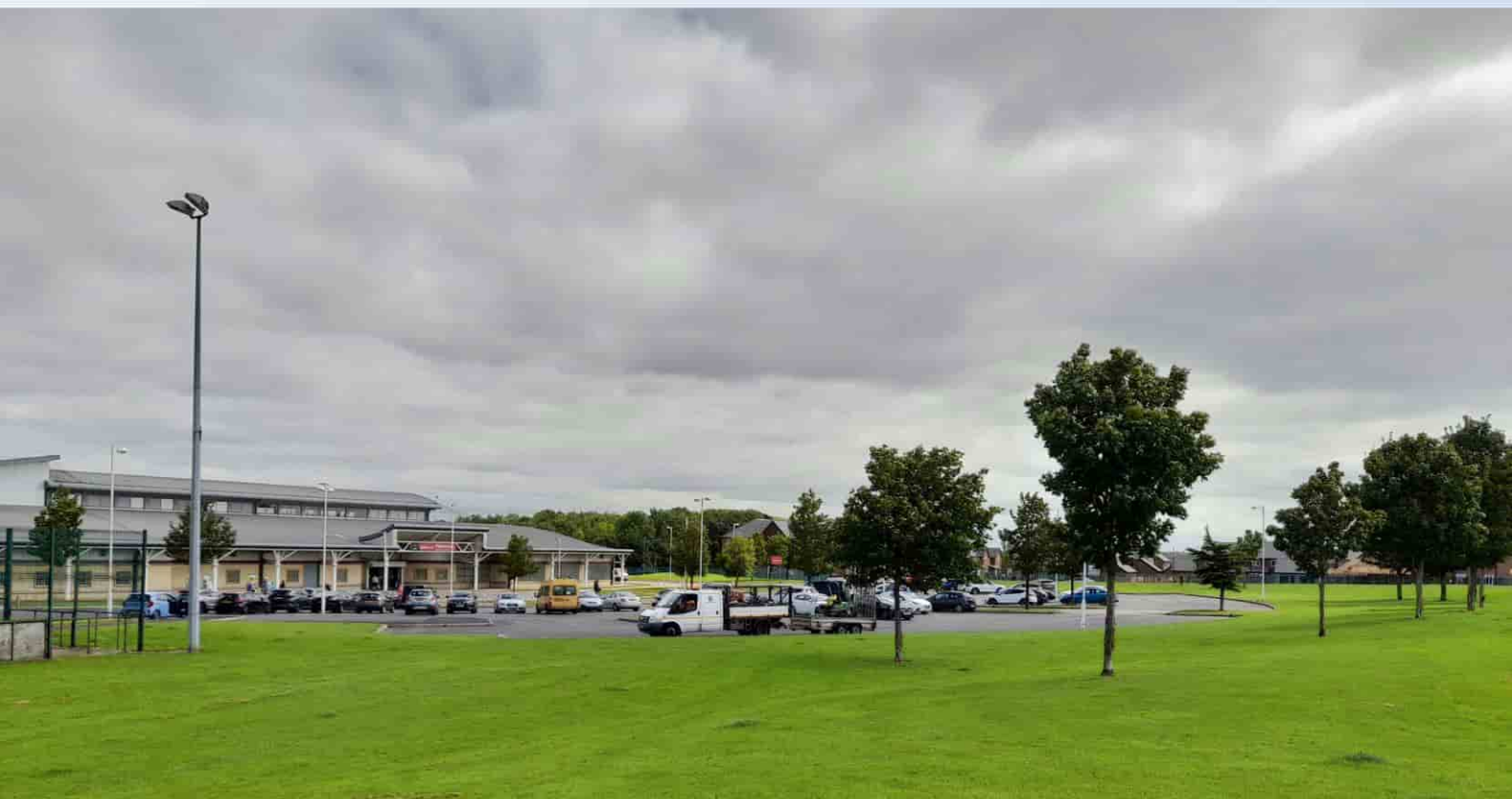




Knowsley Metropolitan Borough Council

HALEWOOD LUF

Geo-Environmental Preliminary Risk Assessment





Knowsley Metropolitan Borough Council

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Geo-Environmental Preliminary Risk Assessment

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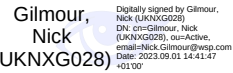
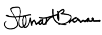
Glasgow

G1 3BX

Phone: +44 141 429 3555

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EXECUTIVE SUMMARY

Aspect	Summary
Authorisation	WSP UK Ltd (WSP) was commissioned by Knowsley Metropolitan Borough Council (KMBC) (the 'Client'), to undertake a Geo-environmental Preliminary Risk Assessment (PRA) at two parcels of land herein referred to as Site 1 and Site 2 as part of the Levelling Up Fund (LUF) for the local area. Site 1 comprises Grace Park and is located off of Leathers Lane (L26 1XA), with Site 2 comprising Halewood Leisure Centre, located off of Baileys Lane in Halewood (L26 9YD).
Project Aim	The principal aim of this assessment is to assess potential geo-environmental risks associated with both sites in the context of a wider regeneration project including improving of existing public greenspaces, civic amenities and the Leisure Centre.
The Site	Site 1 The site area is currently occupied by an open public park (Grace Park) which comprises laid to grass with some semi mature trees, with football pitches in the eastern portion of the site. Site 2 The site area is currently occupied by a leisure centre and associated parking, astroturf pitches and soft landscaping.
Site History	Site 1 Earliest available mapping shows the site to be mainly agricultural/undeveloped land, with residential properties and a school also being noted on site. The site has been in its current layout since between 2010 and 2023 when the current site layout was formed. Site 2 Earliest available mapping shows the site to be agricultural/undeveloped land with small ponds in the north, south and east of the site, which were subsequently infilled. The site has since been occupied by a Leisure Centre.
Environmental Setting	Site 1 Geology: Made Ground associated with the previous development of the surrounding area overlying glacial till deposits and bedrock documented as the Etruria Formation. Hydrogeology: An secondary undifferentiated superficial aquifer is present on site. The underlying Etruria Formation aquifer is identified as a Secondary aquifer. The superficial deposits are classified as low vulnerability. Hydrology: A small pond is noted on site and the closest off-site surface water feature is an unnamed stream located approximately 445m northwest of the site. Radon: In accordance with the Groundsure report, the site lies within a Moderate Probability Radon Area, where less than 1% of homes are below action level. Site 2

Aspect	Summary
	Geology: Made Ground associated with the previous development of the surrounding area overlying glacial till deposits and bedrock documented as the Kinnerton Sandstone Formation. Hydrogeology: An secondary undifferentiated superficial aquifer is present on site. The underlying Kinnerton Sandstone is a Principal Aquifer. The superficial deposits are classified as low vulnerability. Hydrology: The closest surface water feature is an unnamed stream located approximately 130m east of the site. Radon: In accordance with the Groundsure report, the site lies within a Moderate Probability Radon Area, where less than 1% of homes are below action level.
Preliminary Coal Mining Risk Assessment	Site 1 ■ The site is not within a Coal Authority reporting area. Site 2 ■ The site is within a CA reporting area, however it is not located within a Development High Risk area. ■ No coal mine entries are recorded to lie within 20 metres of the property. ■ There is no evidence of any probable shallow workings beneath the site. ■ There is no evidence of any past shallow workings beneath the site. ■ There are no outcrops on site
Potential Contaminated Land Risks	Site 1 The principal potential contamination sources on-site are considered to be: ■ Potential Made Ground associated with the development of the site; and ■ Potential contamination from the on-site electricity substation Site 2 The principal potential contamination sources on-site are considered to be: ■ Potential Made Ground associated with the likely infilling of the historical infilled ponds; and ■ Potential Made Ground associated with the development of the site
Conclusions	Based on the contaminant linkage assessment completed for Site 1 in consideration of its continued use as a recreational area with proposed commercial units, the following risk classifications have been determined: ■ With respect to Human Health, the risks have been assessed as Low to Moderate; ■ With respect to surface waters, the risks from the site have been assessed as Moderate; ■ With respect to the underlying bedrock aquifer, the risks from the site have been assessed as Low to Moderate; ■ Risks to Flora/Fauna have been assessed as Low; and ■ With respect to Buildings and Services, the site is classified as Low to Moderate.

Aspect	Summary
	Based on the contaminant linkage assessment completed for Site 2 in consideration of its continued used as a leisure centre and recreational area the following risk classifications have been determined: ■ With respect to Human Health, the risks have been assessed as Low to Moderate; ■ With respect to surface waters, the risks from the site have been assessed as Low; ■ With respect to the underlying bedrock aquifer, the risks from the site have been assessed as Low to Moderate; ■ Risks to Flora/Fauna have been assessed as Low; and ■ With respect to Buildings and Services, the site is classified as Low to Moderate.
Recommendations	A site investigation is recommended in order to delineate and confirm any potential risks on both sites.

The above is a summary of WSP Preliminary Risk Assessment, Halewood LUF, Ref. 70112144/PRA Under no circumstances should it be used as an independent document.

1 INTRODUCTION

1.1 AUTHORISATION

WSP UK Ltd (WSP) was commissioned by Knowsley Metropolitan Borough Council (KMBC) (the 'Client'), to undertake a Geo-environmental Preliminary Risk Assessment (PRA) at two parcels of land (herein referred to as Site 1 and Site 2) as part of the Levelling Up Fund (LUF) for the local area.

Site 1 comprises Grace Park and is located off of Leathers Lane (L26 1XA), with Site 2 comprising Halewood Leisure Centre, located off of Baileys Lane in Halewood (L26 9YD).

A site location plan and site boundary plan for each site are included as Figure 1 and 2 in **Appendix A**.

1.2 PROJECT BACKGROUND & CONTEXT

WSP understands that the client proposes to redevelop both sites as part of a wider regeneration project including improvement of existing public greenspaces, civic amenities, the Leisure Centre and new commercial units.

The principal aim of this assessment is to assess potential geo-environmental risks associated with the site in the context of the redevelopment of the sites.

A site location plan and site boundary plan are included as Figure 1 and Figure 2 within **Appendix A**. An indicative development plan for both sites is included as drawing 70098415_WSP_XX_00_DR_LA_003 in **Appendix A**.

1.3 SOURCES OF INFORMATION

This report has been prepared using the information sources as listed below:

- Site walkover completed by WSP on 4th August 2023 (photos within **Appendix B**);
- Groundsure report reference WSP-BOT-GRA-7YI-G4Y dated 14th July 2023 (presented in **Appendix C**);
- The Coal Authority Interactive Map viewer accessed through <http://mapapps2.bgs.ac.uk/coalauthority>;
- British Geological Survey (BGS) information and datasets (including historical borehole logs) accessed through <http://www.bgs.ac.uk/> (**Appendix C**);
- British Geological Survey (BGS) geology viewer available online <http://mapapps2.bgs.ac.uk/geoindex/home.html>;
- UK Radon interactive map viewer <http://www.ukradon.org/information/ukmaps>;
- Zetica UXO Assessment Risk Maps accessed <https://zeticauxo.com/downloads-and-resources/risk-maps/> (**Appendix C**);
- Legislative Background (**Appendix D**); and
- Contaminated Land Risk Assessment CIRIA 552 (Tables included **Appendix E**).

1.4 LIMITATIONS

The report is addressed to and may be relied upon by KMBC, as "the Client" within the meaning given to that phrase within the agreement and subject to the terms and conditions contained therein.



This report has been completed with regard to generally accepted consulting practices and may not be relied upon by any other party without the explicit written agreement of WSP. No other third-party warranty, expressed or implied, is made as to the professional advice included in this report. This report must be used in its entirety.

Unless WSP has actual knowledge to the contrary, WSP has assumed the correctness and completeness of third-party information supplied and shall have no liability in respect of any inaccuracy, defect or omission in any information or materials provided, anecdotally or otherwise, by the Client or any other third party to WSP. WSP does not assume any liability for misrepresentation of information or for items not visible, accessible, present or supplied at the time of the study.

The general limitations to the nature of the assessment are outlined in **Appendix F**.

2 ENVIRONMENTAL SETTING

2.1 SITE DETAILS

Tables 2-1 and 2-2 below summarise the site details of Site 1 and Site 2. Site location and current layout plans for both sites are presented in Figures 1 and 2 in **Appendix A**.

Table 2-1 – Site 1 (Grace Park) Details

Aspect	Details
Site address	Grace Park off Leathers Lane, Halewood, L26 1XA
National Grid Reference	344616, 385298 (approximate site centre)
Site Setting and Surrounding Area	Located in Halewood town centre, situated within a mainly residential setting. Halewood shopping centre is on the eastern boundary
Site Size (approximate)	7.32 hectares (ha)
Current site use	The site area is currently occupied by an open public park (Grace Park) which comprises grass with semi mature trees to the northwest. Two football pitches are present in the eastern portion of the site.
Topography	The site is generally flat. There are five gently sloping mounds noted across the site. The most northerly of the two football pitches appears to be raised on a platform and slopes gently down from the north and east from the pitch level.

Table 2-2 – Site 2 (Halewood Leisure Centre) Details

Aspect	Details
Site address	Halewood Leisure Centre, Baileys Lane, Halewood, L26 0TY
National Grid Reference	345217, 385182 (approximate site centre)
Site Setting and Surrounding Area	Located in Halewood town centre, situated within a mainly residential setting.
Site Size (approximate)	6.94 ha
Current site use	The site area is currently occupied by a leisure centre, parking, astroturf pitches and soft landscaping.
Topography	The site is generally flat lying however there are four gently sloping shaped mounds noted within areas of soft landscaping associated with the existing Leisure Centre. There is a gentle slope from the sports pitches to the eastern boundary of the site.

2.2 PREVIOUS REPORTS

Following request, WSP was not provided with and is not aware of any existing/historical reports for the site.

2.3 SITE RECONNAISSANCE

A walkover survey of both sites was undertaken by a representative of WSP on 4th August 2023. A photographic record of this walkover is provided as **Appendix B**. Access was made available to all external areas of both sites. No surveys were under taken within the Leisure Centre building, however it is understood the Leisure Centre includes sports halls, a swimming pool, a gym and a sauna. A summary of pertinent information noted from both sites is summarised below.

Site 1- Grace Park

Grace Park is public open space and comprised mainly grassed areas, with two mounds of wild flowers noted in the east and south of the site and two fenced playground areas located in the northwestern portion of the site. A pond is located close to the eastern boundary and is approximately 10m in diameter. Two football fields are also noted on site, with a container noted acting as a clubhouse. An electrical substation was noted approximately 10m from the southeastern boundary.

The northwestern boundary is open to the pavement and road with residential properties noted beyond. The north and south boundaries consist of metal fencing with long grass and shrubs (and Himalayan balsam in the north) and occasional mature trees. The eastern boundary with the football club (consisting of a pitch and storage containers) is green palisade fencing with long grass and shrubs with residential properties beyond in the north and south and Leather's Lane and shopping centre to the east and Grace Park to the west.

Multiple locked pedestrian gates are located along the Leather's Lane boundary along with one set of vehicle access gates. Another pair of vehicle access gates are located along the western boundary.

No overhead lines or evidence of contamination was noted on site during the walkover.

There is a very slight downward slope to the north, with wetter area of grass noted in the north eastern portion of the site at the northern site boundary.

Site 2- Halewood Leisure Centre

The site comprises a large building close to the eastern boundary (a leisure centre) with astroturf pitches located to the north of the building and a tarmac carpark located to the south. Old astroturf pitches are also located west of the carpark. The remainder of the site is covered in maintained grass with occasional mature and sapling trees. The site is bound by green palisade fencing with residential properties beyond on all sides. Baileys Lane runs north- south along the eastern boundary and Barn Croft Road along the western boundary.

Grassy banks surround the majority of the site close to the boundaries with large mounds also being noted in the west and southern corners of the site. The remainder of the site is generally flat, with a slight incline downwards to the south from the leisure centre to the car park.

The site can be accessed from Baileys Road or on foot from Barn Croft Road in the western corner of the site.

No surface water features, overhead lines or evidence of contamination was noted on site during the walkover.

2.4 PUBLISHED GEOLOGY

Online British Geological Survey (BGS) published 1:50,000 and 1:10,000 scale geological data (www.bgs.ac.uk) and Groundsure reporting, shows the following geological sequences for both sites as summarised in Tables 2-3 and 2-4.

Table 2-3 – Site 1 (Grace Park) Geology Summary

Geological Unit	Estimated Thickness	Description
Superficial Deposits	>30m	Made Ground (anticipated locally based historic development). Glacial Till, Devensian - Diamicton.
Bedrock	Not Recorded	Etruria Formation (Mudstone, sandstone and conglomerate)

Table 2-4 – Site 2 (Halewood Leisure Centre) Geology Summary

Geological Unit	Estimated Thickness	Description
Superficial Deposits	>30m	Made Ground (anticipated locally based historic development). Glacial Till, Devensian - Diamicton.
Bedrock	Not Recorded	Kinnerton Sandstone Formation

No geological faults are shown either on, or within close proximity of either site.

BGS Borehole Logs

The following borehole logs are located within 250m of Site 1. The available borehole logs are summarised below and are included in **Appendix C**:

- BGS Borehole Reference SJ48NW12 (200m north) recorded Glacial Till to 43.20 metres below ground level (m bgl) comprising stiff clay, sand and sandy clay overlying 'red marl' to a recorded 127.70m bgl.
- BGS Borehole Reference SJ48NW135 (located 249m west) recorded topsoil to 0.40 m bgl overlying Glacial Till of firm silty clay to a proven depth of 5.00m bgl.
- BGS Borehole Reference SJ48NW136 (located 249m west) recorded topsoil to 0.40 m bgl overlying Glacial Till of firm silty clay to a proven depth of 5.00m bgl.

The following borehole log is located within 500m of Site 2. The available borehole log is summarised below and is included in **Appendix C**:

- BGS Borehole Reference SJ48NE486 (located 494m east) recorded Made Ground to 2.00 m bgl comprising 'dirty clay and stone' Boulder clay was noted to 45.00m bgl, underlain by sand and gravel to 47.00m bgl with red sandstone recorded to 80.00m bgl.

