



REPORT NO: D7716
REVISION NO: 0

PRELIMINARY INVESTIGATION OF LAND AT
PORLOCK, JARROW

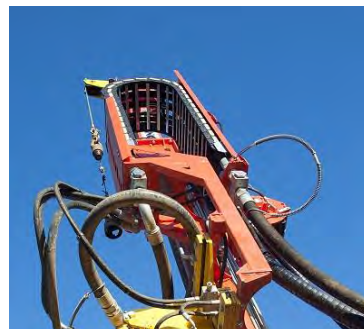
PREPARED FOR:
SOUTH TYNESIDE HOMES.

WRITTEN BY: KJ

DATE: 12/12/2016

CHECKED BY: GD

DATE: 12/12/2016



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D7716/01	Site Location Plan
D7716/02	Preliminary Conceptual Site Model

APPENDIX B - Photographic Survey

APPENDIX C - Desk Study Information

APPENDIX D - Dunelm Conditions of Offer, Notes on Limitations & Basis for Contract



1.0 SCOPE OF INVESTIGATION

Dunelm Geotechnical and Environmental Limited (Dunelm) carried out a Preliminary Investigation (Desk Study) of land at Porlock, Jarrow on behalf of South Tyneside Homes.

It is proposed to develop the site with residential properties.

The purpose of this preliminary investigation is to evaluate likely ground conditions and significant geoenvironmental issues at the site, and to plan the scope of subsequent phases of investigation.

This report may be regarded as a Preliminary Risk Assessment in accordance with the Environment Agency's guidance document *Model Procedures for the Management of Land Contamination* (CLR 11, 2004).

This preliminary investigation has been undertaken with due regard to current contaminated land guidance issued by the Royal Institution of Chartered Surveyors (RICS) together with BS 10175: 2011, "Code of Practice for the Investigation of Potentially Contaminated Land" and relevant sections of BS 5930: 2015, "Code of Practice for Site Investigations".

The objectives of the investigation were as follows:

- To determine the land use history of the site from an inspection of available Ordnance Survey (OS) plans
- To determine the environmental setting of the site from available sources
- To determine whether past mining may have had an influence on the site
- To determine whether the site has previously been used for purposes that may have given rise to significant ground contamination
- To provide recommendations for further investigation.

Information has been obtained from various sources and the full responses received are presented in Appendix C; details relevant to the site are discussed in Sections 3 and 4.

Conditions of offer and notes on limitations relevant to all Dunelm geoenvironmental investigations are described in Appendix D and should be read in conjunction with this report.

2.0 SITE RECONNAISSANCE

2.1 GENERAL

The centre of the site is located at OS Grid Ref 433725, 564280. The site is situated approximately 1km southeast of Jarrow town centre. The site location is shown in Drawing Number D7716/01 in Appendix A to this report.

The preliminary site inspection was undertaken during November 2016 and site photographs are presented in Appendix B.

2.2 TOPOGRAPHY & SITE FEATURES

The site is relatively flat. The site is currently an area of grassed public open space, with occasional public footpaths.

Mature trees and hedgerows are present along the western boundary of the site.

3.0 SITE HISTORY

In order to determine the history of the site, extracts from historical Ordnance Survey (OS) plans have been examined. Copies of these plans are provided in Appendix C.

A summary of the history of the on-site and off-site features is presented below. It is not the intention of this report to describe in detail all the changes that have occurred on or adjacent to the site, only those pertinent to the site.

SUMMARY OF HISTORICAL INFORMATION

OS Map Edition	On-site Features	Off-site Features
1856	The site is predominantly agricultural fields. A stream is present through the centre of the site. A lodge is located on the eastern boundary of the site.	A salt marsh is present approximately 250m northwest of the site. A well and associated pond are located approximately 30m southwest of the site. A brick and tile works is located approximately 500m northeast of the site. The River Don is located approximately 250m northwest of the site.
1895	No significant change.	Residential development has increased in the surrounding area. Jarrow cemetery is located approximately 100m west of the site. a railway line is located approximately 300m north of the site. Springwell Pepper Mills is located approximately 600m west of the site. St. Bede's works is located approximately 750m northeast of the site.
1921	No significant change.	Commercial development has increased in the surrounding area.
1938	No significant change.	Residential development has increased in the surrounding area.
1941-1942	A sewage pipeline is present through the centre of the site.	No significant change.
1951-1952	No significant change.	Residential development has increased in the surrounding area.
1957	An area of marshy ground is indicated in the west of the site.	No significant change.
1965-1969	The sewage pipeline and stream are no longer present through the site. An embankment is indicated within the northern and southern parts of the site. The southern embankment forms part of the subway passing beneath the A19.	Residential development has increase in the surrounding area. The spring and pond to the southwest are no longer present. Two ponds are located approximately 400m southwest of the site. The A19 is located adjacent to the site to the west.
1973	No significant change.	The ponds to the southwest appear to have been backfilled.
1992-1994	No significant change.	No significant change.
2002	No significant change.	No significant change.
2010	No significant change.	No significant change.
2014	No significant change.	No significant change.

4.0 ENVIRONMENTAL SETTING

4.1 INFORMATION SOURCES

The environmental setting of the site was determined through reference to the following:

- British Geological Survey (BGS) 1: 50,000 scale sheet No 21 Sunderland.

- BGS 1:10,000 scale sheet NZ36SW
- Coal Mining Report from David Bellis Associates (based on data obtained from the Coal Authority)
- Groundsure Report (including historical map extracts)
- BRE Publication BR211 *Radon: Guidance on Protective Measures for New Dwellings*

4.2 GEOLOGY

The site is shown to be underlain by drift deposits comprising Pelaw Clay deposits. Glacial sands and gravels are present in the northwest corner of the site. In addition, the geological plan indicates an area of made ground through the centre of the site, in the area of the former stream/sewage pipe, indicated as ashes. Made ground/disturbed ground may also be encountered in the area of the embankments.

The solid geology underlying the site comprises Coal Measures strata. The strata dip towards the southeast. No coal seams are shown to outcrop in the vicinity of the site, however, due to the faulting on site and in the surrounding area, the shallowest coal seam beneath the site is considered to be an unnamed coal seam, up to 0.9m thick, recorded as banded.

An un-named fault is shown through the north of the site, with a downthrow to the north.

No significant ground hazards have been identified by the British Geological Survey as reported in the Groundsure Report.

4.3 MINING AND QUARRYING

The mining report indicates that the site may be underlain by workings in two coal seams, the shallowest being the Maudlin Seam at a depth of approximately 332m below ground level and a thickness of 0.58m. At this depth and thickness, working in this seam are not considered to pose a significant risk to the development.

Based on the geological maps, the site is situated above the Wear Mouth Marine Band. Therefore, the shallowest coal seam beneath the site would be a thin unnamed coal seam and an unnamed seam up to 0.9m thick. Based on the vertical section, the coal would be at a depth of >15m below rock head. Therefore, given the thickness of the seam at 0.9m, sufficient rock cover should be present to mitigate against workings in this seam, should they be present.

There are no recorded mine entries within 20m of the site.

No evidence has been found to suggest that the site has been affected by quarrying.

4.4 HYDROLOGY

The nearest surface water feature is the River Don approximately 250m northwest of the site.

The Groundsure Report indicates no licensed surface water abstraction within 1000m of the site.

There are no recorded discharge consents within 200m of the site.

There are no recorded pollution incidents within 150m of the site.

The site is not recorded as being situated within a zone of flooding from rivers and sea.

The site is shown to lie within a zone of surface water flooding through the centre of the site; further information should be sought from the Environment Agency since this may represent a significant constraint to development.

4.5 HYDROGEOLOGY

Using the Environment Agency's Policy and Practice for the Protection of Groundwater the solid geology beneath the site is classified as a Secondary (A) Aquifer – with permeable layers. These formations, although not producing large quantities of water for abstraction, are important for supplying base flows to rivers.

The site does not lie within a source protection zone.

There are no recorded groundwater abstractions within 1000m of the site.

4.6 LANDFILLS & OTHER POTENTIAL GAS SOURCES

The Groundsure Report indicates two recorded landfill sites located within 250m of the site, the closest being approximately 102m west of the site at NGR 433400, 563700. Whilst operational, authorised wastes included industrial, commercial and household waste. The landfill was active from 1950 to 1973.

Historical plans indicate that a pond 30m to the southwest of the site was backfilled prior to 1965. Consequently there may be made ground at this location together with organic sediments that could represent a potential source of gas. In addition, the historical plans and geological plans indicate an area of made ground through the centre of the site, possibly associated with a former stream/drain present in this area. The nature of the infill is unknown, however this feature could represent a potential source of gas.

4.7 RADON GAS

In accordance with the procedure described in BRE Publication BR211 *Radon: Guidance on Protective Measures for New Dwellings*, no radon protection measures are required for new buildings on the site.

5.0 CONCEPTUAL SITE MODEL

5.1 GENERAL

Based on the information presented in the preceding Sections, and in accordance with the CLR11 guidance noted in Section 1, a Preliminary Conceptual Site Model has been produced. A simplified diagrammatic form of the model showing the most significant features is included as Drawing No D7716/02 in Appendix A.

It is understood that the site is to be redeveloped with residential properties.

The main features of the model are discussed in the following sections together with preliminary recommendations where appropriate.

5.2 LIKELY GROUND CONDITIONS

Based on available information, ground conditions are likely to comprise areas of made ground and Pelaw clay deposits.

5.3 MINING AND QUARRYING ASSESSMENT

The site is not in an area affected by shallow coal mining.

No evidence has been found to indicate that the site has been affected by quarrying.

5.4 GEOTECHNICAL ISSUES

The ground conditions noted above may allow the use of strip footings for lightly loaded structures. Where made ground is encountered, foundations will need to be taken through the made ground into underlying natural strata of adequate bearing capacity. Suspended floor slabs are required where made ground

exceeds 0.6m in thickness.

Where new foundations conflict with buried obstructions, considerable overdeepening may be required to reach natural ground of adequate bearing capacity. The presence of trees will also necessitate overdeepening of foundations. Consequently the use of strip or trench fill foundations may become impractical and piles may be required.

The above suggestions should be regarded as tentative until intrusive investigations are undertaken and information is available regarding design loads and development layout.

5.5 HAZARD IDENTIFICATION – CONTAMINATION SOURCES

The desk study has shown that the site has been occupied previously and it is possible that contamination is present associated with the made ground indicated through the centre of the site.

The nature of the made ground is unknown, therefore, the following commonly occurring contaminants should be tested for:

- Heavy metals
- PAH
- TPH
- Asbestos

It should be noted that the above potential contaminants are considered to be commonly encountered; no evidence exists to indicate that such contaminants are present in the ground at the site. However, an intrusive investigation should take into account the possibility that the above potential contaminants may be encountered. Risk assessment should be undertaken for contamination identified during intrusive investigation.

5.6 HAZARD IDENTIFICATION – GAS SOURCES

Potential sources of hazardous gas that could affect the site have been identified as follows:

- Landfill site within 250m
- Infilled pond within 250m
- Possible deep made ground on site

A hazardous gas risk assessment is therefore recommended as part of an intrusive investigation at the site. The scope of a gas investigation (including the number of monitoring points and quantity of data required) should be related to the gas generation potential of the source and the sensitivity of the proposed end use.

5.7 RISK ASSESSMENT FOR CONTAMINATED LAND

In the CLR11 guidance noted above, risk assessment for contaminated land should be conducted using the following four steps: Hazard Identification, Hazard Assessment, Risk Estimation, and Risk Evaluation.

The results of the Hazard Identification process (identifying potential contamination and gas sources) are shown in the preceding sections.

'Hazard Assessment' involves analysing the potential for unacceptable risks, i.e. identifying what receptors and pathways could be present, what pollutant linkages could result, and what the effects might be. 'Pollution linkages' is a term used to describe a particular combination of contaminant pathway and receptor.

Following the site's redevelopment, significant receptors in terms of human health that could be affected by contamination will include future residents. Ecosystem receptors include the Secondary (A) Aquifer beneath the site.

Potential pollution linkages considered to be significant at this stage are shown on the Preliminary Conceptual Site Model drawing in Appendix A.

Based on the model, potentially unacceptable risks have been identified and further action is therefore recommended.

This further action should comprise an intrusive ground investigation that would enable additional Hazard Assessment to be carried out, followed by Risk Estimation and Risk Evaluation. The Preliminary Conceptual Site Model should be revised on completion of the ground investigation. An outline of a suitable intrusive ground investigation is included in the following Section of this report.

6.0 GROUND INVESTIGATION STRATEGY

An intrusive ground investigation should be undertaken to verify the assumptions made in the Preliminary Conceptual Site Model and to provide data for foundation design.

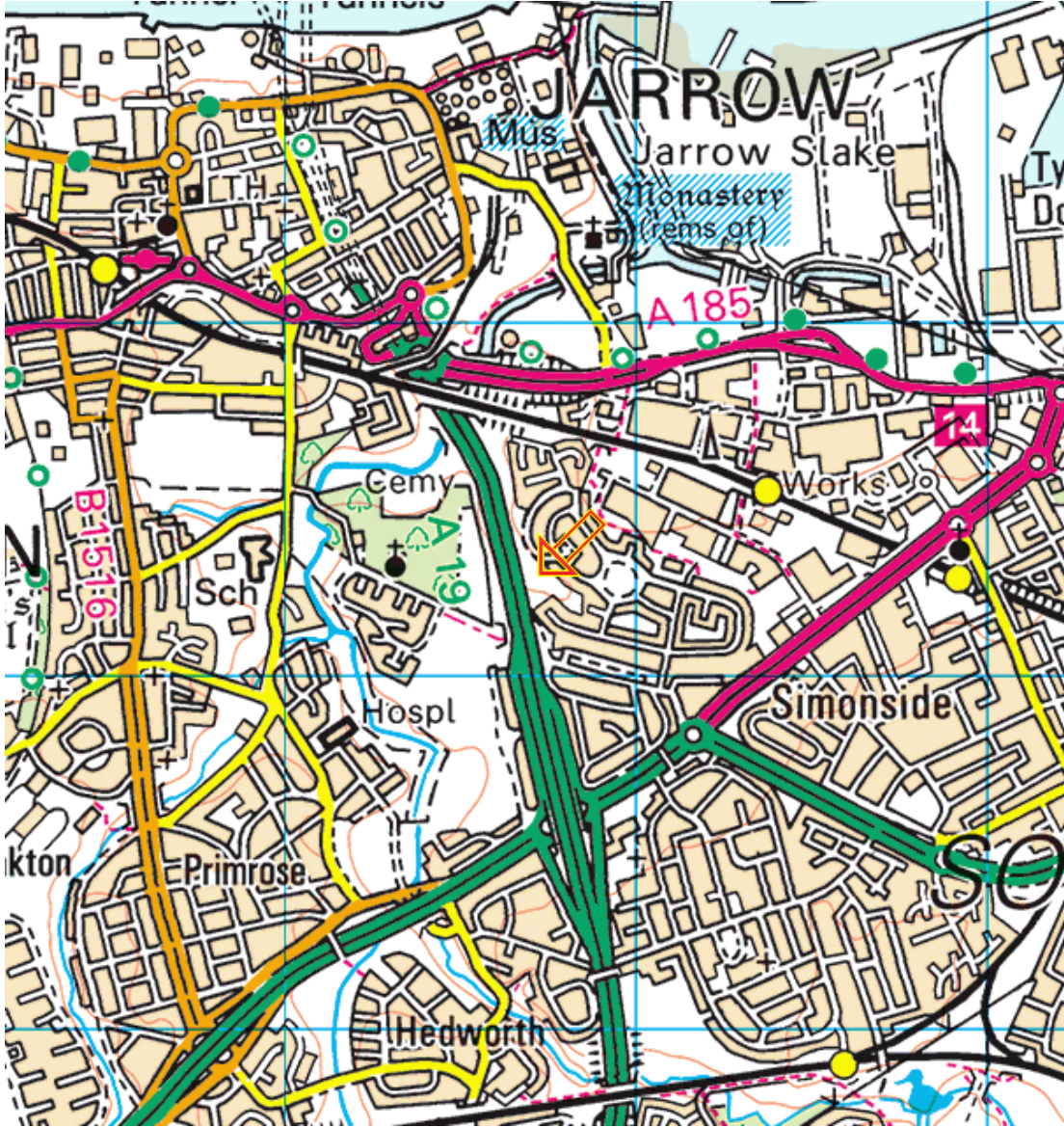
An outline ground investigation strategy is summarised below, based on the preliminary conceptual site model and information obtained during the desk study.

- Mini rig boreholes to obtain geotechnical data from in situ testing
- Appropriate sampling to enable chemical and geotechnical testing to be carried out
- Installation of monitoring wells to enable subsequent groundwater and gas measurements.


APPENDIX A

DRAWINGS



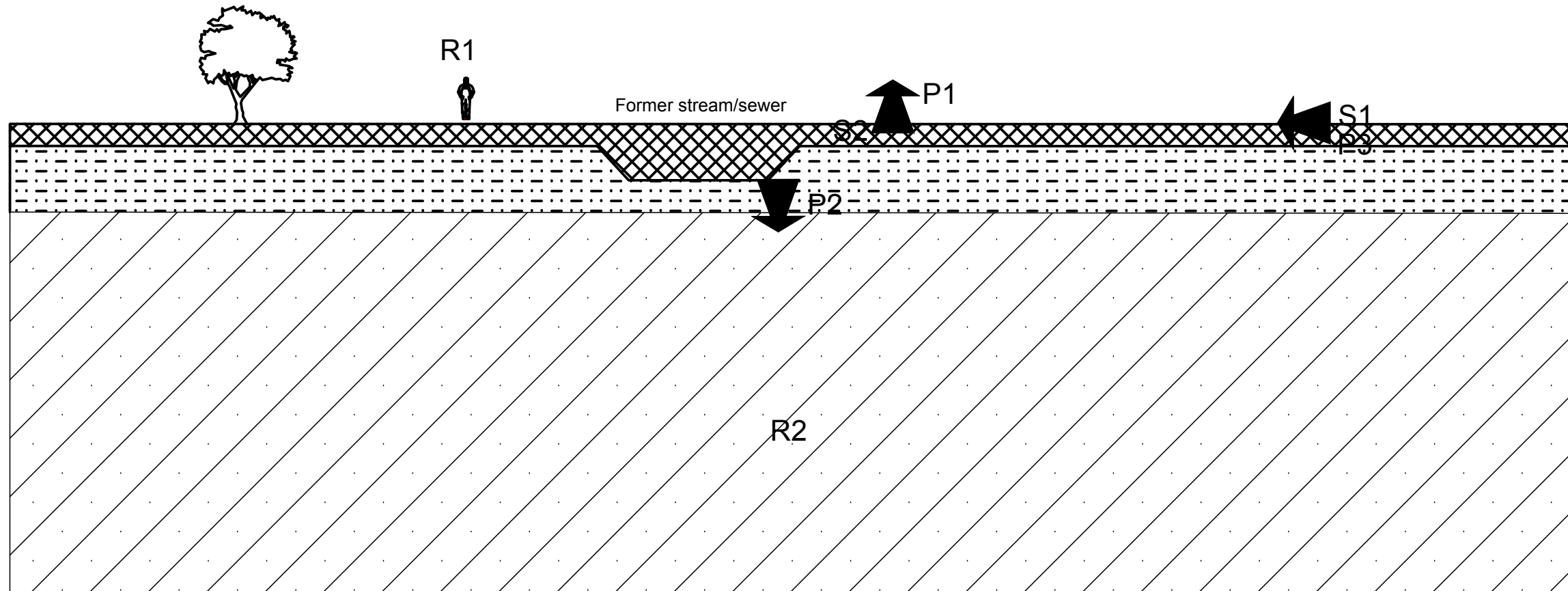


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	Client: South Tyneside Homes			
TEL: 0191 378 3151 FAX: 0191 378 3157	Drawing Title: Site Location Plan			
Drawing No: D7716/01	Date: November 2016	Scale: NTS	Status: Final	Drawn by: KJ

Western boundary

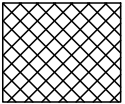
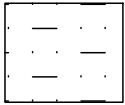
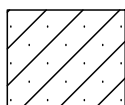
Eastern boundary



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NOT TO SCALE: Contractor to check all dimensions on site before commencement of any works. No dimensions to be scaled from this drawing.
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Ground Conditions Summary

-  MADE GROUND
-  PELAW CLAY DEPOSITS
-  COAL MEASURES

Pollutant Linkages

SOURCE	<ol style="list-style-type: none"> 1. Gas emissions from offsite sources. 2. Contamination within the made ground.
PATHWAY	<ol style="list-style-type: none"> 1. Gas emissions and inhalation or ingestion of determinants within made ground. 2. Migration of contamination into underlying natural deposits 3. Gas emissions & inhalation of gases from off site.
RECEPTOR	<ol style="list-style-type: none"> 1. Human Health 2. Secondary (A) Aquifer

CLIENT:
 South Tyneside Homes

PROJECT TITLE:
 Porlock, Jarrow

DRAWING TITLE:
 Conceptual Site Model

DRAWING NUMBER:
 D7716/02

DATE:
 November 2016

APPENDIX B

PHOTOGRAPHIC SURVEY






Photograph 1: General view of the site looking south



Photograph 2: General view of the site looking north.

 <p>TEL: 0191 378 3151 FAX: 0191 378 3157</p>	Contract: Porlock, Jarrow		Contract No: D7716
	Client: South Tyneside Homes		
	Site Photographs	Date: December 2016	Sheet 1 of 1

APPENDIX C

DESK STUDY INFORMATION



Site Details:

PORLOCK ROAD, JARROW,
NE32 3QZ

Client Ref: 9737-D7716-KJ
Report Ref: GS-3438695
Grid Ref: 433725, 564280

Map Name: County Series

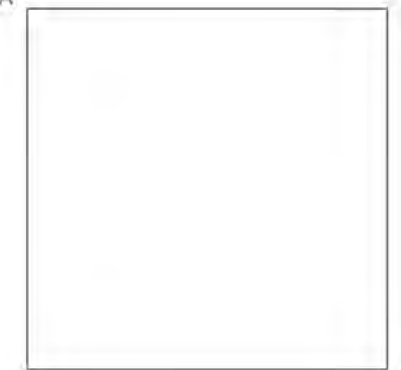
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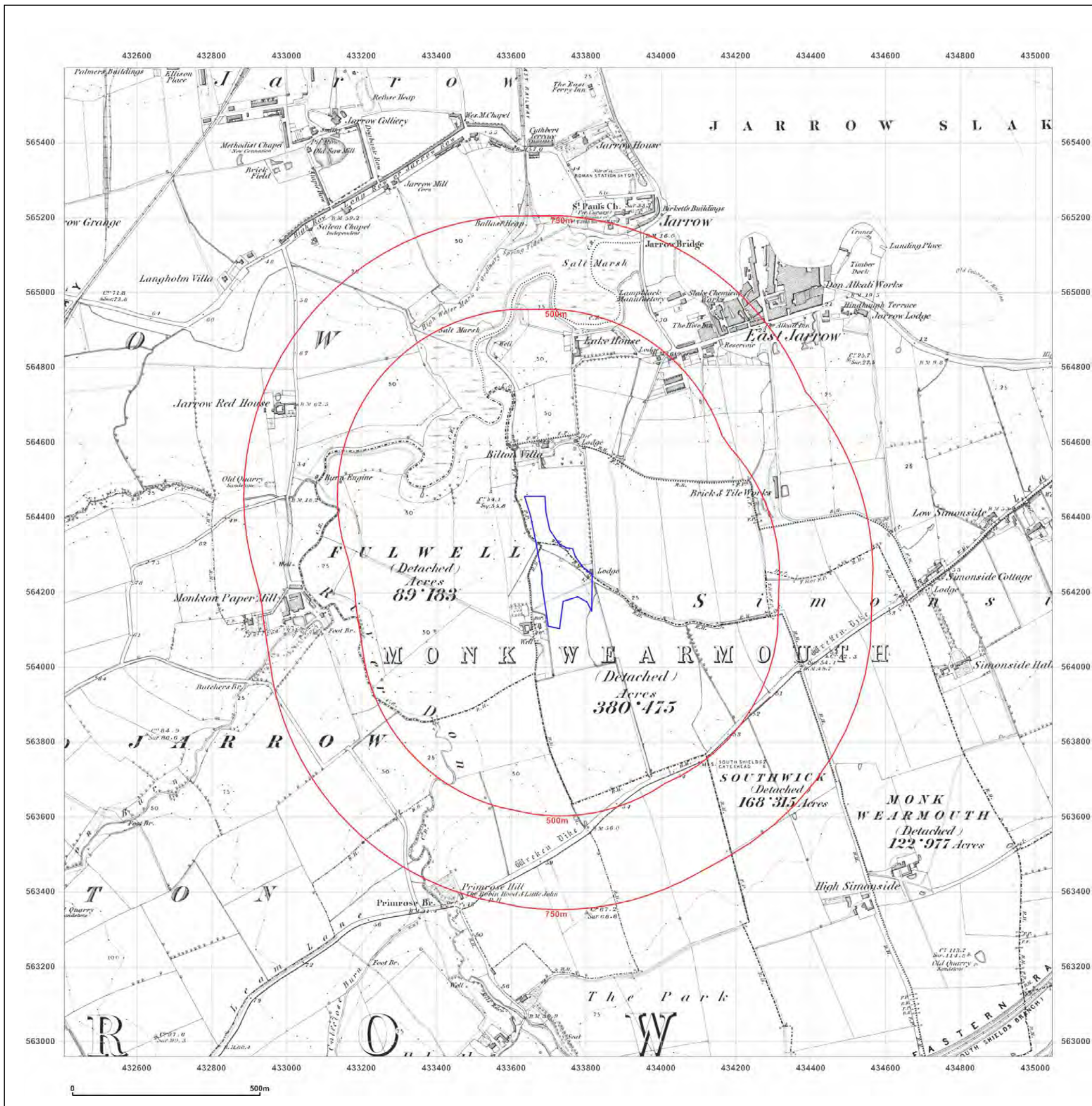


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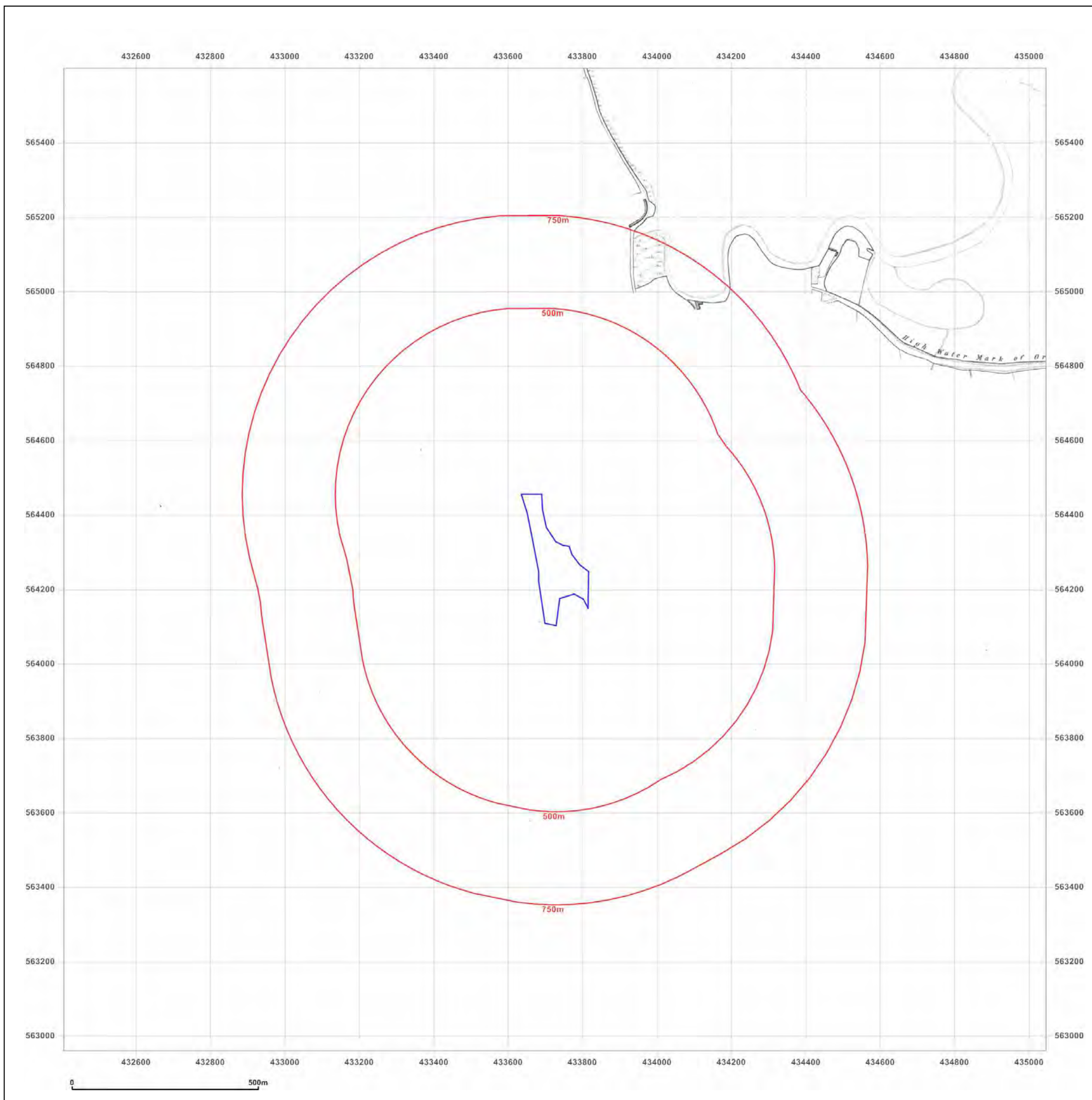


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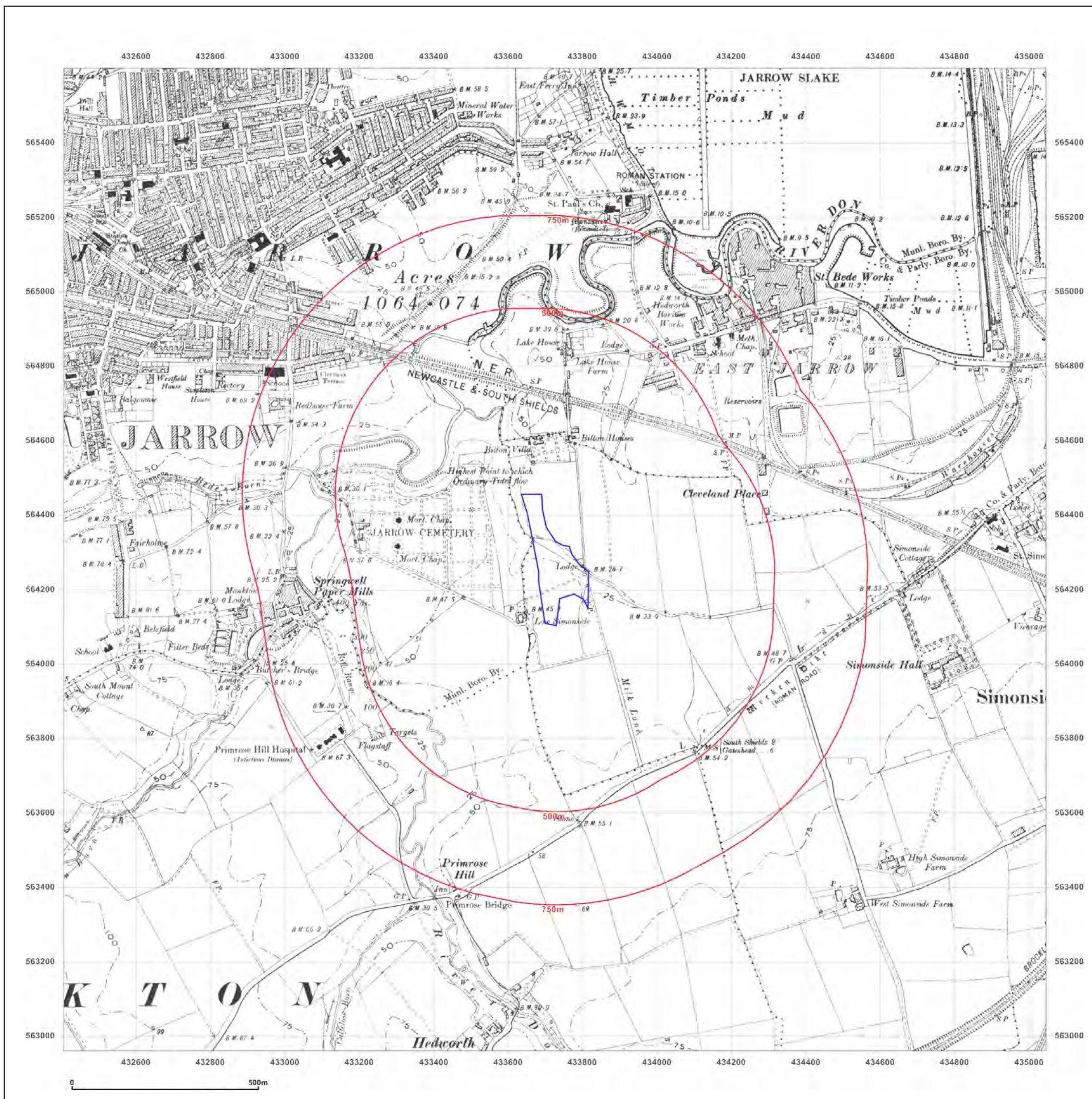


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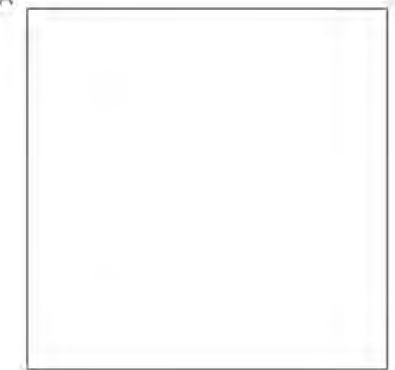
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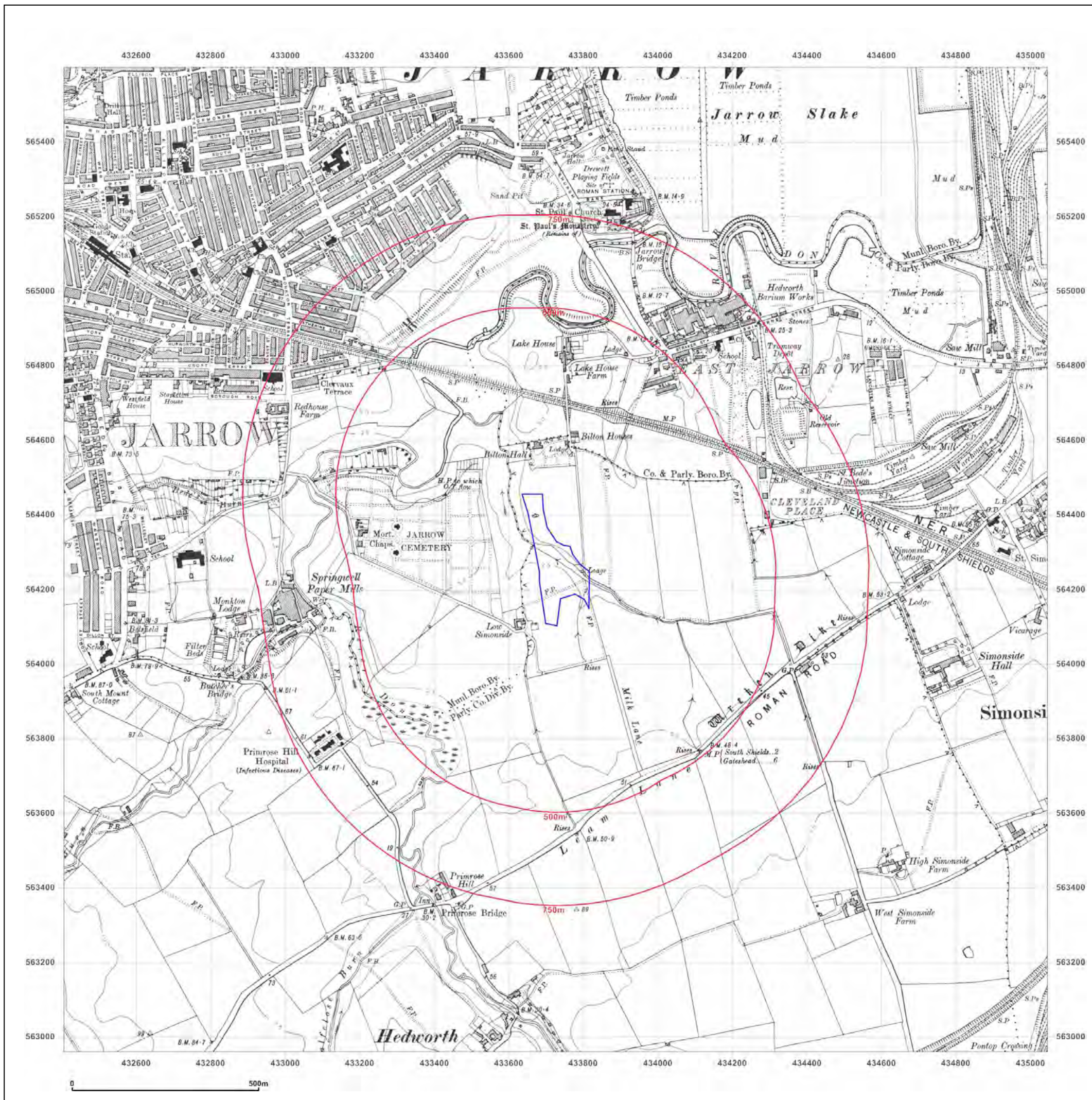


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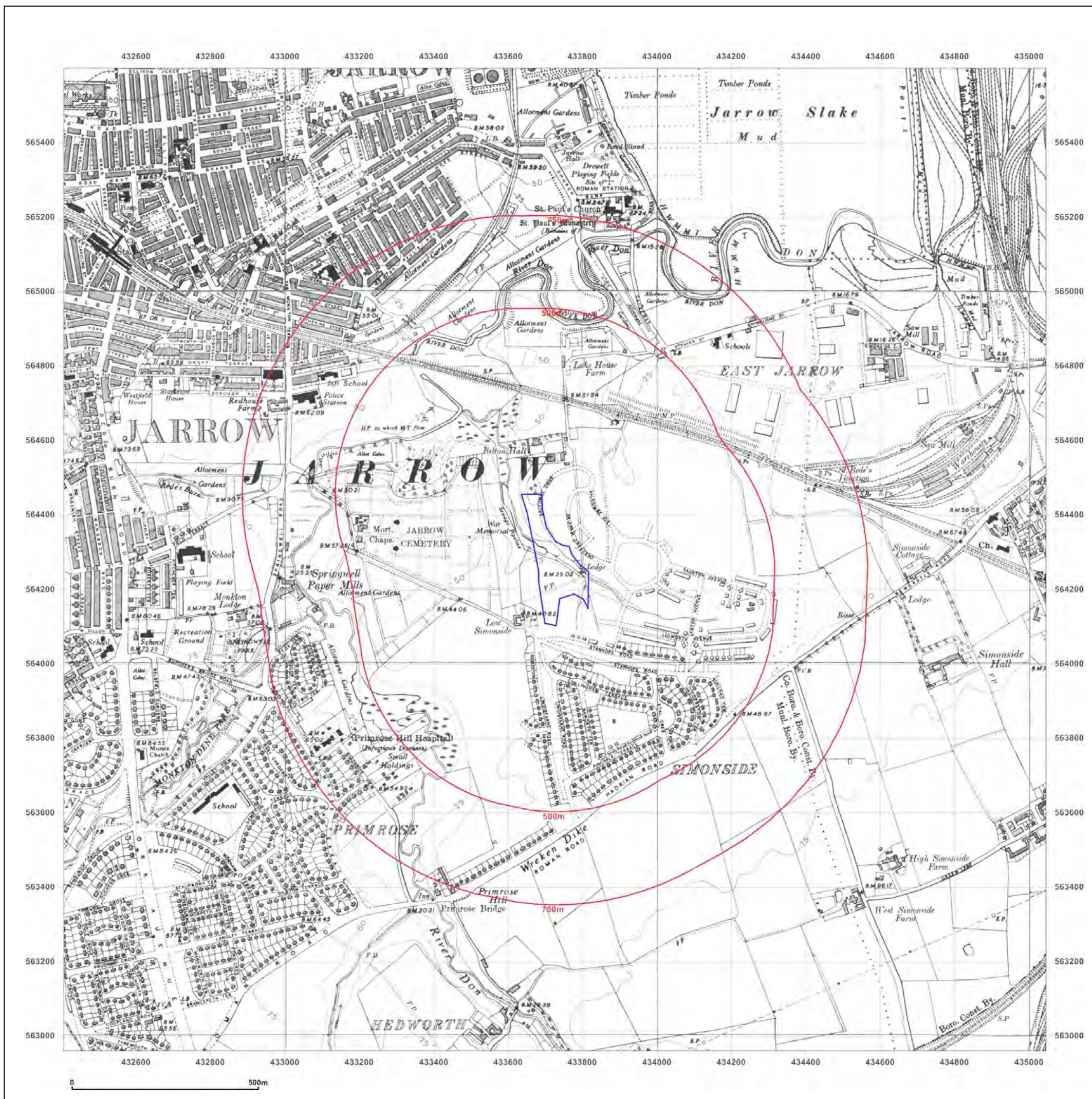


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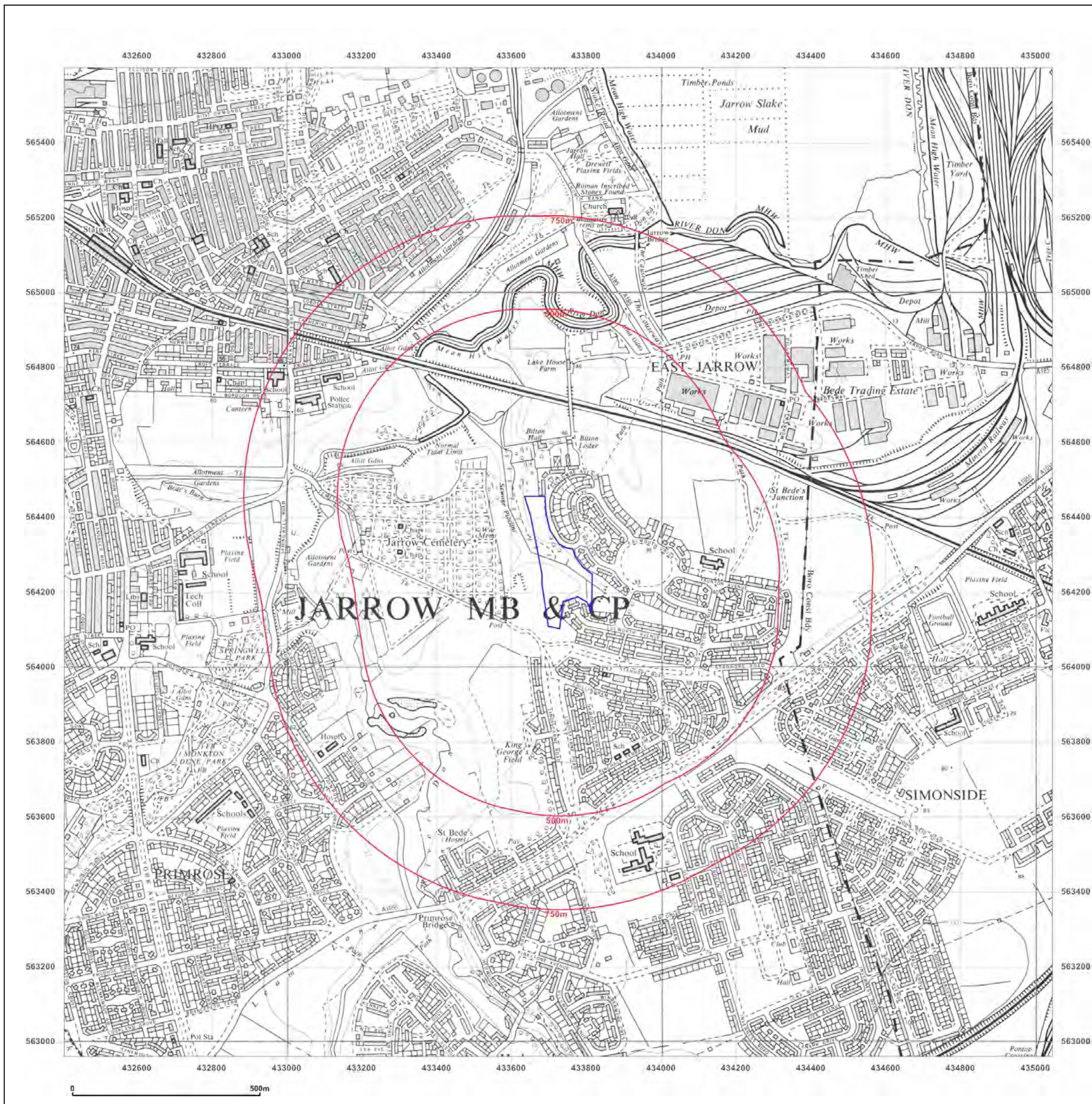


