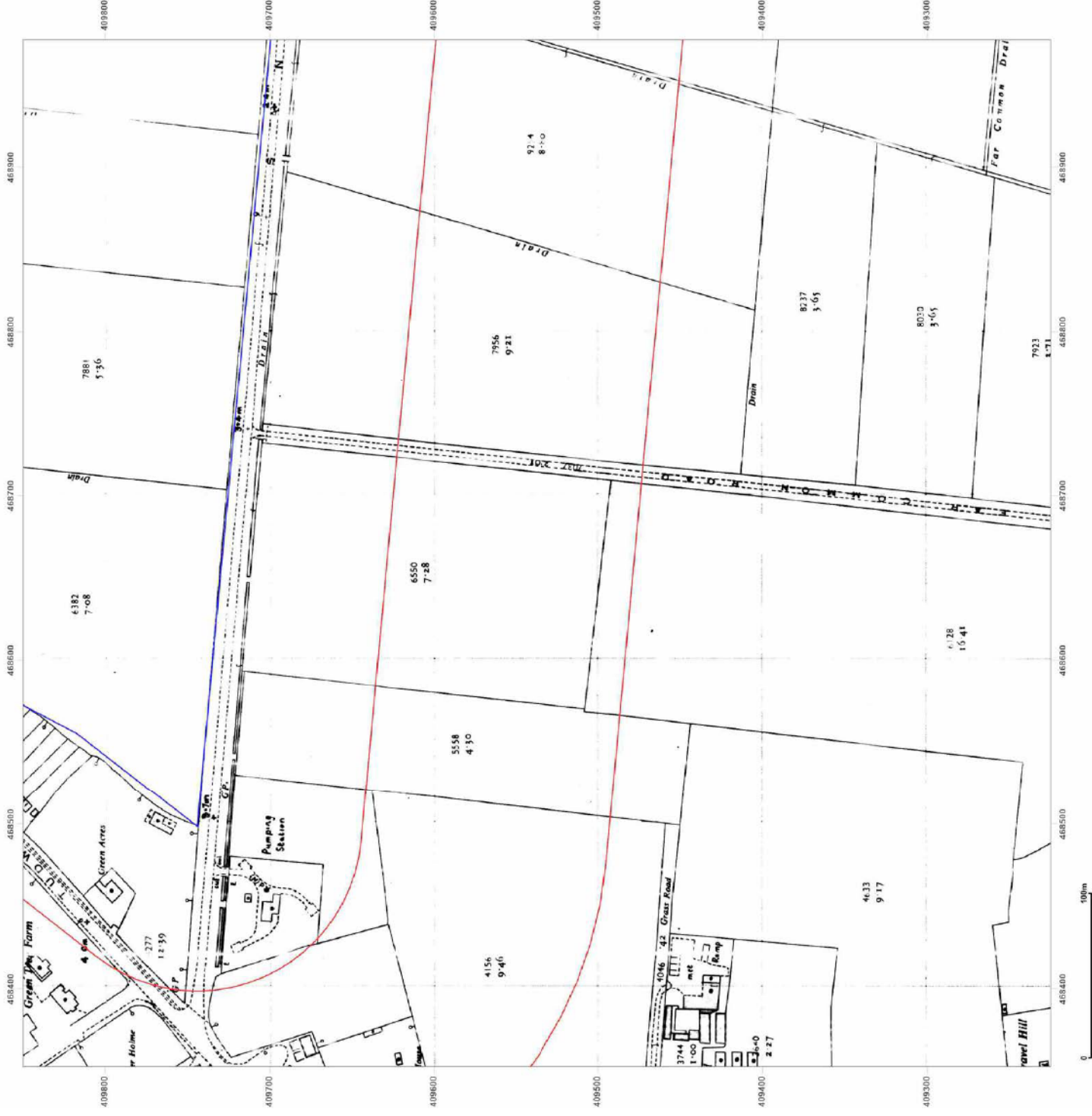
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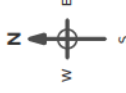
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Map Name: National Grid

Map date: 1985

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1984
Revised 1984
Edition N/A
Copyright 1985
Levelled 1984

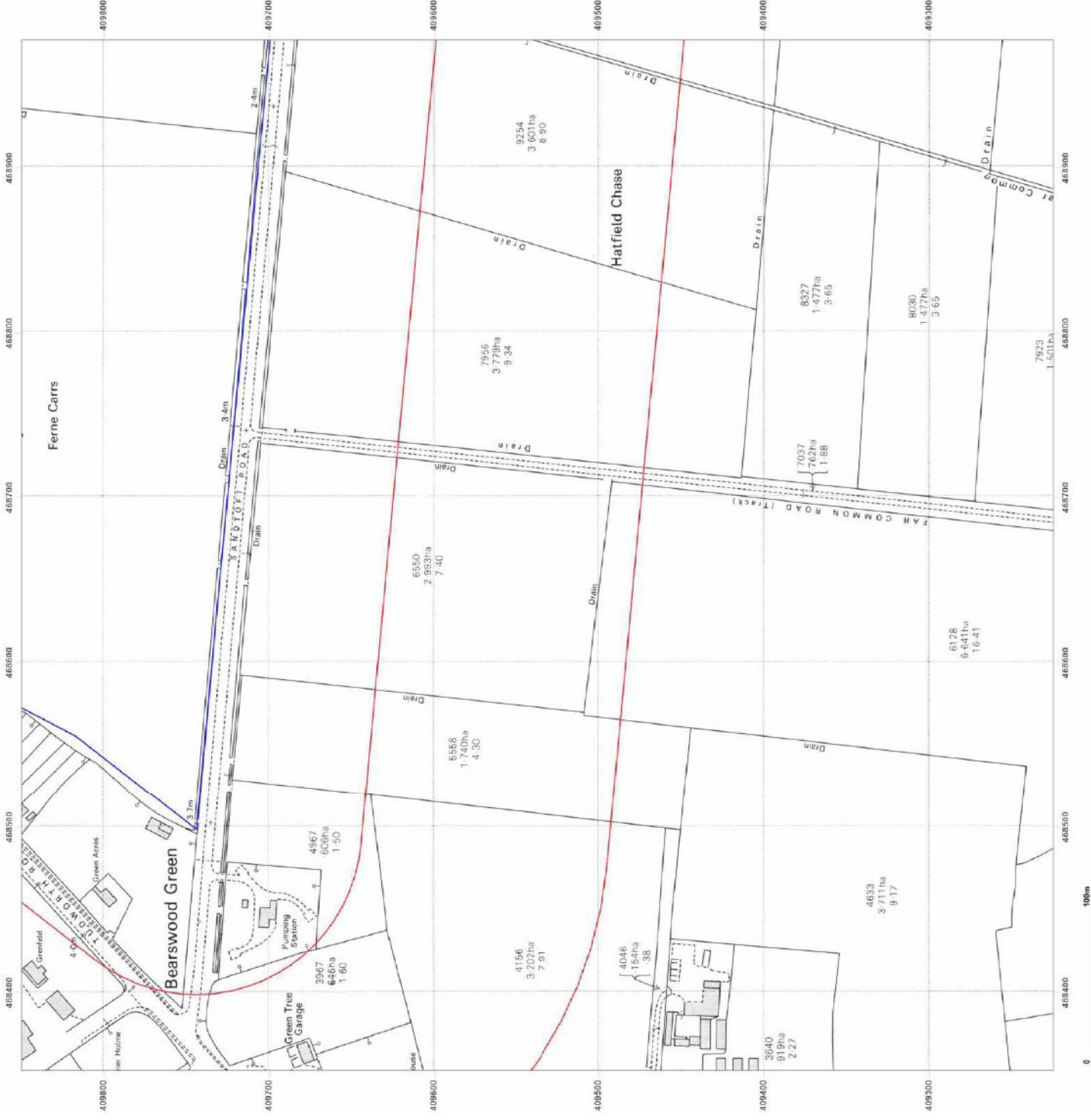


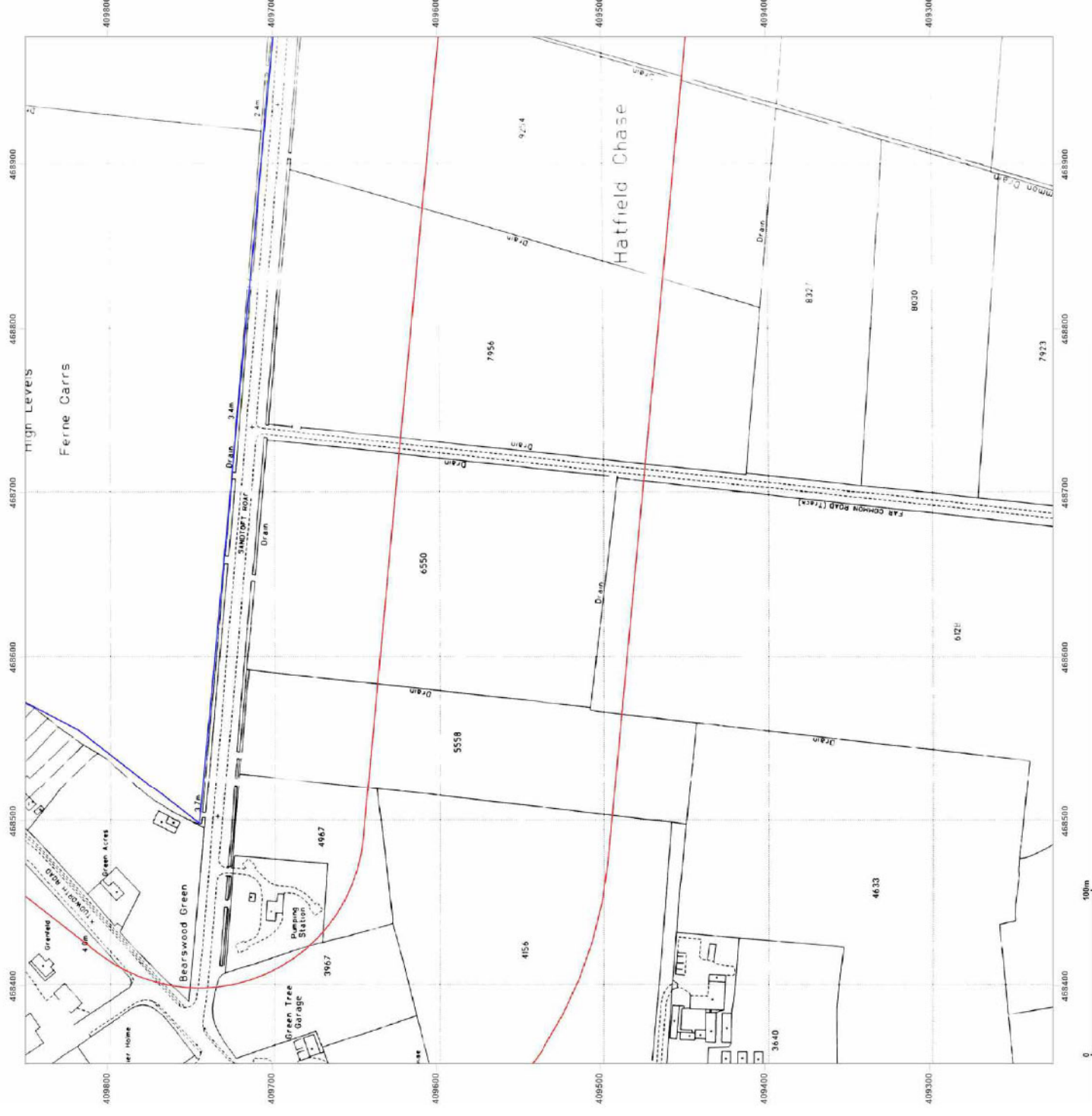
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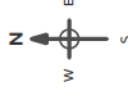
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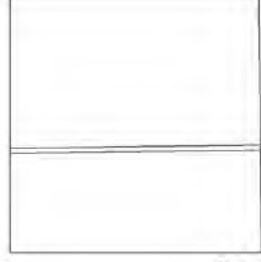
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Levelled N/A



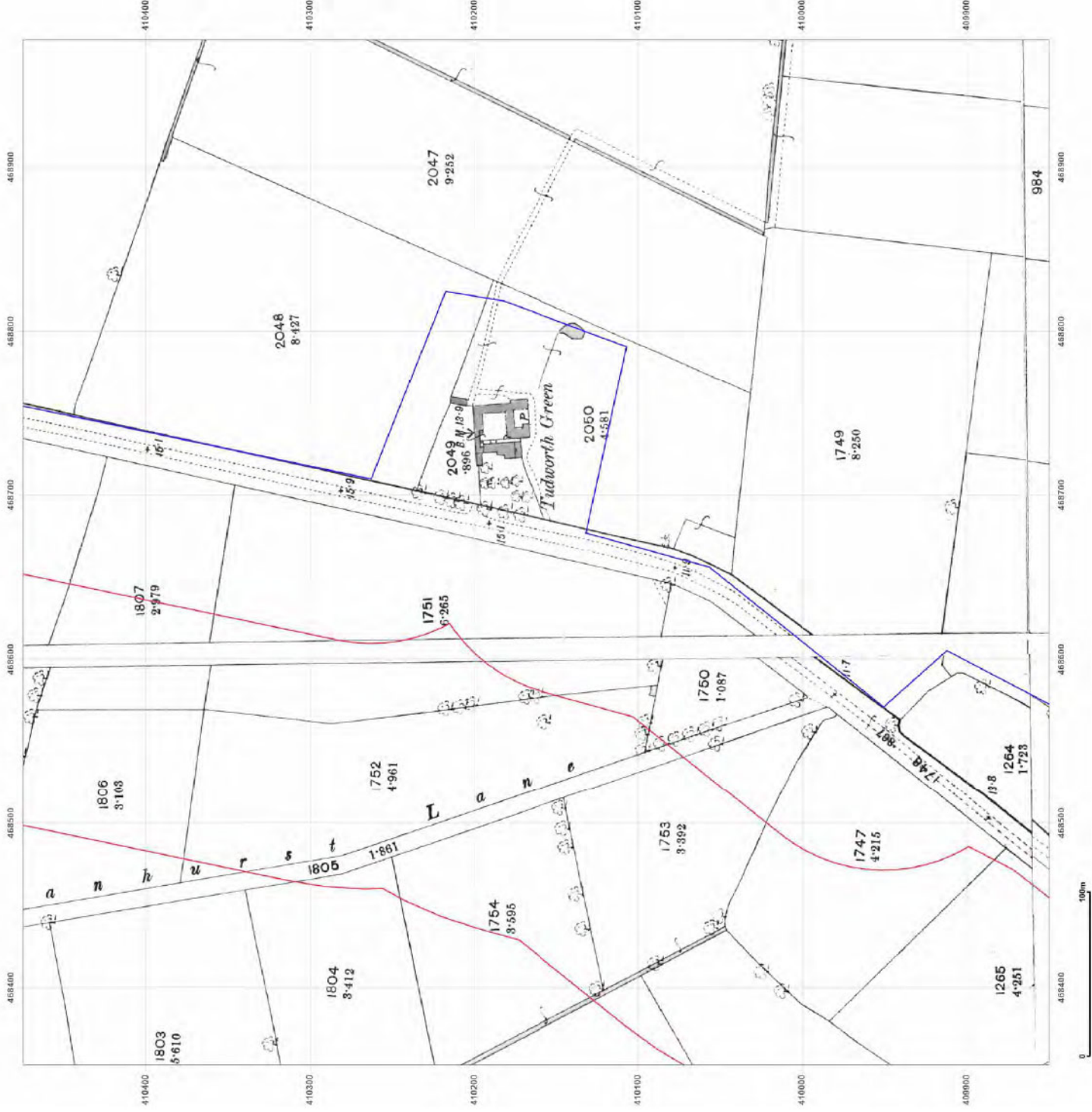
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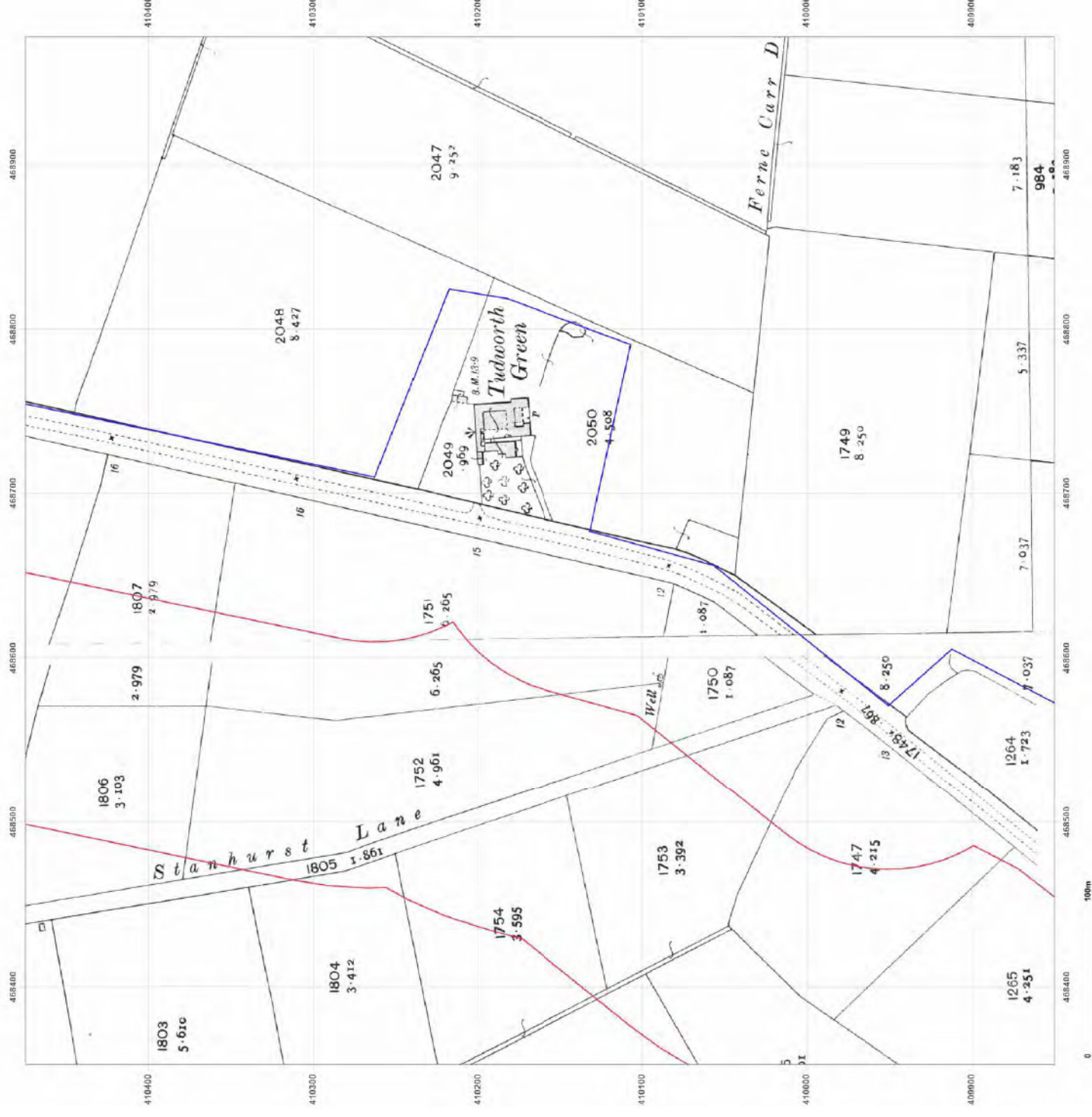
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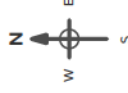
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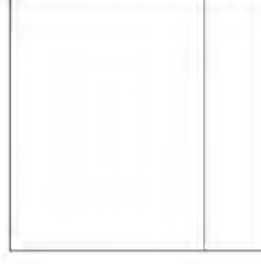
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Printed at: 1:2,500



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Edition N/A
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Levelling 1960



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Edition N/A
Copyright 1962
Levelling 1960



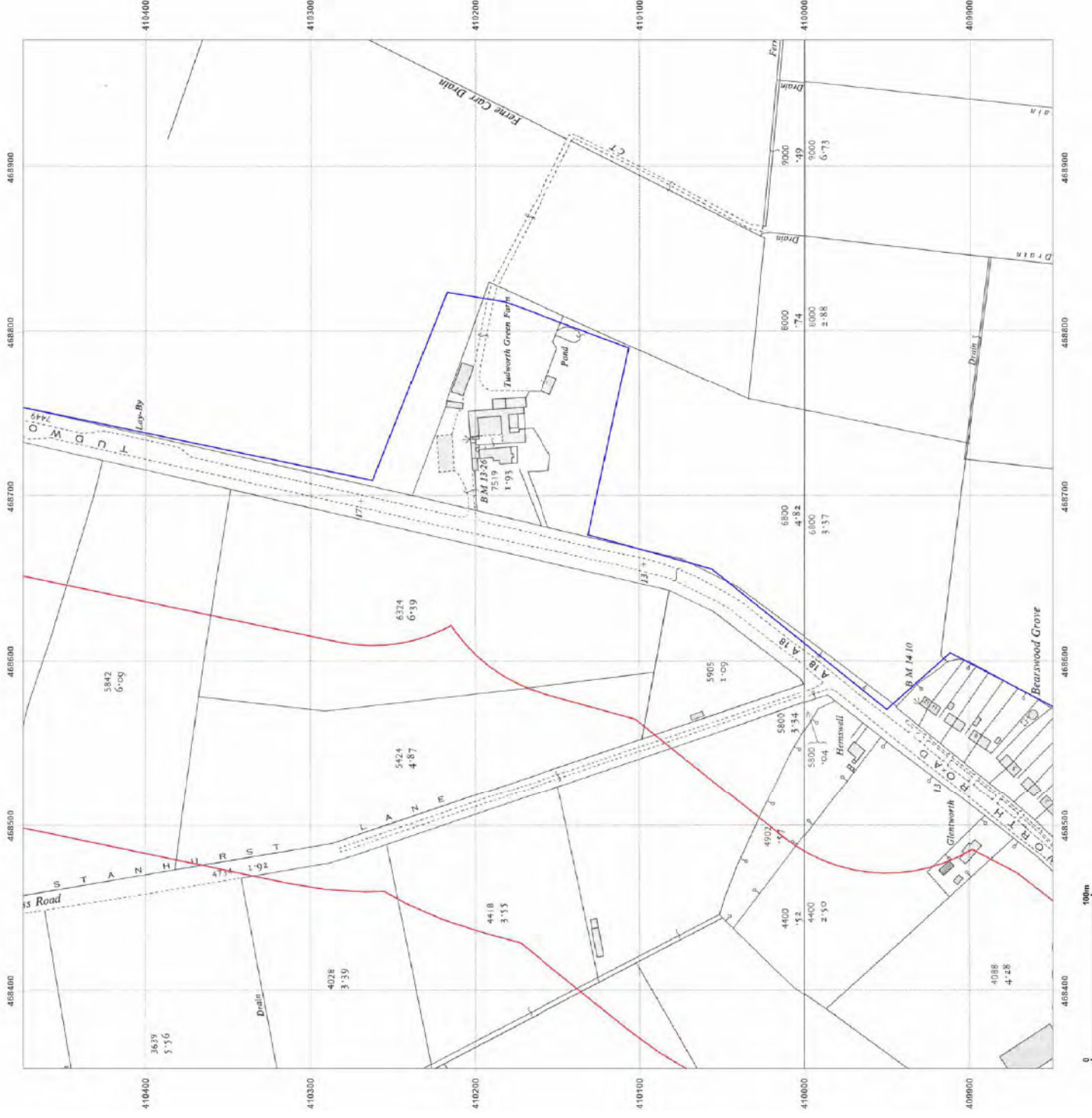
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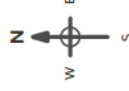
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Report Ref: GSIP-2023-13386-12979_LS_1_3
Grid Ref: 468665, 410162

Map Name: National Grid

Map date: 1978-1979

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1978
Revised 1978
Edition N/A
Copyright 1978
Levelled N/A

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



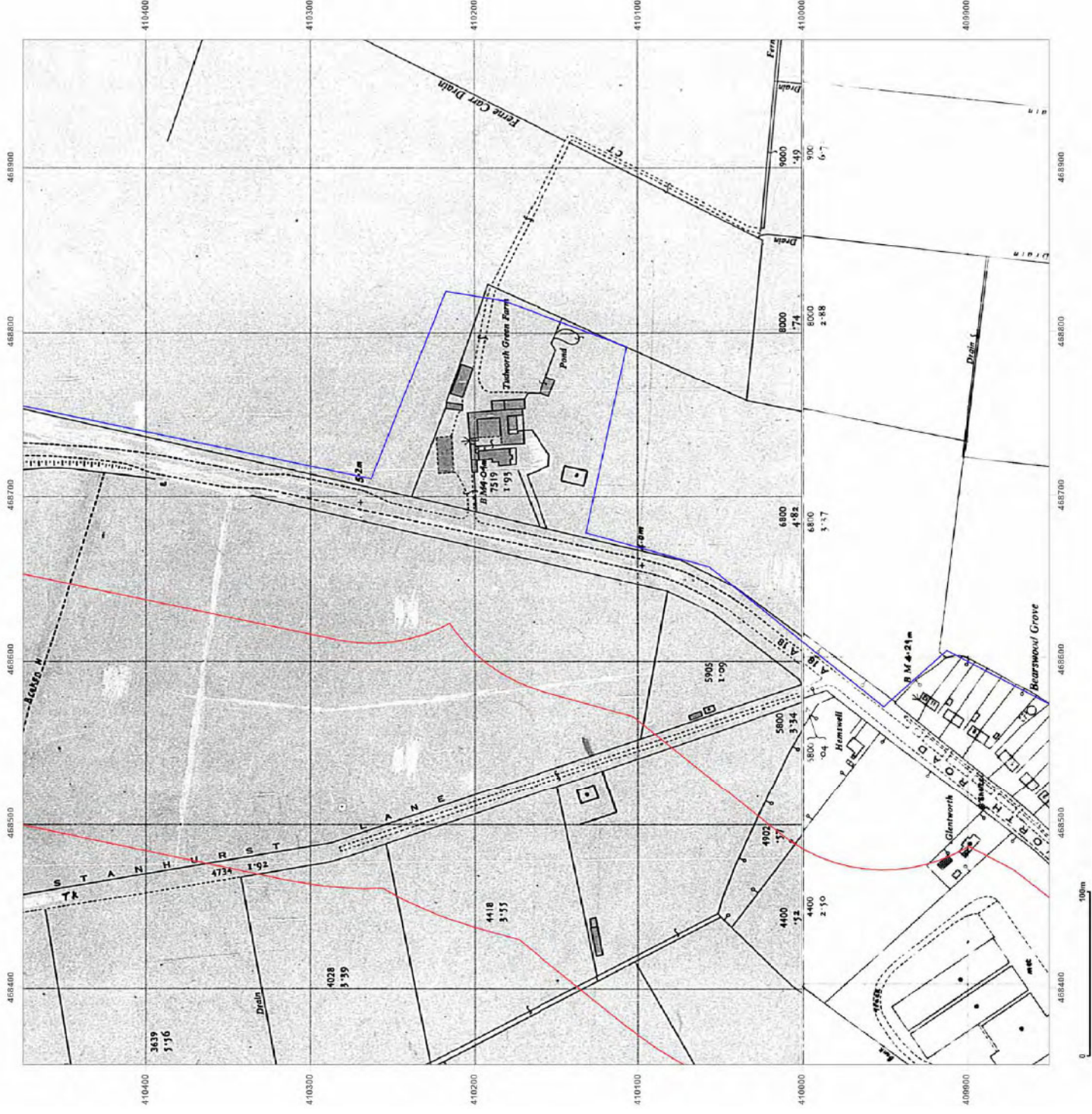
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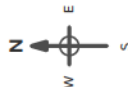
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Grid Ref: 468665, 410162

Map Name: National Grid

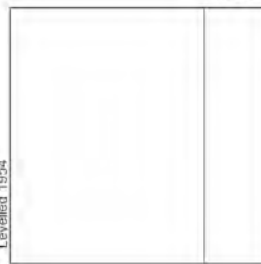
Map date: 1984-1985

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
Revised N/A
Edition N/A
Copyright 1984
Levelled 1954



Surveyed 1984
Revised 1984
Edition N/A
Copyright 1985
Levelled 1964



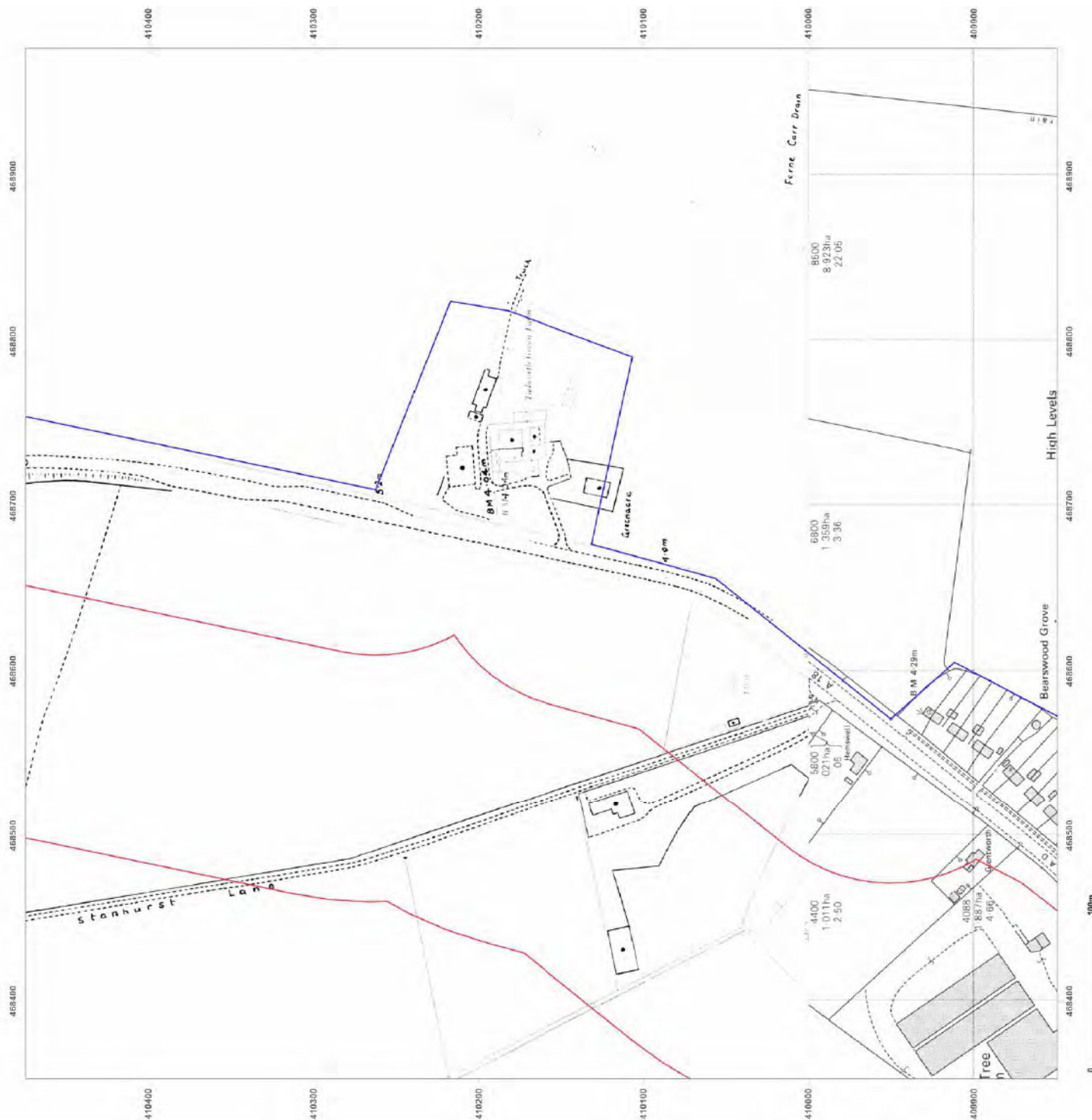
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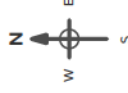
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Map Name: National Grid

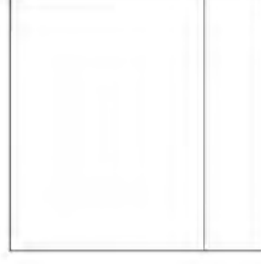
Map date: 1986

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1985
Revised 1985
Edition N/A
Copyright 1986
Levelling 1964



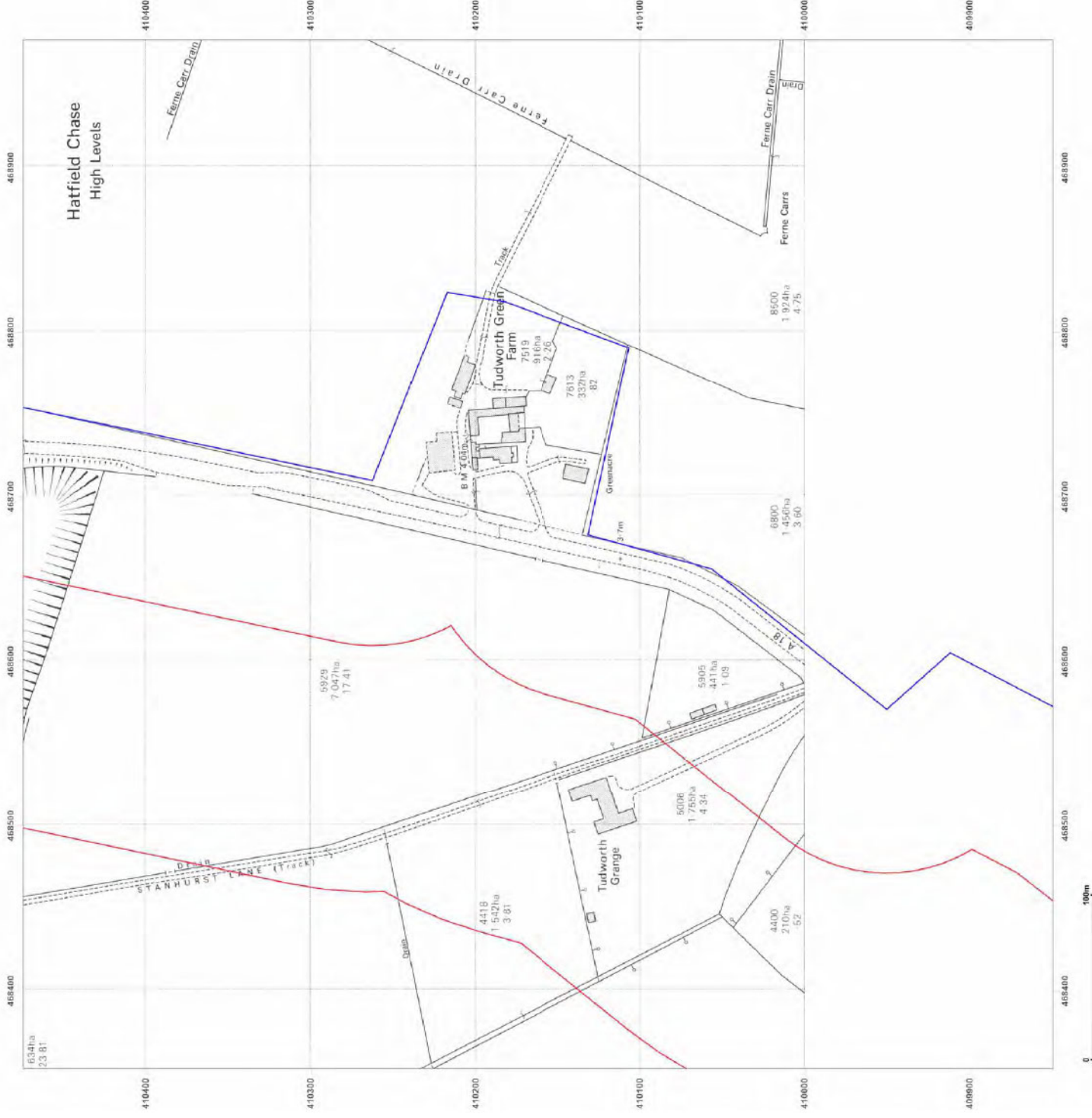
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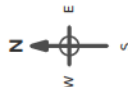
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Grid Ref: 468665, 410162

Map Name: National Grid

Map date: 1993

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1993
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A



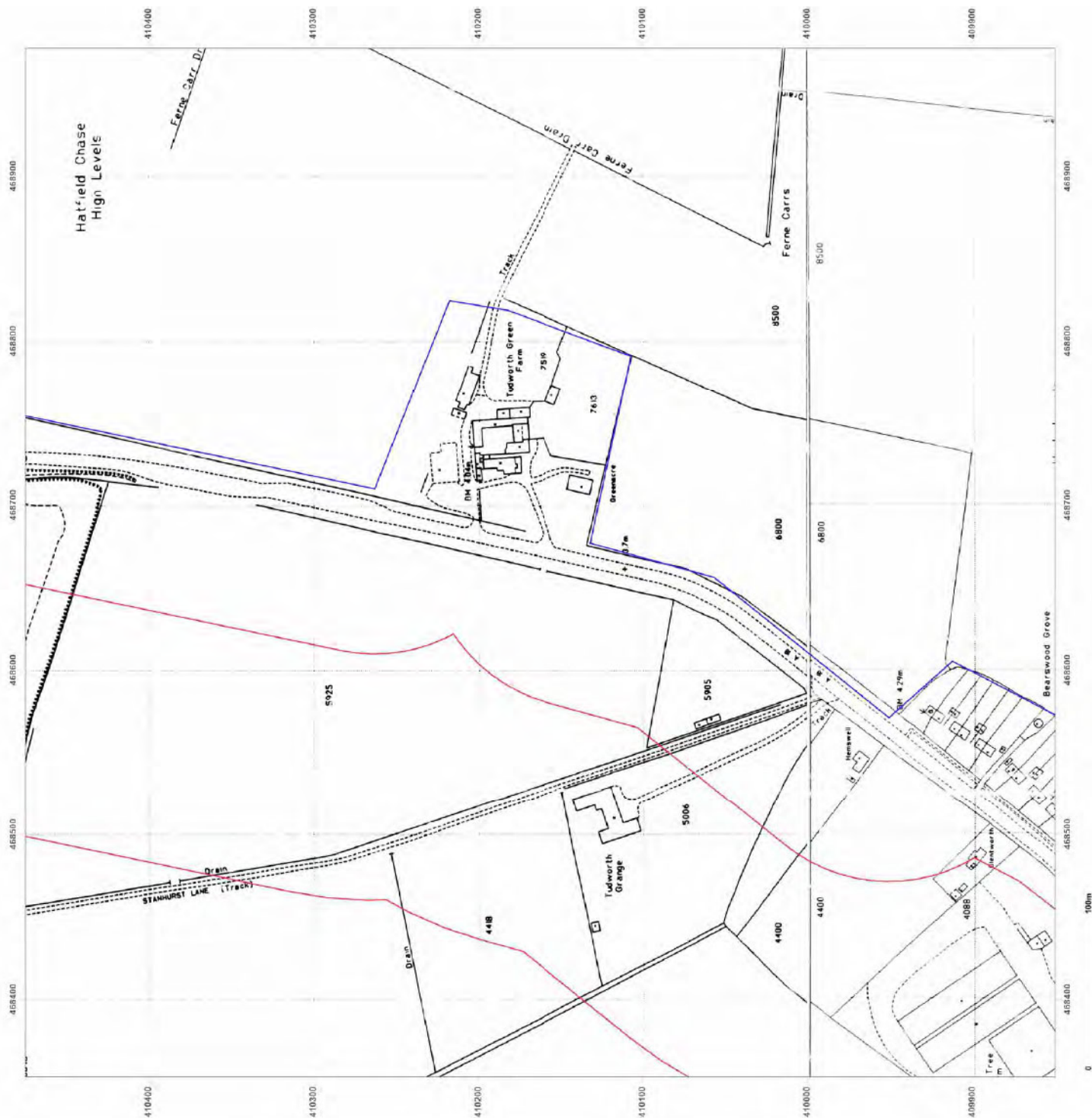
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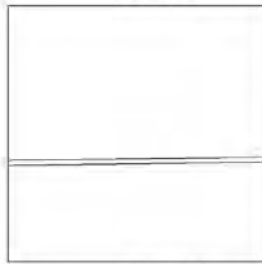
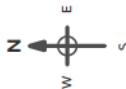
Client Ref: Thorne
Report Ref: GSIP-2023-13386-12979_LS_1_4
Grid Ref: 468665, 410787

Map Name: County Series

Map date: 1892

Scale: 1:2,500

Printed at: 1:2,500



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

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



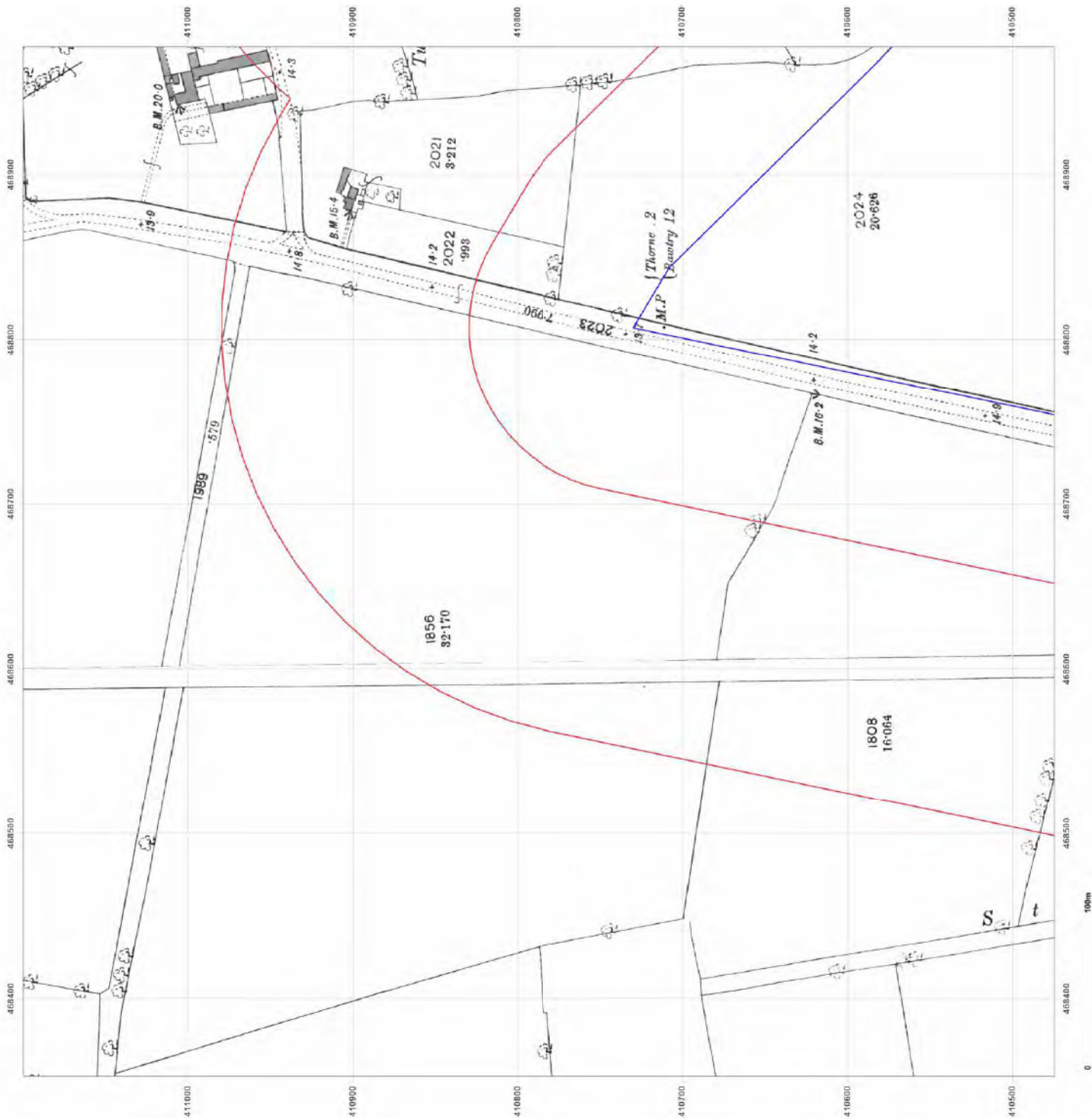
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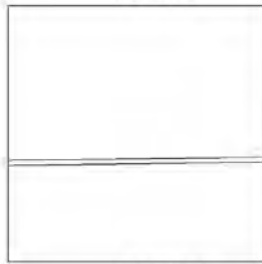
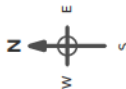
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Report Ref: GSIP-2023-13386-12979_LS_1_4
Grid Ref: 468665, 410787

Map Name: County Series

Map date: 1906

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1906
Revised 1906
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1906
Revised 1906
Edition N/A
Copyright N/A
Levelled N/A



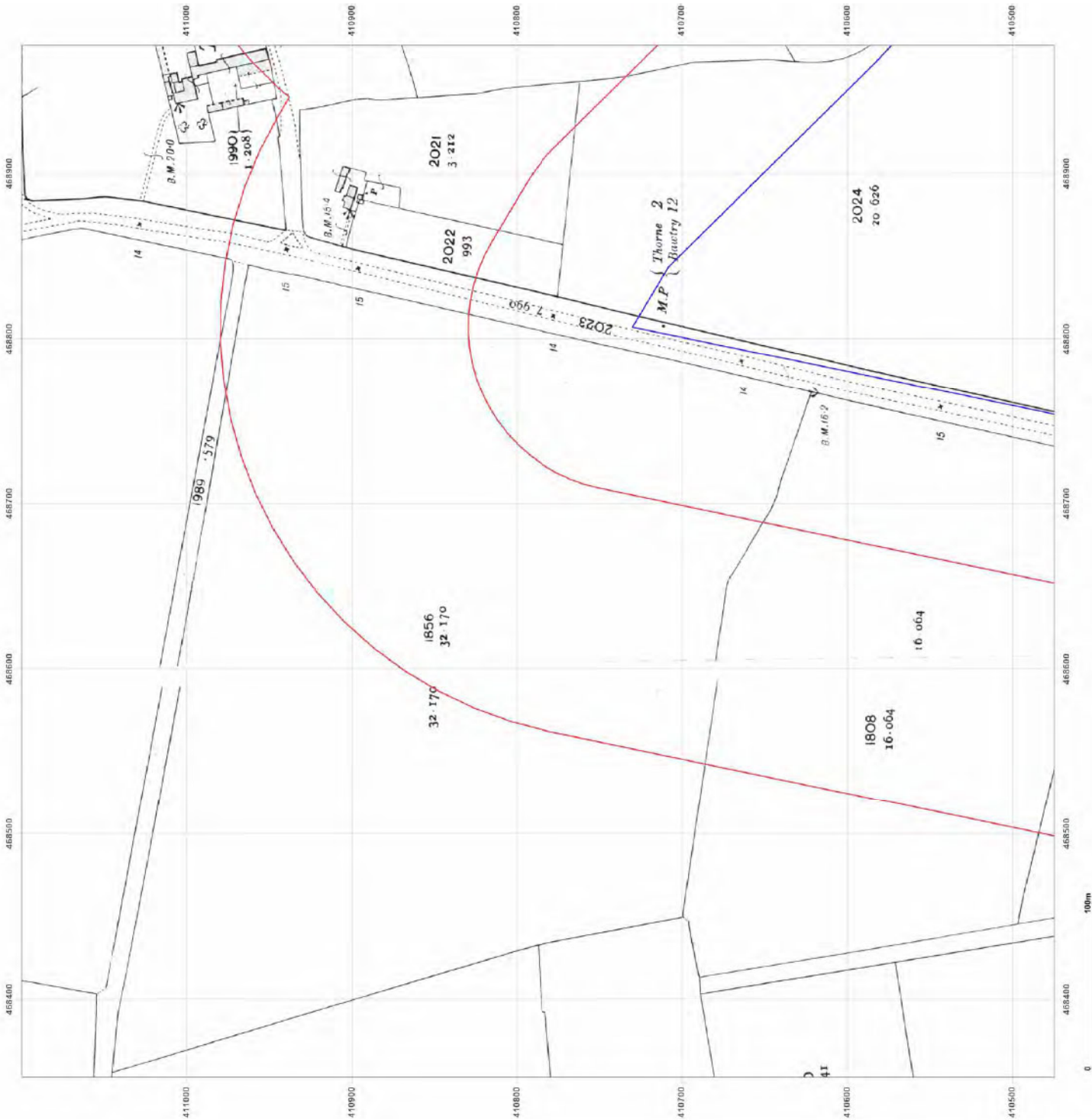
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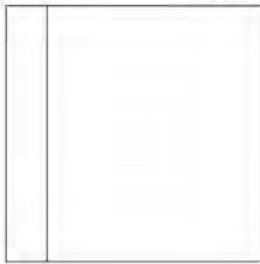
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Report Ref: GSIP-2023-13386-12979_LS_1.4
Grid Ref: 468665, 410787

Map Name: National Grid

Map date: 1962

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1961
Revised 1961
Edition N/A
Copyright 1962
Levelled 1960