2.5 MINING

Reference to the Coal Authority's (CA) Interactive Map Viewer online indicates Site 1 is not within a CA reporting area, nor is it located within a Development High Risk area (DHRA).

Site 2 is located within a CA reporting area but not located within a DHRA. The CA interactive map viewer provided the following information for Site 2:

- No mine entries are recorded to lie within 20 metres of the site;
- There is no evidence of any probable shallow workings beneath the site;
- There is no evidence of any past shallow workings beneath the site; and,
- There are no outcrops of coal on site.

2.6 HYDROGEOLOGY

The Groundsure Report (included in **Appendix C**) indicates the following for Site 1:

- A secondary undifferentiated superficial aquifer is recorded beneath the site;
- The superficial deposits are classified as having a 'Low Vulnerability' to contamination;
- The Etruria Formation bedrock is classed as a Secondary A Aquifer;
- The Groundsure Report classified the sites as having a negligible soluble rock risk;
- There are no surface abstraction licenses registered within 1km of the sites;
- There are no groundwater abstraction licenses registered within 1km of the sites; and
- A Source Protection Zone 3 (SPZ3) is located beneath the central and western portion of Site 1.

The Groundsure Report (included in **Appendix C**) indicates the following for Site 2:

- A secondary undifferentiated superficial aquifer is recorded beneath the site;
- The superficial deposits are classified as having a 'Low Vulnerability' to contamination;
- The Kinnerton Sandstone Formation bedrock is classed as a Principal Aquifer;
- The Groundsure Report classified the sites as having a negligible soluble rock risk;
- There are no surface abstraction licenses registered within 1km of the sites;
- There is one groundwater abstraction license (license no NW/069/0028/025) registered 496m east of the site; and
- A SPZ3 is located beneath the site.

2.7 HYDROLOGY

A small pond was noted on site, with the closest off-site surface water feature to Site 1 being an unnamed stream located approximately 445m to the northwest.

The closest surface water feature to Site 2 is an unnamed stream located approximately 130m to the northeast.

Based on the topography of the sites and the surrounding area being generally flat, it is considered that any surface water and groundwater within the sites will generally flow south towards the River Mersey.

2.8 WATER ABSTRACTIONS

The Contaminated Land Officer (CLO) at Knowsley Metropolitan Borough Council was contacted on 7th August 2023 for information on any local Private Water Supplies within close proximity to both

Site 1 and Site 2. A response is yet to be received, however should any pertinent information be received, this information will be forwarded to the client under separate cover.

The Groundsure reporting shows that there are no groundwater abstractions within 1km of Site 1, while there is one groundwater abstraction license (license no NW/069/0028/025) registered 496m east of Site 2. There are no surface water abstractions within 1km of either site.

2.9 FLOODING

According to the Groundsure Report, the following flood risks were identified for Site 1:

- The site is not at risk from coastal or river flooding;
- The site is not at risk from surface water flooding; and
- The site is at low risk from groundwater flooding.

According to the Groundsure Report, the following flood risks were identified for Site 2:

- The site is not at risk from coastal or river flooding;
- The site is at risk from surface water flooding, with a 1 in 1000 year return period and 0.10m to 0.30m flood depth noted at the north western boundary; and
- The site is of low to moderate risk from groundwater flooding.

2.10 SENSITIVE SURROUNDING LAND USES

The Groundsure report indicates the following environmentally sensitive sites are present within 500m of Site 1:

- The site is located within a Nitrate Vulnerable Zone (Ditton Brook (Halewood to Mersey Estuary) NVZ).
- The site is located within a Site of Special Scientific Interest (SSSI) Impact Risk Zone. The proposed development does not appear to fall under the development types which require consultation (See Section 10.17 of the Groundsure Report, Appendix C).

The Groundsure report indicates the following environmentally sensitive sites are present within 500m of Site 2:

- An area of green belt land is located 420m east of the site.
- The site is located within a NVZ (Ditton Brook (Halewood to Mersey Estuary)).
- The site is located within a SSSI Impact Risk Zone. The proposed development does not appear to fall under the development types which require consultation (See Section 10.17 of the Groundsure Report, Appendix C).

2.11 SURROUNDING FEATURES

Site 1 was noted to be located within a mainly residential area with a supermarket and a shopping centre located 20m to the east of the site. The wider surrounding area comprises of a combination of residential, recreational, and commercial land uses, with a railway line being noted approximately 160m north of the site.

Site 2 was noted to be located within a mainly residential area, with agricultural land and a secondary school being noted 25m to the east of the site. The wider surrounding area comprises of a combination of residential, recreational, and commercial land uses.

2.12 ENVIRONMENTAL SENSITIVITY

Overall, the site setting of Site 1 is considered to be of **low to moderate** sensitivity, due to the following:

- A secondary undifferentiated superficial aquifer located beneath the site;
- The presence of potentially artificial mounds.
- The low vulnerability superficial aquifer;
- The presence of a principal bedrock aquifer;
- The absence of surface water abstractions within a 1km radius of the site;
- The absence of groundwater abstractions within a 1km radius of the site;
- The presence of the small pond on site and the unnamed stream 445m northwest of the site;
- The general absence of environmentally sensitive sites within 250m of the sites; and,
- The generally residential land uses within the surrounding area.

Overall, the site setting of Site 2 is considered to be of **low to moderate** sensitivity, due to the following:

- A secondary undifferentiated superficial aquifer beneath the site;
- The presence of potentially artificial mounds.
- The low vulnerability superficial aquifer;
- The presence of a Secondary A Aquifer bedrock aquifer;
- The absence of surface water abstractions within a 1km radius of the site;
- The presence of groundwater abstractions within a 1km radius of the site;
- The distance to the nearest surface water receptor (unnamed stream located approximately 130m east).
- The general absence of environmentally sensitive sites within 250m of the sites; and,
- The generally residential land uses within the surrounding area.

3 SITE AND SURROUNDING AREA HISTORY

A review of historical Ordnance Survey (OS) maps has been undertaken to identify potential former sources of contamination and sensitive receptors. The historical OS maps reviewed are provided within the Groundsure report in **Appendix C** and pertinent findings are summarised below.

3.1 SITE 1

ON SITE

Earliest available mapping (1849) shows the site to be agricultural/undeveloped land partially bisected by boundary fences and a footpath. By 1891 the fence boundaries were gone with the site being one field and an assumed residential property was present in the southwest corner. By 1966, the residential property had been largely removed and completely removed by 1971. A school and associated electricity substation had been built in the southeast of the site by 1971 with the remaining site being open space (assumed parkland). The school was demolished between 2010 and 2023 when the current site layout was formed.

OFF SITE

Earliest available mapping (1849) indicates the surrounding area comprised mainly agricultural land with various residential properties and woodland located in the vicinity. By 1891 a railway had been constructed 159m north of the site which is still present to this day.

By 1938, residential properties had been constructed to the south and southwest of the site and by 1967, further residential properties had been constructed to the north, with multiple schools, a nursery and playfields noted within the wider area.

By 1971 the general layout of residential and commercial properties seen today is present within the surrounding area. By 1988, Halewood Station is marked approx. 242m north of the site. Only minor alterations or changes to the wider area have occurred since.

3.2 SITE 2

ON SITE

Earliest available mapping (1849) shows the site to be agricultural/undeveloped land with small ponds in the north, south and east of the site. By 1891 the southern and eastern ponds are assumed to have been infilled. There were no changes until 1974 when the northern pond was infilled and a small structure built in the west of the site. Prior to 2001, a previous leisure centre was constructed in the west of the site and was replaced by the current one in the east of the site by 2010. The current site layout has existed since 2010.

OFF SITE

Earliest available mapping (1849) indicates the surrounding area comprised mainly agricultural land with various residential properties and woodland located in the vicinity. A railway is shown approximately 500m south of the site.

By 1891 a railway had been constructed 372m north of the site which is still present to this day.



By 1954, residential properties had been constructed to the south and southwest of the site and by 1967, residential properties have been constructed to the north and south of the site, with multiple schools and playing fields noted in the wider area by 1977.

By 1971 the general layout of residential and commercial properties seen today is present within the surrounding area with only minor alterations or changes occurring since.

4 REGULATORY INFORMATION

4.1 GROUNDSURE REGULATORY INFORMATION SUMMARY

Table 4-1 – Regulatory Information Summary – Site 1

Groundsure Feature	On-site	0-50m	50-250m	250-500m	Details
Historical Industrial Land Uses	0	0	26	21	The closest feature is railway sidings located 139m northwest of the site. Other features included railway buildings, land and stations, unspecified tanks, cuttings and unspecified tips.
Historical Tanks	0	0	4	3	The closest were unspecified tanks 83m west of the site.
Historical Energy Features	2	4	14	26	The closest energy features were two electricity substations located within the southeast of the site.
Historical Garages	0	0	0	1	The only historical garage is 224m southwest.
Historical Waste Sites	0	0	0	0	No historical waste sites with 500m.
Historical Landfill Sites	0	0	0	0	No historical landfill sites with 500m.
Active Landfill Sites	0	0	0	0	No active landfill sites with 500m.
Recent Industrial Land Uses	1	3	11	3	The majority of recent industrial land uses are electrical substations. Others include a mast, vehicle cleaning services and a disability vehicle shop.
Current or Recent Petrol Stations	0	0	0	1	The only current or recent petrol station is 268m southwest of the site.
Regulated Explosive Sites	0	0	0	0	No Regulated Explosive Sites within 500m.

Groundsure Feature	On-site	0-50m	50-250m	250-500m	Details
Control of Major Accident Hazard (COMAH) Sites	0	0	0	0	No Control of Major Accident Hazard (COMAH) Sites within 500m of the sites.
Part A(1), IPPC and Historic IPC Authorisations	0	0	0	0	No Part A(1), IPPC and Historic IPC Authorisations within 500m of the sites.
Part B Authorisations	0	0	0	1	The closest is 255m southwest of Site 1 for unloading of petrol into storage at service stations.
Pollution inventory substances	0	0	0	0	No Pollution inventory substances within 500m of the sites.
Pollution Incidents	0	0	2	0	The nearest pollution incident is 133m northwest relating to sewage materials and dated 01 November 2001.

Table 4-2 – Regulatory Information Summary – Site 2

Groundsure Feature	On-site	0-50m	50-250m	250-500m	Details
Historical Industrial Land Uses	0	1	0	7	The closest historical feature was a pump 33m north of the site. Other features included railway buildings, land and stations, a Police Station and unspecified pit
Historical Tanks	0	1	0	2	The closest were unspecified tanks 35m west of the site.
Historical Energy Features	0	4	12	16	The closest feature is an electrical substation 7m east of the site.
Historical Garages	0	0	0	0	No historical garages within 500m of the site.
Historical Waste Sites	0	0	0	0	No historical waste sites with 500m.

Groundsure Feature	On-site	0-50m	50-250m	250-500m	Details
Historical Landfill Sites	0	0	0	0	No historical landfill sites with 500m.
Active Landfill Sites	0	0	0	0	No active landfill sites with 500m.
Recent Industrial Land Uses	0	2	6	7	The majority of recent industrial land uses are electrical substations. Others include a mast, vehicle cleaning services and a disability vehicle shop.
Current or Recent Petrol Stations	0	0	0	0	No current petrol stations within 500m of the site.
Regulated Explosive Sites	0	0	0	0	No Regulated Explosive Sites within 500m.
Control of Major Accident Hazard (COMAH) Sites	0	0	0	0	No Control of Major Accident Hazard (COMAH) Sites within 500m of the sites.
Part A(1), IPPC and Historic IPC Authorisations	0	0	0	0	No Part A(1), IPPC and Historic IPC Authorisations within 500m of the sites.
Part B Authorisations	0	0	0	0	No Part B Authorisations within 500m of the site.
Pollution inventory substances	0	0	0	0	No Pollution inventory substances within 500m of the sites.
Pollution Incidents	0	0	1	0	The nearest pollution incident is approximately 200m southwest relating to sewage materials and dated 25 February 2002.

4.2 REGULATORY CONSULTATION

The Contaminated Land Officer (CLO) at KMBC was contacted on 7th August 2023 to obtain further environmentally pertinent information for both Site 1 and Site 2. A response is yet to be received. Should any relevant information be received, this information will be forwarded to the client under separate cover.

4.3 RADON GAS

Based on the UK Radon interactive map (<https://www.ukradon.org/information/ukmaps>) both Site 1 and Site 2 lie within a Low Probability Radon Area, where less than 1% of homes are above action level. This is also supported by the data provided within the Groundsure reporting and therefore no radon protection measures are required on either Site 1 or Site 2.

4.4 UNEXPLODED ORDNANCE

The interactive Zetica map (<https://zeticauxo.com>) indicates that both Site and Site 2 are located in an area of low risk in regard to unexploded ordnance. The risk map can be found in **Appendix C**.

5 PRELIMINARY CONCEPTUAL MODEL

5.1 INTRODUCTION

This section of the report presents the characteristics of the sites and provides a systematic indication of the risks to enable uncertainties and further assessment needs or other actions to be identified. It draws on the information presented in earlier sections of the report to identify plausible contaminant-pathway-receptor contaminant linkages. Details regarding the legislative framework for this assessment are presented within **Appendix E**.

5.2 POTENTIAL SOURCES

Based on information reviewed as part of this desk study and findings of the site inspection, the following potential sources of contamination have been identified:

Site 1

On-site

- Potential localised Made Ground associated with current and previous onsite development including a residential property, a school, a park, potentially artificial mounds and football fields;
- An electrical substation located within the southeastern boundary of the site.

Off-site

- Potential Made Ground deposits associated with the construction/demolition/redevelopment of the wider area including residential/commercial properties, unspecified tanks and railway lines;
- Potential offsite sources of contamination associated with nearby commercial land use (various electricity substations and railway lines).

Based on the above potential sources, the following contaminants may be present within the site:

- Heavy metals, hydrocarbons (TPH), poly-aromatic hydrocarbons (PAHs), phenols, Polychlorinated Biphenyls (PCBs) and asbestos;
- Ground gases associated with localised potential Made Ground deposits.

Site 2

On-site

- Potential localised Made Ground associated with the current and previous onsite development including an infilled ponds, the small structure to the west of the site, potentially artificial mounds, the previous and current leisure centres, and associated infrastructure;
- Potential deeper coal workings located beneath the site.

Based on the above potential sources, the following contaminants may be present within the site:

- Heavy metals, TPH, PAHs, PCBs and asbestos; and
- Ground gases associated with localised potential Made Ground deposits and possible deeper mine workings.

Off-site

- Potential Made Ground deposits associated with the construction/demolition/redevelopment of the wider area including residential/commercial properties and unspecified tanks;

- Potential offsite sources of contamination associated with nearby commercial land use (unspecified tank located 35m west and various electricity substations).

Based on the above potential sources, the following contaminants may be present within the sites:

- Heavy metals, TPH, PAHs, phenols PCBs and asbestos; and
- Ground gases associated with limited potential Made Ground deposits.

5.3 POTENTIAL RECEPTORS

Site 1

In the context of a continued public open space use, the following potential receptors were identified:

Controlled Waters

- The small on site pond
- Groundwater in the underlying (bedrock) aquifer.

Human Health

- Current and future site occupiers/visitors;
- Third Party neighbours;
- Below ground maintenance workers.

Property

- Foundations and future below ground structures;
- Drinking water supply pipes.

Other

- Any sensitive flora and fauna on site.

It should be noted that the pond on site was discounted as a potential receptor as it was assumed this feature was man made and would therefore not be in hydraulic connectivity with the underlying groundwater. Similarly, the surface water feature identified to the northwest was discounted given the distance (445m northwest).

Site 2

In the context of a continued commercial and public open space use, the following potential receptors were identified:

Controlled Waters

- Nearby unnamed stream 130m northeast of the site; and
- Groundwater in the underlying (bedrock) aquifer.

Human Health

- Current and future site occupiers/visitors;
- Third Party neighbours and,
- Below ground maintenance workers.

Property

- Foundations and future below ground structures; and,

- Drinking water supply pipes.

Other

- Any sensitive flora and fauna on site.

5.4 POTENTIAL CONTAMINANT PATHWAYS

Relevant potential pathways are considered to include:

- Direct contact, ingestion or inhalation of soil bound contaminants / dust (including permeation of water supply pipes);
- Inhalation of vapours associated with soil / groundwater contamination;
- Migration of vapours through unsaturated zone;
- Migration of leachable/mobile contamination laterally and vertically; and,
- Ground gas migration, inhalation and accumulation.

5.5 PLAUSIBLE CONTAMINANT LINKAGES

Tables 5-1 and 5-2 provides an evaluation of those potential contaminant linkages considered to be plausible given our current site understanding of both Site 1 and Site 2.

Table 5-1 – Plausible Contaminant Linkages – Site 1

Potential Contaminant	Receptor	Plausibility of Pathway
Contaminants within Made Ground associated with current and previous onsite development (including a residential property, a school, a park, football fields, potentially artificial mounds and existing electricity substation). Contaminants include inorganic and organic contaminants, ground gases, and asbestos	Groundwater within the bedrock aquifer.	Made Ground deposits, if present, may contain contaminants which could migrate to the underlying bedrock aquifer. Due to the cohesive nature of the superficial deposits, this is likely to limit any impact on the bedrock aquifer.
	Surface water receptors (small pond) located on site.	Given the size and volume of the on-site presence of a surface water feature the risk to surface waters is considered low.
	Current and Future site users	Although unlikely, site users may be exposed to potential contaminants via direct dermal contact, ingestion and inhalation in areas of landscaping or hazardous ground gases (if present). Existing/proposed hardstanding or building cover would reduce any potential migration pathways identified on site.
	Third party neighbours	If contamination is present within Made Ground deposits and groundwater, it may migrate off site and affect third party neighbours. Hazardous ground gases, if present, from potential Made Ground, may migrate off site and affect third party neighbours
	Ground workers	Direct dermal contact, ingestion, inhalation and general exposure to potential contaminants and ground gas may affect groundworkers.
	Building and site foundations, underground water pipes	Aggressive ground conditions within potential Made Ground may affect any current building foundations and underground pipes.