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Edition N/A
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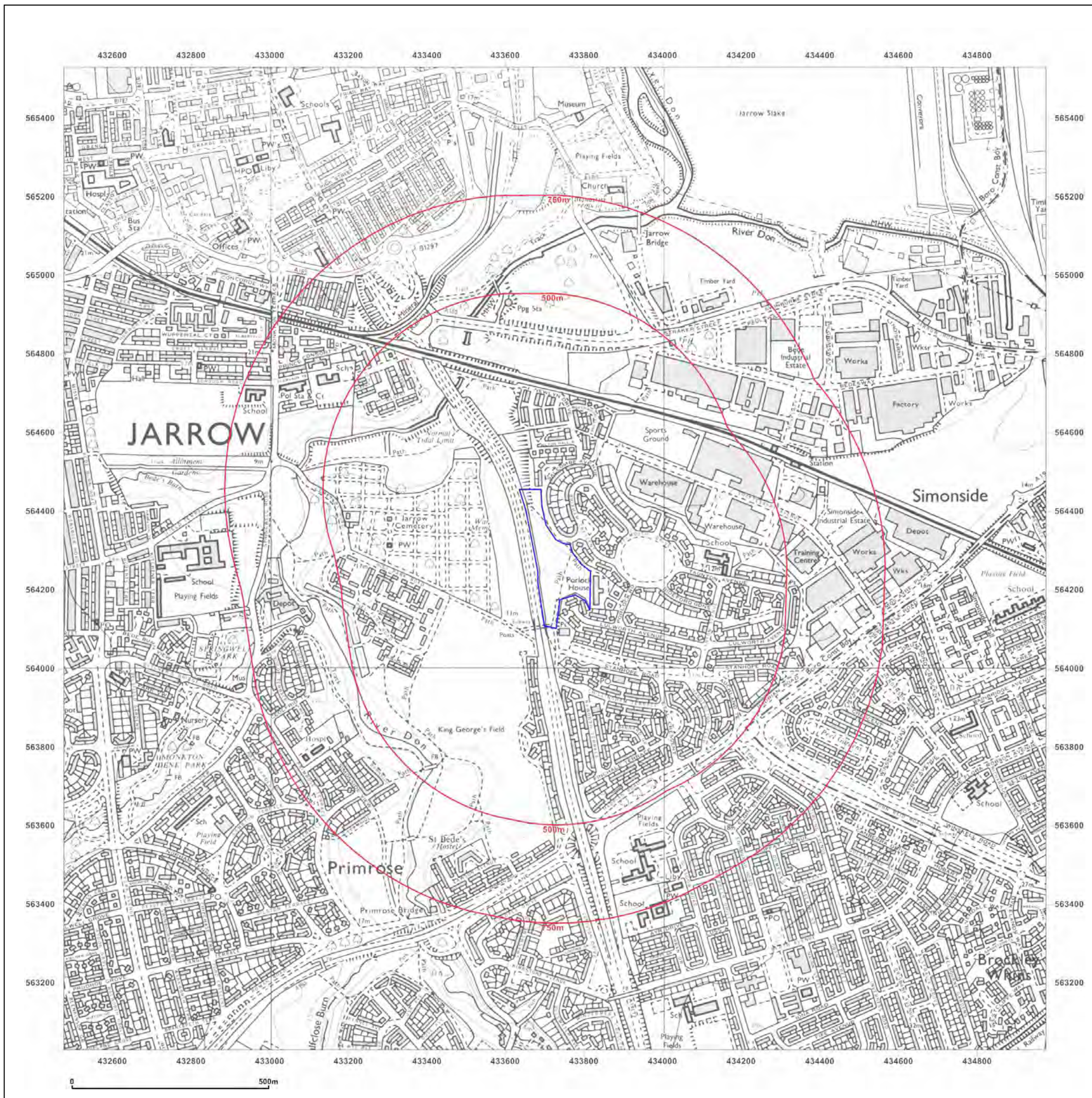


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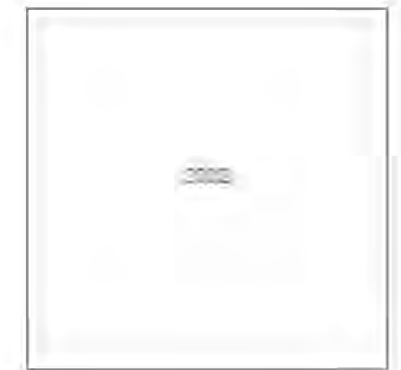
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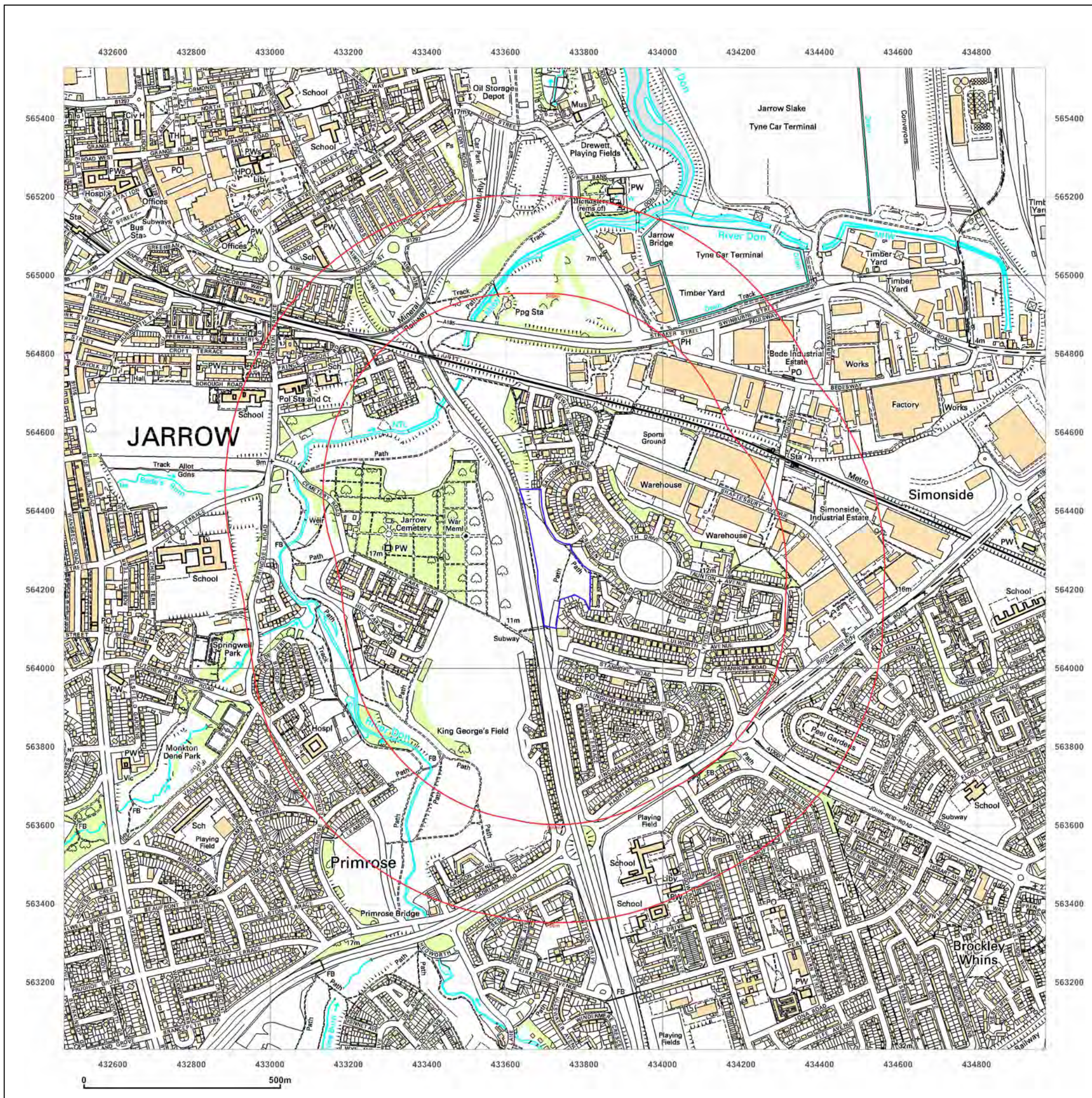


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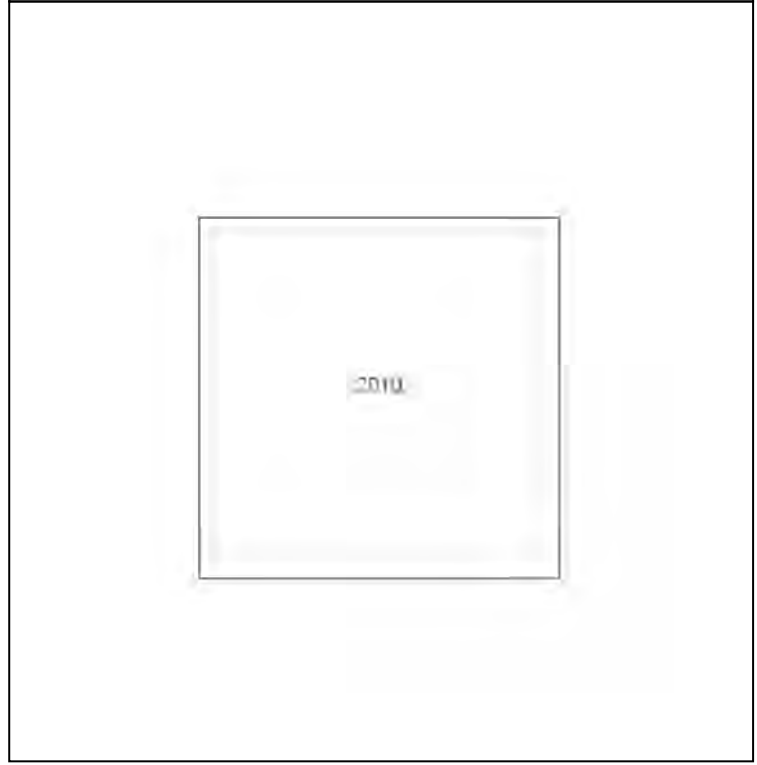
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Grid Ref: 433725, 564280

Map Name: National Grid

Map date: 2010

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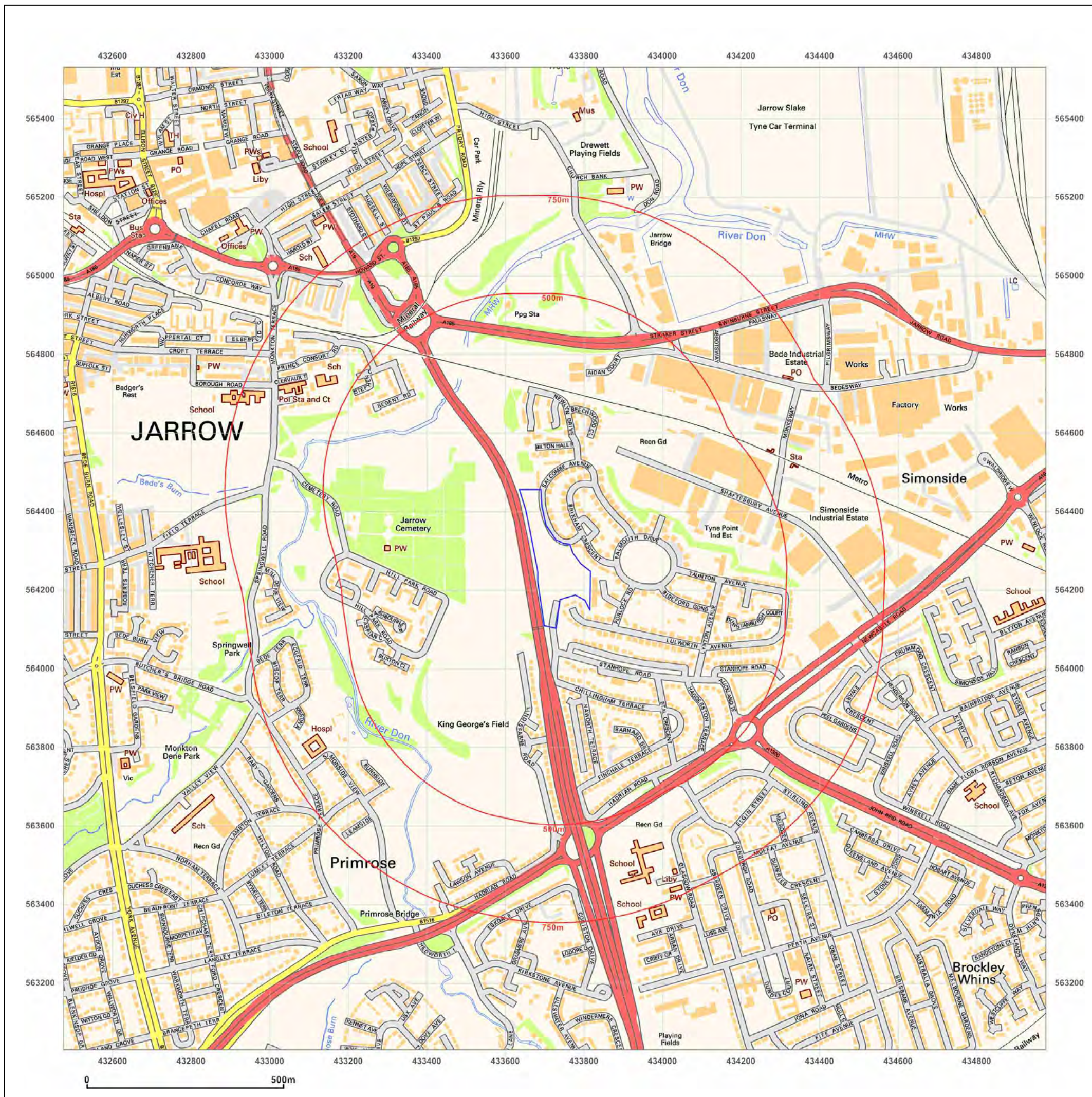


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Map Name: County Series

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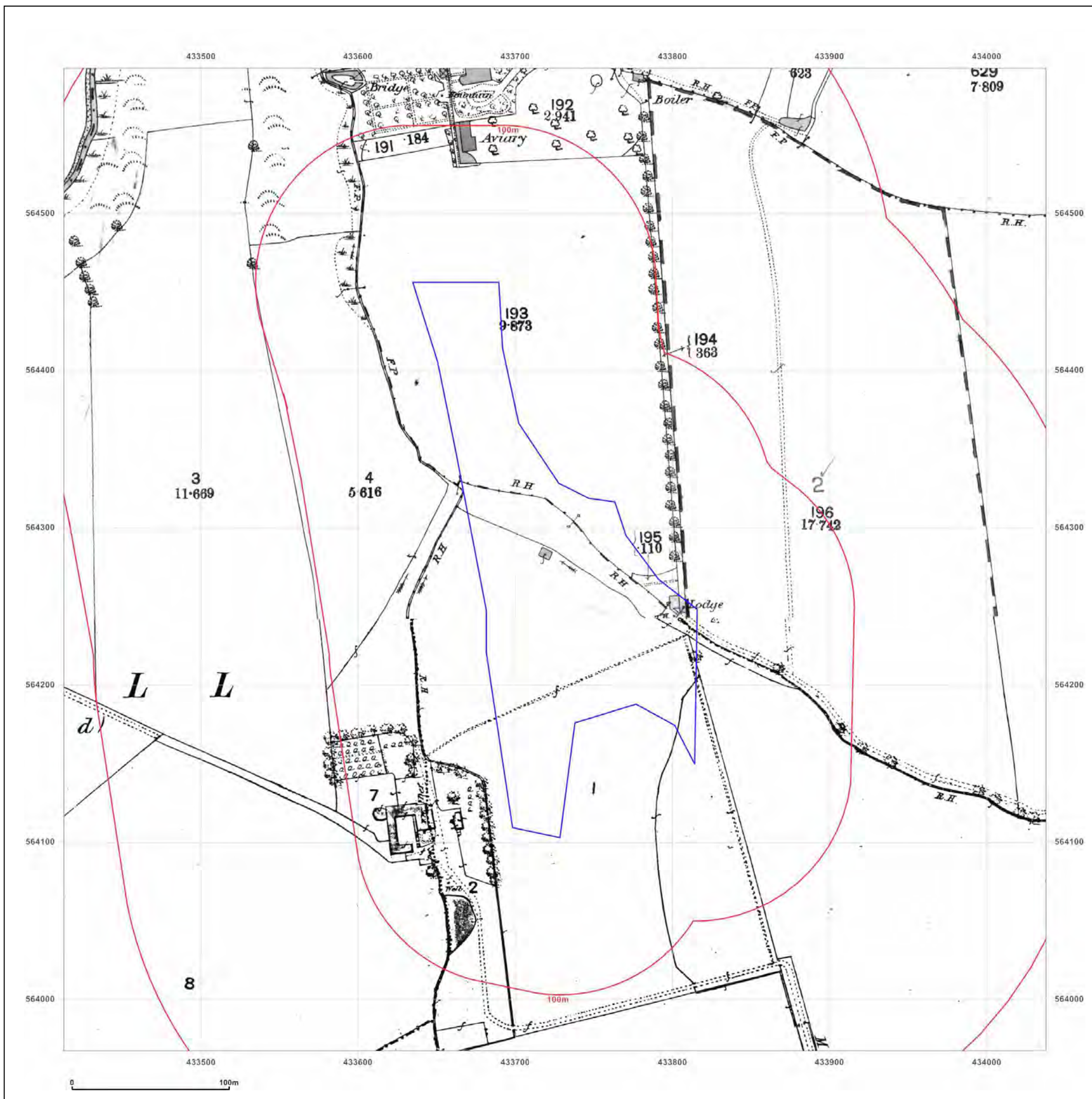


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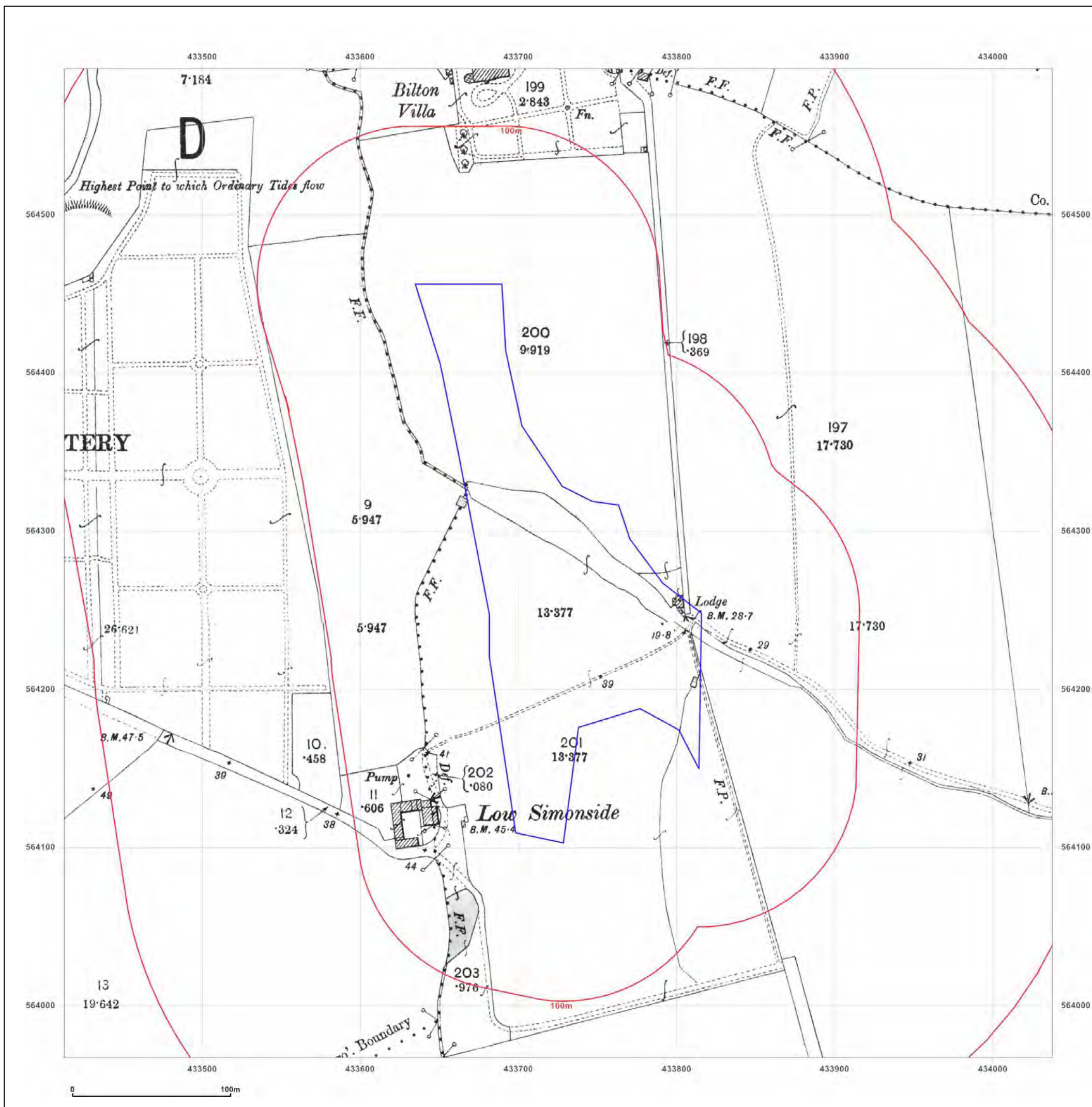


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Grid Ref: 433725, 564280

Map Name: County Series

Map date: 1917-1918

Scale: 1:2,500

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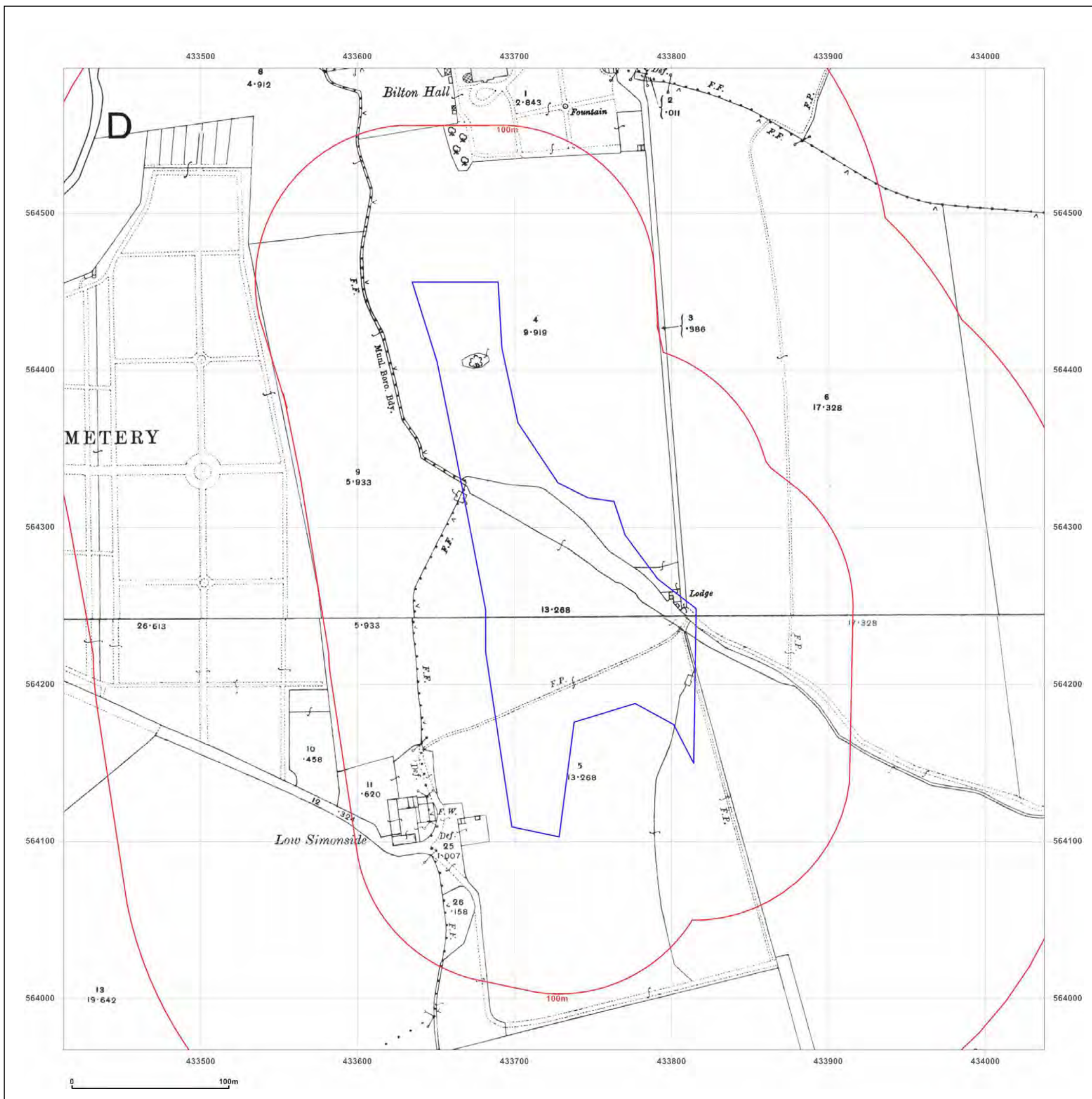


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Grid Ref: 433725, 564280

Map Name: County Series

Map date: 1941-1942

Scale: 1:2,500

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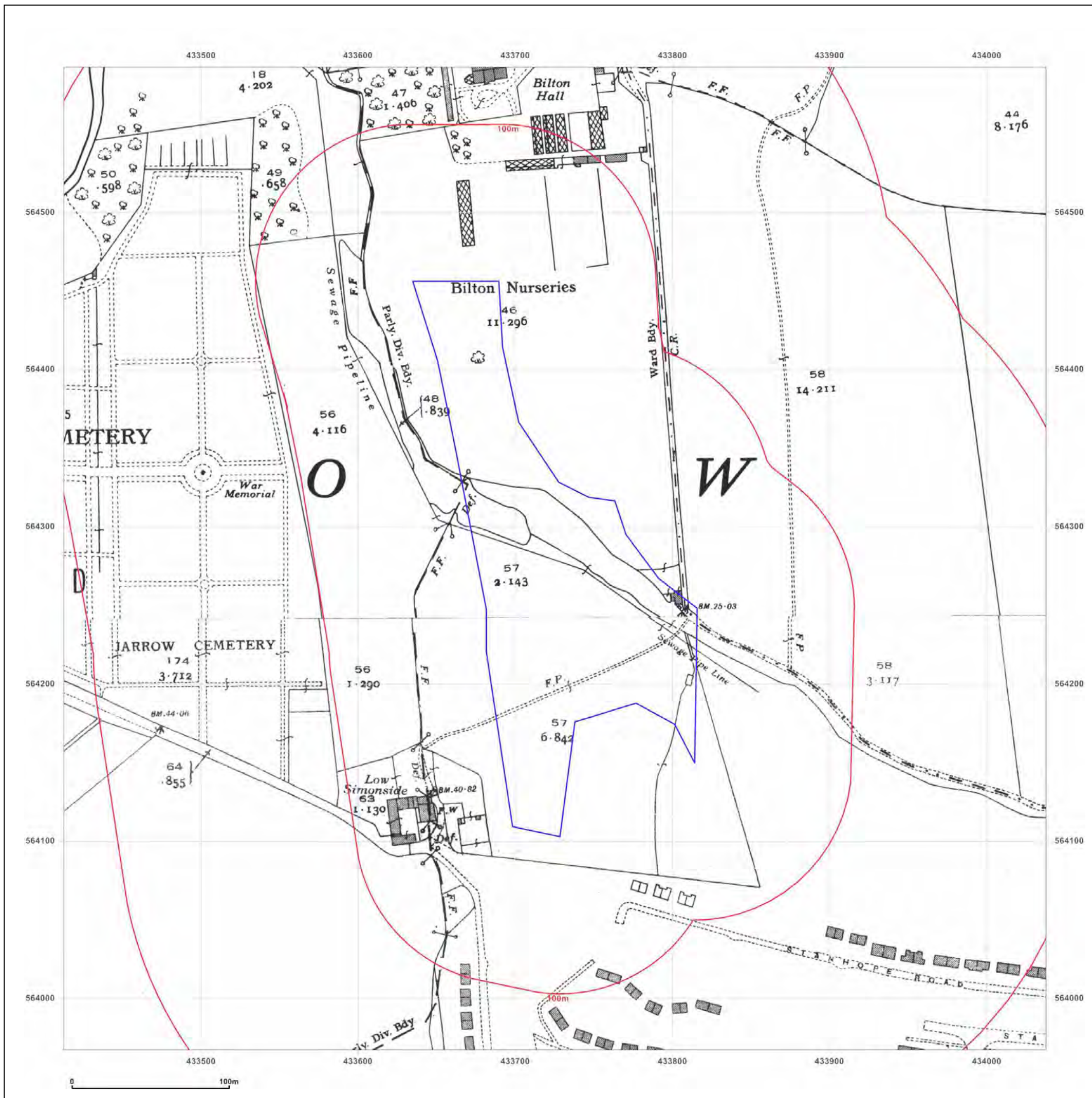


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Client Ref: 9737-D7716-KJ
Report Ref: GS-3438695
Grid Ref: 433725, 564280

Map Name: National Grid

Map date: 1957

Scale: 1:1,250

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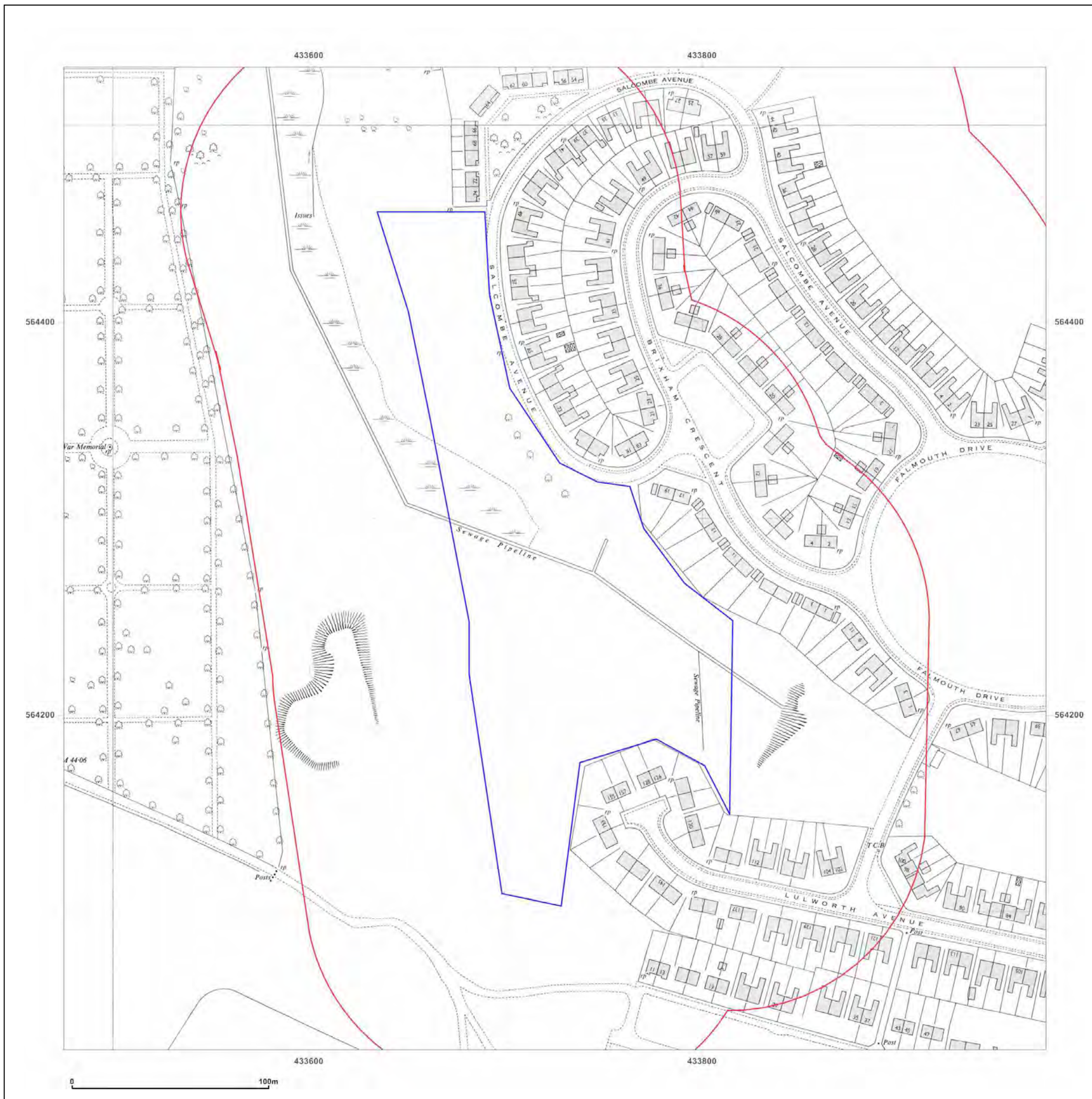


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Report Ref: GS-3438695
Grid Ref: 433725, 564280

Map Name: National Grid

Map date: 1957

Scale: 1:2,500

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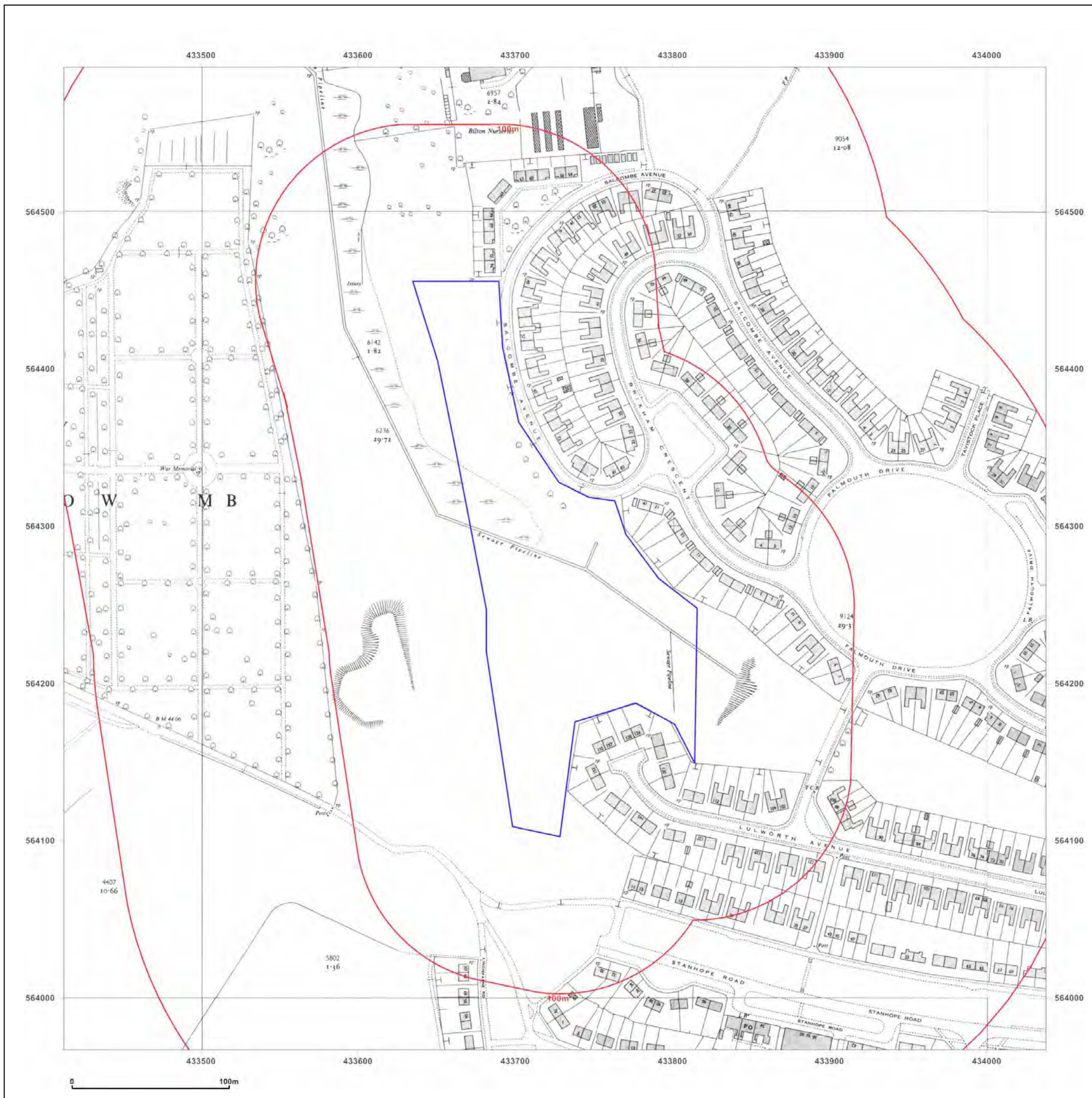


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Report Ref: GS-3438695
Grid Ref: 433725, 564280

Map Name: National Grid

Map date: 1966-1969

Scale: 1:1,250

Printed at: 1:2,000

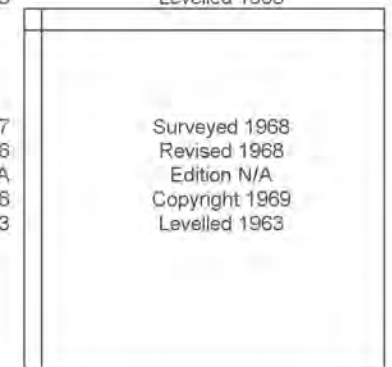


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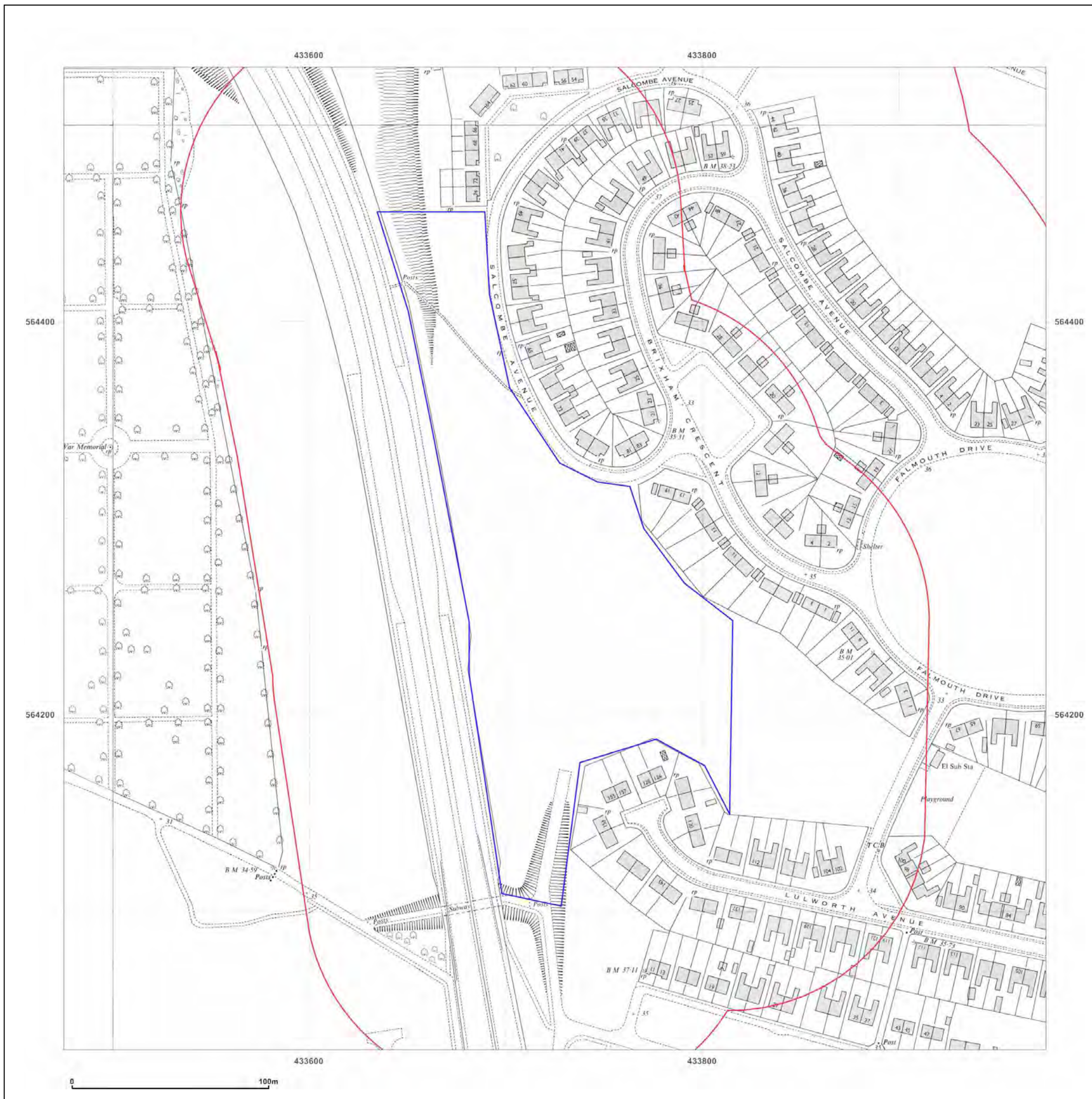


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Map Name: National Grid

Map date: 1968-1969

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Grid Ref: 433725, 564280

Map Name: National Grid

Map date: 1982

Scale: 1:1,250

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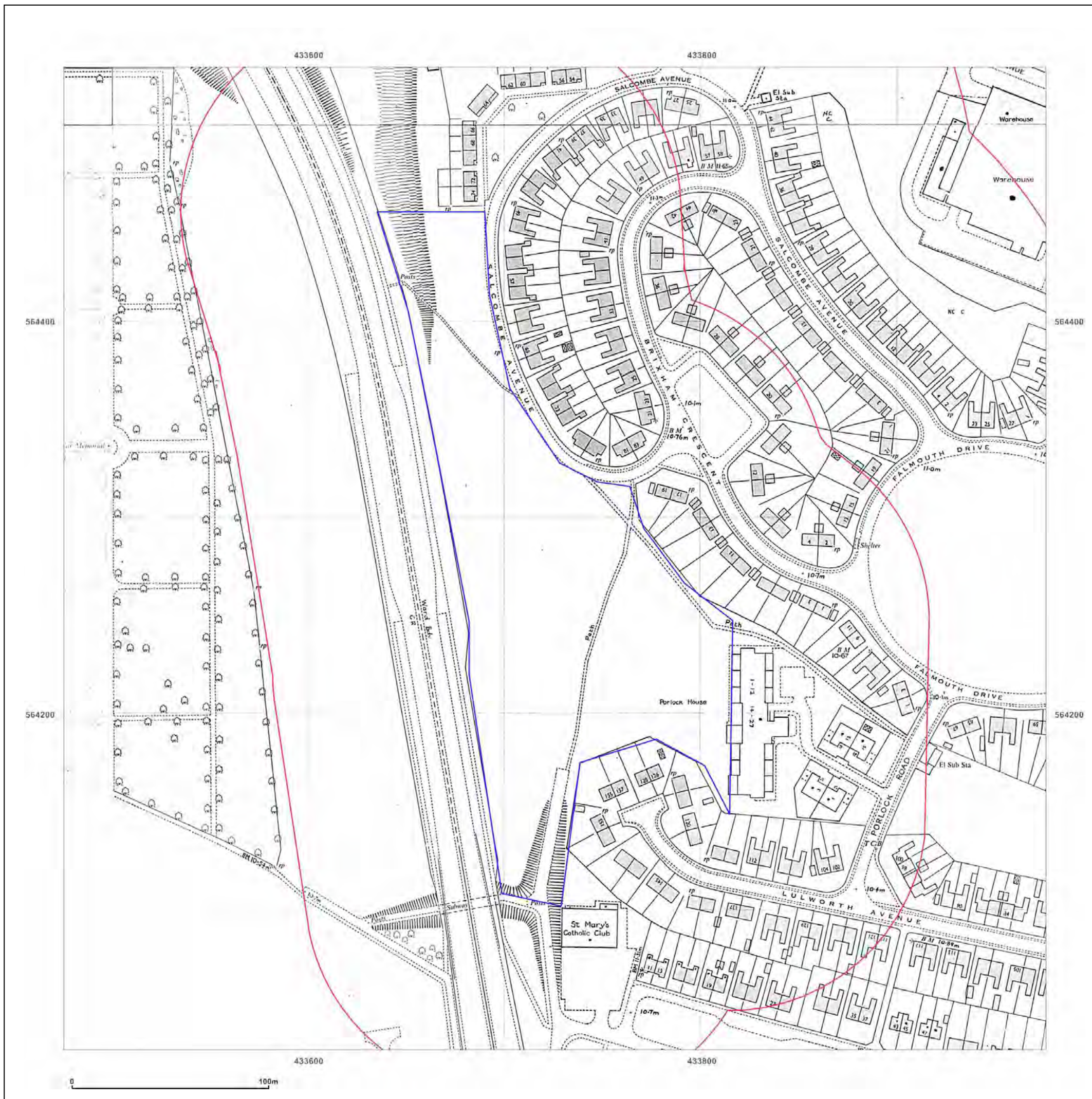


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Grid Ref: 433725, 564280

Map Name: National Grid

Map date: 1989-1993

Scale: 1:1,250

Printed at: 1:2,000

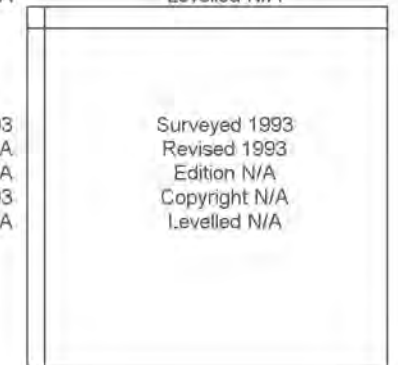


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LOCATION INTELLIGENCE

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FOUNDATION HOUSE, ST. JOHNS ROAD,
DURHAM/MEADOWFIELD INDUSTRIAL
ESTATE, DH7 8TZ

Groundsure Reference: GS-3438694
Your Reference: 9737-D7716-KJ
Report Date: 10 Nov 2016
Report Delivery Method: Email - pdf

Groundsure Geo Insight

Address: PORLOCK ROAD, JARROW, NE32 3QZ

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If you need any further assistance, please do not hesitate to contact our helpline on 08444 159000 quoting the above Groundsure reference number.