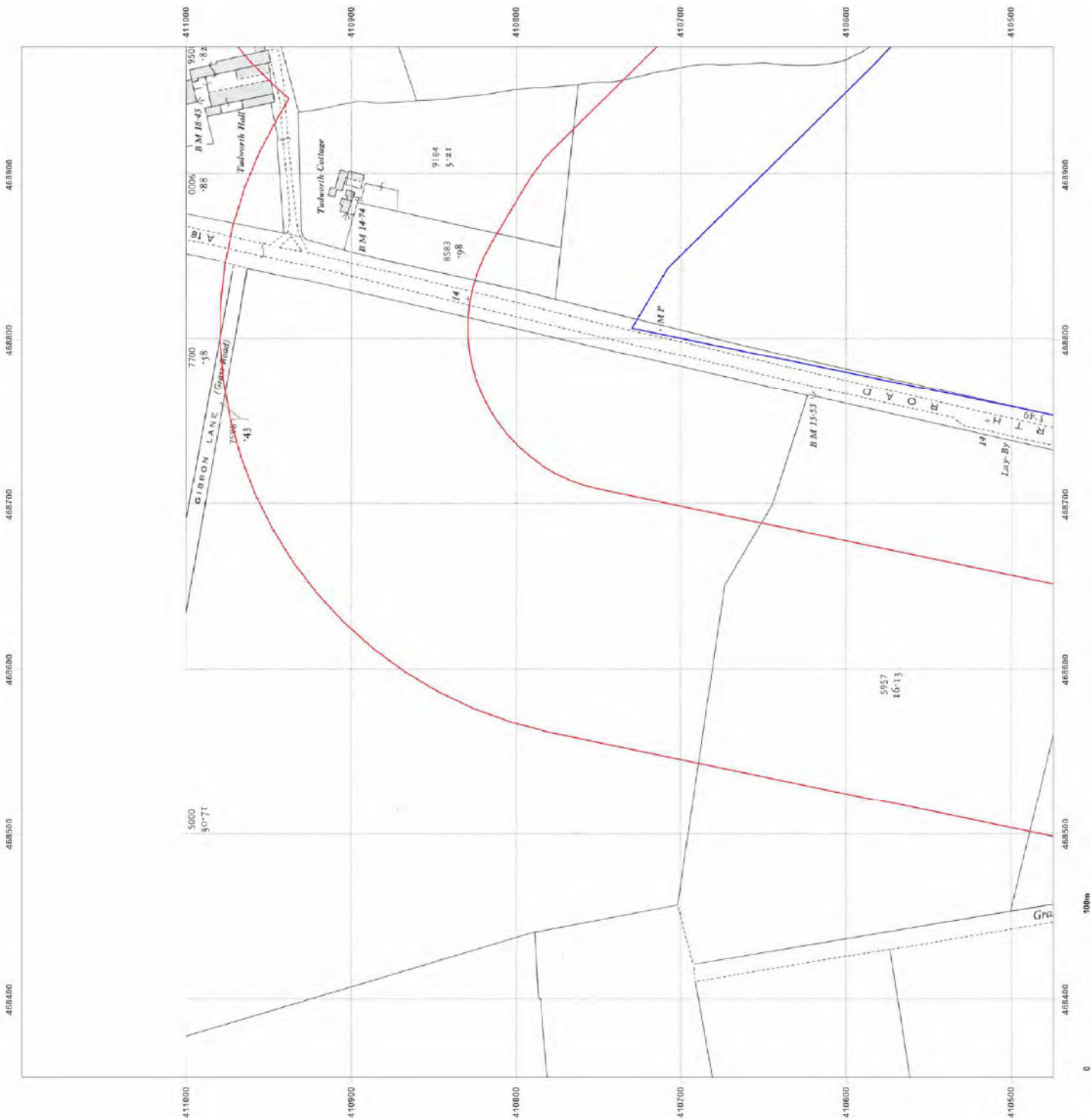
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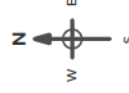
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Report Ref: GSIP-2023-13386-12979_LS_1_4
Grid Ref: 468665, 410787

Map Name: National Grid

Map date: 1974-1978

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1973
Revised 1973
Edition N/A
Copyright 1974
Levelling 1964



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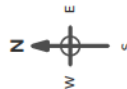
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Report Ref: GSIP-2023-13386-12979_LS_1_4
Grid Ref: 468665, 410787

Map Name: National Grid

Map date: 1984

Scale: 1:2,500

Printed at: 1:2,500



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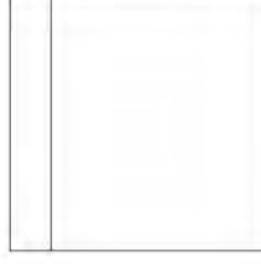
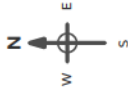
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Report Ref: GSIP-2023-13386-12979_LS_1_4
Grid Ref: 468665, 410787

Map Name: National Grid

Map date: 1986

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1985
Revised 1985
Edition N/A
Copyright 1986
Levelled 1964



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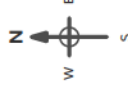
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Report Ref: GSIP-2023-13386-12979_LS_1_4
Grid Ref: 468665, 410787

Map Name: National Grid

Map date: 1993

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

Surveyed 1993
Revised N/A
Edition N/A
Copyright 1993
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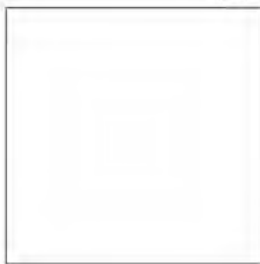
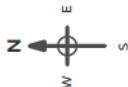
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Grid Ref: 469290, 409537

Map Name: County Series

Map date: 1892

Scale: 1:2,500

Printed at: 1:2,500



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



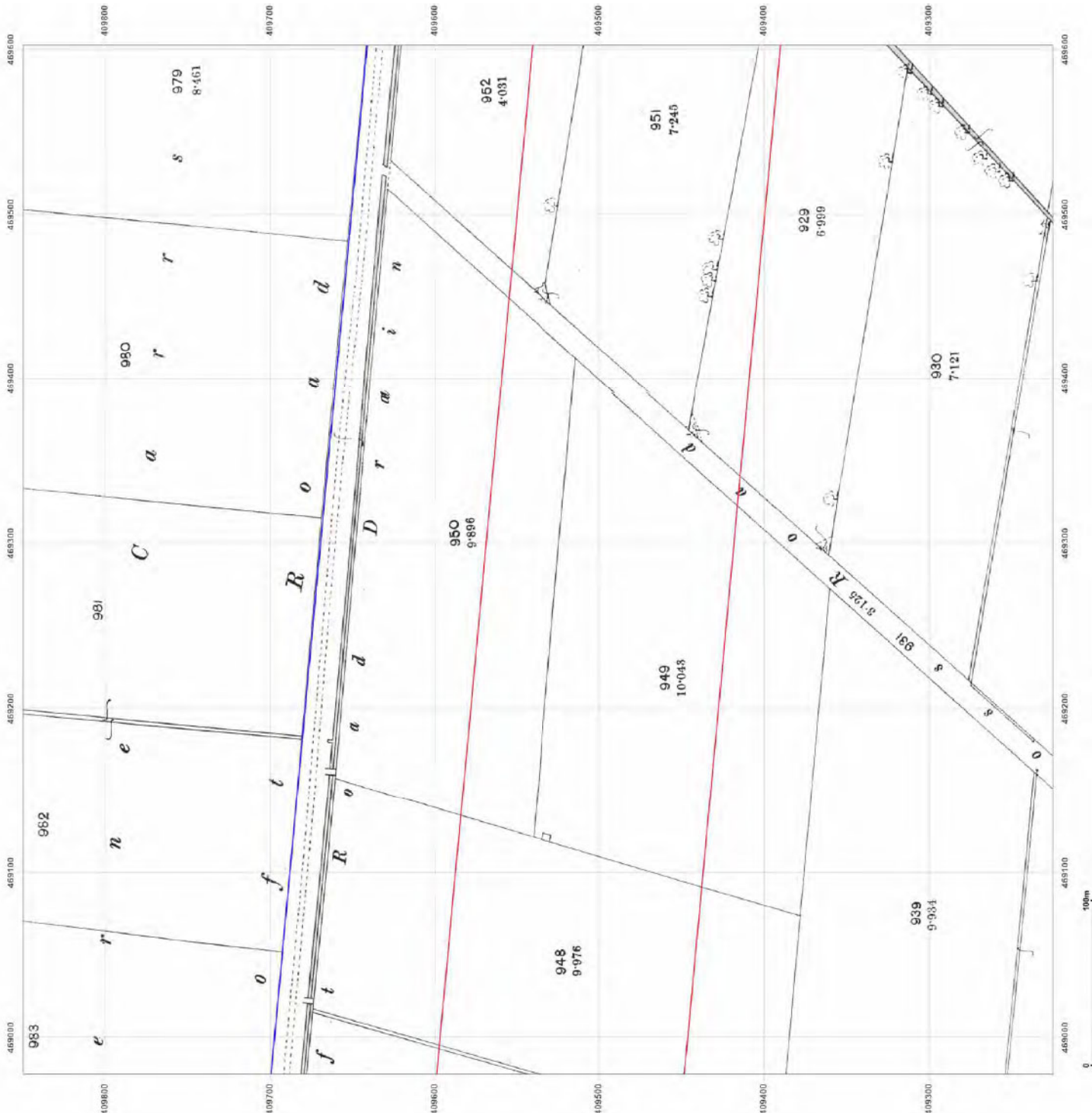
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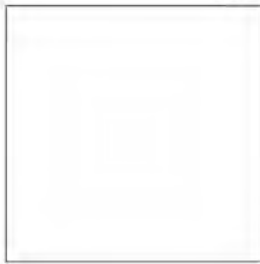
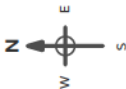
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Grid Ref: 469290, 409537

Map Name: County Series

Map date: 1906

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1906
Revised 1906
Edition N/A
Copyright N/A
Levelled N/A



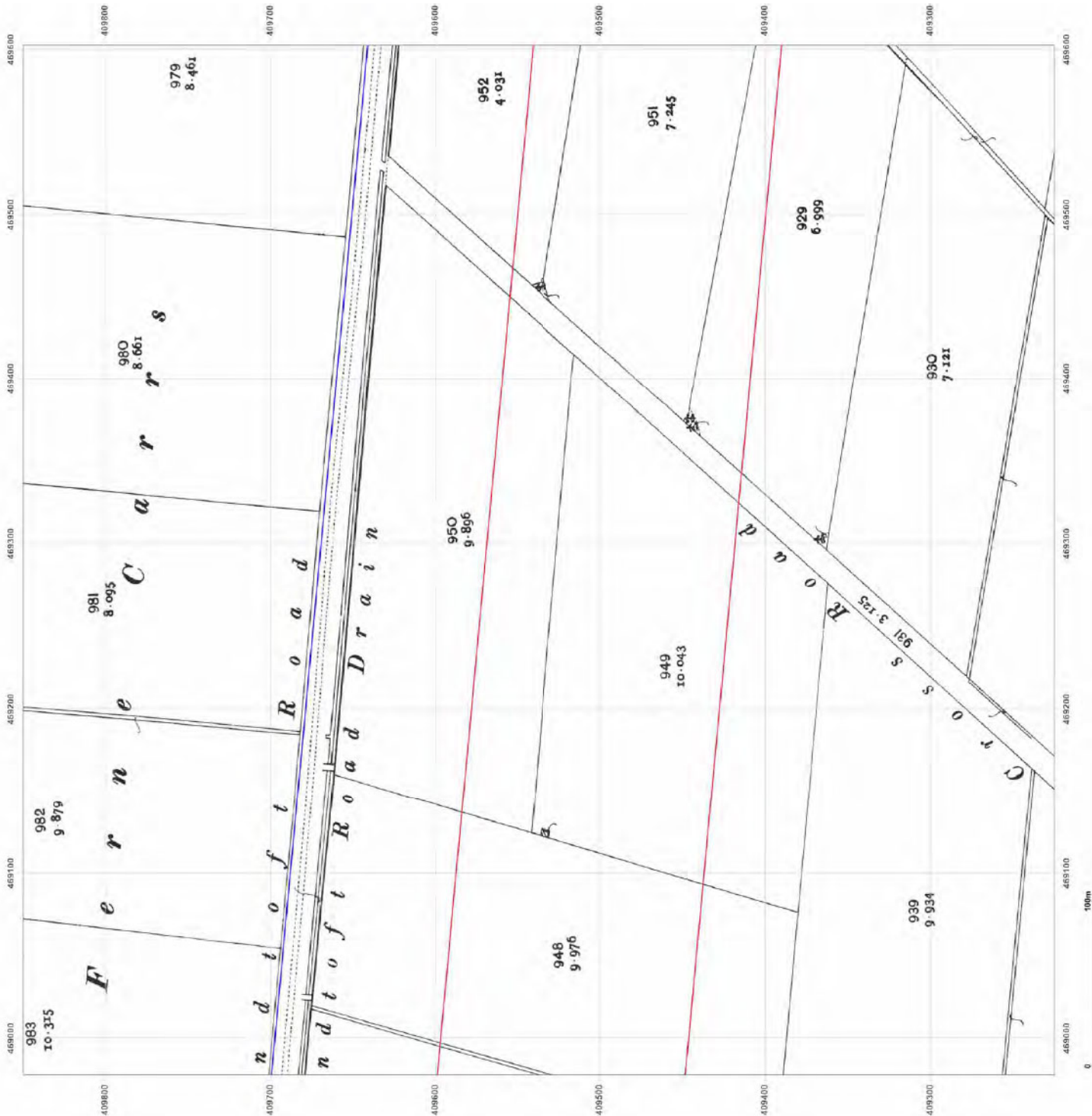
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Site Details:

Thorne

Client Ref: Thorne
Report Ref: GSIP-2023-13386-12979_LS_2.2
Grid Ref: 469290, 409537

Map Name: National Grid

Map date: 1962

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1961
Revised 1961
Edition N/A
Copyright 1962
Levelled 1960



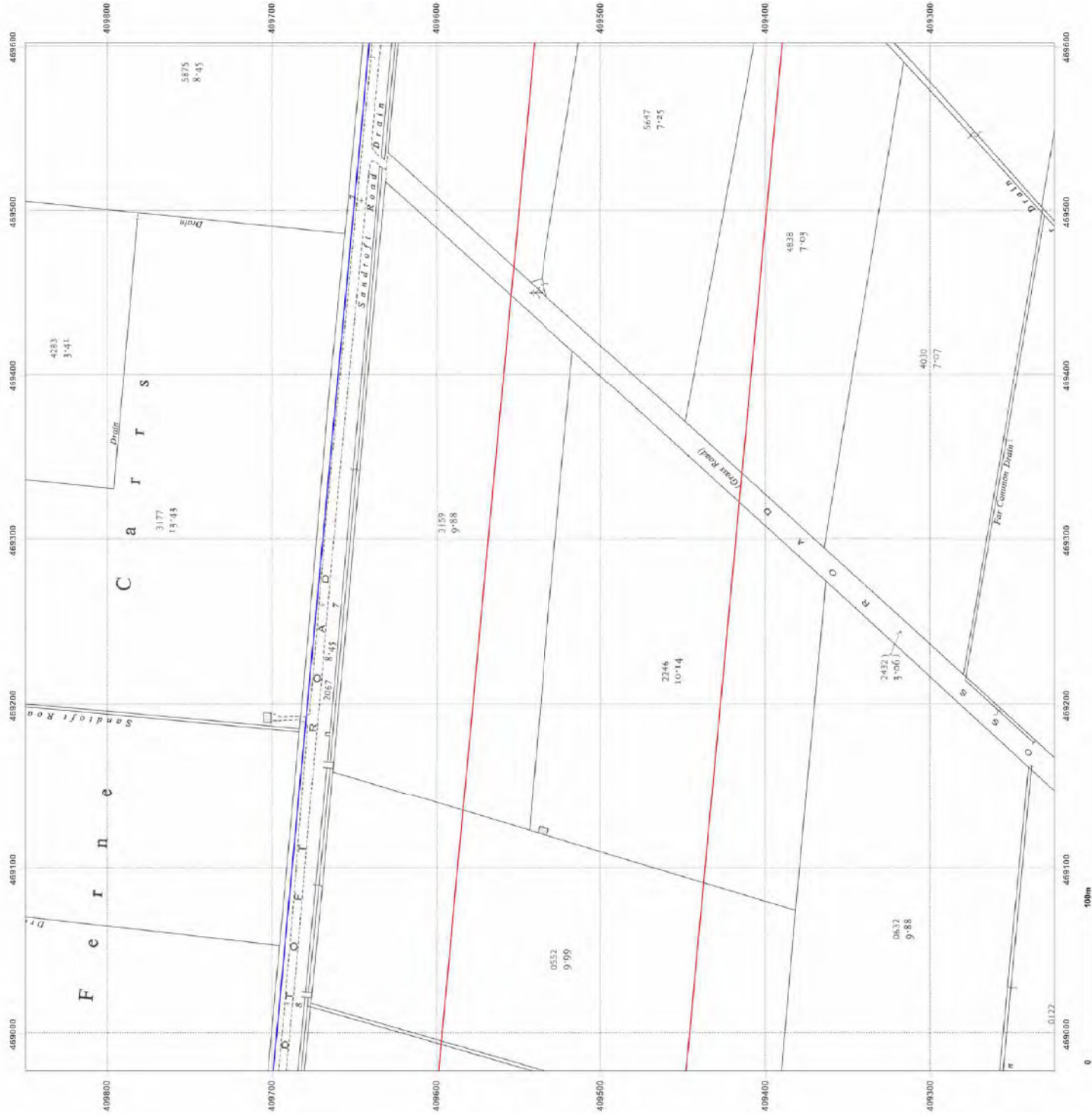
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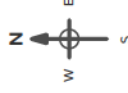
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Grid Ref: 469290, 409537

Map Name: National Grid

Map date: 1962-1964

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled 1864

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



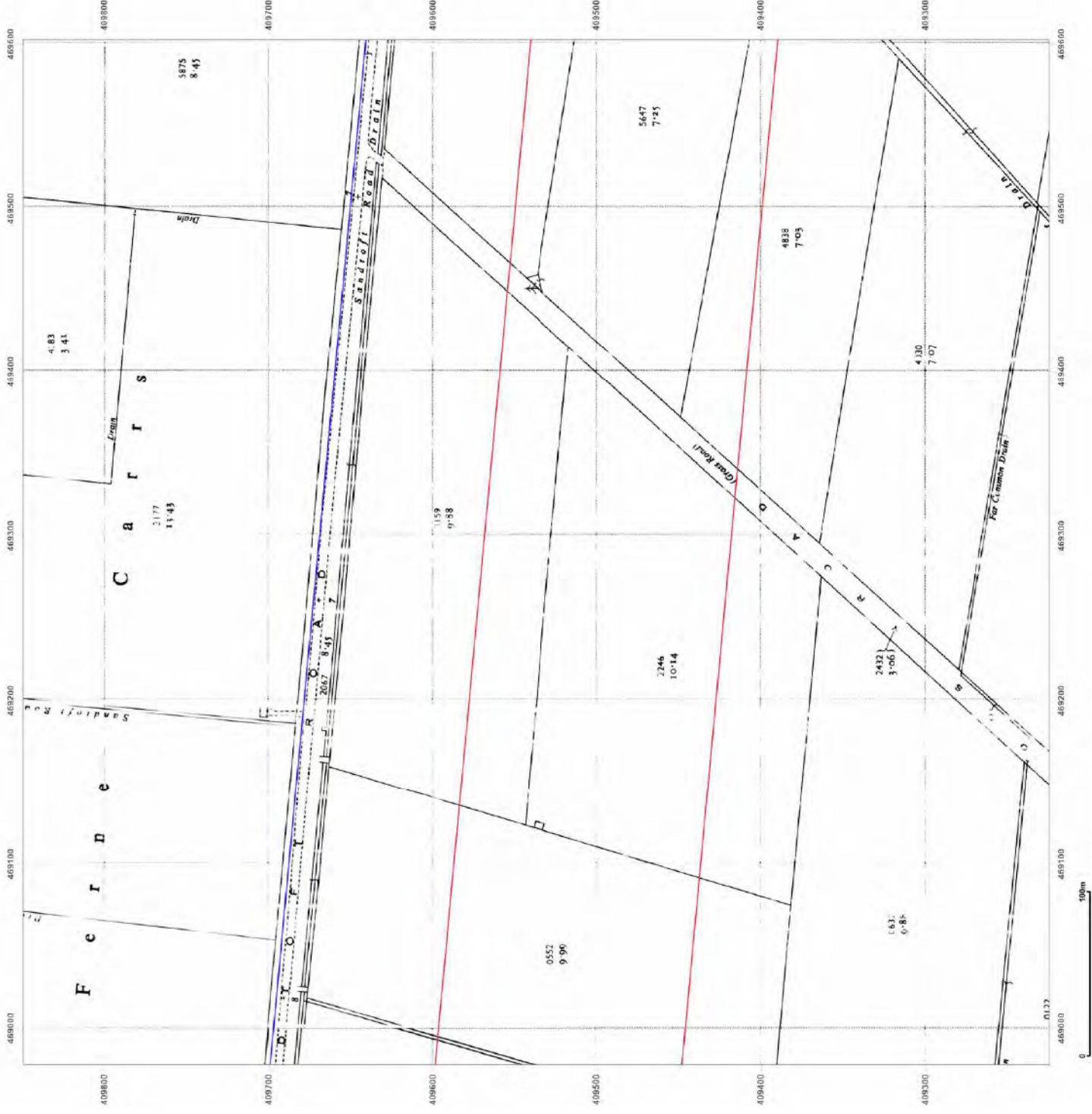
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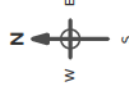
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Report Ref: GSIP-2023-13386-12979_LS_2.2
Grid Ref: 469290, 409537

Map Name: National Grid

Map date: 1978-1979

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
Revised N/A
Edition N/A
Copyright 1978
Levelled N/A

Surveyed 1978
Revised 1978
Edition N/A
Copyright 1978
Levelled N/A



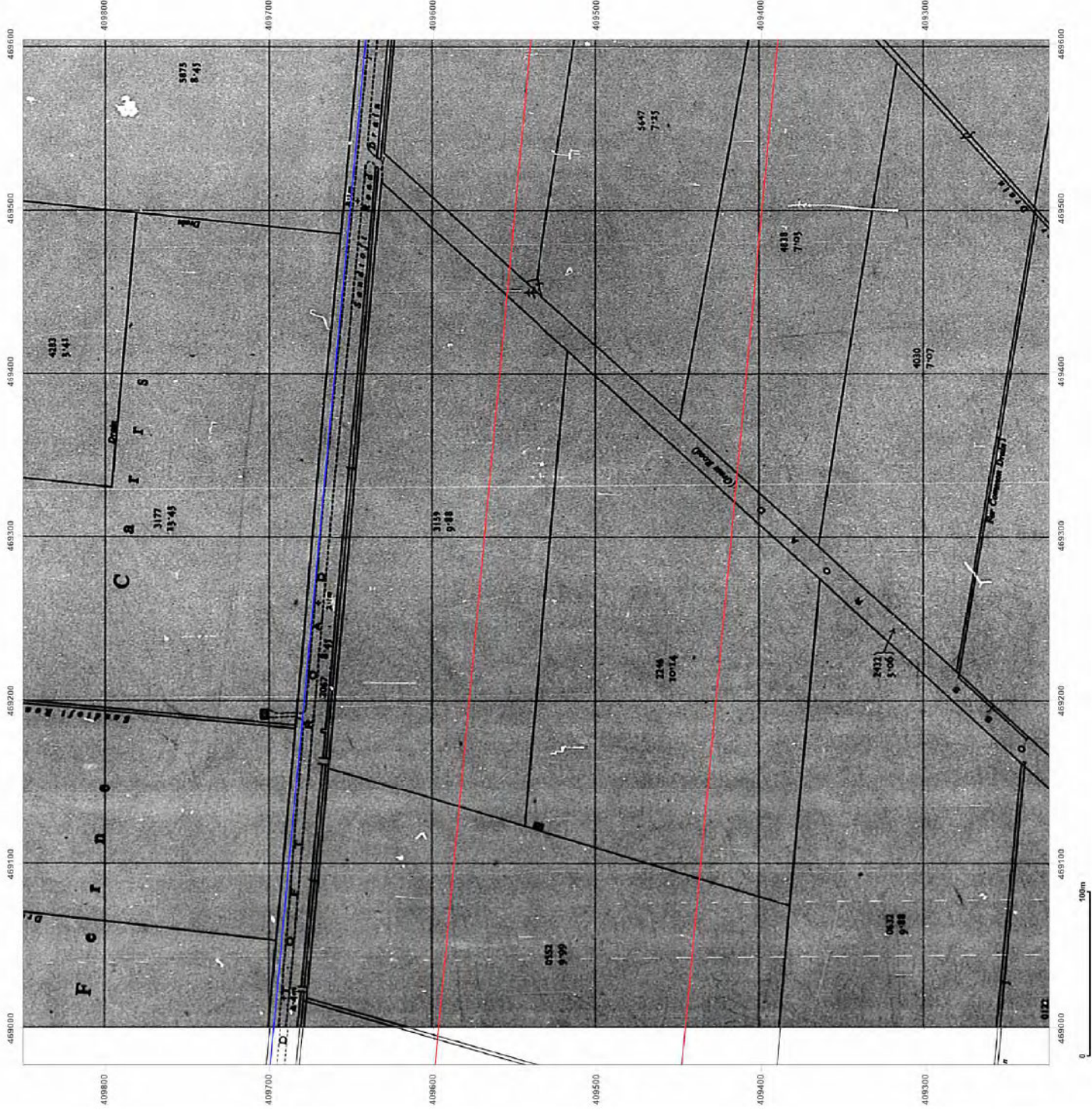
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Site Details:

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Client Ref: Thorne
Report Ref: GSIP-2023-13386-12979_LS_2.2
Grid Ref: 469290, 409537

Map Name: National Grid

Map date: 1984

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
Revised N/A
Edition N/A
Copyright 1984
Levelled 1964



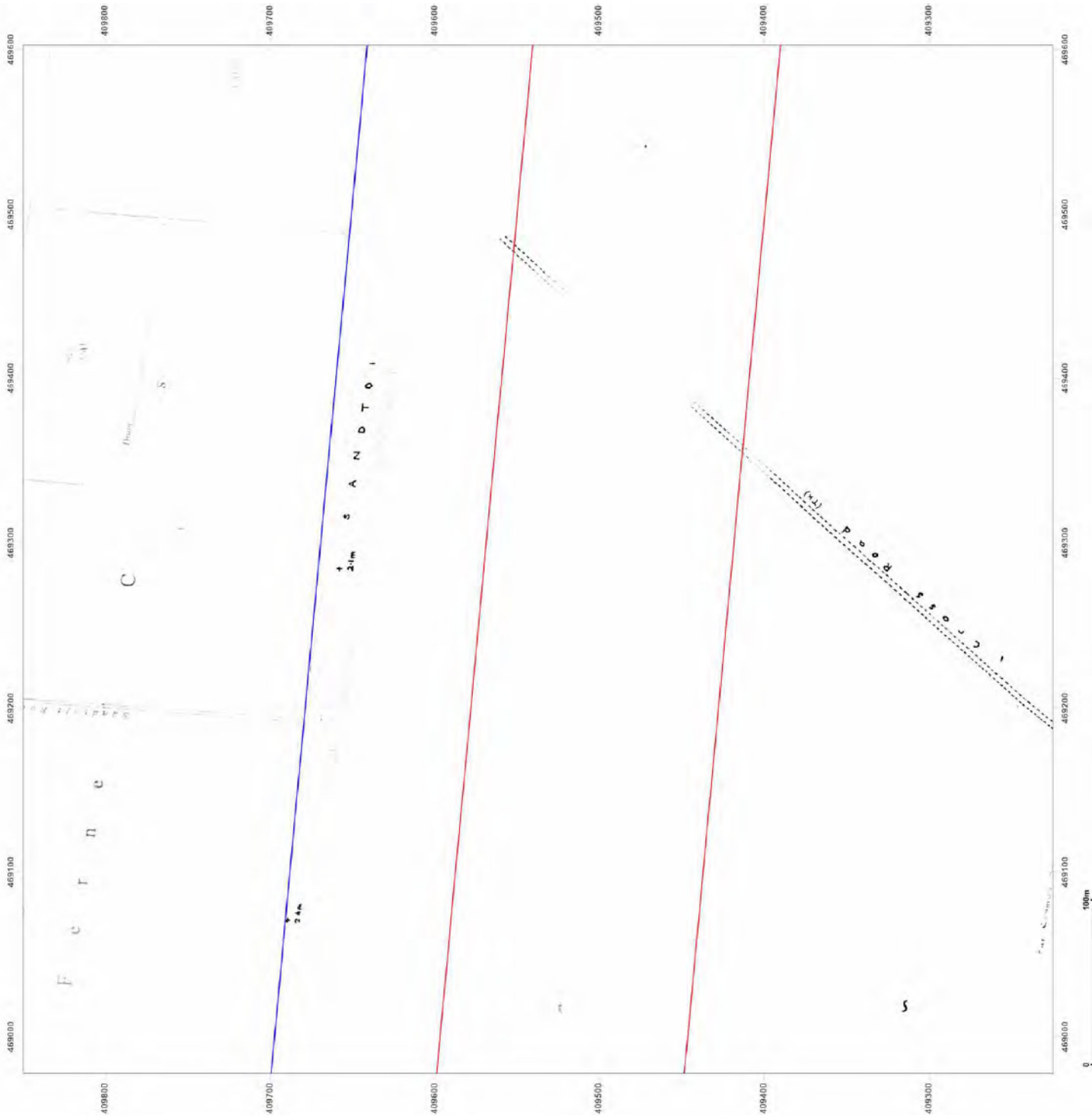
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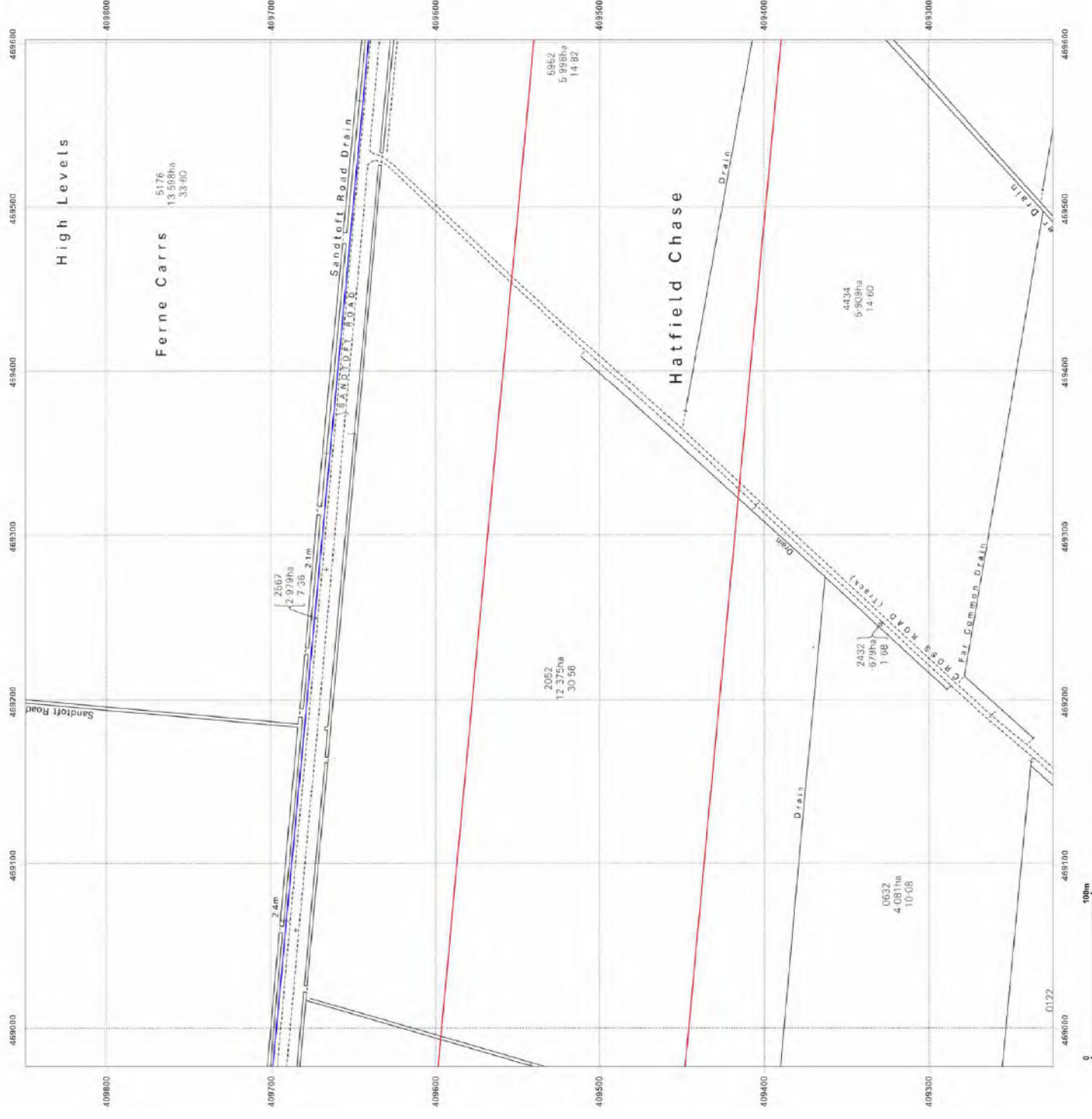
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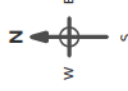
Client Ref: Thorne
Report Ref: GSIP-2023-13386-12979_LS_2.2
Grid Ref: 469290, 409537

Map Name: National Grid

Map date: 1993

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A



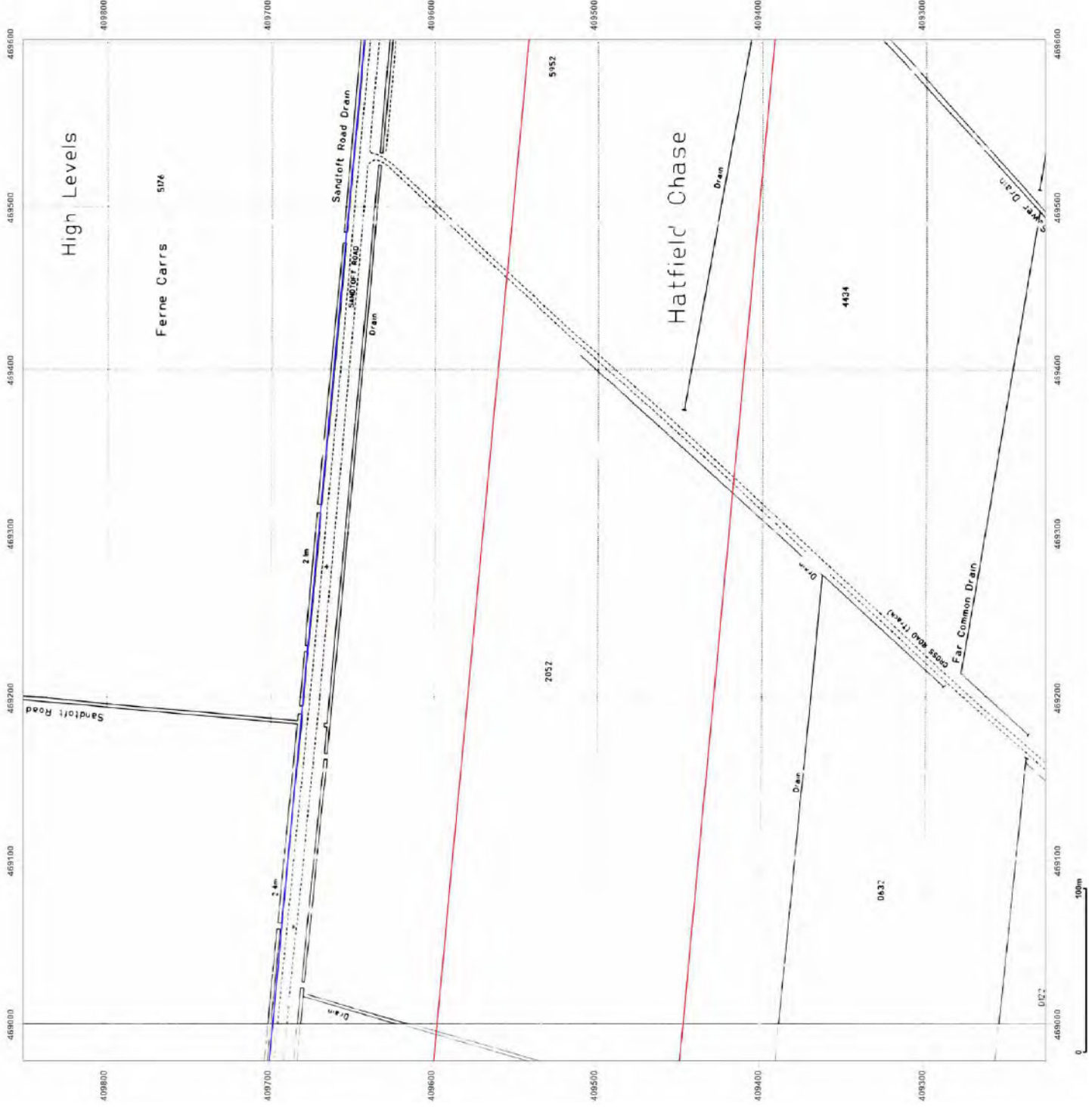
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Site Details:

Thorne

Client Ref: Thorne
Report Ref: GSIP-2023-13386-12979_LS_2_3
Grid Ref: 469290, 410162

Map Name: County Series

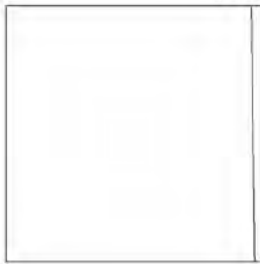
Map date: 1892

Scale: 1:2,500

Printed at: 1:2,500



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



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



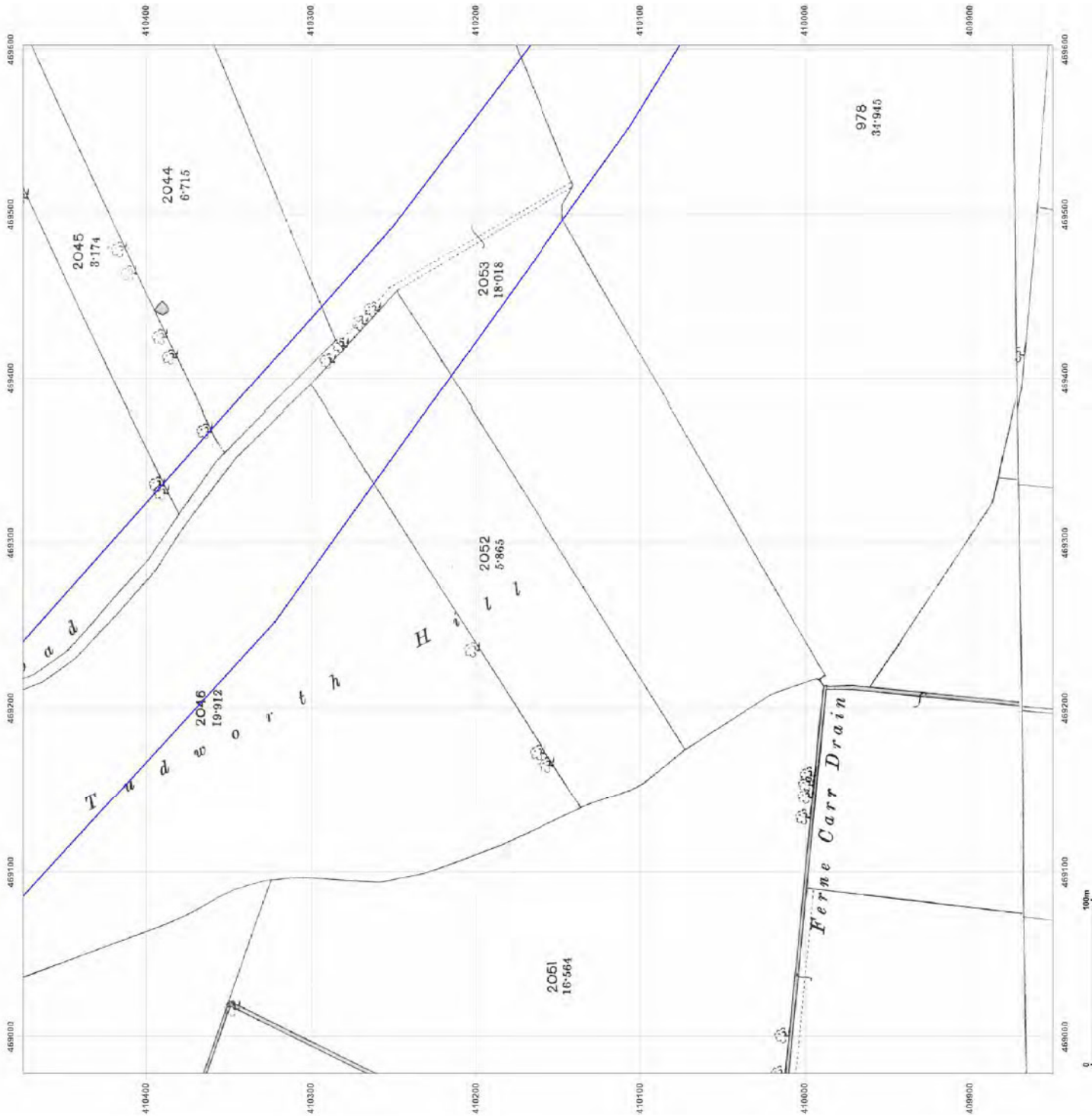
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Site Details:

Thorne

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Report Ref: GSIP-2023-13386-12979_LS_2_3
Grid Ref: 469290, 410162

Map Name: County Series

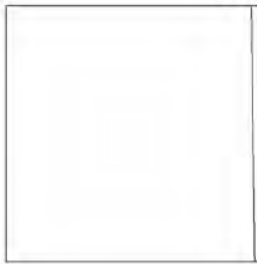
Map date: 1906

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1906
Revised 1906
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1906
Revised 1906
Edition N/A
Copyright N/A
Levelled N/A



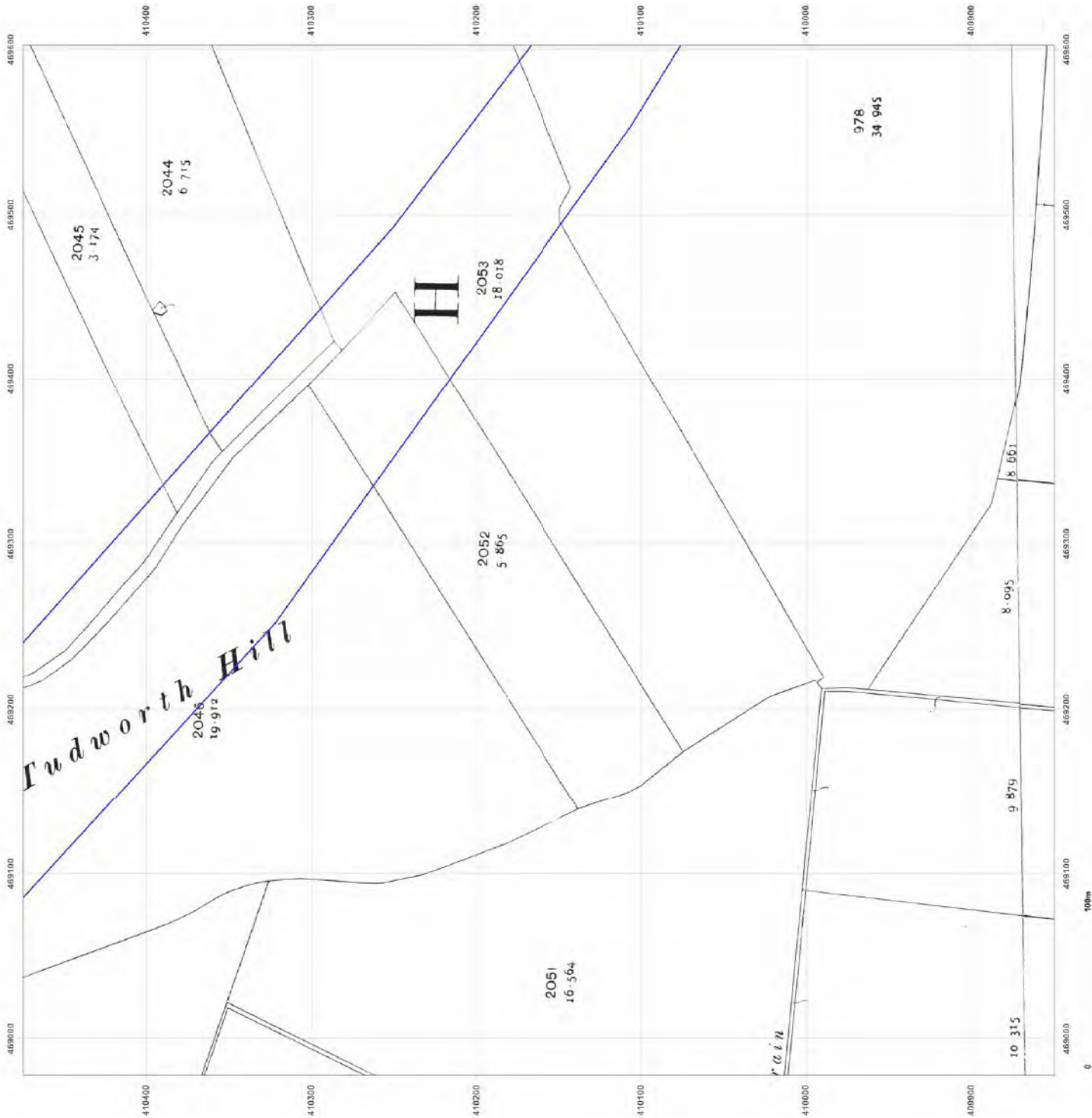
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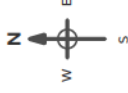
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Grid Ref: 469290, 410162

Map Name: National Grid

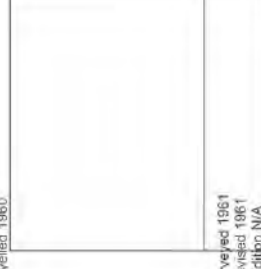
Map date: 1962

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1961
Revised 1961
Edition N/A
Copyright 1962
Levelled 1980



Surveyed 1961
Revised 1961
Edition N/A
Copyright 1962
Levelled 1980



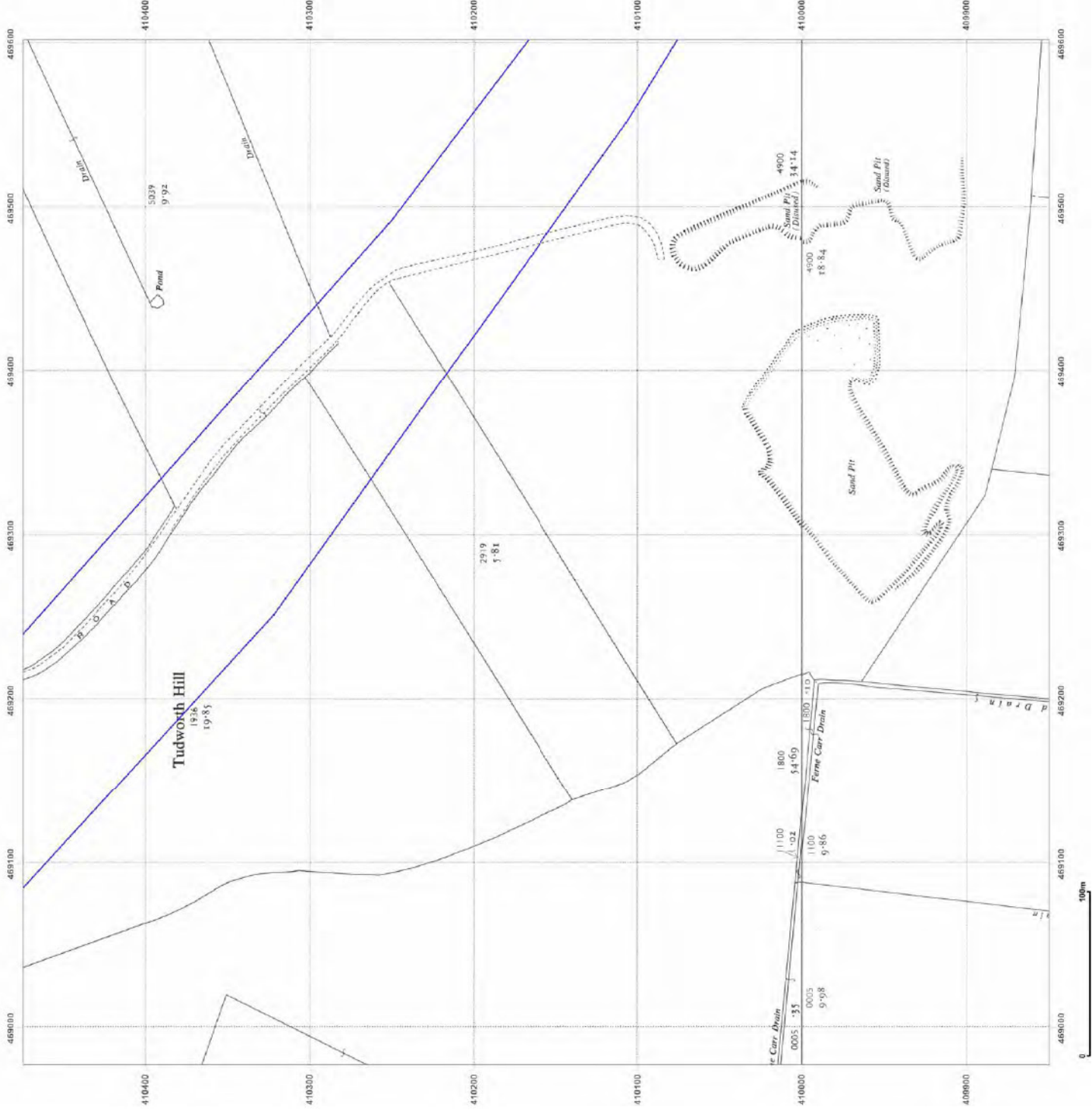
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Production date: 03 March 2023

Map legend available at:

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Site Details:

Thorne

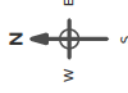
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Report Ref: GSIP-2023-13386-12979_LS_2_3
Grid Ref: 469290, 410162

Map Name: National Grid

Map date: 1962-1964

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 N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled 1964