Potential Contaminant	Receptor	Plausibility of Pathway
Contaminants within Made Ground and various potential off-site sources (including unknown tanks and electricity substations, railway land and residential/commercial developments). Contaminants include inorganic and organic contaminants, ground gases, and asbestos	Current and Future site occupiers and Ground workers	There is limited potential for contaminated soil/groundwater from the off-site sources identified to migrate onto the site.

Table 5-2 – Plausible Contaminant Linkages - Site 2

Potential Contaminant	Receptor	Plausibility of Pathway
Contaminants within Made Ground associated with localised historical developments (including infilled ponds, the small structure to the west of the site, potentially artificial mounds the previous and current leisure centres and associated infrastructure). Contaminants include inorganic and organic contaminants, ground/mine gases, and asbestos	Groundwater within the bedrock aquifer.	Made Ground deposits, if present, may contain contaminants which could migrate to the underlying bedrock aquifer. Due to the cohesive nature of the superficial deposits, this is likely to limit any impact on the bedrock aquifer.
	Surface water receptors (unnamed stream) located approximately 130 m east of the site.	Given the distance to the nearest surface water feature the risk to surface waters is considered low.
	Current and Future site users	Although unlikely, site users may be exposed to potential contaminants via direct dermal contact, ingestion and inhalation in areas of landscaping or hazardous ground gases (if present). The presence of hardstanding or proposed building cover would reduce any potential migration pathways identified on site.
	Third party neighbours	If contamination is present within Made Ground deposits and groundwater, it may migrate off site and affect third party neighbours.

Potential Contaminant	Receptor	Plausibility of Pathway
		Hazardous ground gases from potential Made Ground, along with potential mine gas if present, may migrate off site and affect third party neighbours.
	Ground workers	Direct dermal contact, ingestion, inhalation and general exposure to potential contaminants and ground gas may affect groundworkers.
	Building and site foundations, underground water pipes	Aggressive ground conditions within potential Made Ground may affect any current building foundations and underground pipes.
Contaminants within Made Ground and various potential off-site sources (including unknown tanks and electricity substations, residential and commercial properties). Contaminants include inorganic and organic contaminants, ground gases, and asbestos	Current and Future site occupiers and Ground workers	There is limited potential for contaminated soil/groundwater from the off-site sources identified to migrate onto the site.

5.6 PRELIMINARY CONTAMINANT LINKAGE ASSESSMENT

Based on consideration of the site conditions, the environmental setting of the sites and the level of information currently available for the sites then potential plausible contaminant linkages have been identified. These are based on future site conditions in the context of the sites continued commercial/public open space end use.

The terms describing Probability and Consequence are referenced from the CIRIA 552 document. Table D.3 and D.4 from CIRIA 552 are provided for reference in Appendix F.

5.7 PRELIMINARY RISK CLASSIFICATION FOR SITE 1

Based on the contaminant linkage assessment completed for the site in consideration of its continued recreational use, along with proposed commercial units, the following risk classifications have been determined:

- With respect to Human Health, the risks have been assessed as **Low to Moderate**;
- With respect to surface waters, the risks from the site have been assessed as **Low**;
- With respect to the underlying bedrock aquifer, the risks from the site have been assessed as **Low to Moderate**; and,
- With respect to Buildings and Services, the site is classified as **Low to Moderate**;

PRELIMINARY RISK CLASSIFICATION FOR SITE 2

Based on the contaminant linkage assessment completed for the site in consideration of its proposed redevelopment for commercial/industrial use, the following risk classifications have been determined:

- With respect to Human Health, the risks have been assessed as **Low to Moderate**;
- With respect to surface waters, the risks from the site have been assessed as **Low**;
- With respect to the underlying bedrock aquifer, the risks from the site have been assessed as **Low to Moderate**; and,
- With respect to Buildings and Services, the site is classified as **Low to Moderate**;

6 CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of our site walkover and subsequent desk-based assessment, WSP makes the following conclusions and recommendations in the context of continued commercial/public open space use of the sites.

6.1 ENVIRONMENTAL RISKS AND CONSTRAINTS FOR SITE 1

The principal potential contamination sources associated with the sites are considered to be the following:

- Potential Made Ground associated with the localised developments (a residential property, a school, a park, football fields and potentially artificial mounds) ;
- Electricity substation on site.

6.2 ENVIRONMENTAL RISKS AND CONSTRAINTS FOR SITE 2

The principal potential contamination sources associated with the sites are considered to be the following:

- Potential Made Ground associated with the localised developments (the small structure to the west of the site, potentially artificial mounds, the previous and current leisure centres and associated infrastructure) and infilled land
- Ground gas associated with mine workings.

6.3 CONCLUSIONS

The potential for legacy ground contamination in shallow soils cannot be completely discounted from previous land uses listed above, particularly in relation to the unknown nature of any Made Ground as part of the localised site developments. Therefore, in advance of any redevelopment within the sites, consideration should be given to intrusive investigation works and associated soil and groundwater testing, targeted to the potential sources of contamination identified.

Risks to controlled waters are considered low at both sites in consideration of the distance to the nearest surface water receptors, the distance to the registered bedrock groundwater abstraction point and the sites being within a Source Protection Zone 3.

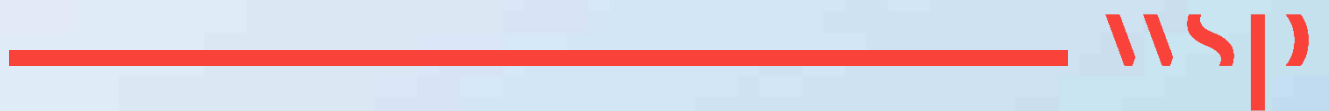
Based on the information contained within this report and with due regard to proposed localised commercial development of the site, it is the opinion of WSP that the site represents an overall **low to moderate** risk with respect to contaminated land.

6.4 RECOMMENDATIONS

Whilst the sites represent an overall low to moderate risk given the proposed uses, it is likely that intrusive investigations will be required to confirm the findings of this assessment as part of the planning process. The investigations should include the consideration of soils, groundwater and ground gases to provide an assessment on current site conditions and any risks to the proposed developments.

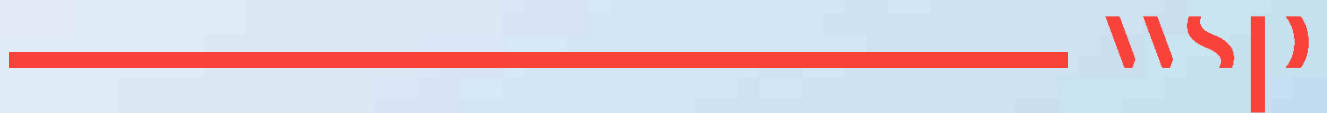
Appendix A

FIGURES



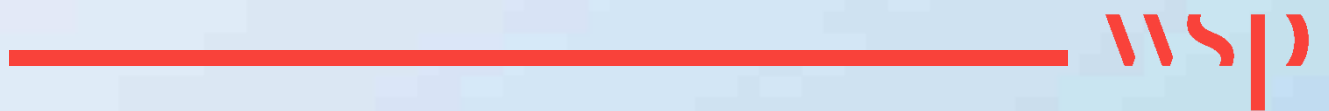
Appendix B

SITE WALKOVER PHOTOGRAPHS



Appendix C

ADDITIONAL INFORMATION



Appendix C.1

BGS BOREHOLES



Appendix C.2

GROUNDSURE REPORT



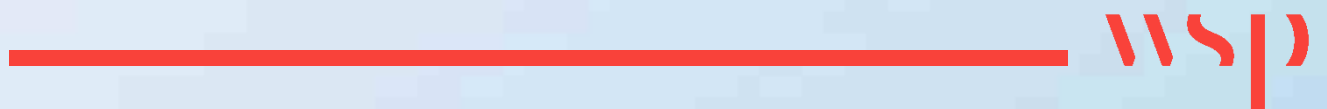
Appendix C.3

ZETICA REPORT



Appendix D

LEGISLATIVE BACKGROUND



THE REGULATORY FRAMEWORK FOR OUR ASSESSMENT

Our assessment is made within the framework of the Contaminated Land Regime defined by Part 2A of the Environmental Protection Act and the Contaminated Land Statutory Guidance 2012. We have considered the contaminated land guidance documents issued by the Department for Environment, Food and Rural Affairs (DEFRA) including Model Procedures for the Management of Land Contamination (CLR11) (Environment Agency 2004a).

Our method is to create a clear conceptual model of the potential Pollutant Linkages present on site, consider the Sources (potential contaminants on site) which may cause harm, via Pathways, to Receptors such as human health (e.g. that of site users), the water environment (groundwater, surface water) and the built environment (buildings, services). Contaminated Land has a precise definition, and does not include all land which contains contaminants, but only land where there is a Pollutant Linkage causing (or giving rise to a significant risk of) a degree of harm.

Our approach to the assessment of risks to Human Health is consistent with that established in CLR11. This establishes a tiered approach including:

Preliminary Risk Assessment (e.g. the establishment of potential pollutant linkages) – normally through desk based work;

Generic Quantitative Risk Assessment (GQRA) (e.g. the comparison of contaminant concentrations against Soil Guideline Values (SGV) or other Generic Assessment Criteria (GAC)); and,

Detailed Quantitative Risk Assessment (DQRA) (e.g. the comparison of contaminant concentrations against site specific assessment criteria).

Our approach to Generic Quantitative Risk Assessment (GQRA) is described in outline in the following section.

In addition to the Contaminated Land Regime, where appropriate, we have considered

The Environmental Damage Regulations (2009). These implement the European Environmental Liability Directive and provide that; for certain activities, where there is an imminent risk of environmental damage, steps must be taken to prevent such damage, and if environmental damage has already occurred, the operator of the activity must prevent further damage.

Common Law Liability. This remains an important aspect of contaminated land law, particularly for third parties harmed by, or suffering loss as a result of, contaminated land. Through Nuisance a person may be liable if he owns or occupies land and behaves in a way so as to cause foreseeable injury, loss or damage by creating a nuisance, for example by allowing contamination to migrate off-site either over a period of time or as a one-off event. By Negligence, where the owner of contaminated land owes a duty of care (to a claimant) which was breached. In Trespass where the contamination on a defendant's land has directly interfered with the property of a claimant.

OUR APPROACH TO GQRA

Once we have an initial understanding of the site and the potential pollutant linkages in place we plan our investigation, soil sampling regime and analytical suites. Our plan is informed by documentation such as:

- The available desk study/preliminary risk assessment reports available for the site;
- CLR 8 'Priority Contaminants for the Assessment of Land' (Environment Agency 2002a); and,
- The Department of the Environment's Industry Profiles (DoE 1995-95).

In order to undertake a GQRA, contaminant concentrations need to be compared to appropriate generic assessment criteria. Current UK industry practice is to use, as first preference, UK Soil Guideline Values (SGV)s which are generic assessment criteria published by the Environment Agency and derived using the Contaminated Land Exposure Assessment model (CLEA).

The CLEA model provides an approach for the assessment of chronic risks to human health from concentrations of a substance within soil; where appropriate. However, the SGVs published to date are limited to only a small number of contaminants. Consequently, where published SGV do not exist, other GAC can be used including:

- GAC prepared in accordance with the CLEA V1.06 model by authoritative bodies (e.g. Chartered Institute of Environmental Health (CIEH), Environment Industries Commission (EIC)); or in their absence,
- WSP in-house GAC prepared in accordance with the CLEA V1.06 model and associated documents.

The approach adopted by WSP has been to generate GAC for chronic risks to human health using CLEA V1.06. In generating GAC, input parameters consistent with Environment Agency publications have been adopted by WSP. In generating GAC, the default CLEA assumptions have been applied to a range of likely human health exposure models and associated critical age receptor groups including:

- Residential with Plant Uptake;
- Residential without Plant Uptake;
- Allotments;
- Parks;
- Open Spaces; and
- Commercial/Industrial.

CYANIDES

The primary risk to human receptors from free cyanide in soils is an acute risk (i.e. a single dose could have a lethal affect as opposed to adverse effects from cumulative intake (chronic affect)). There is no current UK guidance available for calculating acute risks from free cyanide; therefore, an in-house methodology has been used to derive an acute GAC of 60 mg/kg for all exposure scenarios.

Volatile Hydrocarbons from Groundwater and Impacts to Human Health.

The CLEA model does not explicitly consider the potential for chronic impact to Human Health from indoor inhalation of concentrations of volatile vapours from dissolved phase contamination. The potential exists for this to be an important exposure route for a limited number of highly volatile contaminants. GAC have been calculated for volatile contaminants for volatilisation from groundwater using an in-house implementation of the Johnson and Ettinger model (WSP In-house Groundwater Model V1.1) which has been adapted to account for a dissolved phase source through consideration of (a) partitioning from groundwater to soil vapour, and (b) transport through the capillary zone.

GENERIC QUANTITATIVE RISK ASSESSMENT - CONTROLLED WATERS / WATER ENVIRONMENT

Our approach to the assessment of plausible pollutant linkages with respect to the pollution of Controlled Waters / Water Environment is consistent with UK guidance. The guidance identifies that for the pollution of the water environment to occur; poisonous, noxious, polluting or solid waste matter must be entering such waters or must be considered more likely than not to enter the water environment in the future. The assessment of whether the pollution of the water environment is likely to occur in the future requires consideration of those contaminants at source, which are present in a mobile form, at such a concentration that they will reach a receptor at concentrations considered to be poisonous, noxious, polluting or solid waste matter.

Our adopted approach for GQRA assessment therefore typically comprises the following:

- Consideration of soil concentrations of organic substances in the context of soil saturation to assess the potential for migration under gravity;
- Comparison of soil leachate/pore water concentrations against appropriate GAC; and
- Comparison of groundwater concentrations against appropriate GAC.

This approach is equivalent to Tier 1 / Level 1 Assessment as undertaken using ConSim (2009) / Environment Agency Remedial Targets Methodology V3.1 (2006).

Effectively, for the majority of sites, contaminant concentrations are compared to both drinking water standards and environmental quality standards to identify the need for further consideration/DQRA.

FURTHER WORK

Where a GAC is exceeded further work and/or remediation is normally required. For moderate exceedances further work may include progression to a Detailed Quantitative Risk Assessment (DQRA) which is likely to require further data collection. The outcome of the DQRA may be that the risk is not significant or, if the risk is identified as being significant, the generation of site-specific remedial targets.

Where significant exceedances of GAC are identified or there is evidence of potential acute risks remedial measures may be immediately required.

GROUND GAS

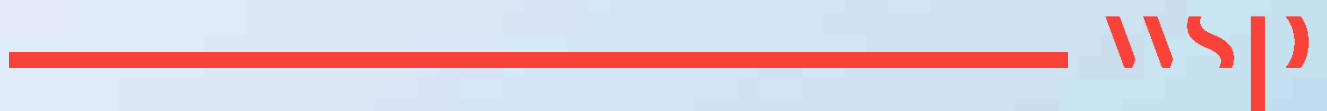
Gas results have been assessed with regard to Assessing Risks Posed by Hazardous Gases to Buildings, CIRIA Report C665, 2007 (CIRIA C665) and, where a residential end use is being considered, Guidance on Evaluation of Development Proposals on Sites where Methane and Carbon Dioxide are Present, Edition 4, NHBC, 2007 (NHBC 2007).

The method in CIRIA C665 uses both gas concentrations and borehole flow rates to define a characteristic situation for a site based on the gas screening value for methane and carbon dioxide. Gas screening value = borehole flow rate (litres of gas per hour) x gas concentration (%). The calculation is carried out for both methane and carbon dioxide and the worse-case value adopted.

If necessary, more detailed information on our approach to risk assessment can be provided if required.

Appendix E

CIRIA RISK DEFINITIONS



CIRIA RISK DEFINITIONS

Table E-1 – Classifications of Probability

Classification	Definition
High likelihood	There is a pollution linkage and an event that either appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution
Likely	There is a pollution linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.
Low likelihood	There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place, and is less likely in the shorter term.
Unlikely	There is a pollution linkage but circumstances are such that it is improbable that an event would occur even in the very long term

Table E-2 – Classification of Consequence

Classification	Definition
Severe	Short-term (acute) risk to human health likely to result in "significant harm" as defined by the Environment Protection Act 1990, Part IIA. Short-term risk of pollution of sensitive water resource. Catastrophic damage to buildings/property. A short-term risk to a particular ecosystem, or organism forming part of such ecosystem.
Medium	Chronic damage to Human Health ("significant harm" as defined in DETR, 2000). Pollution of sensitive water resources. A significant change in a particular ecosystem, or organism forming part of such ecosystem.
Mild	Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services (significant harm as defined in the Draft Circular on Contaminated Land, DETR, 2000). Damage to sensitive buildings/structures/services or the environment.
Minor	Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve, Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc.). Easily repairable effects of damage to buildings, structures and services.

The risk categories presented in this reporting, taking into account both probability and severity, are based on the matrix presented in Table A3 below, following CIRIA C552.