Yours faithfully,

Managing Director
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Address: PORLOCK ROAD, JARROW, NE32 3QZ
Date: 10 Nov 2016
Reference: GS-3438694
Client: Dunelm Geotechnical & Environmental Ltd



Aerial Photograph Capture date: 01-Jun-2009
Grid Reference: 433737,564253
Site Size: 2.65ha

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Overview of Findings

The Groundsure Geo Insight provides high quality geo-environmental information that allows geo-environmental professionals and their clients to make informed decisions and be forewarned of potential ground instability problems that may affect the ground investigation, foundation design and possibly remediation options that could lead to possible additional costs.

The report is based on the BGS 1:50,000 Digital Geological Map of Great Britain, BGS Geosure data; BRITPITS database; Shallow Mining data and Borehole Records, Coal Authority data including brine extraction areas, PBA non-coal mining and natural cavities database, Johnson Poole and Bloomer mining data and Groundsure's unique database including historical surface ground and underground workings.

For further details on each dataset, please refer to each individual section in the report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1:Geology

1.1 Artificial Ground	1.1.1 Is there any Artificial Ground/ Made Ground present beneath the study site?	Yes
	1.1.2 Are there any records relating to permeability of artificial ground within the study site* boundary?	Yes
1.2 Superficial Geology and Landslips	1.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site?	Yes
	1.2.2 Are there any records relating to permeability of superficial geology within the study site boundary?	Yes
	1.2.3 Are there any records of landslip within 500m of the study site boundary?	No
	1.2.4 Are there any records relating to permeability of landslips within the study site boundary?	No
1.3 Bedrock, Solid Geology & Faults	1.3.1 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.	
	1.3.2 Are there any records relating to permeability of bedrock within the study site boundary?	Yes
	1.3.3 Are there any records of faults within 500m of the study site boundary?	Yes
1.4 Radon data	1.4.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level
	1.4.2 Is the property in an area where Radon Protection Measures are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?	No radon protective measures are necessary

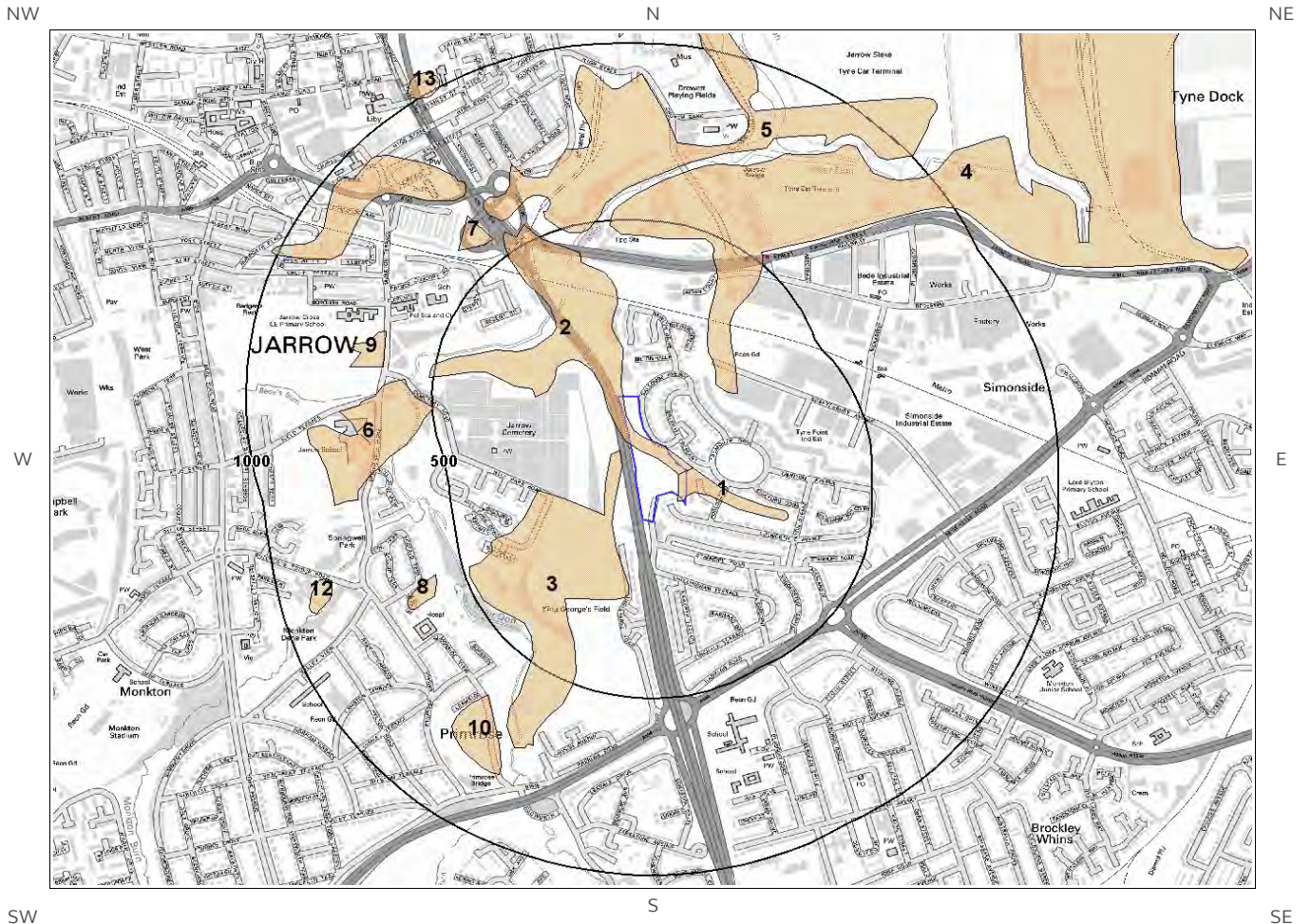
Section 2:Ground Workings	On-site	0-50m	51-250	251-500	501-1000
2.1 Historical Surface Ground Working Features from Small Scale Mapping	2	2	11	Not Searched	Not Searched
2.2 Historical Underground Workings from Small Scale Mapping	0	0	0	0	2
2.3 Current Ground Workings	0	0	0	1	2

Section 3: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
3.1 Historical Mining	0	0	0	0	0
3.2 Coal Mining	1	0	0	0	0
3.3 Johnson Poole and Bloomer Mining Area	0	0	0	0	0
3.4 Non-Coal Mining	0	0	0	0	0
3.5 Non-Coal Mining Cavities	0	0	0	0	0
3.6 Natural Cavities	0	0	0	0	0
3.7 Brine Extraction	0	0	0	0	0
3.8 Gypsum Extraction	0	0	0	0	0
3.9 Tin Mining	0	0	0	0	0
3.10 Clay Mining	0	0	0	0	0
Section 4: Natural Ground Subsidence	On-site				
4.1 Shrink Swell Clay	Low				
4.2 Landslides	Very Low				
4.3 Ground Dissolution of Soluble Rocks	Negligible				
4.4 Compressible Deposits	Very Low				
4.5 Collapsible Deposits	Very Low				
4.6 Running Sand	Very Low				
Section 5: Borehole Records	On-site	0-50m	51-250		
5 BGS Recorded Boreholes	5	17	10		
Section 6: Estimated Background Soil Chemistry	On-site	0-50m	51-250		
6 Records of Background Soil Chemistry	11	8	37		
Section 7: Railways and Tunnels	On-site	0-50m	51-250	251-500	
7.1 Tunnels	0	0	0	Not Searched	
7.2 Historical Railway and Tunnel Features	0	0	0	Not Searched	
7.3 Historical Railways	0	0	0	Not Searched	
7.4 Active Railways	0	0	0	Not Searched	

Section 7:Railways and Tunnels	On-site	0-50m	51-250	251-500
7.5 Railway Projects	0	0	0	0

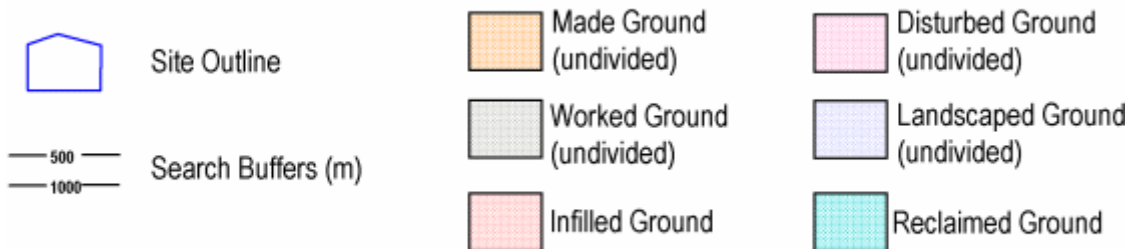
1 Geology

1.1 Artificial Ground Map



Artificial Ground Legend

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1 Geology

1.1 Artificial Ground

1.1.1 Artificial/ Made Ground

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:021

Are there any records of Artificial/Made Ground within 500m of the study site boundary? Yes

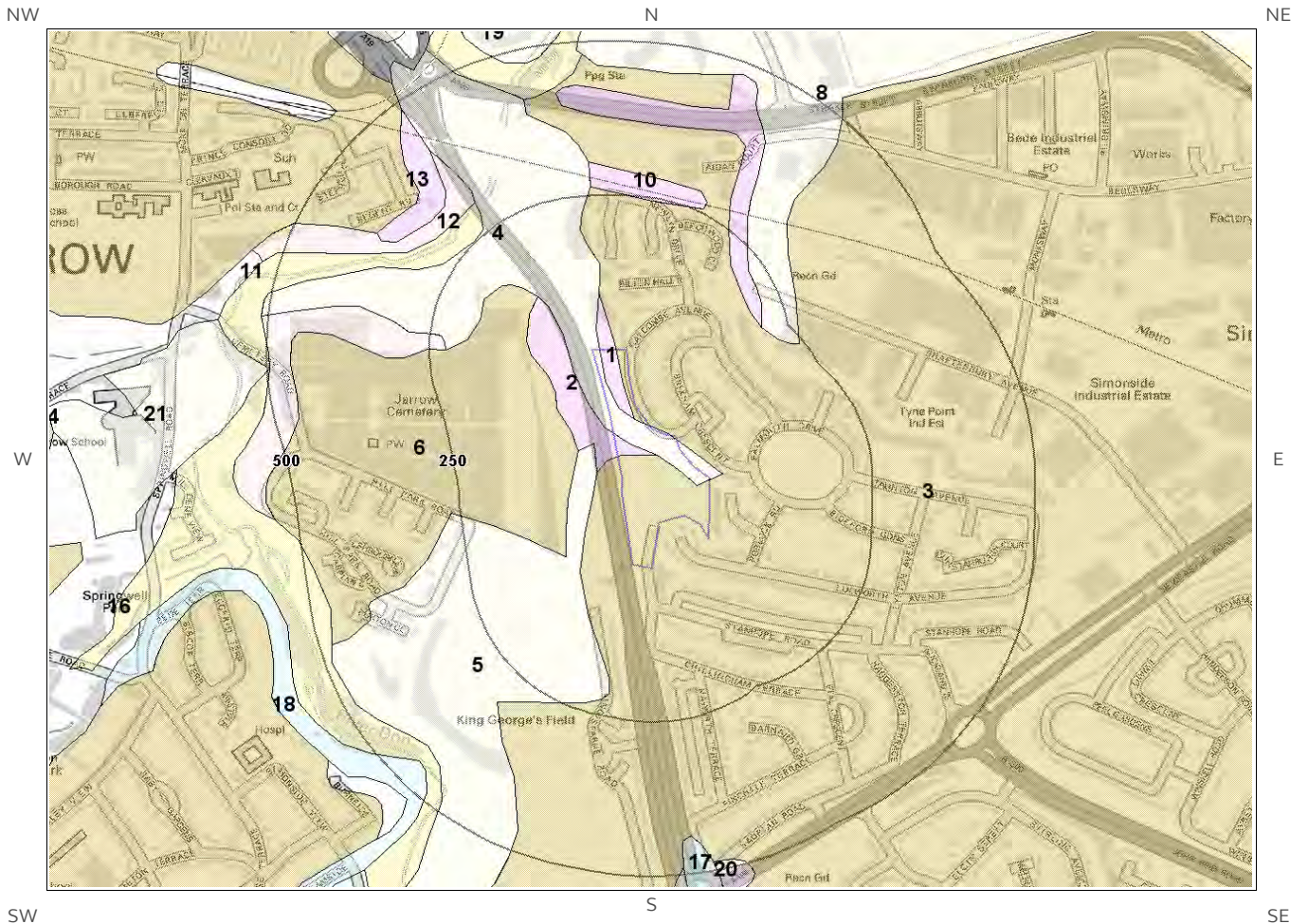
ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
2	0.0	On Site	MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
3	32.0	W	MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
4	209.0	E	MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
5	477.0	N	MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
6	496.0	W	MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

1.1.2 Permeability of Artificial Ground

Are there any records relating to permeability of artificial ground within the study site boundary? Yes




Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Mixed	Very High	Low
32.0	W	Mixed	Very High	Low

1.2 Superficial Deposits and Landslips Map



Superficial Deposits and Landslips Legend

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-  Site Outline
-  500 Search Buffers (m)
-  1000 Search Buffers (m)

1.2 Superficial Deposits and Landslips

1.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary? Yes

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	GFDUD	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL [UNLITHIFIED DEPOSITS CODING SCHEME]
2	0.0	On Site	GFDUD	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL [UNLITHIFIED DEPOSITS CODING SCHEME]
3	0.0	On Site	PELC	PELAW CLAY MEMBER	CLAY [UNLITHIFIED DEPOSITS CODING SCHEME]
4	0.0	On Site	SUPNM	SUPERFICIAL THEME NOT MAPPED [FOR DIGITAL MAP USE ONLY]	UNKNOWN/UNCLASSIFIED ENTRY
5	32.0	W	SUPNM	SUPERFICIAL THEME NOT MAPPED [FOR DIGITAL MAP USE ONLY]	UNKNOWN/UNCLASSIFIED ENTRY
6	58.0	W	PELC	PELAW CLAY MEMBER	CLAY [UNLITHIFIED DEPOSITS CODING SCHEME]
7	198.0	NE	GFDUD	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL [UNLITHIFIED DEPOSITS CODING SCHEME]
8	209.0	E	SUPNM	SUPERFICIAL THEME NOT MAPPED [FOR DIGITAL MAP USE ONLY]	UNKNOWN/UNCLASSIFIED ENTRY
9	225.0	W	GLLDD	GLACIOLACUSTRINE DEPOSITS, DEVENSIAN	CLAY AND SILT [UNLITHIFIED DEPOSITS CODING SCHEME]
10	244.0	N	GFDUD	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL [UNLITHIFIED DEPOSITS CODING SCHEME]
11	252.0	NW	ALV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL [UNLITHIFIED DEPOSITS CODING SCHEME]
12	295.0	NW	GLLDD	GLACIOLACUSTRINE DEPOSITS, DEVENSIAN	CLAY AND SILT [UNLITHIFIED DEPOSITS CODING SCHEME]
13	324.0	NW	GFDUD	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL [UNLITHIFIED DEPOSITS CODING SCHEME]
14	361.0	NW	PELC	PELAW CLAY MEMBER	CLAY [UNLITHIFIED DEPOSITS CODING SCHEME]
15	420.0	N	TRD	TIDAL RIVER OR CREEK DEPOSITS	CLAY, SILT AND SAND [UNLITHIFIED DEPOSITS CODING SCHEME]
16	432.0	SW	ALV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL [UNLITHIFIED DEPOSITS CODING SCHEME]

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
17	438.0	S	TILLD	TILL, DEVENSIAN	DIAMICTON
18	458.0	SW	TILLD	TILL, DEVENSIAN	DIAMICTON
19	477.0	N	SUPNM	SUPERFICIAL THEME NOT MAPPED [FOR DIGITAL MAP USE ONLY]	UNKNOWN/UNCLASSIFIED ENTRY
20	485.0	S	GLLDD	GLACIOLACUSTRINE DEPOSITS, DEVENSIAN	CLAY AND SILT [UNLITHIFIED DEPOSITS CODING SCHEME]
21	496.0	W	SUPNM	SUPERFICIAL THEME NOT MAPPED [FOR DIGITAL MAP USE ONLY]	UNKNOWN/UNCLASSIFIED ENTRY

1.2.2 Permeability of Superficial Ground

Are there any records relating to permeability of superficial ground within the study site boundary? Yes

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	UNKNOWN	NULL	NULL
0.0	On Site	Mixed	Low	Very Low
0.0	On Site	Intergranular	Very High	High
0.0	On Site	Intergranular	Very High	High
32.0	W	UNKNOWN	NULL	NULL

1.2.3 Landslip

Are there any records of Landslip within 500m of the study site boundary? No

Database searched and no data found.

This Geology shows the main components as discrete layers, these are: Artificial / Made Ground, Superficial / Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

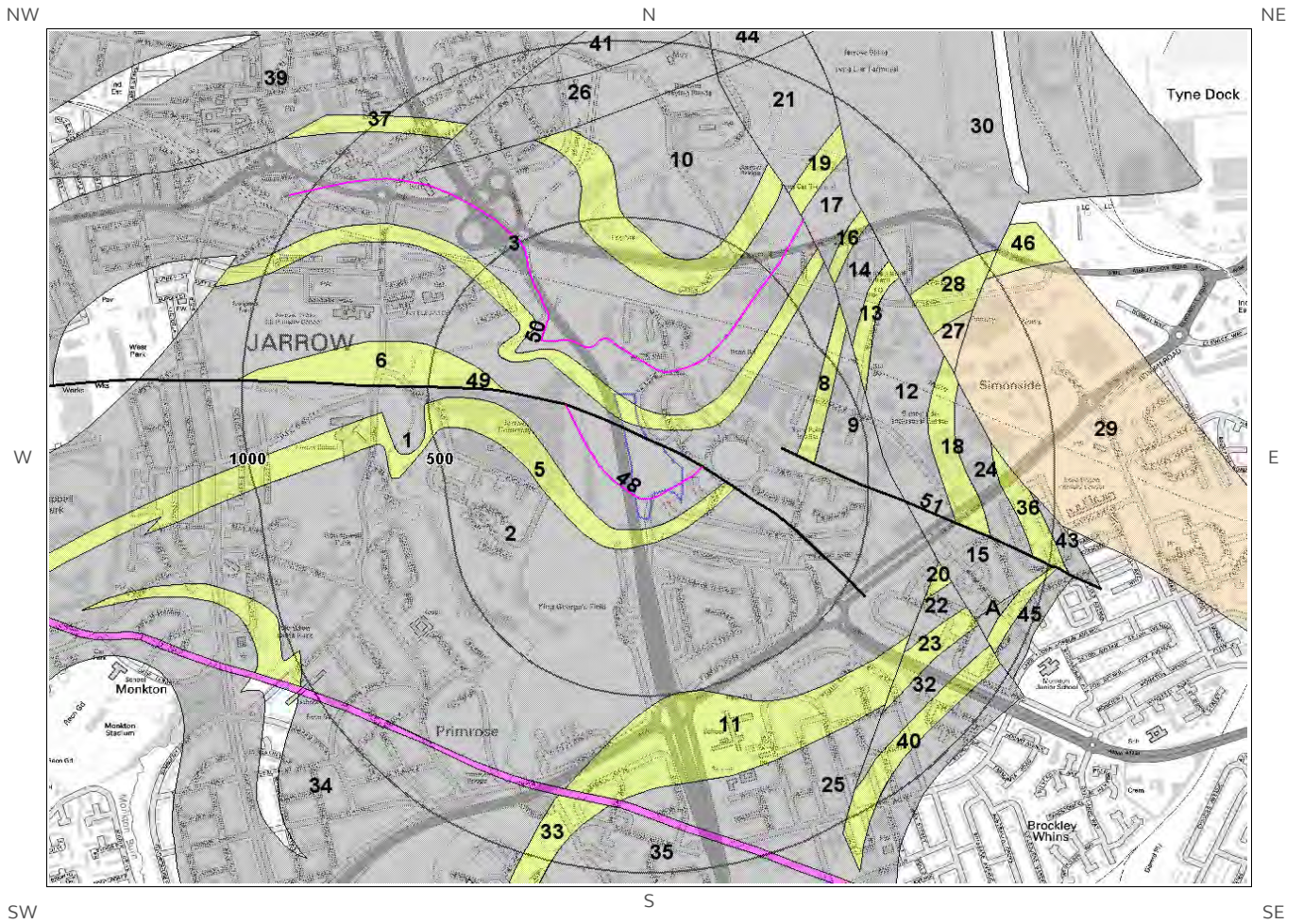
1.2.4 Landslip Permeability

Are there any records relating to permeability of landslips within the study site** boundary? No

Database searched and no data found.




* This includes an automatically generated 50m buffer zone around the site

1.3 Bedrock and Faults Map



Bedrock and Faults Legend

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-  Site Outline
-  500
-  1000
- Search Buffers (m)

1.3 Bedrock, Solid Geology & Faults

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:021

1.3.1 Bedrock/ Solid Geology

Records of Bedrock/ Solid Geology within 500m of the study site boundary:

ID	Distance (m)	Direction	LEX Code	Description	Rock Age
1	0.0	On Site	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian / Duckmantian
2	0.0	On Site	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian / Duckmantian
3	0.0	On Site	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian / Duckmantian
4	0.0	On Site	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian / Duckmantian
5	22.0	S	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian / Duckmantian
6	288.0	W	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian / Duckmantian
7	305.0	N	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian / Duckmantian
8	308.0	E	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian / Duckmantian
9	354.0	E	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian / Duckmantian
10	402.0	N	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian / Duckmantian
11	495.0	S	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian / Duckmantian

1.3.2 Permeability of Bedrock Ground

Are there any records relating to permeability of bedrock ground within the study site* boundary? Yes

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Fracture	Moderate	Low
0.0	On Site	Fracture	High	Moderate
22.0	S	Fracture	High	Moderate

* This includes an automatically generated 50m buffer zone around the site

1.3.3 Faults

Are there any records of Faults within 500m of the study site boundary?

Yes

ID	Distance (m)	Direction	Category Description	Feature Description
48	0.0	On Site	FOSSIL_HORIZON	Marine band
49	0.0	On Site	FAULT	Fault, inferred, displacement unknown
50	90.0	NE	FOSSIL_HORIZON	Marine band
51	271.0	E	FAULT	Fault, inferred, displacement unknown

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:50,000 scale.

This Geology shows the main components as discrete layers, these are: Bedrock/ Solid Geology and linear features such as Faults. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

1.4 Radon Data

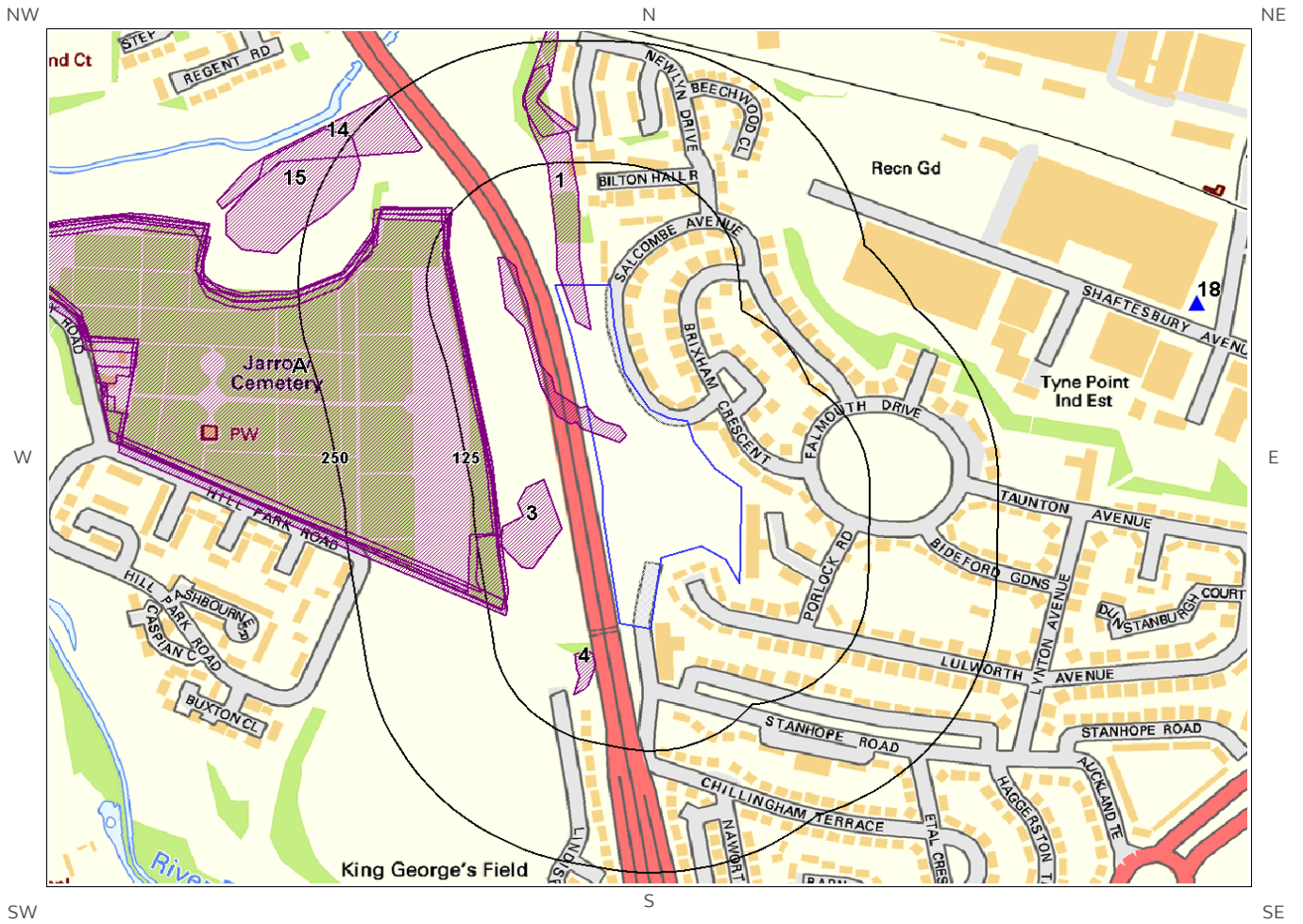
1.4.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level

1.4.2 Radon Protection

Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment? No radon protective measures are necessary

2 Ground Workings Map



Ground Workings Legend

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-  Site Outline
-  Historic Surface Ground Workings
-  Historic Underground Workings
-  Current Ground Workings
-  Search Buffers (m)

2 Ground Workings

2.1 Historical Surface Ground Working Features derived from Historical Mapping

This dataset is based on Groundsure's unique Historical Land Use Database derived from 1:10,560 and 1:10,000 scale historical mapping.

Are there any Historical Surface Ground Working Features within 250m of the study site boundary? Yes

The following Historical Surface Ground Working Features are provided by Groundsure:

ID	Distance (m)	Direction	NGR	Use	Date
1	0.0	On Site	433637 564546	Unspecified Ground Workings	1992
2	0.0	On Site	433614 564389	Water Body	1940
3	41.0	W	433615 564211	Unspecified Heap	1965
4	41.0	SW	433664 564059	Pond	1895
5A	95.0	W	433333 564334	Cemetery	1895
6A	98.0	W	433333 564343	Cemetery	1973
7A	98.0	W	433333 564343	Cemetery	1992
8A	98.0	W	433333 564343	Cemetery	1965
9A	99.0	W	433331 564326	Cemetery	1938
10A	99.0	W	433330 564337	Cemetery	1895
11A	100.0	W	433334 564321	Cemetery	1921
12A	101.0	W	433325 564338	Cemetery	1940
13	153.0	N	433618 564665	Unspecified Ground Workings	1973
14	192.0	NW	433406 564592	Unspecified Heap	1965
15	220.0	NW	433380 564552	Gravel Pit	1940

2.2 Historical Underground Working Features derived from Historical Mapping

This data is derived from the Groundsure unique Historical Land Use Database. It contains data derived from 1:10,000 and 1:10,560 historical Ordnance Survey Mapping and includes some natural topographical features (Shake Holes for example) as well as manmade features that may have implications for ground stability. Underground and mining features have been identified from surface features such as shafts. The distance that these extend underground is not shown.

Are there any Historical Underground Working Features within 1000m of the study site boundary? Yes

The following Historical Underground Working Features are provided by Groundsure:

ID	Distance (m)	Direction	NGR	Use	Date
Not shown	824.0	NW	432988 565879	Tunnel	1980
Not shown	824.0	NW	432988 565879	Tunnel	1994

2.3 Current Ground Workings

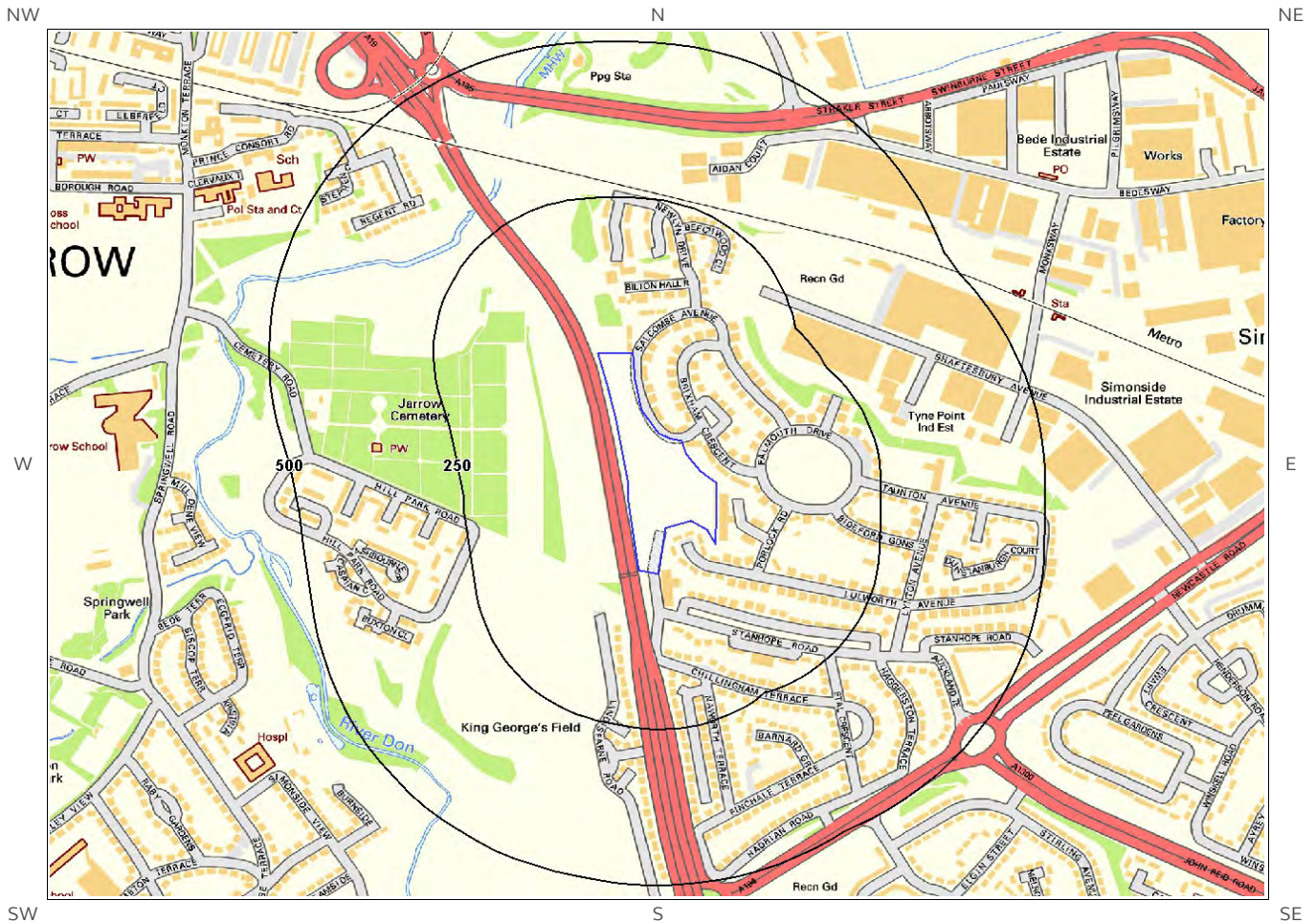
This dataset is derived from the BGS BRITPITS database covering active; inactive mines; quarries; oil wells; gas wells and mineral wharves; and rail deposits throughout the British Isles.

Are there any BGS Current Ground Workings within 1000m of the study site boundary? Yes

The following Current Ground Workings information is provided by British Geological Survey:

ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
18	481.0	NE	434258 564437	Clay & Shale	Simonside Brick & Tile Works	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	700.0	W	432936 564489	Sandstone	Jarrow Red House	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	820.0	N	433694 565276	Sand	Jarrow Sand Pit	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased

3 Mining, Extraction & Natural Cavities Map



Mining, Extraction and Natural Cavities Legend

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3 Mining, Extraction & Natural Cavities

3.1 Historical Mining

This dataset is derived from Groundsure unique Historical Land-use Database that are indicative of mining or extraction activities.

Are there any Historical Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

3.2 Coal Mining

This dataset provides information as to whether the study site lies within a known coal mining affected area as defined by the coal authority.

Are there any Coal Mining areas within 1000m of the study site boundary? Yes

The following Coal Mining information provided by the Coal Authority is not represented on Mapping:

Distance (m)	Direction	Details
0.0	On Site	The study site is located within the specified search distance of an identified mining area. Further details concerning this can be obtained from the Coal Authority Helpline on 0845 762 6848.

3.3 Johnson Poole and Bloomer

This dataset provides information as to whether the study site lies within an area where JPB hold information relating to mining.

Are there any JPB Mining areas within 1000m of the study site boundary? No

The following information provided by JPB is not represented on mapping: Database searched and no data found.

3.4 Non-Coal Mining

This dataset provides information as to whether the study site lies within an area which may have been subject to non-coal historic mining.

Are there any Non-Coal Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

3.5 Non-Coal Mining Cavities

This dataset provides information from the Peter Brett Associates (PBA) mining cavities database (compiled for the national study entitled “Review of mining instability in Great Britain, 1990” PBA has also continued adding to this database) on mineral extraction by mining.

Are there any Non-Coal Mining cavities within 1000m of the study site boundary? No

Database searched and no data found.

3.6 Natural Cavities

This dataset provides information based on Peter Brett Associates natural cavities database.

Are there any Natural Cavities within 1000m of the study site boundary? No

Database searched and no data found.

3.7 Brine Extraction

This data provides information from the Coal Authority issued on behalf of the Cheshire Brine Subsidence Compensation Board.

Are there any Brine Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

3.8 Gypsum Extraction

This dataset provides information on Gypsum extraction from British Gypsum records.

Are there any Gypsum Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

3.9 Tin Mining

This dataset provides information on tin mining areas and is derived from tin mining records. This search is based upon postcode information to a sector level.

Are there any Tin Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

3.10 Clay Mining

This dataset provides information on Kaolin and Ball Clay mining from relevant mining records.

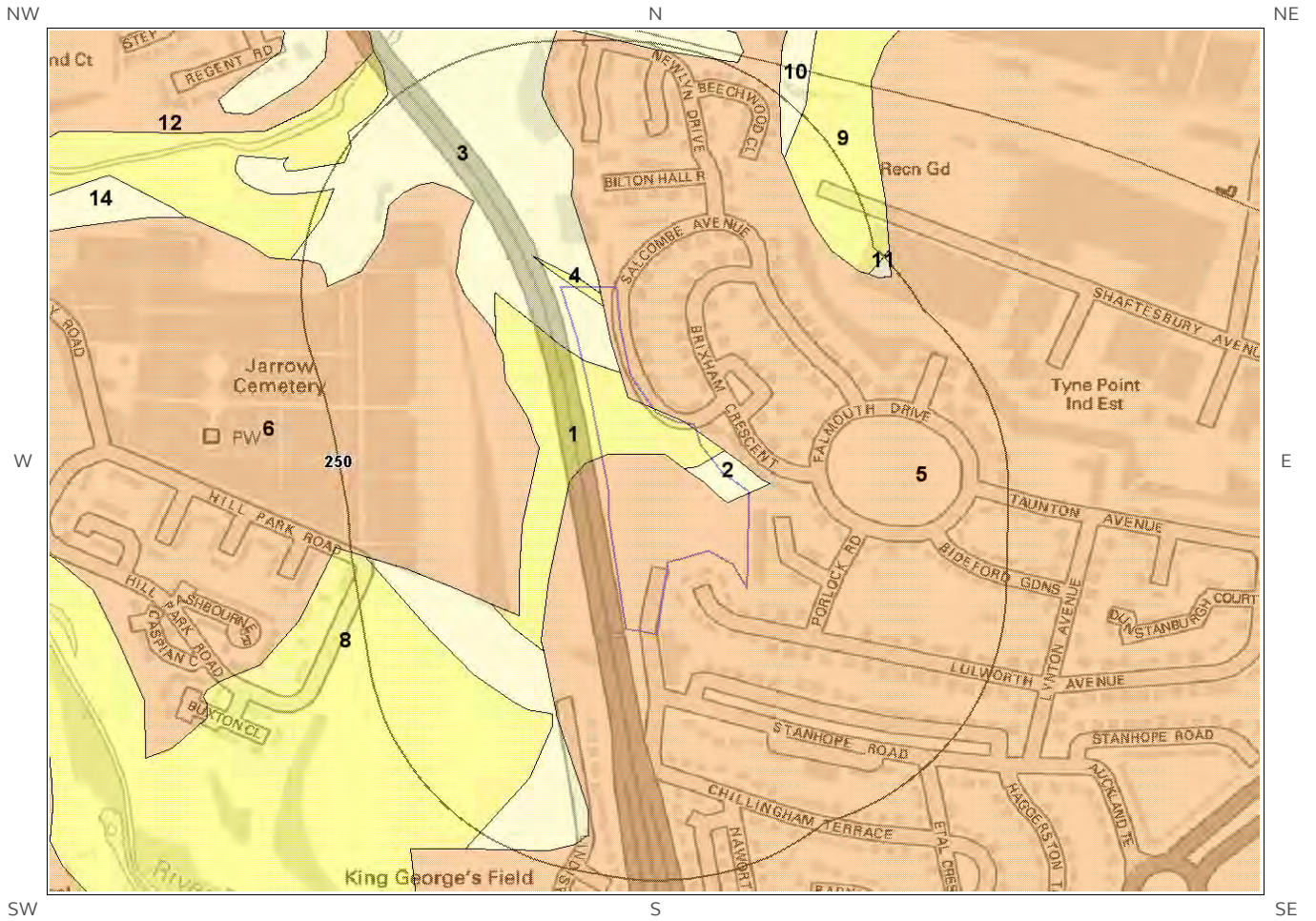
Are there any Clay Mining areas within 1000m of the study site boundary?

No

Database searched and no data found.