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



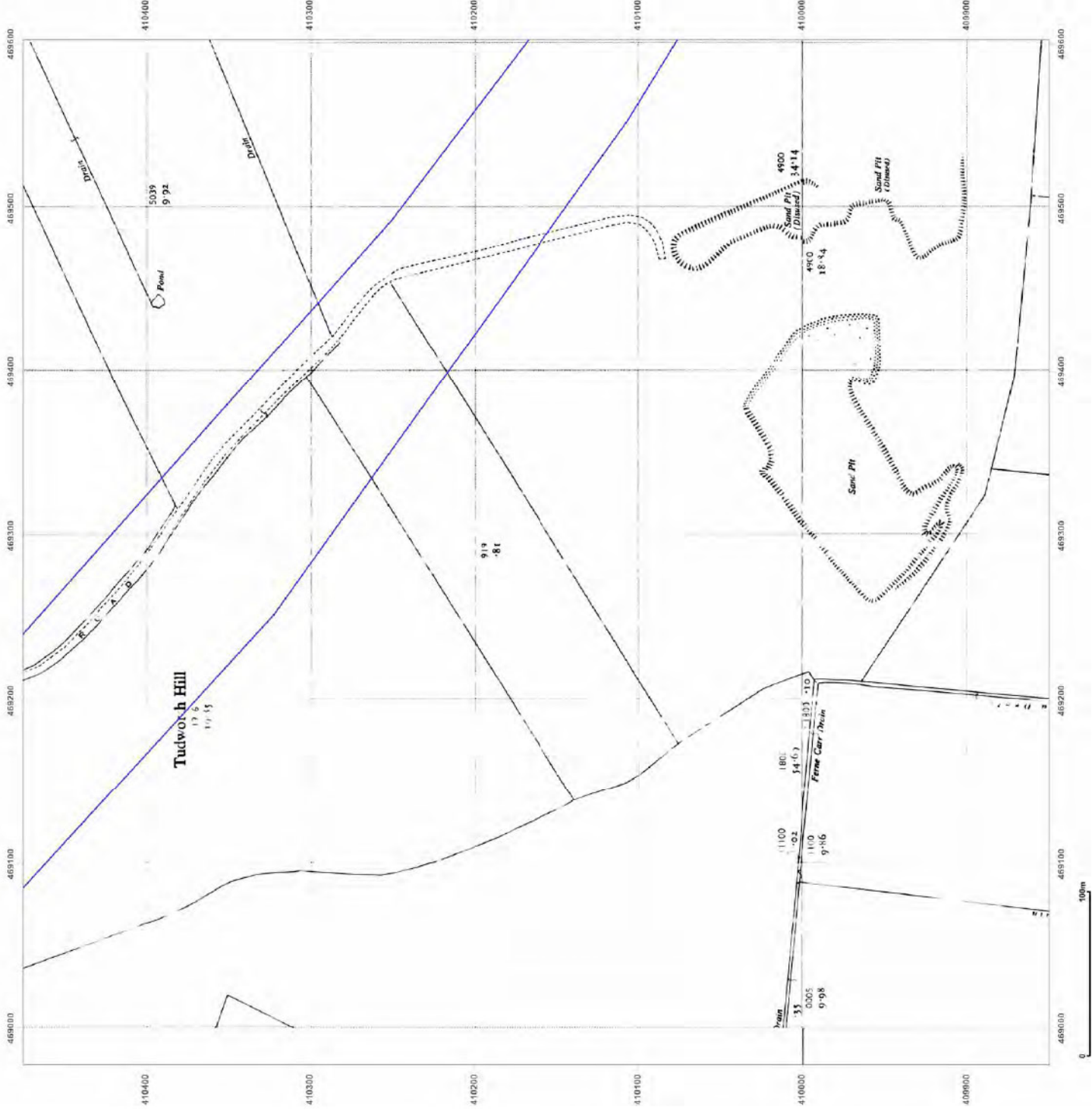
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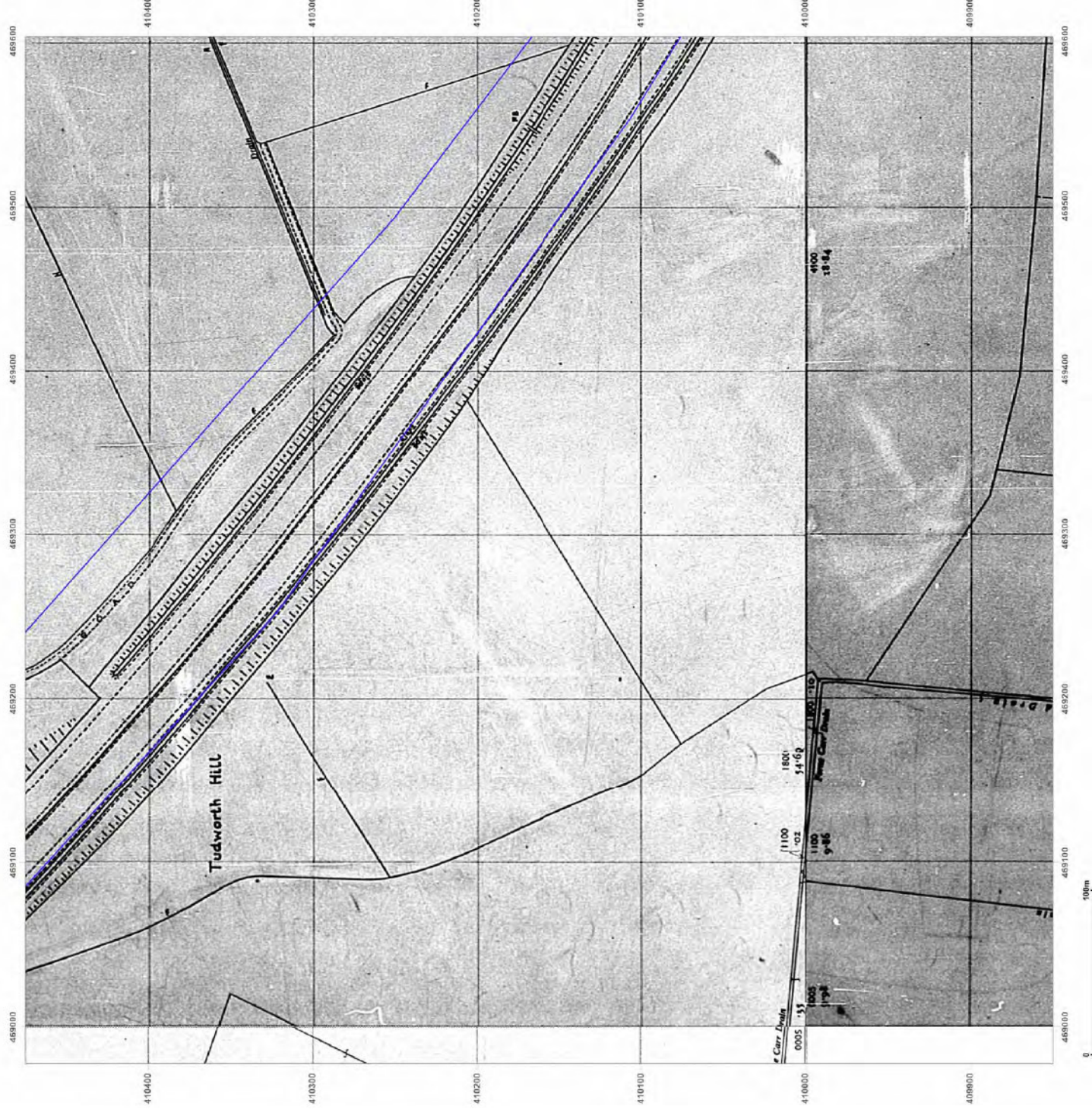
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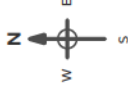
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Report Ref: GSIP-2023-13386-12979_LS_2_3
Grid Ref: 469290, 410162

Map Name: National Grid

Map date: 1984-1986

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1985
Revised 1985
Edition N/A
Copyright 1986
Levelled 1964



Surveyed N/A
Revised N/A
Edition N/A
Copyright 1984
Levelled 1964



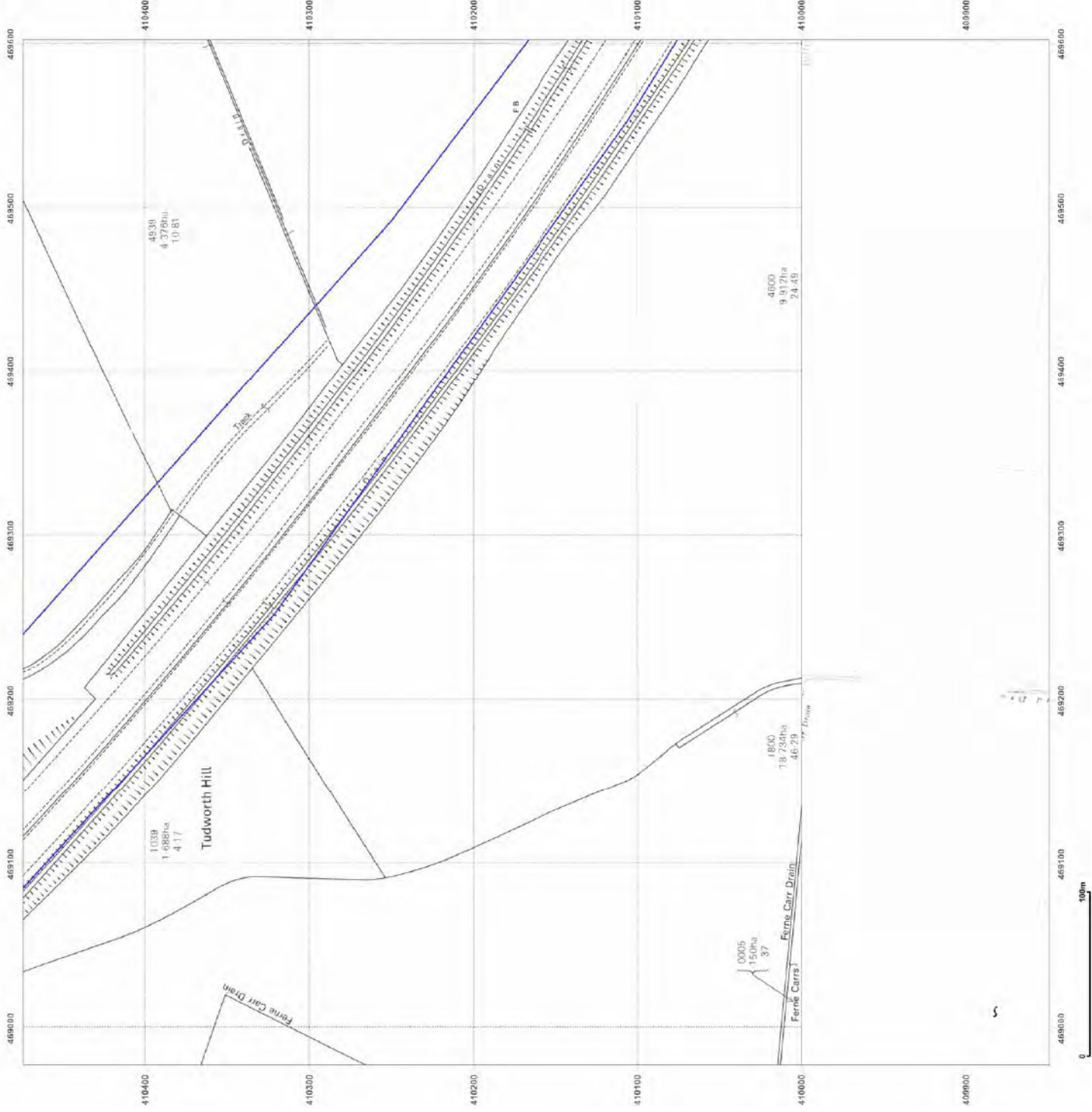
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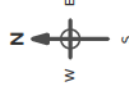
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Grid Ref: 469290, 410162

Map Name: National Grid

Map date: 1985-1986

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 1984
Revised 1984
Edition N/A
Copyright 1985
Levelled 1984



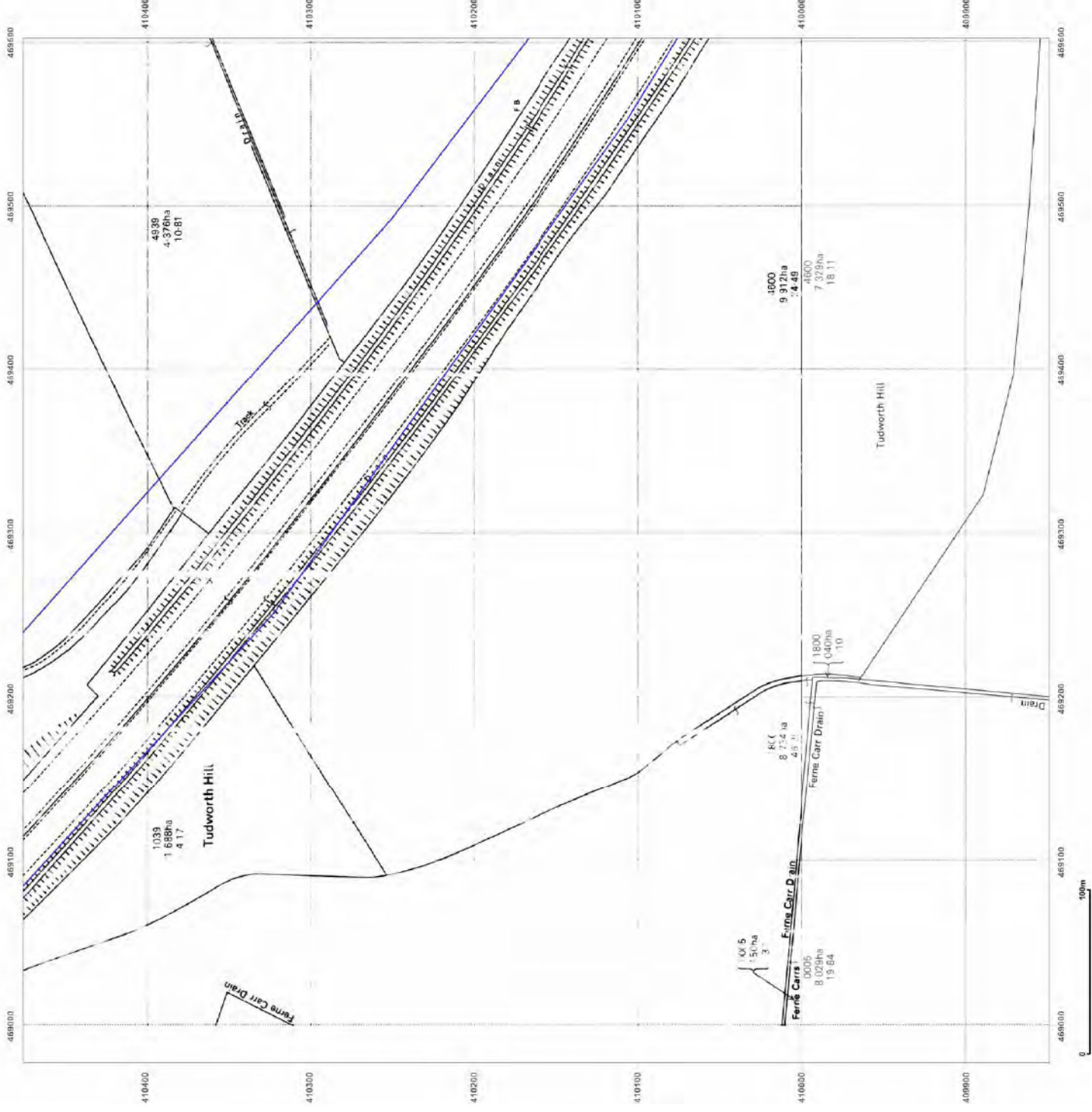
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Site Details:

Thorne

Client Ref: Thorne
Report Ref: GSIP-2023-13386-12979_LS_2_3
Grid Ref: 469290, 410162

Map Name: National Grid

Map date: 1993

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1893
Revised N/A
Edition N/A
Copyright 1893
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1893
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1893
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1893
Levelled N/A



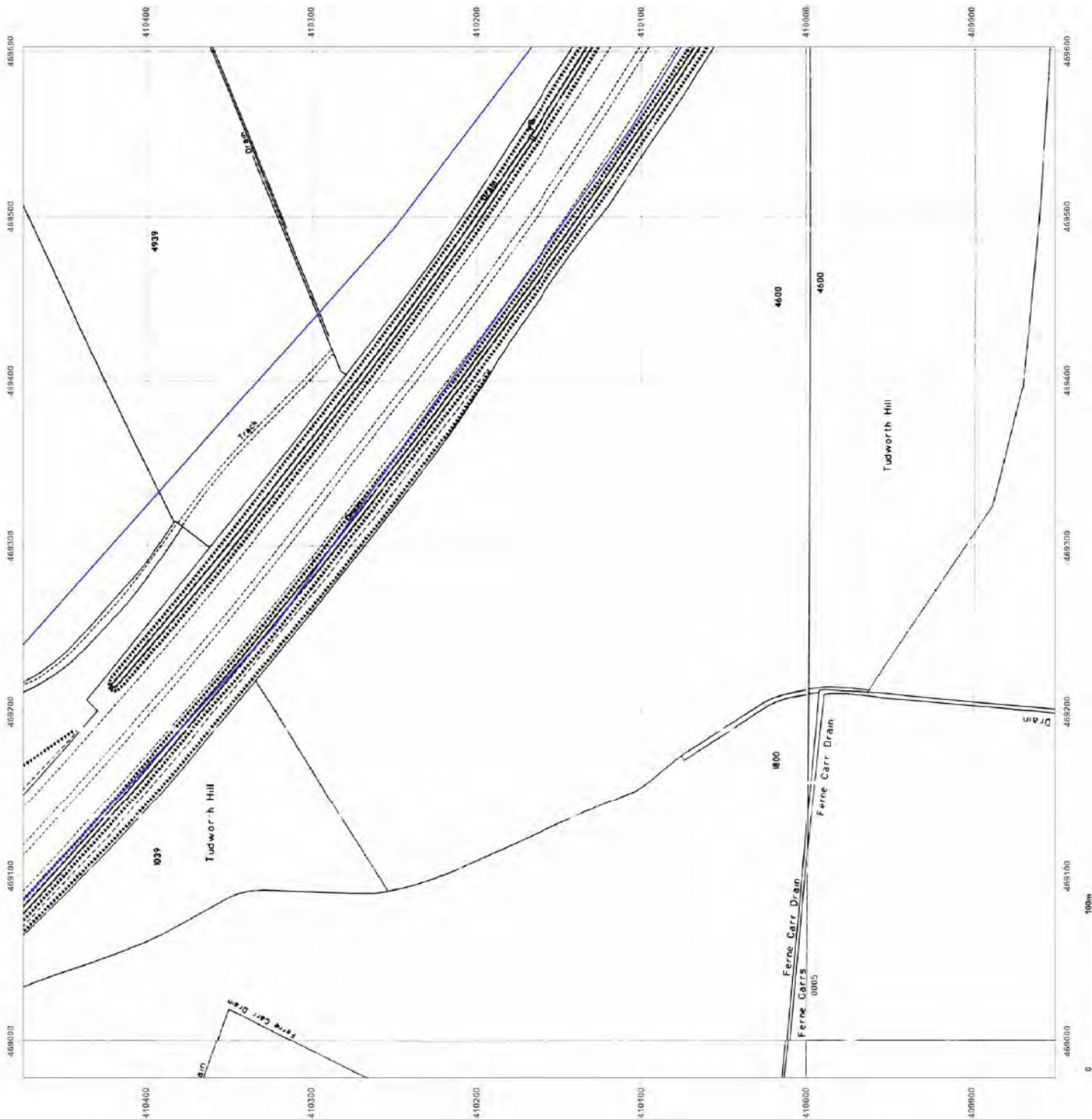
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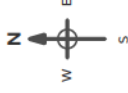
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Report Ref: GSIP-2023-13386-12979_LS_2_4
Grid Ref: 469290, 410787

Map Name: County Series

Map date: 1892

Scale: 1:2,500

Printed at: 1:2,500



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



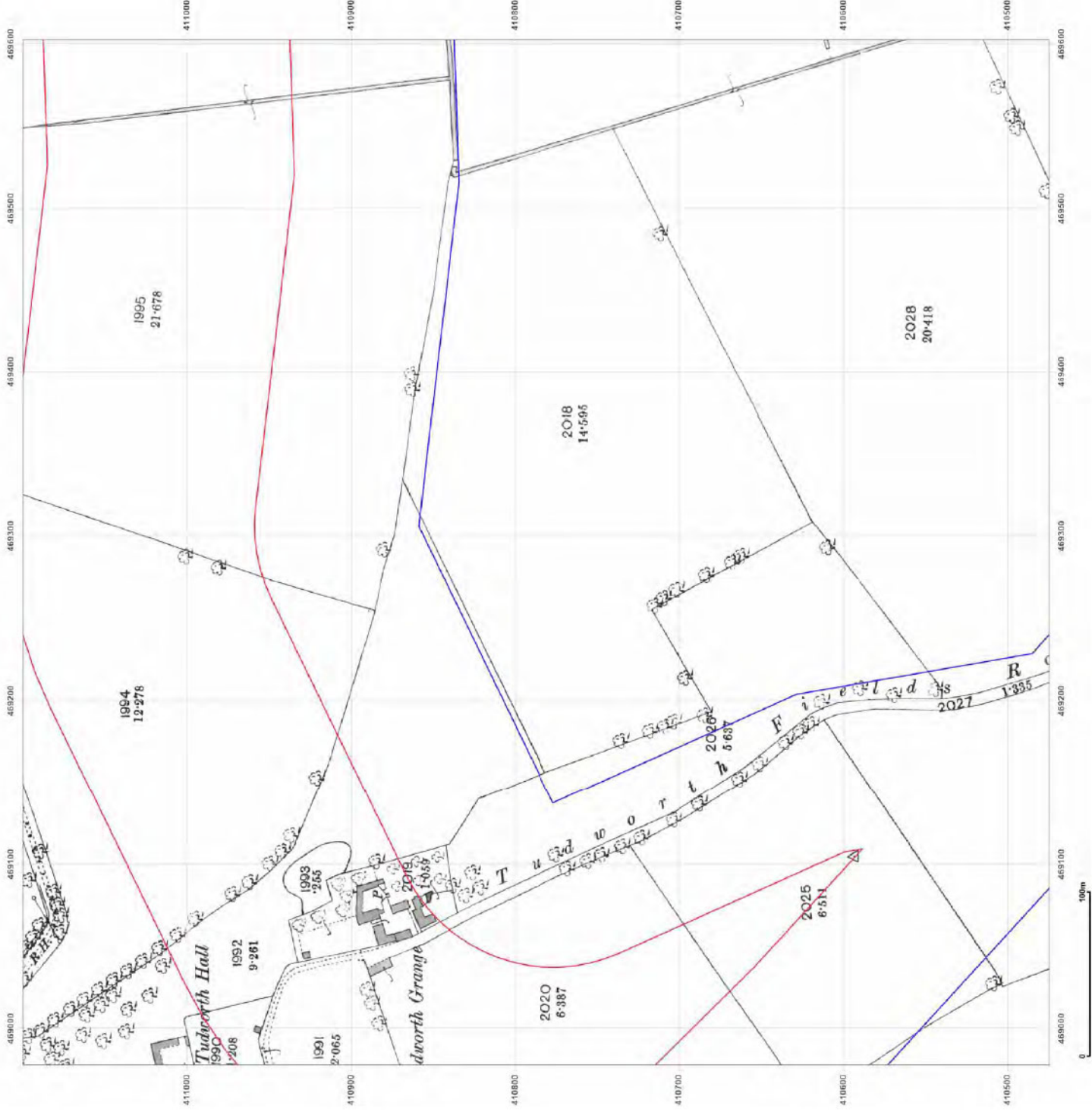
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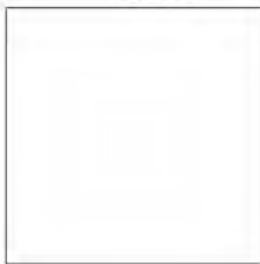
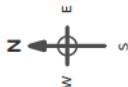
Client Ref: Thorne
Report Ref: GSIP-2023-13386-12979_LS_2_4
Grid Ref: 469290, 410787

Map Name: County Series

Map date: 1906

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1906
Revised 1906
Edition N/A
Copyright N/A
Levelled N/A



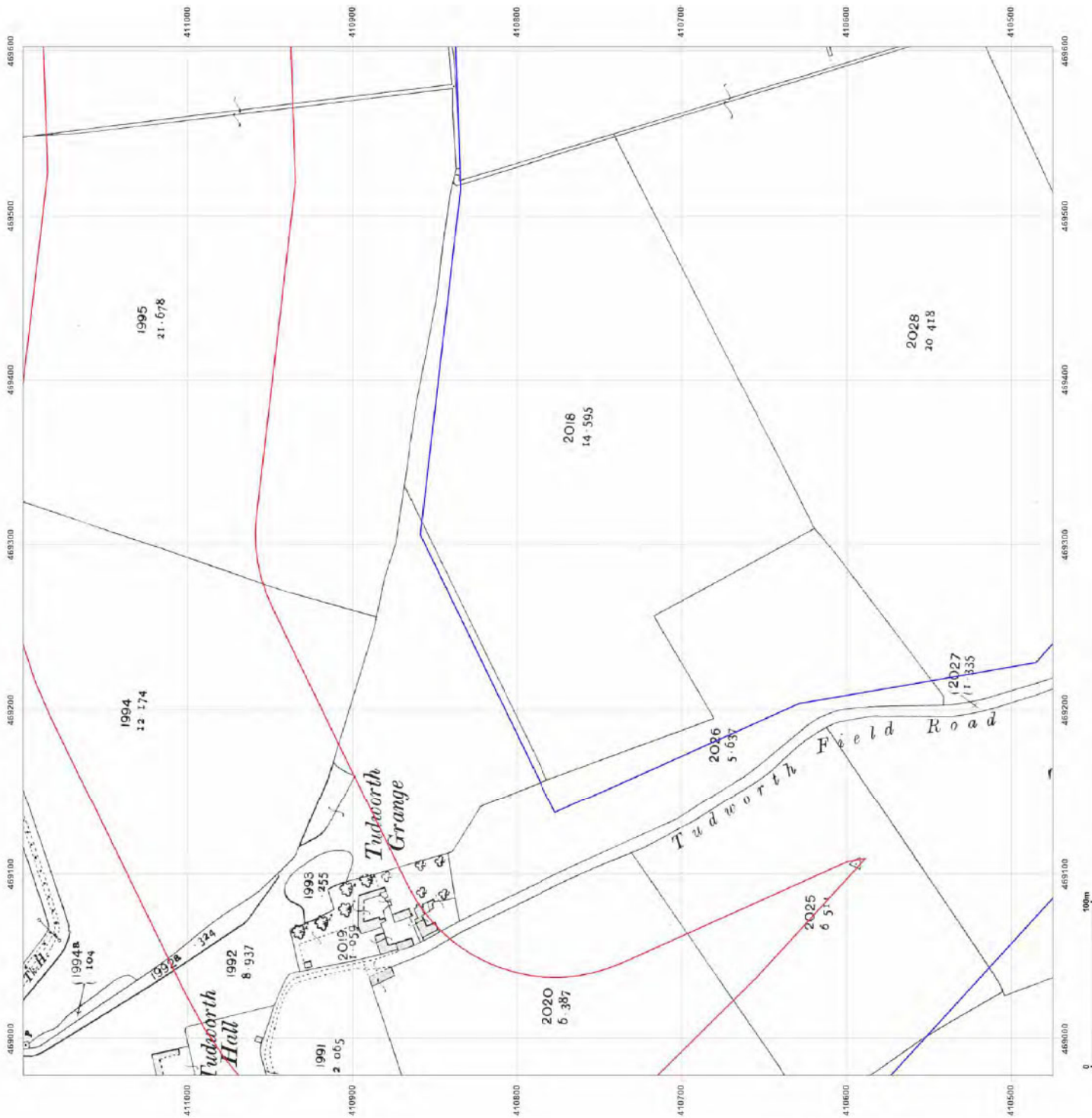
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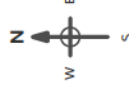
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Report Ref: GSIP-2023-13386-12979_LS_2_4
Grid Ref: 469290, 410787

Map Name: National Grid

Map date: 1962

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1961
Revised 1961
Edition N/A
Copyright 1962
Levelled 1960



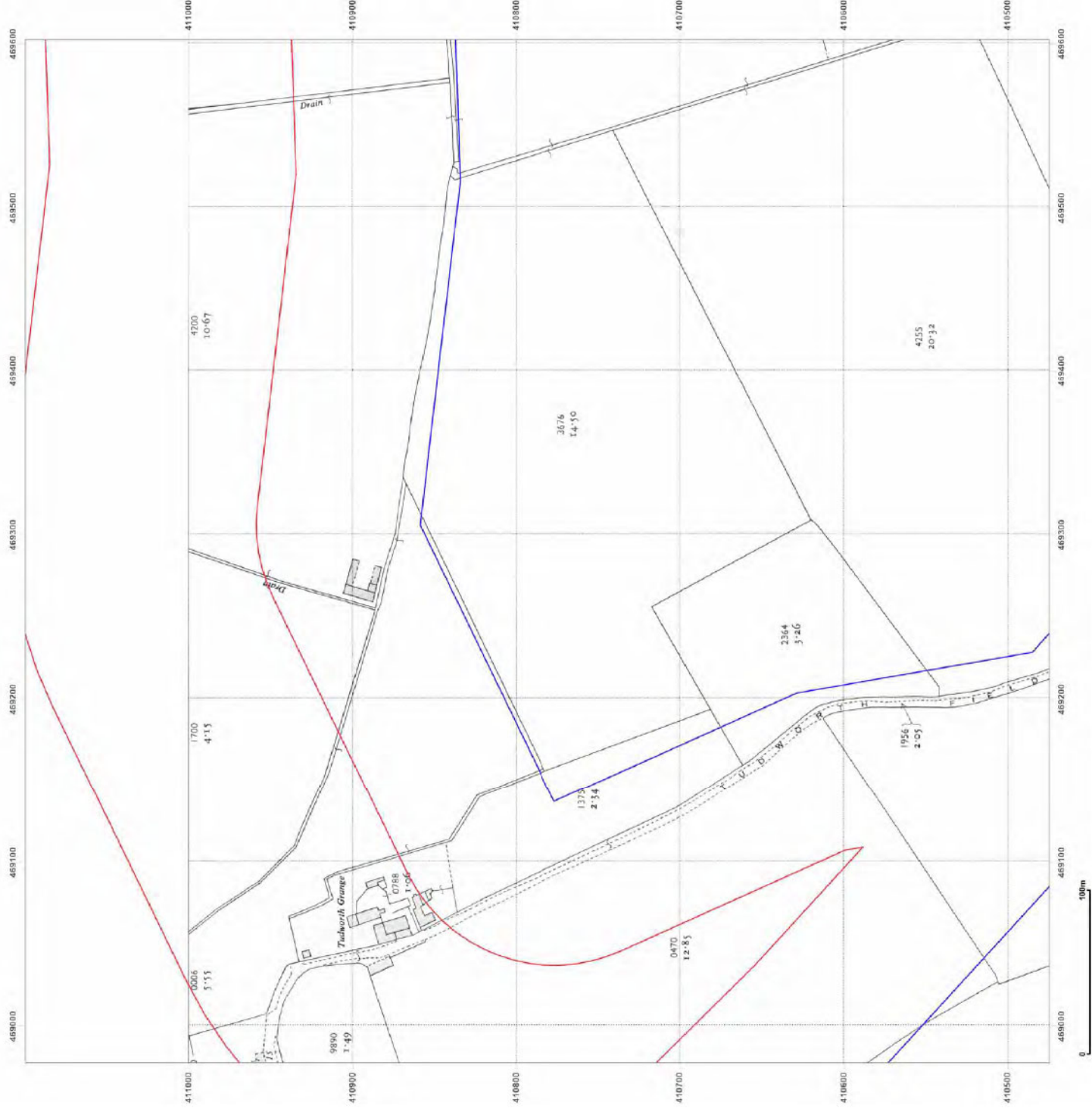
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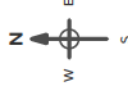
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Grid Ref: 469290, 410787

Map Name: National Grid

Map date: 1962

Scale: 1:2,500

Printed at: 1:2,500



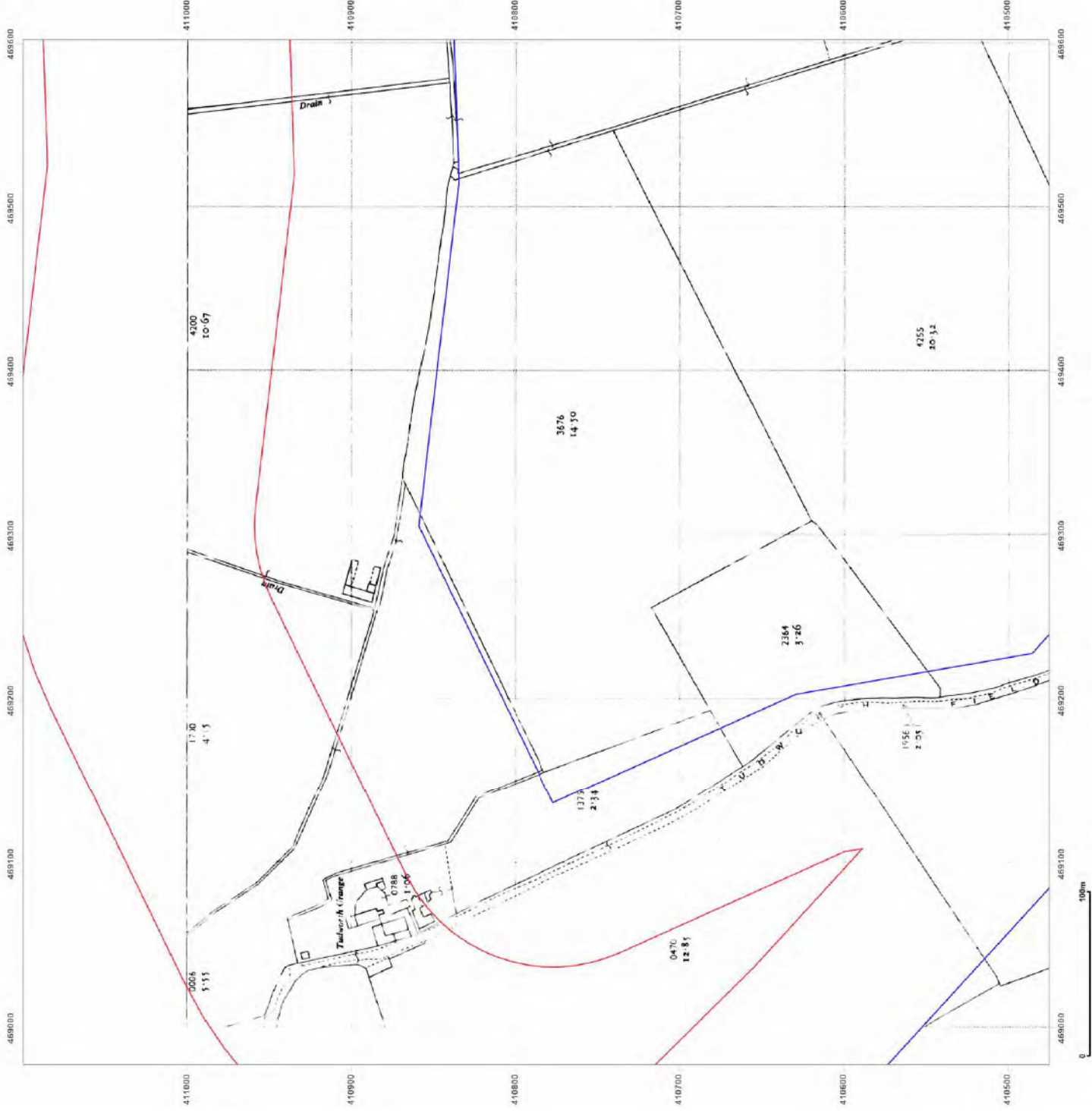
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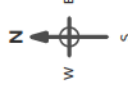
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Report Ref: GSIP-2023-13386-12979_LS_2_4
Grid Ref: 469290, 410787

Map Name: National Grid

Map date: 1974-1978

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1973
Revised 1973
Edition N/A
Copyright 1974
Levelled 1964



Surveyed 1978
Revised 1978
Edition N/A
Copyright 1978
Levelled N/A



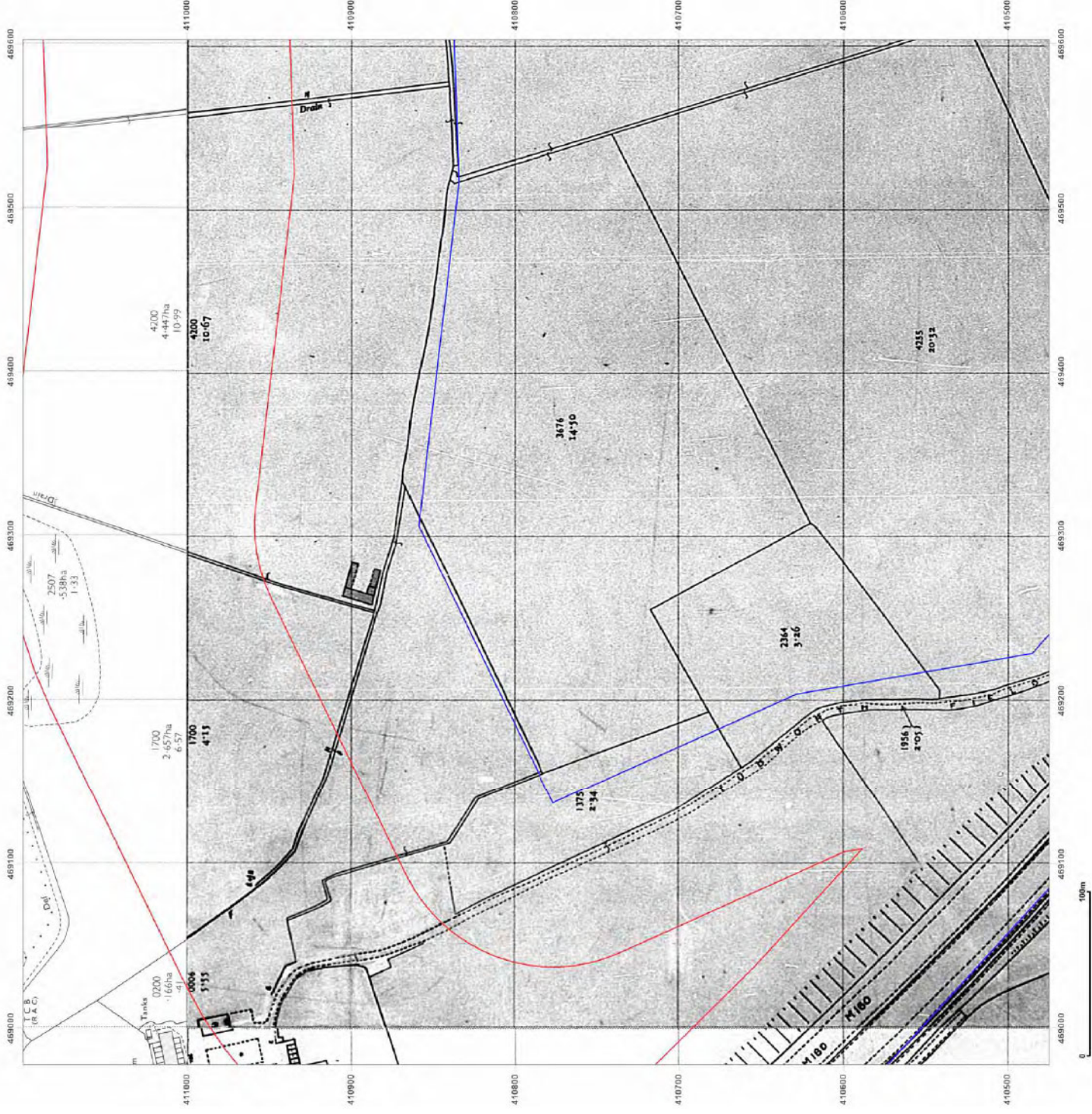
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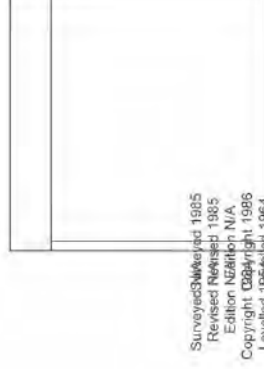
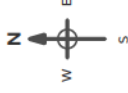
Client Ref: Thorne
Report Ref: GSIP-2023-13386-12979_LS_2_4
Grid Ref: 469290, 410787

Map Name: National Grid

Map date: 1984-1986

Scale: 1:2,500

Printed at: 1:2,500



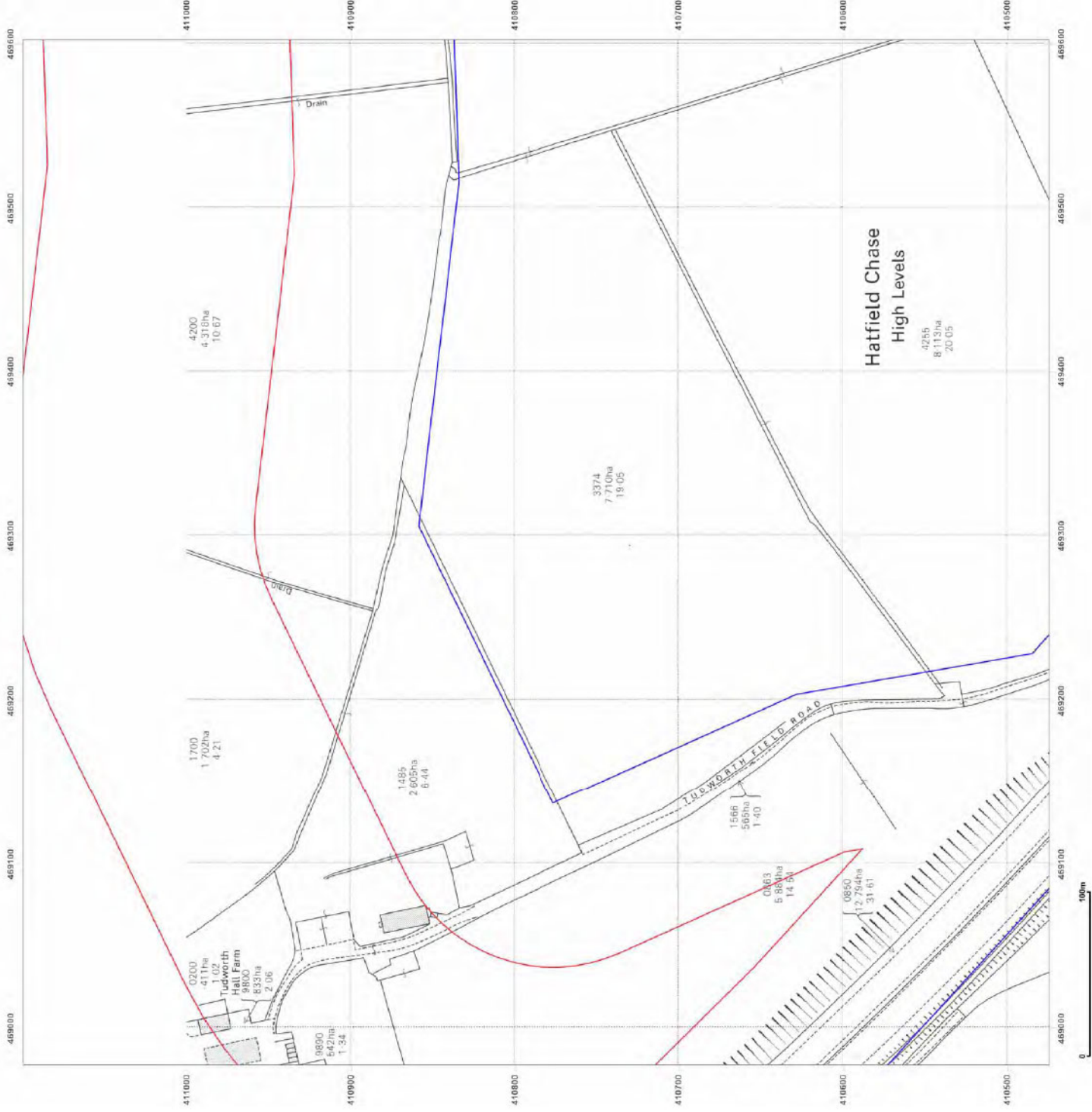
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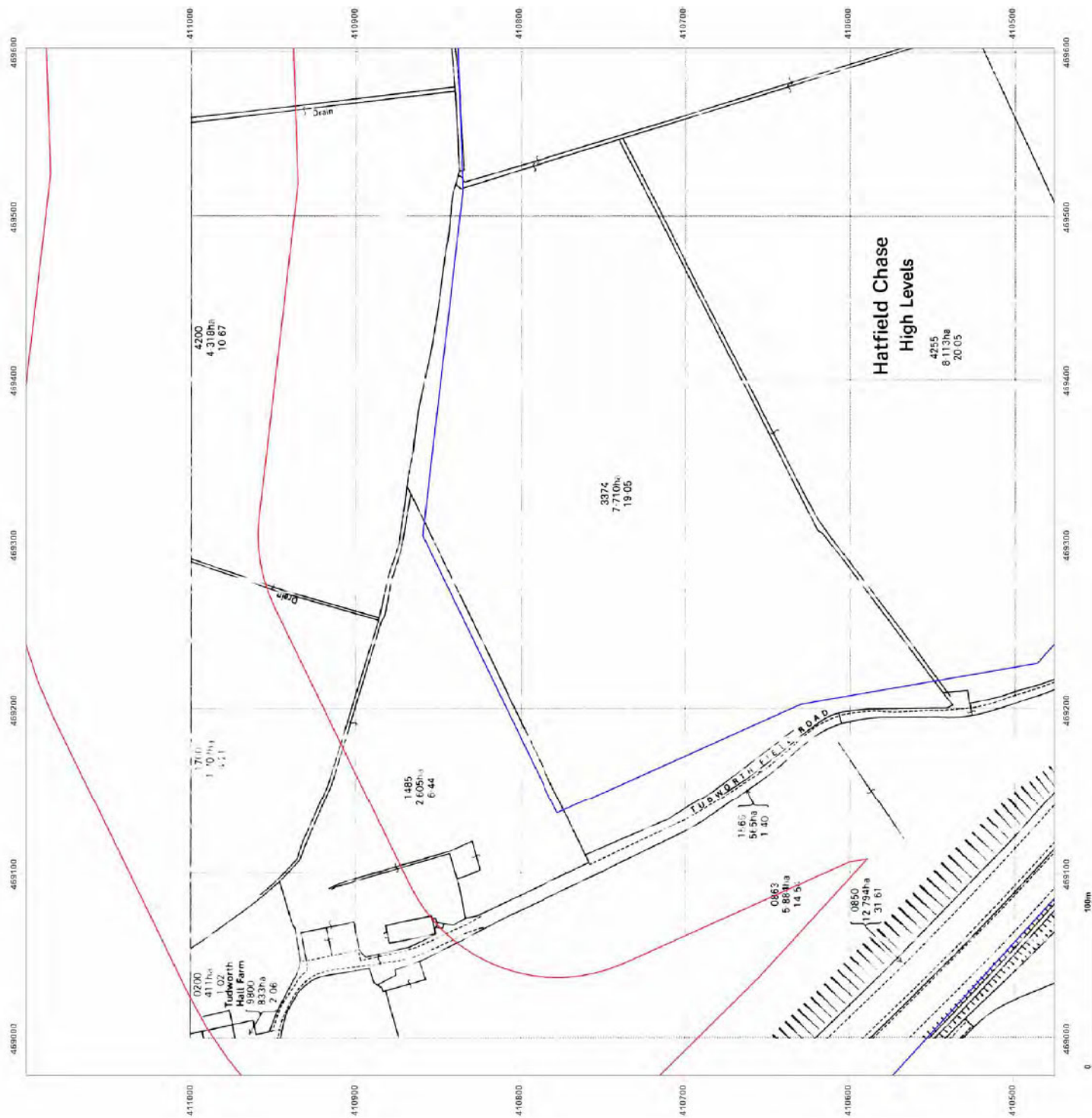
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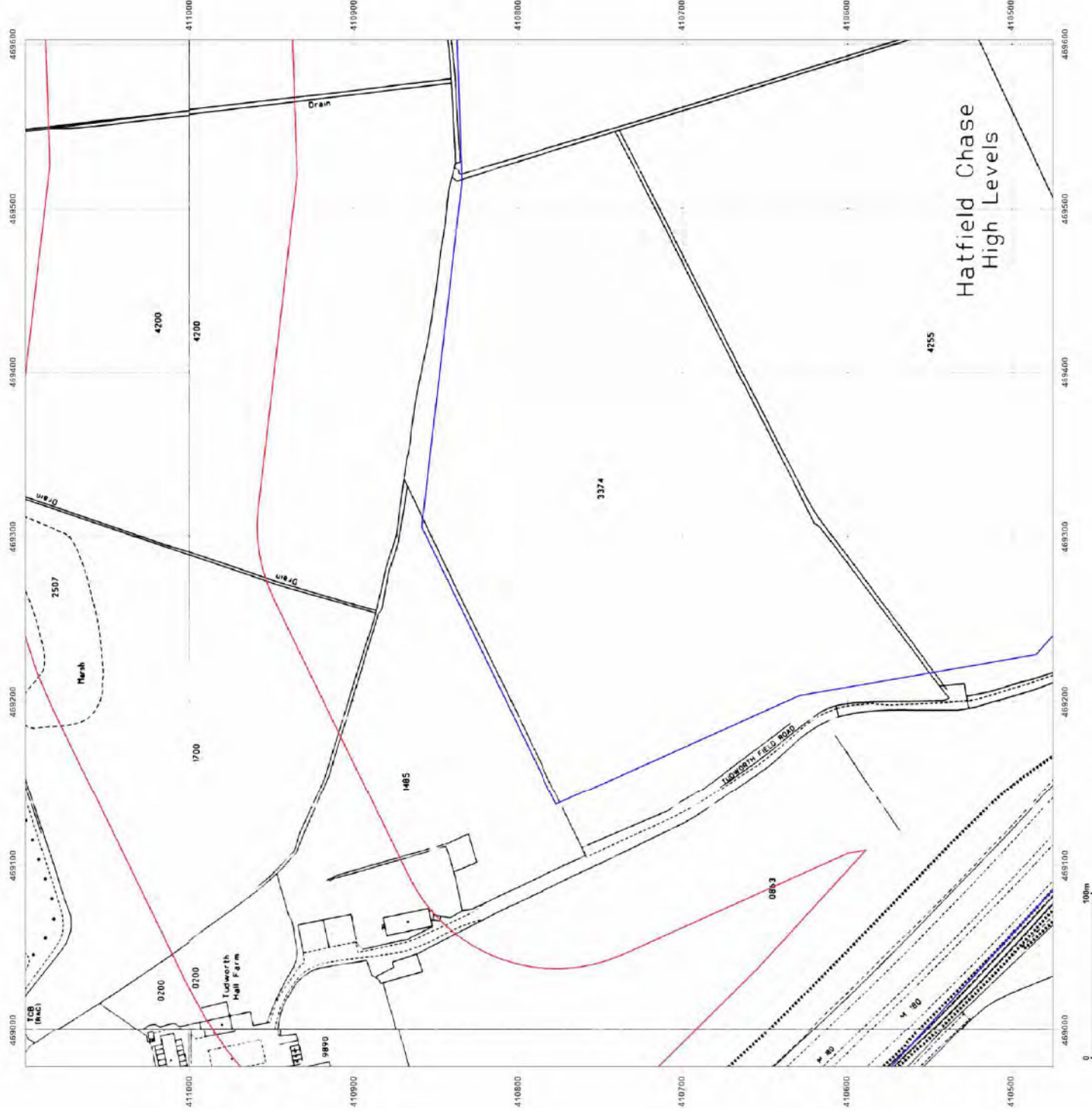
Production date: 03 March 2023

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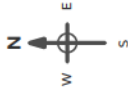
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Report Ref: GSIP-2023-13386-12979_LS_2_10
Grid Ref: 469290, 414537