Table E-3 – Adopted Risk Categories / Comparison of Consequence against Probability

Probability	Consequence			
	Severe	Medium	Mild	Minor
High Likelihood	Very High Risk	High Risk	Moderate Risk	Low to Moderate Risk
Likely	High Risk	Moderate Risk	Low to Moderate Risk	Low Risk
Low Likelihood	Moderate Risk	Low to Moderate Risk	Low Risk	Very Low Risk
Unlikely	Low to Moderate Risk	Low Risk	Very Low Risk	Very Low Risk

Table E-4 – Contaminant Linkage under consideration

CPL	Source	Pathway	Receptor ¹	Comments
Human Health (on-site)				
H1	Contaminants in near surface materials	Dermal contact, ingestion, inhalation of dust	Current and future site users; construction personnel	
H2	Contaminants in deeper materials	Dermal contact, ingestion, inhalation of dust during groundwork's	Construction personnel	Usually managed by use of personal protective equipment (PPE) except in incidents of extreme contamination where further measures are needed

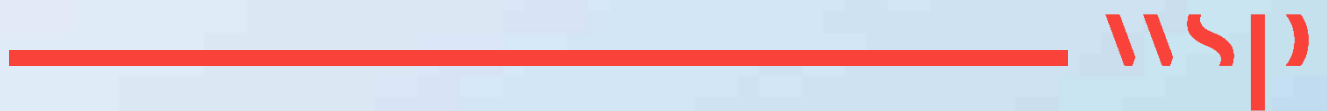
¹ 'Receptors' are defined in BS10175 as "persons, living organisms, ecological systems, controlled waters, atmosphere, structures and utilities that could be adversely affected by the contaminant(s)". Controlled waters equate to water environment receptors in Scotland. The Contaminated Land (Scotland) Regulations 2005 which extend to Scotland only, amends Part IIA of the Environmental Protection Act 1990 (c.43) ("the 1990 Act") and the Contaminated Land (Scotland) Regulations 2000 (S.S.I. 2000/178) ("the 2000 Regulations") in light of the Water Environment and Water Services (Scotland) Act 2003 (asp 3) ("the 2003 Act").

CPL	Source	Pathway	Receptor1	Comments
H3	Contaminants in near surface materials	Root uptake in site-grown produce followed by ingestion	Consumers of produce	Requires residential, allotment or agricultural use
H4	Volatile contaminants in ground or groundwater	Migration to indoor air	Current and future site users	Requires occupied, enclosed structures
H5	Ground Gas generation from made ground, organic material degradation, or coal measures	Migration to indoor air	Current and future site users	Requires occupied, enclosed structures
H6	Contaminants in groundwater	Abstraction and ingestion	Current and future site users	Not a viable linkage in the absence of groundwater abstractions
H7	Contaminants in surface water	Dermal contact, ingestion, or abstraction and ingestion	Current and future site users, construction personnel	Usually not a viable linkage in the absence of surface water abstractions, however contact with surface waters may occur
H8	Radon Gas	Migration of radon gas from bedrock to indoor air and inhalation	Current and future site users	
H9	Radioactive materials in ground	Exposure through radiation	Current and future site users; construction personnel	
H10	Radon, Ground gas, and volatile materials	Outdoor air inhalation	Current and future site users; construction personnel	Generally, not a viable risk due to dilution with outdoor air, unless significant contamination / source is present. May need consideration for trenching works or confined space entry.
Water Environment (on-site and surrounding)				
W1	Contaminants in ground	Leaching to groundwater	Groundwater	

CPL	Source	Pathway	Receptor1	Comments
W2	Near-surface contaminants	Surface run-off	Surface Water	Viability of linkage is dependent on the distance to surface water receptors
W3	Contaminants in groundwater	Lateral migration	Surface Water	Viability of linkage is dependent on the distance to surface water receptors
W4	Contaminants in groundwater	Lateral and downward migration	Superficial aquifer	
W5	Contaminants in groundwater	Downward migration	Bedrock aquifer with Future Resource Potential	
Built Environment (on-site)				
B1	Phytotoxic contaminants in shallow ground	Root uptake	Plant life	
B2	pH and sulphate in shallow ground and/or groundwater in contact with concrete structures	Attack on concrete by direct contact	Buried concrete	
B3	Contaminants in shallow ground	Permeation of water pipes	Pipe material and water ingestion	
Off-Site Human Health / Built Environment Receptors				
O1	Ground Gas / volatile contaminants vapour generation on-site	Migration to indoor air on off-site properties	Adjacent site users	Requires occupied, enclosed structures within influencing distance of site
O2	Groundwater with volatile contamination	Migration off-site and subsequent volatilisation to indoor air	Adjacent site users	Requires occupied, enclosed structures within influencing distance of site
O3	Contaminated groundwater	Migration off-site and contact with services	Services and structures in adjacent site	Requires built environment structures within influencing distance of site

Appendix F

GENERAL LIMITATIONS



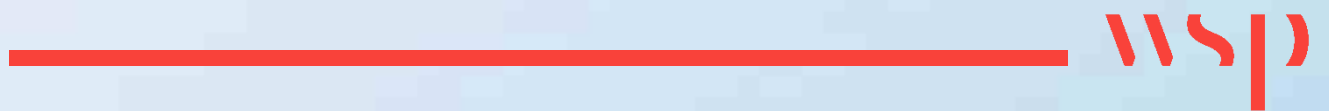


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Glasgow
G1 3BX

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Appendix A

FIGURES





DO NOT SCALE

Information Classification:

INTERNAL

Information that is only intended for internal distribution among WSP employees, independent consultants, contractors, sub-contractors, clients and authorised third parties.

Legend :



Site Boundary

Title : Figure 1

Author : ArcGIS Web AppBuilder

Scale : 1:150,000

Layout : WSP A4 Landscape

Current Time : 01/09/2023 11:21



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Information Classification:

INTERNAL

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Legend :

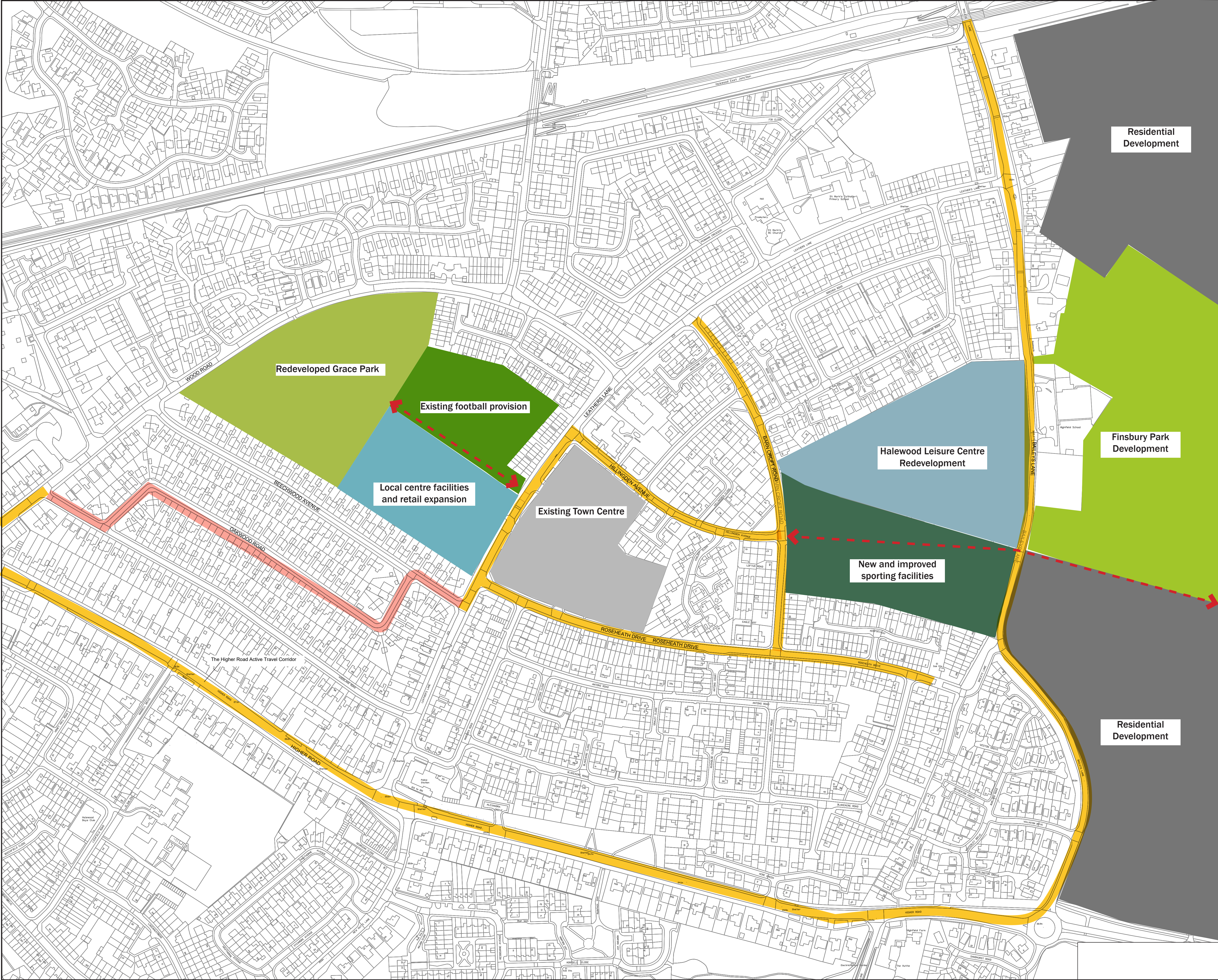


Site Boundary

Title : Figure 2
Author : ArcGIS Web AppBuilder
Scale : 1:10,000
Layout : WSP A4 Landscape
Current Time : 01/09/2023 11:20



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DO NOT SCALE

- Key**
- Carriageway/cycleway/footpath Improvements
 - Cycle Infrastructure Improvements
 - Key Pedestrian/Cyclist Links

P01	11/07/22	KK	Initial Issue	MF	MP
REV	DATE	BY	DESCRIPTION	CHK	APP

DRAWING STATUS: S0 - WORK IN PROGRESS

CLIENT: KMBC

ARCHITECT:

SITE/PROJECT: Halewood LUF

TITLE: Landscape Overview Plan

SCALE @ A1: 1:1500	CHECKED:	APPROVED:
PROJECT NO: 70098415	DESIGNED: KK	DATE: July 22

DRAWING No: 70098415_WSP_XX_00_DR_LA_003	REV: P01
--	----------

© WSP UK Ltd

File name: I:\UK\WSP\GROUP\COMMON\DATA\PROJECTS\70098415_AMB\3\NO LIFE SITES\VISIONING\FAG000\WPA LANDSCAPE ARCHITECTURE\CAD\BIM MODEL\HALEWOOD WIP 290822.DWG, printed on 11 July 2022 17:26:53, by Kamada, Kagan

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DO NOT SCALE

KEY

AMENITY GRASS

SCREENING VEGETATION

WILDFLOWER MEADOW

EXISTING TREES

PROPOSED TREES

EXISTING TOWN CENTRE BUILDINGS

PROPOSED FOOTPATH IMPROVEMENTS

PROPOSED CAR PARK

PROPOSED PARK FOOTPATH

ENTRANCE FEATURE PAVING

PROPOSED RAILING

PROPOSED PLAY AREA

PROPOSED CARRIAGEWAY IMPROVEMENTS

PROPOSED SIGNAGE IMPROVEMENTS

Note: See Active Route Plan
70098416_WSP_XX_00_DR_LA_002

P01	13/07/22	KK	ISSUE FOR INFORMATION	MF	MP
REV	DATE	BY	DESCRIPTION	CHK	APP

DRAWING STATUS: S0 - WORK IN PROGRESS

wsp

No 8 First Street, Manchester, M15 4RP, UK
T+ 44 (0) 161 200 5000
wsp.com

CLIENT: KMBC

ARCHITECT:

SITE/PROJECT: Halewood LUF

TITLE: Landscape Overview Plan

SCALE @ A1: 1:1500	CHECKED:	APPROVED:
PROJECT NO: 70098415	DESIGNED: KK	DRAWN: KK
DRAWING NO: 70098415_WSP_XX_00_DR_LA_003		REV: P01

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01000

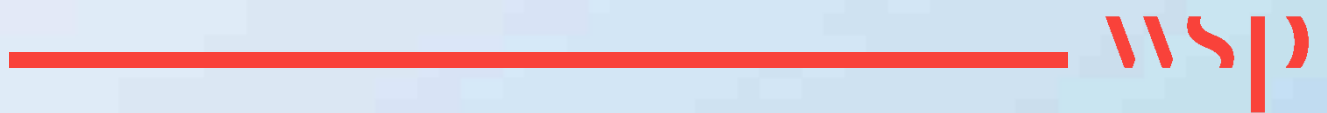
SCALE(m) 1:2000

N

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Appendix B

SITE WALKOVER PHOTOGRAPHS





Key:

	Green palisade fencing boundary		Building		Mounded area
	Metal fencing boundary		Electrical substation building		Land slightly slopes
	Gated access (pedestrian / vehicle)		Pond		Direction of slope. (Top Bottom)



Photo 1: Looking northeast across the Halewood Leisure Centre carpark. Slight slope north towards the Leisure Centre.

wsp



Photo 2: Looking northwest across the Leisure Centre green space. Banking is seen towards the edge of the site with old Astroturf present in the right of the image.

wsp



Photo 3: Looking north across the Leisure centre open space towards the new Astroturf.

wsp



Photo 4: Looking towards the mound in the northwestern corner of the Leisure Centre open space.

wsp



Photo 5: Looking south along the eastern boundary of the Leisure Centre site.

wsp



Photo 6: Looking south across football field.

wsp



Photo 7: Looking northwest across football field from southern corner.

wsp



Photo 8: Looking northwest across the football field including containers used as clubhouse.

wsp



Photo 9: Looking northwest across Grace Park from the south.

wsp



Photo 10: Looking southwest across Grace Park from the north.

wsp



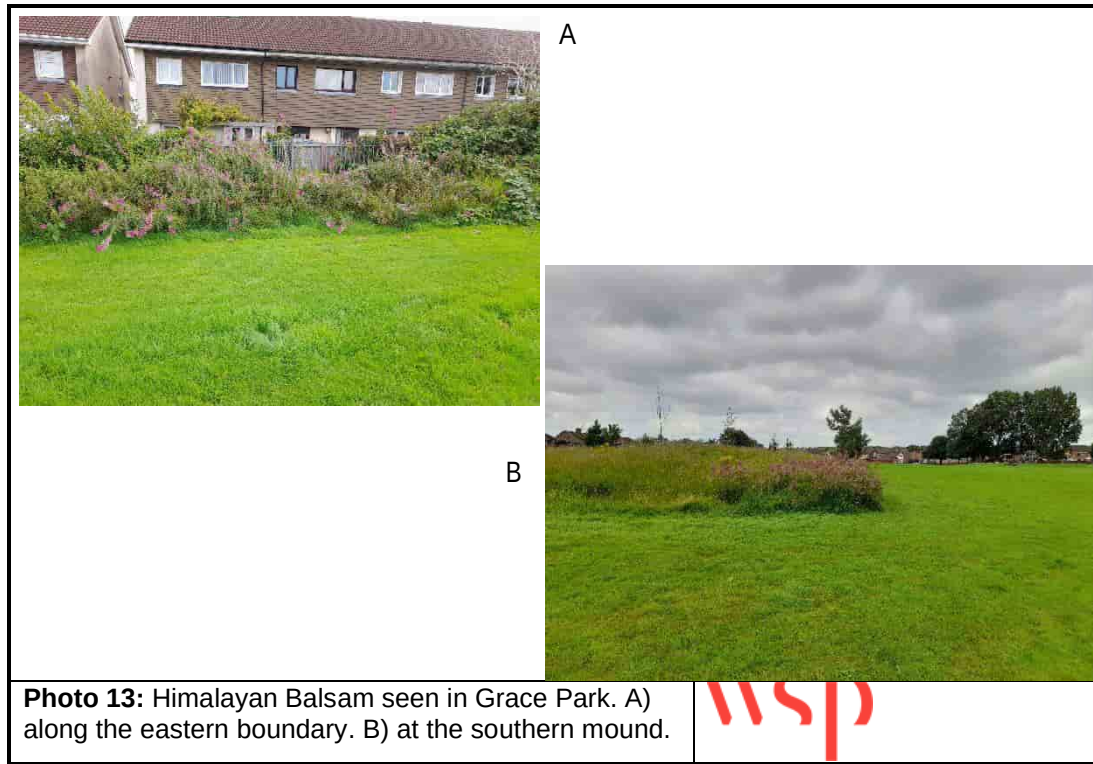
Photo 11: Looking southeast across Grace Park from the north.

wsp



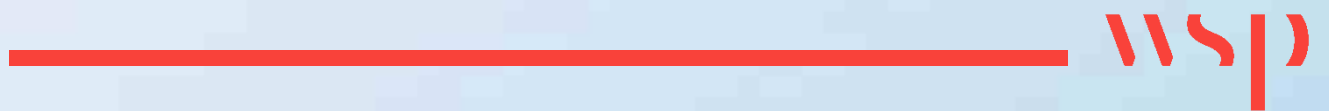
Photo 12: Pond in Grace Park. Located close to the southeastern boundary. Approximately 10m diameter

wsp



Appendix C

ADDITIONAL INFORMATION



Appendix C.1

BGS BOREHOLES





Name of site Everton F.C., Finch Farm						W R B No. SJ48/108 SJ48 NE/486		
Acc no 46622			NORTH WEST EN			Nat. grid ref. SJ 4589 8518		
Owner			Licence no. Appn no. 57575 Cancelled			Status Licd Abstr.		
Occupier			IGS ref. no.			Aquifer PT Sndn - Liverpool + Ormskirk		
Ground Level			m OD			Code 118.05		
Level of well top			m OD			Summary of geological section		
Rest water level 5.33			m bwt			Thickness		
(Date 2/10/06)			ft. OD			Depth		
Construction: Method			Date 06?			Borehole log in Borehole log File.		
Depth bwt	Dia.	Linings (below well top)						
		From	To	Dia.	Type			
53m	400mm	0	53m	300mm	Plain			
80m	300mm							
Abstraction rates						Type of pump		
gph PWL						Chem./bact. anal. YES/NO		
gph						Well driller J. P. White		

If insufficient space has been allowed, continue in 'Notes' overleaf.