4 Natural Ground Subsidence

4.1 Shrink-Swell Clay Map

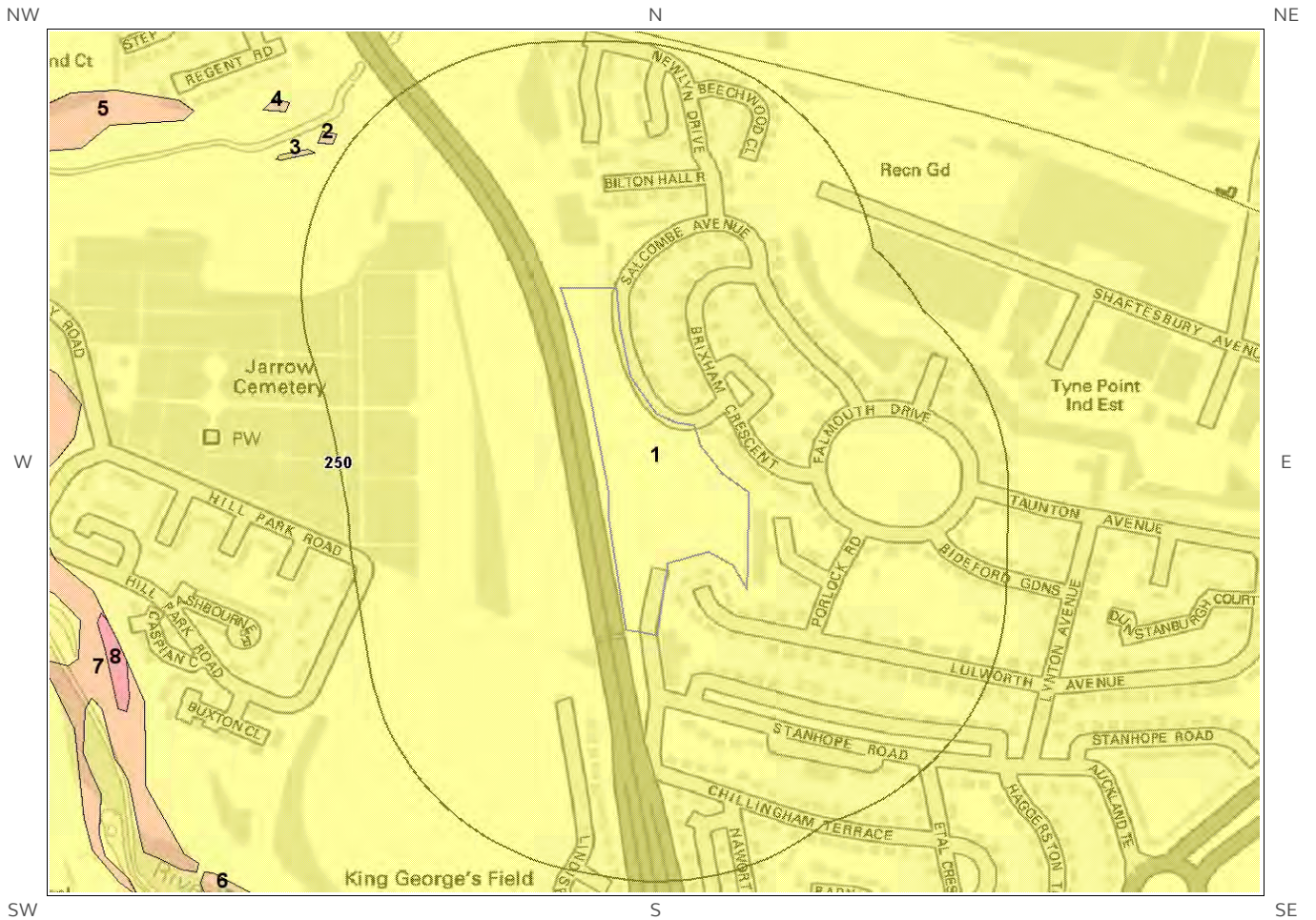


Shrink Swell Clay Legend

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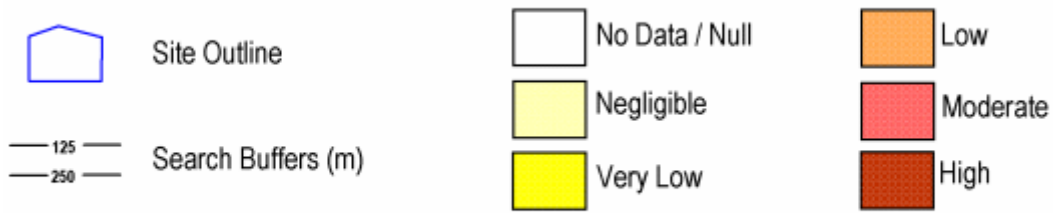


4.2 Landslides Map

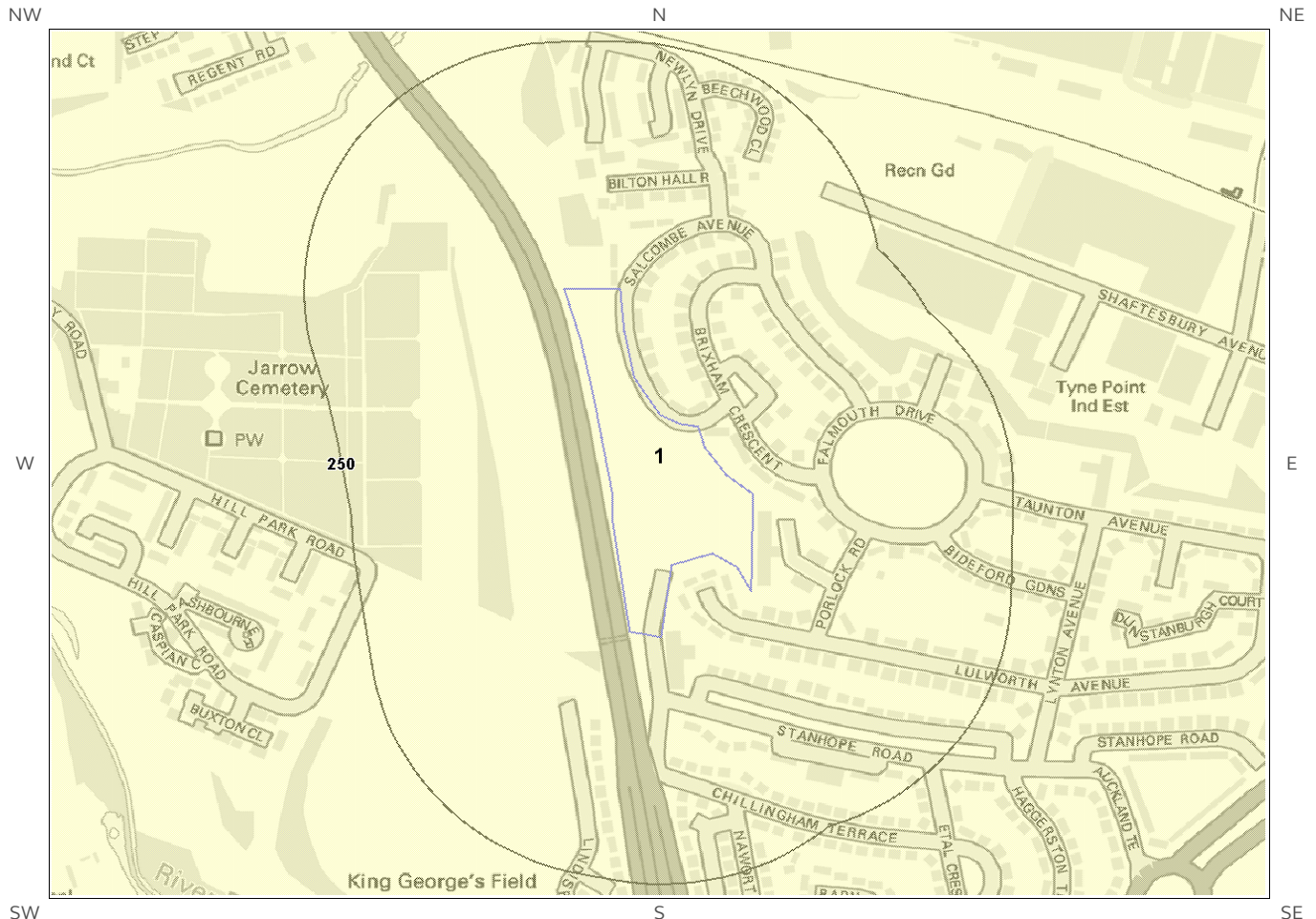


Landslides Legend

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4.3 Ground Dissolution Soluble Rocks Map

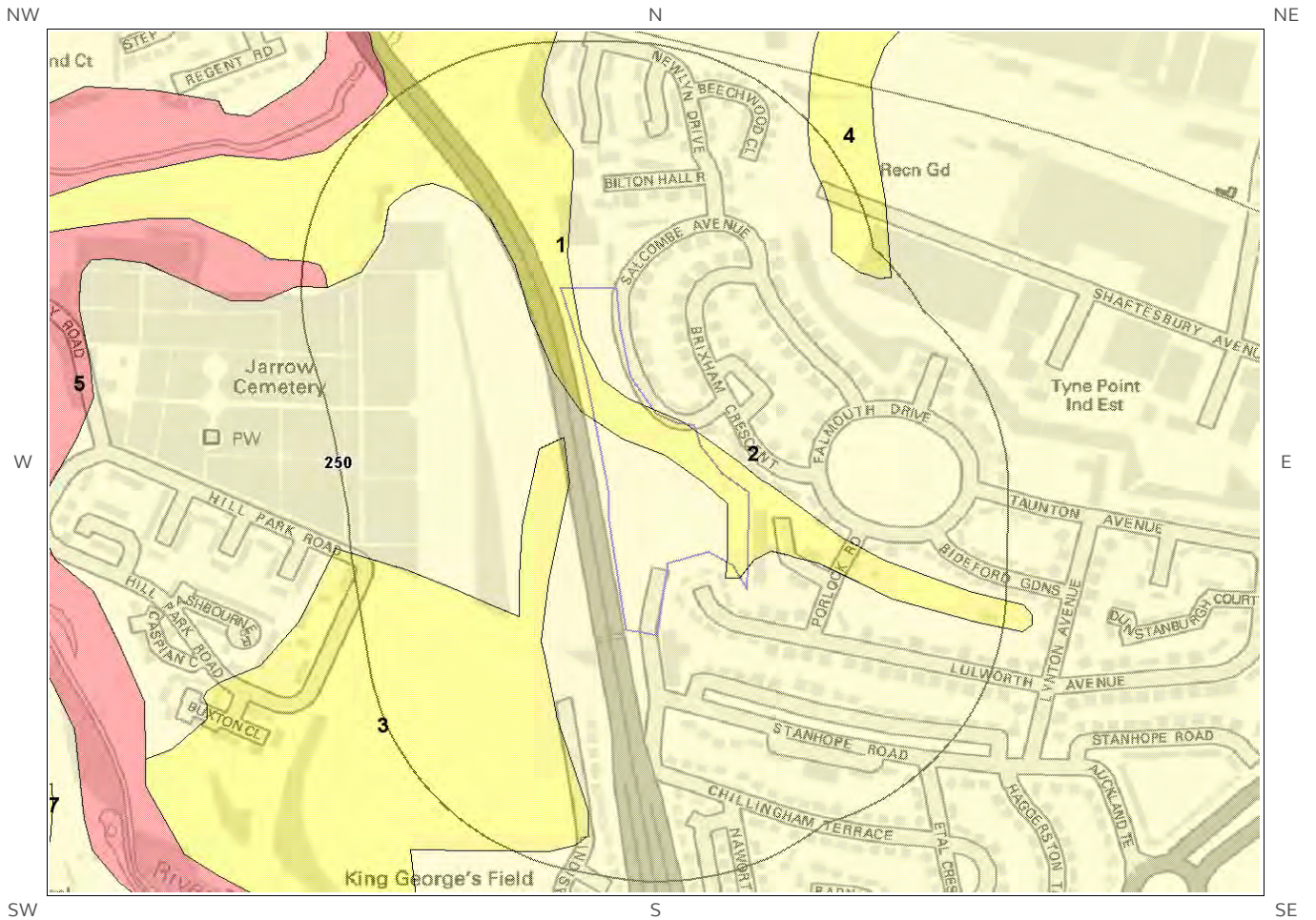


Ground Dissolution Soluble Rocks Legend

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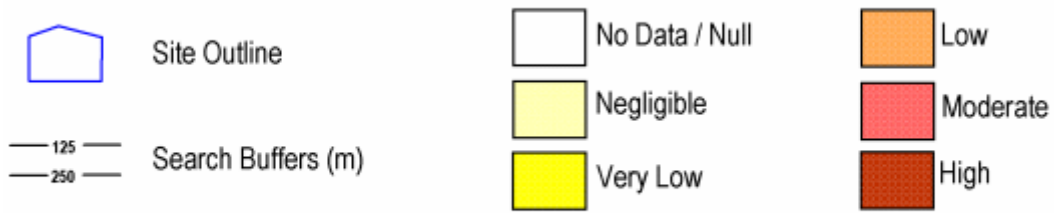


4.4 Compressible Deposits Map

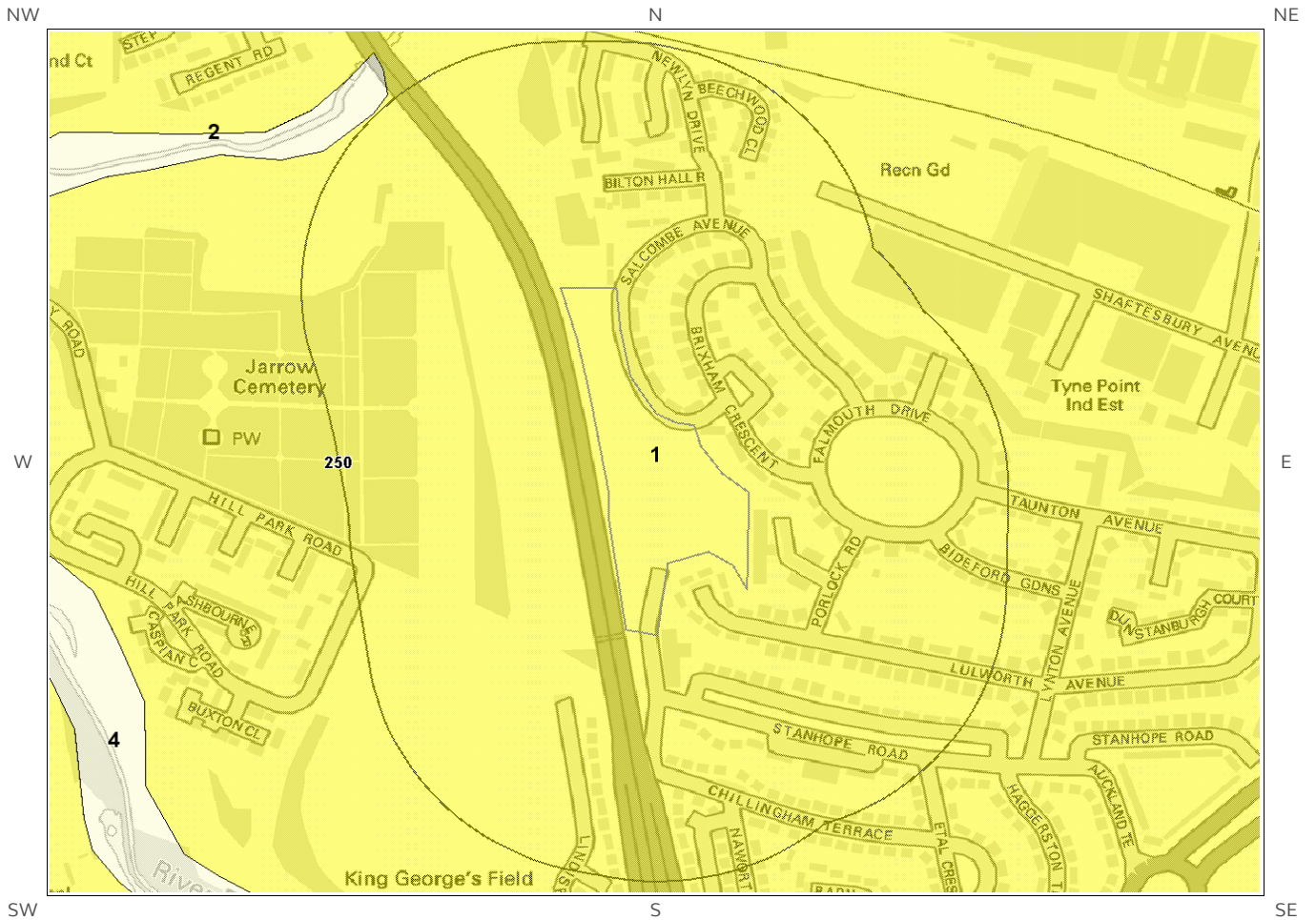


Compressible Deposits Legend

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4.5 Collapsible Deposits Map

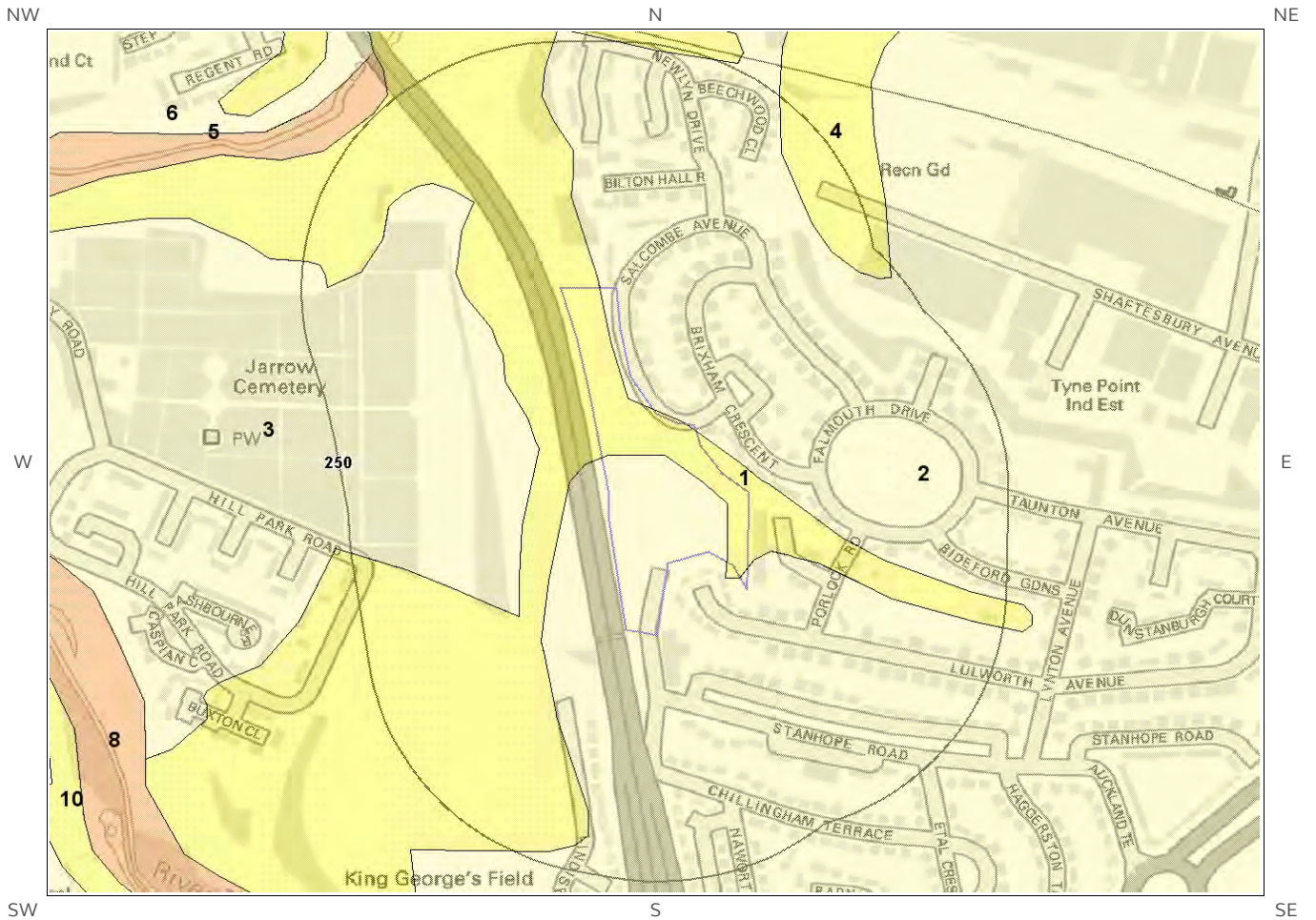


Collapsible Deposits Legend

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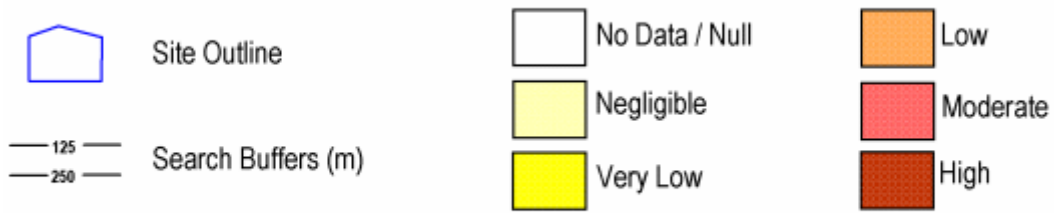


4.6 Running Sand Map



Running Sand Legend

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4 Natural Ground Subsidence

The National Ground Subsidence rating is obtained through the 6 natural ground stability hazard datasets, which are supplied by the British Geological Survey (BGS).

The following GeoSure data represented on the mapping is derived from the BGS Digital Geological map of Great Britain at 1:50,000 scale.

What is the maximum hazard rating of natural subsidence within the study site** boundary? Low

4.1 Shrink-Swell Clays

The following Shrink Swell information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Ground conditions predominantly low plasticity. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.
2	0.0	On Site	Negligible	Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.
3	0.0	On Site	Negligible	Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.
4	0.0	On Site	Very Low	Ground conditions predominantly low plasticity. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.
5	0.0	On Site	Low	Ground conditions predominantly medium plasticity. Do not plant trees with high soil moisture demands near to buildings. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE). There is a possible increase in construction cost to reduce potential shrink swell problems. For existing property, there is a possible increase in insurance risk, especially during droughts or where vegetation with high moisture demands is present.

4.2 Landslides

The following Landslides information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

* This includes an automatically generated 50m buffer zone around the site

4.3 Ground Dissolution of Soluble Rocks

The following Ground Dissolution information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

4.4 Compressible Deposits

The following Compressible Deposits information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Very low potential for compressible ground to be present. No special actions required to avoid problems due to compressible ground. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible ground.
2	0.0	On Site	Negligible	No indicators for compressible ground identified. No special actions required to avoid problems due to compressible ground. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible ground.
3	32.0	W	Very Low	Very low potential for compressible ground to be present. No special actions required to avoid problems due to compressible ground. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible ground.

4.5 Collapsible Deposits

The following Collapsible Rocks information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

4.6 Running Sands

The following Running Sands information provided by the British Geological Survey:

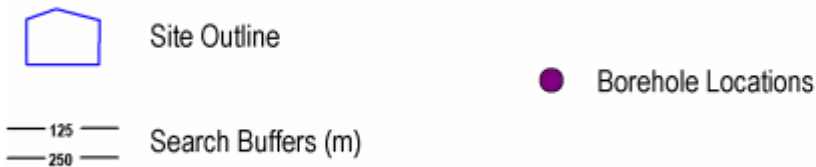
ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.
2	0.0	On Site	Negligible	No indicators for running sand identified. No special actions required to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

5 Borehole Records Map



Borehole Records Legend

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5 Borehole Records

The systematic analysis of data extracted from the BGS Borehole Records database provides the following information.

Records of boreholes within 250m of the study site boundary:

32

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
1	0.0	On Site	433800 564180	NZ36SW13799/13	10.0	JARROW PORLOCK ROAD 13
2	0.0	On Site	433810 564230	NZ36SW13799/7	8.5	JARROW PORLOCK ROAD 7
3	0.0	On Site	433810 564210	NZ36SW13799/8	9.0	JARROW PORLOCK ROAD 8
4	0.0	On Site	433800 564220	NZ36SW13799/12	9.5	JARROW PORLOCK ROAD 12
5	0.0	On Site	433700 564110	NZ36SW60	9.14	TYNE TUNNEL APPROACH ROAD J13D
6	2.0	E	433769 564303	NZ36SW818	6.0	BRIXHAM CRESENT, JARROW 2
7A	5.0	E	433820 564190	NZ36SW13799/9	8.5	JARROW PORLOCK ROAD 9
8A	5.0	E	433820 564180	NZ36SW13799/10	7.0	JARROW PORLOCK ROAD 10
9	6.0	E	433820 564160	NZ36SW13799/11	5.0	JARROW PORLOCK ROAD 11
10	10.0	NE	433820 564258	NZ36SW820	6.0	BRIXHAM CRESENT, JARROW 4
11	15.0	E	433830 564220	NZ36SW13799/4	5.0	JARROW PORLOCK ROAD 4
12	15.0	NE	433796 564285	NZ36SW819	6.0	BRIXHAM CRESENT, JARROW 3
13A	15.0	E	433830 564190	NZ36SW13799/5	6.25	JARROW PORLOCK ROAD 5
14	21.0	W	433654 564276	NZ36SW437	26.52	TYNE TUNNEL, RIVER DON. BH 131
15	23.0	W	433641 564336	NZ36SW292	22.56	TYNE TUNNEL APPROACH ROAD, JARROW 01
16	26.0	E	433840 564170	NZ36SW13799/6	9.0	JARROW PORLOCK ROAD 6
17	26.0	E	433790 564317	NZ36SW817	6.0	BRIXHAM CRESENT, JARROW 1
18B	34.0	E	433850 564237	NZ36SW822	6.0	BRIXHAM CRESENT, JARROW 6
19B	44.0	E	433860 564249	NZ36SW821	4.5	BRIXHAM CRESENT, JARROW 5
20C	45.0	E	433860 564190	NZ36SW13799/1	9.0	JARROW PORLOCK ROAD 1
21	45.0	NW	433614 564496	NZ36SW438	10.97	TYNE TUNNEL, RIVER DON. BH 132

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
22C	45.0	E	433860 564180	NZ36SW13799/2	7.0	JARROW PORLOCK ROAD 2
23	56.0	E	433870 564160	NZ36SW13799/3	6.0	JARROW PORLOCK ROAD 3
24	71.0	NW	433588 564509	NZ36SW293	19.08	TYNE TUNNEL APPROACH ROAD, JARROW 02
25D	103.0	N	433663 564559	NZ36SW589	3.0	BILTON HALL ROAD, JARROW 1
26D	107.0	N	433652 564563	NZ36SW590	3.0	BILTON HALL ROAD, JARROW 2
27D	107.0	N	433651 564563	NZ36SW591	10.0	BILTON HALL ROAD, JARROW 2A
28	108.0	S	433690 564000	NZ36SW61	2.13	TYNE TUNNEL APPROACH ROAD J14S
29	135.0	N	433658 564591	NZ36SW592	3.0	BILTON HALL ROAD, JARROW 3
30	136.0	S	433700 563970	NZ36SW103/D	9.14	TYNE TUNNEL LINK ROAD 28
31	180.0	NW	433536 564606	NZ36SW436	13.41	TYNE TUNNEL, RIVER DON. BH 130
32	234.0	S	433710 563870	NZ36SW103/C	3.51	TYNE TUNNEL LINK ROAD 27

The borehole records are available using the hyperlinks below: Please note that if the donor of the borehole record has requested the information be held as commercial-in-confidence, the additional data will be held separately by the BGS and a formal request must be made for its release.

- #1: scans.bgs.ac.uk/sobi_scans/boreholes/841218
- #2: scans.bgs.ac.uk/sobi_scans/boreholes/841212
- #3: scans.bgs.ac.uk/sobi_scans/boreholes/841213
- #4: scans.bgs.ac.uk/sobi_scans/boreholes/841217
- #5: scans.bgs.ac.uk/sobi_scans/boreholes/840743
- #6: scans.bgs.ac.uk/sobi_scans/boreholes/18435957
- #7A: scans.bgs.ac.uk/sobi_scans/boreholes/841214
- #8A: scans.bgs.ac.uk/sobi_scans/boreholes/841215
- #9: scans.bgs.ac.uk/sobi_scans/boreholes/841216
- #10: scans.bgs.ac.uk/sobi_scans/boreholes/18435959
- #11: scans.bgs.ac.uk/sobi_scans/boreholes/841209
- #12: scans.bgs.ac.uk/sobi_scans/boreholes/18435958
- #13A: scans.bgs.ac.uk/sobi_scans/boreholes/841210
- #14: scans.bgs.ac.uk/sobi_scans/boreholes/17295229
- #15: scans.bgs.ac.uk/sobi_scans/boreholes/17162123
- #16: scans.bgs.ac.uk/sobi_scans/boreholes/841211
- #17: scans.bgs.ac.uk/sobi_scans/boreholes/18435956
- #18B: scans.bgs.ac.uk/sobi_scans/boreholes/18435961
- #19B: scans.bgs.ac.uk/sobi_scans/boreholes/18435960
- #20C: scans.bgs.ac.uk/sobi_scans/boreholes/841206
- #21: scans.bgs.ac.uk/sobi_scans/boreholes/17295230
- #22C: scans.bgs.ac.uk/sobi_scans/boreholes/841207
- #23: scans.bgs.ac.uk/sobi_scans/boreholes/841208
- #24: scans.bgs.ac.uk/sobi_scans/boreholes/17162124
- #25D: scans.bgs.ac.uk/sobi_scans/boreholes/17586610
- #26D: scans.bgs.ac.uk/sobi_scans/boreholes/17586611
- #27D: scans.bgs.ac.uk/sobi_scans/boreholes/17586612

#28: scans.bgs.ac.uk/sobi_scans/boreholes/840744
#29: scans.bgs.ac.uk/sobi_scans/boreholes/17586613
#30: scans.bgs.ac.uk/sobi_scans/boreholes/840912
#31: scans.bgs.ac.uk/sobi_scans/boreholes/17295228
#32: scans.bgs.ac.uk/sobi_scans/boreholes/840911

6 Estimated Background Soil Chemistry

Records of background estimated soil chemistry within 250m of the study site boundary:

56

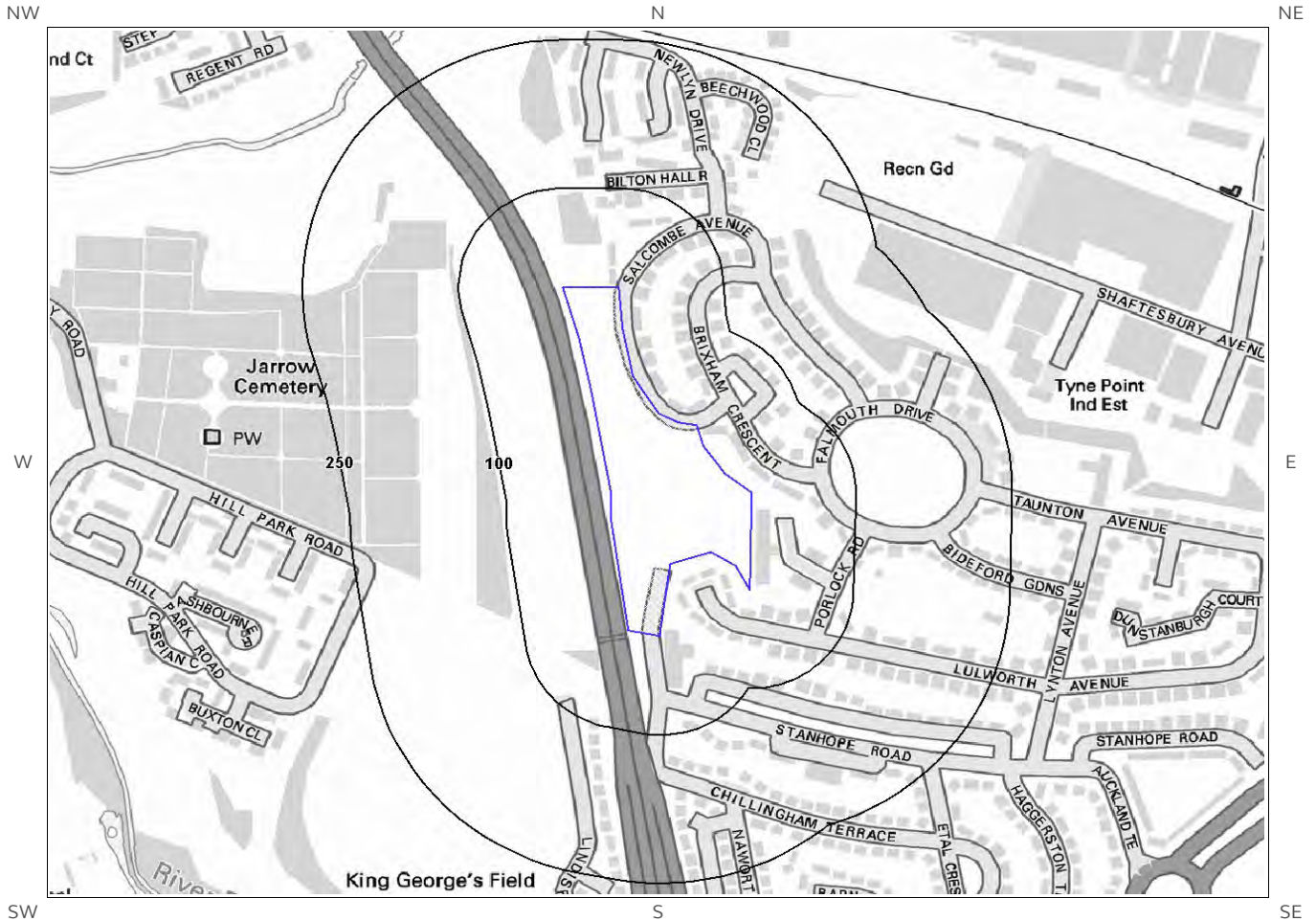
For further information on how this data is calculated and limitations upon its use, please see the Groundsure Geo Insight User Guide, available on request.

Distance (m)	Direction	Sample Type	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Nickel (Ni)	Lead (Pb)
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	<100 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
2.0	N	Sediment	<15 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg
22.0	S	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	<100 mg/kg
30.0	W	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
32.0	W	Sediment	<15 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg
36.0	W	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
44.0	N	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
44.0	N	Sediment	<15 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg
44.0	N	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
58.0	W	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
61.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg
70.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
75.0	W	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
83.0	W	Sediment	<15 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg
89.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
103.0	S	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
103.0	W	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	<100 mg/kg
107.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	<100 mg/kg
110.0	SW	Sediment	<15 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg
118.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
125.0	SW	Sediment	<15 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg
125.0	W	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	<100 mg/kg
126.0	W	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
135.0	W	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
138.0	W	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
142.0	W	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
147.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	<100 mg/kg
155.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg
171.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg

Distance (m)	Direction	Sample Type	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Nickel (Ni)	Lead (Pb)
178.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg
178.0	W	Sediment	<15 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg
180.0	W	Sediment	<15 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg
181.0	W	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	<100 mg/kg
184.0	E	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
187.0	W	Sediment	<15 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg
194.0	W	Sediment	<15 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg
198.0	NE	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
206.0	E	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
209.0	E	Sediment	<15 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg
211.0	E	Sediment	<15 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg
225.0	W	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
226.0	SW	Sediment	<15 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg
227.0	NE	Sediment	<15 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg
238.0	W	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
239.0	SE	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
244.0	N	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg

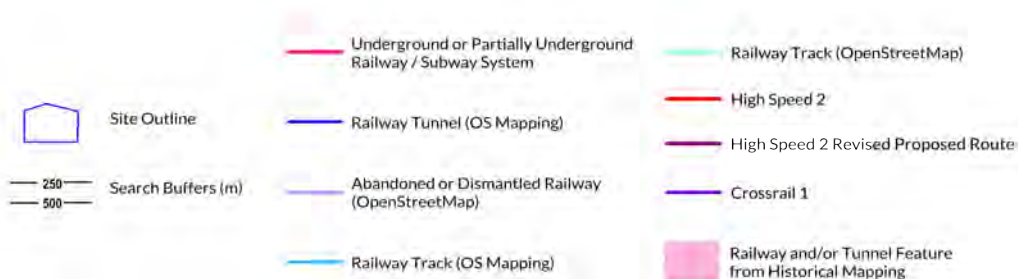
*As this data is based upon underlying 1:50,000 scale geological information, a 50m buffer has been added to the search radius.

7 Railways and Tunnels Map



Railways and Tunnels Legend

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7 Railways and Tunnels

7.1 Tunnels

This data is derived from OpenStreetMap and provides information on the possible locations of underground railway systems in the UK - the London Underground, the Tyne & Wear Metro and the Glasgow Subway.

Have any underground railway lines been identified within the study site boundary? No

Have any underground railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

This data is derived from Ordnance Survey mapping and provides information on the possible locations of railway tunnels forming part of the UK overground railway network.

Have any other railway tunnels been identified within the site boundary? No

Have any other railway tunnels been identified within 250m of the site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

7.2 Historical Railway and Tunnel Features

This data is derived from Groundsure's unique Historical Land-use Database and contains features relating to tunnels, railway tracks or associated works that have been identified from historical Ordnance Survey mapping.

Have any historical railway or tunnel features been identified within the study site boundary? No

Have any historical railway or tunnel features been identified within 250m of the study site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

7.3 Historical Railways

This data is derived from OpenStreetMap and provides information on the possible alignments of abandoned or dismantled railway lines in proximity to the study site.

Have any historical railway lines been identified within the study site boundary?	No
Have any historical railway lines been identified within 250m of the study site boundary?	No

Database searched and no data found.

Note: multiple sections of the same track may be listed in the detail above

Any records that have been identified are represented on the Railways and Tunnels Map.

7.4 Active Railways

These datasets are derived from Ordnance Survey mapping and OpenStreetMap and provide information on the possible locations of active railway lines in proximity to the study site.

Have any active railway lines been identified within the study site boundary?	No
Have any active railway lines been identified within 250m of the study site boundary?	No

Database searched and no data found.

Note: multiple sections of the same track may be listed in the detail above

Any records that have been identified are represented on the Railways and Tunnels Map.

7.5 Railway Projects

These datasets provide information on the location of large scale railway projects High Speed 2 and Crossrail 1 .

Is the study site within 5km of the route of the High Speed 2 rail project?	No
Is the study site within 5km of the proposed alternative route of the High Speed 2 rail project?	No
Is the study site within 500m of the route of the Crossrail 1 rail project?	No

Further information on proximity to these routes, the project construction status and associated works can be obtained through the purchase of a Groundsure HS2 and Crossrail 1 Report.

The route data has been digitised from publicly available maps by Groundsure. The route as provided relates to the Crossrail 1 project only, and does not include any details of the Crossrail 2 project, as final details of the route for Crossrail 2 are still under consultation.

Contact Details

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Web: www.bgs.ac.uk

BGS Geological Hazards Reports and general geological enquiries



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Standard Terms and Conditions

Groundsure's Terms and Conditions can be viewed online at this link:
<https://www.groundsure.com/terms-and-conditions-sept-2016/>



Groundsure

LOCATION INTELLIGENCE

Dunelm Geotechnical & Environmental Ltd
FOUNDATION HOUSE, ST. JOHNS ROAD,
DURHAM/MEADOWFIELD INDUSTRIAL
ESTATE, DH7 8TZ

Groundsure Reference: GS-3438693
Client Reference: 9737-D7716-KJ

Report Date 10 Nov 2016

Report Delivery Method: xml

Client Email: chuntington@dunelm.co.uk

Groundsure Flood Insight

Address: PORLOCK ROAD, JARROW, NE32 3QZ

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Flood Insight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 08444 159000 quoting the above Groundsure reference number.

Yours faithfully,

Managing Director
Groundsure Limited

Enc.
Groundsure Floodinsight

Groundsure Flood Insight

Address: PORLOCK ROAD, JARROW, NE32 3QZ

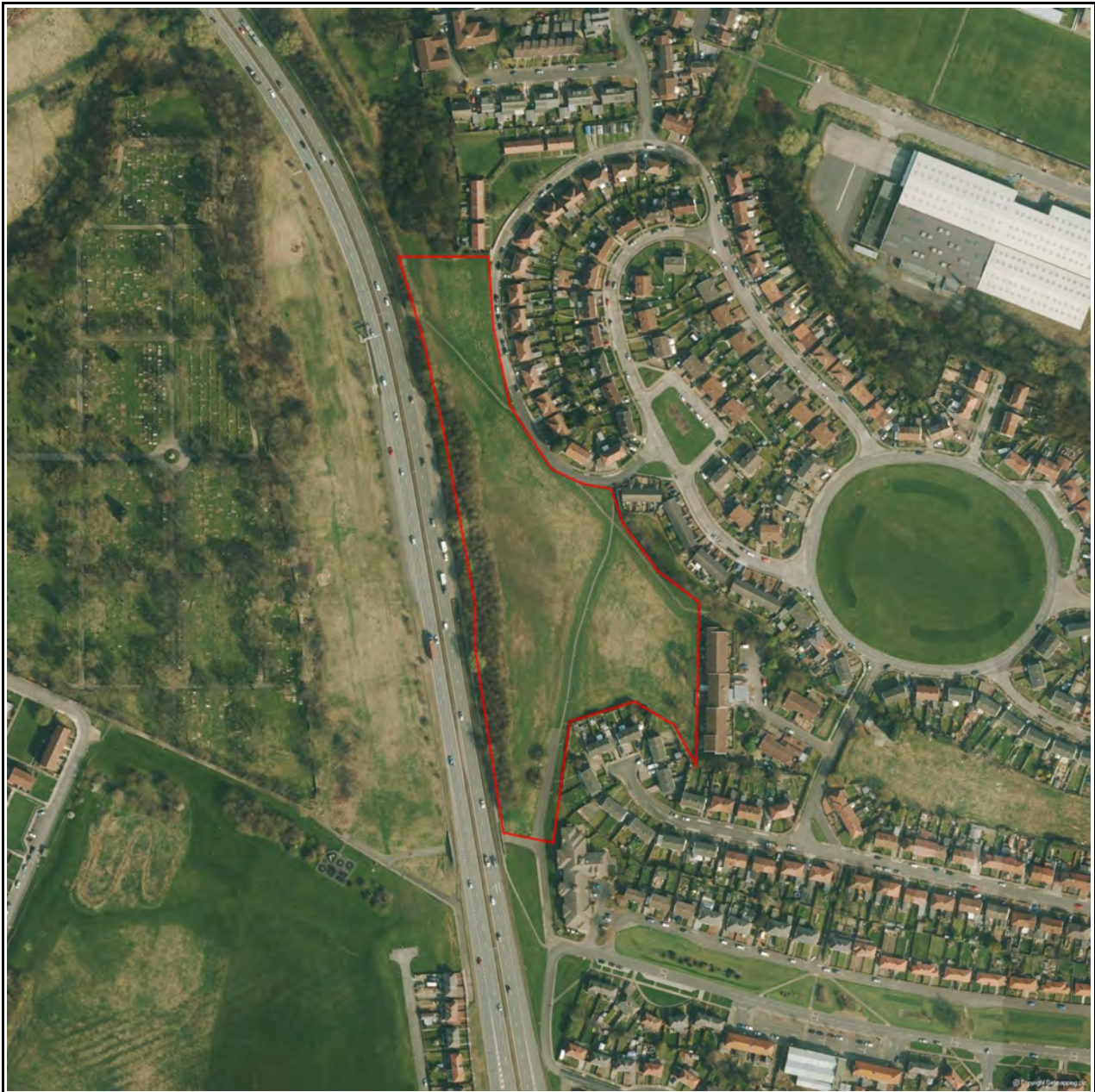
Date: 10 Nov 2016

Reference: GS-3438693

Client: Dunelm Geotechnical & Environmental Ltd

NW N NE

W E



SW S SE

Aerial Photograph Capture date: 01-Jun-2009

Grid Reference: 433737,564253

Site Size: 2.65ha

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Overview of Findings

For further details on each dataset, please refer to each individual section in the main report as listed.

Section 1: Environment Agency Flood Zones

1.1 Are there any Environment Agency Zone 2 floodplains within 250m of the study site?	No
1.2 Are there any Environment Agency Zone 3 floodplains within 250m of the study site?	No
1.3 Are there any Flood Defences within 250m of the study site?	No
1.4 Are there any areas benefiting from Flood Defences within 250m of the study site?	No
1.5 Are there any Proposed Flood Defences within 250m of the study site?	No
1.6 Are there any areas used for Flood Storage within 250m of the study site?	No

Section 2: Risk of Flooding from Rivers and the Sea (RoFRaS)

2.1 What is the Risk of Flooding from Rivers and the Sea (RoFRaS) Flood Rating for the study site?	Very Low
--	----------

Section 3: Historic Flood Events

3.1 Has the site been subject to past flooding as recorded by the Environment Agency?	No
---	----

Section 4: JBA Surface Water (Pluvial) Flood

4.1 Is the site or any area within 50m at risk of Surface Water (Pluvial) Flooding?	Yes
---	-----

Section 5: Surface Water Features

5.1 Are there any surface water features within 250m of the study site?	No
---	----

Section 6: Groundwater Flooding

6.1 What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site?	Potential at Surface
6.2 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?	Moderate

Section 7: BGS Geological Indicators of historic flooding

7.1 Are there any geological indicators of historic flooding within 250m of the study site?	No
---	----

Section 8: JBA Reservoir and Canal Data

8.1 Is the property located in an area identified as being at potential risk in the event of a reservoir failure?	No
8.2 Is the property located in an area identified as being at potential risk in the event of a canal break?	No

Additional Matters

Riparian ownership

If your land abuts a river, stream or ditch, you may have responsibility to maintain this watercourse, even if Title Deeds show the property boundary to be adjacent to the watercourse. This includes the responsibility for clearing debris and obstructions which may impede the free passage of water and fish, and also includes the responsibilities to accept flood flows through your land, even if these are caused by inadequate capacity downstream. There is no duty in common law for a landowner to improve the drainage capacity of a watercourse. Please contact Groundsure if you need further advice on riparian ownership issues relating to this property.