Map Name: County Series

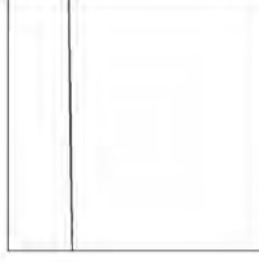
Map date: 1892

Scale: 1:2,500

Printed at: 1:2,500



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



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



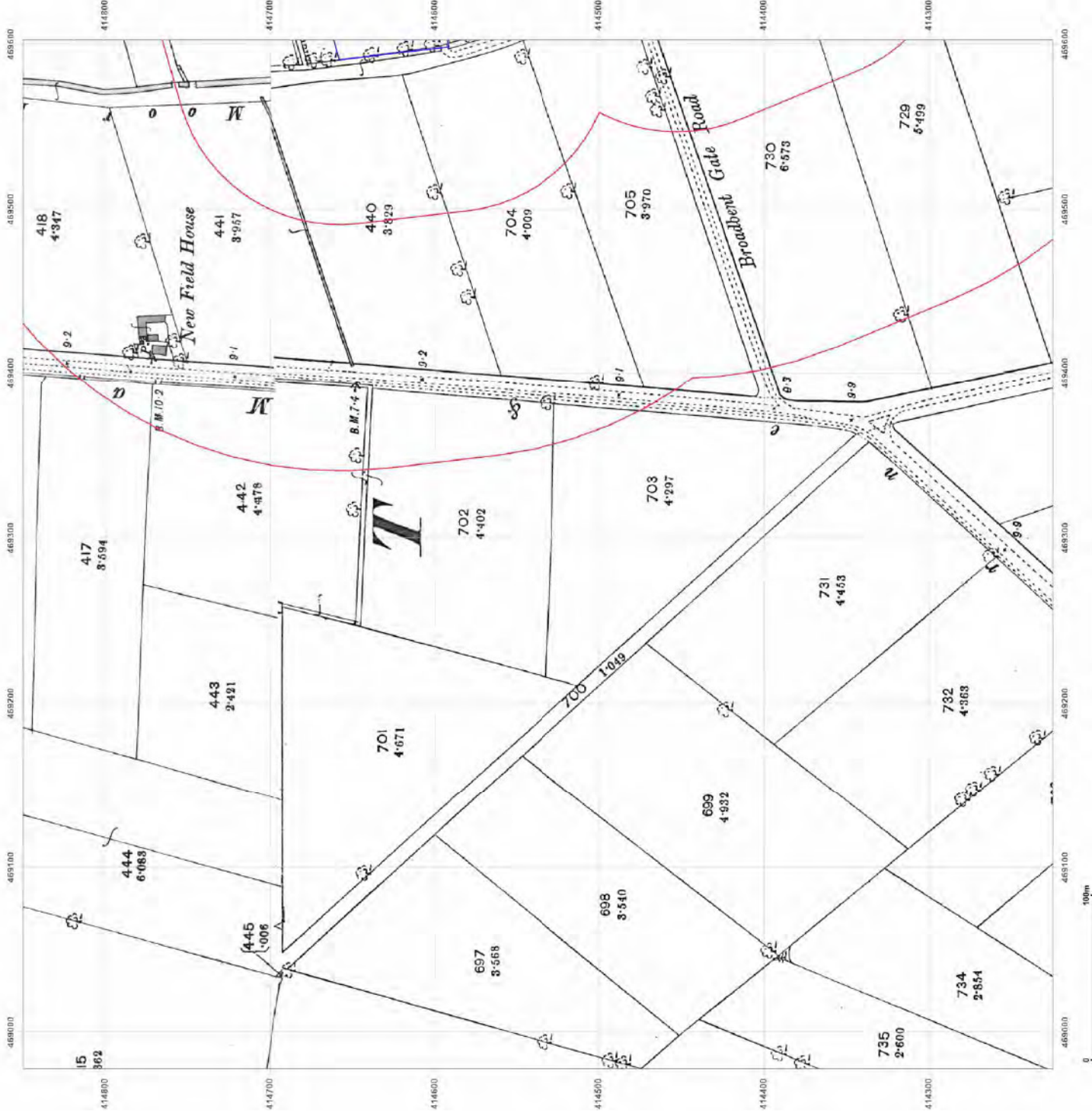
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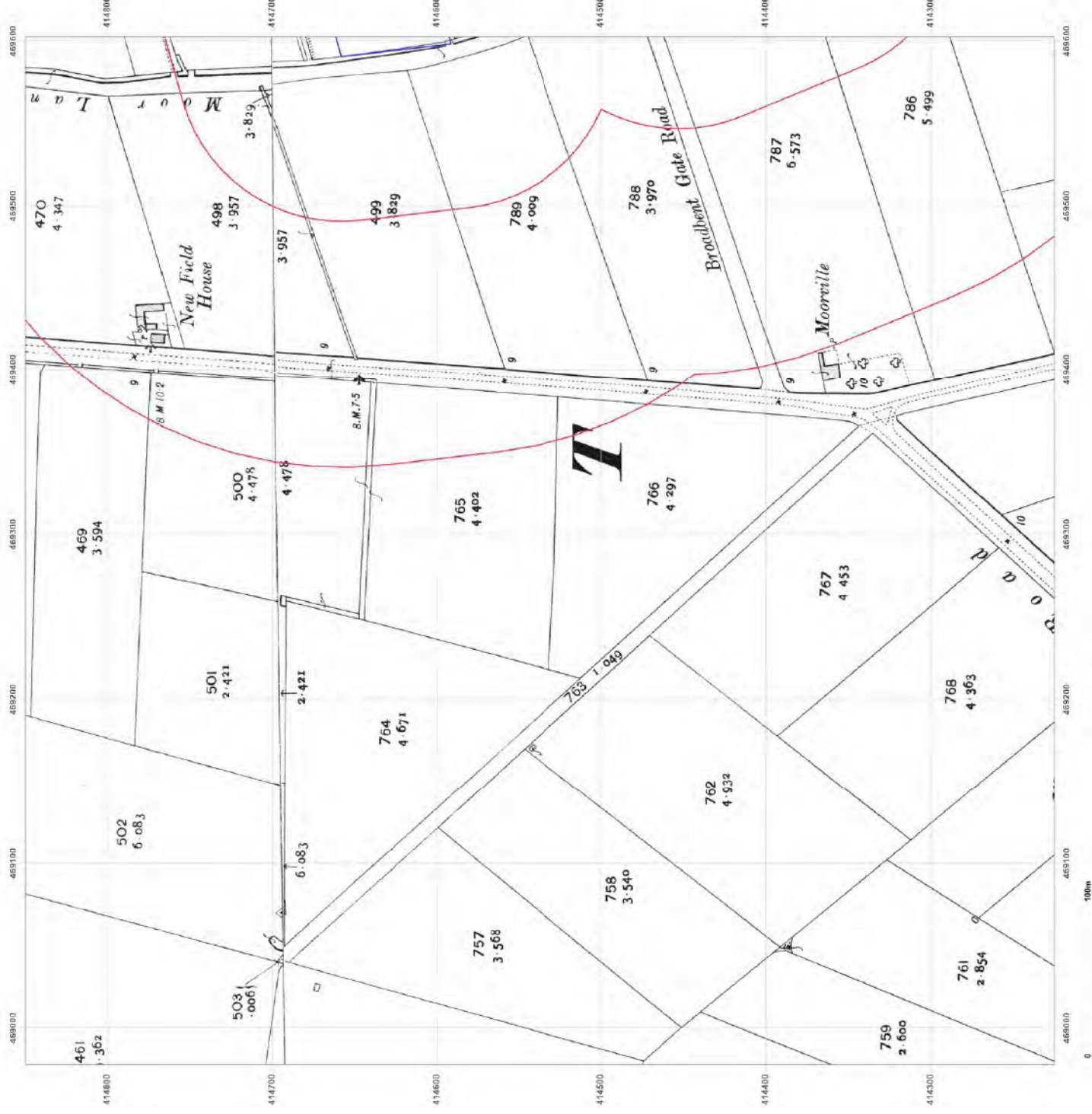
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Map legend available at:

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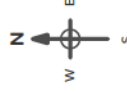
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Report Ref: GSIP-2023-13386-12979_LS_2_10
Grid Ref: 469290, 414537

Map Name: National Grid

Map date: 1962

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1961
Revised 1961
Edition N/A
Copyright 1962
Levelled 1960



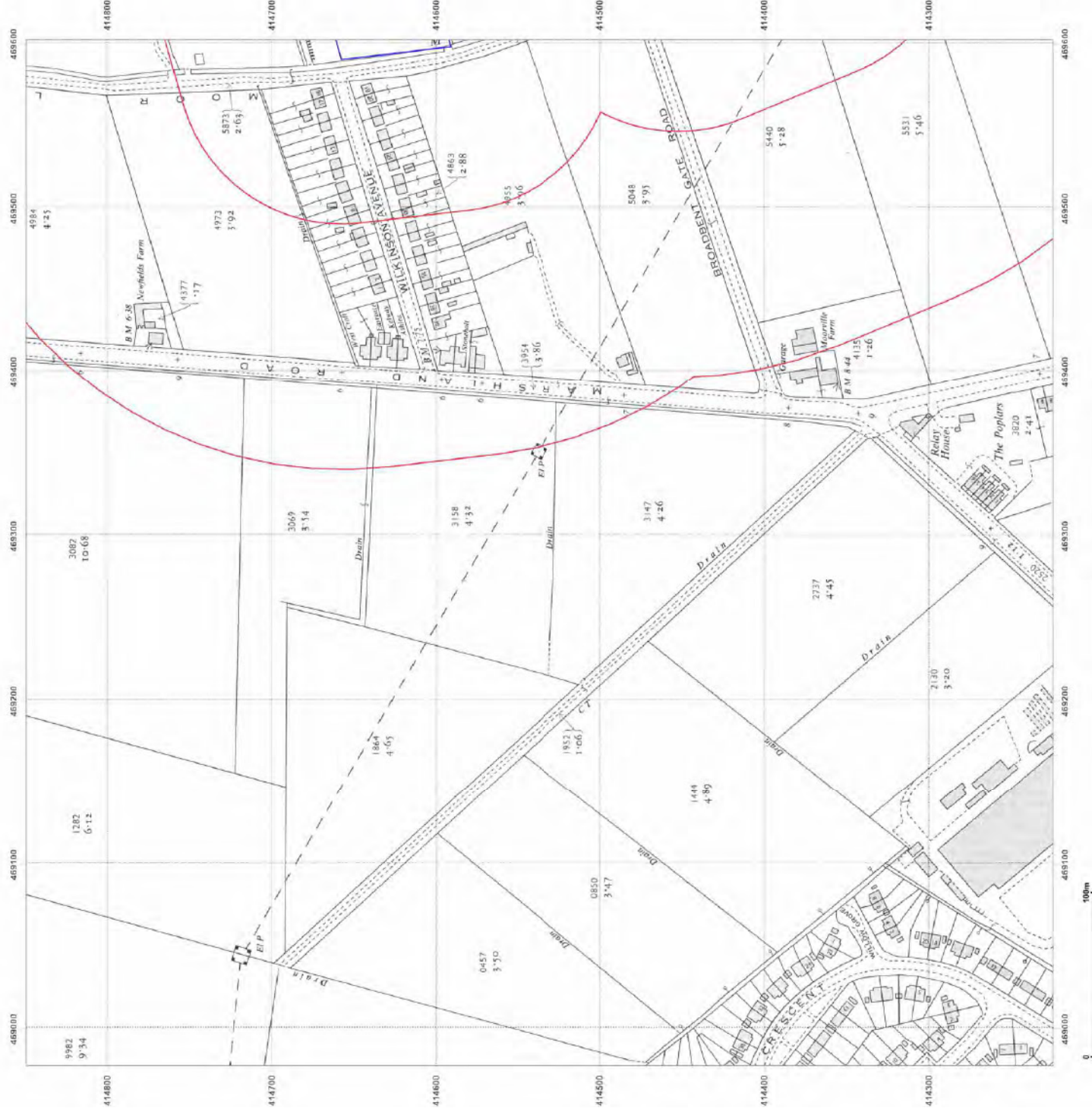
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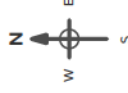
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Report Ref: GSIP-2023-13386-12979_LS_2_10
Grid Ref: 469290, 414537

Map Name: National Grid

Map date: 1971

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1970
Revised 1970
Edition N/A
Copyright 1971
Levelled 1964



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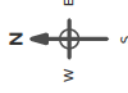
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Report Ref: GSIP-2023-13386-12979_LS_2_10
Grid Ref: 469290, 414537

Map Name: National Grid

Map date: 1977-1979

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
Revised N/A
Edition 1879
Copyright N/A
Levelled 1964



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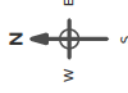
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Report Ref: GSIP-2023-13386-12979_LS_2_10
Grid Ref: 469290, 414537

Map Name: National Grid

Map date: 1990

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1964
Revised 1990
Edition N/A
Copyright 1990
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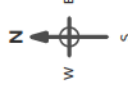
Client Ref: Thorne
Report Ref: GSIP-2023-13386-12979_LS_2_10
Grid Ref: 469290, 414537

Map Name: National Grid

Map date: 1993

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
Revised N/A
Edition N/A
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Site Details:

Thorne

Client Ref: Thorne
Report Ref: GSIP-2023-13386-12979_LS_3_1
Grid Ref: 469915, 408912

Map Name: County Series

Map date: 1892

Scale: 1:2,500

Printed at: 1:2,500



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



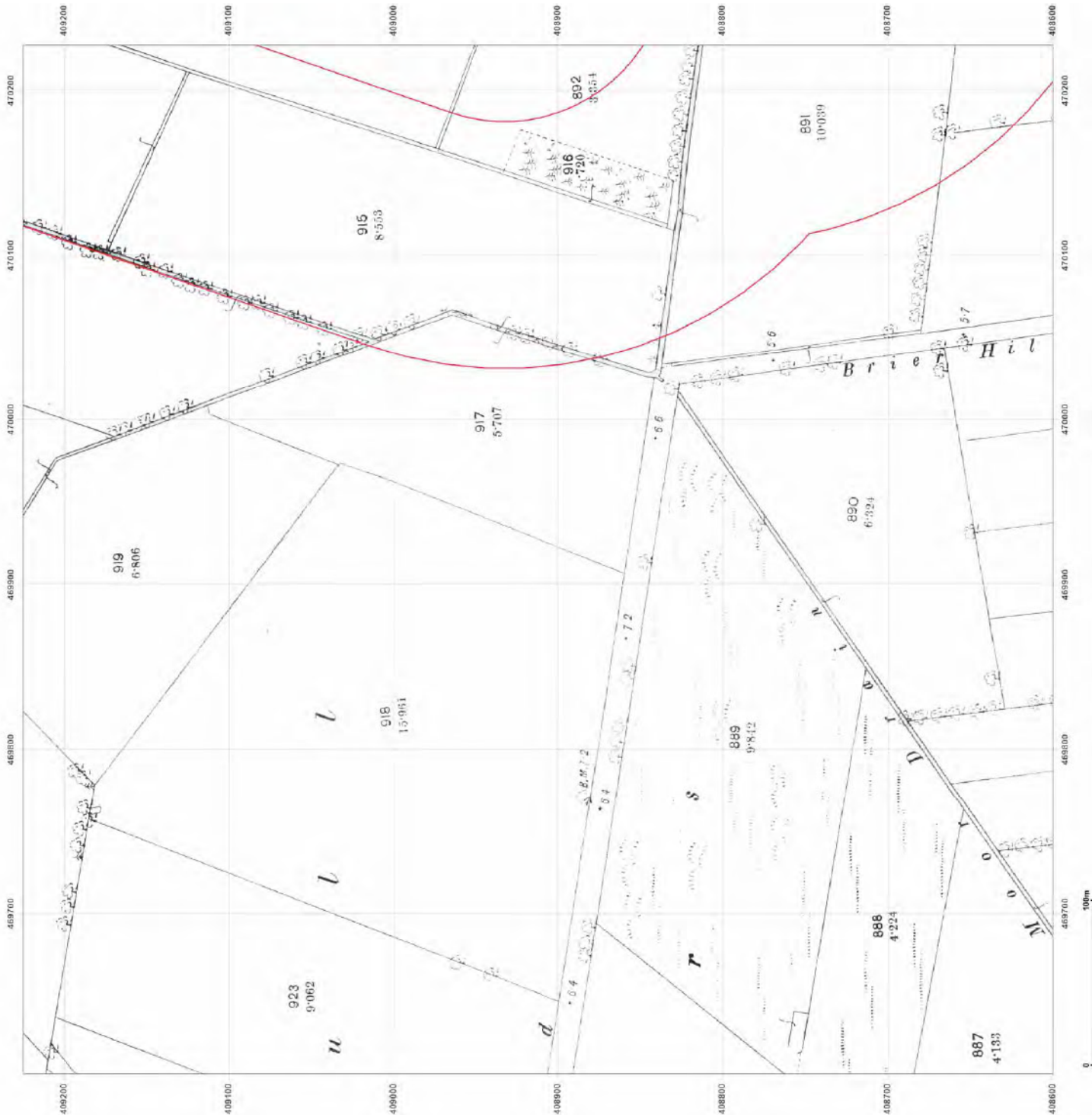
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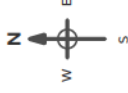
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Report Ref: GSIP-2023-13386-12979_LS_3_1
Grid Ref: 469915, 408912

Map Name: County Series

Map date: 1906

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1906
Revised 1906
Edition N/A
Copyright N/A
Levelled N/A



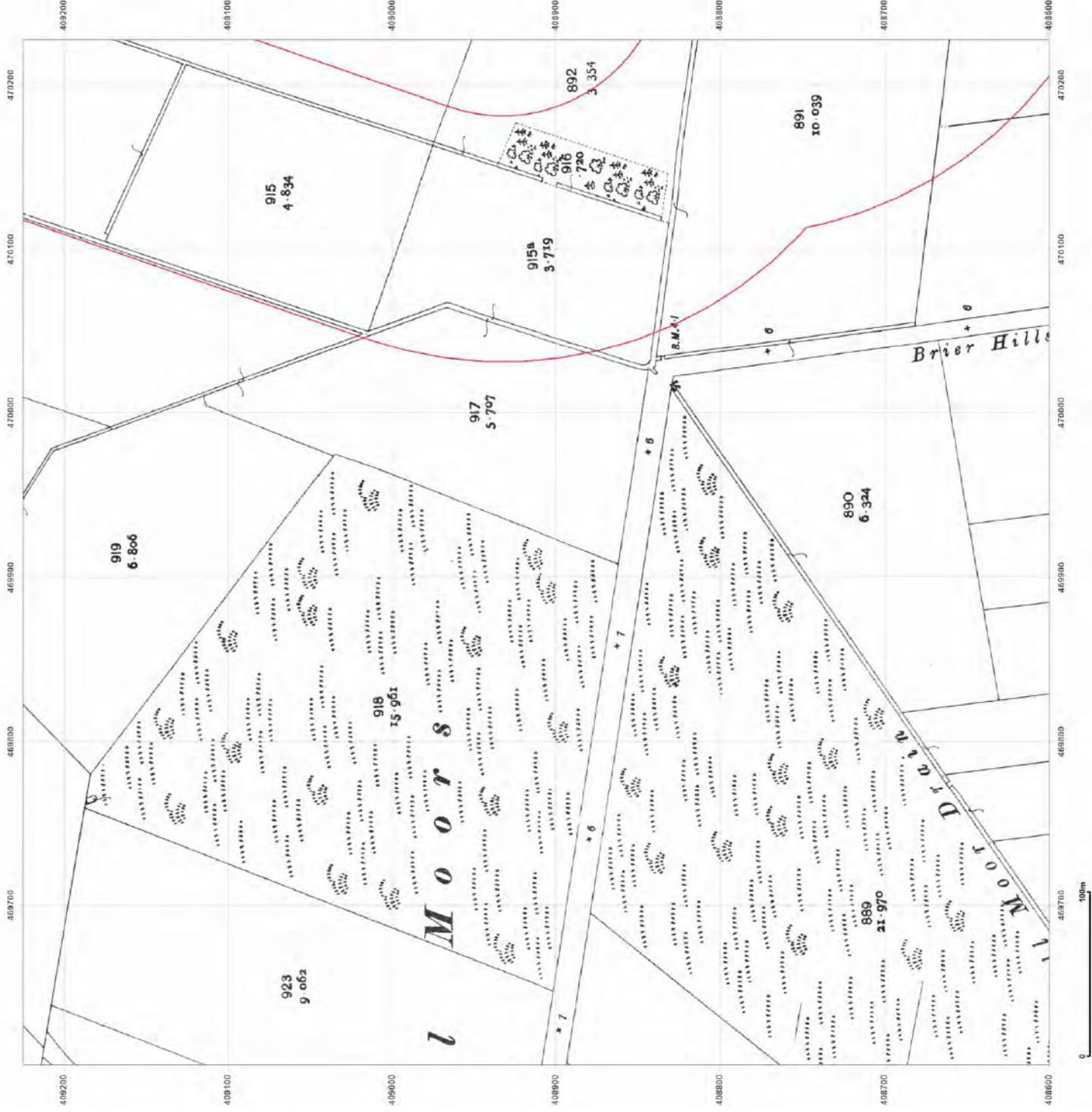
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Production date: 03 March 2023

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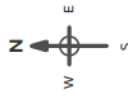
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Grid Ref: 469915, 408912

Map Name: National Grid

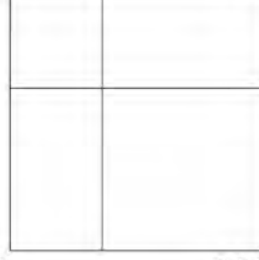
Map date: 1962-1964

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1961
Revised 1961
Edition N/A
Copyright 1962
Levelled 1960



Surveyed 1962
Revised 1962
Edition N/A
Copyright 1963
Levelled 1960

Surveyed 1961
Revised 1961
Edition N/A
Copyright 1962
Levelled 1960

Surveyed 1962
Revised 1962
Edition N/A
Copyright 1963
Levelled 1960



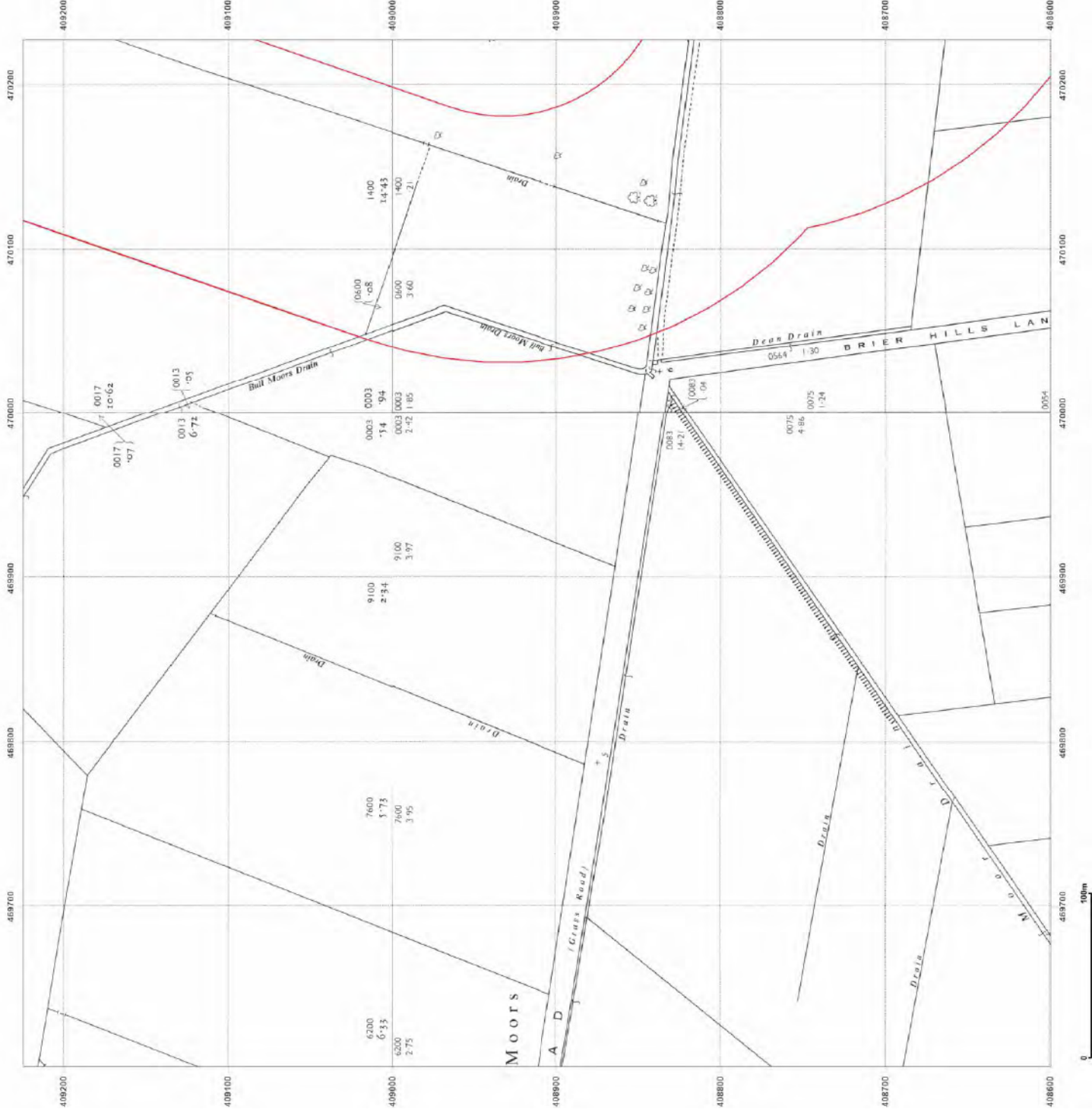
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Site Details:

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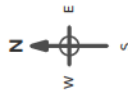
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Grid Ref: 469915, 408912

Map Name: National Grid

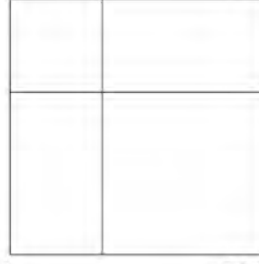
Map date: 1962-1964

Scale: 1:2,500

Printed at: 1:2,500



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



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Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

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Revised N/A
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Copyright N/A
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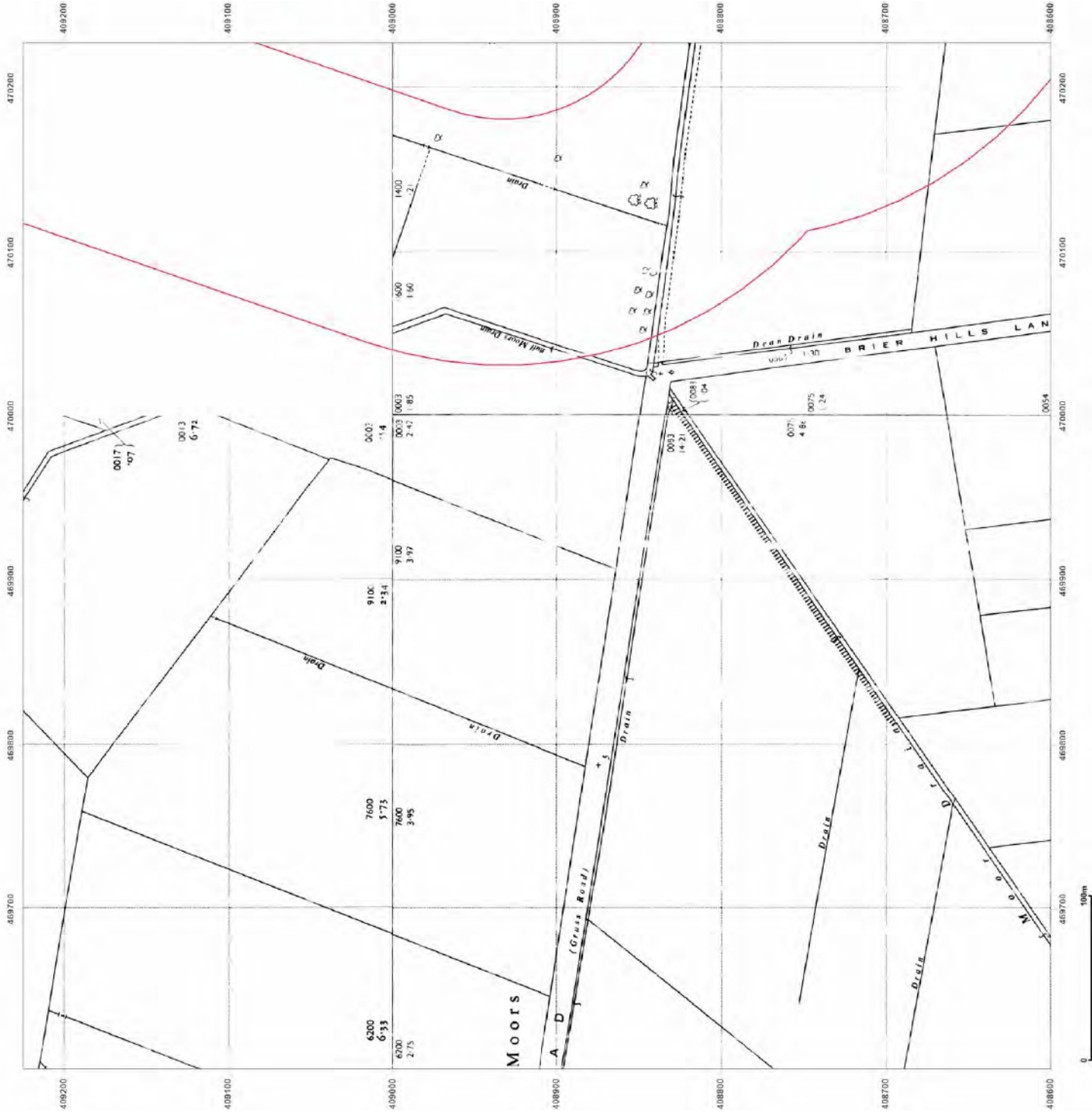
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Production date: 03 March 2023

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Site Details:

Thorne

Client Ref: Thorne
Report Ref: GSIP-2023-13386-12979_LS_3_1
Grid Ref: 469915, 408912

Map Name: National Grid

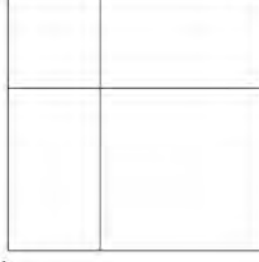
Map date: 1978-1981

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1978
Revised 1978
Edition N/A
Copyright 1978
Levelled N/A



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



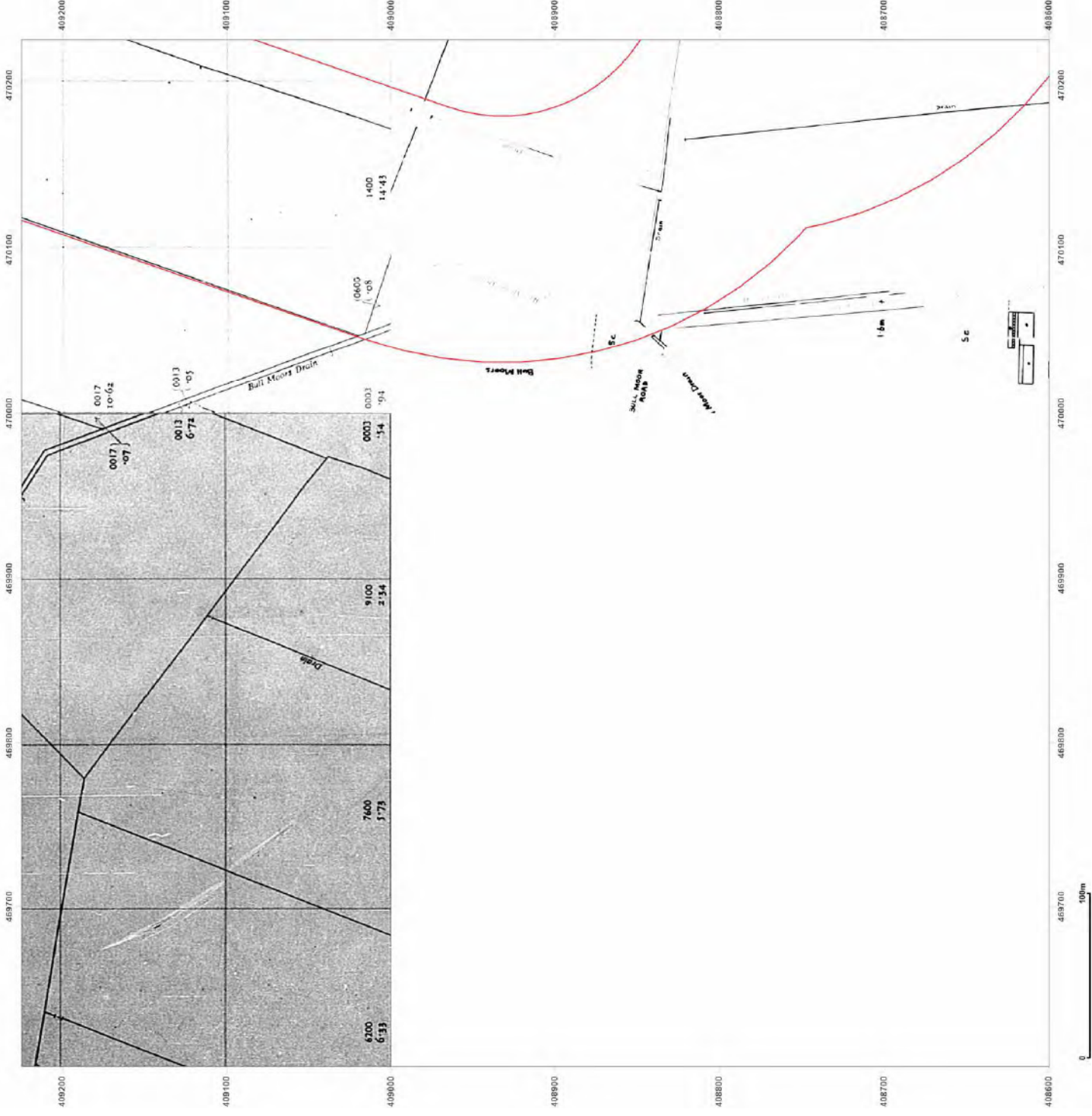
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Site Details:

Thorne

Client Ref: Thorne
Report Ref: GSIP-2023-13386-12979_LS_3_1
Grid Ref: 469915, 408912

Map Name: National Grid

Map date: 1984-1985

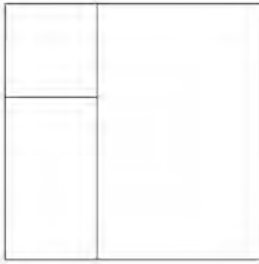
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Printed at: 1:2,500



Surveyed N/A
Revised N/A
Edition N/A
Copyright 1984
Levelling 1984

Surveyed 1984
Revised 1984
Edition N/A
Copyright 1985
Levelling 1984



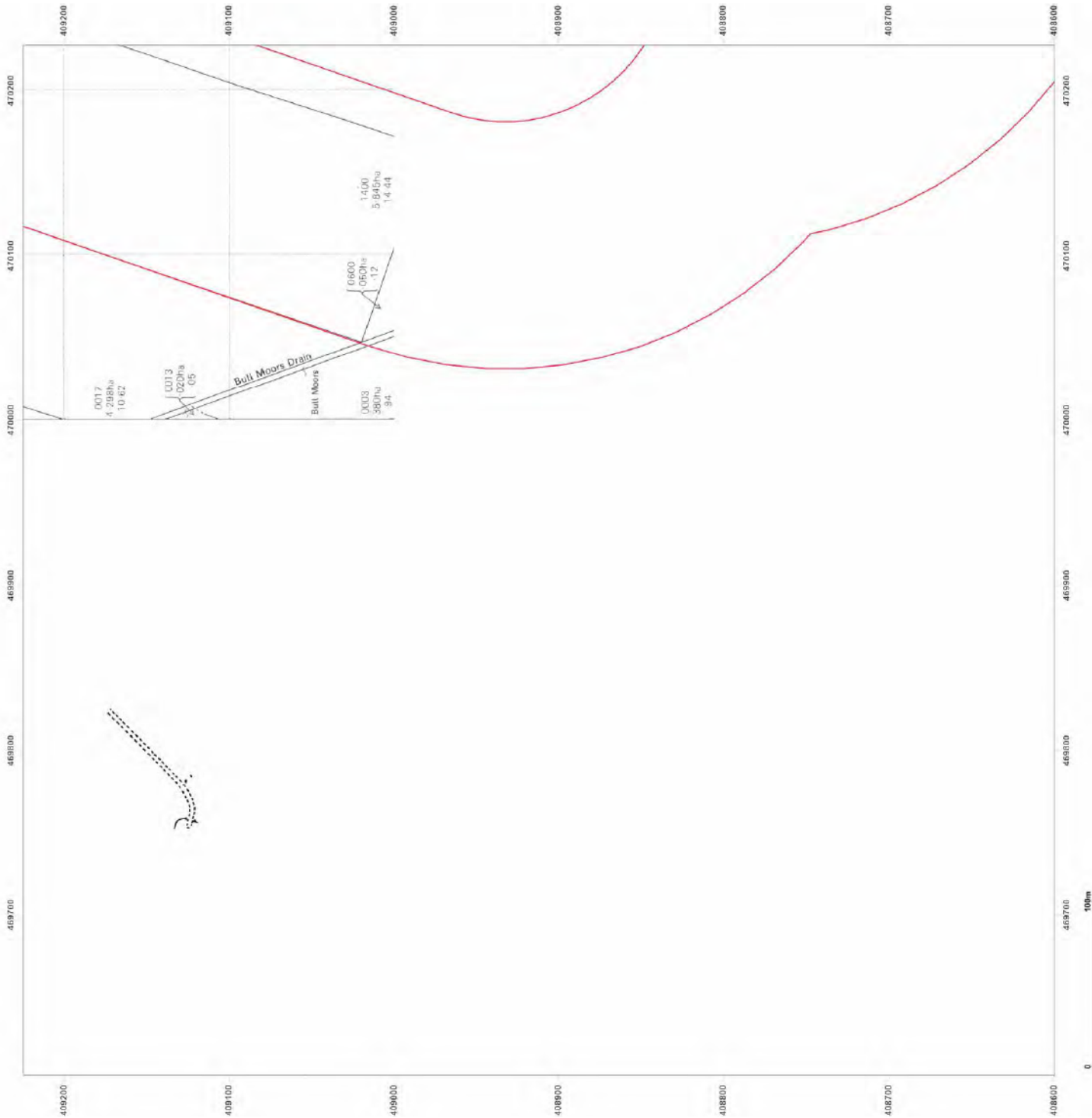
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Site Details:

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Report Ref: GSIP-2023-13386-12979_LS_3_1
Grid Ref: 469915, 408912

Map Name: National Grid

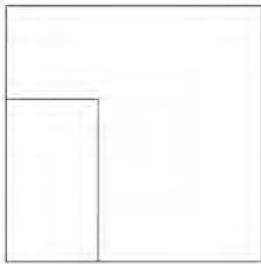
Map date: 1985

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1884
Revised 1884
Edition N/A
Copyright 1985
Levelling 1884



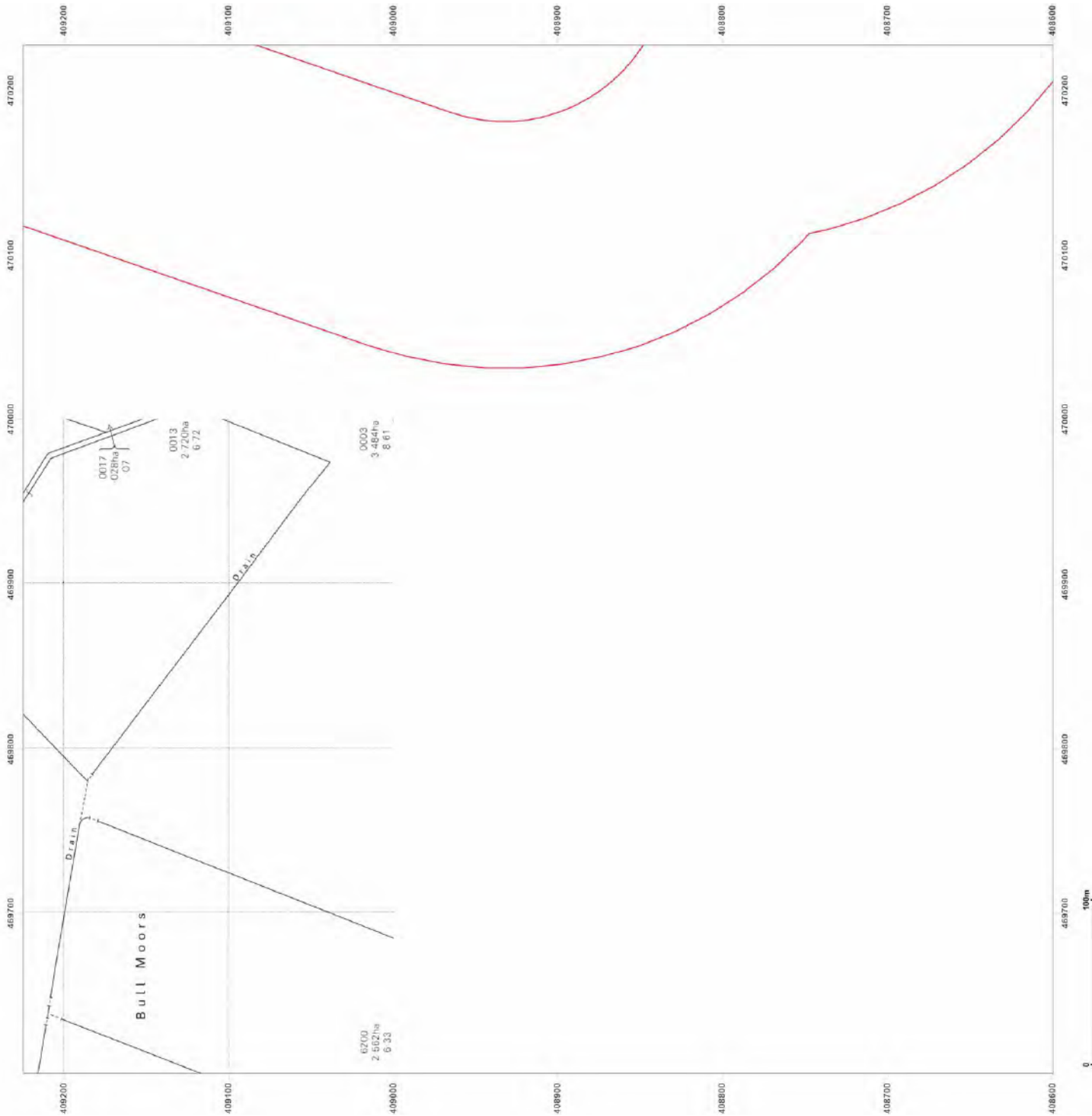
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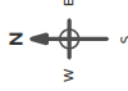
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Map Name: National Grid

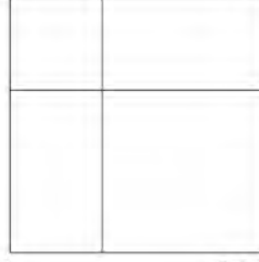
Map date: 1993

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A



Surveyed 1993
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

Surveyed 1993
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A



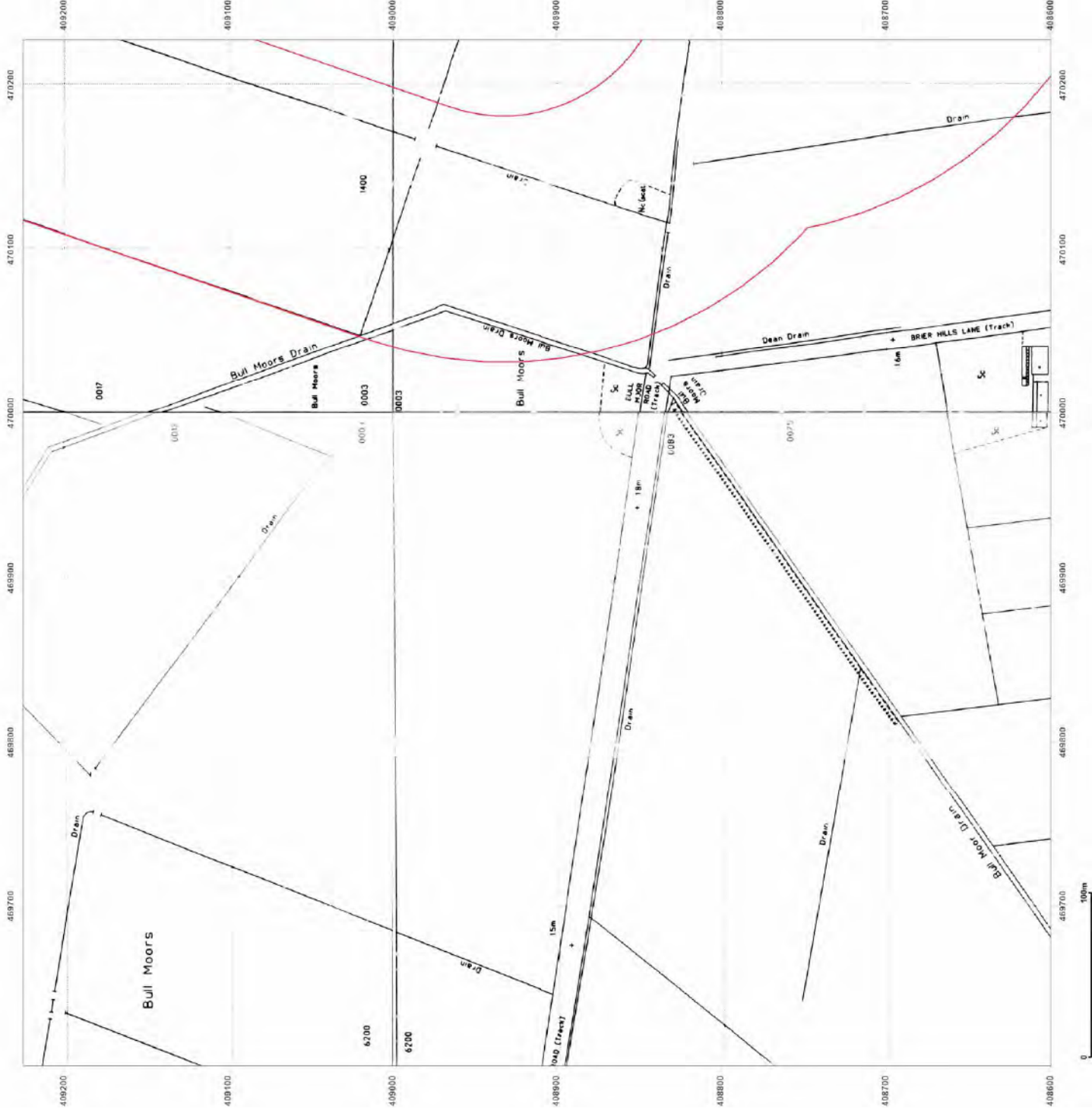
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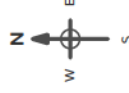
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Report Ref: GSIP-2023-13386-12979_LS_3.2
Grid Ref: 469915, 409537

Map Name: County Series

Map date: 1892

Scale: 1:2,500

Printed at: 1:2,500



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



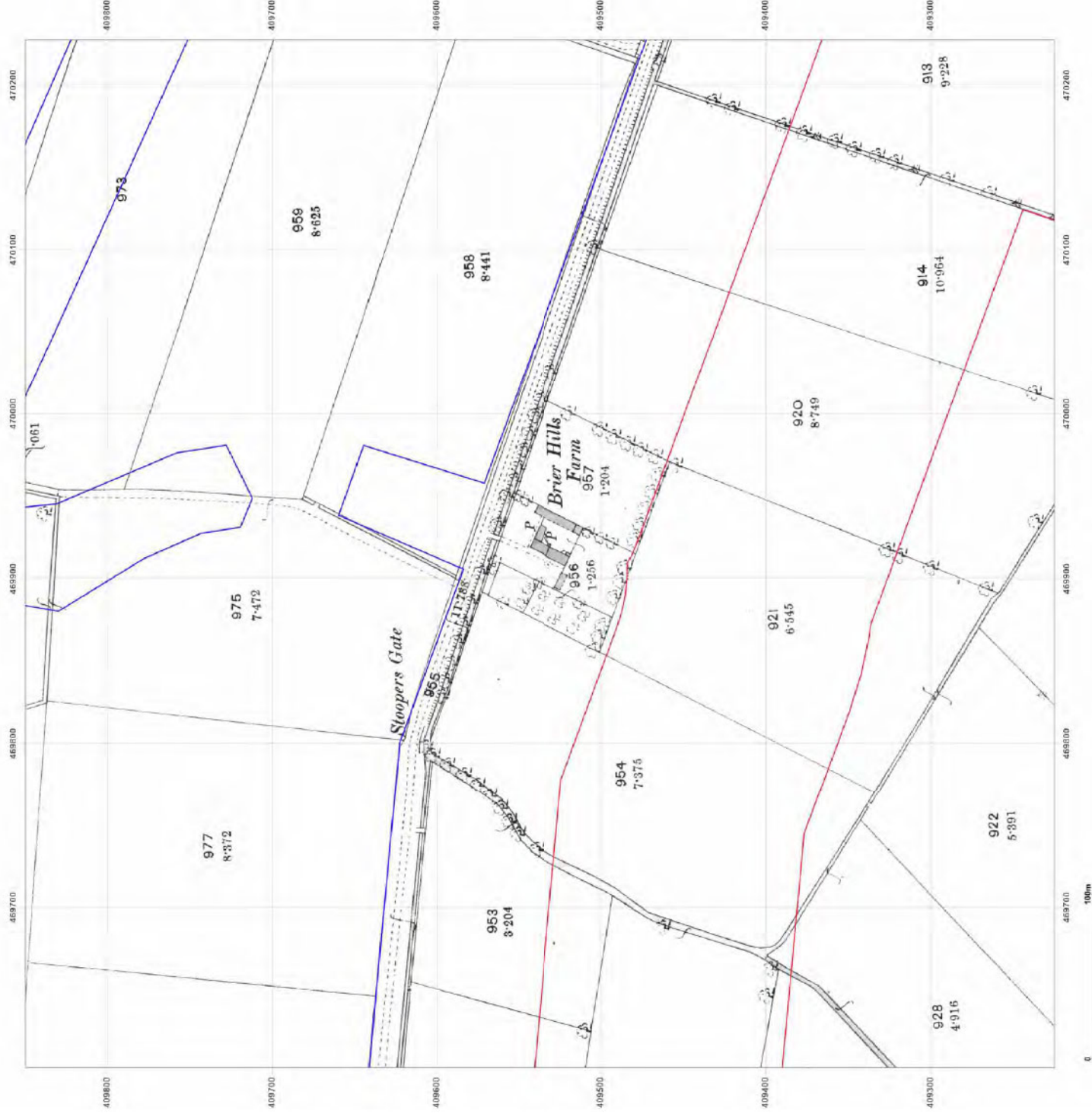
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Production date: 03 March 2023

Map legend available at:

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Site Details:

Thorne

Client Ref: Thorne
Report Ref: GSIP-2023-13386-12979_LS_3.2
Grid Ref: 469915, 409537

Map Name: County Series

Map date: 1906

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1906
Revised 1906
Edition N/A
Copyright N/A
Levelled N/A



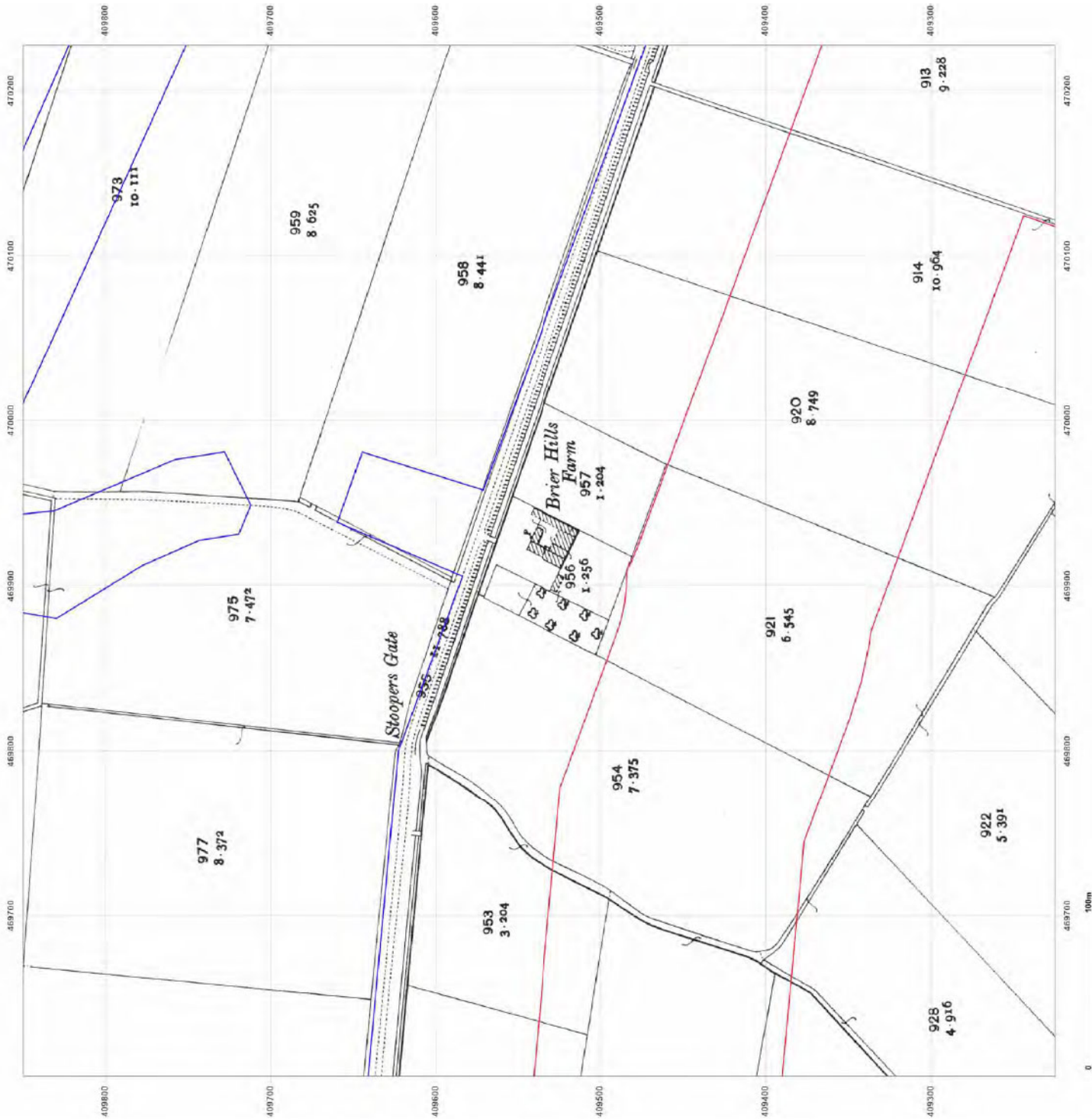
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Site Details:

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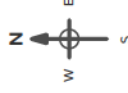
Client Ref: Thorne
Report Ref: GSIP-2023-13386-12979_LS_3.2
Grid Ref: 469915, 409537

Map Name: National Grid

Map date: 1962

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1961
Revised 1961
Edition N/A
Copyright 1962
Levelled 1960



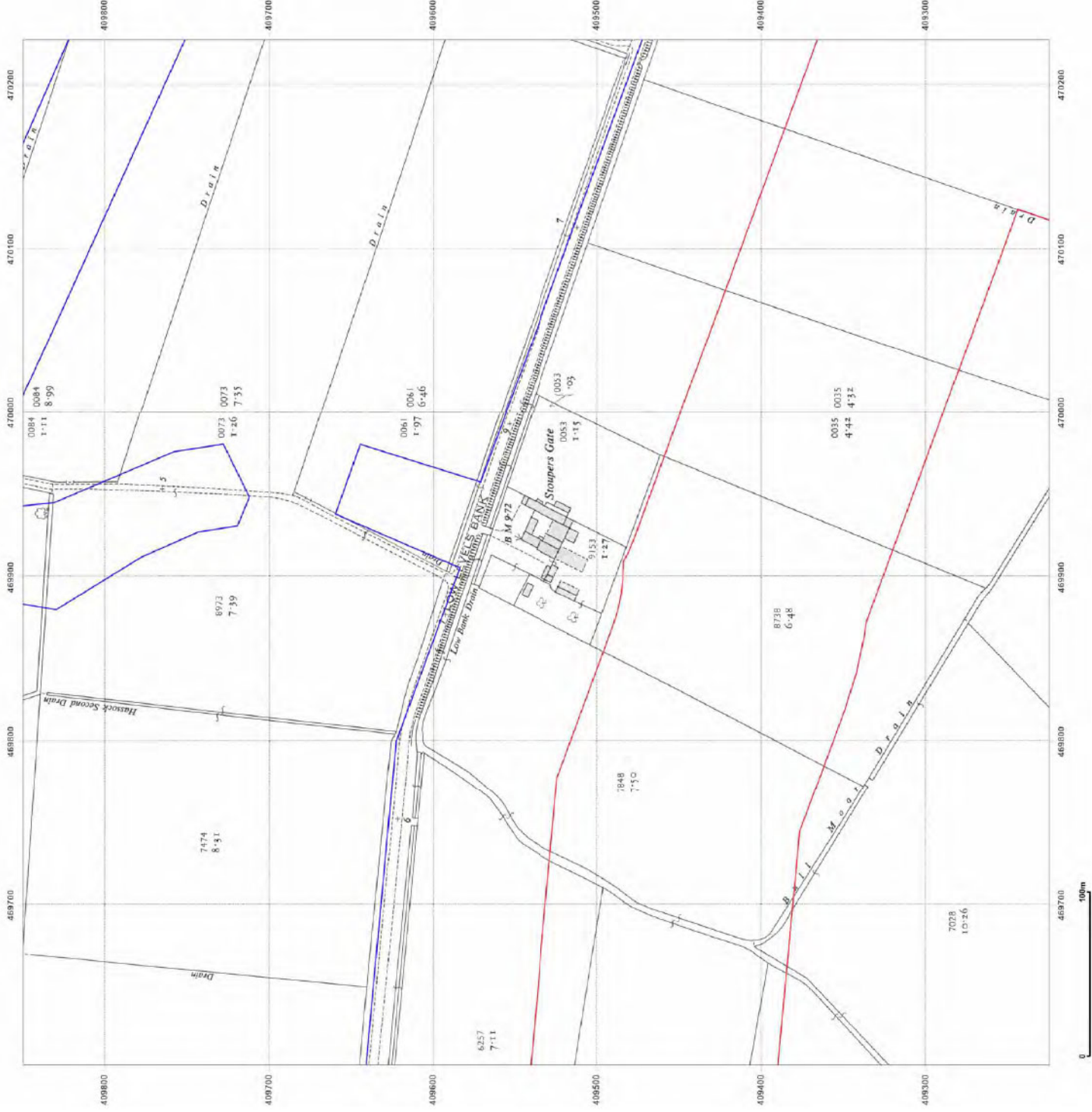
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Site Details:

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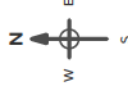
Client Ref: Thorne
Report Ref: GSIP-2023-13386-12979_LS_3.2
Grid Ref: 469915, 409537

Map Name: National Grid

Map date: 1962

Scale: 1:2,500

Printed at: 1:2,500



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



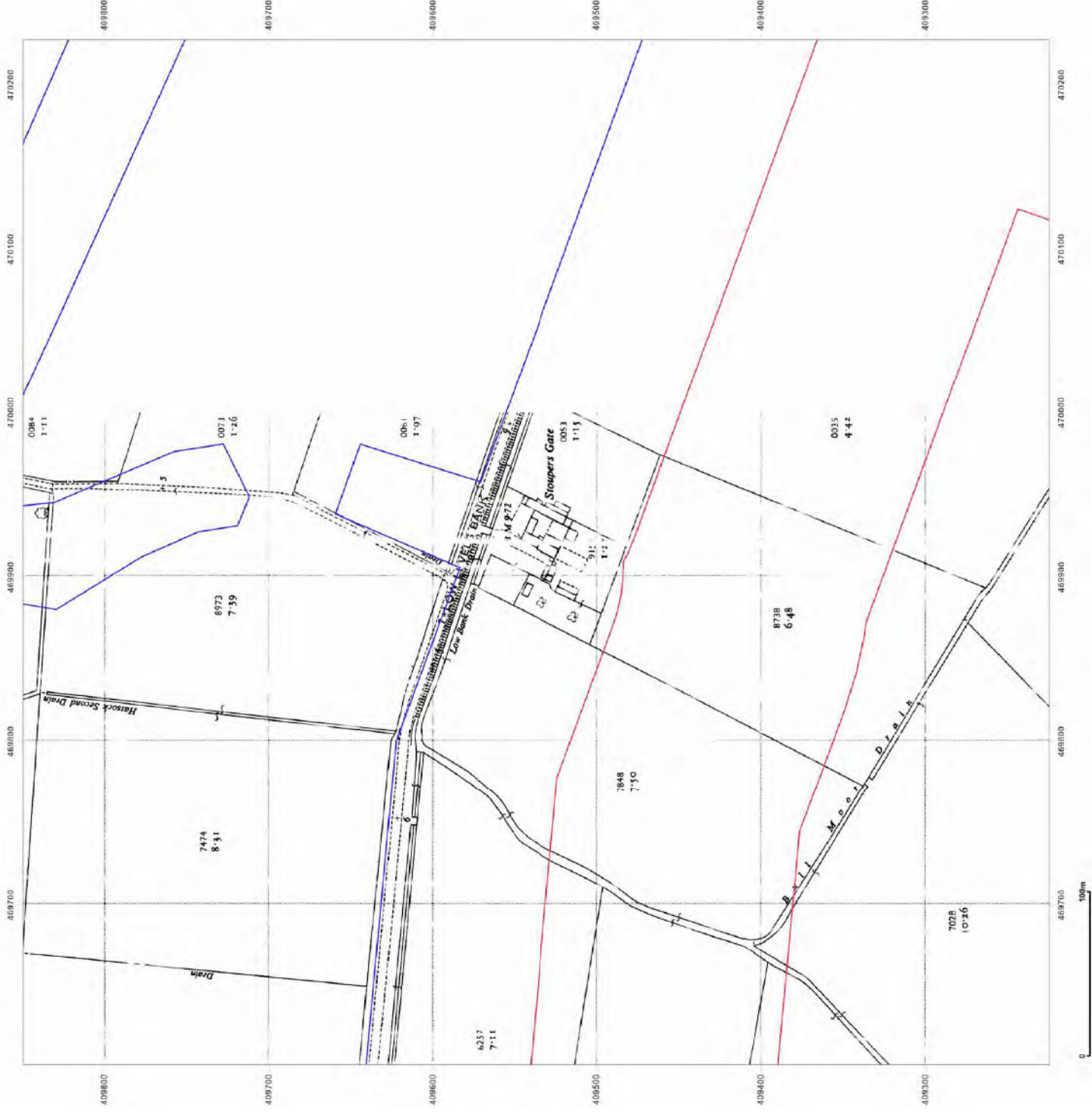
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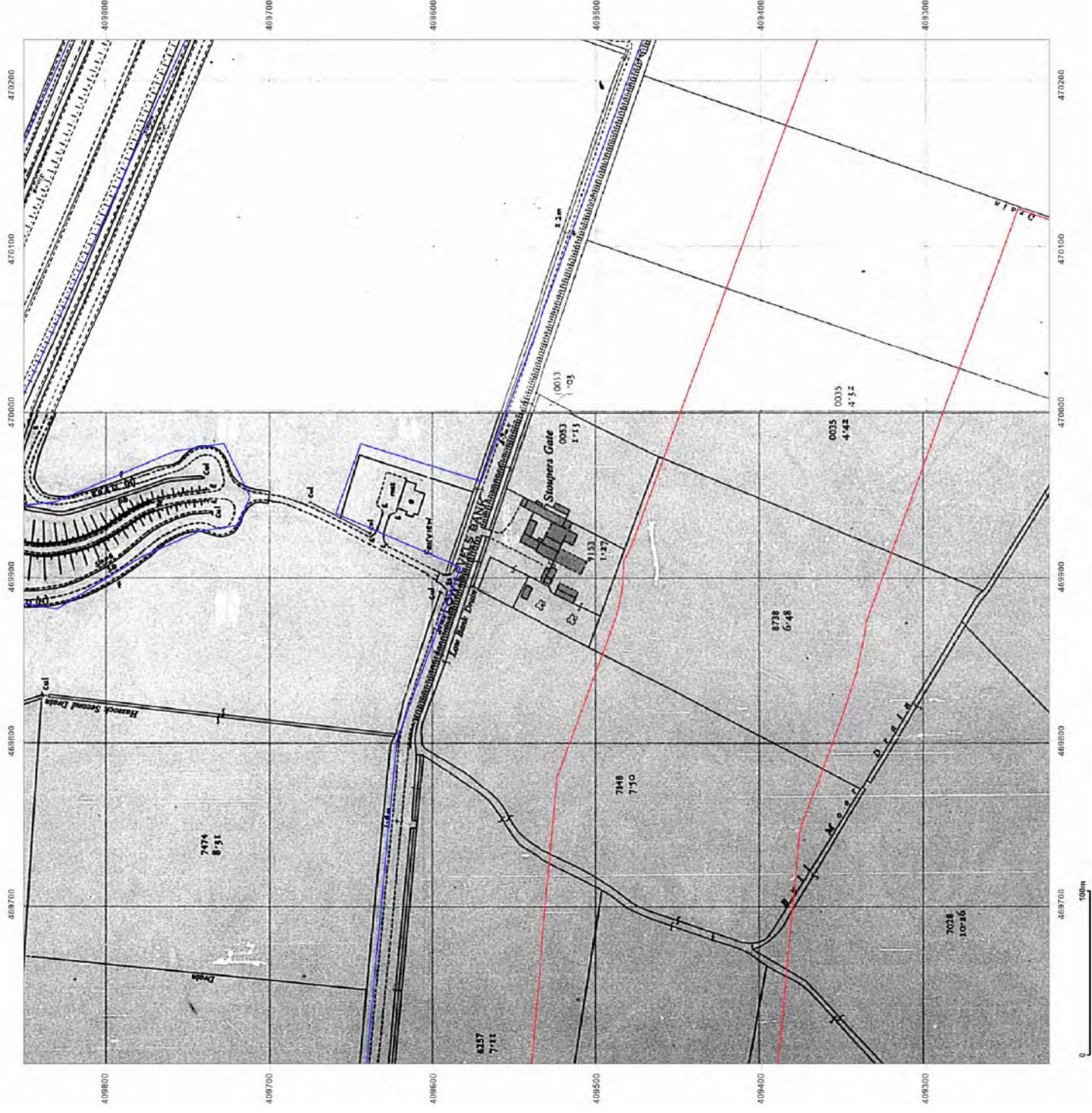
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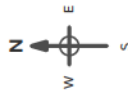
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Grid Ref: 469915, 409537

Map Name: National Grid

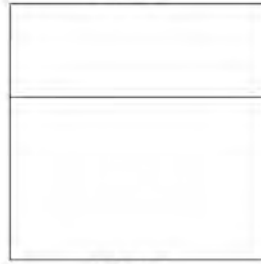
Map date: 1984-1985

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
Revised N/A
Edition N/A
Copyright 1984
Levelling 1864



Surveyed 1984
Revised 1984
Edition N/A
Copyright 1985
Levelling 1864



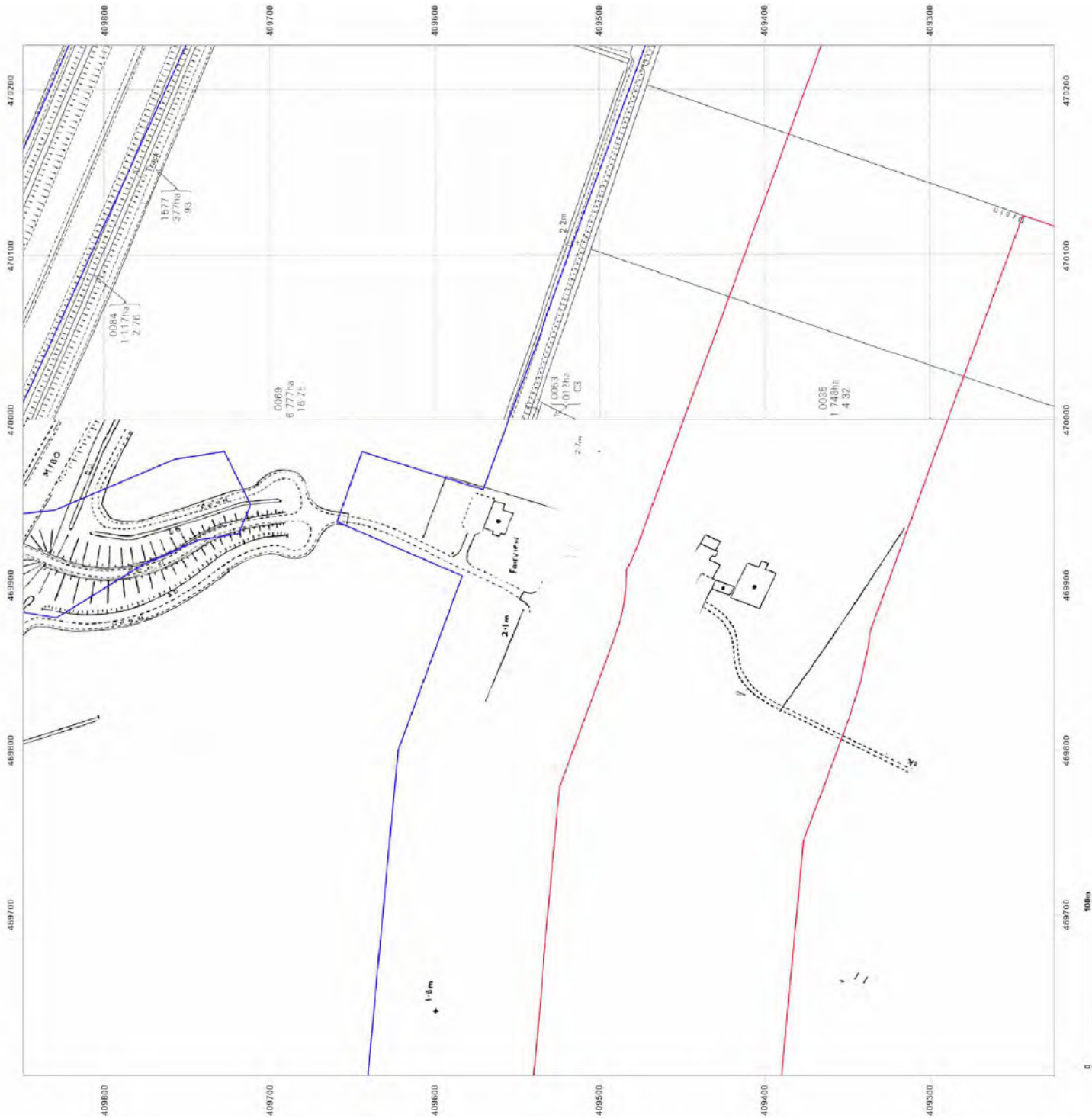
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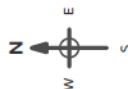
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Grid Ref: 469915, 409537

Map Name: National Grid

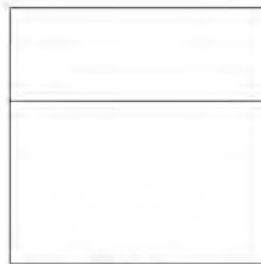
Map date: 1985

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1984
Revised 1984
Edition N/A
Copyright 1985
Levelling 1964



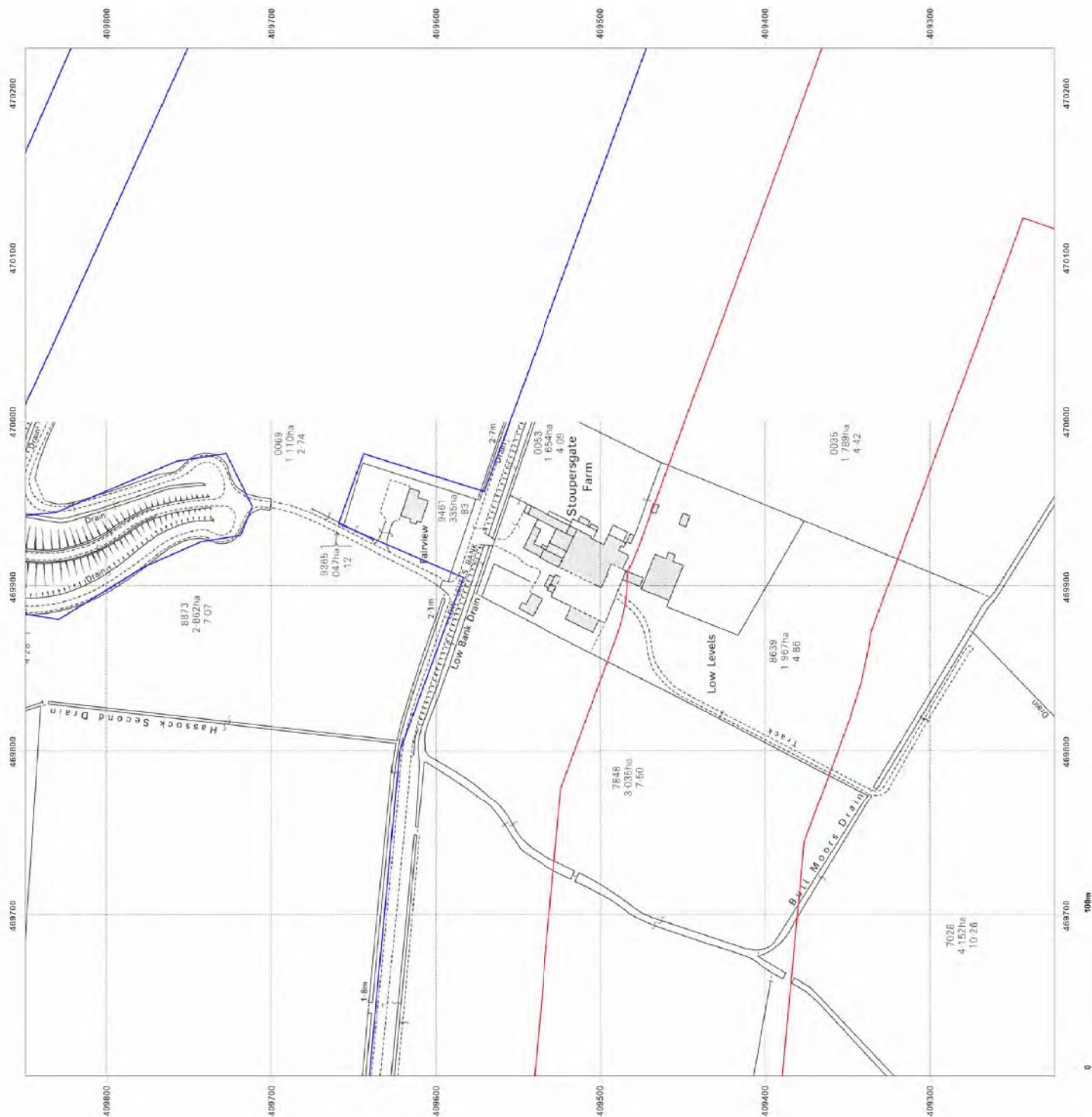
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Site Details:

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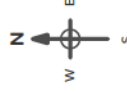
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Report Ref: GSIP-2023-13386-12979_LS_3.2
Grid Ref: 469915, 409537

Map Name: National Grid

Map date: 1993

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A



Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A



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Site Details:

Thorne

Client Ref: Thorne
Report Ref: GSIP-2023-13386-12979_LS_3_3
Grid Ref: 469915, 410162

Map Name: County Series

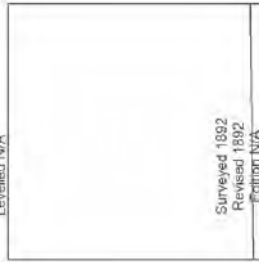
Map date: 1892

Scale: 1:2,500

Printed at: 1:2,500



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



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



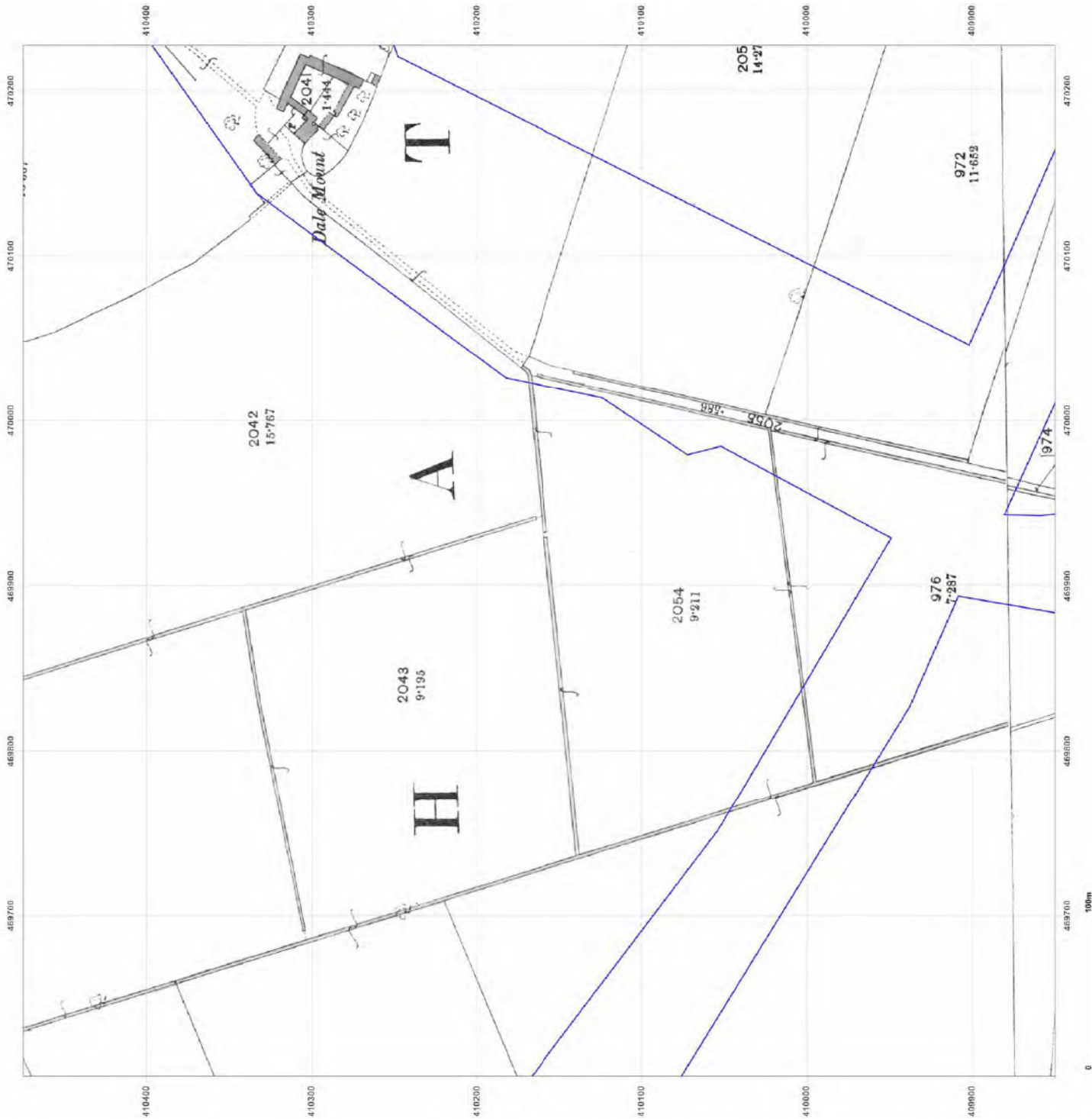
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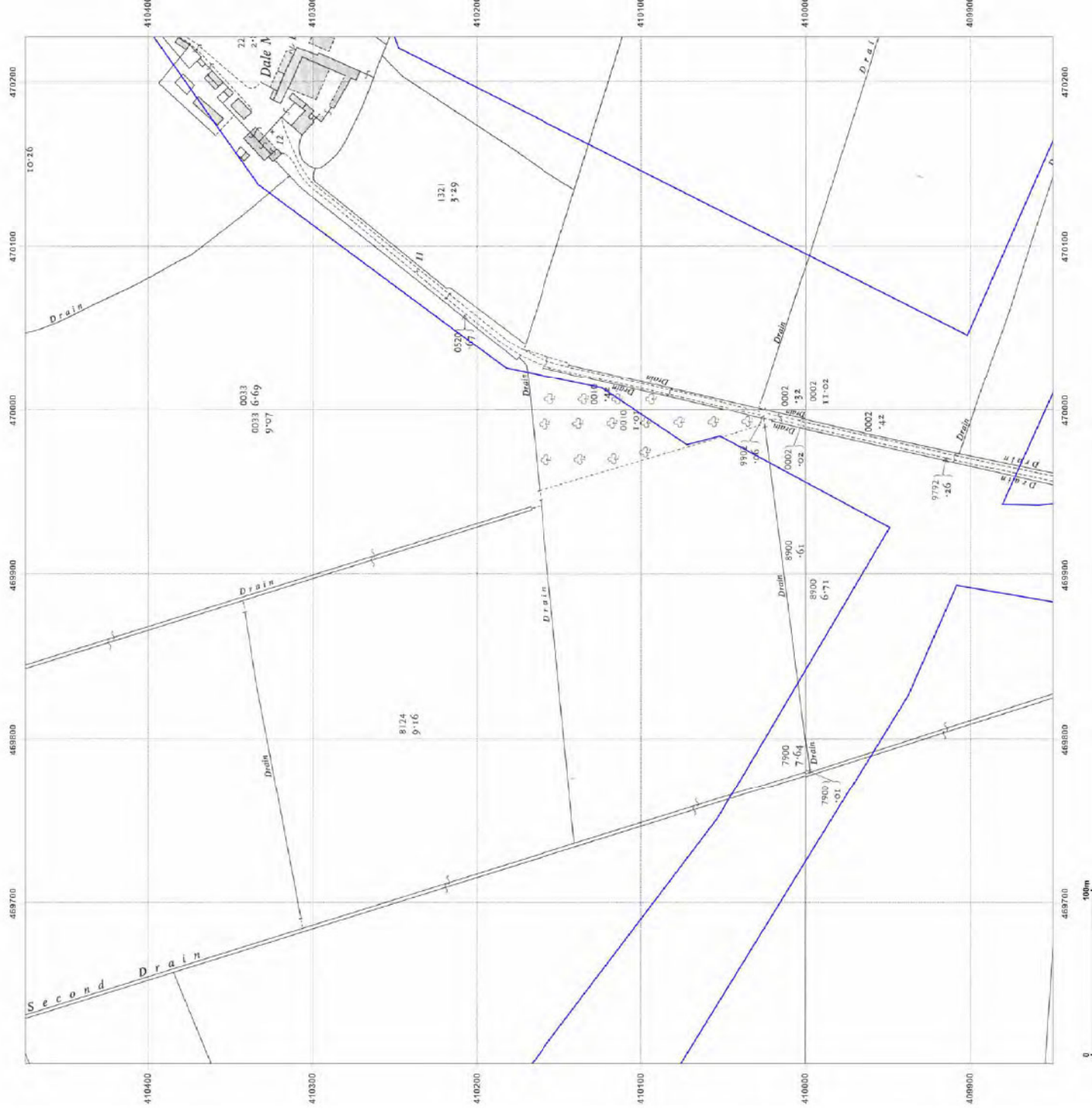
Production date: 03 March 2023

Map legend available at:

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Map legend available at:
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Site Details:

Thorne

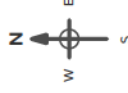
Client Ref: Thorne
Report Ref: GSIP-2023-13386-12979_LS_3_3
Grid Ref: 469915, 410162

Map Name: National Grid

Map date: 1962

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 N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A



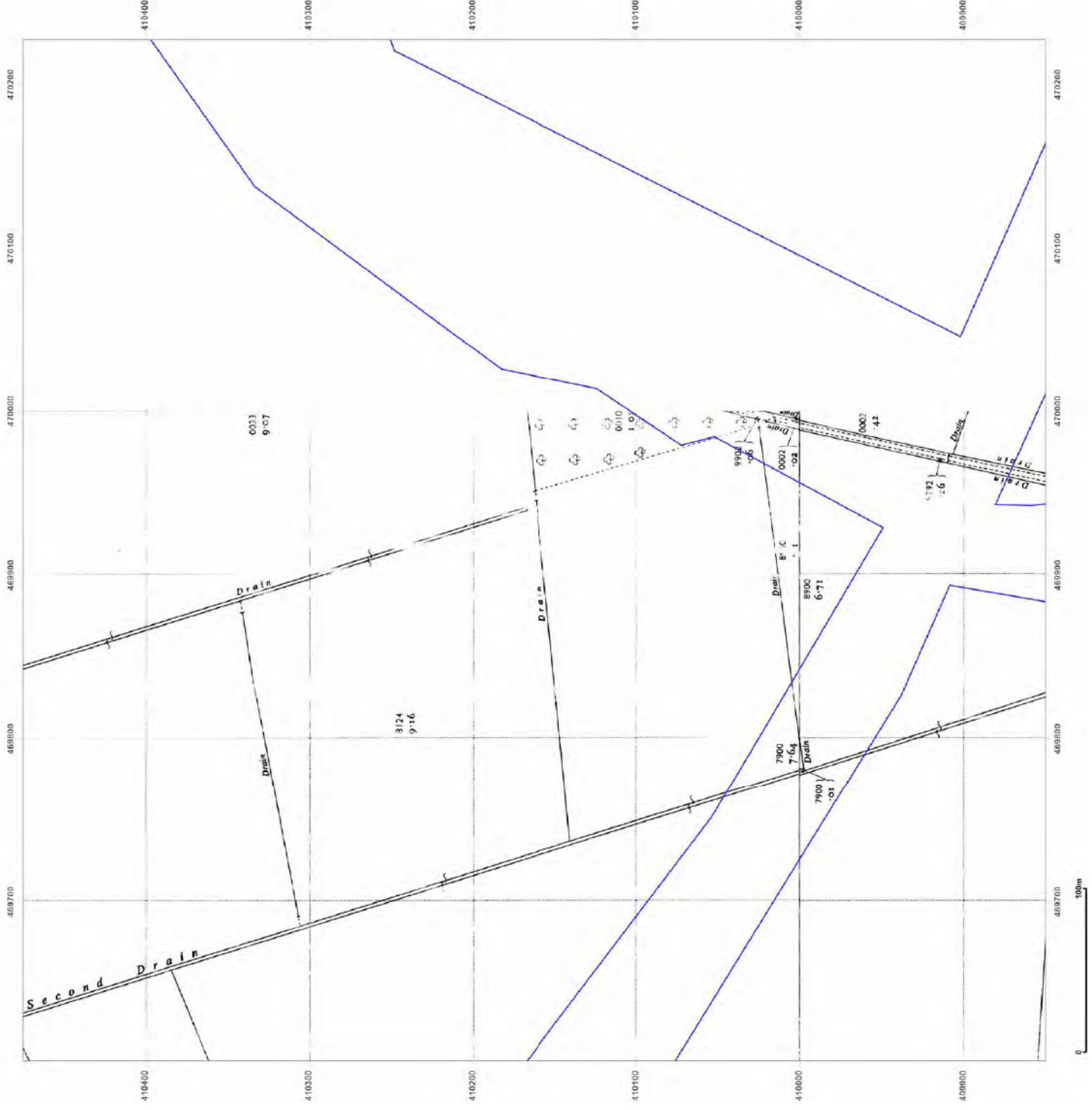
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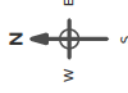
Client Ref: Thorne
Report Ref: GSIP-2023-13386-12979_LS_3_3
Grid Ref: 469915, 410162

Map Name: National Grid

Map date: 1978

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1978
Revised 1978
Edition N/A
Copyright 1978
Levelled N/A



Surveyed 1978
Revised 1978
Edition N/A
Copyright 1978
Levelled N/A

Surveyed 1978
Revised 1978
Edition N/A
Copyright 1978
Levelled N/A



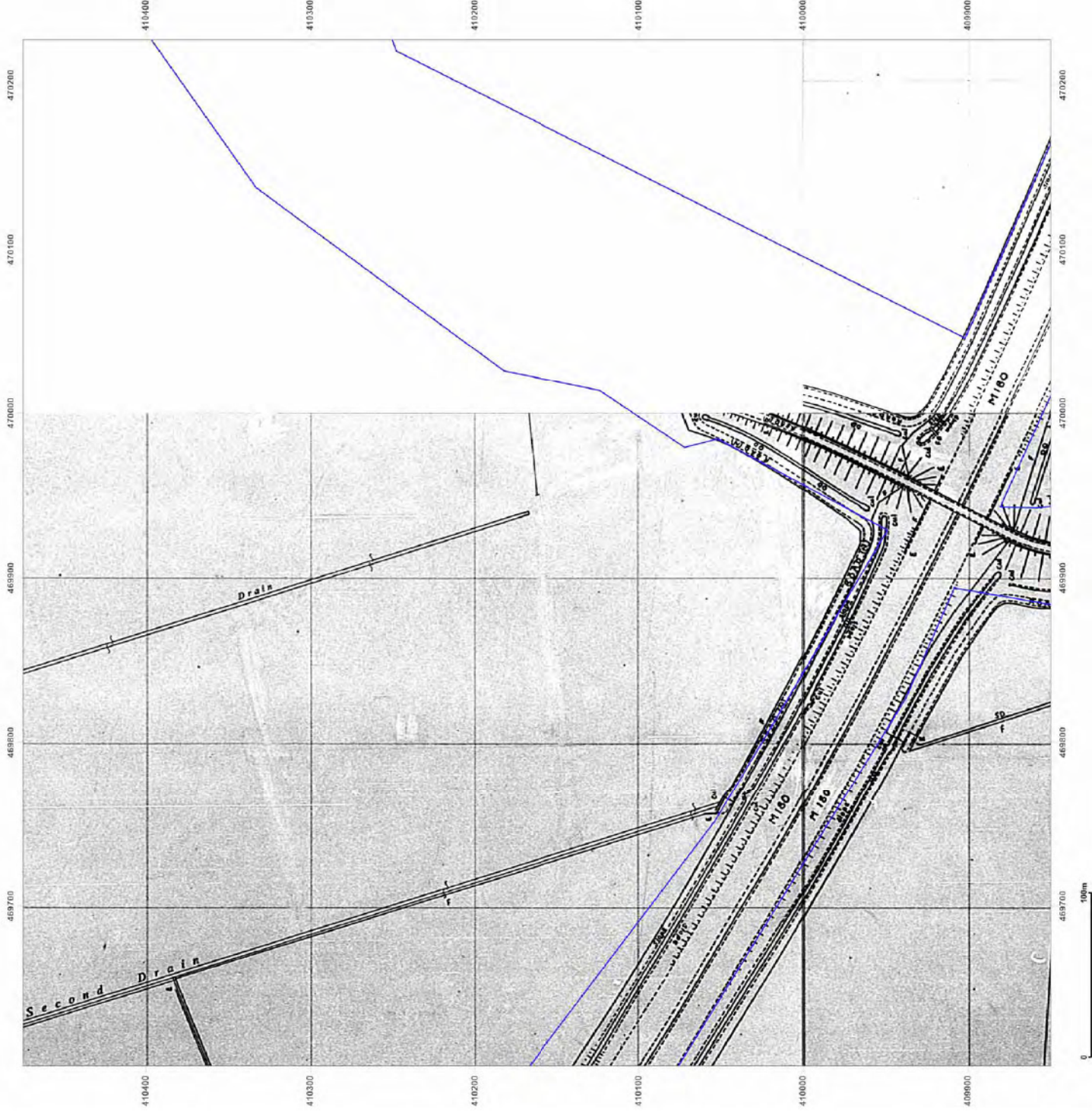
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Site Details:

Thorne

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Report Ref: GSIP-2023-13386-12979_LS_3_3
Grid Ref: 469915, 410162

Map Name: National Grid

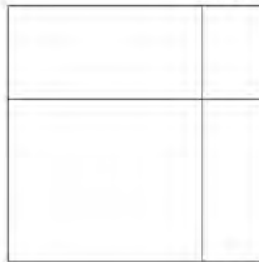
Map date: 1984-1986

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1985
Revised 1985
Edition N/A
Copyright 1986
Levelled 1984



Surveyed 1984
Revised 1984
Edition N/A
Copyright 1985
Levelled 1984



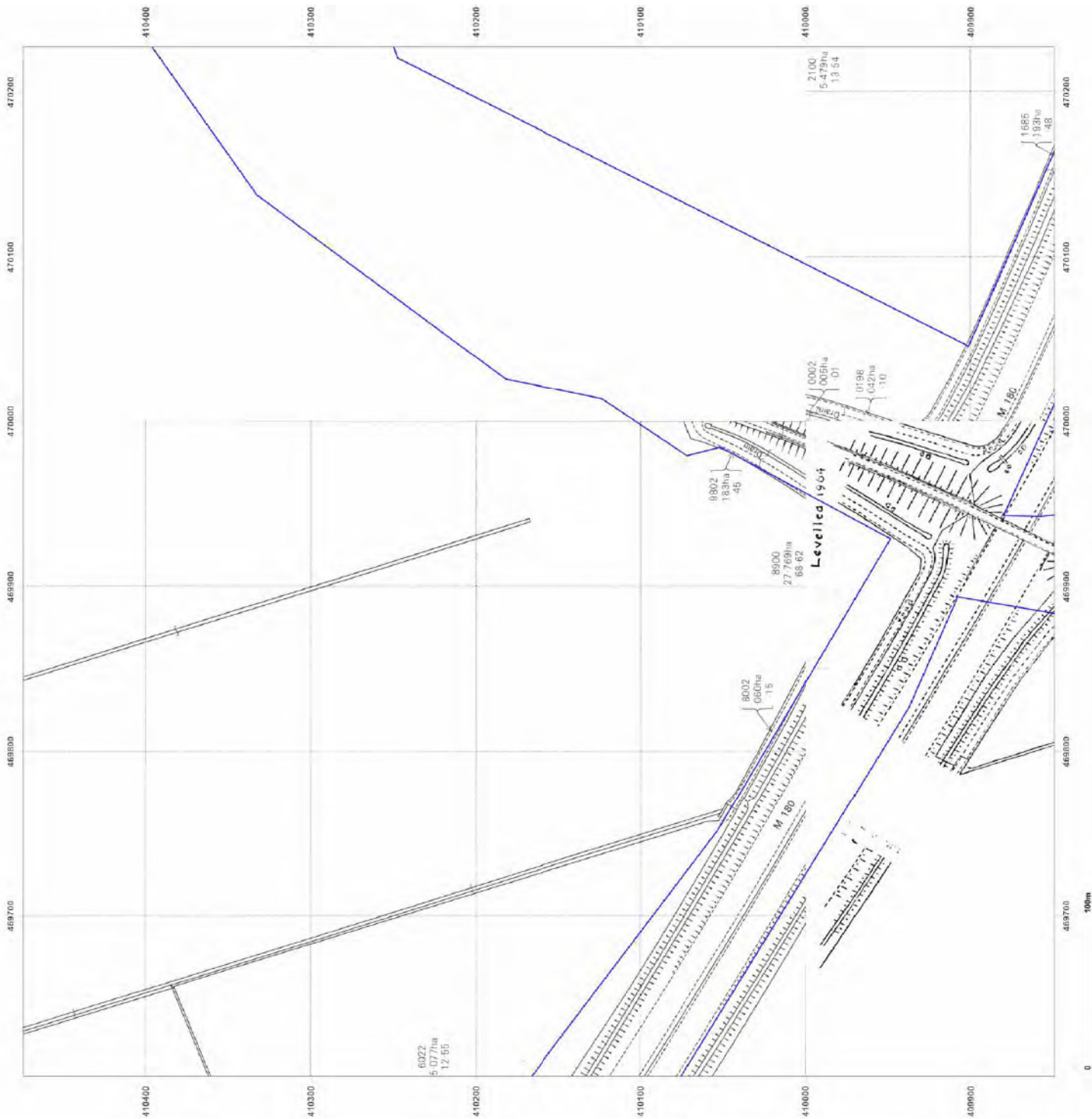
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Site Details:

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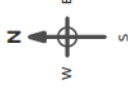
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Grid Ref: 469915, 410162

Map Name: National Grid

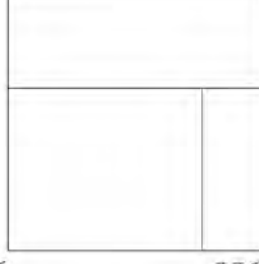
Map date: 1985-1986

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 1984
Revised 1984
Edition N/A
Copyright 1985
Levelled 1984



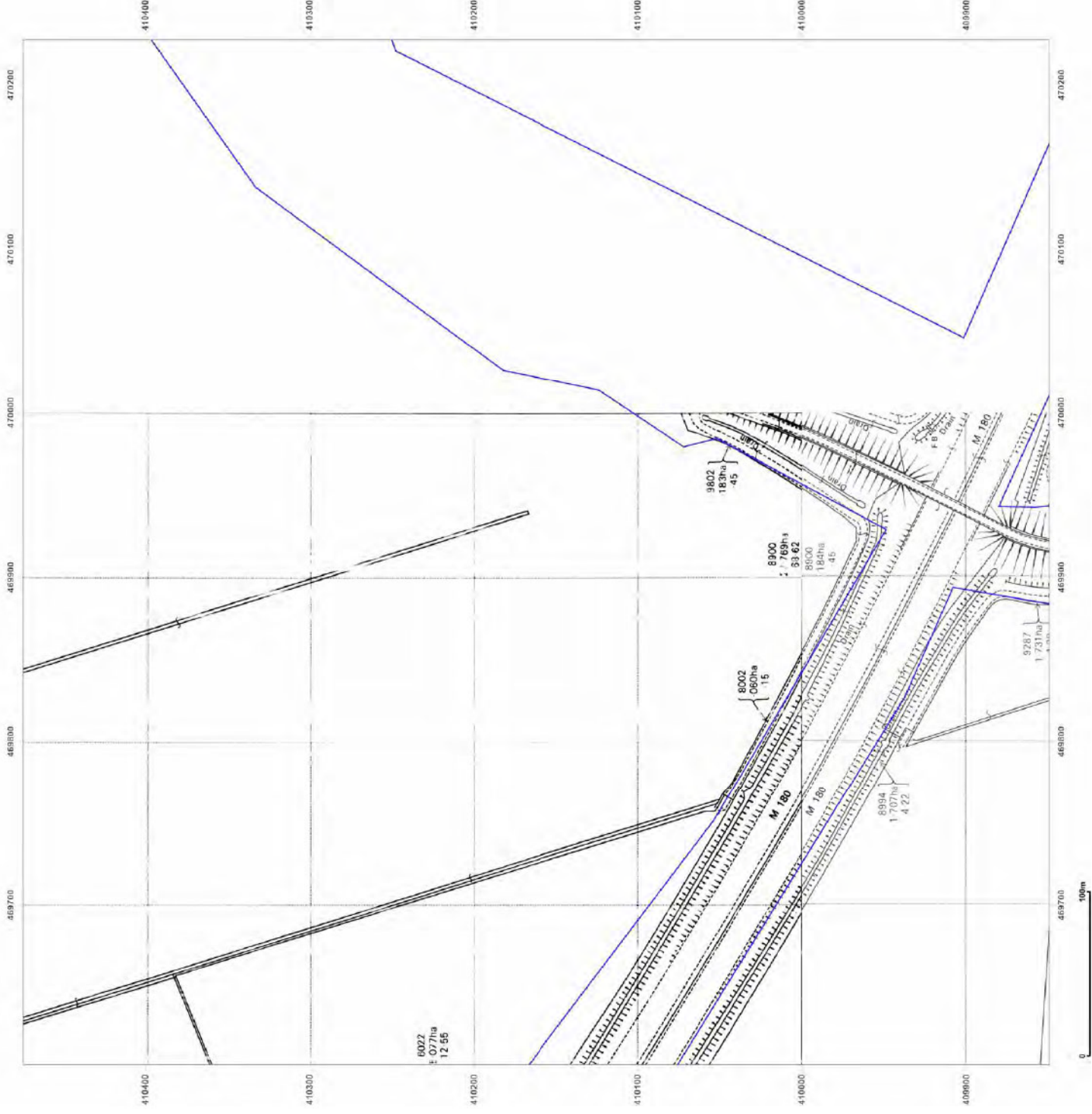
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Production date: 03 March 2023

Map legend available at:

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Site Details:

Thorne

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Report Ref: GSIP-2023-13386-12979_LS_3_3
Grid Ref: 469915, 410162