Lockie 162

RECEIVED FROM
16 APR 2007
ENVIRON AGENCY



Received 22/1/08

J P WHITTER (WATER WELL ENGINEERS) LTD
The Potteries Garage, Smallbrook Lane, Leigh, Lancashire WN7 5PZ
Tel: 01942 871900 Fax: 01942 896843

SJ48/108

BOREHOLE LOG

SITE DETAILS

Borehole drilled for: Everton Football Club

Location: Finch Farm, Finch Lane, Halewood

NGR (8 fig): SJ 4589 8518

Ground level (if known):

Drilling company: J P WHITTER (WATER WELL ENGINEERS) LTD

Date of drilling:

CONSTRUCTION DETAILS

Borehole datum (if not ground level) (point from which all measurements of depth are taken, eg, flange, edge of chamber, etc)	GROUND LEVEL		m above/below GL			
Borehole drilled diameter:	400	mm from	0	to	53	m/depth
	300	mm from	53	to	80	m/depth
Casing material and type:						
Plain	300	mm from	0	to	53	m/depth

Grouting details: 300mm lining tubes grouted into place with OPC

Water struck at: 46 metres onwards m (depth below datum mbd)
Rest water level on completion: 5m

TEST PUMPING SUMMARY

(please supply full details on forms WR-39)

Test pumping datum m above/below datum (mbd)
(if different from borehole datum)

Pump suction: 50 mbd

Water level (start of test) 5.33 mbd

Water level (end of test) 27.76 mbd

Pumping rate: 45m³/hr : l/s for 168 hours

Recovery to: mbd in mins : hrs : days

Date of measurements:

REF: 16259



January 17, 2007

SJ48/108

STRATA

Strata Description	Depth	Thickness
STONE, DIRTY CLAY	0 - 2	2
BOULDER CLAY	2 - 28	26
BOULDER(S)	28 - 29	1
BOULDER CLAY AND SOFT CLAY	29 - 45	16
SAND AND GRAVEL	45 - 47	2
RED SANDSTONE	47 - 80	33

SJ48/108

FORM WR39/2						page 2 of 2	
		J.P WHITTER(WATER WELL ENGINEERS)LTD					
PUMPING TEST DATA							
CONSTANT RATE PUMPING TEST							
<u>Continuation sheet</u>							
CONSENT NO:							
PUMPING TEST AT:		Everton Football Club			DATUM POINT		Edge of Manhole
NGR							
OBSERVATIONS FROM:		New Borehole			HEIGHT ABOVE GROUND LEVEL (METRES):		
NGR					Ground level.		
DATE	TIME	ELAPSED TIME		DEPTH OF WATER BELOW	DRAWDOWN	METER READINGS	COMMENTS
		MINUTES	HOURS	DATUM (METRES)	(METRES)	(M3) OR DISCHARGE	
		DAY	(-3)			RATE (M3/HR)	
		DAY	(-2)				
		DAY	(-1)				
02/10/2006	5.00 pm		6	26.41			138 over weir
03/10/2006	8.30 am			27.13			
03/10/2006	10.30 am		23.5	27.1			
03/10/2006	12.30 pm			27.21			
03/10/2006	4.40 pm			27.29			
04/10/2006	7.40 am			27.5			138 over weir
04/10/2006	10.20 am		47.5	27.52			
04/10/2006	1.15 pm			27.55			
04/10/2006	6.00 pm			27.57			
05/10/2006	8.45 am			27.54			
05/10/2006	10.55 am		72	27.54			138 over weir
05/10/2006	1.40 pm			27.54			
05/10/2006	4.00 pm			27.54			
06/10/2006	7.40 am			27.57			
06/10/2006	11.00 am		96	27.575			
06/10/2006	1.30 pm			27.57			138 over weir
06/10/2006	4.30 pm			27.52			
07/10/2006	7.30 am			27.3			
07/10/2006	10.45 am		120	27.65			
07/10/2006	2.10 pm			27.62			138 over weir
07/10/2006	5.30 pm			27.63			
08/10/2006	7.45 am			27.71			
08/10/2006	10.30 am		144	27.63			138 over weir
08/10/2006	2.00 pm			27.71			
08/10/2006	5.30 am			27.7			
09/10/2006	7.30 am			27.73			138 over weir
09/10/2006	11.00 am		168	27.75			



Received 22/1/07
SJ48/108

FORM WR39/2						page 1 of 2	
J.P WHITTER(WATER WELL ENGINEERS)LTD							
PUMPING TEST DATA							
CONSTANT RATE PUMPING TEST							
CONSENT NO:							
PUMPING TEST AT:		<u>Everton training ground</u>			DATUM POINT		<u>Ground level</u>
NGR							
OBSERVATIONS FROM:		<u>New Borehole</u>			HEIGHT ABOVE GROUND LEVEL (METRES):		
NGR					<u>Top of Manhole</u>		
DATE	TIME	ELAPSED TIME	DEPTH OF WATER BELOW	DRAWDOWN	METER READINGS	COMMENTS	
		MINUTES HOUR	DATUM (METRES)	(METRES)	(M3) OR DISCHARGE		
		DAY (-3)			RATE (M3/HR)		
		DAY (-2)				139 over weir	
		DAY (-1)					
02/10/2006	11.00 am	0	5m 33				
	11.01 am	1	12m00			139 over weir	
	11.02 am	2	15m60				
	11.03 am	3	18m01				
	11.04 am	4	19m34				
	11.05 am	5	20m35				
	11.06 am	6	21m00			139 over weir	
	11.07 am	7	21m49				
	11.08 am	8	21m86				
	11.09 am	9	22m17				
	11.10 am	10	22m41				
	11.15 am	15	23m20				
	11.20 am	20	23m62			139 over weir	
	11.25 am	25	23m90				
	11.30 am	30					
	11.35 am	35	24m35				
	11.40 am	40	24m51			138 over weir	
	11.45 am	45	24m65				
	11.50 am	50	24m75				
	11.55 am	55	24m86			138 over weir	
	12.00 pm	60	24m96				
	12.10 pm	70	25m14				
	12.20 pm	80	25m28			138 over weir	
	12.30 pm	90	25m39				
	12.40 pm	100	25m50				
	13.00 pm	120	25m66			138 over weir	
	13.30 pm	150	25m86				
	14.00 pm	180	26m04				
	15.00 pm	240	26m29				
	16.00 pm	300	26m33			138 over weir	



SJ48/108

FORM WR39/2						
J.P WHITTER(WATER WELL ENGINEERS)LTD						
PUMPING TEST DATA						
Constant rate test pumping.						
RECOVERY						
CONSENT NO:						
PUMPING TEST AT:		Everton FC			DATUM POINT Ground Level	
NGR						
OBSERVATIONS FROM:		New Borehole			HEIGHT ABOVE GROUND LEVEL (METRES):	
NGR					Top of Manhole	
DATE	TIME	ELAPSED TIME		DEPTH OF WATER BELOW	DRAWDOWN	METER READINGS
		MINUTES	HOURL	DATUM (METRES)	(METRES)	(M3) OR DISCHARGE
		DAY (-3)				RATE (M3/HR)
		DAY (-2)				
		DAY (-1)				
09/10/2006	11.00 am	0		27m76		138mm over weir
	11.01 am	1		18m50		
	11.02 am	2		14m30		
	11.03 am	3		11m95		
	11.04 am	4		11m05		
	11.05 am	5				
	11.06 am	6		10m95		
	11.07 am	7		10m93		
	11.08 am	8		10m86		
	11.09 am	9		10m74		
	11.10 am	10		10m66		
	11.15 am	15		10m09		
	11.20 am	20		9m78		
	11.25 am	25		9m13		
	11.30 am	30		9m02		
	11.35 am	35		8m87		
	11.40 am	40		8m75		
	11.45 am	45		8m60		
	11.50 am	50		8m56		
	11.55 am	55		8m50		
	12.00 pm	60	1	8m45		
	12.10 pm	70				
	12.20 pm	80		8m10		
	12.30 pm	90		8m		
	12.40 pm	100		7m95		
	13.00 pm	120	2	7m85		
	13.30 pm	150		7m62		
	14.00 pm	180	3	7m50		
	14.30 pm	210		7m37		
	15.00 pm	240	4	7m28		
09/10/2006	16.00 pm	300	5	7m14		
10/10/2006	12.30 pm		24	5m31		



NGC 10462 8562

GEOLOGICAL SURVEY AND MUSEUM

SJ 48NW 12 1.

Cheshire Lines Railway Engine Sheds
HALEWOOD

County Lancashire
6-in. Map 114SW

BORE or SHAFT

In triangle formed by the Cheshire Lines Railway near Haleswood Station. GSM
Site appears to be 700 yards due west of Haleswood Railway Station.

Surface level 75 feet. O.D. One-inch Map 97

Communicated 1937 by Messrs E. Timmins & Sons. Runcorn.

Date of sinking not stated. Borer not stated. Information collected by Major A. Timmins (supplied to survey)
Stated to have been seen by the late C. E. Delancey.

Specimens

SJ 48 NW/12

County

6" Quarter Sheet

Description.		THICKNESS.		DEPTH.		THICKNESS		DEPTH	
						Thickness			
		Feet.	Inches.	Feet.	Inches.	metric		metric	
<u>Glacial</u>	Stiff clay	44	0	44	0	13	41	13	41
	Quick sand	10	0	54	0	3	05	16	46
	Stiff sandy clay	40	0	94	0	12	19	28	65
	Sand	2	0	96	0	0	61	29	26
	Stiff clay	20	0	116	0	6	10	35	36
	Sand	4	0	120	0	1	22	36	58
	Clay with pebbles	12	0	132	0	3	65	40	23
	Sand and gravel	8	0	140	0	2	44	42	67
	Sand	2	0	142	0	0	61	43	28
<u>Ardurich Group?</u>	{ Vein of sandstone or boulder on top of bed rock of RED MARL classed as Permian Marl. (Probably Ardurich Group? D.A.W.)	277	0	419	0	84	43	127	71
The borehole is ^{52-12m.} tubed to 171 feet below the surface and is waterless. It was abandoned. (Major A. Timmins).									

2419-0014 5000 9/27 Gp. 160



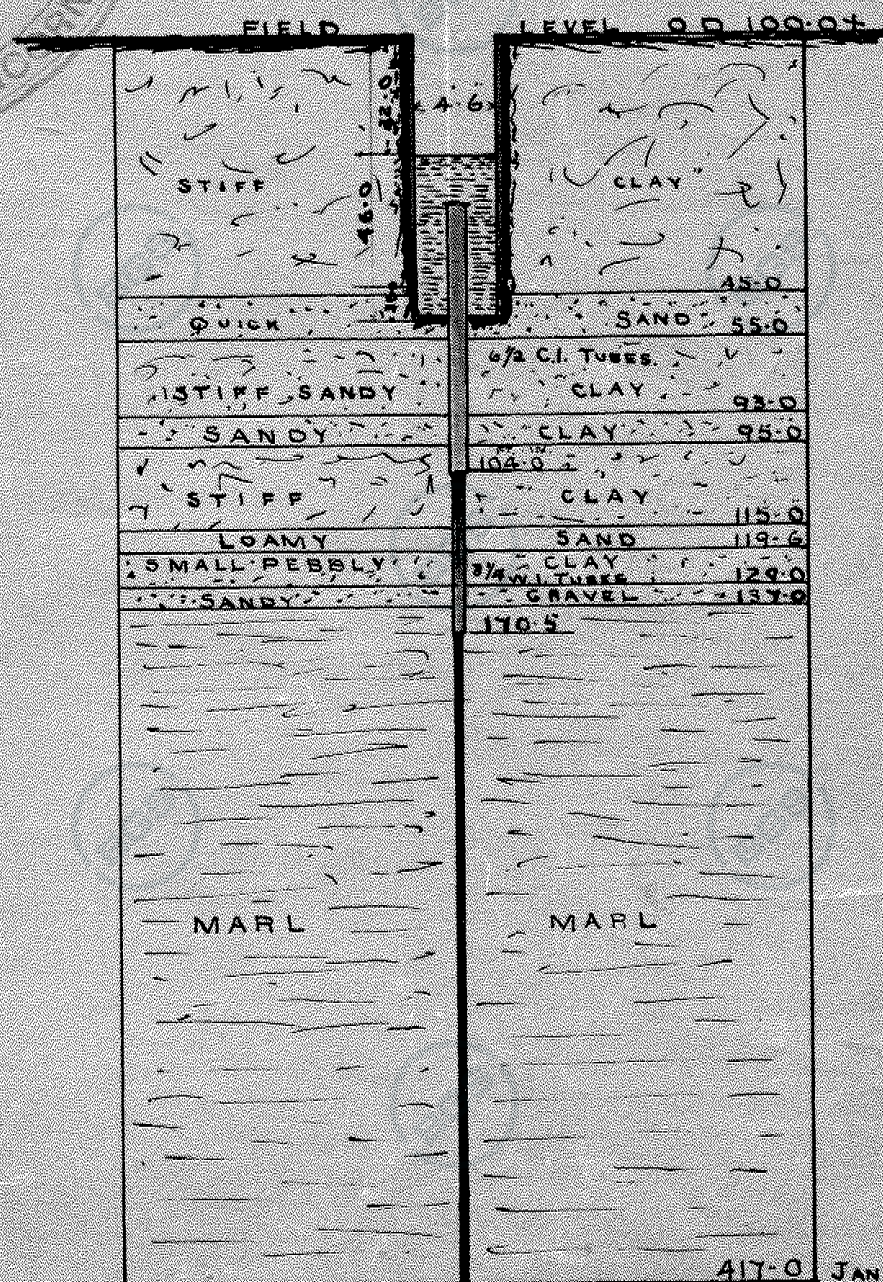
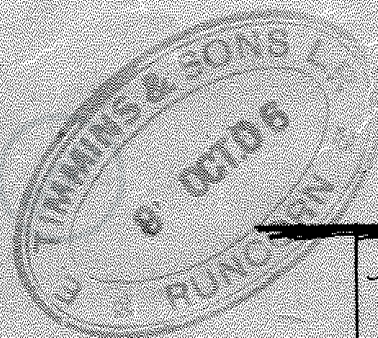
58
6th map: LANCASHIRE 114NW

GEOLOGICAL SECTION OF WELL AND BOREHOLE FOR

THE CHESHIRE LINES COMMITTEE

HALEWOOD

1882.



SJ 48 NW 12



39
SJ 48NW 12

CHESTERS LINES RAILWAY BOREHOLE.

HUNTS CROSS, HALEWOOD. 90 +

	<u>Stratum.</u>	<u>Total.</u>
Stiff Clay.	45'-0"	45'-0"
Fine Sand.	10'-0"	55'-0"
Stiff Sandy Clay.	38'-0"	93'-0"
Sandy Clay.	8'-0"	95'-0"
Stiff Clay.	20'-0"	115'-0"
Loamy Sand.	4'-0"	119'-0"
Small Pebbly Clay.	10'-0"	129'-0"
Sandy Gravel.	8'-0"	137'-0"
Vein of sandstone or boulder on top of bed rock of RED MARL classed as Permian marl.	277'-0"	414'-0"

The borehole is tubes to 171 feet below surface
is waterless and was abandoned.

QUARTER SHEET S548NW

Contact BGS: ngdc@bgs.ac.uk



SJ48NW 135
442S
854S

CLIENT JOHN ALLEN ASSOCIATES			JOB NO C9306	LOCATION MER 0126, HILTON GRACE - A	BOREHOLE NO BH1		
DATE NOVEMBER 1997		SCALE 1 to 50	BORING METHOD CABLE PERCUSSIVE			Sheet: 1	
Drilling & Casing Progress	SAMPLE/TEST		SPT N - value or COHESION	DESCRIPTION	O D LEVEL	LEGEND	DEPTH
	Type & No.	Depth(M)					
19TH							
				TOPSOIL			0.0
	U 1	0.75	48.51	Soft to firm light brown & grey mottled sandy silty CLAY.			0.40
	D 2	1.30		Firm brown fine stoned silty CLAY (Glacial Till).			0.90
	U 3	1.50					
	D 4	2.10					
	U 5	2.50	55.87				
	D 6	3.30					
	U 7	3.50					
	U 8	4.50	52.82				
19TH							5.00
DUNELM DRILLING CO 0191 626 2634 FAX 0191 617 0086					BOREHOLE LOGSHEET		
Water Observations, Remarks, Etc Borehole dry. Surface very soft due to rain.							