Sewerage Flooding

Extreme rainfall events may overwhelm sewerage systems and cause local flooding. The water and sewerage companies within the UK are required to maintain 'DG5 – At Risk Registers' which record properties that have flooded from sewers and/or are considered to be at risk of flooding from sewers in the future. If your property is on the 'At Risk' Register, this may be recorded within a standard CON29 Drainage and Water search.

Using this Report

The following report is designed by Environmental Consultants for Environmental Professionals bringing together the most up-to-date market leading environmental data. This report is provided under and subject to the Terms & Conditions agreed between Groundsure and the Client.

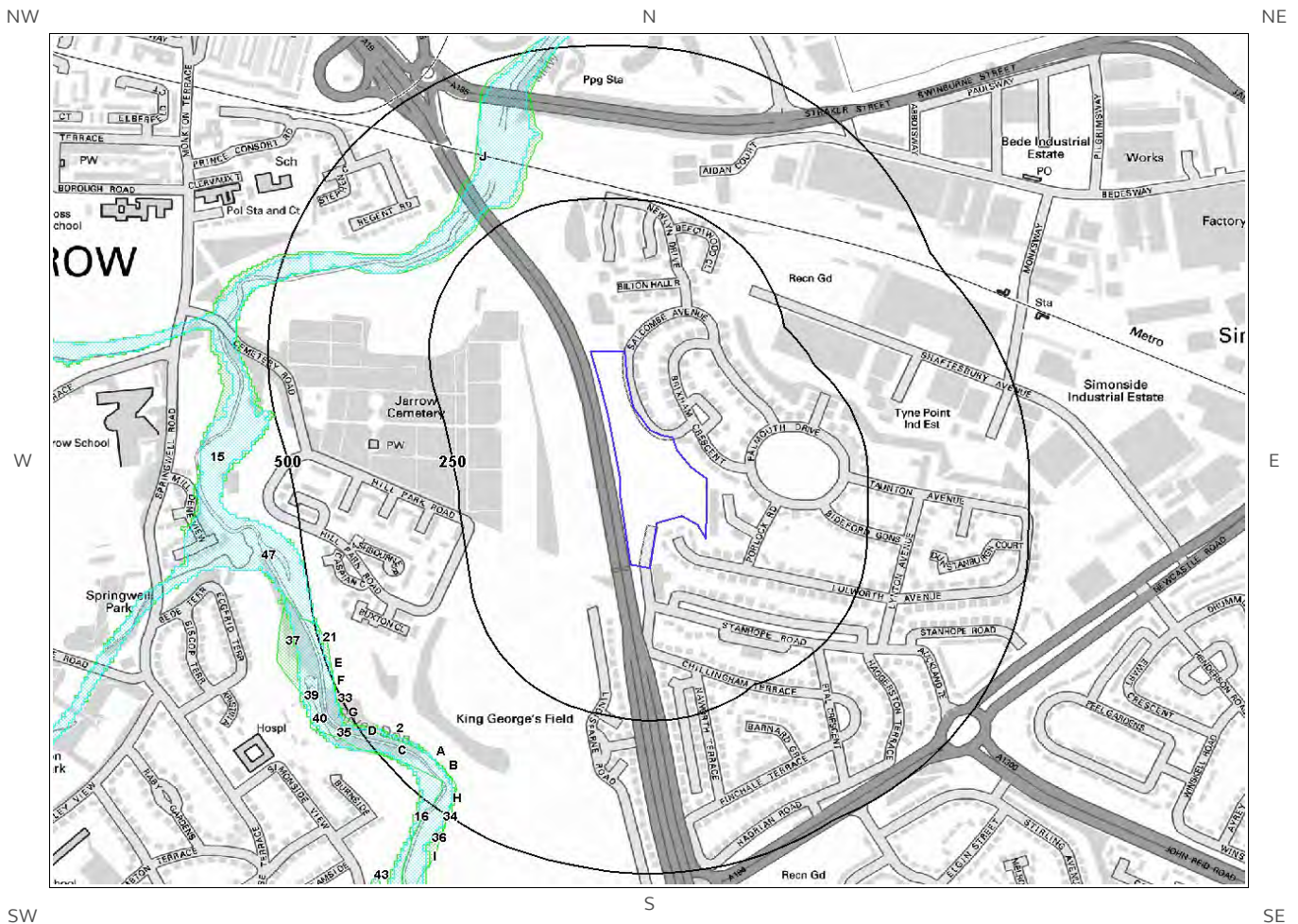
Note: Maps

Only certain features are placed on the maps within the report. All features represented on maps found within this search are given an identification number. This number identifies the feature on the mapping and correlates it to the additional information provided below. This identification number precedes all other information and takes the following format -Id: 1, Id: 2, etc. Where numerous features on the same map are in such close proximity that the numbers would obscure each other a letter identifier is used instead to represent the features. (e.g. Three features which overlap may be given the identifier "A" on the map and would be identified separately as features 1A, 3A, 10A on the data tables provided).

Where a feature is reported in the data tables to a distance greater than the map area, it is noted in the data table as "Not Shown".








All distances given in this report are in Metres (m). Directions are given as compass headings such as N: North, E: East, NE: North East from the nearest point of the study site boundary.

1. Environment Agency Flood Map for Planning (from rivers and the sea)



Environment Agency Flood Map for Planning Legend

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-  Zone 2 Floodplain
-  Zone 3 Floodplain
-  Flood Defences
-  Area used for Flood Storage
-  Proposed Flood Defence Scheme
-  Area Benefiting from Flood Defences
-  Search Centre
-  100 Search Buffers (m)
-  250 Search Buffers (m)

1. Environment Agency Flood Zones

1.1 River and Coastal Zone 2 Flooding

Is the site within 250m of an Environment Agency Zone 2 floodplain? No

Environment Agency Zone 2 floodplains estimate the annual probability of flooding as between 1 in 1000 (0.1%) and 1 in 100 (1%) from rivers and between 1 in 1000 (0.1%) and 1 in 200 (0.5%) from the sea. Any relevant data is represented on Map 1 – Flood Map for Planning:

Database searched and no data found.

1.2 River and Coastal Zone 3 Flooding

Is the site within 250m of an Environment Agency Zone 3 floodplain? No

Zone 3 shows the extent of a river flood with a 1 in 100 (1%) or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year. Any relevant data is represented on Map 1 – Flood Map for Planning.

Database searched and no data found.

1.3 River and Coastal Flood Defences

Are there any Flood Defences within 250m of the study site ? No

This search consists only of flood defences present in the dataset provided by the Environment Agency. Any relevant data is represented on Map 1 – Flood Map for Planning.

Database searched and no data found.

1.4 Areas benefiting from Flood Defences

Are there any areas benefiting from Flood Defences within 250m of the study site? No

Any relevant data is represented on Map 1 – Flood Map for Planning.

1.5 Areas of Proposed Flood Defences

Are there any Proposed Flood Defences within 250m of the study site? No

* This illustrates the number of households that move from 'very significant' or 'significant' to 'moderate' or 'low' probability of flood risk bands if the proposed flood scheme is to be implemented.

Any relevant data is represented on Map 1 – Flood Map for Planning.

Guidance: This search consists only of proposed flood defences present in the dataset provided by the Environment Agency. Please note that proposed flood defence schemes will not influence the current RoFRaS ratings for the site.

1.6 Areas used for Flood Storage

Are there any areas used for Flood Storage within 250m of the study site? No

Flood Storage Areas are considered part of the functional floodplain, and are areas where water has to flow or be stored in times of flood. Technical Guidance to the National Planning Policy Framework states that only water-compatible development and essential infrastructure should be permitted within flood storage areas, and existing development within this area should be relocated to an area with a lower risk of flooding. Any relevant data is represented on Map 1 – Flood Map for Planning.

Notes on Flood Zone Data:

This data relates solely to flooding from rivers or the sea. The Environment Agency estimate that over 2.5 million properties are at risk of flooding within England and Wales. River flooding occurs when a watercourse cannot cope with the water draining into it from the surrounding land. This can happen, for example, when heavy rain falls on an already waterlogged catchment. Coastal flooding results from a combination of high tides and stormy conditions. If low atmospheric pressure coincides with a high tide, a tidal surge may happen which can cause serious flooding.

The Groundsure Flood Insight Report comments upon whether a property lies in proximity to Environment Agency Zone 2 and Zone 3 floodplains. The Government's Technical Guidance to the National Planning Policy Framework explains how flood risk should be considered at all stages of the planning and development process in order to reduce future damage to property and potential loss of life. The Government looks to planning authorities to ensure that flood risk is properly taken into account in the planning of developments to reduce the risk of flooding and the damage which floods cause.

Flood Zones enable planning authorities to apply the sequential test (see Technical Guidance to the National Planning Policy Framework) for development proposals and prevent inappropriate development.

Technical Guidance to the National Planning Policy Framework defines the flood zones as: -

Zone 1 – little or no risk with an annual probability of flooding from rivers and the sea of less than 0.1%

Zone 2 – low to medium risk with an annual probability of flooding of 0.1-1.0% from rivers and 0.1-0.5% from the sea.

Zone 3 – high risk with an annual probability of flooding of 1.0% or greater from rivers, and 0.5% or greater from the sea.

Flood Zone 3b/Flood Storage Areas - very high risk with the site being used as part of the functional flood plain or as a Flood Storage Area.

The flood zones are the main constraint map underpinning decisions on development and flood risk.

Existing Flood Defences

Flood defences seek to reduce the risk of flooding and to safeguard life, protect property, sustain economic activity and the natural environment. Flood defences are designed to protect against flood events of a particular magnitude, expressed as risk in any one year. For example, defences in urban areas may be built to provide protection against flood events of a size which might occur on average once in one hundred years or less.

Proposed Flood Defences

This information is taken from the Environment Agency's database of Areas to Benefit from New and Reconditioned Flood Defences under the Medium Term Plan (MTP). The dataset contains funding allocation for the first financial year (from April). Funding for the following four financial years is not guaranteed, being only indicative, and will be reviewed annually. Projects within the Medium Term Plan qualify for inclusion in this dataset if:

- the investment leads to a change in the current standard of protection (change projects);
- the investment is a replacement or refurbishment in order to sustain the current standard of protection (sustain projects);
- the project has an initial construction budget of £100,000 or more; and
- the project is included within the first five years of the MTP

The data includes all the Environment Agency's projects over £100K that will change or sustain the standards of flood defence in England and Wales over the next 5 years. It also includes the equivalent schemes for all Local Authority and Internal Drainage Boards. The number of households and areas of land contributing to DEFRA's Outcome Measures (OM) are also attributed i.e. could benefit from major work on flood defences.

These data also contain Intermittence Flood Maintenance Programme that show the annual maintenance programme of work scheduled to be carried by the Environment Agency, Local Authority or Internal Drainage Board on flood defences. Data details routine maintenance as well as intermittent work that has been funded for the coming year. The data contains a start and end coordinate defining the relevant river section where work is planned.

Information Warning

Please note that the maps show the areas where investment is being made to reduce the flood and coastal erosion risk and are not detailed enough to account for individual addresses. Individual properties may not always face the same risk of flooding as the areas that surround them. Also, note that funding figures are indicative and any use or interpretation should account for future updates where annual values may change.

Every possible care is taken to ensure that the maps reflect all the data possessed by the Environment Agency and that they have applied their expert knowledge to create conclusions that are as reliable as possible. The Environment Agency consider that they have created the maps as well as they can and so should not be liable if the maps by their nature are not as accurate as might be desired or are misused or misunderstood, despite their warnings. For this reason, they are not able to promise that the maps will always be accurate or completely up to date.

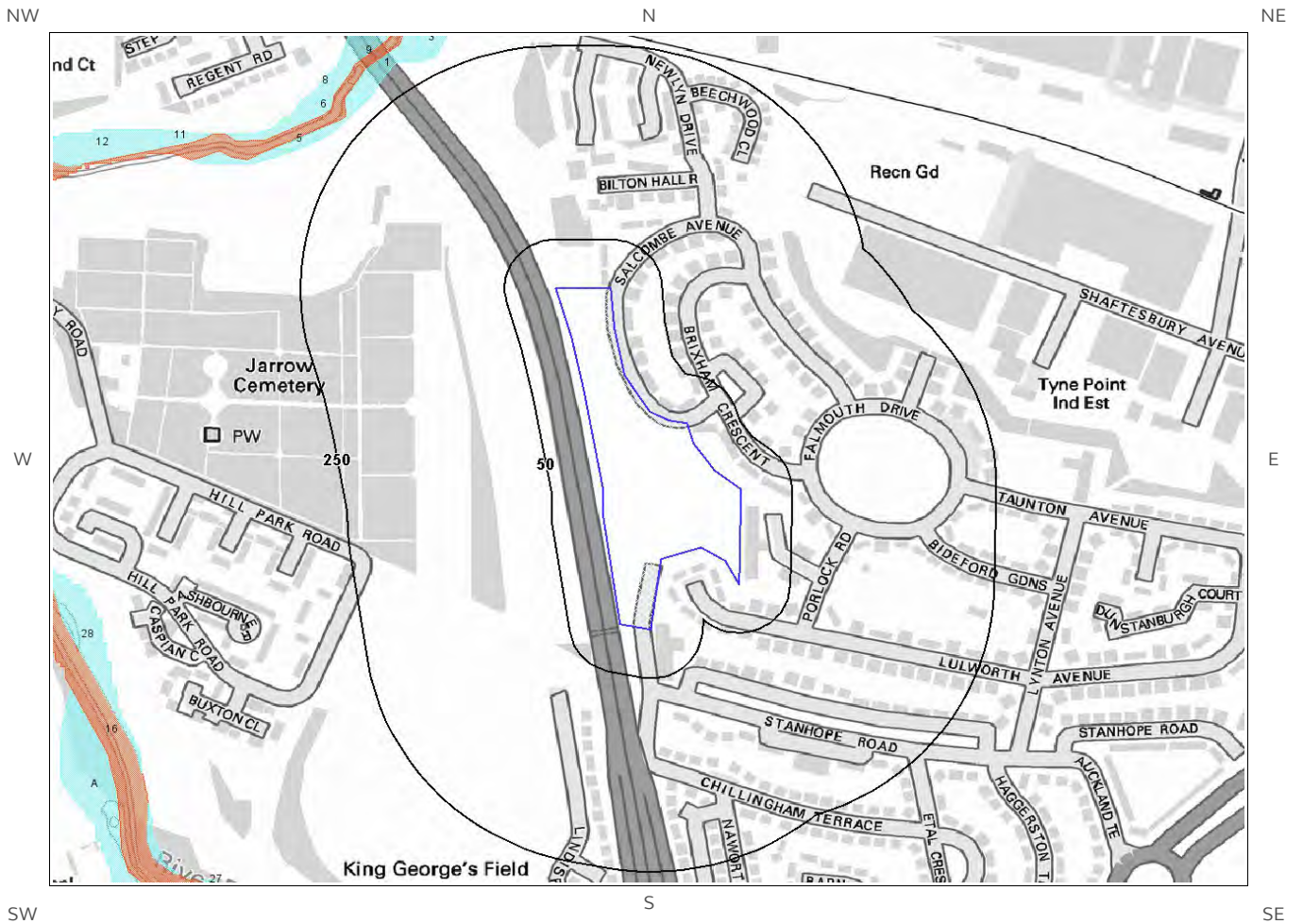
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Flood Storage Areas

Flood Storage Areas may also act as flood defences. A flood storage area may also be referred to as a balancing reservoir, storage basin or balancing pond. Its purpose is to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel. It may also delay the timing of a flood peak so that its volume is discharged over a longer time interval.

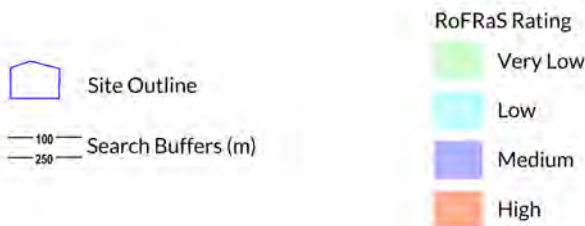
A flood storage area may take the form of a wet or dry reservoir. A wet reservoir is a water storage facility in which storage can be effected by allowing water levels to rise during flood times. A dry reservoir is typically adjacent to a river and comprises an enclosed area that accepts water only at peak times. These areas are also referred to as Zone 3b or 'the functional floodplain' and has a 5% or greater chance of flooding in any given year, or is designed to flood in the event of an extreme (0.1%) flood or another probability which may be agreed between the Local Planning Authority and the Environment Agency, including water conveyance routes. Development within Flood Storage Areas is severely restricted.

2. Environment Agency RoFRaS Flooding Map



Environment Agency RoFRaS Flooding legend

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2. Environment Agency Risk of Flooding from Rivers and the Sea (RoFRaS)

2.1 Environment Agency Risk of Flooding from Rivers and the Sea (RoFRaS) Flood Rating (River and Coastal)

What is the highest risk of flooding onsite?

Very Low

The Environment Agency RoFRaS database provides an indication of river and coastal flood risk at a national level on a 50m grid with the flood rating at the centre of the grid calculated and given above. The data considers the probability that the flood defences will overtop or breach by considering their location, type, condition and standard of protection.

RoFRaS data for the study site indicates the property is in an area with a Very Low (less than 1 in 1000) chance of flooding in any given year.

Notes on RoFRaS data:

This information is based on the very latest Environment Agency Risk of Flooding from Rivers and the Sea (RoFRaS) data. This data has been created by dividing the flood plain into 50m squares, or smaller areas where a square is intersected by a river or coastline. These are called impact cells. The method then calculates the likelihood that the centre of each impact cell will start to flood using a number of different flood scenarios.

A number of insurance companies providing cover for flood risk use this data as the basis of their risk model, although they may also utilise additional information such as claims histories, which may further influence their decision. Where a high risk of flooding is identified flood risk insurance may be difficult to obtain without further work being undertaken. Property owners of sites within Low and Medium risk areas are still considered to be at risk of flooding and insurance premiums may be increased as a result. Owners of properties within Low, Medium and High risk areas are advised to sign up to the Environment Agency's Flood Warning scheme. The probability estimates for RoFRaS risk bands are as follows:

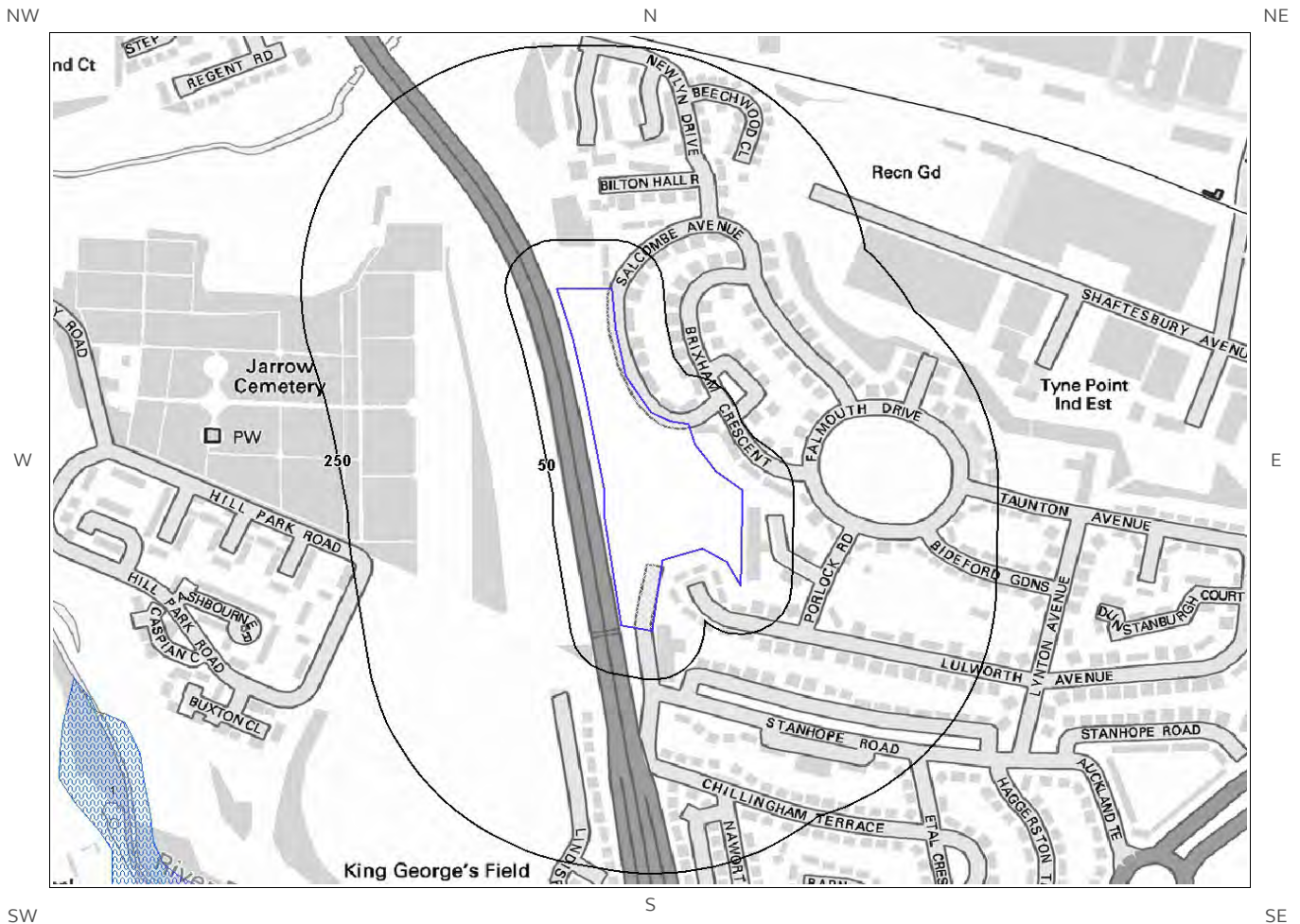
Very Low – the chance of flooding from rivers or the sea is considered to be less than 1 in 1000 (0.1%) in any given year.

Low – the chance of flooding from rivers or the sea is considered to be less than 1 in 100 (1%) but greater than or equal to 1 in 1000 (0.1%) in any given year.

Medium – the chance of flooding from rivers or the sea is considered to be less than 1 in 30 (3.3%) but greater than 1 in 100 (1%) in any given year.

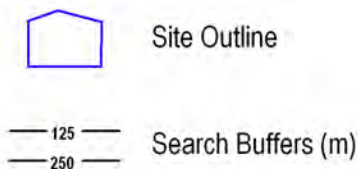
High – the chance of flooding from rivers or the sea is considered to be greater than or equal to 1 in 30 (3.3%) in any given year.

3. Environment Agency Historic Flooding Events Map



Environment Agency Historic Flooding Events legend

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3. Environment Agency Historic Flooding Events

3.1 Historic Flood Outlines

Has the site or any area within 250m been subject to historic flooding as recorded by the Environment Agency? No

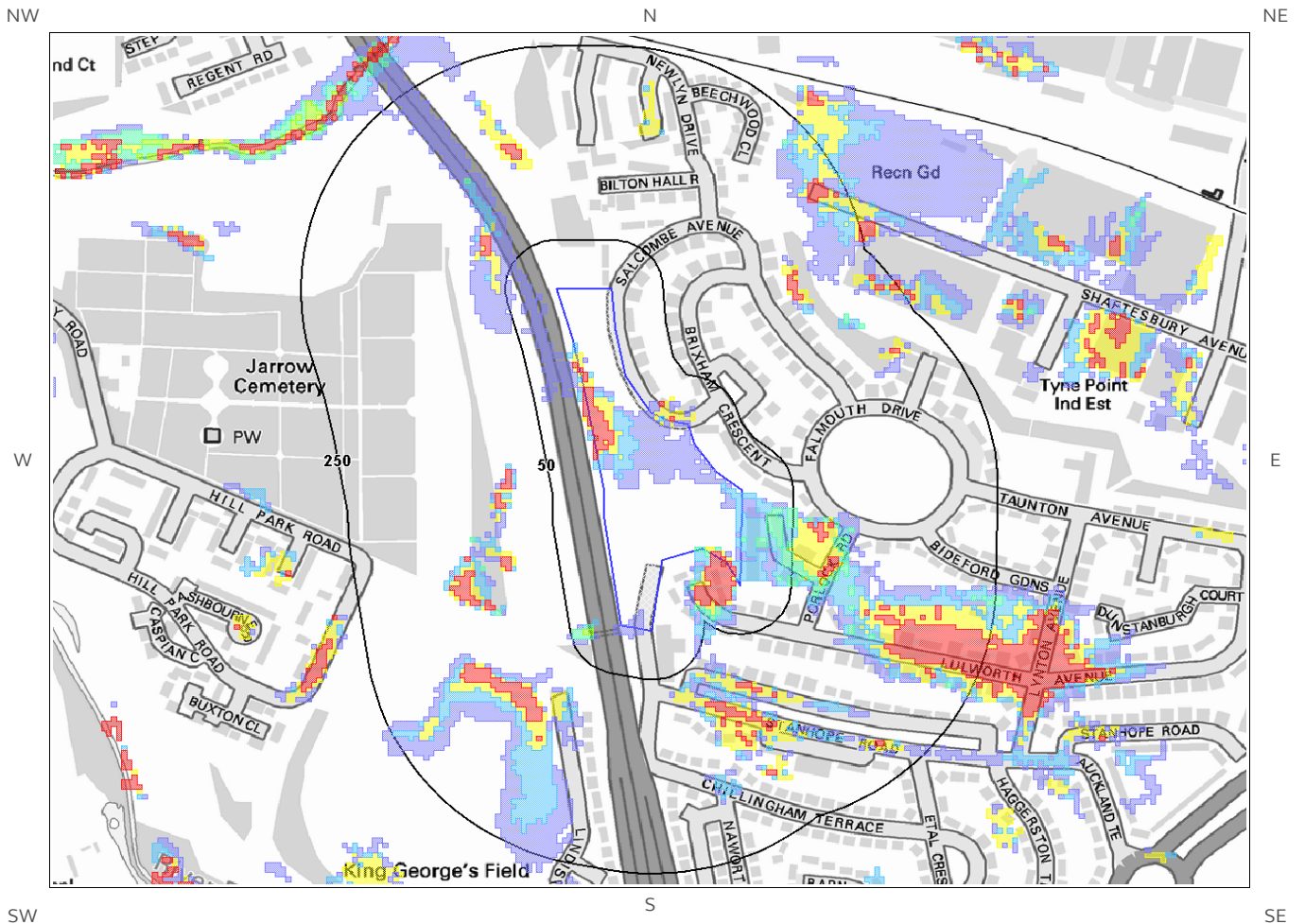
This database shows the individual footprint of every flood event recorded by the Environment Agency and previous bodies.

Any records found within the search radius are displayed on Map 3 – Historic Flooding Events.

Notes on Historic Flooding data:

Over 21,000 separate events are recorded within this database, dating back to 1947. This data is used to understand where flooding has occurred in the past and provides details as available. Absence of a historic flood event for an area does not mean that the area has never flooded, but only that the Environment Agency do not currently have records of flooding within the area. Equally, a record of a flood footprint in previous years does not mean that an area will flood again, and this information does not take account of flood management schemes and improved flood defences.

4. JBA Surface Water (Pluvial) Flood Map



JBA Surface Water (Pluvial) Flood Legend

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4. JBA Surface Water (Pluvial) Flooding

Surface Water (pluvial) flooding is defined as flooding caused by rainfall-generated overland flow before the runoff enters a watercourse or sewer. In such events, sewerage and drainage systems and surface watercourses may be entirely overwhelmed.

Surface Water (pluvial) flooding will usually be a result of extreme rainfall events, though may also occur when lesser amounts of rain falls on land which has low permeability and/or is already saturated, frozen or developed. In such cases overland flow and 'ponding' in topographical depressions may occur.

What is the risk of pluvial flooding at the study site? Highly Significant

Guidance: The site or an area in close proximity has been assessed to be at Highly Significant Risk of surface water (pluvial) flooding. This indicates that this area would be expected to be affected by surface water flooding in a 1 in 75 year rainfall event to a depth of greater than 1m.

Flood data provided by JBA RISK MANAGEMENT LIMITED Copyright © JBA RISK MANAGEMENT LIMITED 2008-2016

The following pluvial (surface water) flood risk records within 50m of the study site are shown on the JBA Surface Water Flooding Map:

Distance	Direction	Risk
0.0	On Site	High
0.0	On Site	High
0.0	On Site	High
0.0	On Site	High
0.0	On Site	High
0.0	On Site	High
0.0	On Site	High
0.0	On Site	High
0.0	On Site	High
0.0	On Site	High
0.0	On Site	High
0.0	On Site	High
0.0	On Site	High
0.0	On Site	High
0.0	On Site	High
0.0	On Site	High
0.0	On Site	High
0.0	On Site	High
0.0	On Site	Highly Significant
0.0	On Site	Highly Significant
0.0	On Site	Low
0.0	On Site	Low

Distance	Direction	Risk
0.0	On Site	Low
0.0	On Site	Low
0.0	On Site	Low
0.0	On Site	Low
0.0	On Site	Low
0.0	On Site	Low
0.0	On Site	Low
0.0	On Site	Low
0.0	On Site	Low
0.0	On Site	Low
0.0	On Site	Low
0.0	On Site	Low
0.0	On Site	Low
0.0	On Site	Low
0.0	On Site	Low
0.0	On Site	Low to Moderate
0.0	On Site	Low to Moderate
0.0	On Site	Low to Moderate
0.0	On Site	Low to Moderate
0.0	On Site	Low to Moderate
0.0	On Site	Low to Moderate
0.0	On Site	Low to Moderate
0.0	On Site	Low to Moderate
0.0	On Site	Low to Moderate
0.0	On Site	Low to Moderate
0.0	On Site	Low to Moderate
0.0	On Site	Low to Moderate
0.0	On Site	Low to Moderate
0.0	W	Low to Moderate
0.0	On Site	Moderate
0.0	On Site	Moderate
0.0	On Site	Moderate
0.0	On Site	Moderate
0.0	On Site	Significant
0.0	On Site	Significant
0.0	On Site	Significant
0.0	On Site	Significant
0.0	NE	Significant
1.0	W	Low
1.0	S	Low to Moderate

Distance	Direction	Risk
1.0	W	Significant
2.0	W	High
2.0	W	High
2.0	W	Low to Moderate
3.0	W	Low
3.0	W	Low to Moderate
4.0	SW	Moderate
6.0	SW	Low to Moderate
8.0	N	Low
10.0	NE	Low
10.0	SW	Low
10.0	NE	Significant
11.0	S	Low
14.0	S	Low
14.0	W	Low
14.0	N	Low
14.0	SW	Low to Moderate
14.0	E	Low to Moderate
15.0	E	Low
15.0	E	Moderate
16.0	W	Low
17.0	SW	High
18.0	SW	High
19.0	NE	High
19.0	E	Low
20.0	S	Low
22.0	W	Low to Moderate
24.0	SW	Low to Moderate
24.0	E	Moderate
25.0	E	Low
25.0	W	Low
25.0	E	Low to Moderate
26.0	E	Low
28.0	SW	High
28.0	W	Moderate
28.0	SW	Moderate
28.0	S	Moderate
28.0	W	Moderate to High
29.0	E	Low

Distance	Direction	Risk
29.0	W	Moderate
30.0	E	High
30.0	S	Low
32.0	W	Low to Moderate
34.0	E	Low to Moderate
34.0	E	Low to Moderate
36.0	SW	Low
36.0	E	Moderate
37.0	E	High
37.0	W	Low
38.0	E	Moderate
38.0	SW	Moderate
38.0	SW	Moderate
39.0	E	Low
40.0	W	Low
40.0	E	Moderate
41.0	E	Low to Moderate
42.0	E	Low
44.0	E	Moderate
45.0	E	High
45.0	E	Moderate
46.0	E	Moderate
47.0	SW	Low
49.0	W	Low

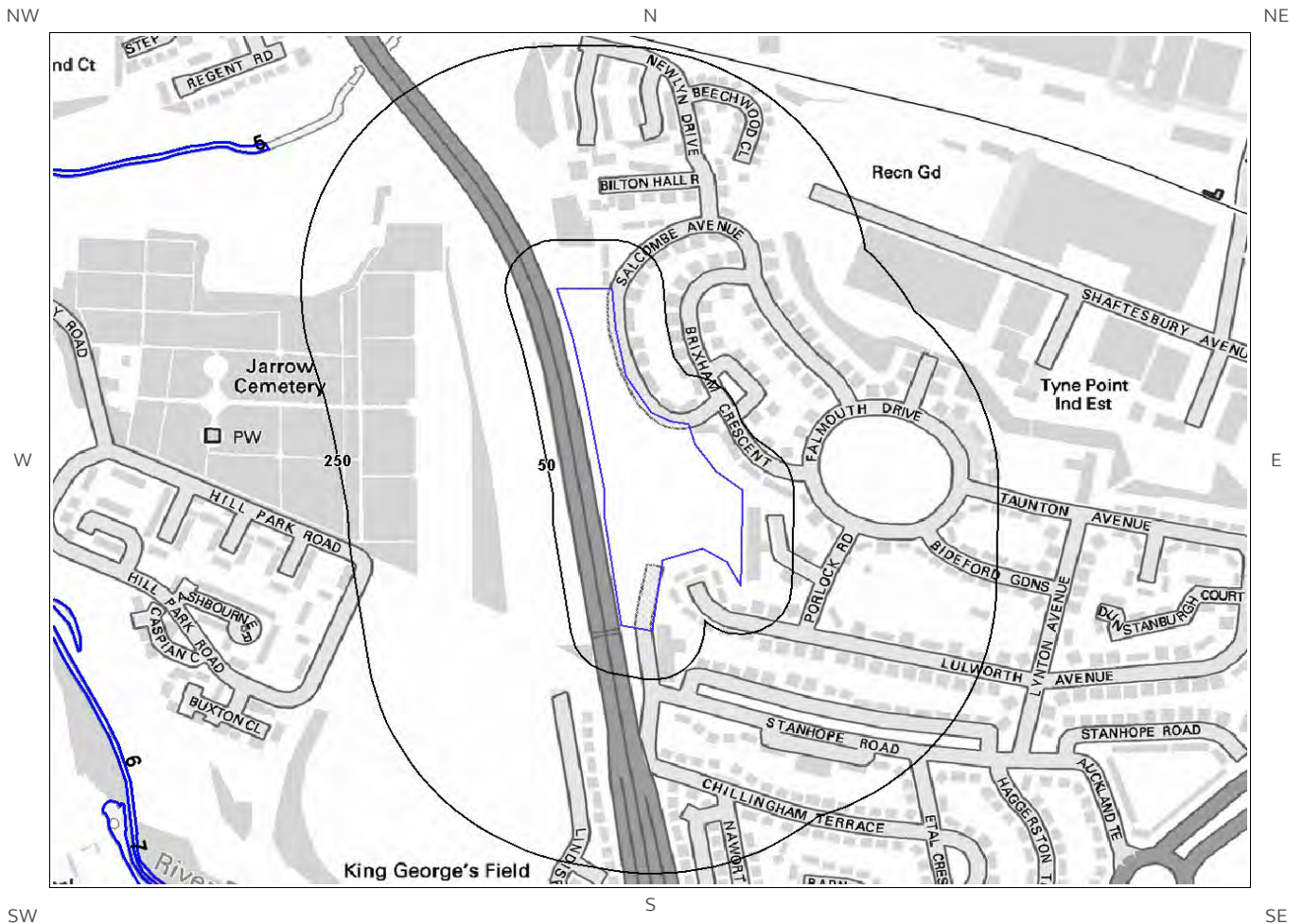
Notes on Surface water (Pluvial) Flooding data:

JBA Consulting surface water flood map identifies areas likely to flood following extreme rainfall events, i.e. land naturally vulnerable to surface water or “pluvial” flooding. This data set was produced by simulating 1 in 75 year, 1 in 200 year and 1 in 1000 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 older ones may even flood in a 1 in 5 year rainstorm event.

The model provides the maximum depth of flooding in each 5m “cell” of topographical mapping coverage. The maps include 7 bands indicating areas of increasing natural vulnerability to surface water flooding. These are:-



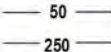

- **Less than 0.1m in a 1 in 1000 year rainfall event** - Negligible
 - **Greater than 0.1m in a 1 in 1000 year rainfall event** - Low
 - **Between 0.1m and 0.3m in a 1 in 200 year rainfall event** – Low to Moderate
 - **Between 0.3m and 1m in a 1 in 200 year rainfall event** – Moderate
 - **Greater than 1m in a 1 in 200 year rainfall event** – Moderate to High
 - **Between 0.1m and 0.3m in a 1 in 75 year rainfall event** – High
 - **Between 0.3m to 1m in a 1 in 75 year rainfall event** - Significant
 - **Greater than 1m in a 1 in 75 year rainfall event** – Highly Significant
-

5. Surface Water Features map



Surface Water Features legend

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-  Site Outline
-  Surface Water Feature (wider than 5m)
-  Search Buffers (m)
-  Surface Water Feature (narrower than 5m)

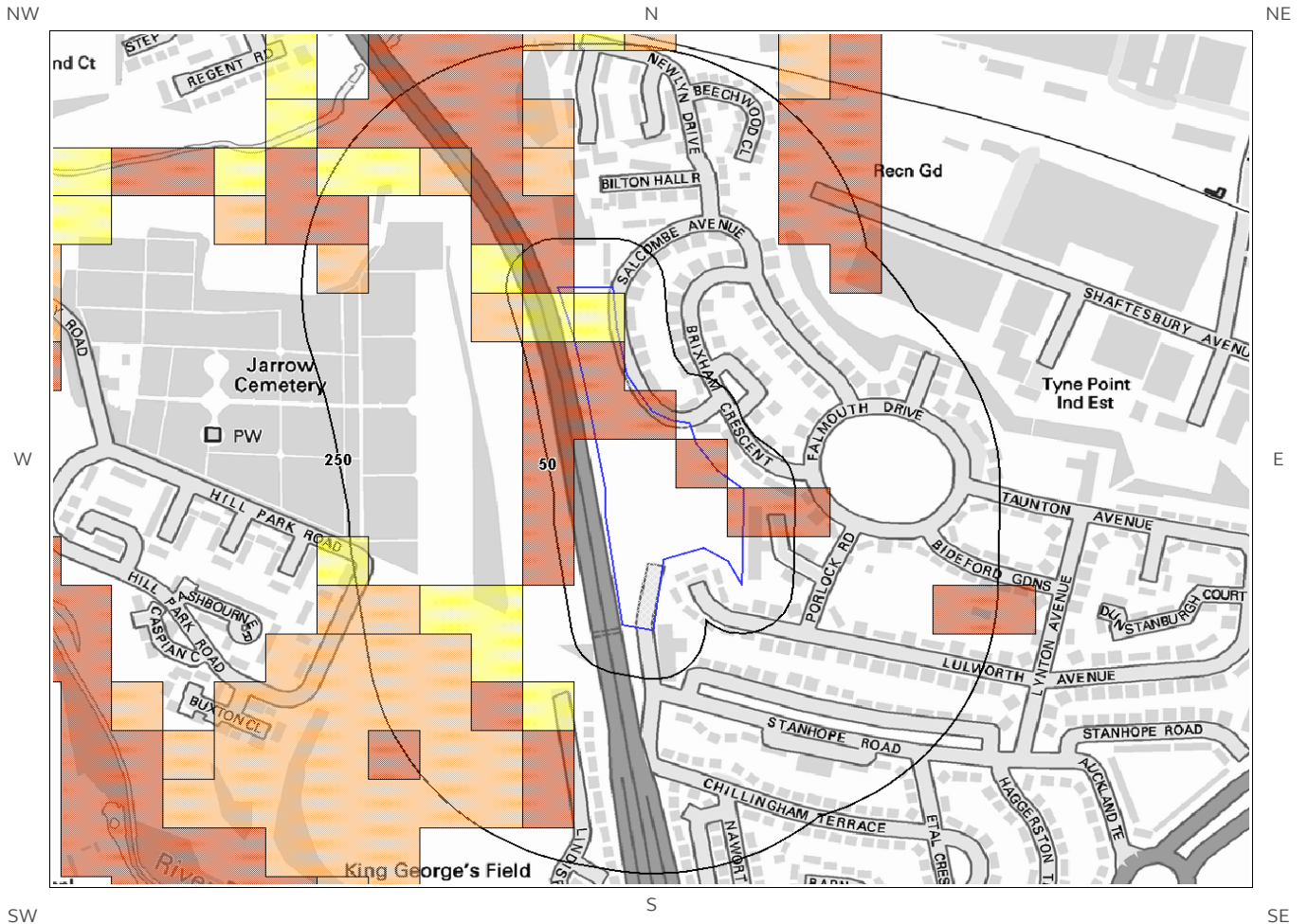
5. Surface Water Features

Are there any surface water features within 250m of the study site?

No





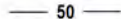
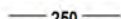
Database searched and no data found.

6. BGS Groundwater Flooding Map



BGS Groundwater Flooding legend

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-  Limited potential for groundwater flooding to occur
-  Potential for groundwater flooding of property below ground level
-  Potential for groundwater flooding to occur at surface
-  Site Outline
-  50 Search Buffers (m)
-  250 Search Buffers (m)

6. Groundwater Flooding

6.1 Groundwater Flooding Susceptibility Areas

Are there any British Geological Survey groundwater flooding susceptibility flood areas within 50m of the boundary of the study site? Yes

What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions? Potential for groundwater flooding at surface

Does this relate to Clearwater Flooding or Superficial Deposits Flooding? Superficial Deposits Flooding

Where potential for groundwater flooding to occur at surface is indicated, this means that given the geological conditions in the area groundwater flooding hazard should be considered in all land-use planning decisions. It is recommended that other relevant information e.g. records of previous incidence of groundwater flooding, rainfall, property type, and land drainage information be investigated in order to establish relative, but not absolute, risk of groundwater flooding.

6.2 Groundwater Flooding Confidence Areas

What is the British Geological Survey confidence rating in this result? Moderate

Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

The confidence rating is on a threefold scale - Low, Moderate and High. This provides a relative indication of the BGS confidence in the accuracy of the susceptibility result for groundwater flooding. This is based on the amount and precision of the information used in the assessment. In areas with a relatively lower level of confidence the susceptibility result should be treated with more caution. In other areas with higher levels of confidence the susceptibility result can be used with more confidence.

Notes on Groundwater Flooding data:

The BGS Susceptibility to Groundwater Flooding hazard dataset identifies areas where geological conditions could enable groundwater flooding to occur and where groundwater may come close to the ground surface.

Groundwater flooding may either be associated with shallow unconsolidated sedimentary aquifers which overlie unproductive aquifers (Superficial Deposits Flooding), or with unconfined aquifers (Clearwater Flooding).

The susceptibility data is suitable for use for regional or national planning purposes where the groundwater flooding information will be used along with a range of other relevant information to inform land-use planning decisions. It might also be used in conjunction with a large number of other factors, e.g. records of previous incidence of groundwater flooding, rainfall, property type, and land drainage information, to establish relative, but not absolute, risk of groundwater flooding at a resolution of greater than a few hundred metres. The susceptibility data should not be used on its own to make planning decisions at any scale, and, in particular, should not be used to inform planning decisions at the site scale. The susceptibility data cannot be used on its own to indicate risk of groundwater flooding.

7. BGS Geological Indicators of Flooding

Are there any geological indicators of flooding within 250m of the study site?