Map Name: National Grid

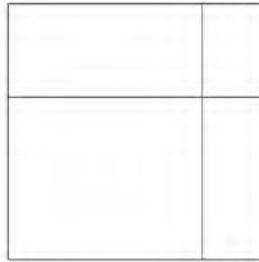
Map date: 1993

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A



Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A



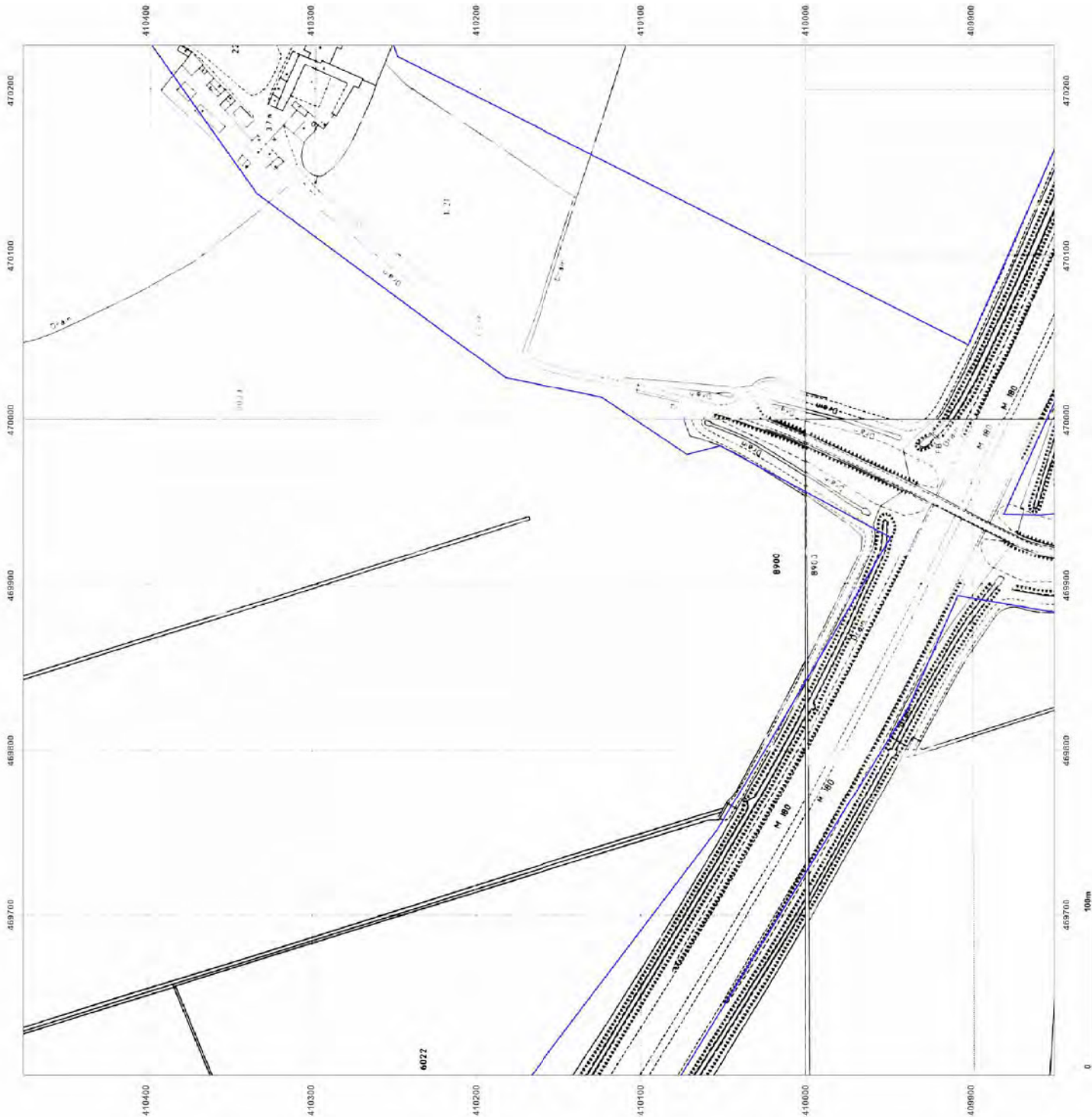
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Production date: 03 March 2023

Map legend available at:

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Site Details:

Thorne

Client Ref: Thorne
Report Ref: GSIP-2023-13386-12979_LS_3_4
Grid Ref: 469915, 410787

Map Name: County Series

Map date: 1892

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1882
Revised 1892
Edition N/A
Copyright N/A
Levelled N/A



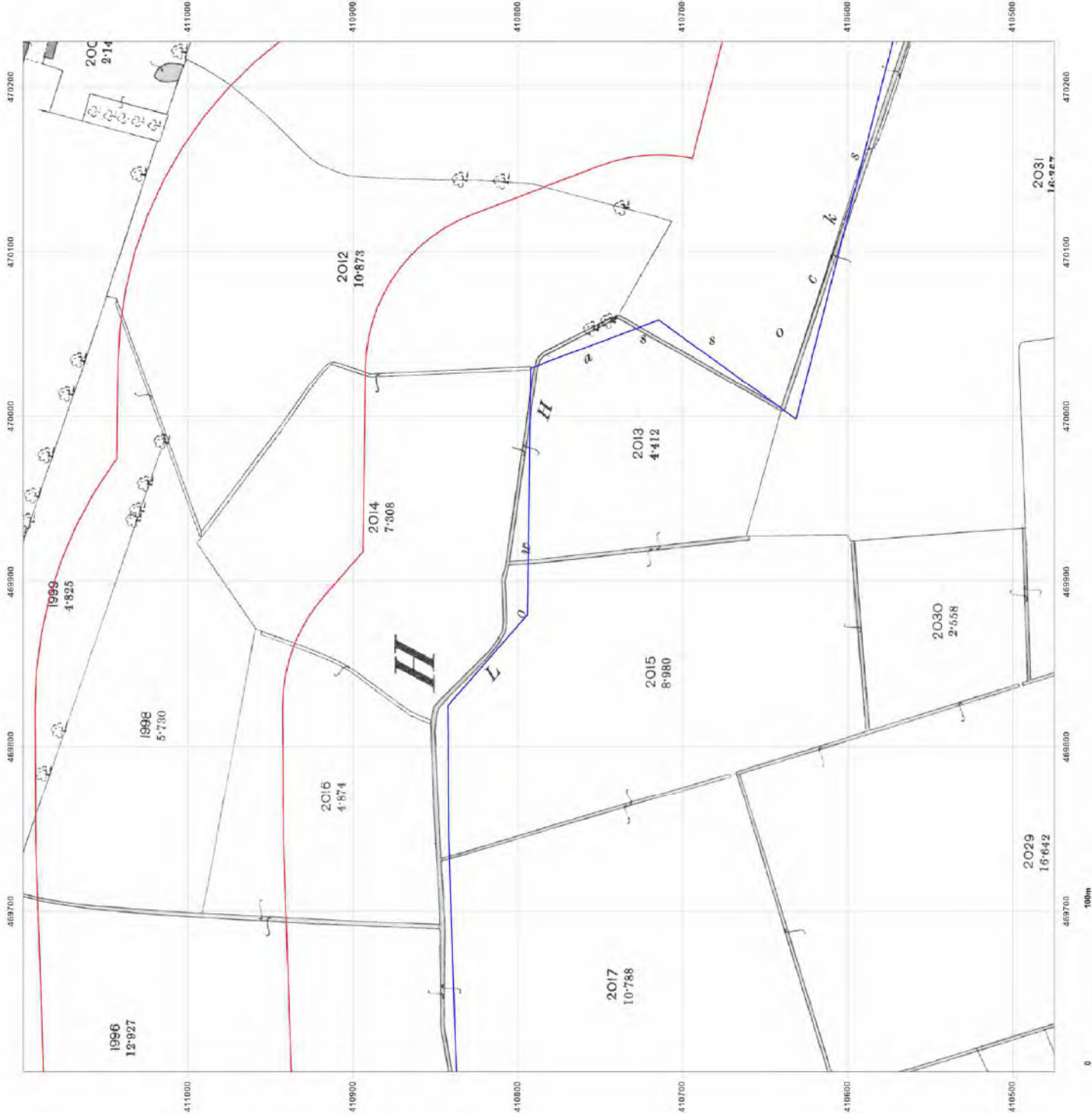
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Production date: 03 March 2023

Map legend available at:

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Site Details:

Thorne

Client Ref: Thorne
Report Ref: GSIP-2023-13386-12979_LS_3_4
Grid Ref: 469915, 410787

Map Name: County Series

Map date: 1906

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1906
Revised 1906
Edition N/A
Copyright N/A
Levelled N/A



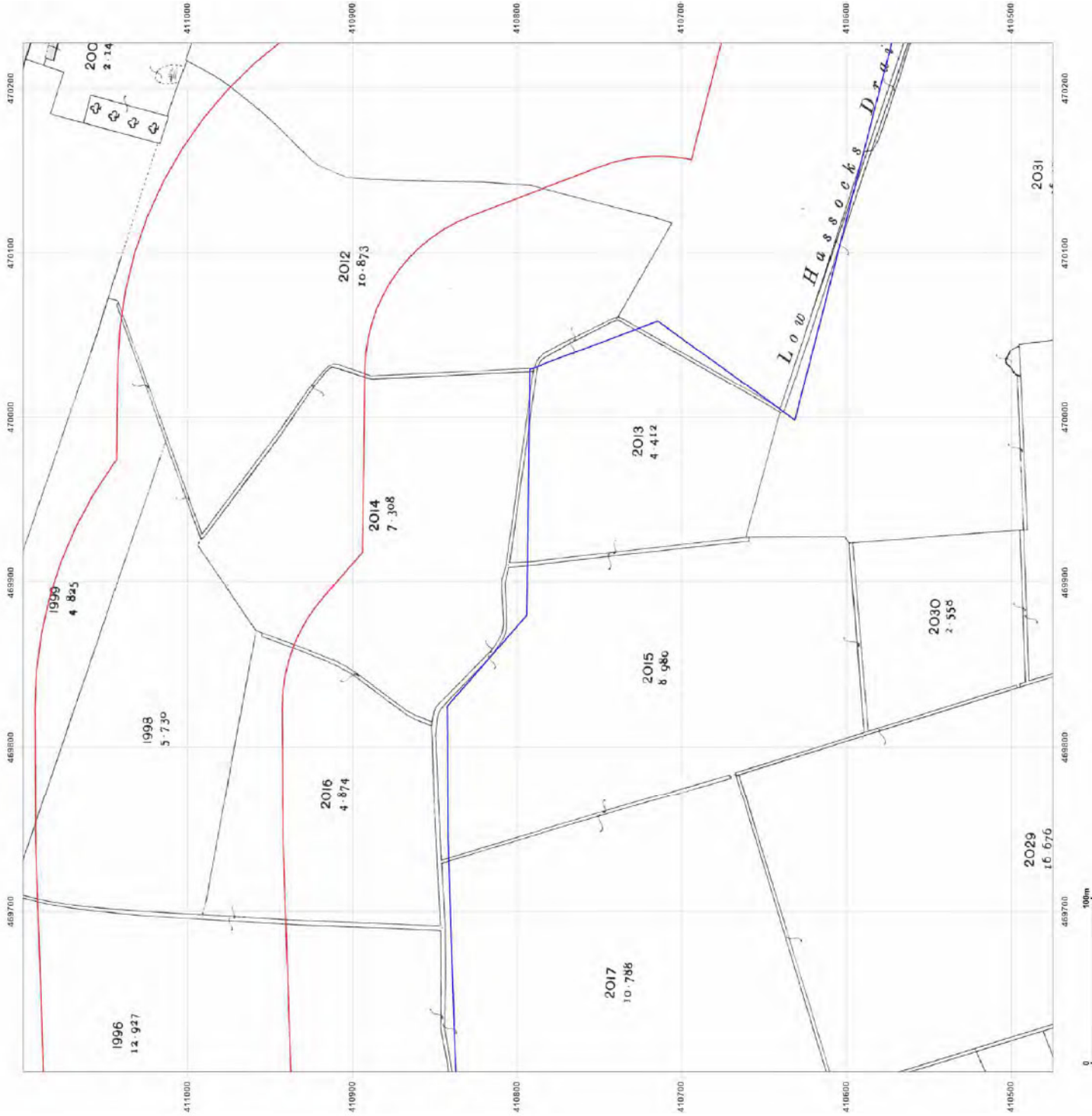
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Production date: 03 March 2023

Map legend available at:

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Site Details:

Thorne

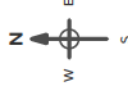
Client Ref: Thorne
Report Ref: GSIP-2023-13386-12979_LS_3_4
Grid Ref: 469915, 410787

Map Name: National Grid

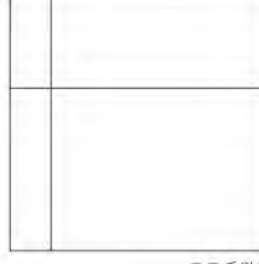
Map date: 1962

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1961
Revised 1961
Edition N/A
Copyright 1962
Levelling 1960



Surveyed 1961
Revised 1961
Edition N/A
Copyright 1962
Levelling 1960



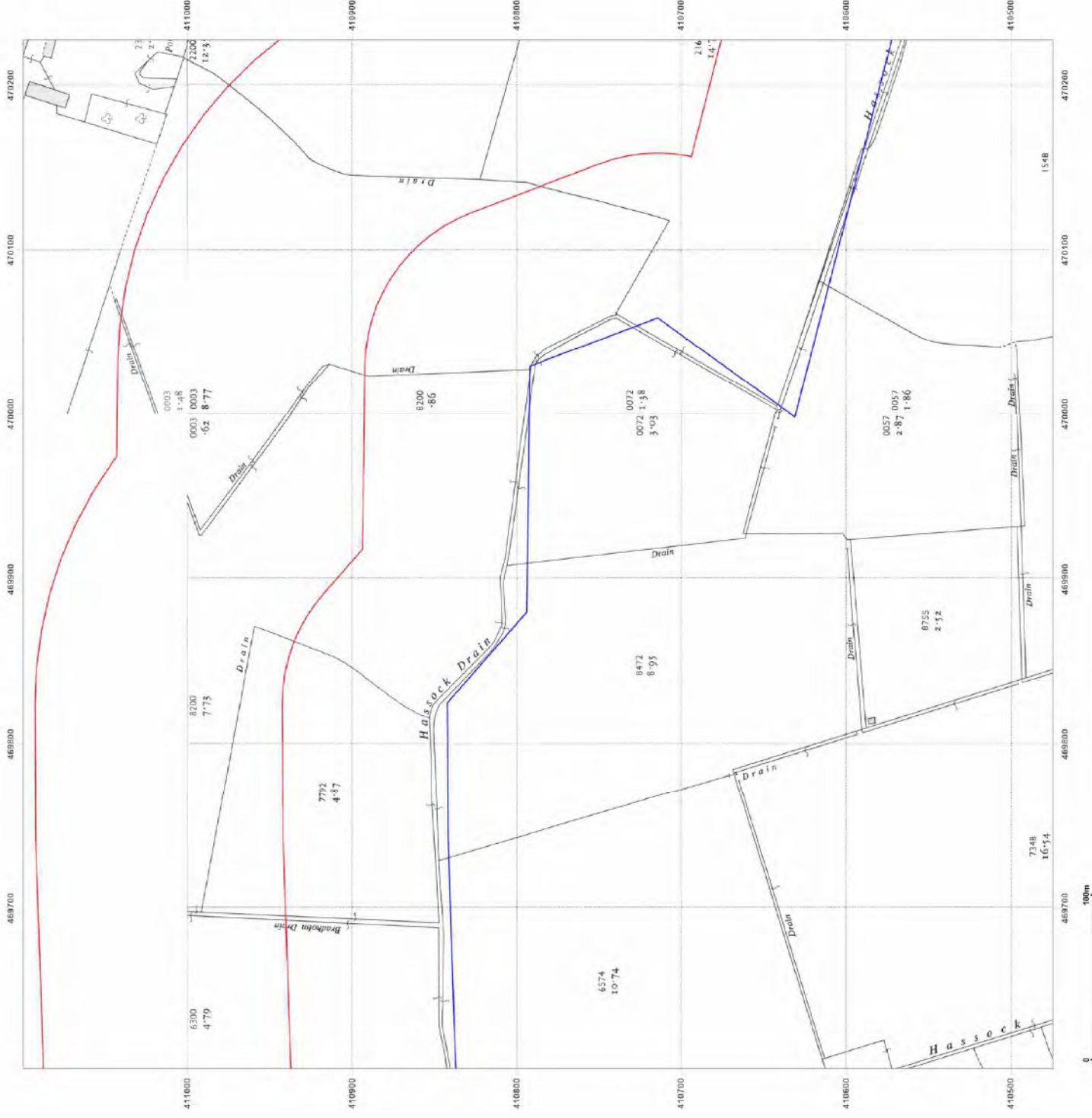
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Production date: 03 March 2023

Map legend available at:

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Site Details:

Thorne

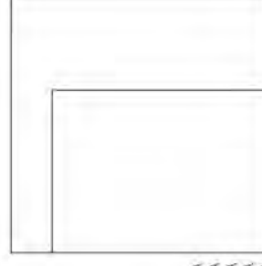
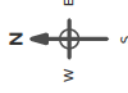
Client Ref: Thorne
Report Ref: GSIP-2023-13386-12979_LS_3_4
Grid Ref: 469915, 410787

Map Name: National Grid

Map date: 1962

Scale: 1:2,500

Printed at: 1:2,500



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



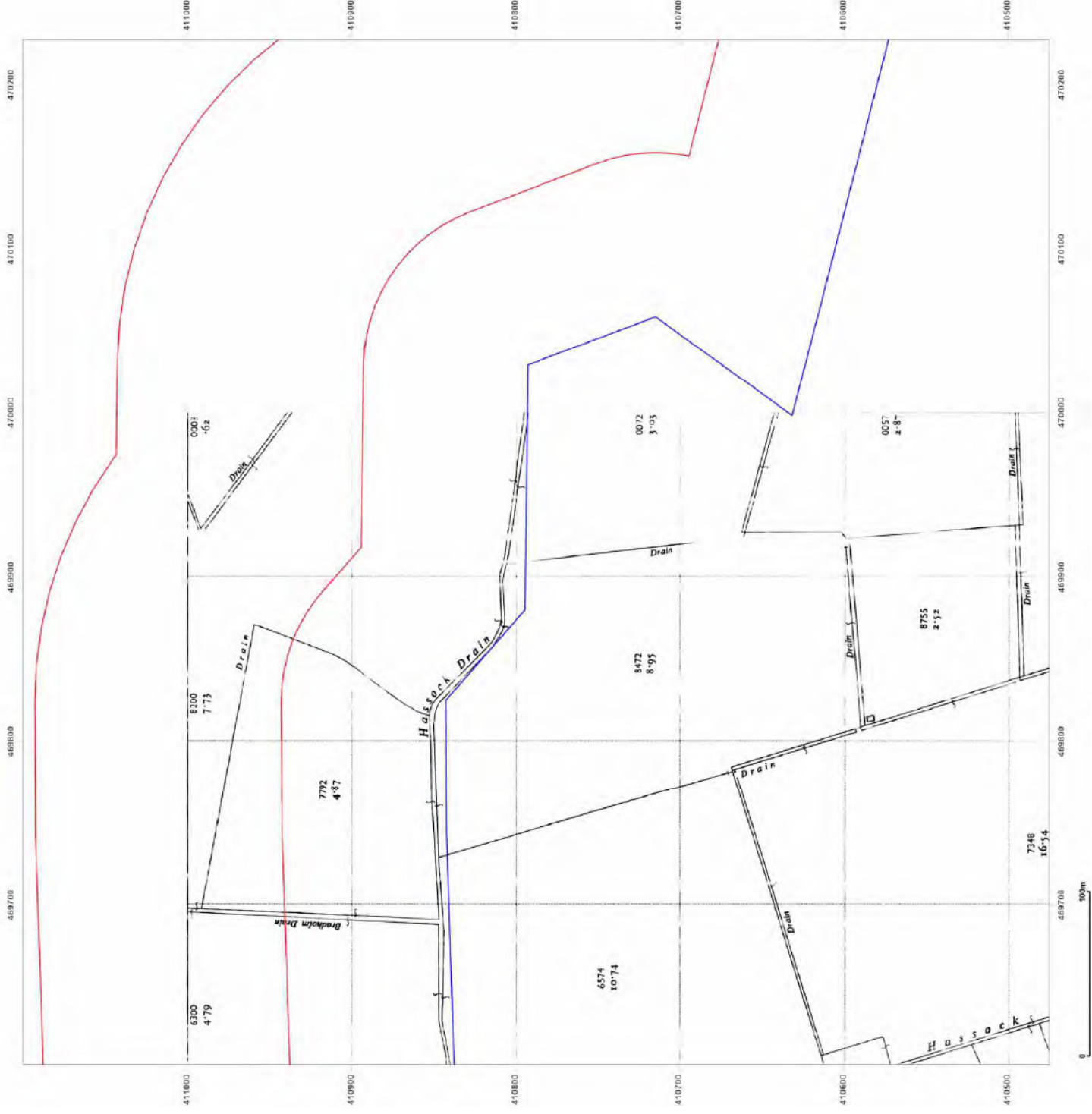
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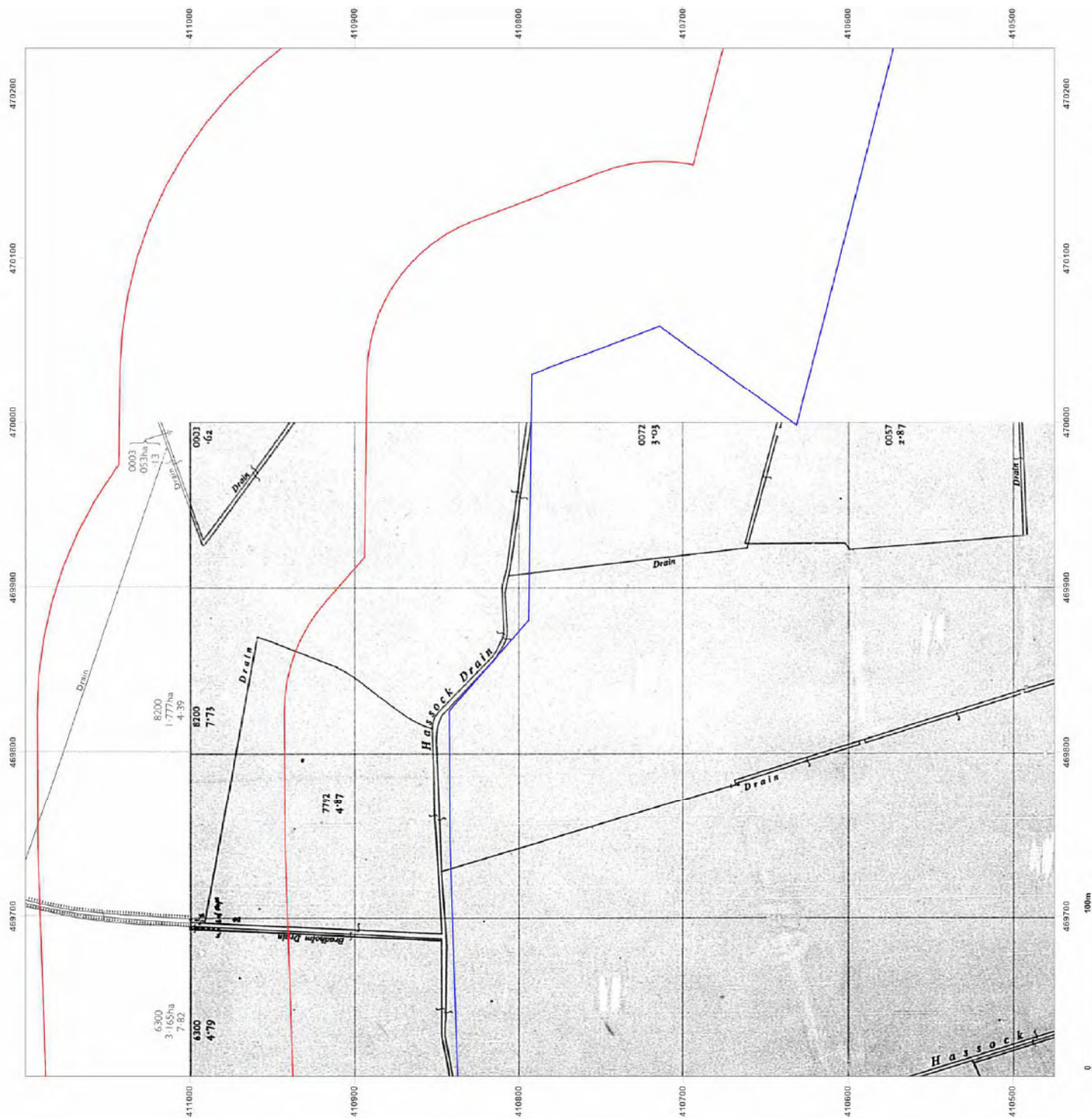
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Production date: 03 March 2023

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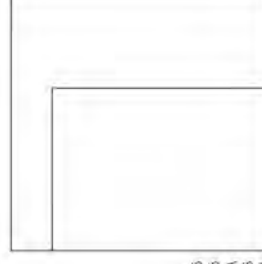
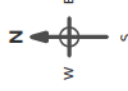
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Report Ref: GSIP-2023-13386-12979_LS_3_4
Grid Ref: 469915, 410787

Map Name: National Grid

Map date: 1986

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1985
Revised 1985
Edition N/A
Copyright 1986
Lavelled 1984



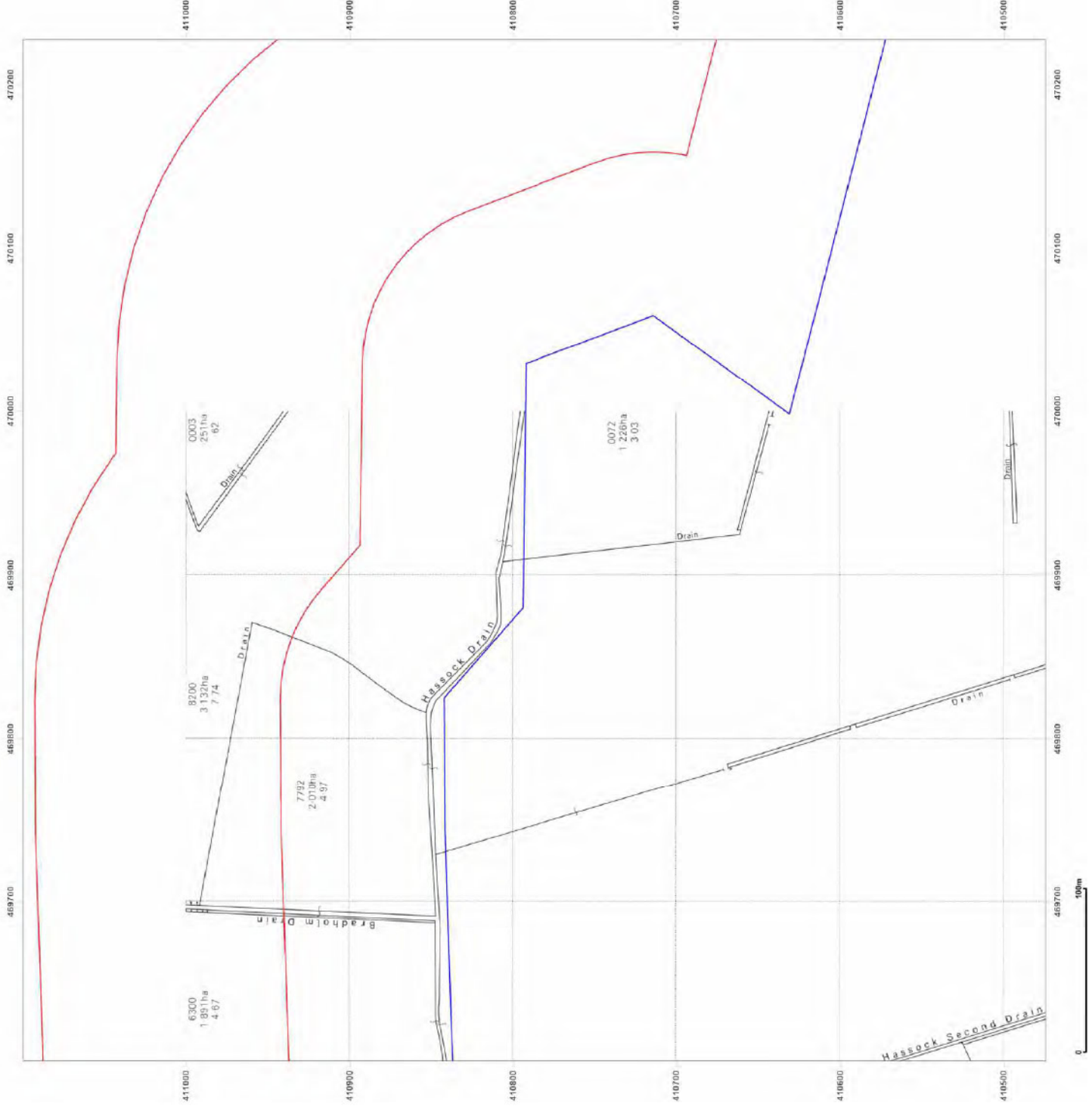
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Site Details:

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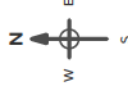
Client Ref: Thorne
Report Ref: GSIP-2023-13386-12979_LS_3_6
Grid Ref: 469915, 412037

Map Name: County Series

Map date: 1892

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1882
Revised 1892
Editor N/A
Copyright N/A
Levelled N/A



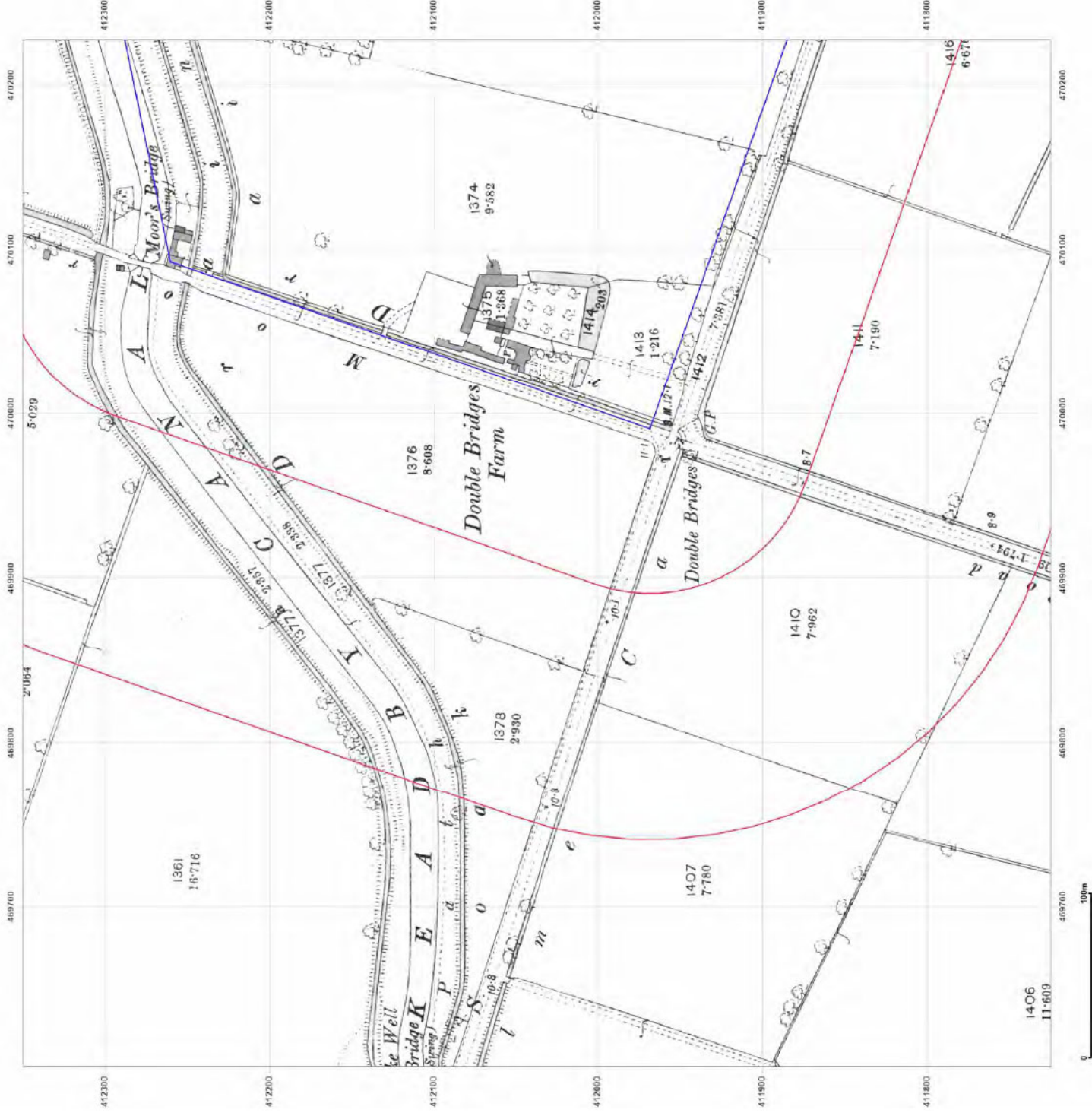
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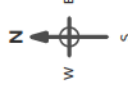
Client Ref: Thorne
Report Ref: GSIP-2023-13386-12979_LS_3_6
Grid Ref: 469915, 412037

Map Name: County Series

Map date: 1906

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1906
Revised 1906
Edition A/A
Copyright N/A
Levelled N/A



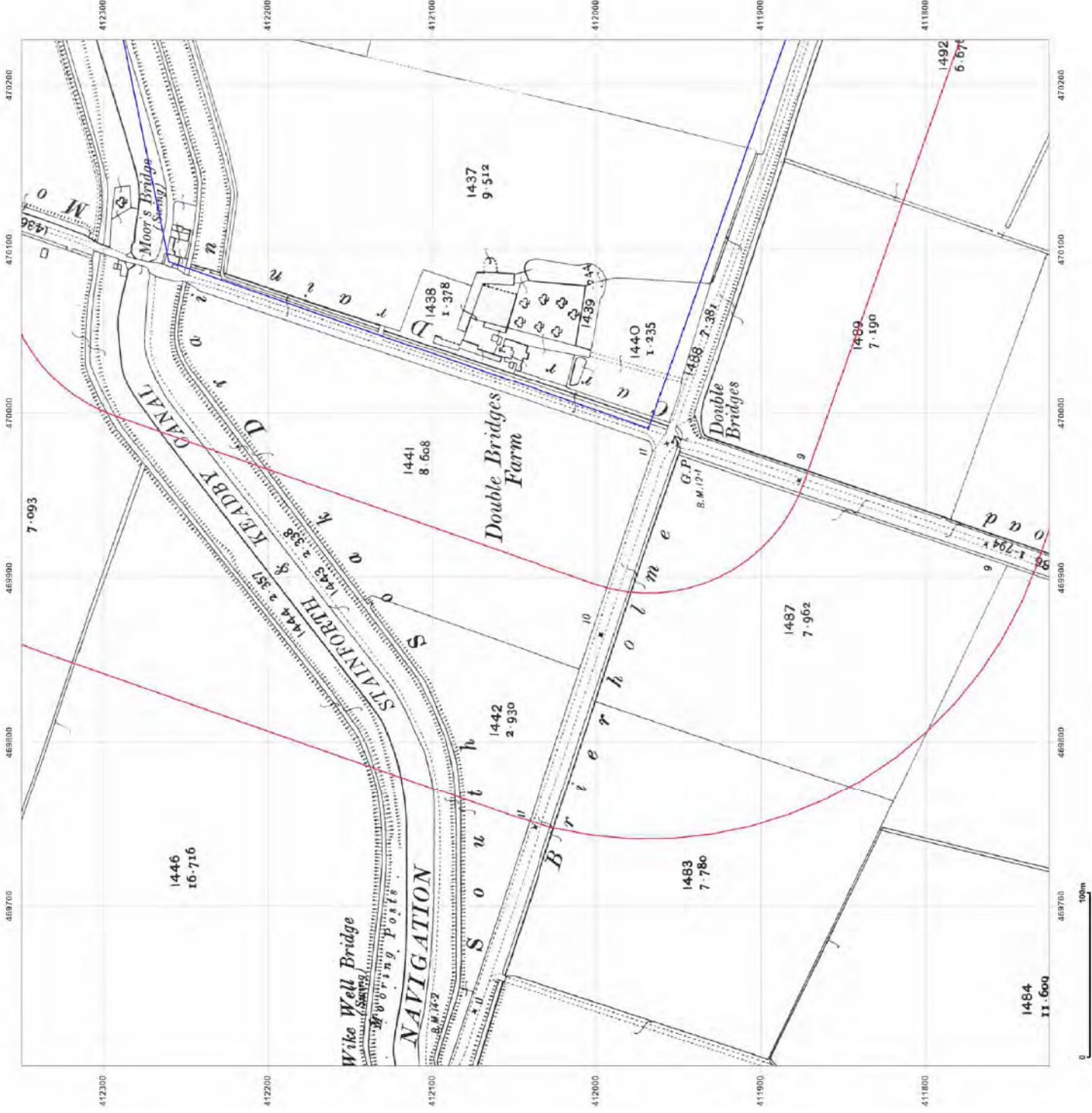
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Thorne

Thorne

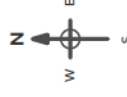
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Report Ref: GSIP-20
Grid Ref: 469915

Map Name: National Grid

Map date: 1962

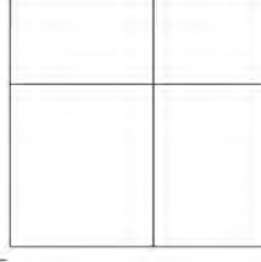
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Printed at: 1:2.500



Surveyed 1961
Revised 1981
Edition N/A
Copyright 1962
Levelled 1981

Surveyed 1961
Revised 1961
Edition N/A.
Copyright 1962
Levelled 1961



Surveyed 1961
Revised 1961
Edition N/A
Copyright 1982
Levelled 1960



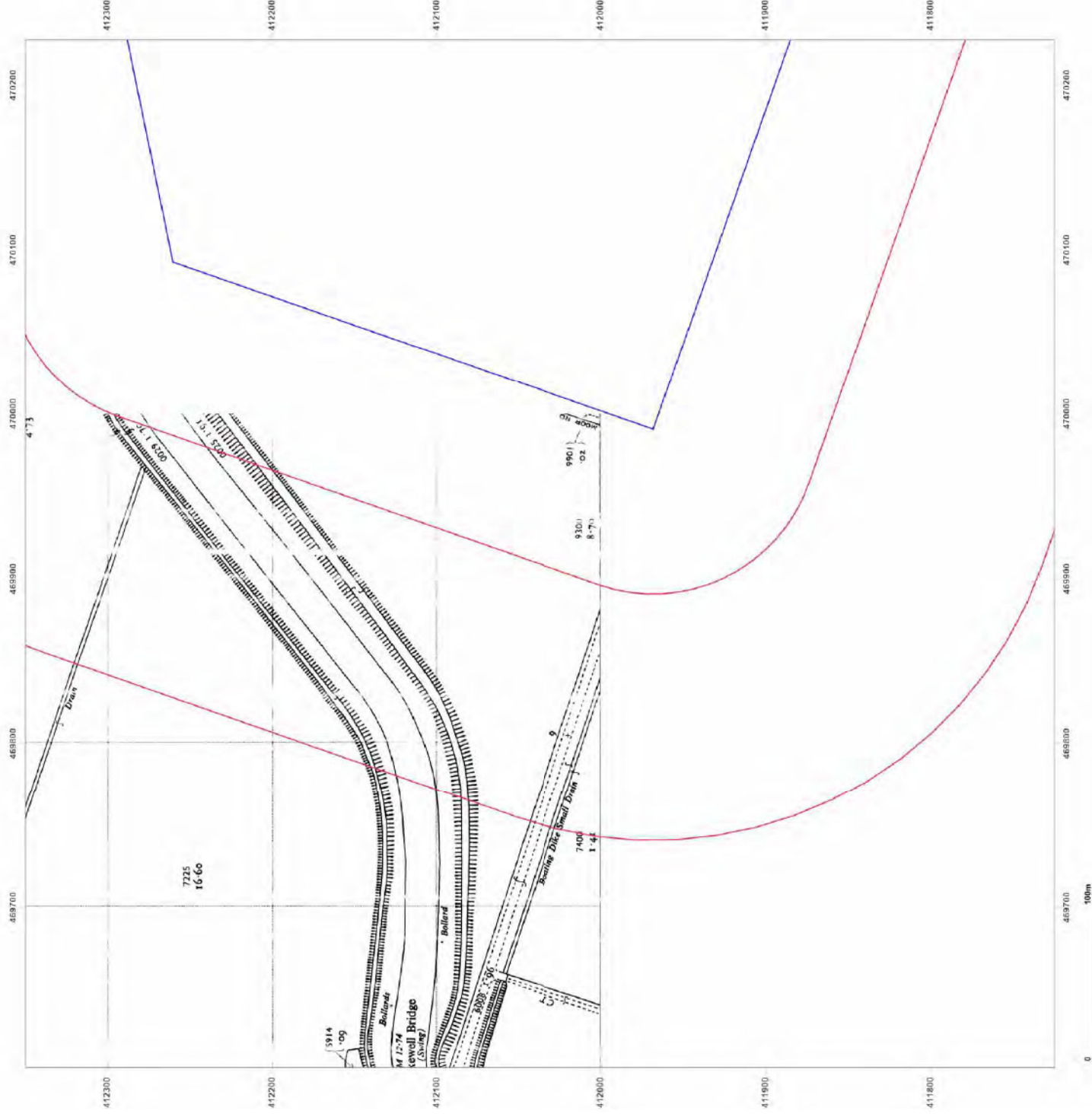
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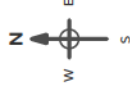
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Grid Ref: 469915, 412037

Map Name: National Grid

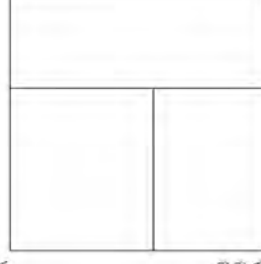
Map date: 1974

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 1973
Revised 1973
Edition N/A
Copyright 1974
Levelled 1964



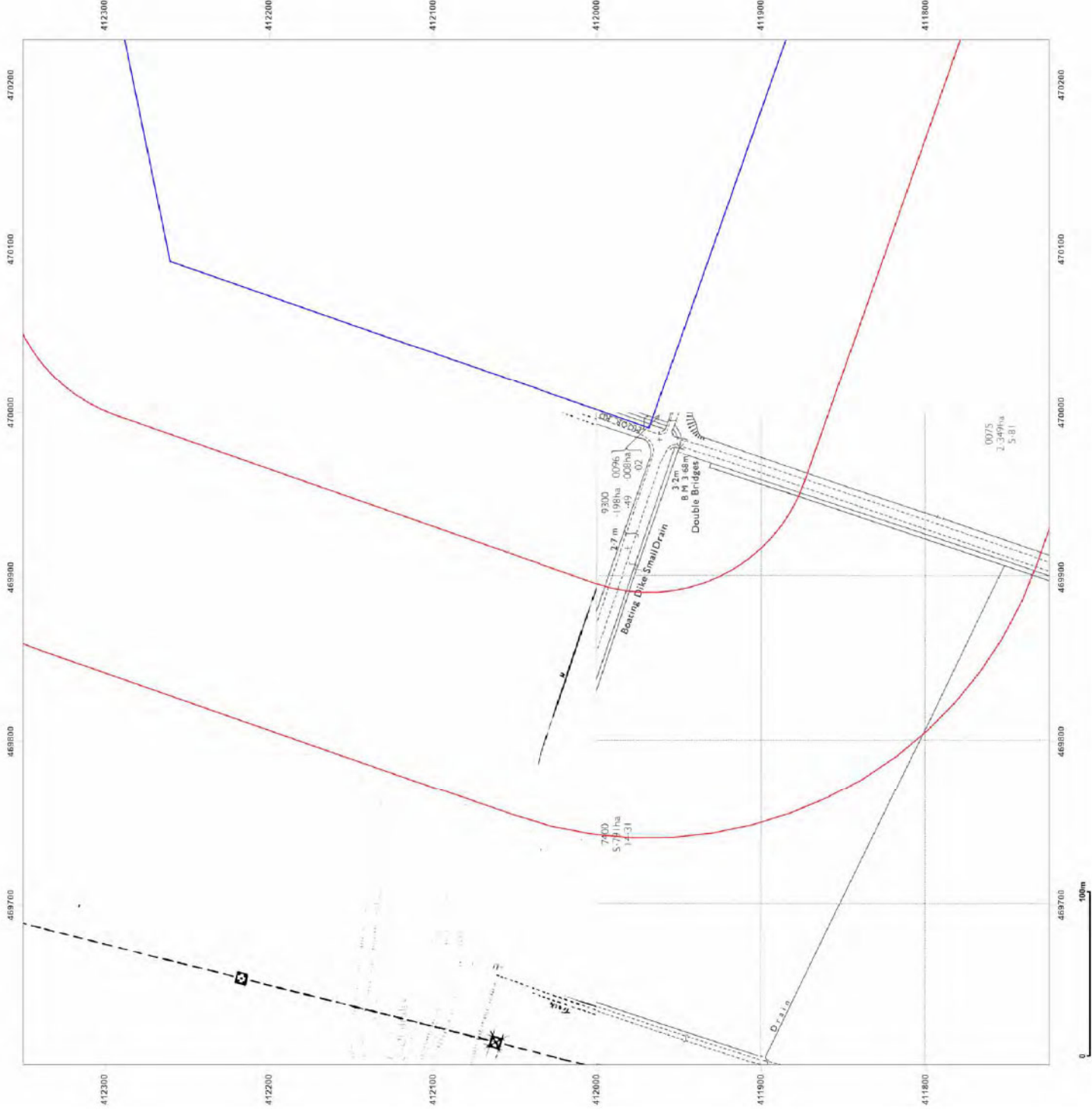
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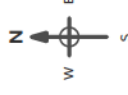
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Grid Ref: 469915, 412037

Map Name: National Grid

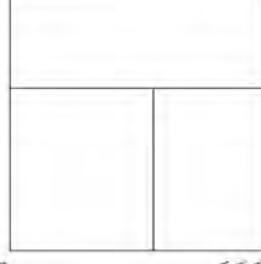
Map date: 1974-1976

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1875
Revised 1875
Edition N/A
Copyright 1876
Levelled 1884



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



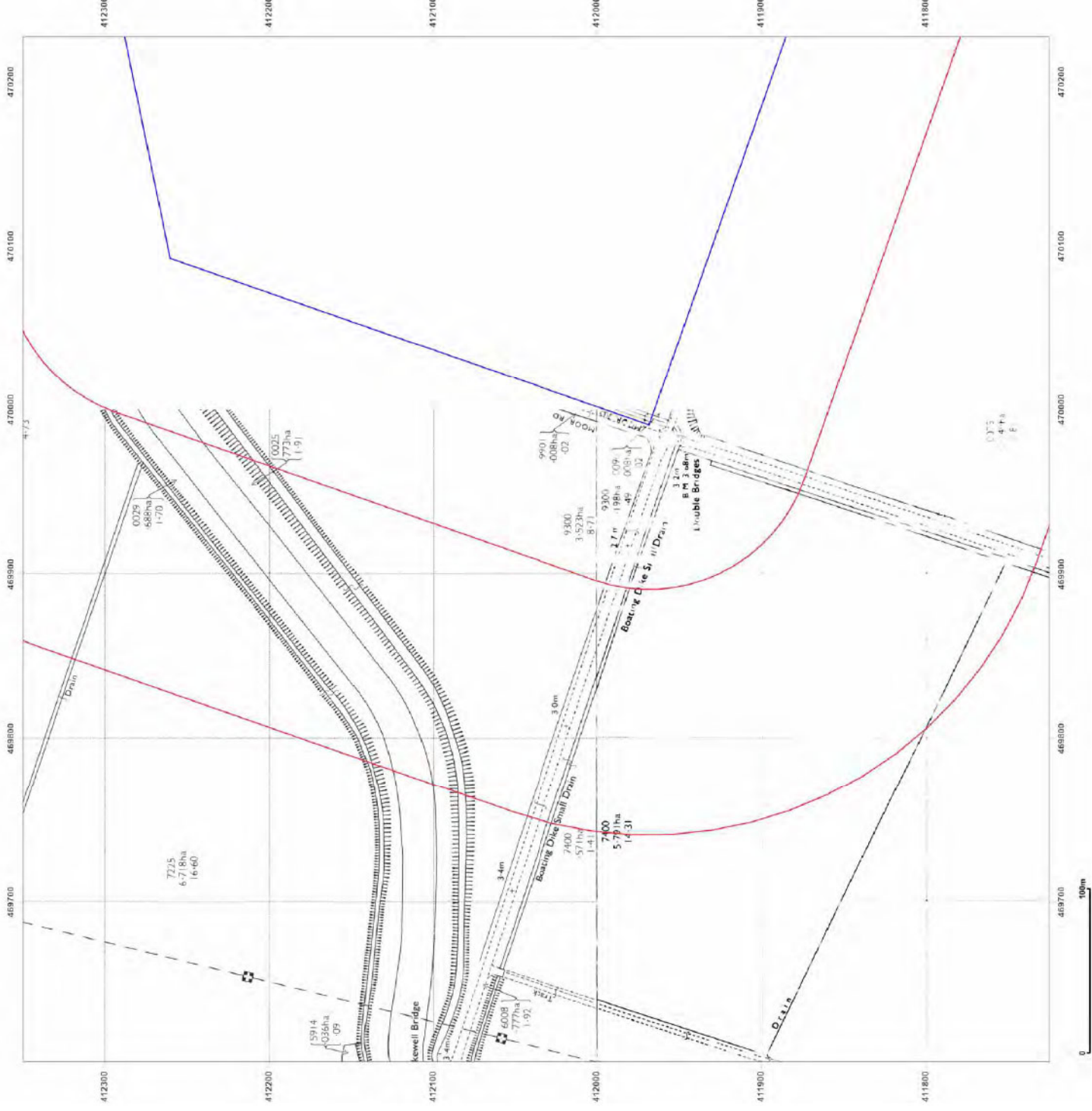
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Production date: 03 March 2023

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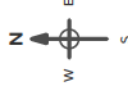
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Grid Ref: 469915, 412037

Map Name: National Grid

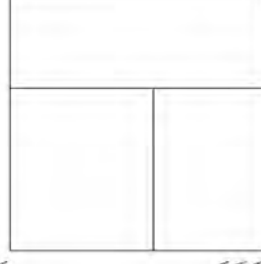
Map date: 1974-1976

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 N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A