11-1997 16:13 FROM:

SJ48NW 135-136

TO: DUNELM

PAGE: 8



SITE LOCATION

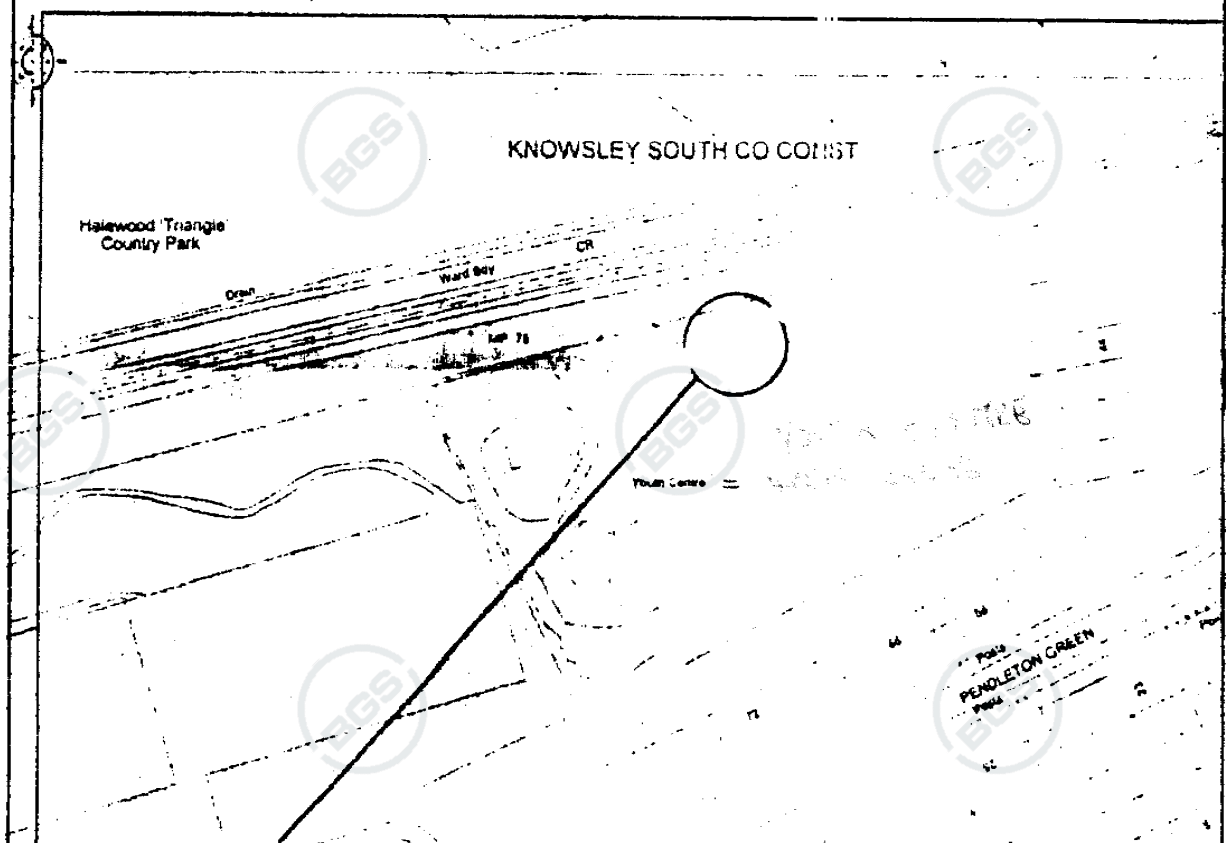
N.G.R

E34425

N3545

SITE LOCATION PLAN

1:1250





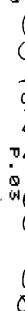
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TO:DUNELM

PAGE:2

SJ48NW 135-136

R & T SWANN - JOHN ALLEN ASSOCIATES			
PCN PROJECT - ORANGE PCN			
SITE INSPECTION & SOIL INVESTIGATION			
SITE NO: MER 0126	ORDNANCE SURVEY LAND RANGER MAP LAN 108	N G R E: 03 44 25 N: 03 35 45	
SITE VISIT DATE: 23 October 1997		ENGINEER: Steve Daniel	
SITE NAME : Hilton Grace - A			
SITE ADDRESS: The Avenue Halewood Liverpool			
CONTACT NAME: Andrew Davies		TEL NO: 0151 489 6000	
SITE CONTROLLER: Dave Hellier		TEL NO: 0161 873 4000	
LEGAL ACCESS CONFIRMED : TBA			
STRUCTURE HEIGHT: 15 m Exc		SITE SIZE 12 M X 12 M	
STRUCTURE TYPE: B2-3			
SITE LAY OUT DRAWING NO. : 0065 / L / 1197			
DIRECTIONS TO SITE FROM PUBLIC HIGHWAY: M62 / take A557 to Widnes. Follow straight on through Widnes until Pickup A562 Liverpool Airport. At A561 turn off stay on A562 to Halewood. Straight on at roundabout. 1/2 mile on turn right onto Wood Road. The Avenue on left after school.			
MAX.GRADE: Flat		MINIMUM WIDTH 4m	
GATES: Large gate at entrance		SHAPE BENDS: None	
SURFACE FINISH: Tarmac			
4 W.D. REQUIRED: No			



SUBJ DATA ENTRY FORM

QUARTER SHEET S548NW

QUARTER SHEET SJ48NW																						
NUMBER	SUFFIX	BOREHOLE NAME	ORIGINAL NUMBER	NATIONAL GRID EASTING	REFERENCE NORTHING	XX Source	COMMENTS	DEPTH	Drilling Method	Inclination Type	Confidentiality	Start Point Type	START HEIGHT	Start Height Precision	Hydro Numbers	SHEET	NUMB	SUFF	Initiator Purpose	Date Drilled	Data Known Type	
112		BVEA/NETHERLEY	1	42364	89391		0 STRATA SURVEYS LTD S142/4	4.7	S	1	S		21.12	4					S	1989	0	
113			2	42362	89391			3.8					21.17									
114			3	42358	89393			6.5					21.07									
115			4	42378	89137			4.2					21.11									
116			5	42404	89358			4.7					21.07									
117			6	42413	89359			5					21.01									
118			7	42419	89132			5					20.99									
119			8	42423	89126			4					20.90									
120			11	42454	89134			5.4					20.98									
121			12	42437	89330			5.8					20.90									
122			13	42449	89138			3.4					20.69									
123			14	42461	89106			5.8					20.57									
23.11.00																						
124		HUYTON ESTATE TRAIL PTS	1	44228	89779		0 STRATA SURVEYS S270	2.5	J	1	S								STS	S	1990	J
125			2	44332	89777			2.9														
126			3	44336	89776			2.8														
127			4	44335	89779			2.85														
128			5	44331	89861			2.8														
129			6	44330	89844			2.7														
130			7	44333	89863			2.95														
131			8	44336	89861			3.1														
132			9	44336	8985			2.8														
133			10	44332	89859			2.9														
134			11	44333	8985			2.8														
W.R 4.12.00																						
135		MER 0126 HILTON GRACE - A	1	44225	8545		K DUNBURN Drilling Co C9306	5	S	1									S	1997	D	
136			2	44225	8545			5														
JANINE 15/1/01																						
137		MATHER AVENUE PTC	A	4031	8640		STRATA SURVEYS LTD S142/6	4.5	S	1	S		33.75	4					S	1989	D	
138			B	4029	8640			4.1					33.80									
139			C	4031	8640			4.5					33.90									
140			D	4030	8639			4.3					33.66									
141			E	4029	8639			4.2					33.67									
142			F	4032	8639			5.4					33.88									
143			G	4031	8639			4					33.66									



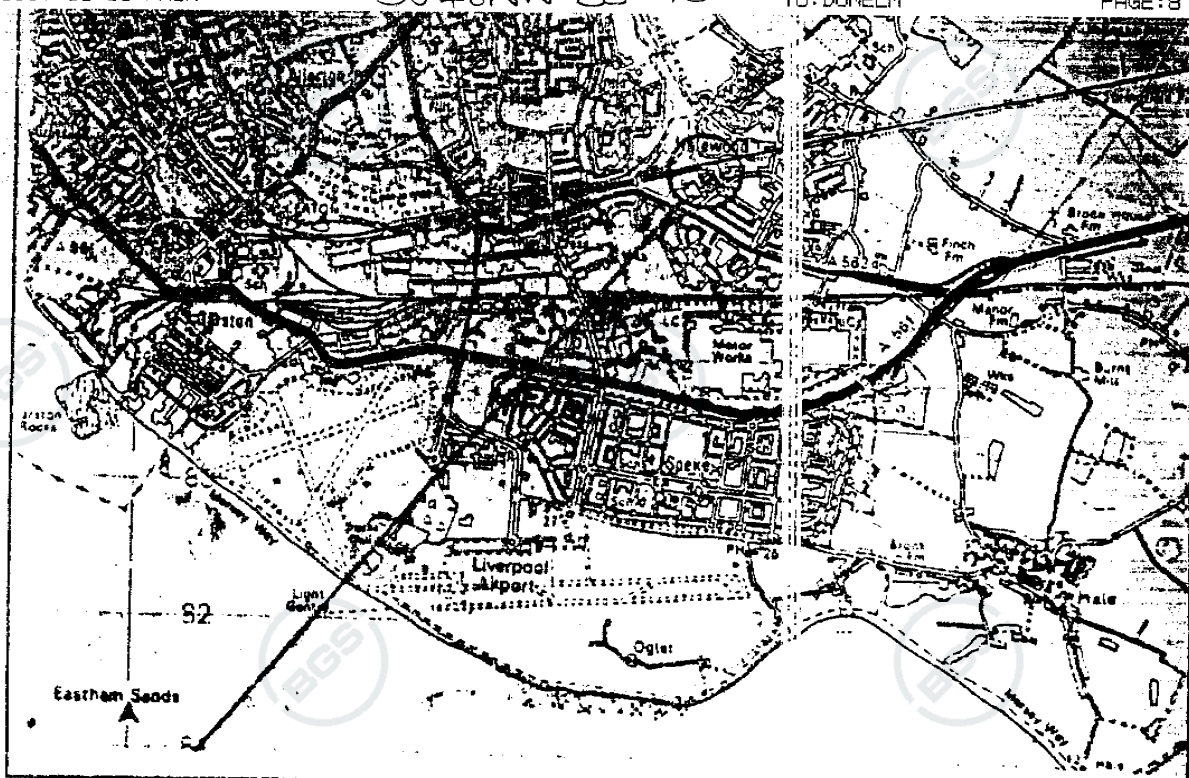
CLIENT JOHN ALLEN ASSOCIATES		JOB NO C9306	LOCATION MER 0126, HILTON GRACE - A		BOREHOLE NO BH2		
DATE NOVEMBER 1997		SCALE 1 to 50	BORING METHOD CABLE PERCUSSIVE		Sheet: 1		
Drilling & Casing Progress	SAMPLE/TEST		SPT N - value or COHESION	DESCRIPTION	O D LEVEL	LEGEND	DEPTH
	Type & No.	Depth(M)					
19TH							
				TOPSOIL			0.0
	D 1	0.60		Firm light brown & grey mottled sandy silty CLAY.			0.40
	U 2	1.00	59.08	Firm brown fine stoned silty CLAY (Glacial Till).			0.80
	D 3	1.70					
	U 4	2.00	57.26				
	D 5	2.80					
	U 6	3.00	53.09				
	D 7	3.80					
	U 8	4.00					
	D 9	4.70					
19TH	U 10	5.00					5.00
DUNELM DRILLING CO 0191 626 2634 FAX 0191 617 0086			BOREHOLE LOGSHEET				
Water Observations, Remarks, Etc Borehole dry. Surface very soft due to rain.							

11-1997 16:13 FROM:

SJ48NW 135-136

TO: DUNELM

PAGE: 8



SITE LOCATION

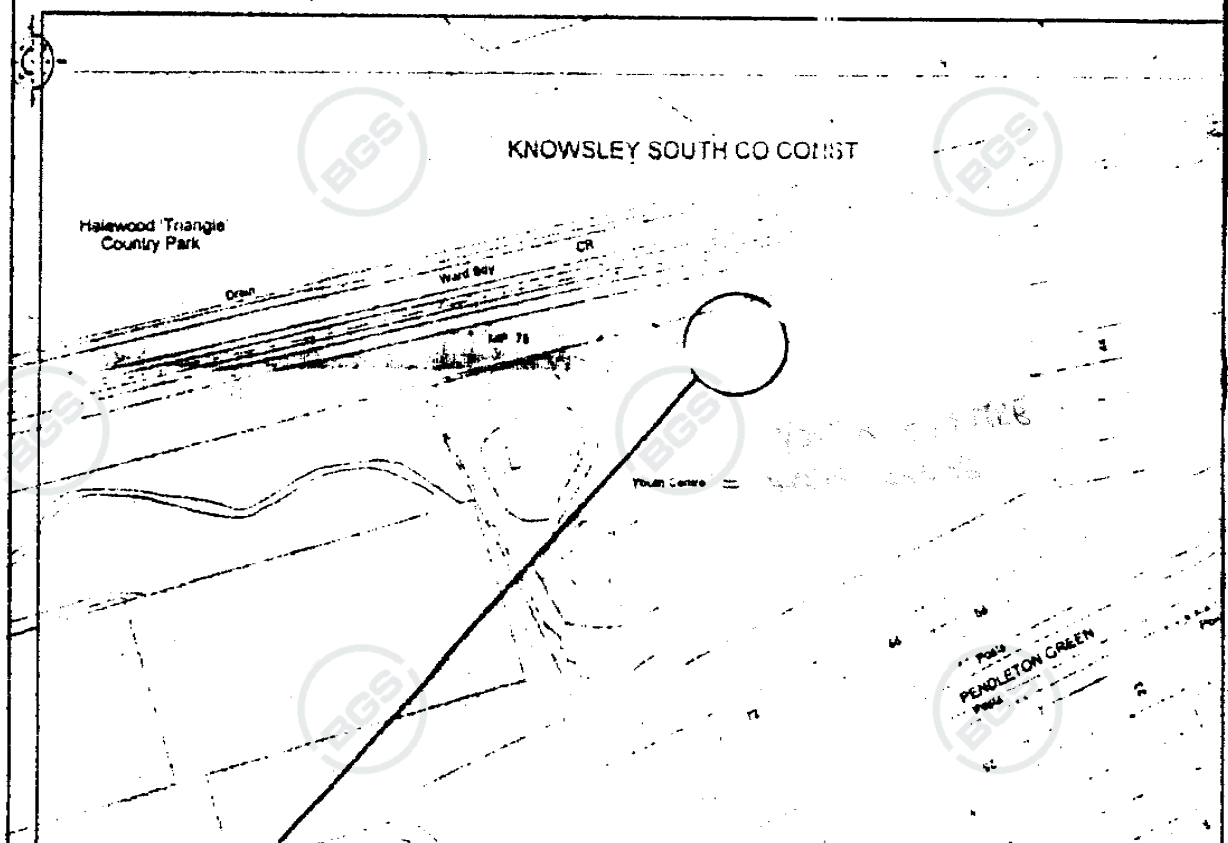
N.G.R

E34425

N3545

SITE LOCATION PLAN

1:1250





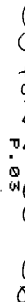
-11-1997*16:38 FROM:

TO:DUNELM

PAGE:2

SJ48NW 13S-136

R & T SWANN - JOHN ALLEN ASSOCIATES			
PCN PROJECT - ORANGE PCN			
SITE INSPECTION & SOIL INVESTIGATION			
SITE NO: MER 0126	ORDNANCE SURVEY LAND RANGER MAP LAN 108	N G R E: 03 44 25 N: 03 35 45	
SITE VISIT DATE: 23 October 1997		ENGINEER: Steve Daniel	
SITE NAME : Hilton Grace - A			
SITE ADDRESS: The Avenue Halewood Liverpool			
CONTACT NAME: Andrew Davies		TEL NO: 0151 489 6000	
SITE CONTROLLER: Dave Hellier		TEL NO: 0161 873 4000	
LEGAL ACCESS CONFIRMED : TBA			
STRUCTURE HEIGHT: 15 m Exc		SITE SIZE 12 M X 12 M	
STRUCTURE TYPE: B2-3			
SITE LAY OUT DRAWING NO. : 0065 / L / 1197			
DIRECTIONS TO SITE FROM PUBLIC HIGHWAY: M62 W take A557 to Widnes. Follow straight on through Widnes until Pickup A562 Liverpool Airport. At A561 turn off stay on A562 to Halewood. Straight on at roundabout. 1/2 mile on turn right onto Wood Road. The Avenue on left after school.			
MAX.GRADE: Flat		MINIMUM WIDTH 4m	
GATES: Large gate at entrance		SHAPE BENDS: None	
SURFACE FINISH: Tarmac			
4 W.D. REQUIRED: No			



Appendix C.2

GROUNDSURE REPORT



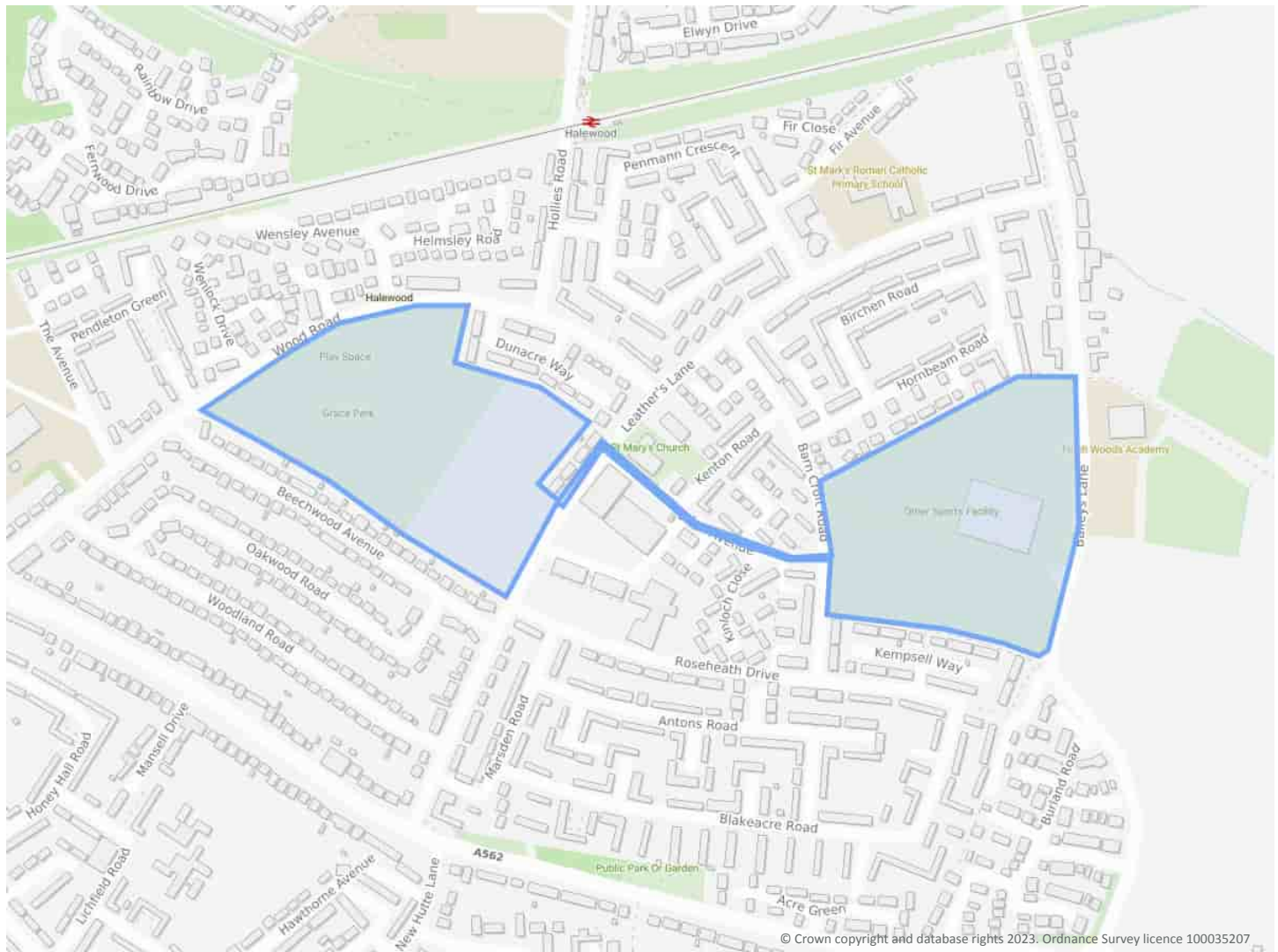
STREET RECORD, HILLINGDEN AVENUE, HALEWOOD, L26 0TX

Order Details

Date: 14/07/2023
Your ref: Halewood_Purchase_Order_20165609
Our Ref: WSP-BOT-GRA-7YI-G4Y