No

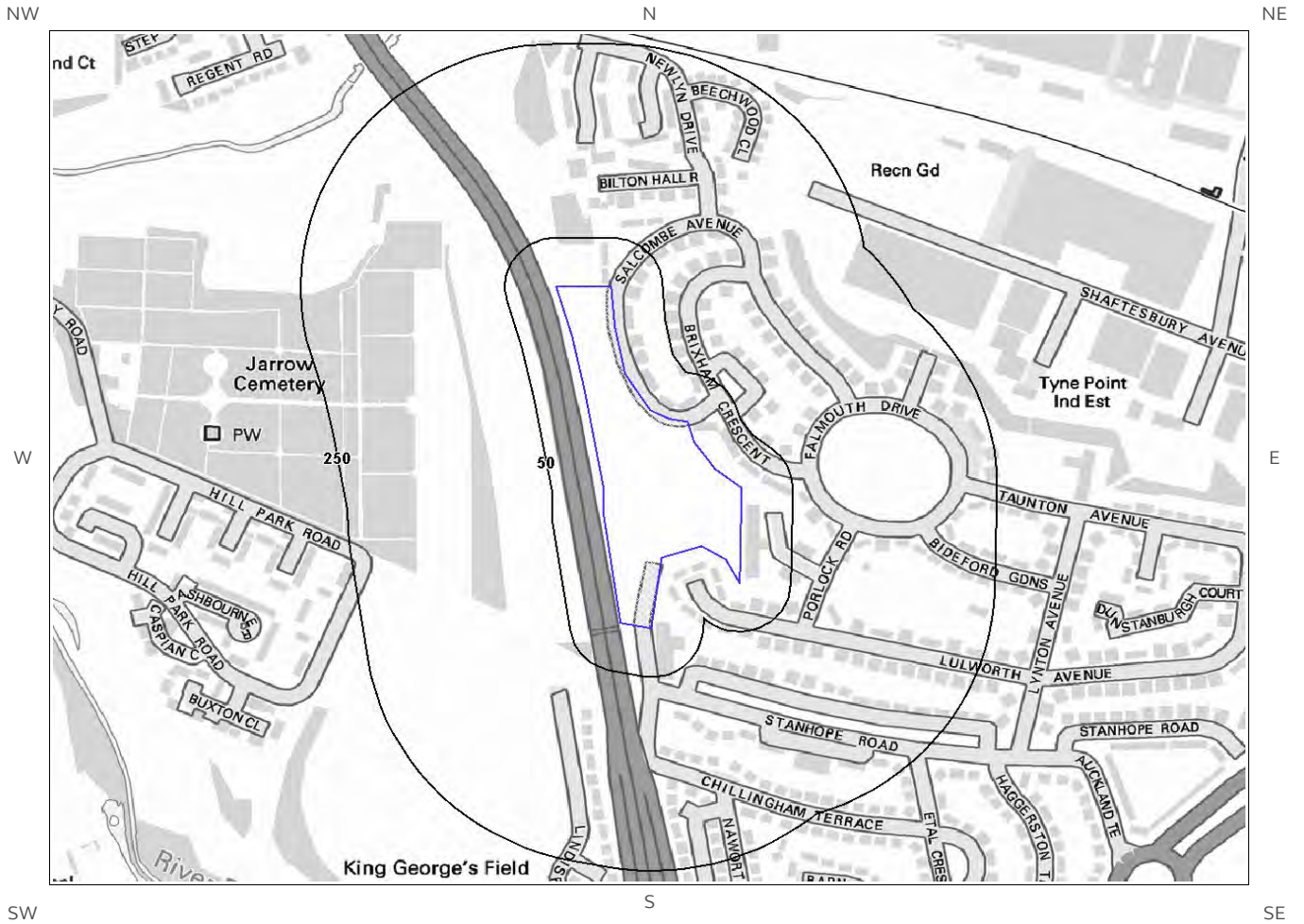
This dataset identifies the presence of superficial geological deposits which indicate that the site may be, or have been in the past, vulnerable to inland and/or coastal flooding. This assessment does not take account of any man-made factors such as flood protection schemes, and the data behind the report are purely geological.

Notes on BGS Geological Indicators of Flooding data:

The BGS Geological Indicators of Flooding (GIF) data set is a digital map based on the BGS Digital Geological Map of Great Britain at the 1:50,000 scale (DiGMapGB-50). It was produced by characterising Superficial (Drift) Deposits on DiGMapGB-50 in terms of their likely vulnerability to flooding, either from coastal or inland water flow. These Superficial Deposits are considered 'recent' in geological terms, most having been formed in the later parts of the Quaternary geological period (i.e. within the last few tens of thousands of years). Observations made during recent major inland and coastal flooding events have demonstrated that the erosion and deposition of these recent geological sediments have produced subtle topographical variations, resulting in landforms such as fluvial and coastal floodplains. The mapping of these landforms, in conjunction with the fluvial and/or coastal deposits that underlie them, has in turn determined the extent of previous coastal and inland flooding.

On this basis, the floodplains which are at greatest risk from flooding can be both visualised and defined by Superficial Deposits as depicted on geological maps. These include deposits such as river alluvium and lacustrine (lake) alluvium, as well as the First River Terrace or 'Floodplain terrace' (raised flat areas adjacent to or within floodplains, which represent the level of the floodplain prior to the most recent episode of down-cutting). Older and higher river terraces have been excluded as they lie outside the geologically defined floodplain. Areas at risk from coastal inundation are similarly characterised by a range of estuarine or marine deposits that include, for example, tidal flats.

8. JBA Canal Break map



JBA Canal Break legend

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8. JBA Reservoir and Canal Data

8.1 JBA Reservoir Failure Impact Modelling

Is the property located in an area identified as being at potential risk in the event of a reservoir failure? No

JBA consulting have modelled the flooding impact from 1,700 reservoirs in England and Wales, should there be a catastrophic failure of a reservoir wall or embankment. This data is not displayed on mapping.

Guidance: None required

Notes on Reservoir Failure Impact data:

This dataset identified areas that are most likely to flood following the sudden catastrophic failure of a reservoir and is provided by JBA Consulting. JBA has identified over 1,700 reservoirs that pose a risk to people and property. These maps identify properties that would flood in the unlikely event of the failure of the reservoir's dam or embankment. Empirical methods were used to predict the flow that would result from the failure which was then modelled onto high resolution Digital Terrain Models (DTM) using JBA's advanced 2D hydraulic modelling techniques. The model provides the maximum depth of flooding in each cell of the DTM.

8.2 JBA Canal Break Modelling

Is the property located within 500m of an area identified as being at potential risk in the event of a canal break? No

Database searched and no data found.

Notes on Canal Break modelling data

Canal failure mapping includes two types of failure:

- Breach of raised canal embankments - failure of the embankment due to weaknesses; these are typically caused by erosion or animal burrowing but can also arise from poor maintenance.
- Aqueduct failure - an aqueduct is where the canal passes over infrastructure such as roads, railways and subways, or over other canals and rivers. Failures of these are typically caused by the collapse of the underlying culvert.

A length of over 1,700km of canal covering England, Wales and Scotland was modelled. The canal modelling is restricted to the areas where LIDAR is available as the raised embankments are more defined in the LIDAR than in the Photogrammetry data. Each canal is categorised as part of the Merchant Shipping Notice (MSN 1776 (M)). The majority of the modelled canals are categorised as A, with a few exceptions, which fell under category B.

- Category A: narrow rivers and canals where the depth of water is generally less than 1.5m.
- Category B: wider rivers and canals where the depth of water is generally 1.5m or more and where the significant wave height could not be expected to exceed 0.6m at any time.
- Category C: tidal rivers and estuaries and large, deep lakes and lochs where the significant wave height could not be expected to exceed 1.2m at any time.
- Category D: tidal rivers and estuaries where the significant wave height could not be expected to exceed 2m at any time.

The canal map provides flood extent data only and show flooded areas with a depth greater than 0.1m.

Contact Details

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info@groundsure.com



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Email: enquiries@bgs.ac.uk
Web: www.bgs.ac.uk



BGS Geological Hazards Reports and general geological enquiries

Environment Agency

Floodline tel: 0845 988 1188
General enquiry tel: 08708 506 506
Web: www.environment-agency.gov.uk
Email: enquiries@environment-agency.gov.uk



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Tel: 01756 799919



Ordnance Survey

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SO16 0AS
Tel: 08456 050505
Website: <http://www.ordnancesurvey.co.uk/>



Local Authority

Authority: South Tyneside Council
Phone: 0191 427 7000
Web: <http://www.southtyneside.info/>
Address: Town Hall and Civic Offices, Westoe Road, South Shields, Tyne and Wear, NE33 2RL

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Tel: 01252 845444
Website: <http://www1.getmapping.com/>



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Groundsure

LOCATION INTELLIGENCE

Dunelm Geotechnical & Environmental Ltd
FOUNDATION HOUSE, ST. JOHNS ROAD,
DURHAM/MEADOWFIELD INDUSTRIAL
ESTATE, DH7 8TZ

Groundsure Reference: GS-3438692
Your Reference: 9737-D7716-KJ
Report Date: 10 Nov 2016
Report Delivery Method: Email - pdf

Groundsure Enviro Insight

Address: PORLOCK ROAD, JARROW, NE32 3QZ

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Enviro Insight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 08444 159000 quoting the above Groundsure reference number.

Yours faithfully,

Managing Director
Groundsure Limited

Enc.
Groundsure Enviroinsight

Groundsure Enviro Insight

Address: PORLOCK ROAD, JARROW, NE32 3QZ
Date: 10 Nov 2016
Reference: GS-3438692
Client: Dunelm Geotechnical & Environmental Ltd

NW

N

NE

W

E



SW

S

SE

Aerial Photograph Capture date: 01-Jun-2009
Grid Reference: 433737,564253
Site Size: 2.65ha

Report Reference: GS-3438692
Client Reference: 9737-D7716-KJ

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Overview of Findings

For further details on each dataset, please refer to each individual section in the main report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1: Historical Industrial Sites	On-site	0-50	51-250	251-500
1.1 Potentially Contaminative Uses identified from 1:10,000 scale mapping	1	1	13	23
1.2 Additional Information – Historical Tank Database	0	0	1	2
1.3 Additional Information – Historical Energy Features Database	0	0	9	18
1.4 Additional Information – Historical Petrol and Fuel Site Database	0	0	0	0
1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database	0	0	0	0
1.6 Potentially Infilled Land	2	2	12	14
Section 2: Environmental Permits, Incidents and Registers	On-site	0-50m	51-250	251-500
2.1 Industrial Sites Holding Environmental Permits and/or Authorisations				
2.1.1 Records of historic IPC Authorisations	0	0	0	0
2.1.2 Records of Part A(1) and IPPC Authorised Activities	0	0	0	0
2.1.3 Records of Red List Discharge Consents	0	0	0	0
2.1.4 Records of List 1 Dangerous Substances Inventory sites	0	0	0	0
2.1.5 Records of List 2 Dangerous Substances Inventory sites	0	0	0	0
2.1.6 Records of Part A(2) and Part B Activities and Enforcements	0	0	0	2
2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations	0	0	0	0
2.1.8 Records of Licensed Discharge Consents	0	0	0	9
2.1.9 Records of Water Industry Referrals	0	0	0	0
2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site	0	0	0	0
2.2 Records of COMAH and NIHHS sites	0	0	0	0
2.3 Environment Agency Recorded Pollution Incidents				
2.3.1 National Incidents Recording System, List 2	0	0	0	2
2.3.2 National Incidents Recording System, List 1	0	0	0	0
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990	0	0	0	0

Section 3: Landfill and Other Waste Sites	On-site	0-50m	51-250	251-500	501-1000	1000-1500
3.1 Landfill Sites						
3.1.1 Environment Agency Registered Landfill Sites	0	0	0	0	0	Not searched
3.1.2 Environment Agency Historic Landfill Sites	0	0	2	0	3	5
3.1.3 BGS/DoE Landfill Site Survey	0	0	0	1	0	0
3.1.4 Records of Landfills in Local Authority and Historical Mapping Records	0	0	0	5	4	0
3.2 Landfill and Other Waste Sites Findings						
3.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	0	0	Not searched	Not searched
3.2.2 Environment Agency Licensed Waste Sites	0	0	0	0	2	9

Section 4: Current Land Use	On-site	0-50m	51-250	251-500
4.1 Current Industrial Sites Data	0	0	2	Not searched
4.2 Records of Petrol and Fuel Sites	0	0	0	0
4.3 National Grid Underground Electricity Cables	0	0	0	0
4.4 National Grid Gas Transmission Pipelines	0	0	0	0

Section 5: Geology	
5.1 Are there any records of Artificial Ground and Made Ground present beneath the study site?	Yes
5.2 Are there any records of Superficial Ground and Drift Geology present beneath the study site?	Yes
5.3 For records of Bedrock and Solid Geology beneath the study site see the detailed findings section.	

Section 6: Hydrogeology and Hydrology	0-500m					
6.1 Are there any records of Strata Classification in the Superficial Geology within 500m of the study site?	Yes					
6.2 Are there any records of Strata Classification in the Bedrock Geology within 500m of the study site?	Yes					
	On-site	0-50m	51-250	251-500	501-1000	1000-2000
6.3 Groundwater Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
6.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	1
6.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
6.6 Source Protection Zones (within 500m of the study site)	0	0	0	0	Not searched	Not searched
6.7 Source Protection Zones within Confined Aquifer	0	0	0	0	Not searched	Not searched
6.8 Groundwater Vulnerability and Soil Leaching Potential (within 500m of the study site)	1	0	0	0	Not searched	Not searched
	On-site	0-50m	51-250	251-500	501-1000	1000-1500

Section 6: Hydrogeology and Hydrology 0-500m

6.9 Is there any Environment Agency information on river quality within 1500m of the study site?	No	No	No	Yes	Yes	No
6.10 Detailed River Network entries within 500m of the site	0	0	0	5	Not searched	Not searched
6.11 Surface water features within 250m of the study site	No	No	No	Not searched	Not searched	Not searched

Section 7: Flooding

7.1 Are there any Environment Agency Zone 2 floodplains within 250m of the study site?	No
7.2 Are there any Environment Agency Zone 3 floodplains within 250m of the study site	No
7.3 What is the Risk of flooding from Rivers and the Sea (RoFRaS) rating for the study site?	Very Low
7.4 Are there any Flood Defences within 250m of the study site?	No
7.5 Are there any areas benefiting from Flood Defences within 250m of the study site?	No
7.6 Are there any areas used for Flood Storage within 250m of the study site?	No
7.7 What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site?	Potential at Surface
7.8 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?	Moderate

Section 8: Designated Environmentally Sensitive Sites

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
--	---------	-------	--------	---------	----------	-----------

8.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	0	0	0	0
8.2 Records of National Nature Reserves (NNR)	0	0	0	0	0	0
8.3 Records of Special Areas of Conservation (SAC)	0	0	0	0	0	0
8.4 Records of Special Protection Areas (SPA)	0	0	0	0	0	0
8.5 Records of Ramsar sites	0	0	0	0	0	0
8.6 Records of Ancient Woodlands	0	0	0	0	0	0
8.7 Records of Local Nature Reserves (LNR)	0	0	0	1	0	2
8.8 Records of World Heritage Sites	0	0	0	0	0	0
8.9 Records of Environmentally Sensitive Areas	0	0	0	0	0	0
8.10 Records of Areas of Outstanding Natural Beauty (AONB)	0	0	0	0	0	0

Section 8: Designated Environmentally Sensitive Sites	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.11 Records of National Parks	0	0	0	0	0	0
8.12 Records of Nitrate Sensitive Areas	0	0	0	0	0	0
8.13 Records of Nitrate Vulnerable Zones	0	0	0	0	0	0
8.14 Records of Green Belt land	0	0	0	0	0	1

Section 9: Natural Hazards	
9.1 What is the maximum risk of natural ground subsidence?	Low
9.1.1 What is the maximum Shrink-Swell hazard rating identified on the study site?	Low
9.1.2 What is the maximum Landslides hazard rating identified on the study site?	Very Low
9.1.3 What is the maximum Soluble Rocks hazard rating identified on the study site?	Negligible
9.1.4 What is the maximum Compressible Ground hazard rating identified on the study site?	Very Low
9.1.5 What is the maximum Collapsible Rocks hazard rating identified on the study site?	Very Low
9.1.6 What is the maximum Running Sand hazard rating identified on the study site?	Very Low
9.2 Radon	
9.2.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.
9.2.2 Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?	No radon protective measures are necessary.

Section 10: Mining	
10.1 Are there any coal mining areas within 75m of the study site?	Yes
10.2 Are there any Non-Coal Mining areas within 50m of the study site boundary?	No
10.3 Are there any brine affected areas within 75m of the study site?	No

Using this report

The following report is designed by Environmental Consultants for Environmental Professionals bringing together the most up-to-date market leading environmental data. This report is provided under and subject to the Terms & Conditions agreed between Groundsure and the Client. The document contains the following sections:

1. Historical Industrial Sites

Provides information on past land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. Potentially Infilled Land features are also included. This search is conducted using radii of up to 500m.

2. Environmental Permits, Incidents and Registers

Provides information on Regulated Industrial Activities and Pollution Incidents as recorded by Regulatory Authorities, and sites determined as Contaminated Land. This search is conducted using radii up to 500m.

3. Landfills and Other Waste Sites

Provides information on landfills and other waste sites that may pose a risk to the study site. This search is conducted using radii up to 1500m.

4. Current Land Uses

Provides information on current land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. These searches are conducted using radii of up to 500m. This includes information on potentially contaminative industrial sites, petrol stations and fuel sites as well as high pressure gas pipelines and underground electricity transmission lines.

5. Geology

Provides information on artificial and superficial deposits and bedrock beneath the study site.

6. Hydrogeology and Hydrology

Provides information on productive strata within the bedrock and superficial geological layers, abstraction licenses, Source Protection Zones (SPZs) and river quality. These searches are conducted using radii of up to 2000m.

7. Flooding

Provides information on river and coastal flooding, flood defences, flood storage areas and groundwater flood areas. This search is conducted using radii of up to 250m.

8. Designated Environmentally Sensitive Sites

Provides information on the Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Local Nature Reserves (LNR), Areas of Outstanding Natural Beauty (AONB), National Parks (NP), Environmentally Sensitive Areas, Nitrate Sensitive Areas, Nitrate Vulnerable Zones and World Heritage Sites and Scheduled Ancient Woodland. These searches are conducted using radii of up to 2000m.

9. Natural Hazards

Provides information on a range of natural hazards that may pose a risk to the study site. These factors include natural ground subsidence and radon..

10. Mining

Provides information on areas of coal and non-coal mining and brine affected areas.

11. Contacts

This section of the report provides contact points for statutory bodies and data providers that may be able to provide further information on issues raised within this report. Alternatively, Groundsure provide a free Technical Helpline (08444 159000) for further information and guidance.

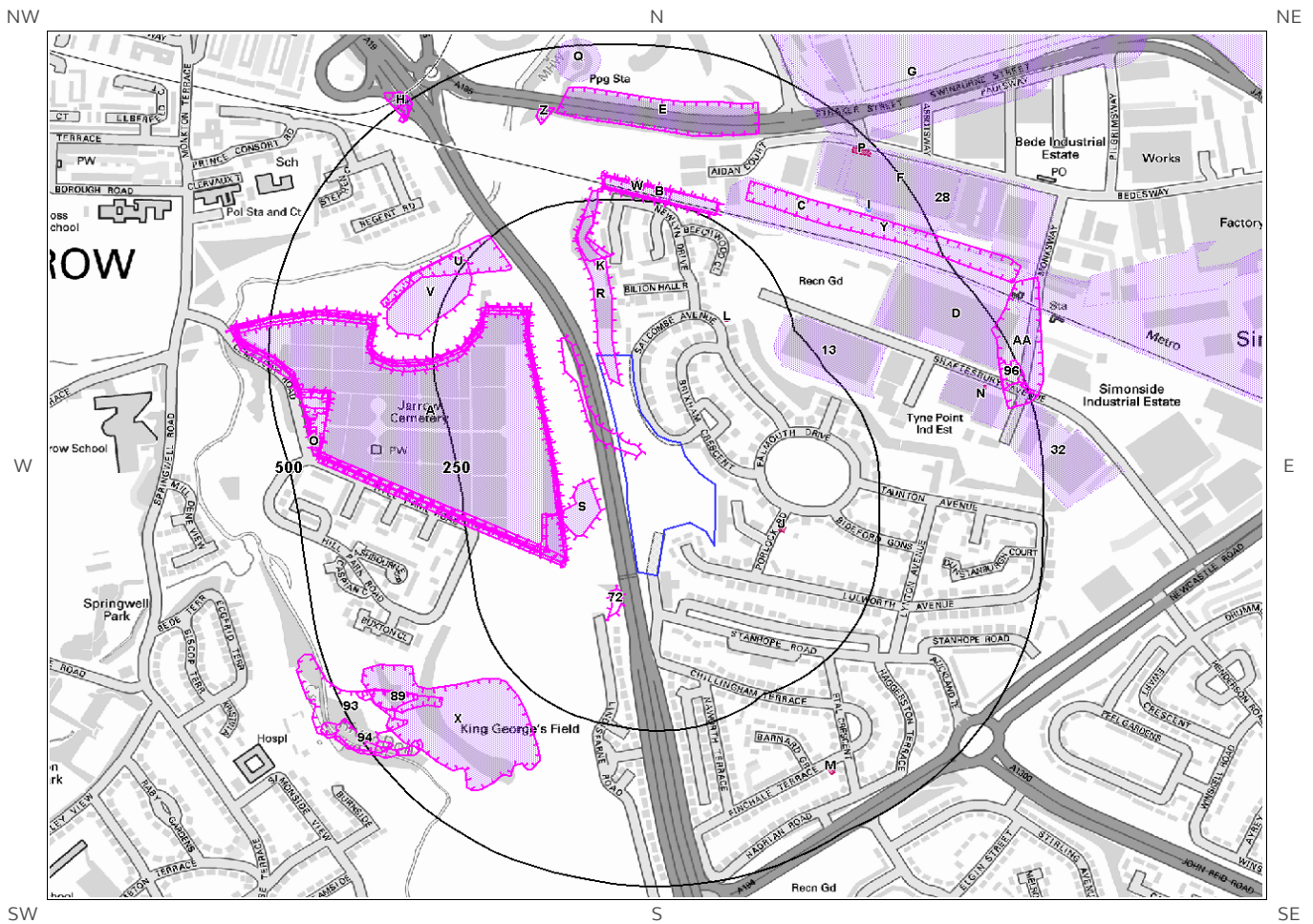
Note: Maps

Only certain features are placed on the maps within the report. All features represented on maps found within this search are given an identification number. This number identifies the feature on the mapping and correlates it to the additional information provided below. This identification number precedes all other information and takes the following format -Id: 1, Id: 2, etc. Where numerous features on the same map are in such close proximity that the numbers would obscure each other a letter identifier is used instead to represent the features. (e.g. Three features which overlap may be given the identifier "A" on the map and would be identified separately as features 1A, 3A, 10A on the data tables provided).

Where a feature is reported in the data tables to a distance greater than the map area, it is noted in the data table as "Not Shown".

All distances given in this report are in Metres (m). Directions are given as compass headings such as N: North, E: East, NE: North East from the nearest point of the study site boundary.

1. Historical Land Use



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1. Historical Industrial Sites

1.1 Potentially Contaminative Uses identified from 1:10,000 scale Mapping

The systematic analysis of data extracted from standard 1:10,560 and 1:10,000 scale historical maps provides the following information:

Records of sites with a potentially contaminative past land use within 500m of the search boundary: 38

ID	Distance [m]	Direction	Use	Date
1R	0	On Site	Unspecified Ground Workings	1992
2S	41	W	Unspecified Heap	1965
3A	95	W	Cemetery	1895
4A	98	W	Cemetery	1965
5A	98	W	Cemetery	1973
6A	98	W	Cemetery	1992
7A	99	W	Cemetery	1938
8A	99	W	Cemetery	1895
9A	100	W	Cemetery	1921
10A	101	W	Cemetery	1951
11T	153	N	Unspecified Ground Workings	1973
12U	192	NW	Unspecified Heap	1965
13	197	NE	Unspecified Warehouse	1992
14V	220	NW	Gravel Pit	1951
15B	250	N	Cuttings	1895
16W	251	N	Cuttings	1951
17B	253	N	Cuttings	1895
18C	267	NE	Mineral Railway Sidings	1973
19X	268	SW	Refuse Heap	1973
20C	272	NE	Mineral Railway Sidings	1965
21Y	304	NE	Unspecified Heap	1951
22D	351	NE	Unspecified Commercial/Industrial	1992
23D	351	NE	Unspecified Factory	1973
24E	365	N	Cuttings	1992
25E	365	N	Cuttings	1973
26N	368	E	Unspecified Warehouse	1992
27Z	381	N	Unspecified Heap	1992
28	393	NE	Unspecified Commercial/Industrial	1992
29F	410	NE	Unspecified Works	1965
30F	419	NE	Unspecified Works	1973
31Q	442	N	Pumping Station	1992
32	446	E	Unspecified Works	1973

33AA	464	E	Brick and Tile Works	1856
34G	468	NE	Barium Works	1921
35G	473	NE	Unspecified Depot	1965
36H	476	NW	Unspecified Pit	1951
37H	477	NW	Unspecified Ground Workings	1965
38G	497	NE	Timber Yard	1992

1.2 Additional Information – Historical Tank Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical tanks within 500m of the search boundary:

3

ID	Distance (m)	Direction	Use	Date
39K	137	N	Gasometer	1857
40I	427	NE	Unspecified Tank	1994
41I	427	NE	Unspecified Tank	1994

1.3 Additional Information – Historical Energy Features Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical energy features within 500m of the search boundary:

27

ID	Distance (m)	Direction	Use	Date
42J	96	E	Electricity Substation	1982
43J	97	E	Electricity Substation	1969
44J	97	E	Electricity Substation	1968
45J	101	E	Electricity Substation	1993
46K	137	N	Gasometer	1857
47L	152	E	Electricity Substation	1982
48L	152	E	Electricity Substation	1987
49L	153	E	Electricity Substation	1994
50L	153	E	Electricity Substation	1989
51M	392	SE	Electricity Substation	1968
52M	392	SE	Electricity Substation	1969
53M	392	SE	Electricity Substation	1993
54M	400	SE	Electricity Substation	1982
55N	435	E	Electricity Substation	1982
56N	437	E	Electricity Substation	1993

57O	452	W	Gas Distribution Station	1986
58O	453	W	Gas Distribution Station	1993
59O	453	W	Gas Distribution Station	1994
60P	468	NE	Electricity Substations	1968
61P	468	NE	Electricity Substation	1982
62P	468	NE	Electricity Substation	1990
63P	468	NE	Electricity Substation	1985
64P	468	NE	Electricity Substation	1969
65P	469	NE	Electricity Substation	1994
66P	469	NE	Electricity Substation	1994
67Q	474	N	Electricity Substation	1994
68Q	475	N	Electricity Substation	1989

1.4 Additional Information – Historical Petrol and Fuel Site Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical petrol stations and fuel sites within 500m of the search boundary: 0

Database searched and no data found.

1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical garage and motor vehicle repair sites within 500m of the search boundary: 0

Database searched and no data found.

1.6 Potentially Infilled Land

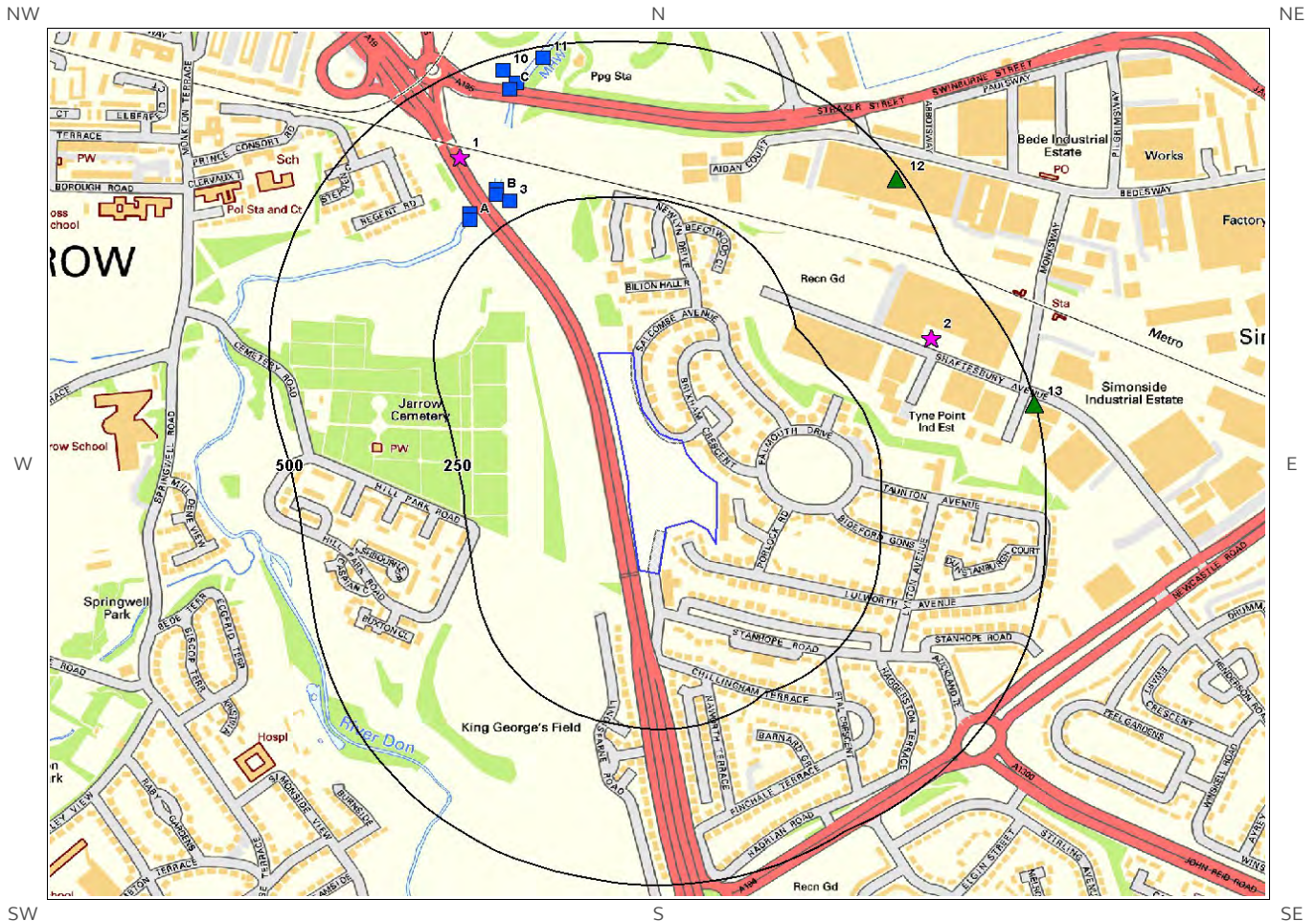
Records of Potentially Infilled Features from 1:10,000 scale mapping within 500m of the study site: 30

The following Historical Potentially Infilled Features derived from the Historical Mapping information is provided by Groundsure:

ID	Distance(m)	Direction	Use	Date
69	0	On Site	Water Body	1951
70R	0	On Site	Unspecified Ground Workings	1992
71S	41	W	Unspecified Heap	1965
72	41	SW	Pond	1895
73A	95	W	Cemetery	1895
74A	98	W	Cemetery	1965

75A	98	W	Cemetery	1973
76A	98	W	Cemetery	1992
77A	99	W	Cemetery	1938
78A	99	W	Cemetery	1895
79A	100	W	Cemetery	1921
80A	101	W	Cemetery	1951
81T	153	N	Unspecified Ground Workings	1973
82U	192	NW	Unspecified Heap	1965
83V	220	NW	Gravel Pit	1951
84B	250	N	Cuttings	1895
85W	251	N	Cuttings	1951
86B	253	N	Cuttings	1895
87X	268	SW	Refuse Heap	1973
88Y	304	NE	Unspecified Heap	1951
89	361	SW	Pond	1965
90E	365	N	Cuttings	1973
91E	365	N	Cuttings	1992
92Z	381	N	Unspecified Heap	1992
93	390	SW	Water Body	1951
94	428	SW	Pond	1965
95AA	464	E	Brick and Tile Works	1856
96	466	E	Ponds	1856
97H	476	NW	Unspecified Pit	1951
98H	477	NW	Unspecified Ground Workings	1965

2. Environmental Permits, Incidents and Registers Map



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- | | | | | | |
|---|---|---|---------------------------------------|---|--|
|  | Site Outline |  | Recorded Pollution Incident |  | RAS 3 & 4 Authorisations |
|  | Dangerous Substances (List 1) |  | Licenced Discharge Consents |  | Part A(1) Authorised Processes and Historic IPC Authorisations |
|  | Dangerous Substances (List 2) |  | Red List Discharge Consents |  | Part A(2) and Part B Authorised Processes |
|  | Water Industry Referrals |  | Sites Determined as Contaminated Land |  | COMAH / NIHHS Sites |
|  | Hazardous Substance Consents and Enforcements | | | | |

2. Environmental Permits, Incidents and Registers

2.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency and Local Authorities reveal the following information:

2.1.1 Records of historic IPC Authorisations within 500m of the study site:

0

Database searched and no data found.

2.1.2 Records of Part A(1) and IPPC Authorised Activities within 500m of the study site:

0

Database searched and no data found.

2.1.3 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site:

0

Database searched and no data found.

2.1.4 Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site:

0

Database searched and no data found.

2.1.5 Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site:

0

Database searched and no data found.

2.1.6 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site:

2

The following Part A(2) and Part B Activities are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details
12	486	NE	434088 564733	Address: Be Modern Ltd, 19 Bedes Way, Bede Industrial Estste, Jarrow, NE32 3HQ Process: Timber & Combustion & Incineration Status: Historical Permit Permit Type: Part B Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
13	498	E	434298 564372	Address: Prestige German Cars Ltd, 11 Shaftesbury Avenue, South Shields, Tyne and Wear, NE34 9PH Process: Waste oil Combustion & Incineration Status: New Legislation Applies Permit Type: Part B Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified

2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations:

0

Database searched and no data found.

2.1.8 Records of Licensed Discharge Consents within 500m of the study site:

9

The following Licensed Discharge Consents records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details
3	279	NW	433500 564700	Address: WEST SIMONSIDE INDUSTRIAL ESTATE, JARROW, COUNTY DURHAM Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: 235/B/0017 Permit Version: 1 Receiving Water: DON Status: REVOKED - UNSPECIFIED Issue date: 31/07/1961 Effective Date: 31-Jul-1961 Revocation Date: 25/12/1965
4A	290	NW	433440 564670	Address: WEST of A1 REGENT ROAD - B5/104, JARROW Effluent Type: UNSPECIFIED Permit Number: 235/X/0031 Permit Version: 1 Receiving Water: TYNE ESTUARY Status: REVOKED - UNSPECIFIED Issue date: 18/02/1987 Effective Date: 18-Feb-1987 Revocation Date: 16/06/1993

ID	Distance (m)	Direction	NGR	Details	
5A	297	NW	433440 564680	Address: SOUTH SHIELDS INTERCEPTOR BS/104, JARROW, TYNE & WEAR Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 235/B/0170 Permit Version: 1	Receiving Water: DON Status: TRANSFERRED FROM R(PP)A 1951-1961 Issue date: 23/03/1973 Effective Date: 23-Mar-1973 Revocation Date: -
6B	298	NW	433480 564710	Address: TYNESIDE CSO B5/301, JARROW, TYNE & WEAR Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 235/B/0168 Permit Version: 1	Receiving Water: DON Status: TRANSFERRED FROM R(PP)A 1951-1961 Issue date: 23/03/1973 Effective Date: 23-Mar-1973 Revocation Date: -
7B	306	NW	433480 564720	Address: EAST of A1 NEWLAND DRIVE - B5/301, JARROW Effluent Type: UNSPECIFIED Permit Number: 235/X/0030 Permit Version: 1	Receiving Water: TYNE ESTUARY Status: REVOKED - UNSPECIFIED Issue date: 18/02/1987 Effective Date: 18-Feb-1987 Revocation Date: 15/06/1993
8C	445	N	433500 564880	Address: TYNESIDE CSO B5/201, JARROW, TYNE & WEAR Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 235/B/0169 Permit Version: 1	Receiving Water: DON Status: TRANSFERRED FROM R(PP)A 1951-1961 Issue date: 23/03/1973 Effective Date: 23-Mar-1973 Revocation Date: -
9C	452	N	433510 564890	Address: TYNE TUNNEL APPROACH ROAD - B5/201, JARROW Effluent Type: UNSPECIFIED Permit Number: 235/X/0032 Permit Version: 1	Receiving Water: TYNE ESTUARY Status: REVOKED - UNSPECIFIED Issue date: 18/02/1987 Effective Date: 18-Feb-1987 Revocation Date: 24/07/1991
10	477	N	433490 564910	Address: DON VALLEY PUMPING STATION, JARROW Effluent Type: UNSPECIFIED Permit Number: 235/X/0133 Permit Version: 1	Receiving Water: TYNE ESTUARY Status: REVOKED - UNSPECIFIED Issue date: 05/06/1987 Effective Date: 05-Jun-1987 Revocation Date: 28/01/1991
11	482	N	433550 564930	Address: DON VALLEY PUMPING STATION, JARROW, TYNE & WEAR Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: 235/B/0171 Permit Version: 1	Receiving Water: DON Status: TRANSFERRED FROM R(PP)A 1951-1961 Issue date: 23/03/1973 Effective Date: 23-Mar-1973 Revocation Date: -

2.1.9 Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site:

0

Database searched and no data found.

2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site:

0

Database searched and no data found.

2.2 Dangerous or Hazardous Sites

Records of COMAH & NIHHS sites within 500m of the study site:

0

Database searched and no data found.

2.3 Environment Agency Recorded Pollution Incidents

2.3.1 Records of National Incidents Recording System, List 2 within 500m of the study site:

2

The following NIRS List 2 records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details	
1	380	NW	433423 564771	Incident Date: 11-Nov-2003 Incident Identification: 200897 Pollutant: Pollutant Not Identified Pollutant Description: Not Identified	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
2	398	NE	434140 564480	Incident Date: 29-Jun-2001 Incident Identification: 12371 Pollutant: Contaminated Water Pollutant Description: Firefighting Run-Off	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

2.3.2 Records of National Incidents Recording System, List 1 within 500m of the study site:

0

Database searched and no data found.

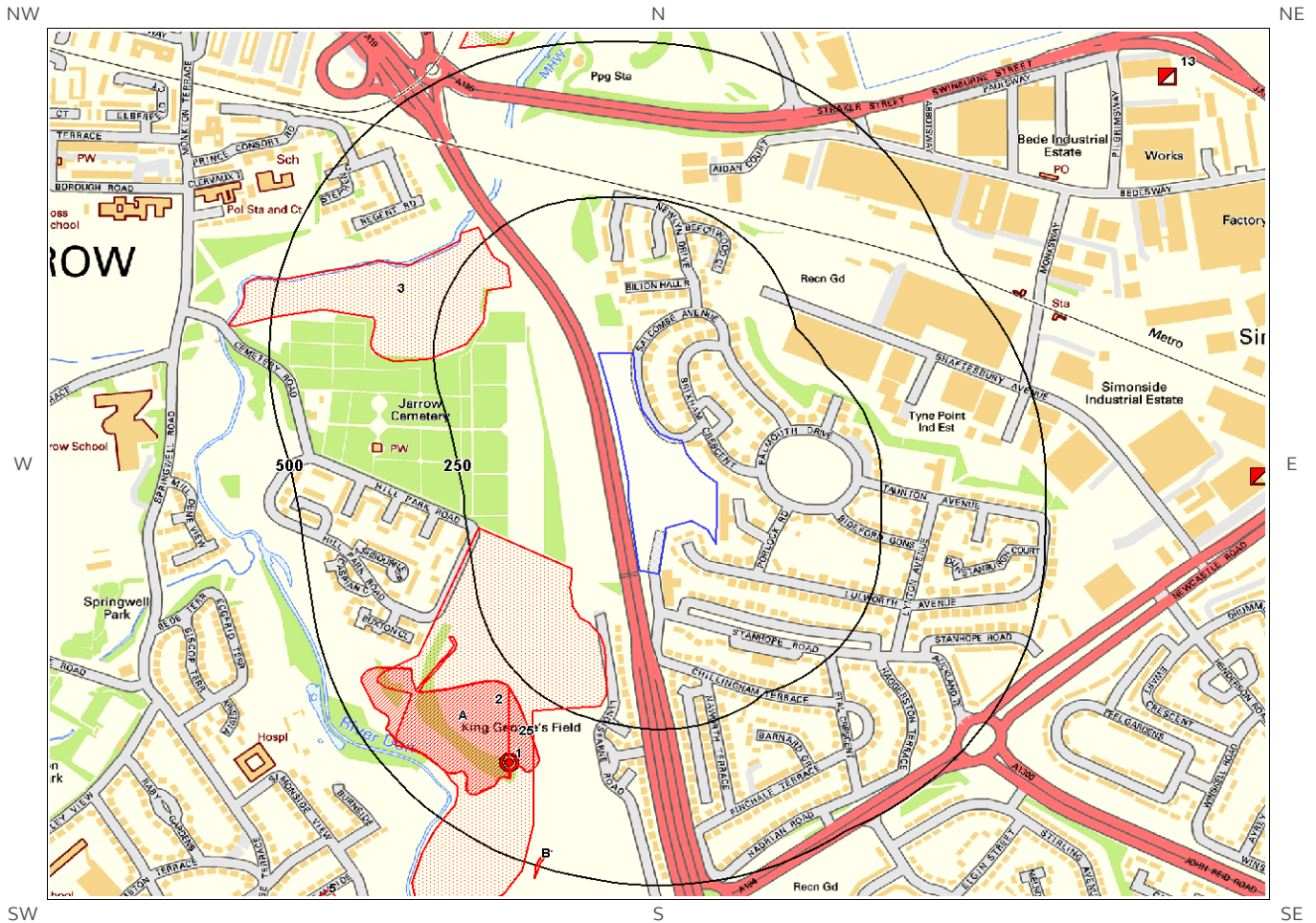
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990

How many records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site?










0

Database searched and no data found.

3. Landfill and Other Waste Sites Map



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- | | | | | | |
|---|------------------------|---|---------------------------|---|---|
|  | Site Outline |  | E.A. Active Landfill |  | Historic and Planned Waste Sites |
|  | 250 Search Buffers (m) |  | E.A. Historic Landfill |  | E.A. Licensed Waste Site |
|  | 500 Search Buffers (m) |  | BGS / DoE Survey Landfill |  | Local Authority/Historical Mapping Landfill Records |

3. Landfill and Other Waste Sites

3.1 Landfill Sites

3.1.1 Records from Environment Agency landfill data within 1000m of the study site:

0

Database searched and no data found.