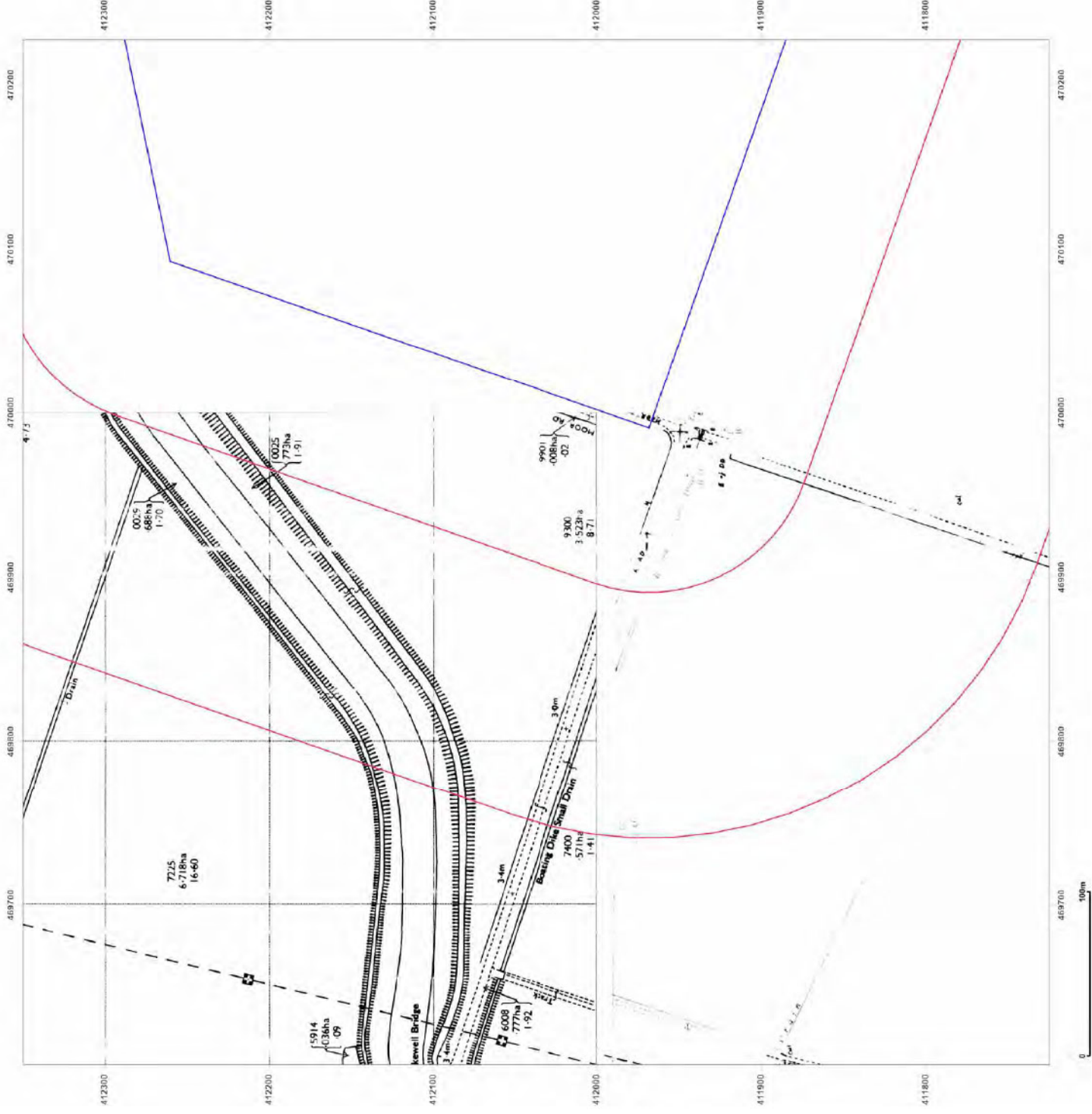
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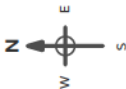
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Map Name: National Grid

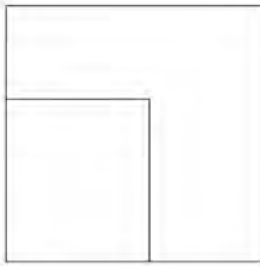
Map date: 1983

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1884
Revised 1883
Edition N/A
Copyright 1983
Levelling 1884



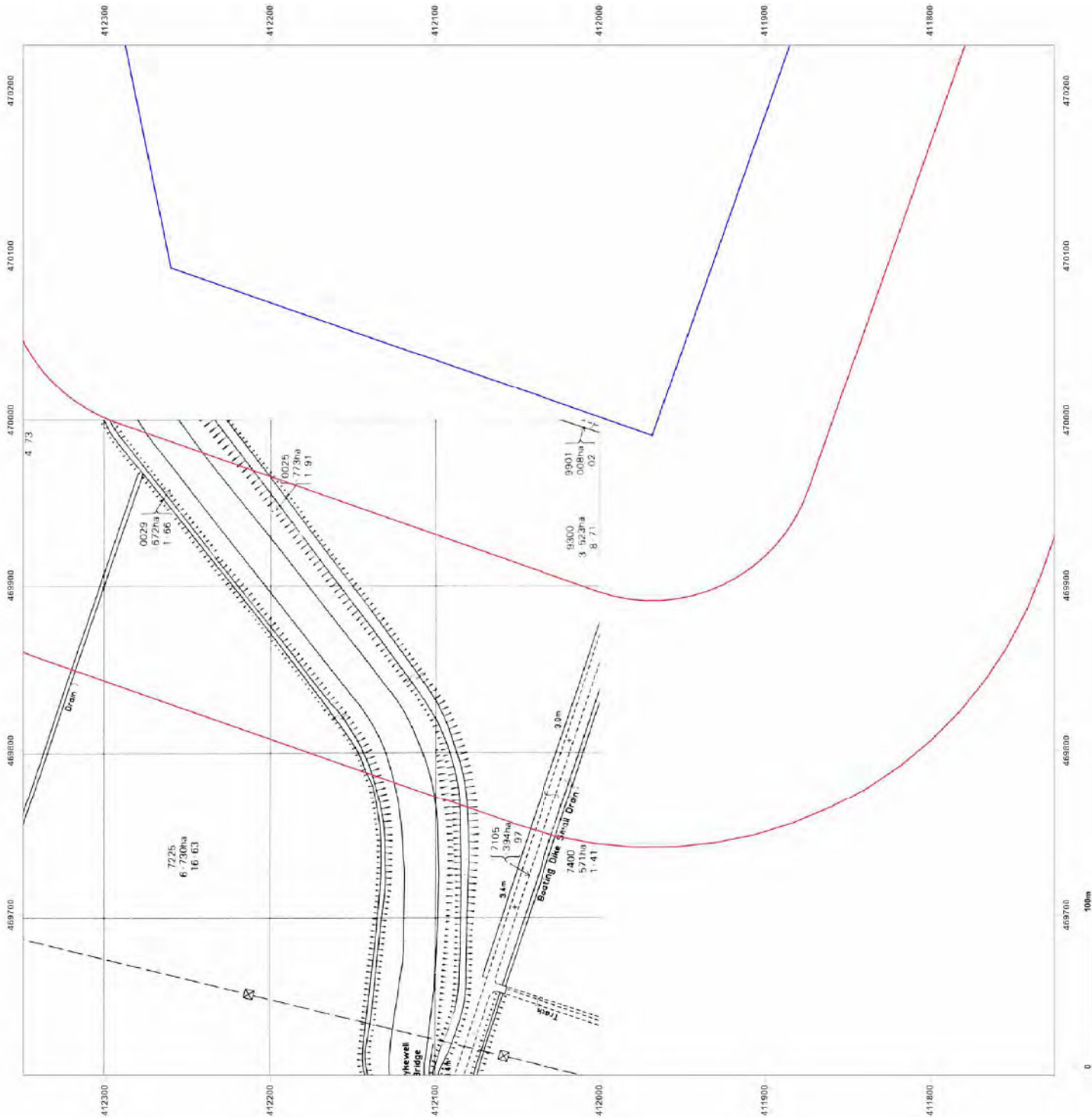
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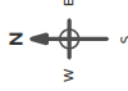
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Grid Ref: 469915, 412037

Map Name: National Grid

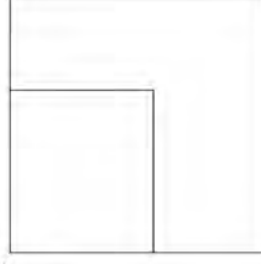
Map date: 1984

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1884
Revised 1884
Edition N/A
Copyright 1984
Levelled 1884



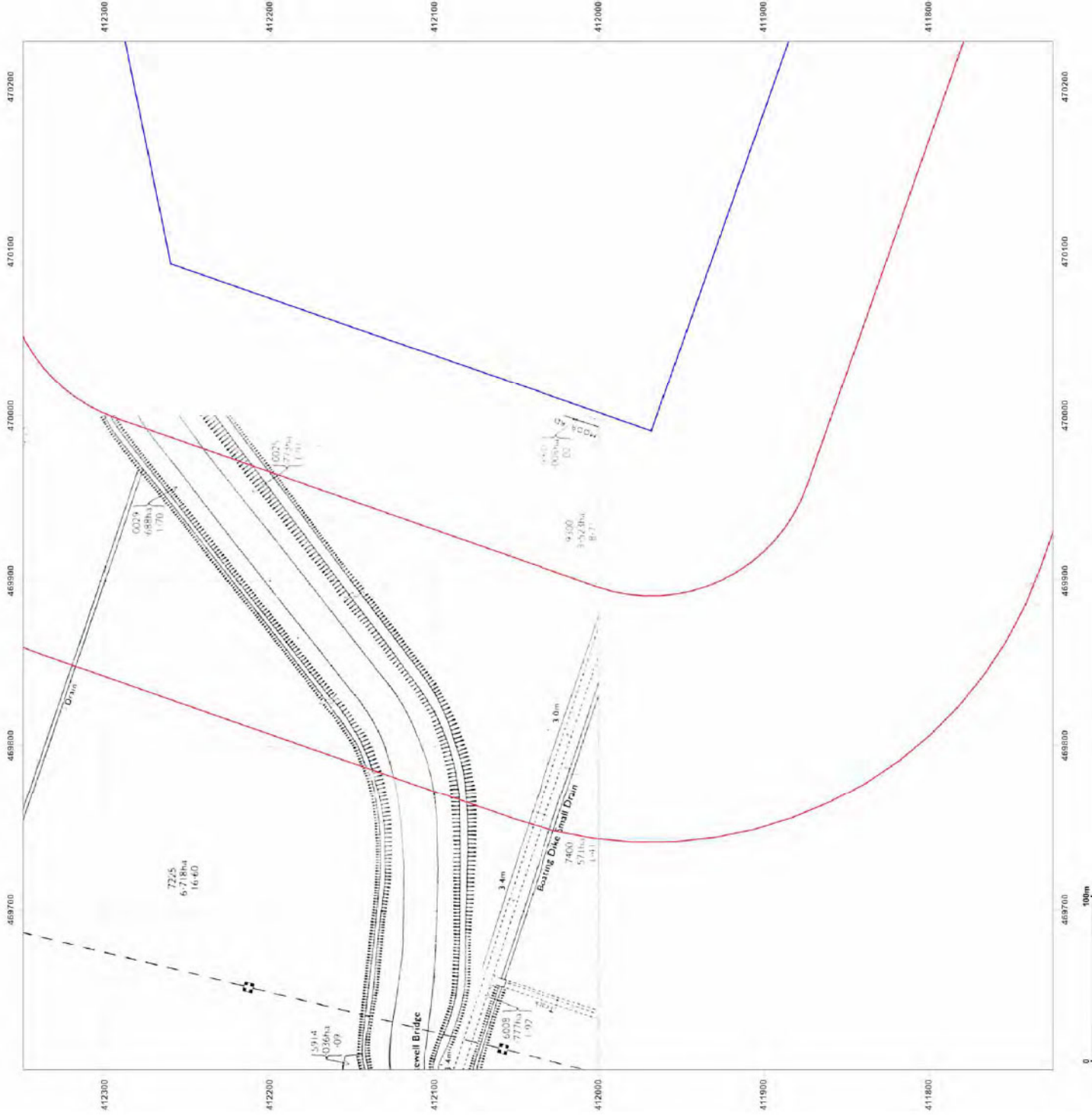
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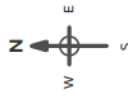
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Grid Ref: 469915, 412037

Map Name: National Grid

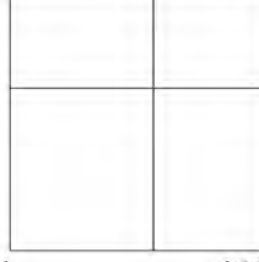
Map date: 1993

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A



Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

Surveyed 1993
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A



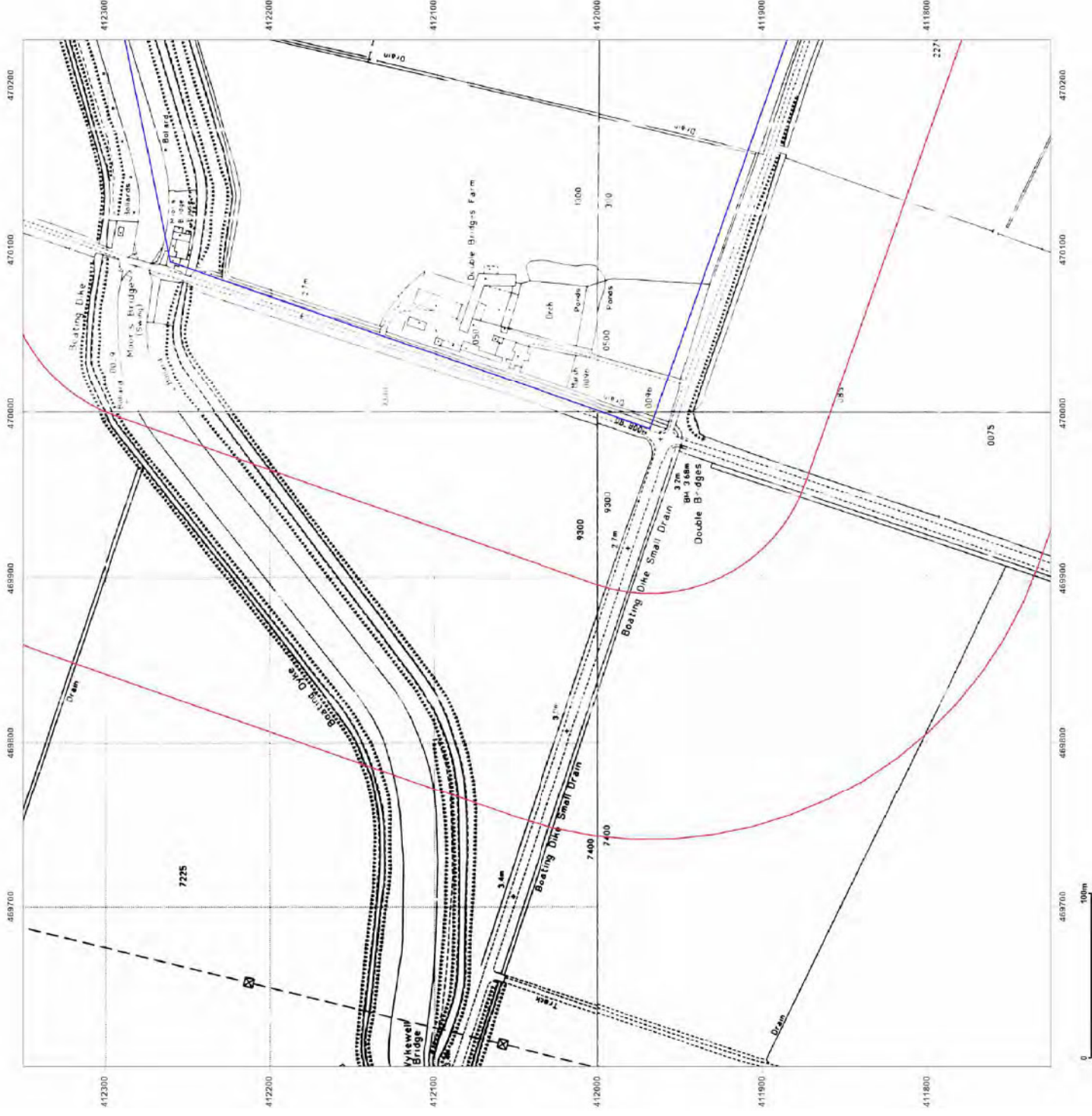
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Site Details:

Thorne

Client Ref: Thorne
Report Ref: GSIP-2023-13386-12979_LS_3_7
Grid Ref: 469915, 412662

Map Name: County Series

Map date: 1892

Scale: 1:2,500

Printed at: 1:2,500



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



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Production date: 03 March 2023

Map legend available at:

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Site Details:

Thorne

Client Ref: Thorne
Report Ref: GSIP-2023-13386-12979_LS_3_7
Grid Ref: 469915, 412662

Map Name: County Series

Map date: 1906

Scale: 1:2,500

Printed at: 1:2,500



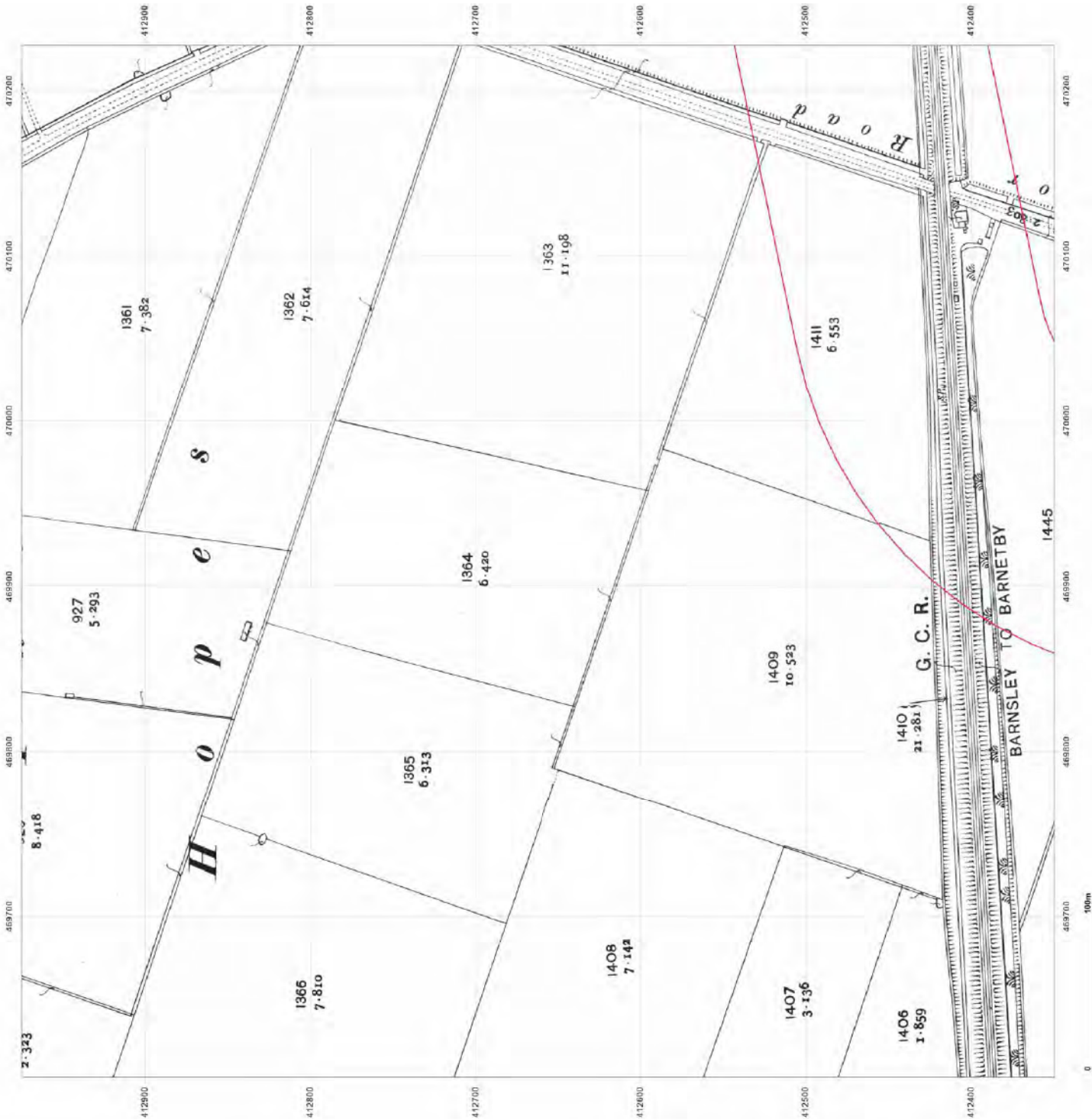
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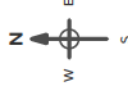
Client Ref: Thorne
Report Ref: GSIP-2023-13386-12979_LS_3.7
Grid Ref: 469915, 412662

Map Name: National Grid

Map date: 1962

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1961
Revised 1961
Edition N/A
Copyright 1962
Levelled 1961

Surveyed 1961
Revised 1961
Edition N/A
Copyright 1962
Levelled 1961



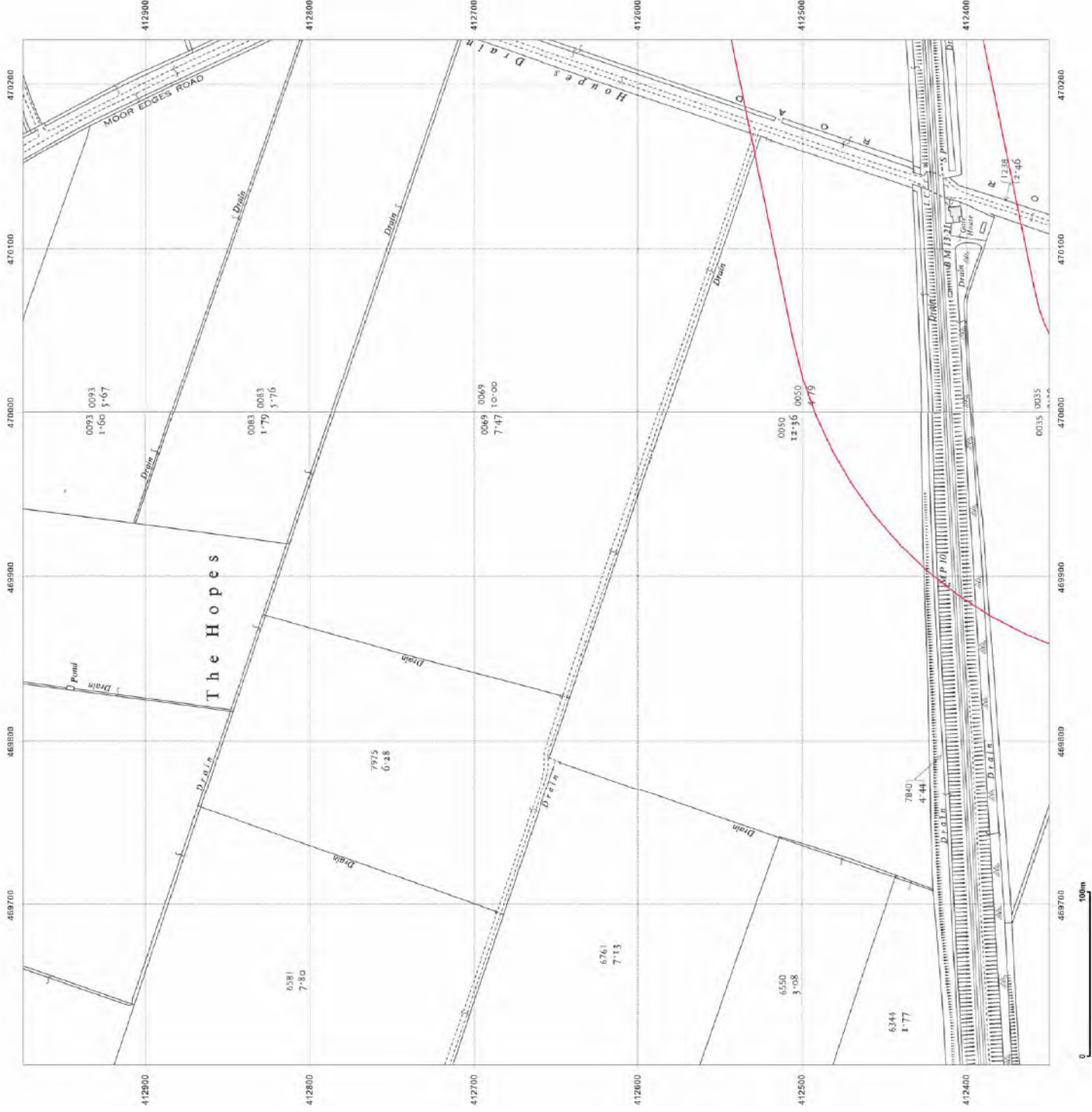
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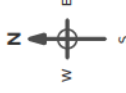
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Report Ref: GSIP-2023-13386-12979_LS_3.7
Grid Ref: 469915, 412662

Map Name: National Grid

Map date: 1962

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
Revised 1962
Edition N/A
Copyright 1992
Levelled 1980



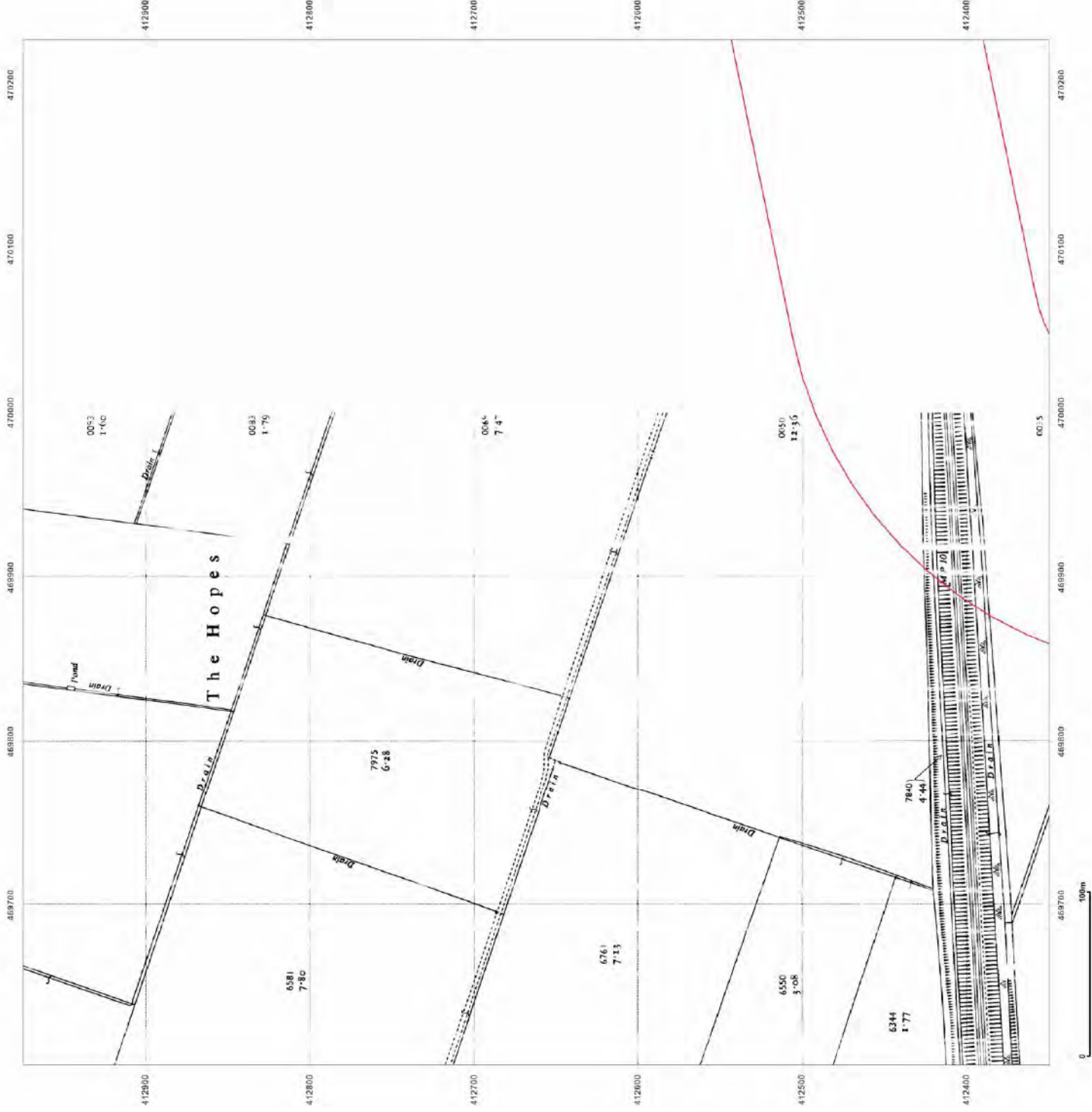
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Site Details:

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Client Ref: Thorne
Report Ref: GSIP-2023-13386-12979_LS_3.7
Grid Ref: 469915, 412662

Map Name: National Grid

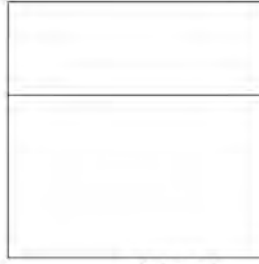
Map date: 1974

Scale: 1:2,500

Printed at: 1:2,500



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



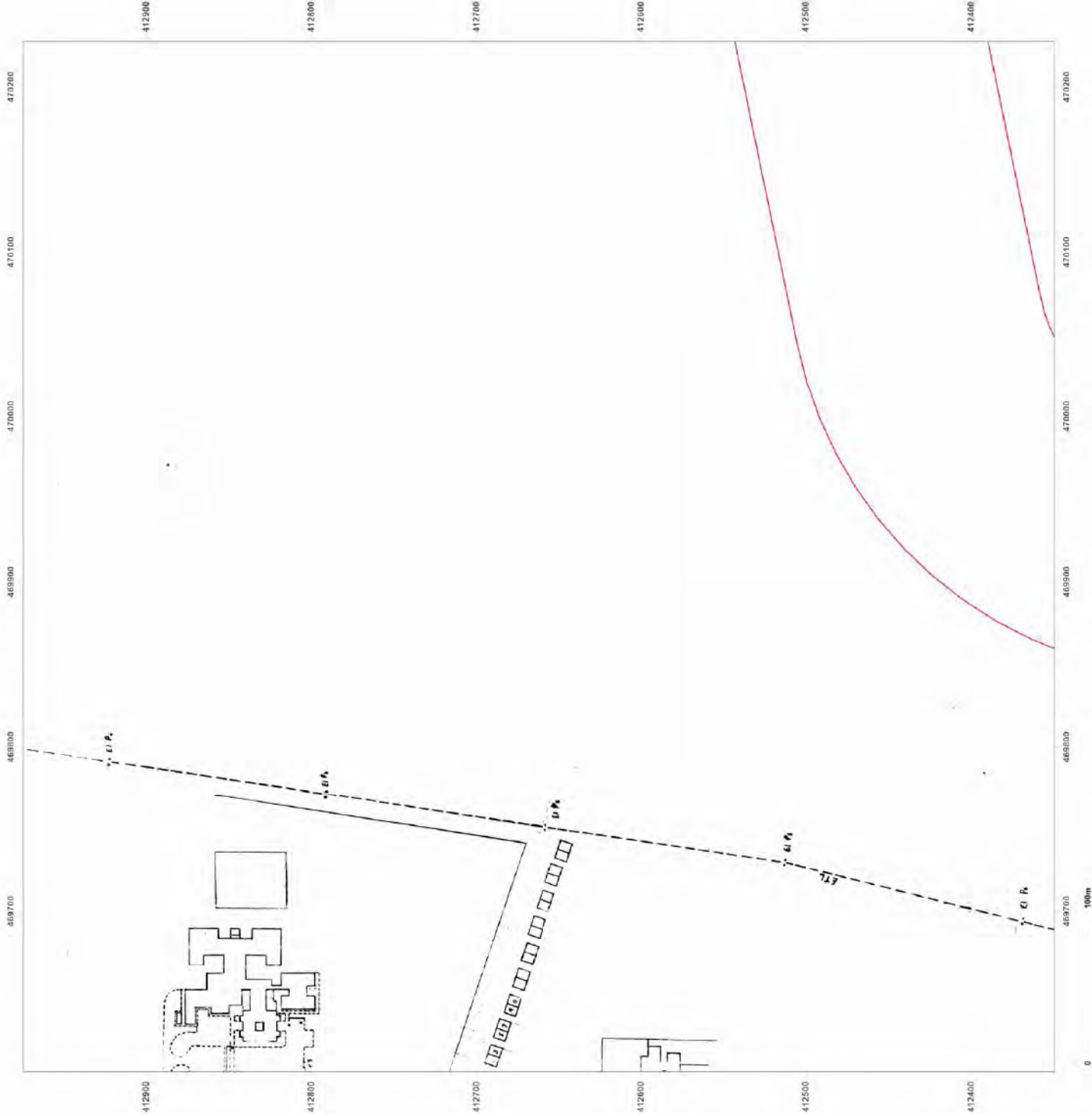
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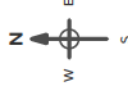
Client Ref: Thorne
Report Ref: GSIP-2023-13386-12979_LS_3.7
Grid Ref: 469915, 412662

Map Name: National Grid

Map date: 1976

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1875
Revised 1975
Edition N/A
Copyright 1876
Levelled 1964



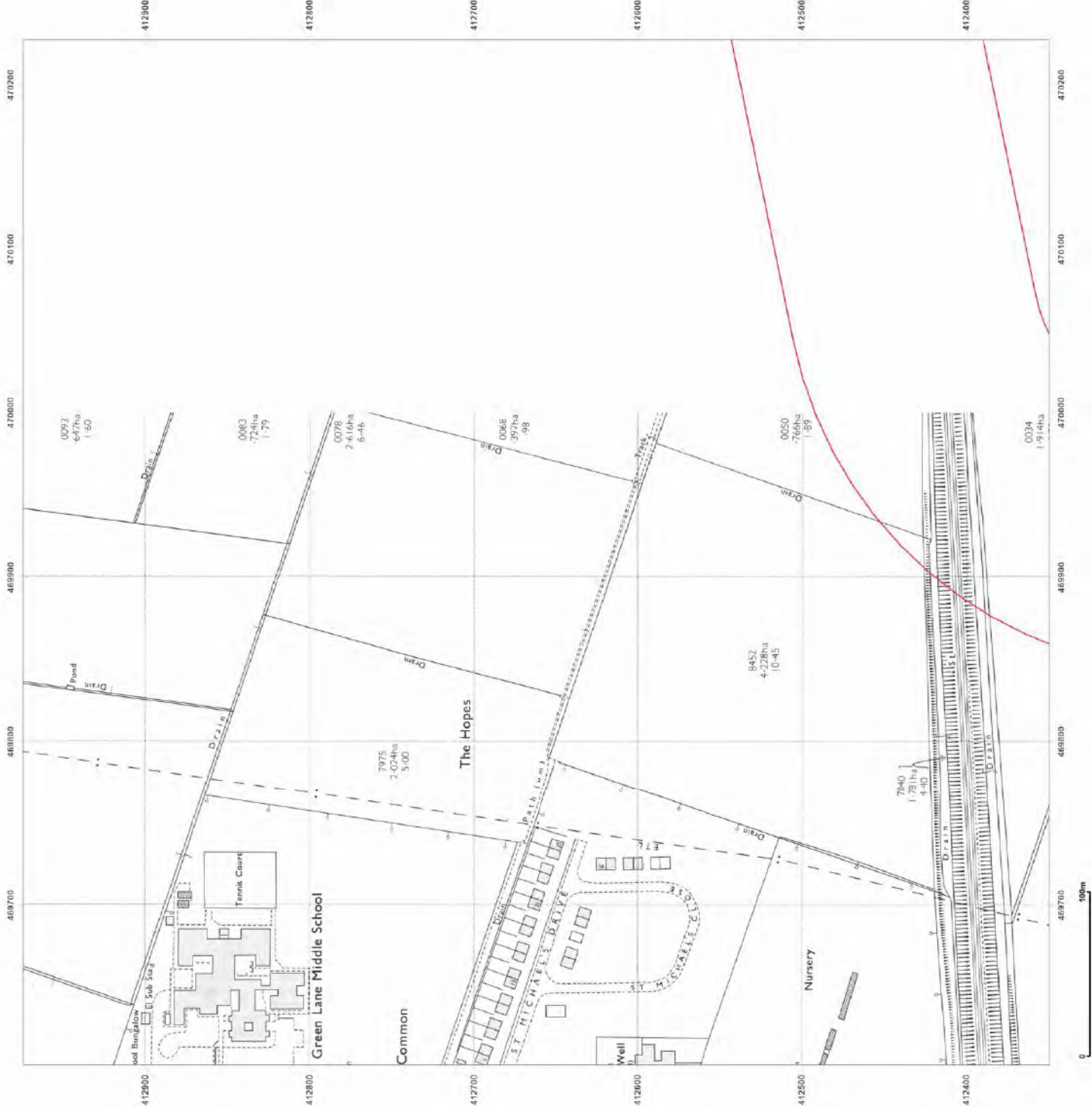
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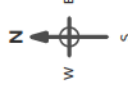
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Grid Ref: 469915, 412662

Map Name: National Grid

Map date: 1976

Scale: 1:2,500

Printed at: 1:2,500



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



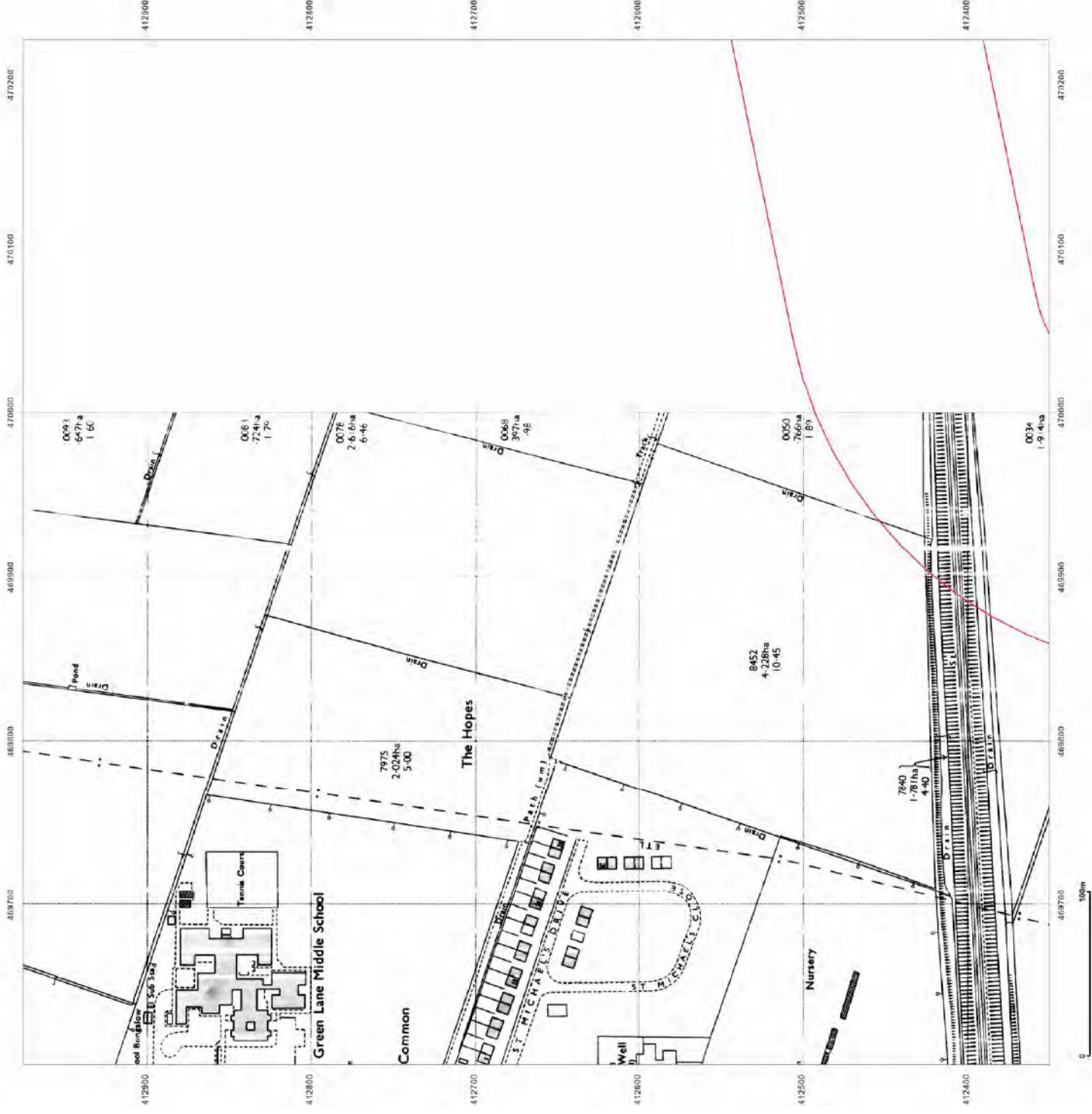
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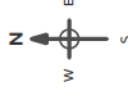
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Grid Ref: 469915, 412662

Map Name: National Grid

Map date: 1984

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1884
Revised 1984
Edition N/A
Copyright 1984
Levelled 1964



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Production date: 03 March 2023

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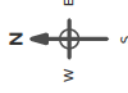
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Report Ref: GSIP-2023-13386-12979_LS_3.7
Grid Ref: 469915, 412662

Map Name: National Grid

Map date: 1993

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A



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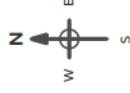
Client Ref: Thorne
Report Ref: GSIP-2023-13386-12979_LS_3_8
Grid Ref: 469915, 413287

Map Name: County Series

Map date: 1892

Scale: 1:2,500

Printed at: 1:2,500



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

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



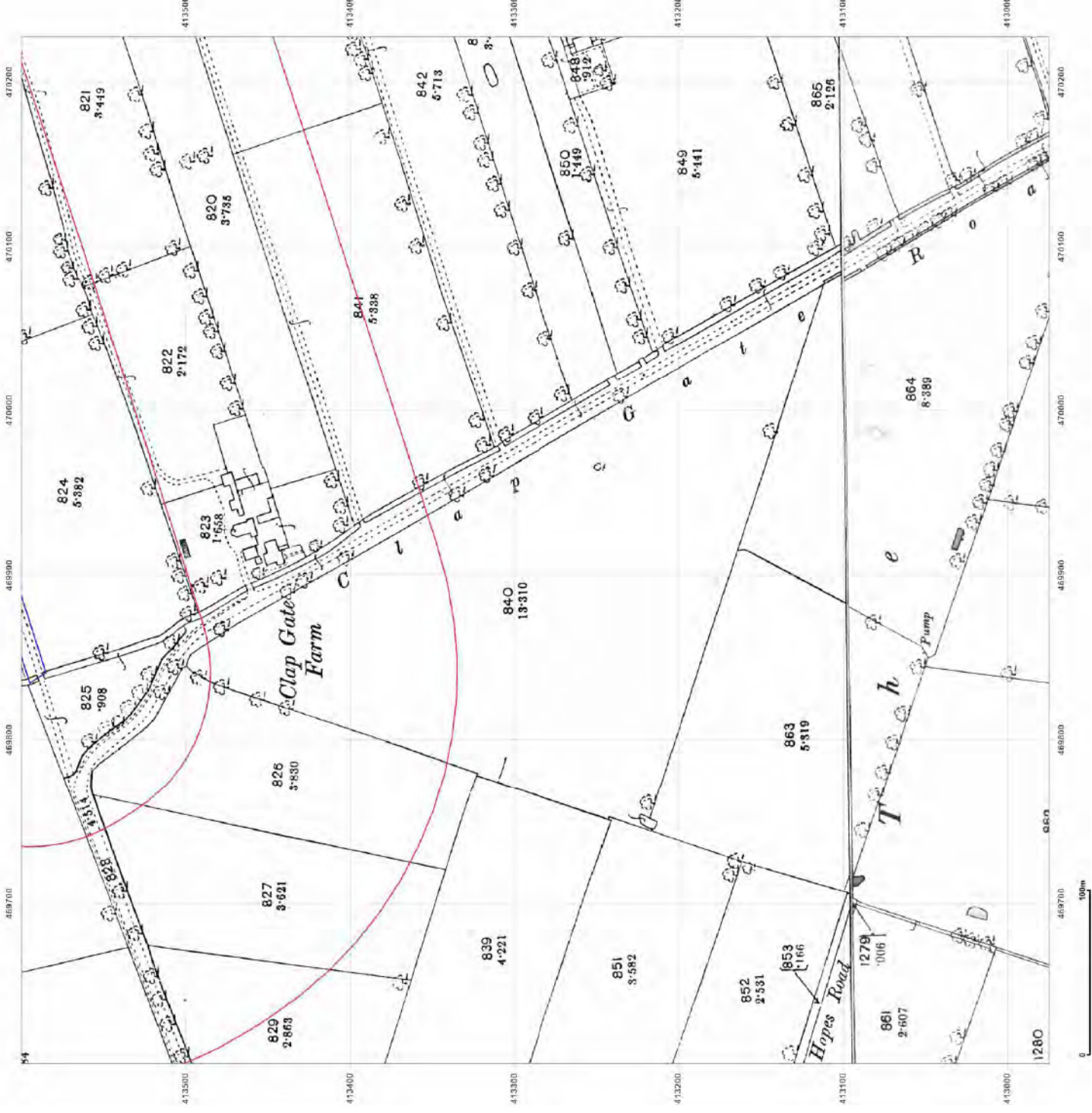
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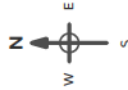
Client Ref: Thorne
Report Ref: GSIP-2023-13386-12979_LS_3_8
Grid Ref: 469915, 413287

Map Name: County Series

Map date: 1906

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1806
Revised 1906
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1806
Revised 1806
Edition N/A
Copyright N/A
Levelled N/A



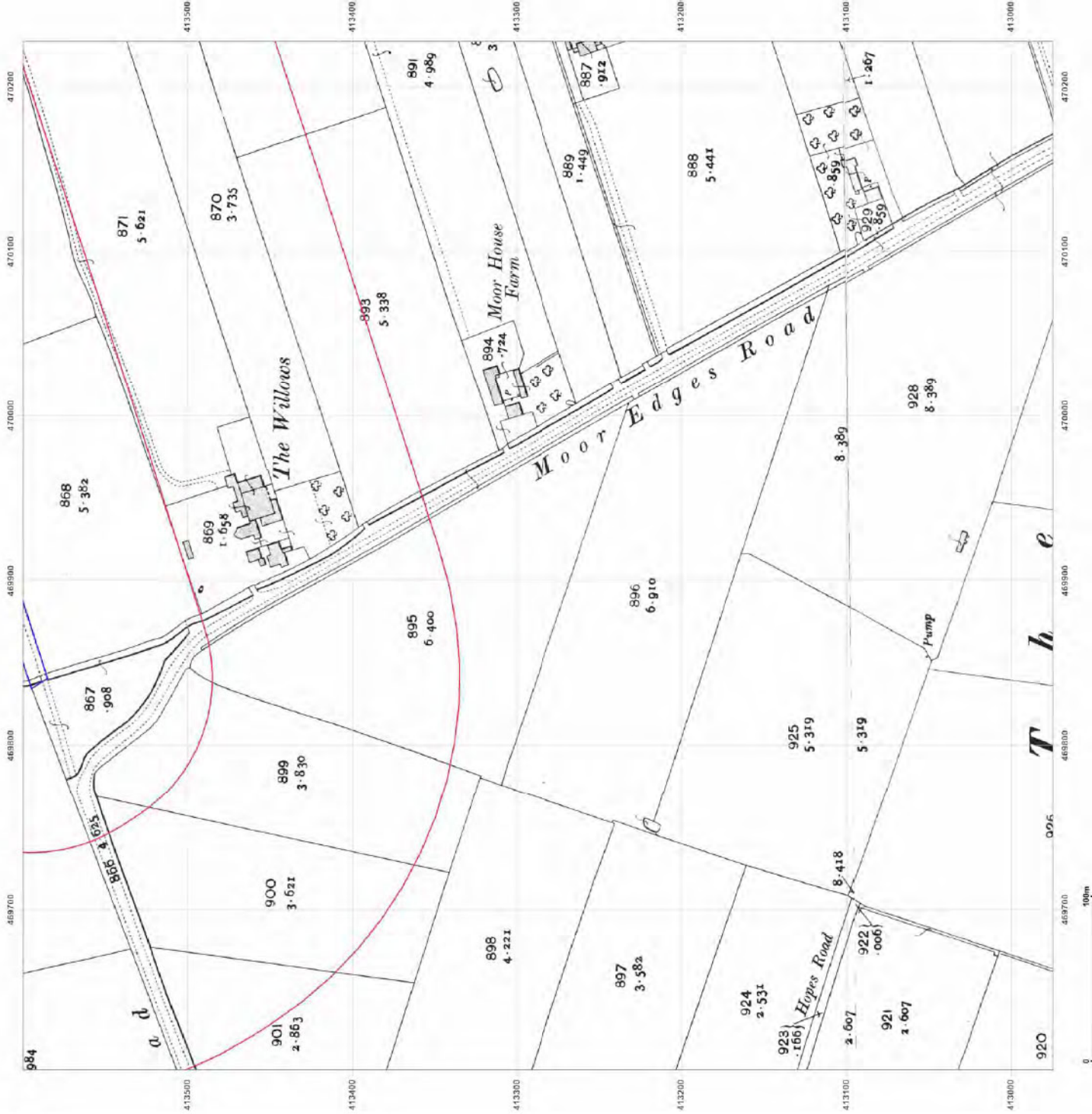
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Thorne

Client Ref: Thorne

Map Name: National Grid

Map date: 1962

Scale: 1:2,500

Printed at: 1:2.500



Survived 1961	Survived 1961
Revised 1962	Revised 1962
Edition N/A	Edition N/A
Copyright 1962	Copyright 1962
Levelled 1960	Levelled 1960

Survived 1961	Survived 1961
Revised 1961	Revised 1961
Edition N/A	Edition N/A
Copyright 1962	Copyright 1962
Levelled 1961	Levelled 1961