Site Details

Location: 344784 385242
Area: 13.77 ha
Authority: [Knowsley Metropolitan Borough Council](#) ↗



Summary of findings

[p. 2 >](#)

Aerial image

[p. 9 >](#)

OS MasterMap site plan

N/A: >10ha

groundsure.com/insightuserguide ↗

Contact us with any questions at:

info@groundsure.com ↗

01273 257 755

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
14 >	1.1 >	Historical industrial land uses >	0	1	27	33	-
17 >	1.2 >	Historical tanks >	0	1	3	3	-
17 >	1.3 >	Historical energy features >	2	10	17	21	-
20	1.4	Historical petrol stations	0	0	0	0	-
20 >	1.5 >	Historical garages >	0	0	4	0	-
20	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped >	On site	0-50m	50-250m	250-500m	500-2000m
21 >	2.1 >	Historical industrial land uses >	0	1	38	51	-
25 >	2.2 >	Historical tanks >	0	1	5	5	-
26 >	2.3 >	Historical energy features >	6	37	51	49	-
31	2.4	Historical petrol stations	0	0	0	0	-
31 >	2.5 >	Historical garages >	0	0	5	0	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
32	3.1	Active or recent landfill	0	0	0	0	-
32	3.2	Historical landfill (BGS records)	0	0	0	0	-
33	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
33	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
33	3.5	Historical waste sites	0	0	0	0	-
33	3.6	Licensed waste sites	0	0	0	0	-
33 >	3.7 >	Waste exemptions >	0	0	0	3	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
35 >	4.1 >	Recent industrial land uses >	1	4	14	-	-
37 >	4.2 >	Current or recent petrol stations >	0	0	0	1	-
37	4.3	Electricity cables	0	0	0	0	-
37	4.4	Gas pipelines	0	0	0	0	-
37	4.5	Sites determined as Contaminated Land	0	0	0	0	-



37	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
38	4.7	Regulated explosive sites	0	0	0	0	-
38	4.8	Hazardous substance storage/usage	0	0	0	0	-
38	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
38	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
38 >	4.11 >	<u>Licensed pollutant release (Part A(2)/B) ></u>	0	0	0	1	-
39	4.12	Radioactive Substance Authorisations	0	0	0	0	-
39	4.13	Licensed Discharges to controlled waters	0	0	0	0	-
39	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
39	4.15	Pollutant release to public sewer	0	0	0	0	-
40	4.16	List 1 Dangerous Substances	0	0	0	0	-
40	4.17	List 2 Dangerous Substances	0	0	0	0	-
40 >	4.18 >	<u>Pollution Incidents (EA/NRW) ></u>	0	0	2	0	-
40	4.19	Pollution inventory substances	0	0	0	0	-
41	4.20	Pollution inventory waste transfers	0	0	0	0	-
41	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	<u>Hydrogeology ></u>	On site	0-50m	50-250m	250-500m	500-2000m
42 >	5.1 >	<u>Superficial aquifer ></u>	Identified (within 500m)				
44 >	5.2 >	<u>Bedrock aquifer ></u>	Identified (within 500m)				
46 >	5.3 >	<u>Groundwater vulnerability ></u>	Identified (within 50m)				
47	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
48	5.5	Groundwater vulnerability- local information	None (within 0m)				
49 >	5.6 >	<u>Groundwater abstractions ></u>	0	0	0	2	61
65 >	5.7 >	<u>Surface water abstractions ></u>	0	0	0	0	2
66 >	5.8 >	<u>Potable abstractions ></u>	0	0	0	0	2
67 >	5.9 >	<u>Source Protection Zones ></u>	1	0	0	0	-
67	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	<u>Hydrology ></u>	On site	0-50m	50-250m	250-500m	500-2000m
68 >	6.1 >	<u>Water Network (OS MasterMap) ></u>	0	0	10	-	-



69 >	6.2 >	Surface water features >	0	0	4	-	-
70 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
70 >	6.4 >	WFD Surface water bodies >	0	0	0	-	-
70 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
72	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
72	7.2	Historical Flood Events	0	0	0	-	-
72	7.3	Flood Defences	0	0	0	-	-
73	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
73	7.5	Flood Storage Areas	0	0	0	-	-
74	7.6	Flood Zone 2	None (within 50m)				
74	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding >					
75 >	8.1 >	Surface water flooding >	1 in 1000 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding >					
77 >	9.1 >	Groundwater flooding >	Moderate (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
78	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
79	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
79	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
79	10.4	Special Protection Areas (SPA)	0	0	0	0	0
79	10.5	National Nature Reserves (NNR)	0	0	0	0	0
80 >	10.6 >	Local Nature Reserves (LNR) >	0	0	0	0	1
80 >	10.7 >	Designated Ancient Woodland >	0	0	0	0	2
80	10.8	Biosphere Reserves	0	0	0	0	0
81	10.9	Forest Parks	0	0	0	0	0
81	10.10	Marine Conservation Zones	0	0	0	0	0
81 >	10.11 >	Green Belt >	0	0	0	1	3
81	10.12	Proposed Ramsar sites	0	0	0	0	0



82	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
82	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
82	10.15	Nitrate Sensitive Areas	0	0	0	0	0
82 >	10.16 >	Nitrate Vulnerable Zones >	1	0	0	1	2
84 >	10.17 >	SSSI Impact Risk Zones >	2	-	-	-	-
86	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
87	11.1	World Heritage Sites	0	0	0	-	-
87	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
87	11.3	National Parks	0	0	0	-	-
87	11.4	Listed Buildings	0	0	0	-	-
88	11.5	Conservation Areas	0	0	0	-	-
88	11.6	Scheduled Ancient Monuments	0	0	0	-	-
88	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
89 >	12.1 >	Agricultural Land Classification >	Grade 2 (within 250m)				
90	12.2	Open Access Land	0	0	0	-	-
90 >	12.3 >	Tree Felling Licences >	0	0	3	-	-
91	12.4	Environmental Stewardship Schemes	0	0	0	-	-
91	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations >	On site	0-50m	50-250m	250-500m	500-2000m
92 >	13.1 >	Priority Habitat Inventory >	0	0	11	-	-
93	13.2	Habitat Networks	0	0	0	-	-
93	13.3	Open Mosaic Habitat	0	0	0	-	-
93	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
95 >	14.1 >	10k Availability >	Identified (within 500m)				
97	14.2	Artificial and made ground (10k)	0	0	0	0	-
98 >	14.3 >	Superficial geology (10k) >	2	1	1	0	-



99	14.4	Landslip (10k)	0	0	0	0	-
100 >	14.5 >	Bedrock geology (10k) >	4	1	3	0	-
101 >	14.6 >	Bedrock faults and other linear features (10k) >	1	0	1	0	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
102 >	15.1 >	50k Availability >	Identified (within 500m)				
103	15.2	Artificial and made ground (50k)	0	0	0	0	-
103	15.3	Artificial ground permeability (50k)	0	0	-	-	-
104 >	15.4 >	Superficial geology (50k) >	1	0	0	0	-
105 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
105	15.6	Landslip (50k)	0	0	0	0	-
105	15.7	Landslip permeability (50k)	None (within 50m)				
106 >	15.8 >	Bedrock geology (50k) >	3	0	0	0	-
107 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
107 >	15.10 >	Bedrock faults and other linear features (50k) >	1	0	0	0	-
Page	Section	Boreholes >	On site	0-50m	50-250m	250-500m	500-2000m
108 >	16.1 >	BGS Boreholes >	0	0	3	-	-
Page	Section	Natural ground subsidence >					
110 >	17.1 >	Shrink swell clays >	Very low (within 50m)				
111 >	17.2 >	Running sands >	Very low (within 50m)				
113 >	17.3 >	Compressible deposits >	Negligible (within 50m)				
114 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
115 >	17.5 >	Landslides >	Very low (within 50m)				
117 >	17.6 >	Ground dissolution of soluble rocks >	Negligible (within 50m)				
Page	Section	Mining and ground workings >	On site	0-50m	50-250m	250-500m	500-2000m
119	18.1	BritPits	0	0	0	0	-
120 >	18.2 >	Surface ground workings >	1	1	19	-	-
121	18.3	Underground workings	0	0	0	0	0
121	18.4	Underground mining extents	0	0	0	0	-
121	18.5	Historical Mineral Planning Areas	0	0	0	0	-

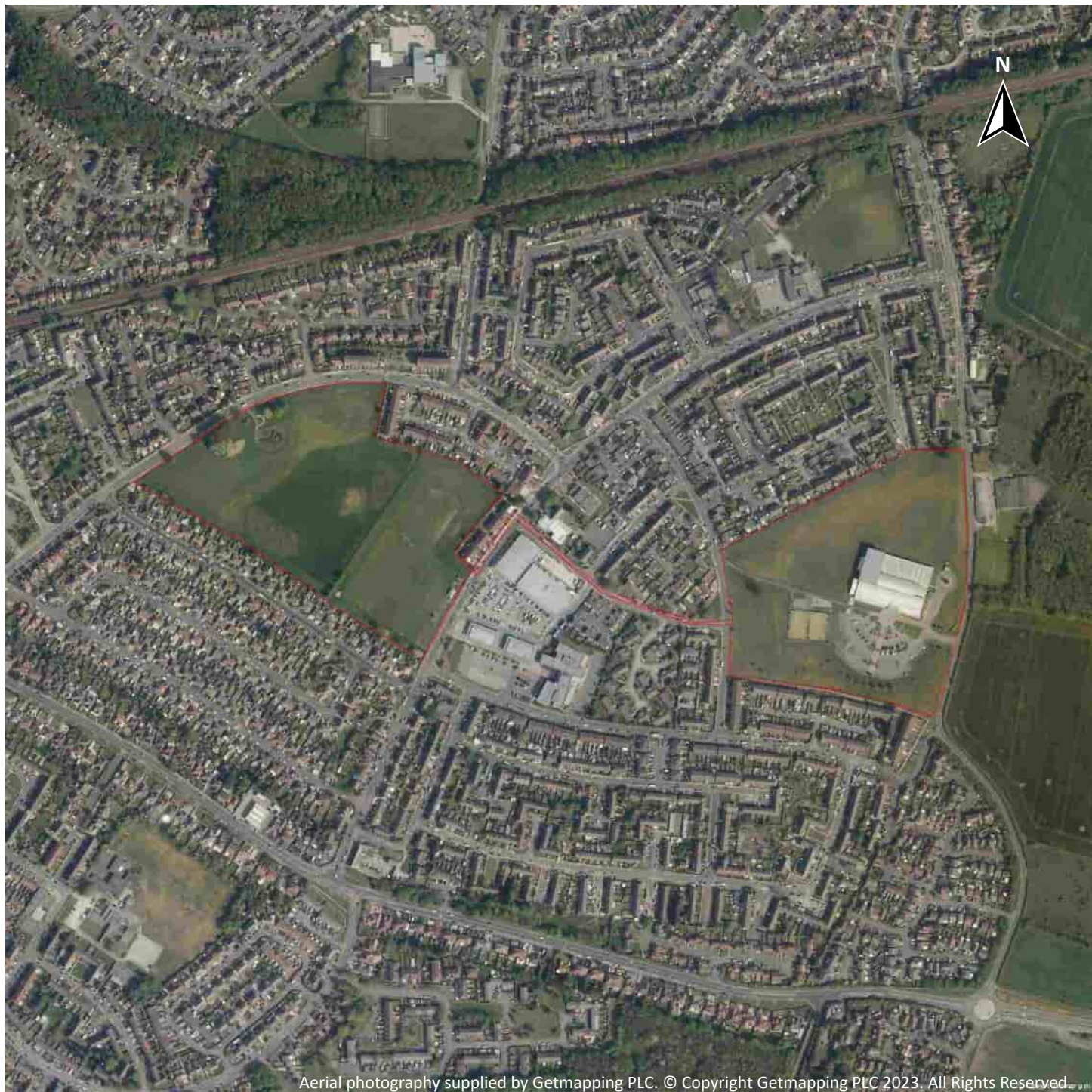


121 >	18.6 >	Non-coal mining >	1	0	1	0	0
122	18.7	JPB mining areas	None (within 0m)				
122	18.8	The Coal Authority non-coal mining	0	0	0	0	-
122	18.9	Researched mining	0	0	0	0	-
123	18.10	Mining record office plans	0	0	0	0	-
123	18.11	BGS mine plans	0	0	0	0	-
123 >	18.12 >	Coal mining >	Identified (within 0m)				
123	18.13	Brine areas	None (within 0m)				
124	18.14	Gypsum areas	None (within 0m)				
124	18.15	Tin mining	None (within 0m)				
124	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
125	19.1	Natural cavities	0	0	0	0	-
125	19.2	Mining cavities	0	0	0	0	0
125	19.3	Reported recent incidents	0	0	0	0	-
125	19.4	Historical incidents	0	0	0	0	-
126	19.5	National karst database	0	0	0	0	-
Page	Section	Radon >					
127 >	20.1 >	Radon >	Less than 1% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
129 >	21.1 >	BGS Estimated Background Soil Chemistry >	6	2	-	-	-
130	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
130	21.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects >	On site	0-50m	50-250m	250-500m	500-2000m
131	22.1	Underground railways (London)	0	0	0	-	-
131	22.2	Underground railways (Non-London)	0	0	0	-	-
132	22.3	Railway tunnels	0	0	0	-	-
132 >	22.4 >	Historical railway and tunnel features >	0	0	24	-	-
133	22.5	Royal Mail tunnels	0	0	0	-	-



133 >	22.6 >	Historical railways >	0	0	3	-	-
134 >	22.7 >	Railways >	0	0	9	-	-
134	22.8	Crossrail 1	0	0	0	0	-
134	22.9	Crossrail 2	0	0	0	0	-
135	22.10	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 22/04/2019

Site Area: 13.77ha



Recent site history - 2016 aerial photograph



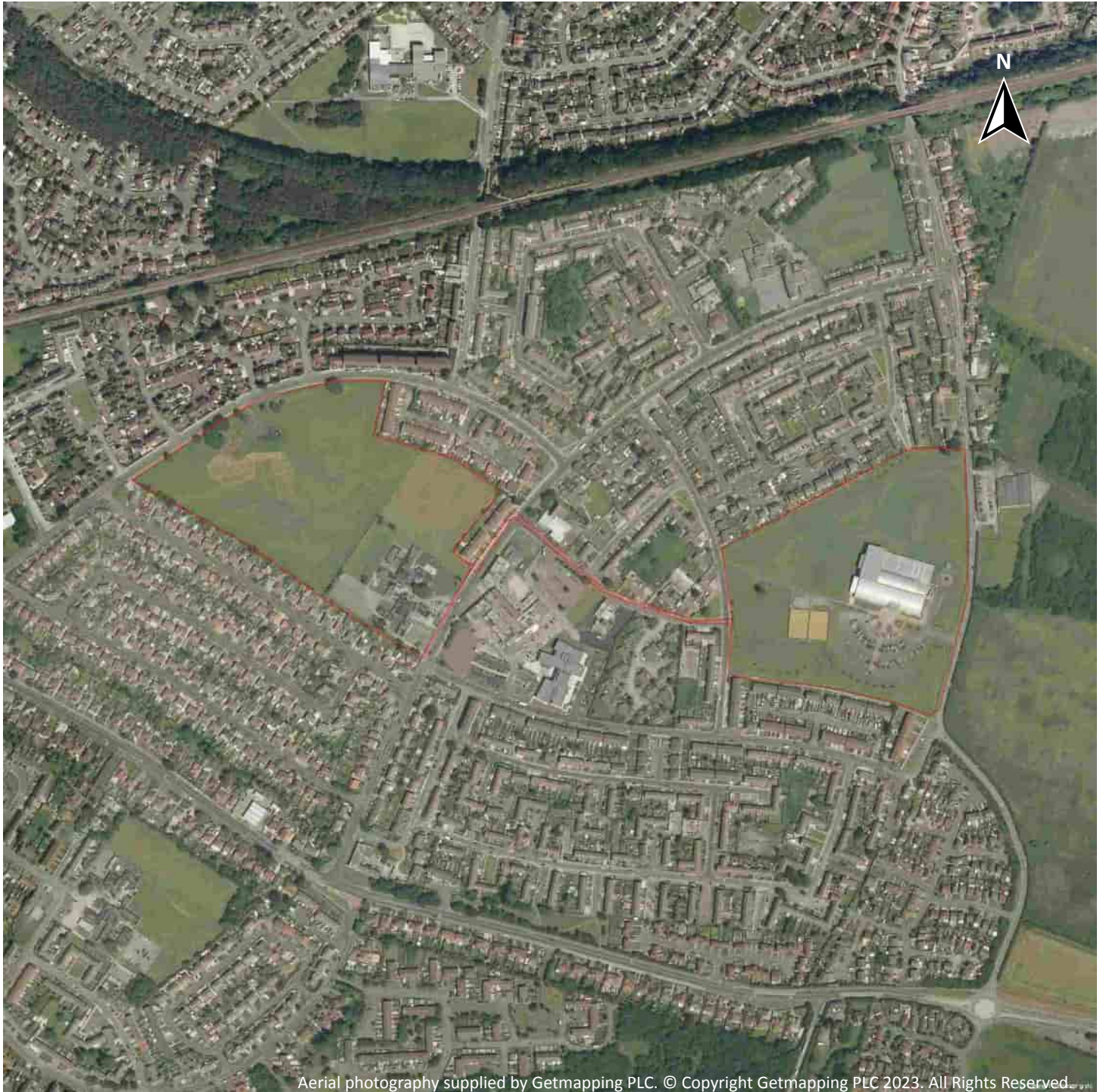
Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2023. All Rights Reserved.