3.1.2 Records of Environment Agency historic landfill sites within 1500m of the study site:

10

The following landfill records are represented as either points or polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details
2	102	W	433400 563700	Site Address: Burnside, Simonside View, Primrose Waste Licence: - Site Reference: ST 030, ST 7, ST 005 Waste Type: Industrial, Commercial, Household Environmental Permitting Regulations (Waste) Reference: - Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: - First Recorded: 31-Dec-1950 Last Recorded: 31-Dec-1973
3	170	NW	433300 564500	Site Address: Cemetery Road, Jarrow, South Tyneside, Tyne and Wear Waste Licence: - Site Reference: ST 028, ST 6 Waste Type: Commercial, Household Environmental Permitting Regulations (Waste) Reference: - Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: - First Recorded: 01-Jan-1894 Last Recorded: 31-Dec-1958
4	517	N	433600 565100	Site Address: East Jarrow, Church Bank, Jarrow Waste Licence: - Site Reference: ST 027, ST 8 Waste Type: - Environmental Permitting Regulations (Waste) Reference: - Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: - First Recorded: - Last Recorded: -
5	697	SW	433400 563700	Site Address: Burnside, Simonside View, Primrose Waste Licence: - Site Reference: ST 030, ST 7, ST 005 Waste Type: Industrial, Commercial, Household Environmental Permitting Regulations (Waste) Reference: - Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: - First Recorded: 31-Dec-1950 Last Recorded: 31-Dec-1973

ID	Distance (m)	Direction	NGR	Details	
Not shown	797	NE	434400 565400	Site Address: Jarrow Slake No.1, Jarrow, South Tyneside, Tyne and Wear Waste Licence: Yes Site Reference: ST 043, TW 154 ST, TW 020 ST, ST 015 Waste Type: Inert, Industrial, Commercial, Household Environmental Permitting Regulations (Waste) Reference: YO1/L/POR002	Licence Issue: 14-Jun-1977 Licence Surrendered: 31-Mar-1994 Licence Holder Address: Bewick Street, Newcastle-Upon-Tyne Operator: Port of Tyne Authority Licence Holder: Port Of Tyne Authority First Recorded: 20-Feb-1987 Last Recorded: 31-Mar-1994
Not shown	1243	N	433300 565700	Site Address: Mercantile Dock / Dry Docks 1, 2, 3 and 4, Tyne Support Base, Curlew Road, Jarrow, Tyne and Wear Waste Licence: Yes Site Reference: ST045, TW 205 ST Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: 20-Oct-1989 Licence Surrendered: 02-Aug-1994 Licence Holder Address: Tyne Support Base, Curlew Road, Jarrow Operator: European Marine Contractors Limited Licence Holder: European Marine Contractors Limited First Recorded: 05-Nov-1989 Last Recorded: 18-Apr-1994
Not shown	1486	NE	435200 565100	Site Address: Tyne Dock No.3, South Shield, Tyne and Wear Waste Licence: Yes Site Reference: TW 107 ST, ST 035 Waste Type: Inert, Industrial, Commercial, Household Environmental Permitting Regulations (Waste) Reference: YO1/L/POR004	Licence Issue: 22-Jun-1983 Licence Surrendered: 30-Apr-1994 Licence Holder Address: Bewick Street, Newcastle Upon Tyne Operator: - Licence Holder: Port Of Tyne Authority First Recorded: 30-Jun-1983 Last Recorded: 31-Dec-1987
Not shown	1486	NE	435200 565100	Site Address: Tyne Dock Extension, South Shield, Tyne and Wear Waste Licence: Yes Site Reference: TW 062 ST, ST 010 Waste Type: Inert, Industrial, Commercial, Household Environmental Permitting Regulations (Waste) Reference: YO1/L/POR003	Licence Issue: 02-Jun-1981 Licence Surrendered: 31-Mar-1994 Licence Holder Address: Bewick Street, Newcastle Upon Tyne Operator: - Licence Holder: Port Of Tyne Authority First Recorded: - Last Recorded: -
Not shown	1486	NE	435200 565100	Site Address: Tyne Dock, Tyne Dock, South Shield, Tyne and Wear Waste Licence: Yes Site Reference: ST 014, TW 024 ST Waste Type: Inert, Industrial, Commercial, Household Environmental Permitting Regulations (Waste) Reference: YO1/L/POR001	Licence Issue: 21-Jul-1977 Licence Surrendered: 31-Mar-1994 Licence Holder Address: Bewick Street, Newcastle Upon Tyne Operator: - Licence Holder: Port Of Tyne Authority First Recorded: 22-Jul-1977 Last Recorded: 31-Dec-1993
Not shown	1486	NE	435200 565000	Site Address: Port of Tyne Authority, South Shields, Tyne and Wear Waste Licence: - Site Reference: - Waste Type: - Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: Port of Tyne Authority Licence Holder: - First Recorded: 30-Nov-1969 Last Recorded: 31-Jan-1972

3.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site:

1

The following landfill records are represented as points on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details	
1	367	SW	433500.0 563800.0	Address: Simonside Tip, Jarrow, T&W BGS Number: 1830.0	Risk: No risk to aquifer Waste Type: N/A

3.1.4 Records of Landfills from Local Authority and Historical Mapping Records within 1500m of the study site:

9

The following landfill records are represented as points or polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Site Address	Source	Data Type
23A	273	SW	433410 563875	Refuse Tip	1968 mapping	Polygon
24A	273	SW	433387 563850	Refuse Tip	1968 mapping	Polygon
25	275	SW	433522 563847	Refuse Tip	1968 mapping	Polygon
26B	470	S	433544 563636	Refuse Tip	1968 mapping	Polygon
27B	471	S	433544 563636	Refuse Tip	1968 mapping	Polygon
Not shown	563	N	433457 565015	Refuse Tip	1965 mapping	Polygon
Not shown	564	N	433556 565074	Refuse Tip	1965 mapping	Polygon
Not shown	664	SW	433327 563532	Refuse Tip	1968 mapping	Polygon
Not shown	664	SW	433327 563532	Refuse Tip	1968 mapping	Polygon

3.2 Other Waste Sites

3.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site:

0

Database searched and no data found.

3.2.2 Records of Environment Agency licensed waste sites within 1500m of the study site:

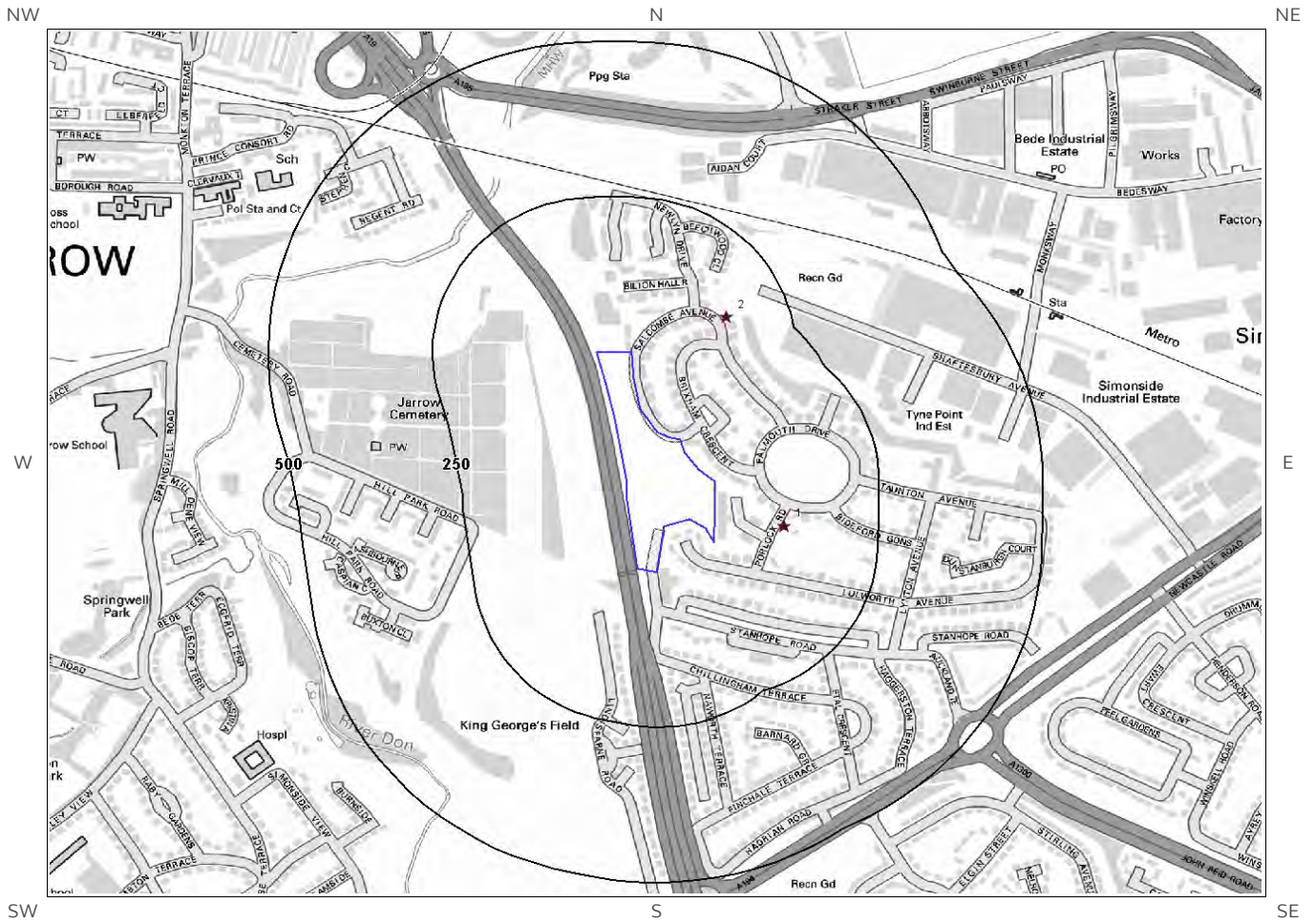
11

The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details
12	824	E	434640 564259	<p>Site Address: Land/premises At, Shaftsbury Avenue, Simonside Industrial Est, South Shields, Tyne & Wear, NE34 9PH</p> <p>Type: Household, Commercial & Industrial Waste T Stn</p> <p>Size: >= 75000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: BIF001</p> <p>EPR reference: EA/EPR/UP3094ZR/A001</p> <p>Operator: Biffa Waste Services Ltd</p> <p>Waste Management licence No: 64129</p> <p>Annual Tonnage: 165500.0</p> <p>Issue Date: 31/01/2005</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Issued</p> <p>Site Name: Shaftsbury Avenue Transfer Station</p> <p>Correspondence Address: -</p>
13	925	NE	434500 564900	<p>Site Address: Factory B T 19/5, Pilgrims Way, Bede Industrial Estate, Jarrow, Tyne & Wear, NE32 3HG</p> <p>Type: Household, Commercial & Industrial Waste T Stn</p> <p>Size: < 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: DAV001</p> <p>EPR reference: EA/EPR/CP3797ZY/S004</p> <p>Operator: Durham County Waste Management Co Ltd</p> <p>Waste Management licence No: 67444</p> <p>Annual Tonnage: 32492.0</p> <p>Issue Date: 04/07/1984</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: 17/05/2001</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Surrendered</p> <p>Site Name: Bede Industrial Estate Transfer Station</p> <p>Correspondence Address: -</p>
Not shown	1098	NE	434700 564900	<p>Site Address: Jarrow Road, Tyne Dock, South Shields, Tyne & Wear, NE34 9PP</p> <p>Type: Composting Facility</p> <p>Size: < 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: DUR036</p> <p>EPR reference: -</p> <p>Operator: Durham County Waste Management Co. Ltd.</p> <p>Waste Management licence No: 64050</p> <p>Annual Tonnage: 0.0</p> <p>Issue Date: 18/12/2003</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: -</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Issued</p> <p>Site Name: Jarrow Road Centralised Composting Site</p> <p>Correspondence Address: Prospect House, Aykley Heads Business Centre, Aykley Heads, Durham, DH1 5TS</p>
Not shown	1124	NE	434300 565400	<p>Site Address: Jarrow, South Tyneside</p> <p>Type: -</p> <p>Size: Unknown</p> <p>Environmental Permitting Regulations (Waste) Licence Number: POR007</p> <p>EPR reference: -</p> <p>Operator: Port Of Tyne Authority</p> <p>Waste Management licence No: 0</p> <p>Annual Tonnage: 0.0</p> <p>Issue Date: 23/02/1987</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: 31/03/1994</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Surrendered</p> <p>Site Name: Jarrow Slake Landfill</p> <p>Correspondence Address: -</p>
Not shown	1124	NE	434300 565400	<p>Site Address: Jarrow, South Tyneside</p> <p>Type: Household, Commercial & Industrial Waste Landfill</p> <p>Size: < 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: POR007</p> <p>EPR reference: -</p> <p>Operator: Port Of Tyne Authority</p> <p>Waste Management licence No: 0</p> <p>Annual Tonnage: 0.0</p> <p>Issue Date: 23/02/1987</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: 31/03/1994</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Surrendered</p> <p>Site Name: Jarrow Slake Landfill</p> <p>Correspondence Address: -</p>

ID	Distance (m)	Direction	NGR	Details	
Not shown	1124	NE	434300 565400	Site Address: Jarrow, Tyne & Wear Type: Household, Commercial & Industrial Waste Landfill Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: POR007 EPR reference: EA/EPR/XP3294EU/S002 Operator: Port of Tyne Authority Waste Management licence No: 64536 Annual Tonnage: 250000.0	Issue Date: 23/02/1987 Effective Date: - Modified: - Surrendered Date: 31/03/1994 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Jarrow Slake Landfill Correspondence Address: -
Not shown	1180	NE	434800 564900	Site Address: Jarrow Road, South Shields, Tyne & Wear, NE34 9PP Type: Household, Commercial & Industrial Waste T Stn Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: DUR002 EPR reference: EA/EPR/SP3693NE/S007 Operator: Durham County Waste Management Co Ltd Waste Management licence No: 67584 Annual Tonnage: 0.0	Issue Date: 27/01/1994 Effective Date: 25/03/1999 Modified: - Surrendered Date: 26/10/2010 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Tyne Dock Waste Transfer Station Correspondence Address: -
Not shown	1245	NE	434500 565400	Site Address: Jarrow, Tyne & Wear Type: Household, Commercial & Industrial Waste Landfill Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: POR002 EPR reference: - Operator: Port Of Tyne Authority Waste Management licence No: 0 Annual Tonnage: 0.0	Issue Date: 14/06/1977 Effective Date: - Modified: - Surrendered Date: 31/03/1994 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Jarrow Slake Correspondence Address: -
Not shown	1245	NE	434500 565400	Site Address: Jarrow, Tyne & Wear Type: Household, Commercial & Industrial Waste Landfill Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: POR002 EPR reference: EA/EPR/YP3398EV/S002 Operator: Port of Tyne Authority Waste Management licence No: 64440 Annual Tonnage: 250000.0	Issue Date: 14/06/1977 Effective Date: - Modified: - Surrendered Date: 31/03/1994 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Jarrow Slake Correspondence Address: -
Not shown	1245	NE	434500 565400	Site Address: Jarrow, Tyne & Wear Type: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: POR002 EPR reference: - Operator: Port Of Tyne Authority Waste Management licence No: 0 Annual Tonnage: 0.0	Issue Date: 14/06/1977 Effective Date: - Modified: - Surrendered Date: 31/03/1994 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Jarrow Slake Correspondence Address: -
Not shown	1282	NE	434918 564903	Site Address: Land/premises At, Jarrow Road, Tyne Dock, South Shields, Tyne & Wear, NE34 9PP Type: Composting Facility Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: DUR036 EPR reference: EA/EPR/PP3394ZD/S002 Operator: Durham County Waste Management Co Ltd Waste Management licence No: 64050 Annual Tonnage: 0.0	Issue Date: 18/12/2003 Effective Date: - Modified: - Surrendered Date: 09/01/2012 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Jarrow Road Centralised Composting Site Correspondence Address: -

4. Current Land Use Map



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-  Site Outline
-  Current Industrial Sites
-  Electricity Transmission Cables
-  Search Buffers (m)
-  Petrol & Fuel Sites
-  Gas Transmission Pipelines

4. Current Land Uses

4.1 Current Industrial Data

Records of potentially contaminative industrial sites within 250m of the study site: 2

The following records are represented as points on the Current Land Uses map.

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1	105	E	Electricity Sub Station	433920 564178	NE32	Electrical Features	Infrastructure and Facilities
2	155	E	Electricity Sub Station	433833 564514	NE32	Electrical Features	Infrastructure and Facilities

4.2 Petrol and Fuel Sites

Records of petrol or fuel sites within 500m of the study site: 0

Database searched and no data found.

4.3 National Grid High Voltage Underground Electricity Transmission Cables

This dataset identifies the high voltage electricity transmission lines running between generating power plants and electricity substations. The dataset does not include the electricity distribution network (smaller, lower voltage cables distributing power from substations to the local user network). This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high voltage underground electricity transmission cables within 500m of the study site: 0

Database searched and no data found.

4.4 National Grid High Pressure Gas Transmission Pipelines

This dataset identifies high-pressure, large diameter pipelines which carry gas between gas terminals, power stations, compressors and storage facilities. The dataset does not include the Local Transmission System (LTS) which supplies gas directly into homes and businesses. This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high pressure gas transmission pipelines within 500m of the study site: 0

Database searched and no data found.

5. Geology

5.1 Artificial Ground and Made Ground

The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

5.2 Superficial Ground and Drift Geology

The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
SUPNM	SUPERFICIAL THEME NOT MAPPED [FOR DIGITAL MAP USE ONLY]	UNKNOWN/UNCLASSIFIED ENTRY
PELC	PELAW CLAY MEMBER	CLAY [UNLITHIFIED DEPOSITS CODING SCHEME]
GFDUD	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL [UNLITHIFIED DEPOSITS CODING SCHEME]
GFDUD	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL [UNLITHIFIED DEPOSITS CODING SCHEME]
SUPNM	SUPERFICIAL THEME NOT MAPPED [FOR DIGITAL MAP USE ONLY]	UNKNOWN/UNCLASSIFIED ENTRY

5.3 Bedrock and Solid Geology

The database has been searched on site, including a 50m buffer.

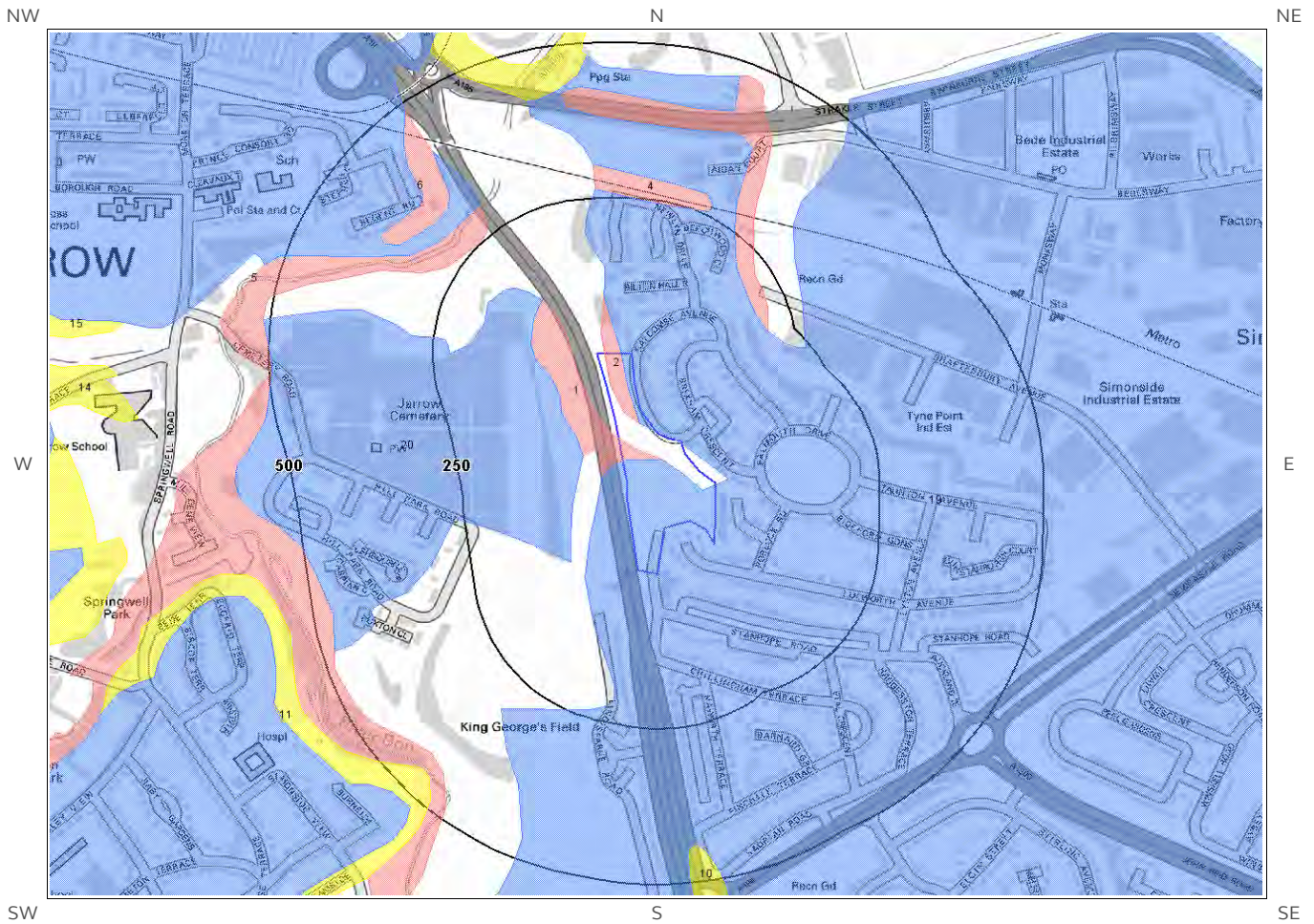
Lex Code	Description	Rock Type
PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION	MUDSTONE, SILTSTONE AND SANDSTONE
PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION	MUDSTONE, SILTSTONE AND SANDSTONE
PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION	MUDSTONE, SILTSTONE AND SANDSTONE
PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION	SANDSTONE

Lex Code	Description	Rock Type
PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION	SANDSTONE

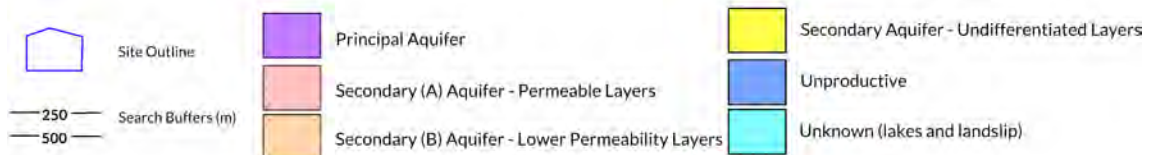
(Derived from the BGS 1:50,000 Digital Geological Map of Great Britain)

6 Hydrogeology and Hydrology

6a. Aquifer Within Superficial Geology



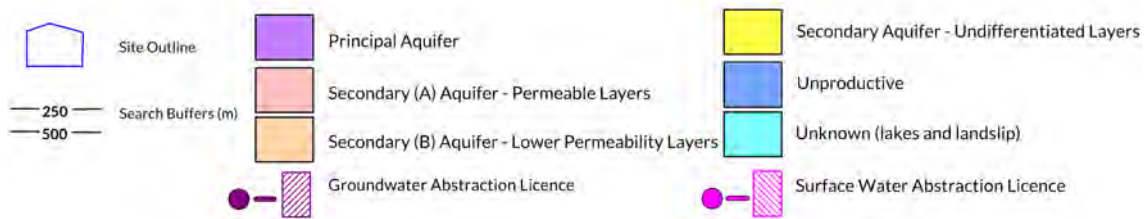
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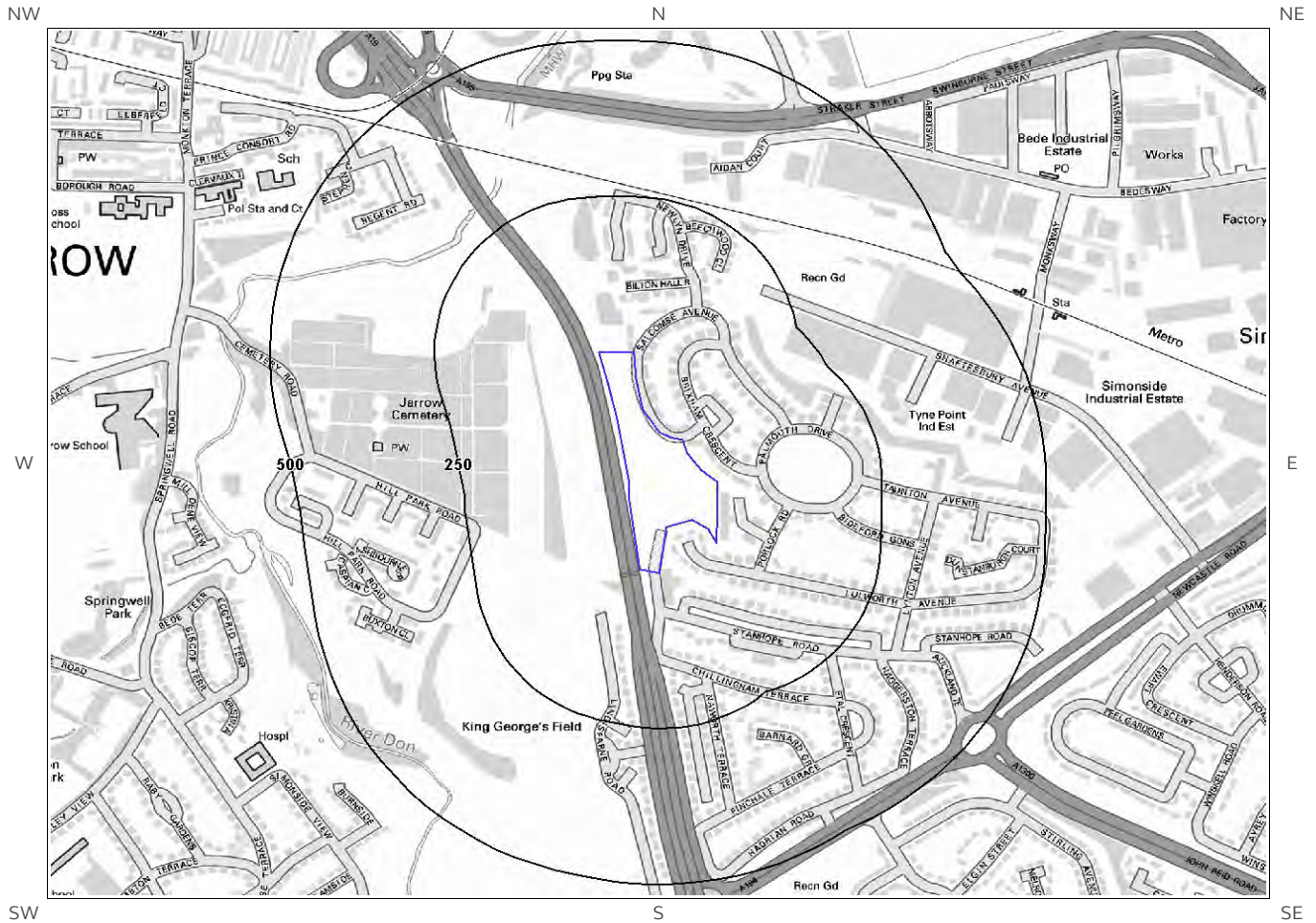
6b. Aquifer Within Bedrock Geology and Abstraction Licenses



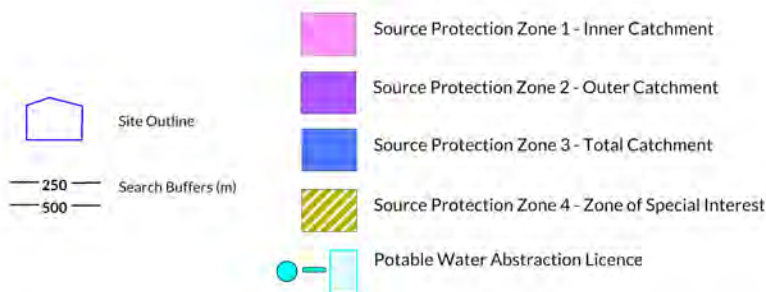
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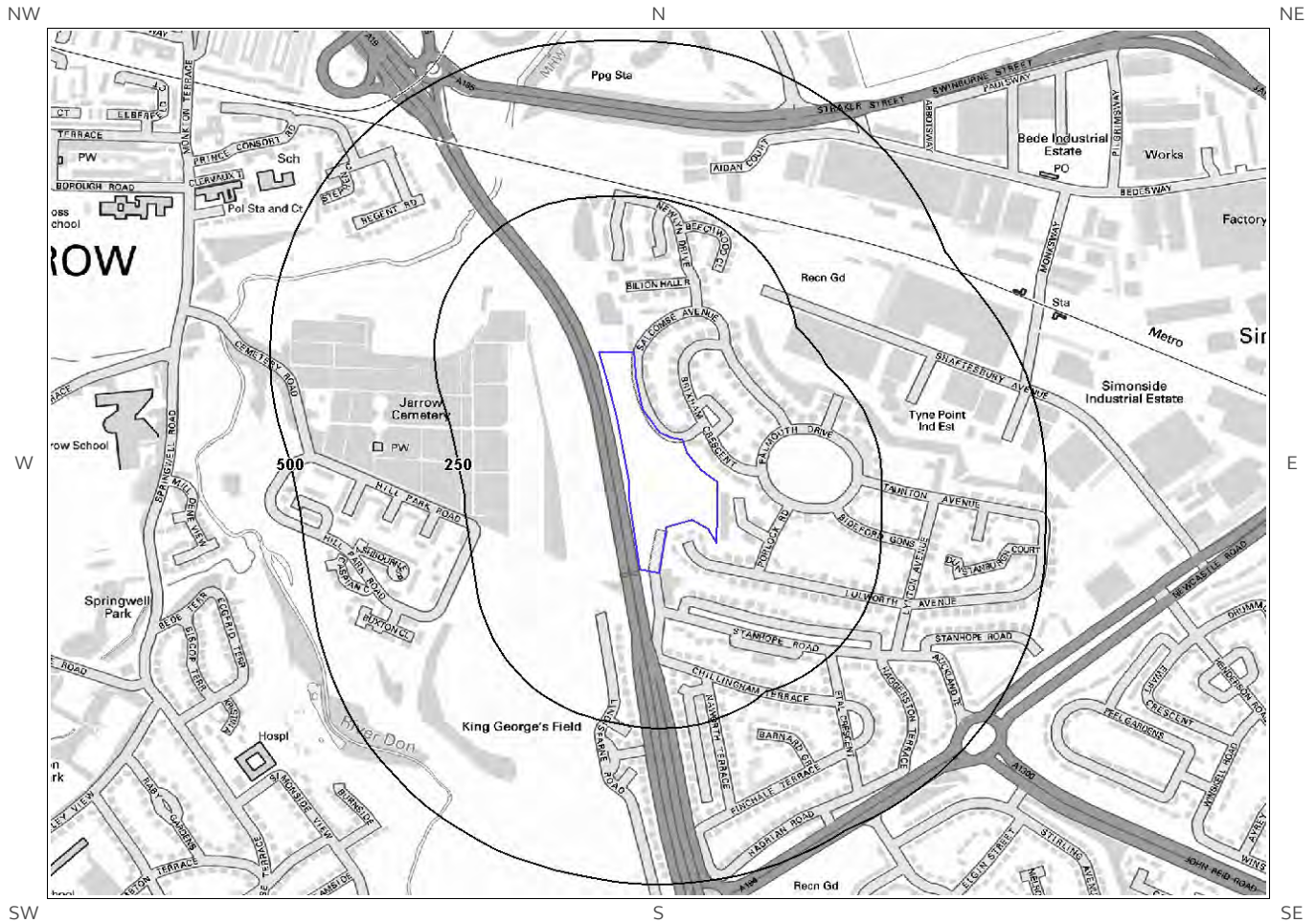
6c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses



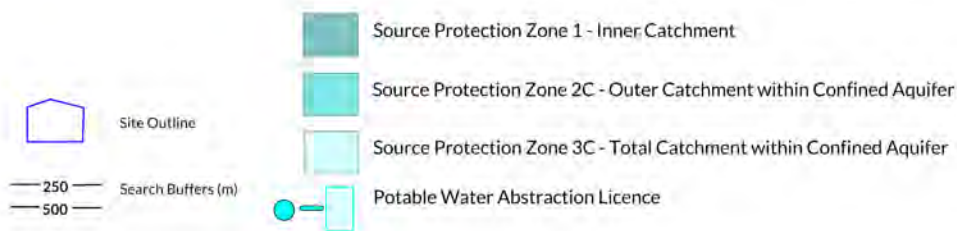
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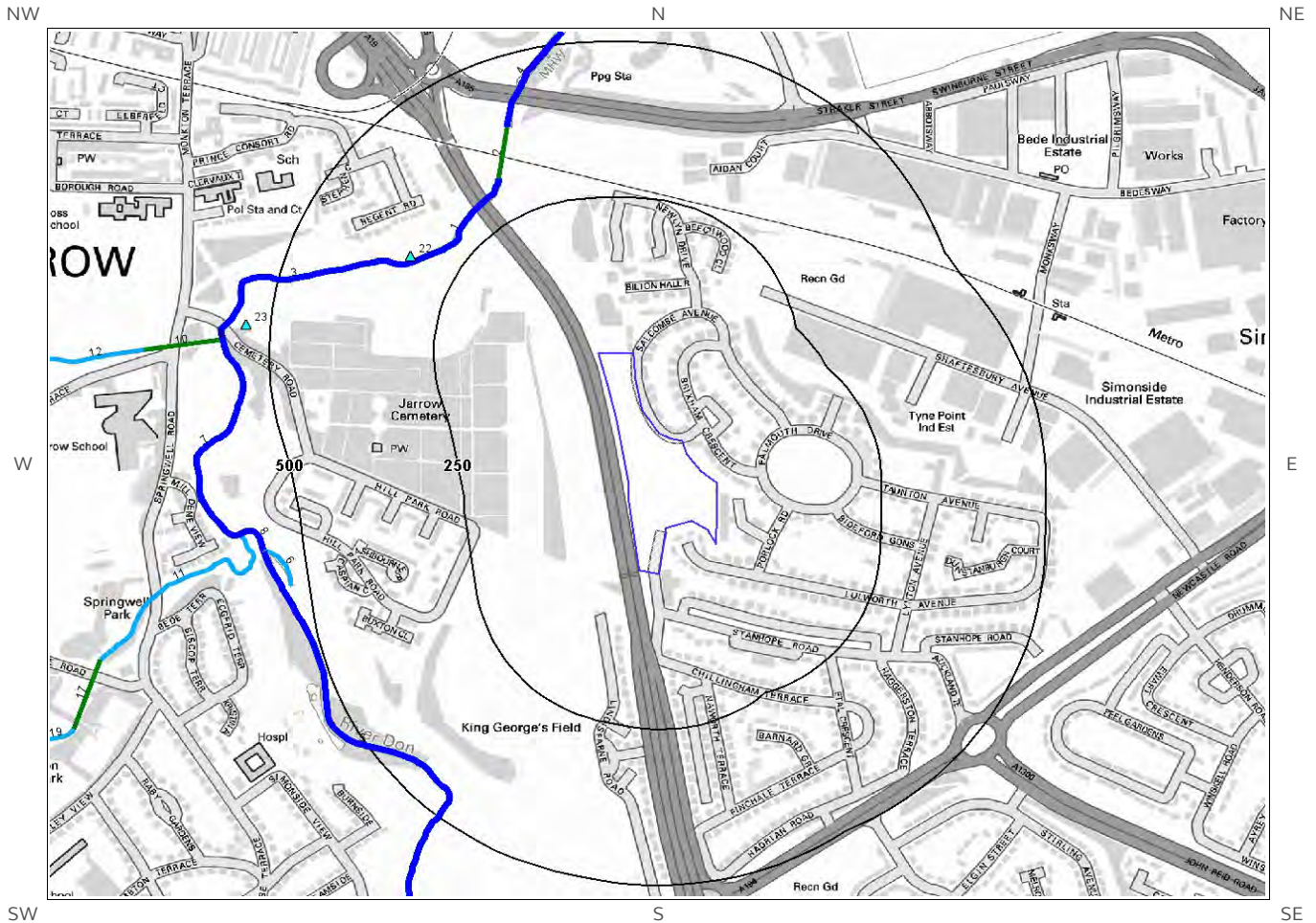
6d. Hydrogeology – Source Protection Zones within confined aquifer



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6e. Hydrology – Detailed River Network and River Quality



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6. Hydrogeology and Hydrology

6.1 Aquifer within Superficial Deposits

Are there records of strata classification within the superficial geology at or in proximity to the property?
Yes

From 1 April 2010, the Environment Agency's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviro Insight User Guide.

The following aquifer records are shown on the Aquifer within Superficial Geology Map (6a):

ID	Distance (m)	Direction	Designation	Description
1	0	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	0	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
19	0	On Site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
20	58	W	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
3	198	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
4	244	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
5	252	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
21	295	NW	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
6	324	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
9	420	N	Secondary (undifferentiated)	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
7	432	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
10	438	S	Secondary (undifferentiated)	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
11	458	SW	Secondary (undifferentiated)	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

6.2 Aquifer within Bedrock Deposits

Are there records of strata classification within the bedrock geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviro Insight User Guide.

The following aquifer records are shown on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	Designation	Description
1	0	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

6.3 Groundwater Abstraction Licences

Are there any Groundwater Abstraction Licences within 2000m of the study site? No

Database searched and no data found.

6.4 Surface Water Abstraction Licences

Are there any Surface Water Abstraction Licences within 2000m of the study site? Yes

The following Surface Water Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	NGR	Details
Not shown	1456	NE	434488 565673	Status: Historical Licence No: NE/023/0003/004 Details: Dust Suppression Direct Source: Surface Water Point: Port Of Tyne Data Type: Point Name: Port of Tyne Annual Volume (m ³): 40000 Max Daily Volume (m ³): 120 Application No: NPS/WR/002995 Original Start Date: - Expiry Date: 31/3/2018 Issue No: 1 Version Start Date: 6/1/2011 Version End Date:

6.5 Potable Water Abstraction Licences

Are there any Potable Water Abstraction Licences within 2000m of the study site? No

Database searched and no data found.

6.6 Source Protection Zones

Are there any Source Protection Zones within 500m of the study site?

No

Database searched and no data found.

6.7 Source Protection Zones within Confined Aquifer

Are there any Source Protection Zones within the Confined Aquifer within 500m of the study site?

No

Historically, Source Protection Zone maps have been focused on regulation of activities which occur at or near the ground surface, such as prevention of point source pollution and bacterial contamination of water supplies. Sources in confined aquifers were often considered to be protected from these surface pressures due to the presence of a low permeability confining layer (e.g. glacial till, clay). The increased interest in subsurface activities such as onshore oil and gas exploration, ground source heating and cooling requires protection zones for confined sources to be marked on SPZ maps where this has not already been done.

Database searched and no data found.

6.8 Groundwater Vulnerability and Soil Leaching Potential

Is there any Environment Agency information on groundwater vulnerability and soil leaching potential within 500m of the study site?

Yes

Distance (m)	Direction	Classification	Soil Vulnerability Category	Description
0	On Site	Minor Aquifer/High Leaching Potential	HU	Soil information for urban areas and restored mineral workings. These soils are therefore assumed to be highly permeable in the absence of site-specific information.

6.9 River Quality

Is there any Environment Agency information on river quality within 1500m of the study site?

Yes

6.9.1 Biological Quality:

Database searched and no data found.

6.9.2 Chemical Quality:

Chemical quality data is based on the General Quality Assessment Headline Indicators scheme (GQAHI). In England, each chemical sample is measured for ammonia and dissolved oxygen. In Wales, the samples are measured for biological oxygen demand (BOD), ammonia and dissolved oxygen. The results are graded from A ('Very Good') to F ('Bad').

The following Chemical Quality records are shown on the Hydrology Map (6e):

ID	Distance (m)	Direction	NGR	River Quality Grade	Chemical Quality Grade				
					2005	2006	2007	2008	2009
22	324	NW	433350 564610	River Name: Don Reach: Strother House Tidal Limit End/Start of Stretch: End of Stretch NGR	C	C	C	D	C
23	537	W	433100 564500	River Name: Don Reach: Strother House Tidal Limit End/Start of Stretch: Sample Point NGR	C	C	C	D	C

6.10 Detailed River Network

Are there any Detailed River Network entries within 500m of the study site? Yes

The following Detailed River Network records are represented on the Hydrology Map (6e):

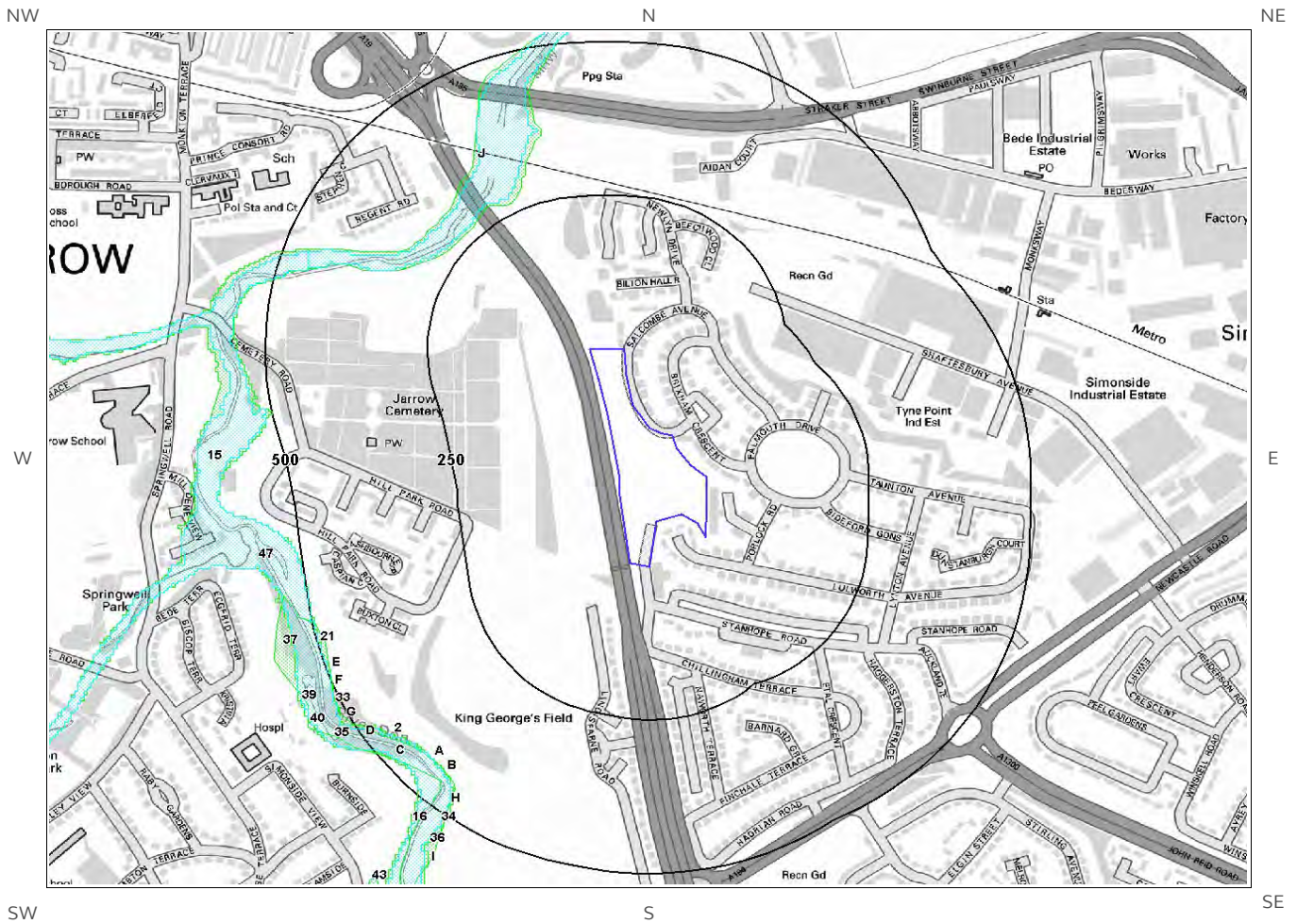
ID	Distance (m)	Direction	Details	
1	281	NW	River Name: River Don Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
2	319	NW	River Name: River Don Welsh River Name: - Alternative Name: -	River Type: Culvert Main River Status: Currently Undefined
3	319	NW	River Name: River Don Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
4	389	N	River Name: River Don Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
5	454	SW	River Name: River Don Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined

6.11 Surface Water Features

Are there any surface water features within 250m of the study site? No

Database searched and no data found.