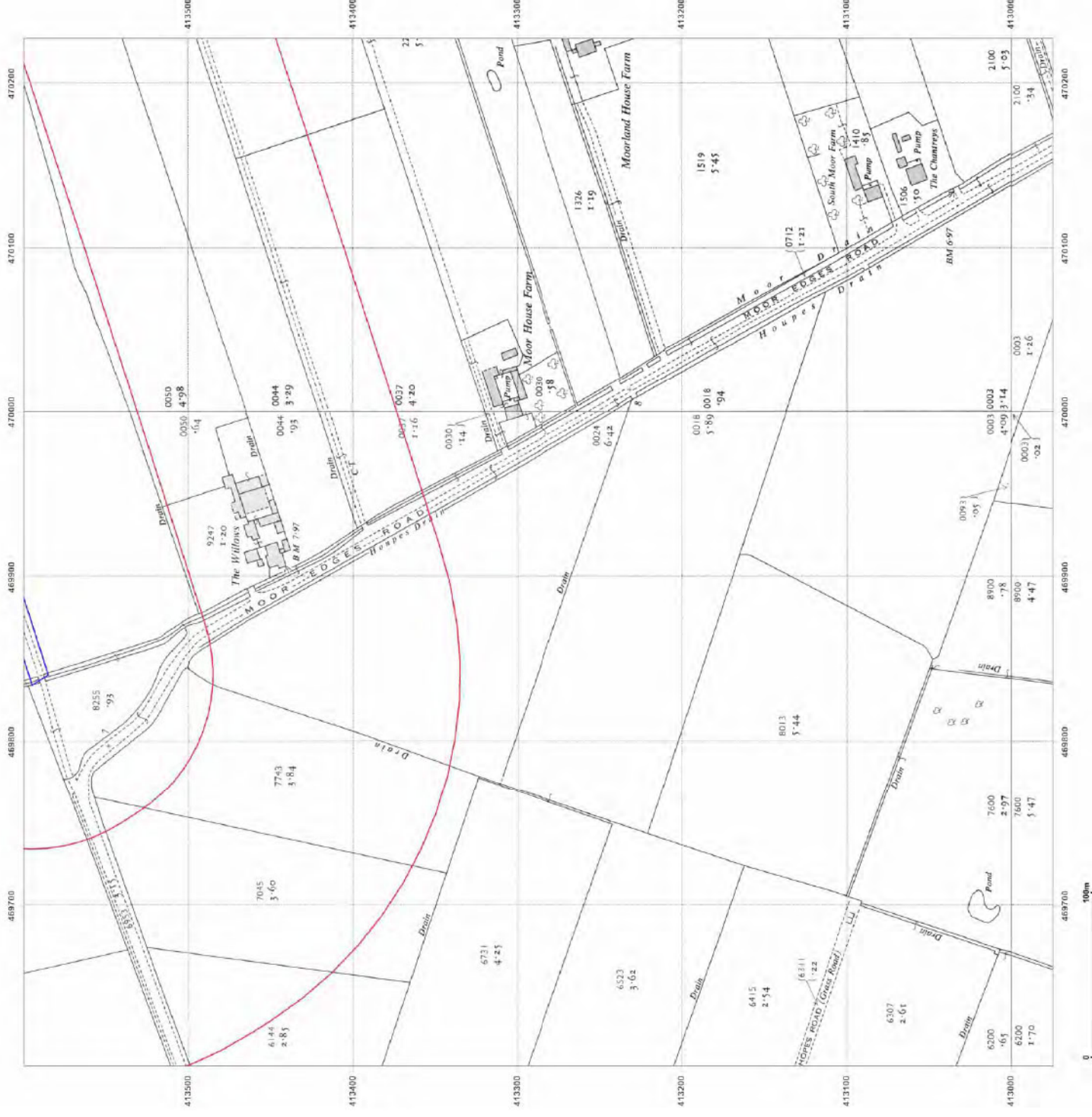
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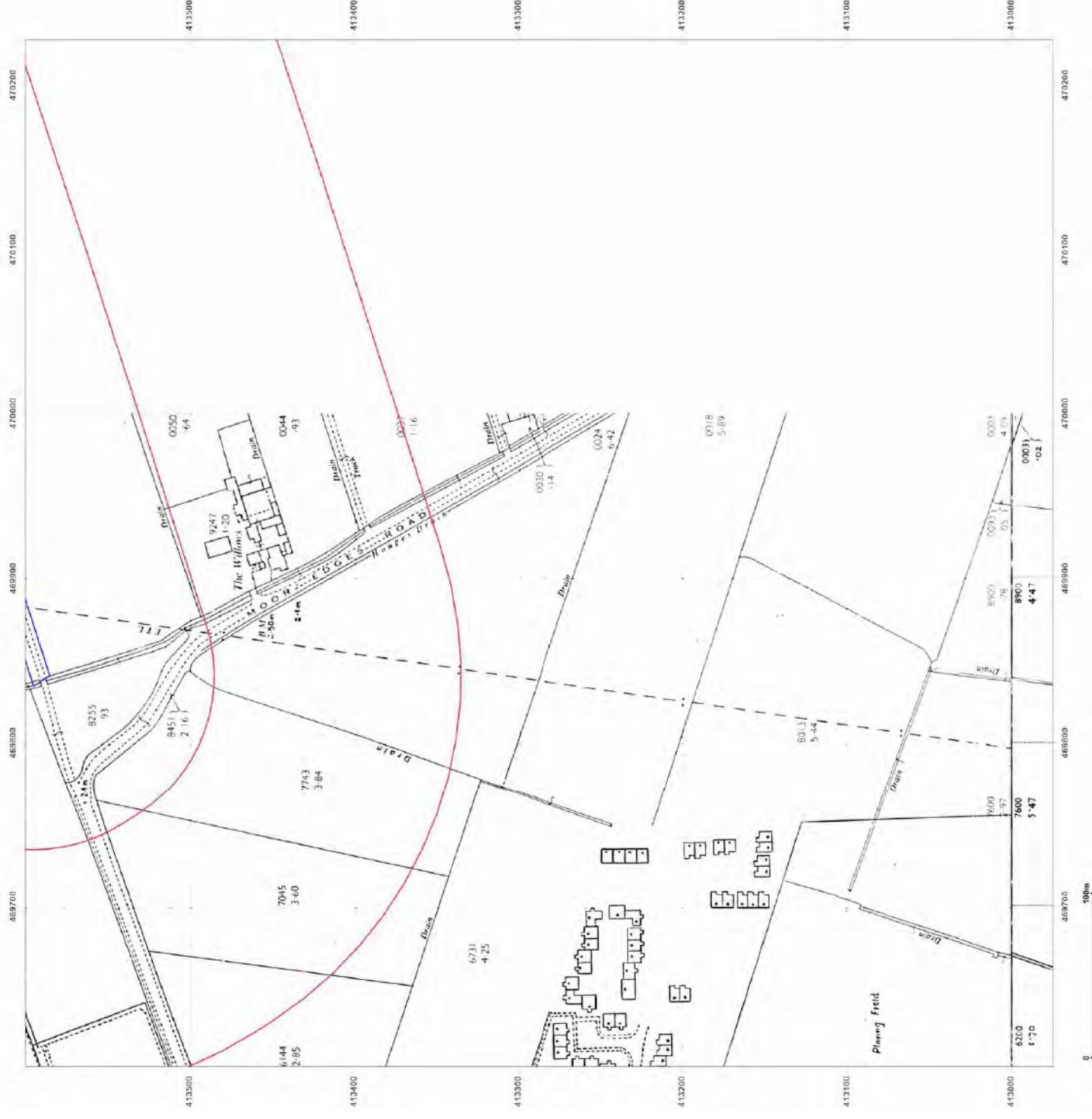
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Production date: 03 March 2023

Map legend available at:

www.legenda.atm.uni-erlangen.de/legenda/legenda.pdf





Site Details:

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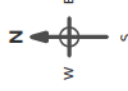
Client Ref: Thorne
Report Ref: GSIP-2023-13386-12979_LS_3_8
Grid Ref: 469915, 413287

Map Name: National Grid

Map date: 1967

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1966
Revised 1986
Edition N/A
Copyright 1987
Levelled 1994



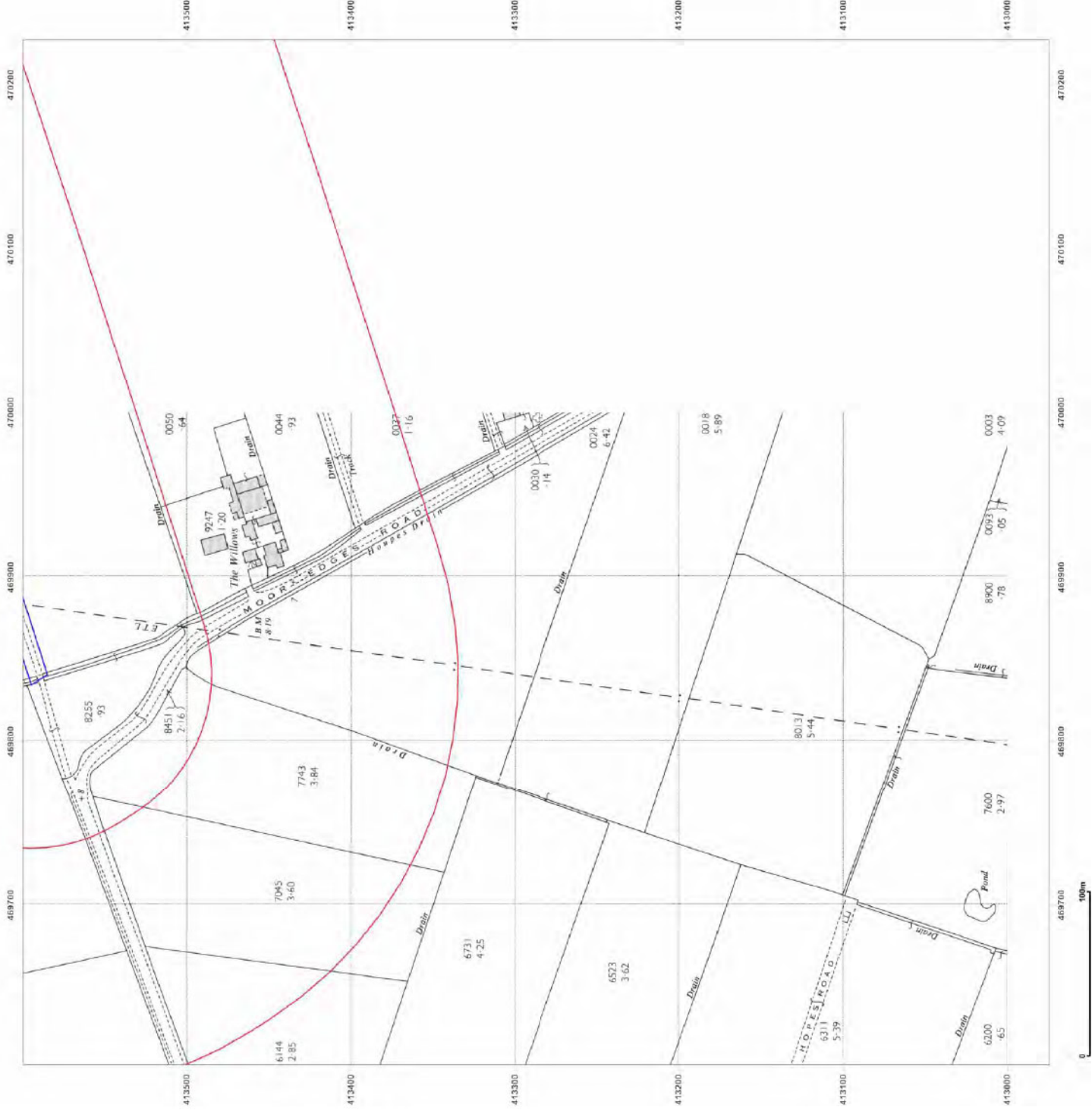
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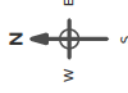
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Report Ref: GSIP-2023-13386-12979_LS_3_8
Grid Ref: 469915, 413287

Map Name: National Grid

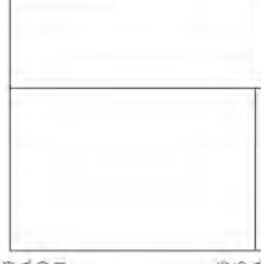
Map date: 1976-1980

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1979
Revised 1979
Edition N/A
Copyright 1980
Levelled 1984



Surveyed 1975
Revised 1975
Edition N/A
Copyright 1976
Levelled 1984



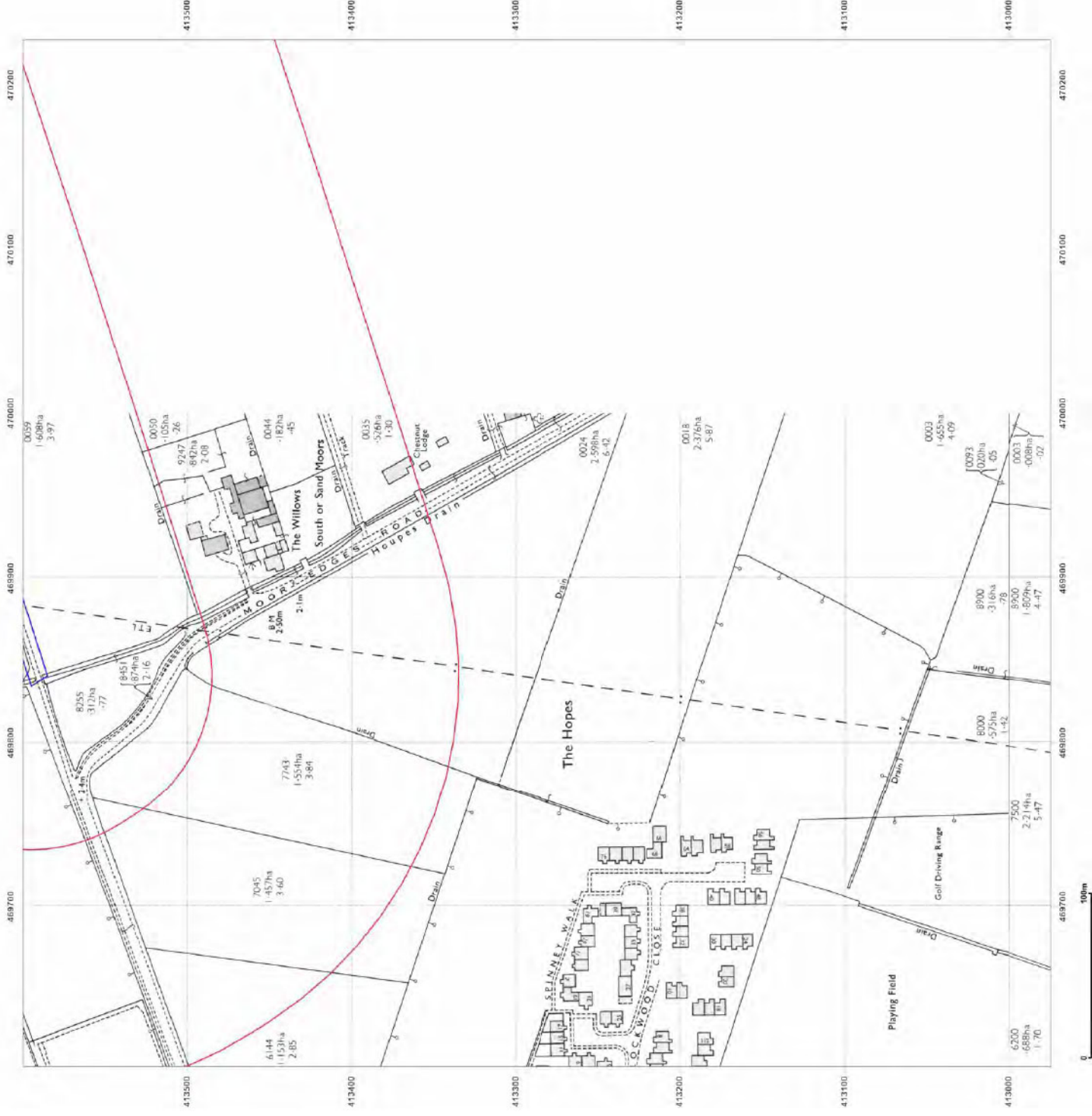
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Site Details:

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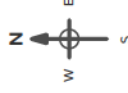
Client Ref: Thorne
Report Ref: GSIP-2023-13386-12979_LS_3_8
Grid Ref: 469915, 413287

Map Name: National Grid

Map date: 1976-1980

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
Revised 1979
Edition N/A
Copyright 1980
Levelled 1984



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



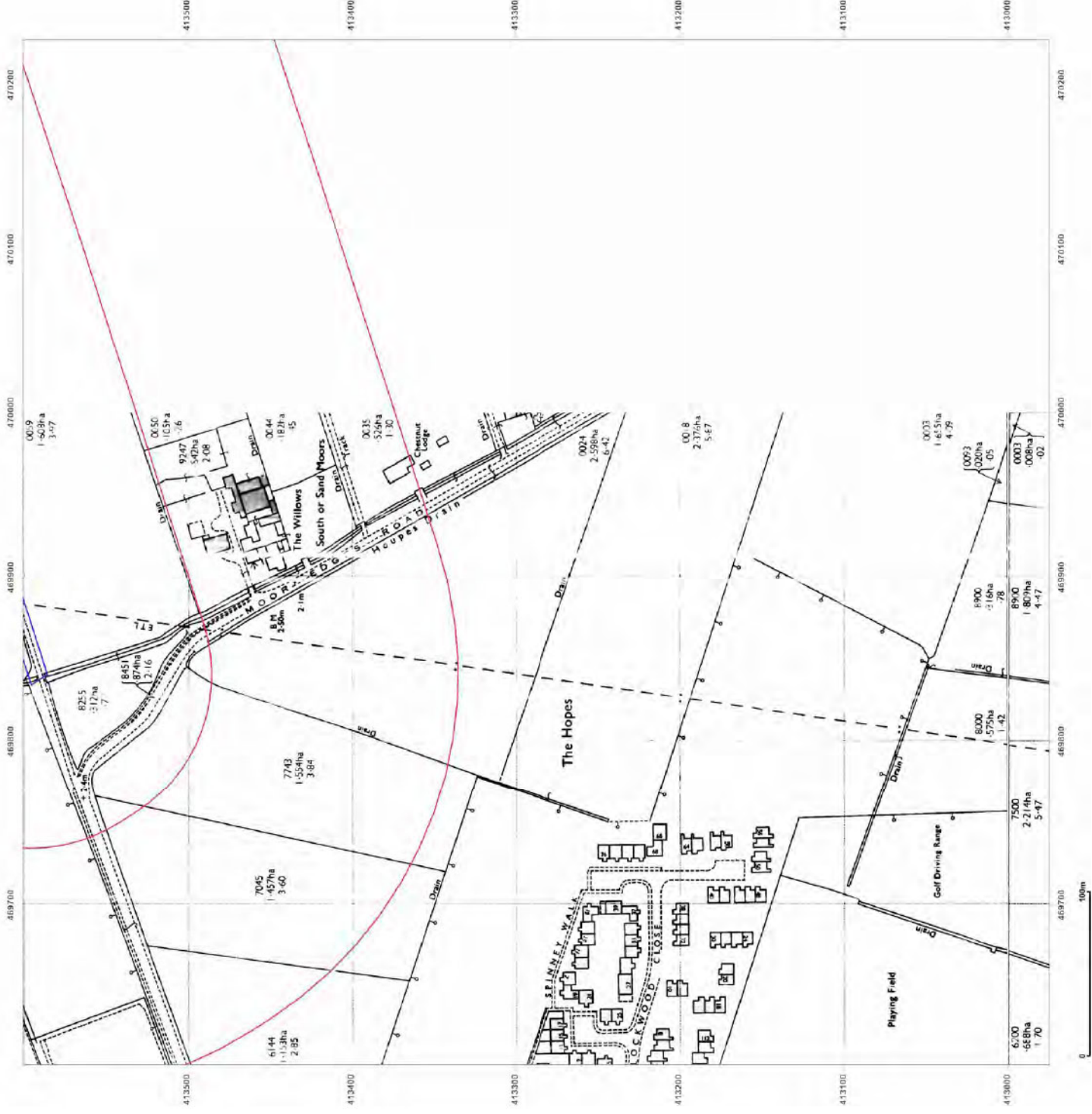
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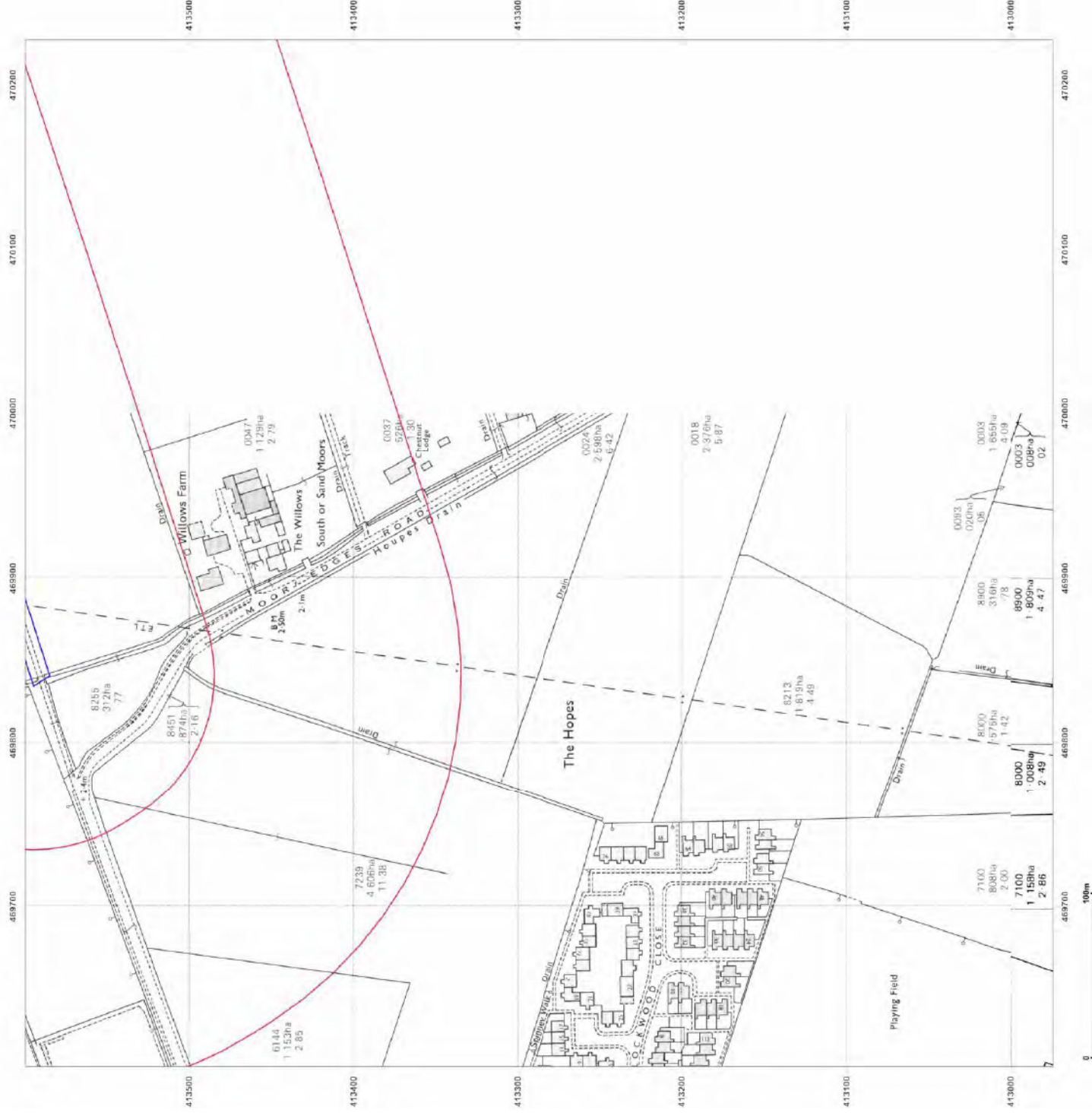
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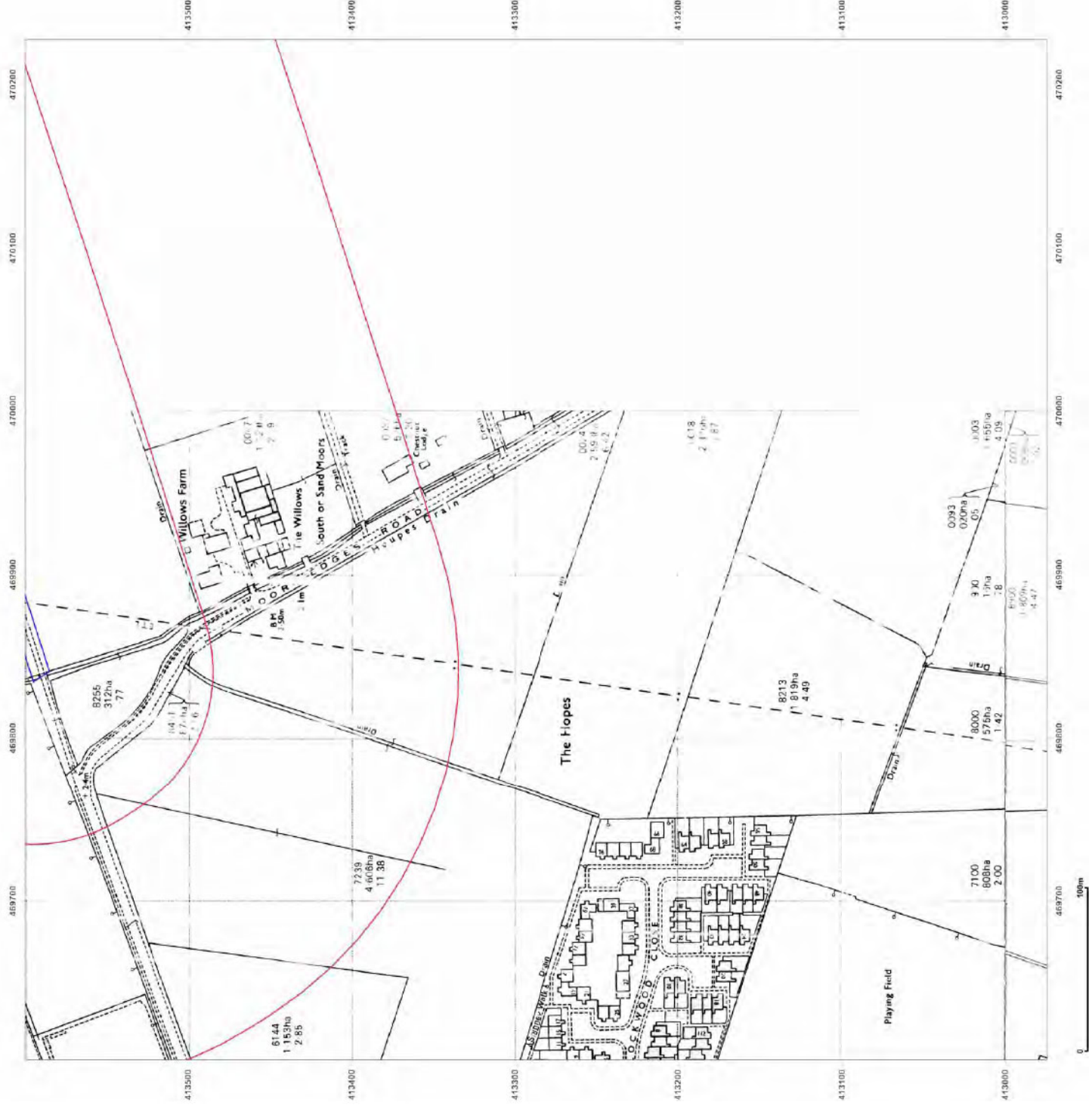
Production date: 03 March 2023

Map legend available at:

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Site Details:

Thorne

Client Ref: Thorne
Report Ref: GSIP-2023-13386-12979_LS_3_8
Grid Ref: 469915, 413287

Map Name: National Grid

Map date: 1993

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A



Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

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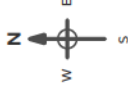
Client Ref: Thorne
Report Ref: GSIP-2023-13386-12979_LS_3_9
Grid Ref: 469915, 413912

Map Name: County Series

Map date: 1892

Scale: 1:2,500

Printed at: 1:2,500



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



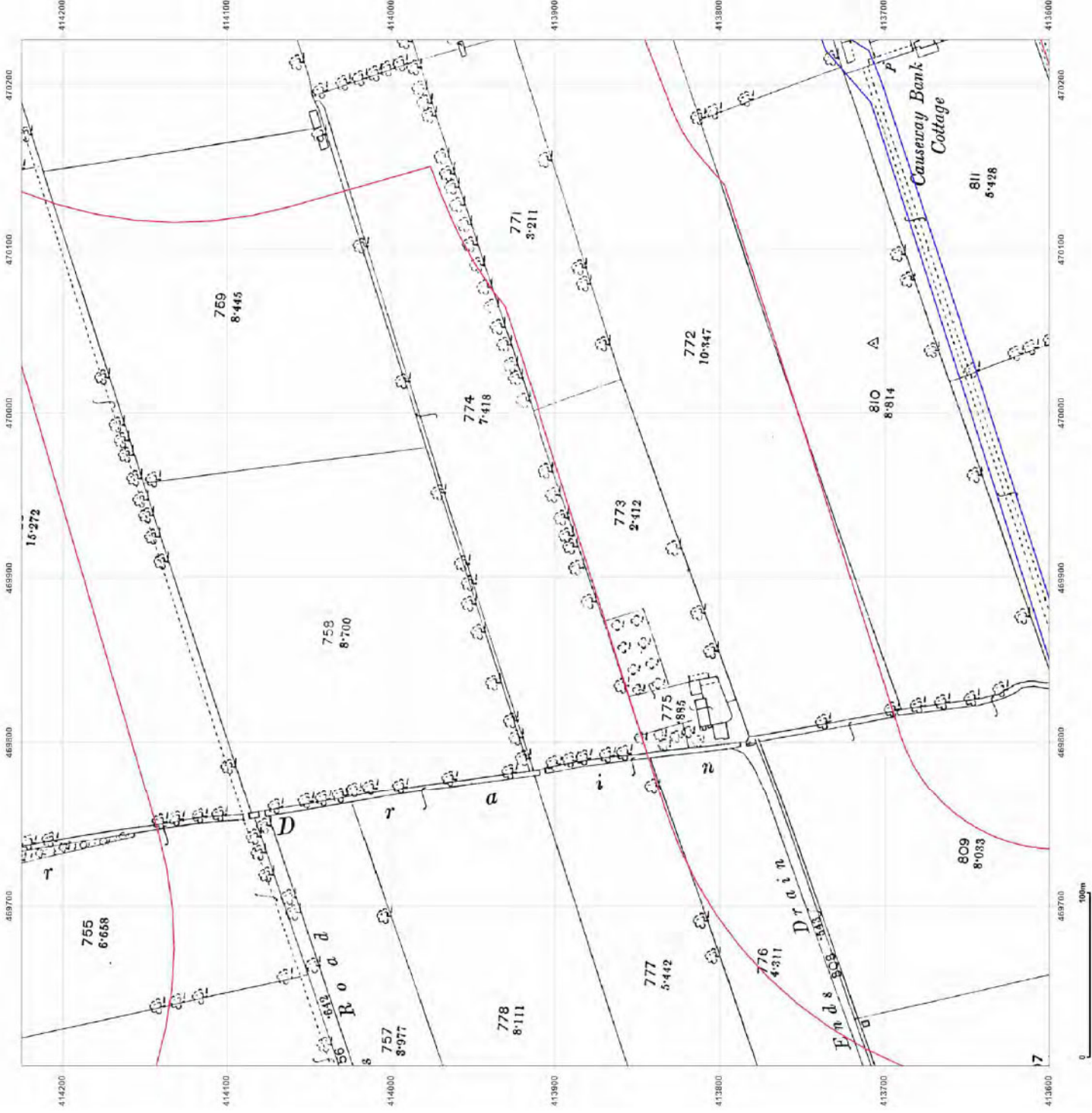
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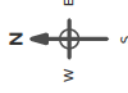
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Report Ref: GSIP-2023-13386-12979_LS_3_9
Grid Ref: 469915, 413912

Map Name: County Series

Map date: 1906

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1906
Revised 1906
Edition N/A
Copyright N/A
Levelled N/A



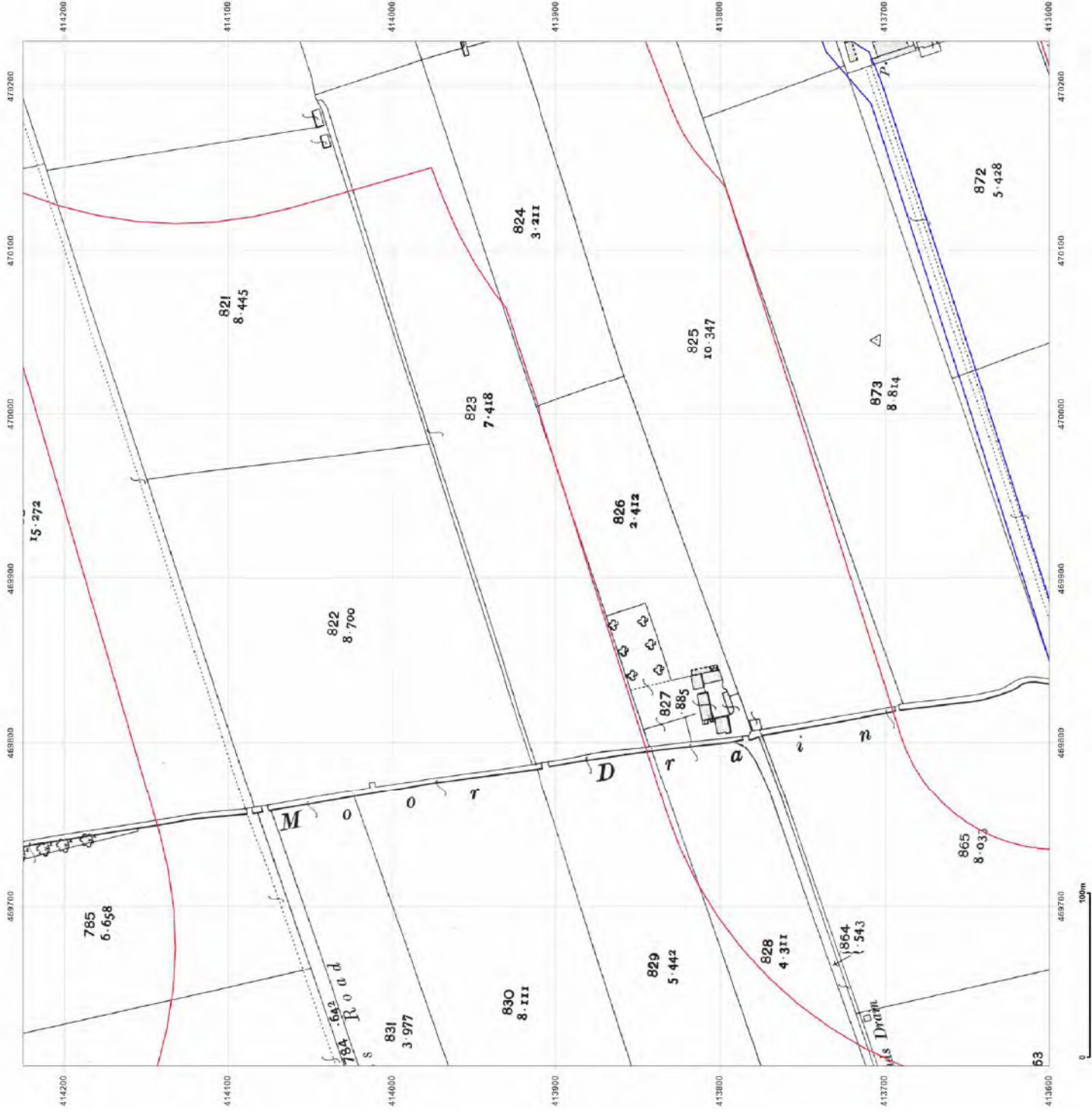
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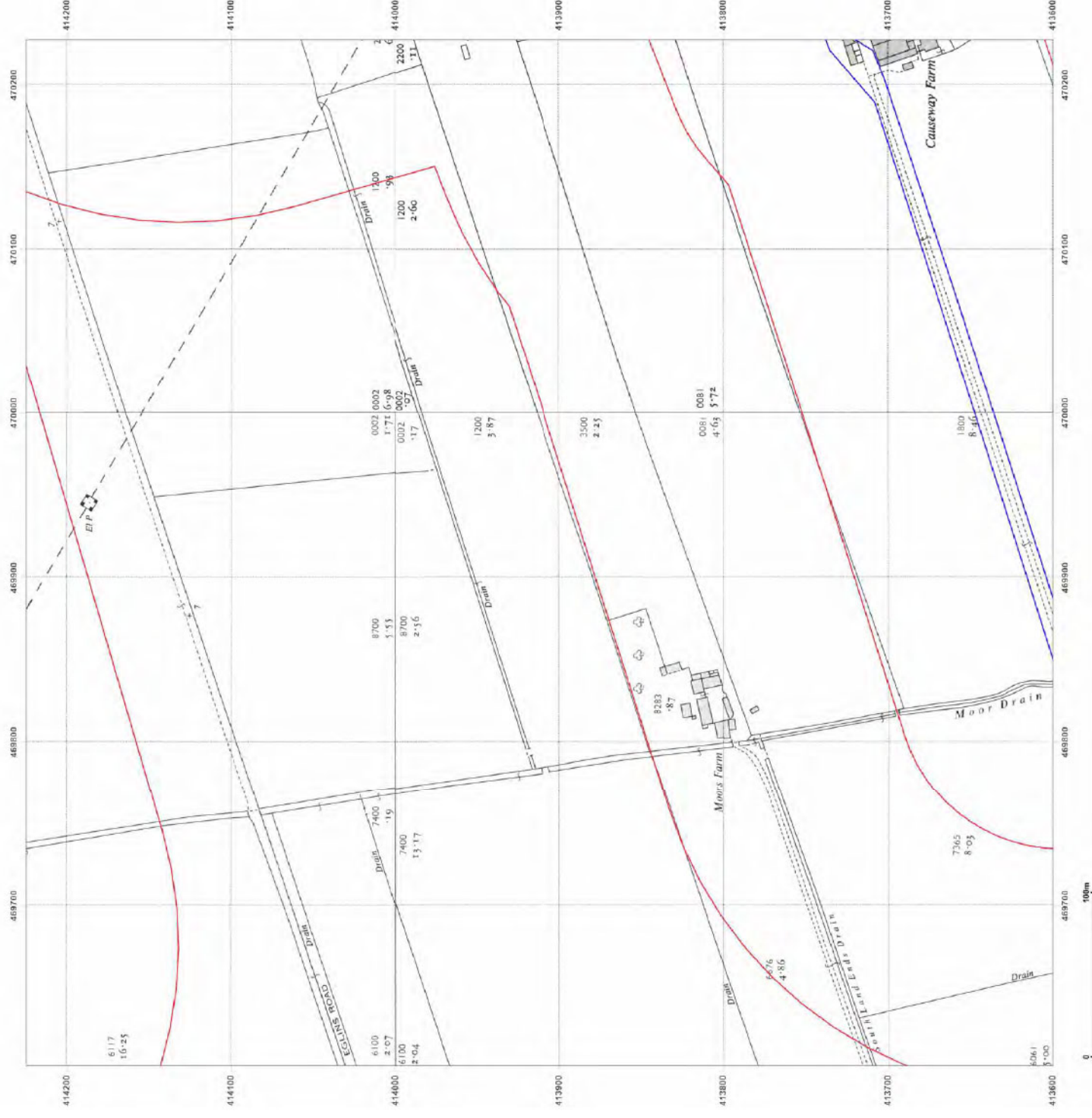
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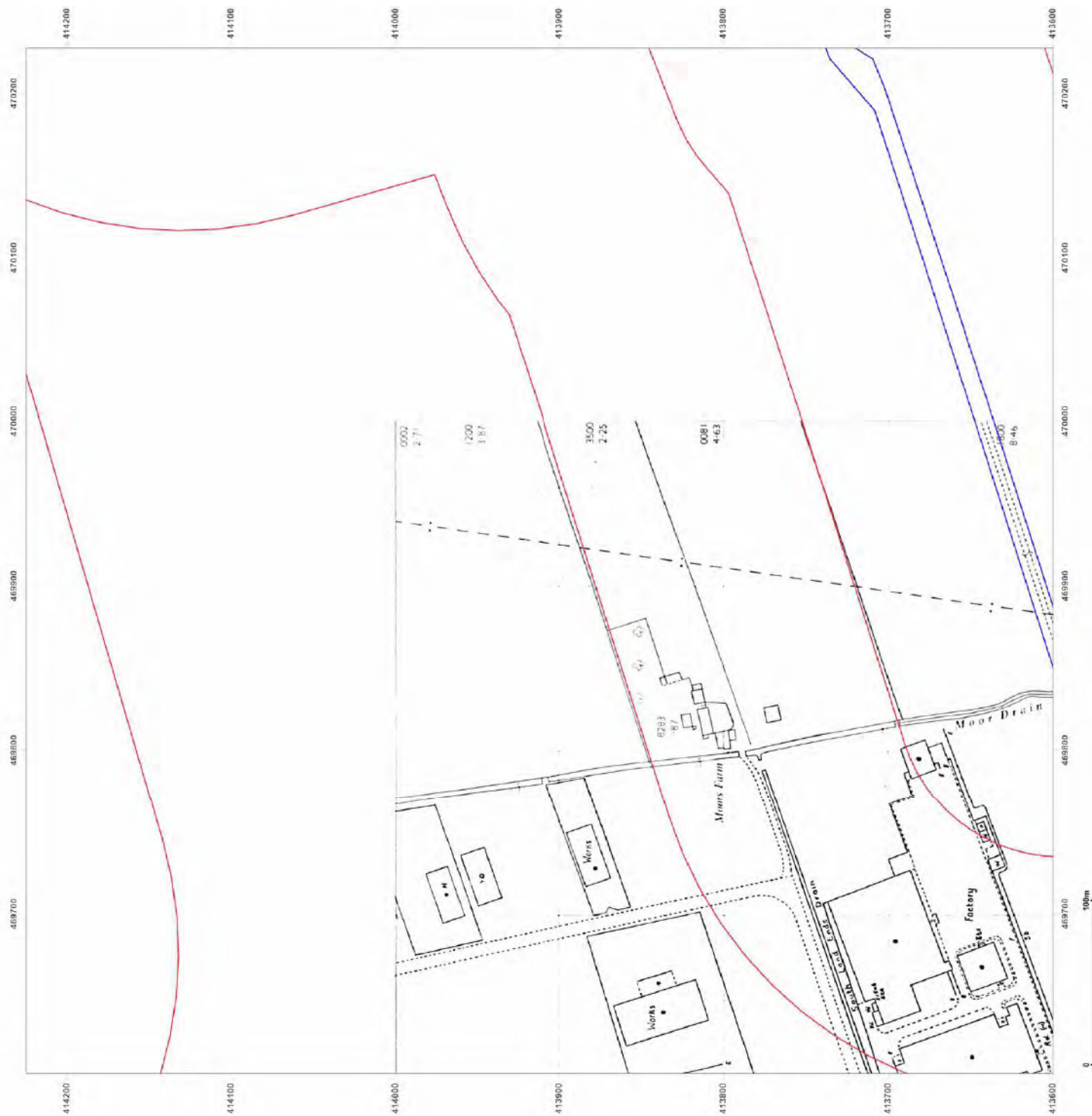
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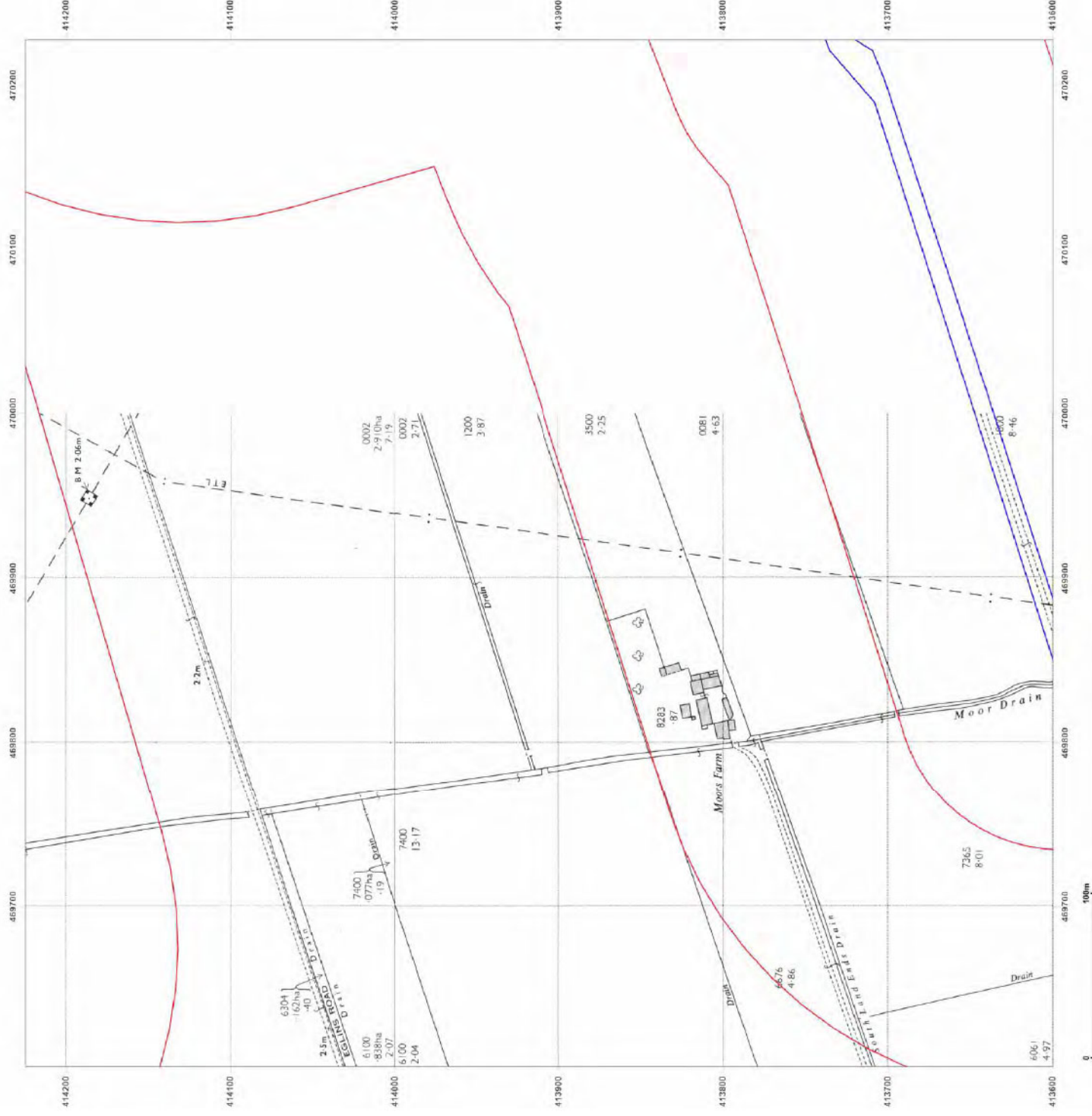
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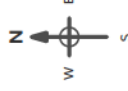
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Report Ref: GSIP-2023-13386-12979_LS_3_9
Grid Ref: 469915, 413912

Map Name: National Grid

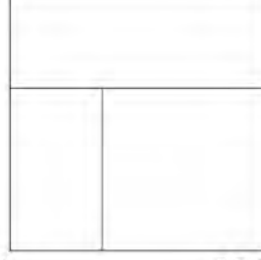
Map date: 1979-1980

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
Revised N/A
Edition 1879
Copyright N/A
Levelled 1984



Surveyed 1979
Revised 1879
Edition N/A
Copyright 1980
Levelled 1984



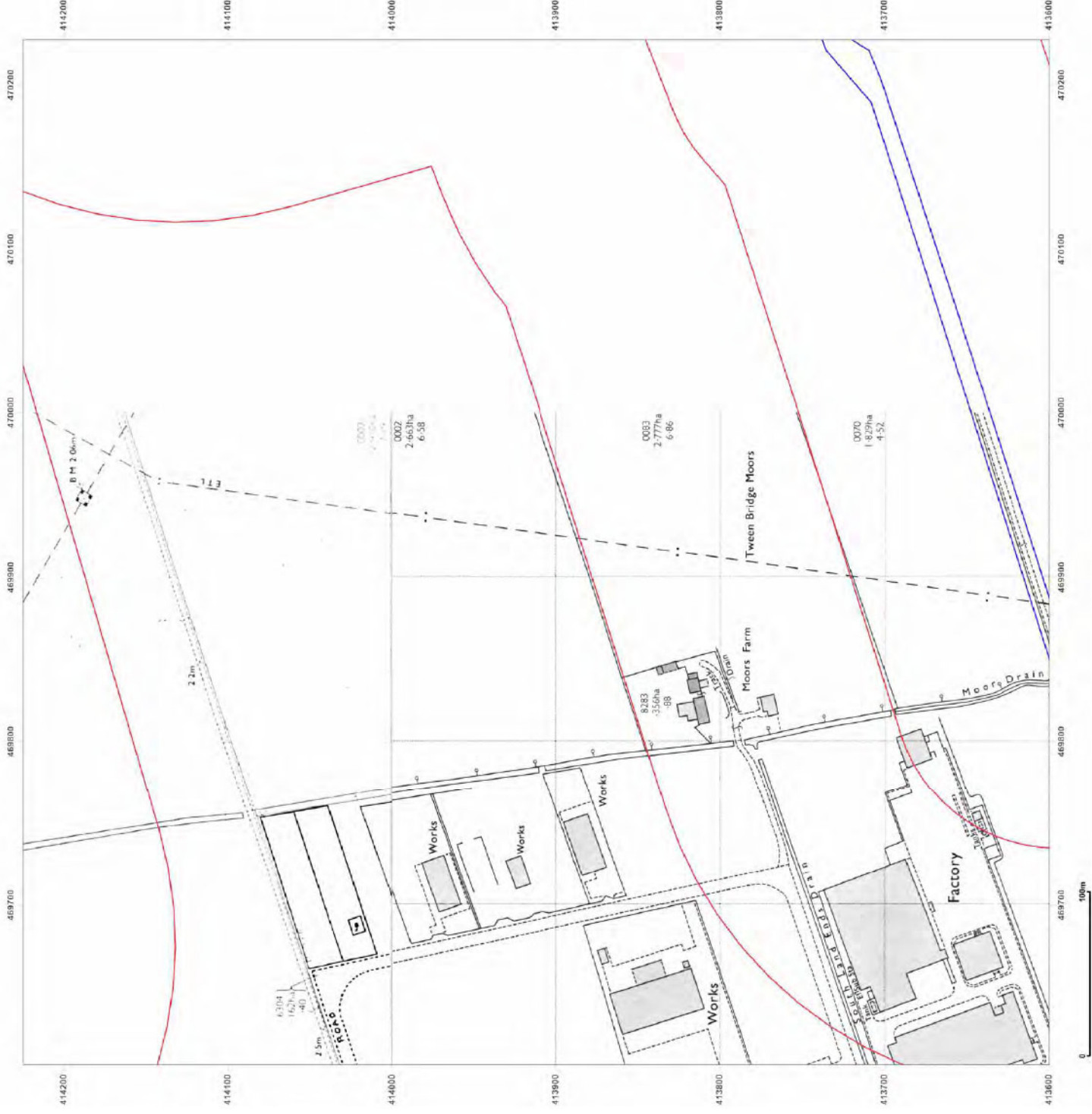
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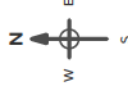
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Grid Ref: 469915, 413912

Map Name: National Grid

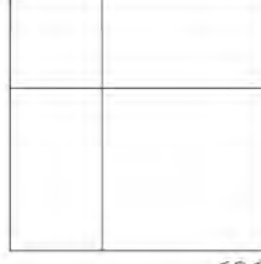
Map date: 1980-1985

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1964
Revised 1985
Edition N/A
Copyright 1985
Levelled 1964



Surveyed N/A
Revised 1878
Edition N/A
Copyright 1980
Levelled 1964



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