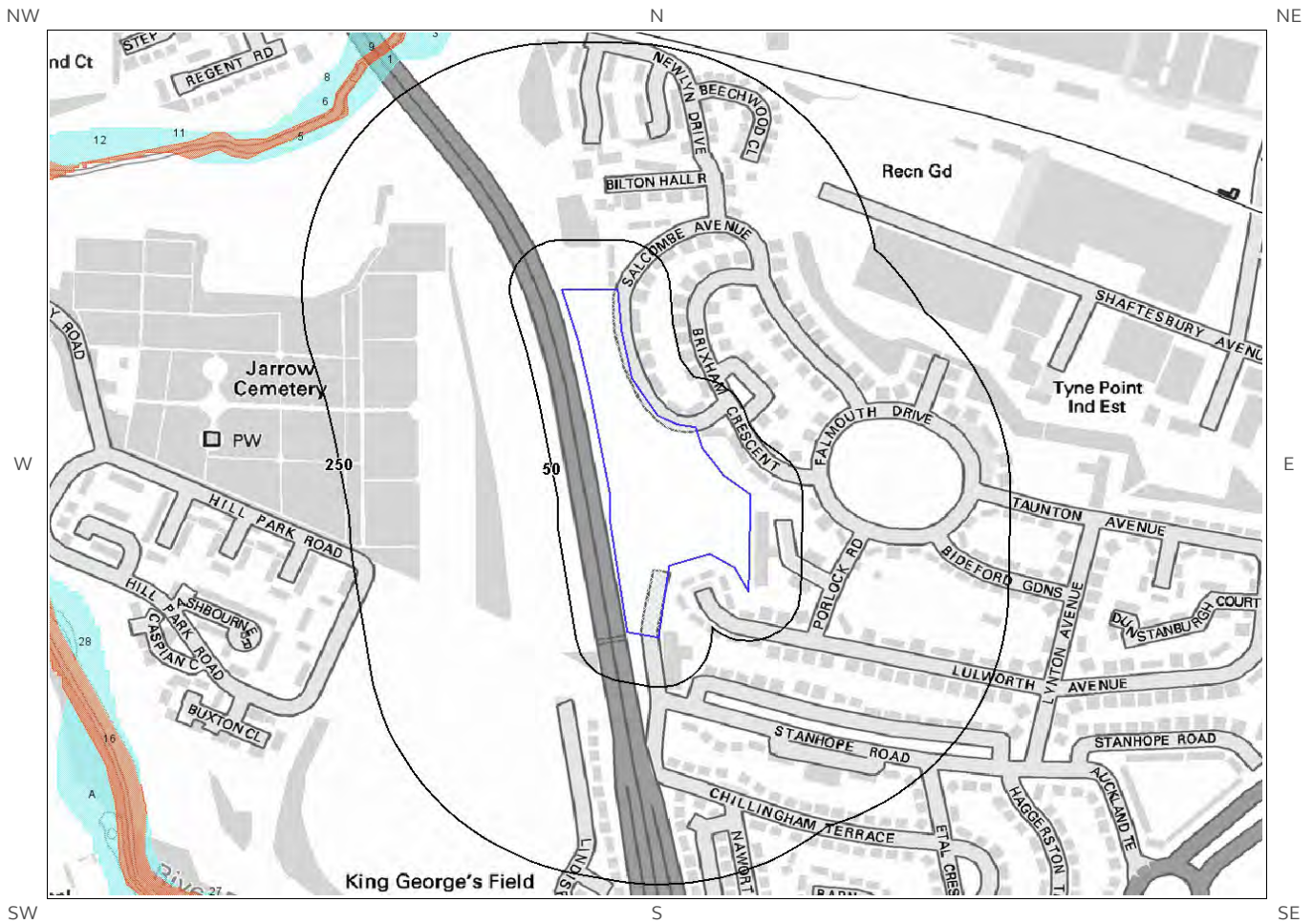
7a. Environment Agency Flood Map for Planning (from rivers and the sea)



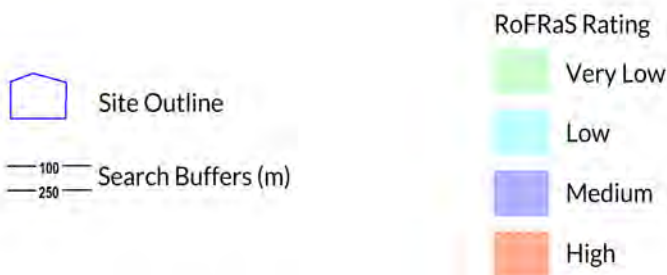
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7b. Environment Agency Risk of Flooding from Rivers and the Sea (RoFRaS) Map



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7 Flooding

7.1 River and Coastal Zone 2 Flooding

Is the site within 250m of an Environment Agency Zone 2 floodplain? No

Environment Agency Zone 2 floodplains estimate the annual probability of flooding as between 1 in 1000 (0.1%) and 1 in 100 (1%) from rivers and between 1 in 1000 (0.1%) and 1 in 200 (0.5%) from the sea. Any relevant data is represented on Map 7a – Flood Map for Planning:

Database searched and no data found.

7.2 River and Coastal Zone 3 Flooding

Is the site within 250m of an Environment Agency Zone 3 floodplain? No

Zone 3 shows the extent of a river flood with a 1 in 100 (1%) or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year. Any relevant data is represented on Map 7a – Flood Map for Planning.

Database searched and no data found.

7.3 Risk of Flooding from Rivers and the Sea (RoFRaS) Flood Rating

What is the highest risk of flooding onsite? Very Low

The Environment Agency RoFRaS database provides an indication of river and coastal flood risk at a national level on a 50m grid with the flood rating at the centre of the grid calculated and given above. The data considers the probability that the flood defences will overtop or breach by considering their location, type, condition and standard of protection.

RoFRaS data for the study site indicates the property is in an area with a Very Low (less than 1 in 1000) chance of flooding in any given year.

7.4 Flood Defences

Are there any Flood Defences within 250m of the study site? No
Database searched and no data found.

7.5 Areas benefiting from Flood Defences

Are there any areas benefiting from Flood Defences within 250m of the study site? No

7.6 Areas benefiting from Flood Storage

Are there any areas used for Flood Storage within 250m of the study site?

No

7.7 Groundwater Flooding Susceptibility Areas

7.7.1 Are there any British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site? Yes

Does this relate to Clearwater Flooding or Superficial Deposits Flooding? Superficial Deposits Flooding

Notes: Groundwater flooding may either be associated with shallow unconsolidated sedimentary aquifers which overlie unproductive aquifers (Superficial Deposits Flooding), or with unconfined aquifers (Clearwater Flooding).

7.7.2 What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions?

Potential at Surface

Where potential for groundwater flooding to occur at surface is indicated, this means that given the geological conditions in the area groundwater flooding hazard should be considered in all land-use planning decisions. It is recommended that other relevant information e.g. records of previous incidence of groundwater flooding, rainfall, property type, and land drainage information be investigated in order to establish relative, but not absolute, risk of groundwater flooding.

7.8 Groundwater Flooding Confidence Areas

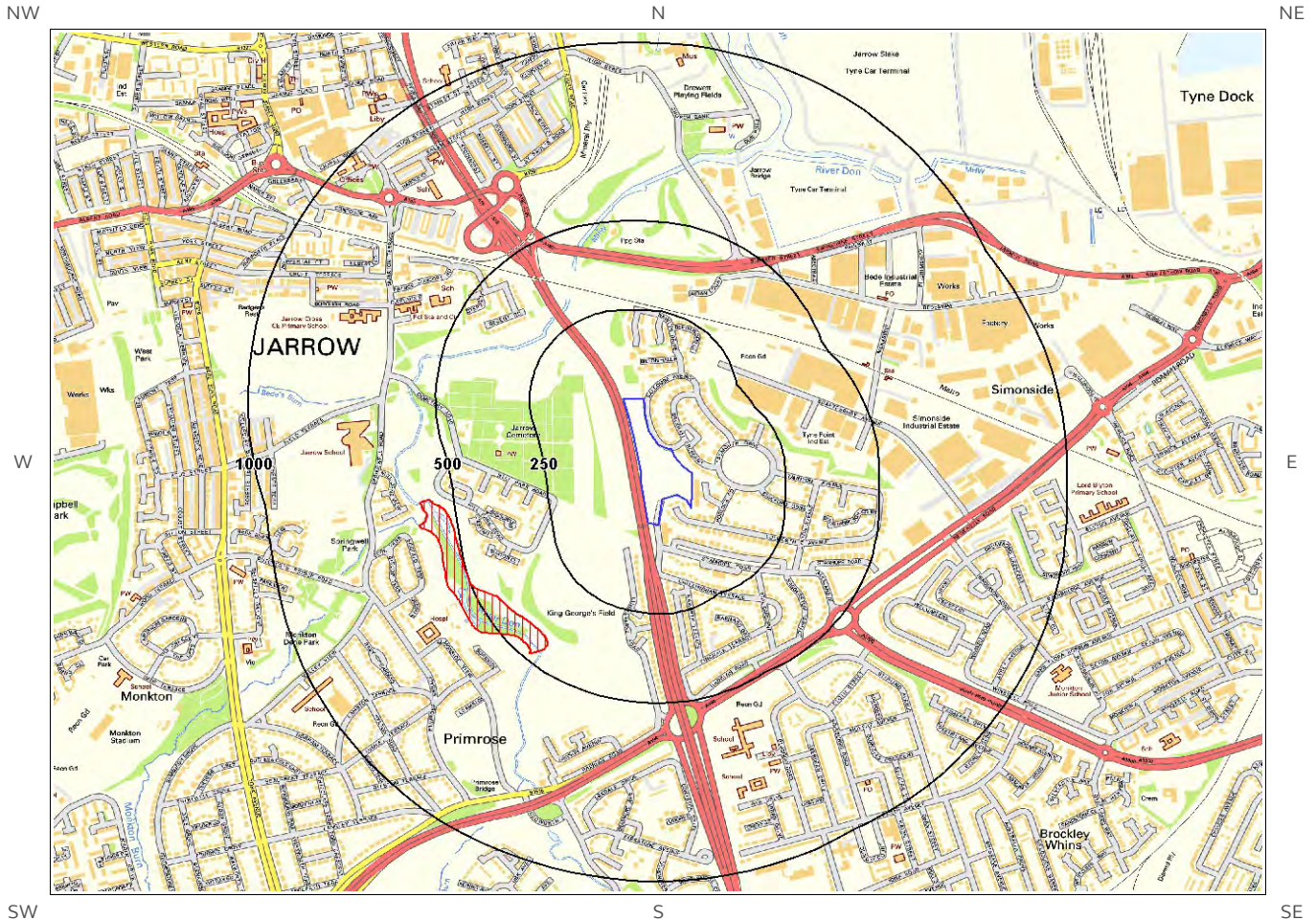
What is the British Geological Survey confidence rating in this result?

Moderate

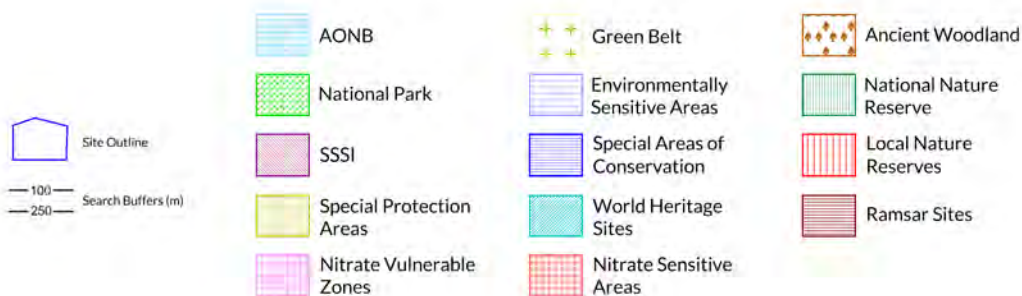
Notes: Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

The confidence rating is on a threefold scale - Low, Moderate and High. This provides a relative indication of the BGS confidence in the accuracy of the susceptibility result for groundwater flooding. This is based on the amount and precision of the information used in the assessment. In areas with a relatively lower level of confidence the susceptibility result should be treated with more caution. In other areas with higher levels of confidence the susceptibility result can be used with more confidence.

8. Designated Environmentally Sensitive Sites Map



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8. Designated Environmentally Sensitive Sites

Presence of Designated Environmentally Sensitive Sites within 2000m of the study site? Yes

8.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site:

0

Database searched and no data found.

8.2 Records of National Nature Reserves (NNR) within 2000m of the study site:

0

Database searched and no data found.

8.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site:

0

Database searched and no data found.

8.4 Records of Special Protection Areas (SPA) within 2000m of the study site:

0

Database searched and no data found.

8.5 Records of Ramsar sites within 2000m of the study site:

0

Database searched and no data found.

8.6 Records of Ancient Woodland within 2000m of the study site:

0

Database searched and no data found.

8.7 Records of Local Nature Reserves (LNR) within 2000m of the study site:

3

The following Local Nature Reserve (LNR) records provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	LNR Name	Data Source
1	417	SW	Primrose	Natural England
Not shown	1387	S	Station Burn	Natural England
Not shown	1406	SE	Station Burn	Natural England

8.8 Records of World Heritage Sites within 2000m of the study site:

0

Database searched and no data found.

8.9 Records of Environmentally Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

8.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site:

0

Database searched and no data found.

8.11 Records of National Parks (NP) within 2000m of the study site:

0

Database searched and no data found.

8.12 Records of Nitrate Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

8.13 Records of Nitrate Vulnerable Zones within 2000m of the study site:

0

Database searched and no data found.

8.14 Records of Green Belt land within 2000m of the study site:

1

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ID	Distance	Direction	Green Belt Name	Local Authority Name
Not shown	1372	S	North East Greenbelt	South Tyneside District (B)

9. Natural Hazards Findings

9.1 Detailed BGS GeoSure Data

BGS GeoSure Data has been searched to 50m. The data is included in tabular format. If you require further information on geology and ground stability, please obtain a **Groundsure Geo Insight**, available from our [website](#). The following information has been found:

9.1.1 Shrink Swell

What is the maximum Shrink-Swell* hazard rating identified on the study site? Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Ground conditions predominantly medium plasticity. Do not plant trees with high soil moisture demands near to buildings. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE). There is a possible increase in construction cost to reduce potential shrink-swell problems. For existing property, there is a possible increase in insurance risk, especially during droughts or where vegetation with high moisture demands is present.

9.1.2 Landslides

What is the maximum Landslide* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

9.1.3 Soluble Rocks

What is the maximum Soluble Rocks* hazard rating identified on the study site? Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

* This indicates an automatically generated 50m buffer and site.

9.1.4 Compressible Ground

What is the maximum Compressible Ground* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Very low potential for compressible deposits to be present. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

9.1.5 Collapsible Rocks

What is the maximum Collapsible Rocks* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

9.1.6 Running Sand

What is the maximum Running Sand** hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

9.2 Radon

9.2.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.

* This indicates an automatically generated 50m buffer and site.

9.2.2 Radon Protection

Is the property in an area where Radon Protection are required for new properties or extensions to existing

ones as described in publication BR211 by the Building Research Establishment?

No radon protective measures are necessary.

10. Mining

10.1 Coal Mining

Are there any coal mining areas within 75m of the study site? Yes

The following coal mining information provided by the Coal Authority is not represented on Mapping:

Distance (m)	Direction	Details
0	On Site	The study site is located within the specified search distance of an identified mining area. Further details concerning this can be obtained from the Coal Authority Helpline on 0845 762 6848.

10.2 Non-Coal Mining

Are there any Non-Coal Mining areas within 50m of the study site boundary? No

Database searched and no data found.

10.3 Brine Affected Areas

Are there any brine affected areas within 75m of the study site? No

Guidance: No Guidance Required.

Contact Details

Groundsure Helpline
Telephone: 08444 159 000
info@groundsure.com

British Geological Survey Enquiries

Kingsley Dunham Centre
Keyworth, Nottingham NG12 5GG
Tel: 0115 936 3143.
Fax: 0115 936 3276.
Email:

Web:www.bgs.ac.uk

BGS Geological Hazards Reports and general geological enquiries:
enquiries@bgs.ac.uk

Environment Agency

National Customer Contact Centre, PO Box 544
Rotherham, S60 1BY
Tel: 08708 506 506

Web:www.environment-agency.gov.uk

Email:enquiries@environment-agency.gov.uk

Public Health England

Public information access office
Public Health England, Wellington House
133-155 Waterloo Road, London, SE1 8UG
www.gov.uk/phe

Email:enquiries@phe.gov.uk

Main switchboard: 020 7654 8000

The Coal Authority

200 Lichfield Lane
Mansfield
Notts NG18 4RG
Tel: 0345 7626 848
DX 716176 Mansfield 5
www.coal.gov.uk

Ordnance Survey

Adanac Drive, Southampton
SO16 0AS
Tel: 08456 050505

Local Authority

Authority: South Tyneside Council
Phone: 0191 427 7000

Web: <http://www.southtyneside.info/>

Address: Town Hall and Civic Offices, Westoe Road, South Shields,

Gemapping PLC

Virginia Villas, High Street, Hartley Witney,
Hampshire RG27 8NW
Tel: 01252 845444



Groundsure
LOCATION INTELLIGENCE



Public Health England



The Coal Authority



Acknowledgements: Site of Special Scientific Interest, National Nature Reserve, Ramsar Site, Special Protection Area, Special Area of Conservation data is provided by, and used with the permission of, Natural England who retain the Copyright and Intellectual Property Rights for the data.

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Groundsure's Terms and Conditions can be viewed online at this link:
<https://www.groundsure.com/terms-and-conditions-sept-2016>

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COAL SEARCH PLUS +
Protecting your investment

By

David Bellis
CONSULTING SURVEYORS

Coal Mining Search Report

Incorporating Cheshire Brine Enquiries



Serial Number 355892

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HG1 5DH
(DX 720352 Harrogate)

Tel 01423 529911
Fax 01423 529922

Search produced by M J Peace

Property details:

Porlock Road
Jarrow
NE32 3QZ

Your ref : 9738 D7716 KJ

Purchaser :

Vendor :

In accordance with your instructions received 10 Nov 2016 we have inspected plans and records of coal mine workings and have made enquiries with respect to Cheshire brine extraction in relation to the above property and can report as follows :

1. SEAM DETAILS FOR PAST UNDERGROUND COAL MINING : In relation to the property the undermentioned seam(s) have been worked within the likely zone of physical influence on the surface.

Seam	Depth (m)	Sect (cm)	Date	Remarks
Maudlin	332	58	Pre 1920	Subjacent
Hutton	386	175	Pre 1920	Subjacent

2. SEAM DETAILS FOR CURRENT AND FUTURE UNDERGROUND COAL MINING : The undermentioned seam(s) are currently being worked, or licenses to work are being determined, or have been granted to work, within the likely zone of physical influence on the surface in relation to the property.

Seam	Depth (m)	Sect (cm)	Date	Remarks
				Coal in reserve - no workings currently planned.

3. UNDERLYING GEOLOGY :

The property is situated in an area of Pelaw Clay, sand and gravel over Sandstone and Middle Coal Measures, shales and mudstones.

The property is situated in an area of conjectured surface faulting.

Serial Number 355892

4. OPENCAST COAL MINING :

Past Opencast Workings : The property is not situated within the boundary of a former opencast coal mining site.

Present Opencast Workings : The property is not situated within 200m of the boundary of a currently operating opencast coal mining site.

Future Opencast Workings : The property is not situated within 800m of the boundary of an opencast site for which a license to extract coal by opencast methods has been granted or a license to do so is currently being determined.

5. SHAFTS, ADITS (MINE ENTRIES) AND ADDITIONAL INFORMATION :

We have no knowledge of any shafts or adits within 20 metres of the property or the boundary of the property.

There are no tips or lagoons in the vicinity of the property.

6. NOTICES IN RELATION TO FUTURE COAL MINING ACTIVITY :

We have no knowledge of any intention to work coal by underground methods within influencing distance on the surface in the vicinity of the property for which section 46 notices have been issued under the Coal Mining Subsidence Act 1991.

7. PAST COAL MINING RELATED SUBSIDENCE :

A review of the records held by the Coal Authority has shown no evidence of coal mining related subsidence claims in relation to the subject property since 31st October 1994. This is the period for which records are held by the Coal Authority.

8. CONCLUSION (COAL MINING) : In the light of the above facts we conclude that in relation to coal mining :

Old workings are present but all settlement is likely to have completed long ago. In our opinion it is unlikely that coal will be worked in the foreseeable future.

COAL MINING RISK LEVEL : We recommend that the transaction is treated as :

Where this report is to be used for development purposes particular attention is drawn to the paragraphs below concerning the ownership of in situ coal, coal workings and the risks from mine gases.

Please note that the overall coal mining risk level above is based upon an assessment of the detailed information contained in the body of the report. The risk assessment must be used in conjunction with the detailed report.

Serial Number 355892

If development of the property is being considered then all necessary enquiries and investigations should be completed prior to the commencement of works to ensure that proposals follow good engineering practice for development in mining areas. The Coal Authority has ownership of in situ coal, coal mines (both current and disused) and coal mine shafts and adits. Activities that intersect, enter or disturb any of the Coal Authority's interests require the written permission of the Authority.

Any development proposals should consider risks to the development, or adjacent property, of generating or displacing underground gases where coal seams or former mining works are disturbed. The need for effective measures to prevent gasses entering public properties should be assessed and properly addressed. These actions are necessary due to the public safety implications of development in these circumstances.

CHESHIRE BRINE EXTRACTION INFORMATION :

The property lies outside the Cheshire Brine Compensation District as prescribed by the Cheshire Brine Pumping (Compensation for Subsidence) Act 1952.

With respect to coal mining there is nothing to prevent a claim being made under the provisions of the Coal Mining Subsidence Act 1991 and subsequent legislation, but it must not be inferred that the Coal Authority or their licensees will necessarily accept that any damage has been caused as a result of mining subsidence.

If you require any further information please contact CoalSearchPlus+ on 01423 529911 or via our website www.coalsearch.plus.com.

This report is prepared in accordance with the CoalSearchPlus+ terms and conditions as published on the CoalSearchPlus+ website (www.coalsearch.plus.com) on the date of issue of this report.

This is a Coal Mining Search Report and is not to be interpreted as being part of an Environmental Assessment of the property.

We cannot be held responsible for the accuracy of the information provided to us by third party organisations.

The information and/or material supplied is composed from data based in many cases on measurements and records of various standards of reliability and age. We cannot be held responsible for the accuracy of such information.

This search report is based upon the privately owned CoalSearchPlus+ mining record database, data supplied to CoalSearchPlus+ under license from the Coal Authority, and plans and records held by the Coal Authority and made publicly available at the time of inspection which may include British Geological Survey and Ordnance Survey data. Organisations reserve the right to vary their proposals and intentions as to their future mining operations without prior notice save as provided in the Coal Mining (Subsidence) Act 1991 and the Coal Industry Act 1994.

This report contains Data provided by the Coal Authority. Any and all analysis and interpretation of the Coal Authority Data in this report is made by David Bellis Consulting Surveyors Ltd trading as CoalSearchPlus+, 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 copyright of the Coal Authority and permission should be sought from David Bellis Consulting Surveyors Ltd prior to any re-use.

Coal Authority Address : The Coal Authority, 200 Lichfield Lane, Berry Hill, Mansfield, Nottinghamshire, HG18 4RG
British Geological Survey Address : British Geological Survey, Kingsley Dunham Centre, Keyworth, Nottingham NG12 5GG

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The information contained in this report relates to the property address given by the individual or organisation ordering the report. Where a plan indicating the property location and boundary is supplied with the instruction the report is based on that information. Where no plan is supplied the report is based on the property location as defined in publicly available mapping data. At all times it remains the responsibility of the instructing organisation or individual to define the boundary of the property.

Additional notes applicable to Residential Coal Mining Reports only:

Serial Number 355892

David Bellis Consulting Surveyors Ltd is not aware of any personal or business relationship between the person conducting or preparing the search and any person involved in the sale of the property.

This report is a desk study of existing published geological and coal mining records, the CoalSearchPlus+ coal mining data base and data supplied under license by the Coal Authority. In order to compile this report enquiries have been made in relation to the following:

Past Coal Mining – the existence of any previously worked seams of coal within influencing distance on the surface in relation to the property including an indication of the depth and age of the workings,

Present Coal Mining - the existence of any currently worked seams of coal within influencing distance on the surface in relation to the property including an indication of the depth and age of the workings. The existence of coal that could be worked at some time in the future will be enquired into and detail of any relevant licenses disclosed where available.

Underlying Geology - the underlying geology of the property will be reviewed and briefly described in relation to coal mining.

Opencast Coal Mining - the existence of past present and future opencast coal mining, specifically :

- if the property is situated within the boundary of a former opencast site. In the case of old opencast workings it must be understood that the records are often unclear regarding the site boundary and or worked areas. Published records and data supplied under license by the Coal Authority will be reviewed to give our opinion of the existence of relevant former opencast coal workings.
- if the property is situated within 200m of the boundary of a currently operating opencast site.
- if the property is situated within 800m of the boundary of an opencast for which either a license to extract coal by opencast methods has been granted or a license to do so is currently being determined.

Shafts, Adits (Mine Entries) and Additional Information – the existence of any mine entries within 20m of the property or the boundary of the property and its associated land and buildings (the definition of the boundary of the property is the responsibility of the individual or organisation ordering this report). Where a mine entry is found to exist the approximate location of the mine entry will be indicated on a plan. The existence of unworked coal will be enquired into and our opinion regarding the likelihood of it being worked at some time in the past will be given where relevant. Any other relevant coal mining related features discovered will be noted.

Notices in relation to future coal mining activity – the existence of notices indicating an intention to work coal by underground methods in the future.

Past coal mining related subsidence – if any publicly available records indicate coal mining related subsidence affecting the property since 31st October 1994.

Coal Mining Risk Level – the opinion of David Bellis Consulting Surveyors Ltd of the risk posed to the property from coal mining given all the information contained in the report. The risk to the property is given in relation to the majority of the housing stock in the immediate area.

Cheshire Brine – the location of the property in relation to the Cheshire Brine Compensation District and any available relevant information to the property regarding brine extraction.

Additional information, including answers to many frequently asked questions, can be found on the CoalSearchPlus+ website, www.coalsearch.plus.com

Complaints Procedure

David Bellis Consulting Surveyors Ltd is registered with the Property Codes Compliance Board as a subscriber to the Search Code. A key commitment under the Code is that firms will handle any complaints both speedily and fairly.

If you want to make a complaint, we will:

- Acknowledge it within 5 working days of receipt.
- Normally deal with it fully and provide a final response, in writing, within 20 working days of receipt.
- Keep you informed by letter, telephone or e-mail, as you prefer, if we need more time.
- Provide a final response, in writing, at the latest within 40 working days of receipt.
- Liaise, at your request, with anyone acting formally on your behalf.

If you are not satisfied with our final response, or if we exceed the response timescales, you may refer the complaint to The Property Ombudsman scheme (TPOS):

Tel: 01722 333306, E-mail: admin@tpos.co.uk

We will co-operate fully with the Ombudsman during an investigation and comply with his final decision.

Complaints should be sent to:

Mr M. Peace, Director, David Bellis Consulting Surveyors Ltd, 8 Mornington Terrace, Harrogate, North Yorkshire, HG1 5DH
Tel : 01423 529911 Fax : 01423 529922 Email : contact@coalsearch.plus.com

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Date : 15 Nov 2016

Signed :

A handwritten signature in blue ink, appearing to read 'M. Stone'.

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Serial Number 355892**Important Consumer Protection Information**

This search has been produced by David Belius Consulting Surveyors Ltd, 8 Mornington Terrace, Harrogate, HG1 5DH (T: 01423 529911, F: 01423 529922, E: contact@coalsearch.plus.com) which is registered with the Property Codes Compliance Board (PCCB) as a subscriber to the Search Code. The PCCB independently monitors how registered firms maintain compliance with the Code.

The Search Code:

- provides protection for homebuyers, sellers, estate agents, conveyancers and mortgage lenders who rely on the information included in property search reports undertaken by subscribers on residential and commercial property within the United Kingdom
- sets out minimum standards which firms compiling and selling search reports have to meet
- promotes the best practice and quality standards within the industry for the benefit of consumers and property professionals
- enables consumers and property professionals to have confidence in firms which subscribe to the code, their products and services.

By giving you this information, the search firm is confirming that they keep to the principles of the Code. This provides important protection for you.

The Code's core principles

Firms which subscribe to the Search Code will:

- Display the Code logo prominently on their search reports.
- Act with integrity and carry out work with due skill, care and diligence.
- At all times maintain adequate and appropriate insurance to protect consumers.
- Conduct business in an honest, fair and professional manner.
- Handle complaints speedily and fairly.
- Ensure that all search services comply with the law, registration rules and standards.
- Monitor their compliance with the Code.

Complaints

If you have a query or complaint about your search, you should raise it directly with the search firm, and if appropriate ask for any complaint to be considered under their formal internal complaints procedure. If you remain dissatisfied with the firm's final response, after your complaint has been formally considered, or if the firm has exceeded the response timescales, you may refer your complaint for consideration under The Property Ombudsman scheme (TPOs). The Ombudsman can award up to £5,000 to you if the Ombudsman finds that you have suffered actual financial loss and/or aggravation, distress or inconvenience as a result of your search provider failing to keep to the Code.

Please note that all queries or complaints regarding your search should be directed to your search provider in the first instance, not to TPOs or to the PCCB.

TPOs Contact Details:

The Property Ombudsman scheme
Milford House
43-55 Milford Street
Salisbury
Wiltshire SP1 2BP
Tel: 01722 333306
Fax: 01722 332296
Website: www.tpos.co.uk
Email: admin@tpos.co.uk

You can get more information about the PCCB from www.propertycodes.org.uk.

PLEASE ASK YOUR SEARCH PROVIDER IF YOU WOULD LIKE A COPY OF THE SEARCH CODE

Serial Number 355892**David Bellis Consulting Surveyors Ltd and CoalSearchPlus+ Terms and Conditions (Available in large print by request)**

1. Definitions.
 - a) The Service Provider is David Bellis Consulting Surveyors Ltd, trading as CoalSearchPlus+.
 - b) The Applicant is the Individual, Organisation, or appointed officer of said Organisation placing a Request with the Service Provider.
 - c) The Third Party Provider is any Organisation from which the Service Provider obtains data and/or information on behalf of the Applicant in the normal course of fulfilling the Applicants Request.
 - d) The request is a formal Request by the Applicant with CoalSearchPlus+ to retrieve specific data and/or information.
2. CoalSearchPlus+ accept Requests only on the basis that the Applicant is acting as a principal and is directly liable for payment of our invoice or account.
3. It is the policy of CoalSearchPlus+ to observe confidentiality with regard to the identity and affairs of our customers to the extent permitted by law, but, in common with other service providers, we may be required exceptionally to disclose information to governmental and other public authorities.
4. The placing of a Request by the Applicant with CoalSearchPlus+ confirms acceptance of these terms and conditions.
5. Any Order Form produced by CoalSearchPlus+, either printed or published on the CoalSearchPlus+ website, is an invitation to treat. The Applicant makes an offer to buy from CoalSearchPlus+ by the submission of a Request, subject to clause 10. Acceptable modes of transmission for a Request are facsimile (fax), telephone, electronic mail(e-mail), online transmission via the CoalSearchPlus+ website only, Document Exchange (DX), Royal Mail or courier appointed by the Applicant.
6. Orders will be accepted on order forms other than CoalSearchPlus+ forms however these will be accepted under the standard CoalSearchPlus+ terms and conditions only, subject to Clause 10.
7. CoalSearchPlus+ reserves the right to refuse any Request.
8. CoalSearchPlus+ reserves the right to cancel any Request at any time.
9. Proof of transmission of a Request by the Applicant does not constitute proof of receipt by CoalSearchPlus+.
10. It is the responsibility of the Applicant to ensure the accuracy, legibility, clarity and completeness of all data and/or information provided to CoalSearchPlus+ as part of the Request, including but not limited to, names, numbers, addresses, location plans, and boundary plans. This applies whether the Request is submitted on CoalSearchPlus+ order forms either printed or published on the CoalSearchPlus+ website or on the Applicants own order form.
11. CoalSearchPlus+ may request additional relevant data and/or information from the Applicant in the course of fulfilling a Request, including, but not limited to, names, numbers, addresses, location plans, and boundary plans.
12. CoalSearchPlus+ may request clarification of data and/or information supplied by the Applicant.
13. If, subsequent to Clause 11. and/or Clause 12., requested data and/or information is not provided and/or clarified, CoalSearchPlus+ cannot be held responsible for any resultant loss or delay.
14. If, subsequent to Clause 11. and/or Clause 12., requested data and/or information is not provided and/or clarified within a reasonable period of time, CoalSearchPlus+ reserves the right to cancel the Request in whole or in part. The Applicant remains liable for all fees, Taxes and Disbursements accrued prior to the cancellation.
15. CoalSearchPlus+ reserves the right to subcontract data and/or information retrieval to selected Organisations and/or Individuals. CoalSearchPlus+ is not required to reveal the identity of its Subcontractors.
16. CoalSearchPlus+ will, in the process of fulfilling the request, retrieve data and/or information from publicly and/or commercially available sources and the CoalSearchPlus+ mining database. The sources of data used will primarily be data held by The Coal Authority under an agreement with the Health and Safety Executive, data owned by the British Geological Survey and the CoalSearchPlus+ database.
17. A CoalSearchPlus+ mining report is a report of the interpretation of the data sources in 16. made by CoalSearchPlus+ staff.
18. CoalSearchPlus+ coal mining search reports are based upon the plans and records available from data sources detailed in 16. at the time the report was produced. It should be understood that third party organisations reserve the right to vary their proposals and intentions as to their future mining operations without prior notice save as provided in the Coal Mining Subsidence Act 1994. CoalSearchPlus+ cannot be held responsible for changes to the future proposals and intentions of Third Parties.
19. The information and/or material supplied in a CoalSearchPlus+ coal mining report is composed from data based, in many cases, on measurements and records of various standards of reliability and age. In some instances (usually relating to older records) it is necessary for CoalSearchPlus+ to make assumptions regarding the 'best plot' position of mining features. For these reasons users of CoalSearchPlus+ reports should take the position of mining features detailed in reports to be indicative only.
20. The data and/or information that a coal mining search report is based on is constantly being updated. A CoalSearchPlus+ coal mining search report is based on the most up to date information available at the time that the report is produced however it cannot be guaranteed that the information and/or data will not become obsolete at some time in the future. Responsibility for the supply of accurate and up to date information to CoalSearchPlus+ lies with the data supplying organisations listed in 16.
21. A CoalSearchPlus+ coal mining search report relates only to coal mining and minerals worked in relation to coal mining. Other reports may be required in relation to other minerals.
22. A CoalSearchPlus+ coal mining search report is not a substitute for site investigation or a mining survey. Depending on the content of a coal mining search report, or whether development is intended, the Applicant must decide whether a site investigation or mining survey is required.
23. CoalSearchPlus+ coal mining reports comply with the Search Code.

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24. All CoalSearchPlus+ reports are covered by professional indemnity insurance. The content of CoalSearchPlus+ coal mining search reports does not prevent any future claim being made by the Applicant against the Coal Authority in respect of coal mining related subsidence.
25. Any liability in the instance of negligence by CoalSearchPlus+ or its employees in the interpretation of coal mining data and/or the production and provision of coal mining reports will be limited to the extent of the CoalSearchPlus+ Professional Indemnity Insurance or the value of the loss caused by the negligence, whichever is the lower.
26. All CoalSearchPlus+ coal mining search reports give the information detailed in the services section of the CoalSearchPlus+ website and summarised in the report. Further explanation of this information is available in the Glossary and/or the Frequently Asked Questions areas of the CoalSearchPlus+ website. Alternatively contact CoalSearchPlus+ who will be happy to explain the content of a report.
27. The Request is fulfilled when all reports, data and/or information requested by the Applicant have been retrieved and/or compiled by CoalSearchPlus+ and delivered by electronic mail (e-mail) or fax or post or document exchange (DX) or a combination of these methods as required by the Applicant. Alternative delivery arrangements are at the discretion of CoalSearchPlus+.
28. If Requests for multiple reports, data and/or information relating to multiple addresses were made on a single order form these will be fulfilled individually by the delivery of the reports, data and/or information relating to each individual address being treated as an individual Request.
29. CoalSearchPlus+ is not responsible for any loss or misdelivery of retrieved data and/or information caused by failure of Document Exchange (DX), Royal Mail or internet service provider. Most retrieved data and/or information is archived by CoalSearchPlus+ and a copy may be requested by the Applicant. If the data and/or information could not be archived CoalSearchPlus+ reserves the right to treat the request as a new Request.
30. Delivery, by whatever agreed means, will be accompanied by an invoice. Delivery by electronic mail may be followed up with a paper invoice by post or DX. Where Applicants have agreed account facilities with CoalSearchPlus+ invoicing may be on a monthly basis. In all cases the Applicant agrees to provide CoalSearchPlus+ with remuneration for the full amount shown on the invoice, including all Fees, Taxes and Disbursements.
31. The Applicant will be liable for payment of the full invoice amount within 14 days from the date of receipt of the invoice. CoalSearchPlus+ reserve the right to charge for costs and expenses incurred in recovering late payments and to charge interest at the rate of 8% above the Bank of England base rate per annum for the full period that the payments are overdue.
32. Where full payment of the invoice is not made by the Applicant within 14 days from receipt of the invoice CoalSearchPlus+ reserve the right to withdraw account facilities from the Applicant and cancel any individual agreements concerning fees or other Terms and Conditions that may have been made between the Applicant and CoalSearchPlus+.
33. Where possible the Applicant will receive Advance Notice of the cost of the Request, including all Fees, Taxes and Disbursements, prior to receipt of the invoice. This advance notice will take the form of the price for the service requested as published on the CoalSearchPlus+ website, or the price as individually agreed between CoalSearchPlus+ and the Applicant.
34. Additional Fees, Taxes and Disbursements may arise during the course of data and/or information retrieval, over and above Advance Notice costs as in clause 33. The Applicant is liable for any such additional costs. Where possible, the Applicant is notified of additional costs prior to fulfilment of the Request.
35. If the Applicant shall pay in advance of receipt of the invoice, then the Applicant remains liable for any underpayment.
36. Any overpayment on the part of the Applicant will be refunded. Arrangements for refunds are agreed on a case-by-case basis, through discussion between CoalSearchPlus+ and the Applicant.
37. The Applicant may cancel the Request in whole or in part at any time prior to Clause 27.
38. If the Applicant cancels the Request in whole or in part prior to Clause 27, the Applicant remains liable for all Fees, Taxes and Disbursements already accrued prior to the Cancellation.
39. CoalSearchPlus+ accept no liability for any loss incurred by the Applicant or the Applicants client where the Applicant is acting as an agent for a client, due to late fulfilment and delivery of the Request.
40. CoalSearchPlus+ accept no liability for any loss to the Applicant, or the Applicant's client where the Applicant is acting as an agent for a client, due to any negative outcome of a report provided in the process of the correct and accurate fulfilment of the Request.
41. Any disputes relating to the provision of coal mining search reports should be addressed to the Practice Principal, CoalSearchPlus+ in the first instance. Disputes will be settled according to the CoalSearchPlus+ complaints procedure detailed in each report.
42. Independent Dispute Resolution - If you make a complaint and we are unable to resolve it to your satisfaction you may refer the complaint to The Property Ombudsman scheme (website: www.tpos.co.uk email: admin@tpos.co.uk Tel: 01722 333306). We will cooperate fully with the Ombudsman during an investigation and comply with his final decision.
43. Third Party and subcontractor Terms and Conditions shall apply in addition to these clauses. Should any conflict arise between CoalSearchPlus+ Terms and Conditions and Third Party or Subcontractor Terms and Conditions, then CoalSearchPlus+ Terms and Conditions prevail unless and until CoalSearchPlus+ expressly states otherwise in writing and/or courts of England and Wales establish otherwise.
44. No variation to these Terms and Conditions is effective unless and until CoalSearchPlus+ expressly agrees in writing.
45. CoalSearchPlus+ reserves the right to alter these terms and conditions as appropriate, without notice, at any time. Such amended Terms and Conditions will become effective upon publication on the CoalSearchPlus+ website.
46. These Terms and conditions are subject to English Law and the exclusive jurisdiction of the courts of England and Wales.

APPENDIX D

DUNELM CONDITIONS OF OFFER, NOTES ON LIMITATIONS & BASIS FOR CONTRACT



Dunelm Conditions of Offer, Notes on Limitations & Basis for Contract

These conditions accompany our tender and supercede any previous conditions issued. The firm will prepare a report solely for the use of the Client (the party invoiced) and its agent(s). No reliance should be placed on the contents of this report, in whole or in part by 3rd parties. The report, its content and format and associated data are copyright, and the property of the firm. Photocopying of part or all of the contents, transfer or reproduction of any kind is forbidden without written permission from the firm. A charge may be levied against such approval, the same to be made at the discretion of the firm.

Site investigation is a process of sampling. The scope and size of an investigation may be considered proportional to levels of confidence regarding the ground and groundwater conditions. The exploratory holes undertaken investigate only a small volume of the ground in relation to the overall size of the site, and can only provide a general indication of site conditions. The opinions provided and recommendations given in this report are based on the ground conditions as encountered within each of the exploratory holes. There may be different ground conditions elsewhere on the site which have not been identified by this investigation and which therefore have not been taken into account in this report. Reports are generally subject to the comments of the local authority and Environment Agency. The comments made on groundwater conditions are based on observations made at the time that site work was carried out. It should be noted that mobile contamination, soil gas levels and groundwater levels may vary owing to seasonal, tidal and/or weather related effects. Unrecorded ancient mining may occur anywhere where seams that have been worked and influence the rock and soil above. Dissolution cavities can occur where gypsum or chalk is present. Rotary drilling is the recommended technique to prove the integrity of the rock.

Where the scope of the investigation is limited via access to information, time constraints, equipment limitations, testing, interpretation or by the client or his agents budgetary constraints, elements not set out in the proposal and excluded from the report are deemed to be omitted from the scope of the investigation.

The firm cannot be held liable and do not warrant, or otherwise guarantee the validity of information provided by third parties and subsequently used in our reports. The firm are not responsible for the action negligent or otherwise of subcontractors or third parties.

Desk studies are generally prepared in accordance with RICS guidelines. Environmental site investigations are generally undertaken as 'exploratory investigations' in accordance with the definitions provided in paragraph 5.4 of BS 10175:2001 in order to confirm the conceptual assumptions. You are advised to familiarize yourself with the typical scope of such an investigation. No pumping of water will be undertaken unless a licence or facilities/equipment have been arranged by others.

Where the type, number or/and depth of exploratory hole is specified by others, the firm cannot and will not be responsible for any subsequent shortfall or inadequacy in data, and any consequent shortfall in interpretation of environmental and geotechnical aspects which may be required at a later date in order to facilitate the design of permanent or temporary works.

All information acquired by the firm in the course of investigation is the property of the firm, and, only also becomes the joint property of the Client only on the complete settlement of all invoices relating to the project. The firm reserves the right to use the information in commercial tendering and marketing, unless the Client expressly wishes otherwise in writing. The quoted rates do not include VAT, and payment terms are 30 days from dispatch of invoice from our offices. Quotes are subject to a site visit.

We have allowed for 1 mobilisation and normal working hours unless otherwise stated. The scope of the investigation may be reviewed following the desk study and/or fieldwork. We have not allowed for acquiring services information, and cannot be responsible for damage to underground services or pipes not shown to us or not clearly shown on plans. Costs incurred will be passed on to you, and in commissioning the firm, you understand and accept that you/your agent have a contractual relationship with the firm & you accept this. Our rates assume unobstructed, reasonably level and firm access to the exploratory positions and adequate clear working areas and headroom. We have priced on the basis that you or your client have the necessary permissions, wayleaves and approvals to access land. All boreholes and pits are backfilled with arisings except where gas monitoring pipes are installed with stopcock covers. Dunelm are not responsible for any uneven surfaces as a result of siteworks and rutting and backfilled excavations may require re-levelling and/or making good by others after fieldwork is complete. Dunelm have not allowed for subsequent reinstatement as a result of settlement. No price has been provided or requested for a return visit to remove pipework and covers. No price has been provided or requested for a return visit to remove pipework and covers. Hourly rates apply to consultancy only and do not include expenses unless otherwise shown. If warranties are required, legal costs incurred will be passed on to you assuming the firm agree to complete such warranties, modified or otherwise and you understand and agree to pay all costs.

We reserve the right to pursue full payment of the invoice prior to release of any information including reports. We advise you/your client that we may elect to pursue our statutory rights under late payment legislation, and will apply 8% to the base rate for unreasonably late payments. We will also apply the right to claim any associated legal costs incurred with recovery of late payments. The firm is exempt from the CIS Scheme. The firm offer to undertake work only in strict accordance with conditions covered by our current insurances, which are available for inspection. The company are not responsible for acts, negligent or otherwise of subcontractors and as a matter of policy cannot indemnify any other parties. Professional indemnity Insurance is limited to ten times the invoice net total except where stated otherwise by the firm, and we give notice that consequential loss as a direct or indirect result of the firms activities or omission of the same are excluded.