Capture Date: 21/04/2016

Site Area: 13.77ha



Recent site history - 2009 aerial photograph



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Capture Date: 24/06/2009

Site Area: 13.77ha



Recent site history - 2005 aerial photograph



Capture Date: 15/05/2005

Site Area: 13.77ha



Recent site history - 2000 aerial photograph



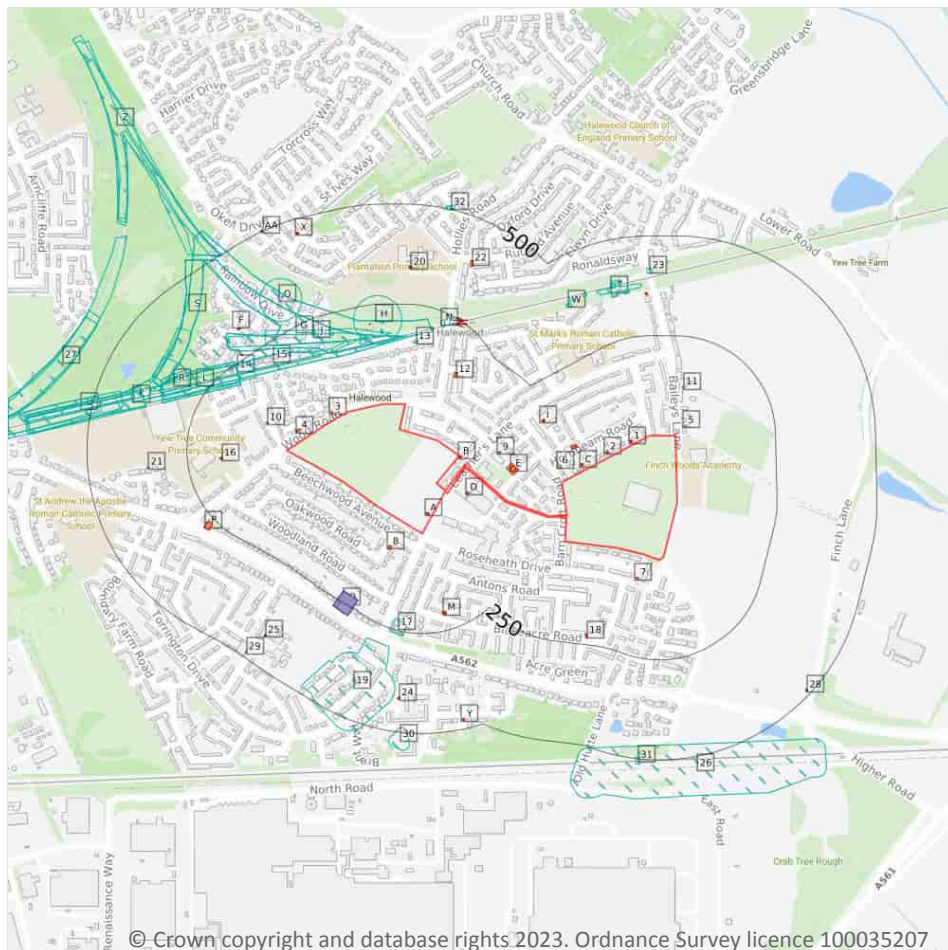
Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2023. All Rights Reserved.

Capture Date: 21/07/2000

Site Area: 13.77ha



1 Past land use



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
- Historical tanks
- Historical energy features
- Historical garages

1.1 Historical industrial land uses

Records within 500m

61

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

Features are displayed on the Past land use map on [page 14](#) >

ID	Location	Land use	Dates present	Group ID
5	33m E	Pump	1851	826827



ID	Location	Land use	Dates present	Group ID
11	121m NE	Pump	1851	826828
F	139m NW	Railway Sidings	1955	854173
F	139m NW	Railway Sidings	1967	882428
G	151m NW	Railway Sidings	1938	852001
G	151m NW	Railway Sidings	1904	929080
G	151m NW	Railway Sidings	1925	965874
H	151m NW	Unspecified Tank	1938	882858
13	154m NW	Railway Building	1904 - 1925	940383
14	155m NW	Railway Sidings	1904 - 1938	904602
15	156m NW	Railway Sidings	1925	958568
H	158m NW	Railway Building	1925	915284
H	167m NW	Railway Building	1891	820117
J	168m NW	Railway Sidings	1891	869235
H	172m NW	Railway Building	1938	820114
H	176m NW	Unspecified Tank	1955	970299
H	183m NW	Unspecified Tank	1955	972599
K	195m NW	Cuttings	1891 - 1938	904925
J	195m NW	Railway Building	1925	820116
H	201m NW	Unspecified Tank	1955	927119
L	201m W	Cuttings	1925	881185
L	201m W	Cuttings	1904	985057
L	207m W	Cuttings	1925	974601
L	207m W	Cuttings	1925	984724
J	210m NW	Railway Building	1925	820115
N	215m N	Unspecified Pit	1904 - 1925	881732
17	221m SW	Police Station	1966 - 1991	931017
N	227m N	Unspecified Pit	1904 - 1925	987245
Q	273m NW	Unspecified Tank	1938	910953



ID	Location	Land use	Dates present	Group ID
R	285m W	Cuttings	1938	917439
19	294m SW	Nursery	1938 - 1956	854779
Q	327m NW	Unspecified Tank	1955	881945
R	345m W	Cuttings	1904 - 1925	978070
S	345m W	Railway Sidings	1925	880913
S	345m W	Railway Sidings	1938	917802
S	345m W	Railway Sidings	1904	970590
R	348m W	Cuttings	1938	890904
T	358m NE	Railway Station	1904 - 1938	867774
T	360m NE	Railway Building	1904	820105
T	360m NE	Railway Station	1925	933560
K	362m W	Railway Building	1904 - 1925	976102
U	369m W	Railway Sidings	1904 - 1938	893967
U	371m W	Cuttings	1925	965042
V	371m W	Cuttings	1925	850463
W	378m NE	Railway Building	1904 - 1925	978559
W	383m NE	Railway Building	1904 - 1925	878345
T	389m NE	Railway Station	1950	987709
W	390m N	Railway Building	1938	820106
U	404m W	Railway Sidings	1925	923650
U	404m W	Railway Sidings	1925	925161
23	406m NE	Railway Station	1891	822923
V	424m W	Cuttings	1967 - 1980	954007
U	427m W	Cuttings	1891	940444
26	463m SE	Railway Sidings	1968	972940
27	475m W	Cuttings	1955	929352
30	488m S	Unspecified Tanks	1991	815258
31	495m SE	Railway Building	1968	819431



ID	Location	Land use	Dates present	Group ID
32	496m N	Old Workhouse	1851	810392
Z	496m NW	Railway Sidings	1891	983782
Z	497m NW	Railway Sidings	1938	929937
Z	498m NW	Railway Sidings	1904 - 1925	987624

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	7
----------------------------	----------

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

Features are displayed on the Past land use map on [page 14 >](#)

ID	Location	Land use	Dates present	Group ID
6	35m E	Unspecified Tank	1991	112405
10	83m W	Unspecified Tank	1985 - 1996	148635
H	189m NW	Unspecified Tank	1927 - 1936	147485
H	201m NW	Unspecified Tank	1967	112410
Q	318m NW	Unspecified Tank	1907 - 1936	131328
21	349m W	Unspecified Tank	1936	112404
29	486m SW	Unspecified Tank	1971	112403

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	50
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Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.



Features are displayed on the Past land use map on [page 14 >](#)

ID	Location	Land use	Dates present	Group ID
A	On site	Electricity Substation	1993 - 1997	68687
A	On site	Electricity Substation	1986	75586
B	1m NW	Electricity Substation	1993 - 1997	69400
B	2m NW	Electricity Substation	1968 - 1986	78245
1	7m E	Electricity Substation	1969 - 1996	78986
2	11m E	Electricity Substation	1969 - 1996	80484
C	12m E	Electricity Substation	1993	69689
C	13m E	Electricity Substation	1969 - 1991	66935
3	16m W	Electricity Substation	1994 - 1997	79759
4	22m W	Electricity Substation	1969 - 1985	71929
D	38m W	Electricity Substation	1968 - 1986	84134
D	38m W	Electricity Substation	1993 - 1997	71940
E	59m E	Electricity Substation	1968 - 1969	71512
7	59m SE	Electricity Substation	1995	60566
C	60m NE	Electricity Substation	1970	79868
C	61m NE	Electricity Substation	1969 - 1996	73401
C	61m NE	Electricity Substation	1988 - 1991	85161
E	64m NE	Electricity Substation	1986	77253
E	64m NE	Electricity Substation	1993 - 1997	80727
8	67m SW	Electricity Substation	1968 - 1997	72190
9	77m N	Electricity Substation	1986 - 1997	79154
12	139m NW	Electricity Substation	1968 - 1997	83165
I	154m NE	Electricity Substation	1988 - 1991	72232
I	155m NE	Electricity Substation	1970 - 1996	64684
I	156m NE	Electricity Substation	1969	71129
16	162m W	Electricity Substation	1985 - 1996	66615
M	202m SW	Electricity Substation	1967 - 1971	80098



ID	Location	Land use	Dates present	Group ID
M	202m SW	Electricity Substation	1984 - 1993	85234
18	223m SE	Electricity Substation	1995	60567
P	260m W	Electricity Substation	1985 - 1996	72598
P	261m W	Electricity Substation	1969	76150
F	317m NW	Electricity Substation	1988 - 1993	73612
F	318m NW	Electricity Substation	1986 - 1989	76805
20	339m NW	Electricity Substation	1967 - 1994	65149
T	353m NE	Electricity Substation	1969 - 1993	81739
T	354m NE	Electricity Substation	1988	69438
22	382m N	Electricity Substation	1967 - 1994	74687
24	413m SW	Electricity Substation	1984 - 1993	78821
25	424m SW	Electricity Substation	1971 - 1993	64853
X	461m NW	Electricity Substation	1977 - 1993	75990
X	462m NW	Electricity Substation	1987	83084
X	462m NW	Electricity Substation	1979 - 1989	76095
Y	475m S	Electricity Substation	1971 - 1984	63912
Y	475m S	Electricity Substation	1993	81556
28	486m SE	Electricity Substation	1984	60565
AA	499m NW	Gas Governor	1993	77834
AA	499m NW	Gas Governor	1988	78440
AA	499m NW	Gas Governor	1977	83007
AA	499m NW	Gas Governor	1979 - 1989	70775
AA	499m NW	Gas Governor	1987	66249

This data is sourced from Ordnance Survey / Groundsure.



1.4 Historical petrol stations

Records within 500m**0**

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

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m**4**

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

Features are displayed on the Past land use map on [page 14 >](#)

ID	Location	Land use	Dates present	Group ID
O	224m SW	Garage	1984	23669
O	224m SW	Garage	1971	22118
O	224m SW	Garage	1967	24308
O	225m SW	Garage	1993	21188

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

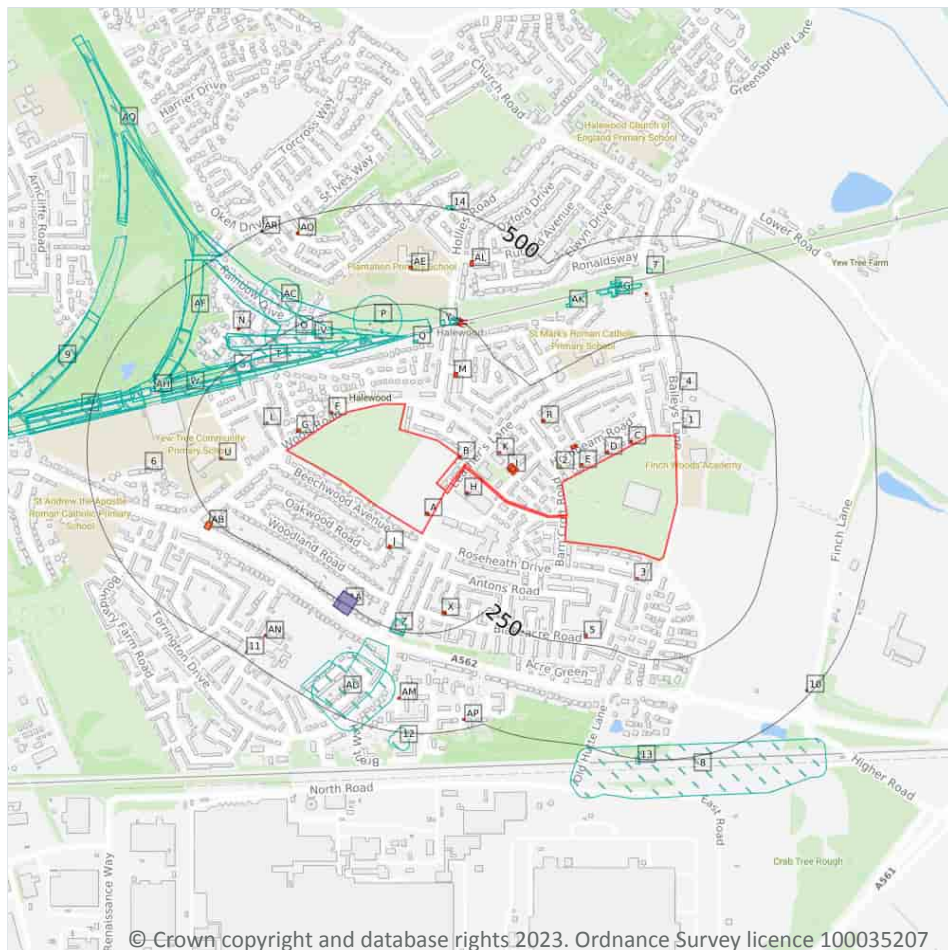
Records within 500m**0**

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

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



2 Past land use - un-grouped



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
- Historical tanks
- Historical energy features
- Historical garages

2.1 Historical industrial land uses

Records within 500m

90

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

Features are displayed on the Past land use - un-grouped map on [page 21](#) >

ID	Location	Land Use	Date	Group ID
1	33m E	Pump	1851	826827
4	121m NE	Pump	1851	826828
N	139m NW	Railway Sidings	1967	882428



ID	Location	Land Use	Date	Group ID
N	139m NW	Railway Sidings	1955	854173
O	151m NW	Railway Sidings	1938	852001
O	151m NW	Railway Sidings	1925	965874
O	151m NW	Railway Sidings	1904	929080
P	151m NW	Unspecified Tank	1938	882858
Q	154m NW	Railway Building	1925	940383
Q	154m NW	Railway Building	1904	940383
S	155m NW	Railway Sidings	1938	904602
S	155m NW	Railway Sidings	1925	904602
S	155m NW	Railway Sidings	1904	904602
T	156m NW	Railway Sidings	1925	958568
T	156m NW	Railway Sidings	1925	958568
P	158m NW	Railway Building	1925	915284
P	160m NW	Railway Building	1925	915284
P	167m NW	Railway Building	1891	820117
V	168m NW	Railway Sidings	1891	869235
P	172m NW	Railway Building	1938	820114
P	176m NW	Unspecified Tank	1955	970299
P	183m NW	Unspecified Tank	1955	972599
W	195m NW	Cuttings	1891	904925
V	195m NW	Railway Building	1925	820116
P	201m NW	Unspecified Tank	1955	927119
W	201m W	Cuttings	1925	881185
W	201m W	Cuttings	1904	985057
W	207m W	Cuttings	1925	984724
W	207m W	Cuttings	1925	974601
V	210m NW	Railway Building	1925	820115
Y	215m N	Unspecified Pit	1925	881732



ID	Location	Land Use	Date	Group ID
Y	215m N	Unspecified Pit	1904	881732
Z	221m SW	Police Station	1966	931017
Z	221m SW	Police Station	1980	931017
Z	221m SW	Police Station	1991	931017
Y	227m N	Unspecified Pit	1925	987245
Y	227m N	Unspecified Pit	1904	987245
Y	228m N	Unspecified Pit	1925	987245
Y	228m N	Unspecified Pit	1925	987245
AC	273m NW	Unspecified Tank	1938	910953
W	285m W	Cuttings	1938	917439
AD	294m SW	Nursery	1938	854779
AC	327m NW	Unspecified Tank	1955	881945
AD	341m SW	Nursery	1956	854779
W	345m W	Cuttings	1925	978070
W	345m W	Cuttings	1904	978070
AF	345m W	Railway Sidings	1938	917802
AF	345m W	Railway Sidings	1925	880913
AF	345m W	Railway Sidings	1904	970590
W	348m W	Cuttings	1938	890904
W	349m W	Cuttings	1925	978070
W	349m W	Cuttings	1925	978070
AG	358m NE	Railway Station	1925	867774
AG	358m NE	Railway Station	1904	867774
AG	360m NE	Railway Building	1904	820105
AG	360m NE	Railway Station	1925	933560
AG	360m NE	Railway Station	1925	933560
AH	362m W	Railway Building	1925	976102
AH	362m W	Railway Building	1904	976102



ID	Location	Land Use	Date	Group ID
AI	369m W	Railway Sidings	1938	893967
AI	369m W	Railway Sidings	1925	893967
AI	369m W	Railway Sidings	1904	893967
AG	371m NE	Railway Station	1938	867774
AI	371m W	Cuttings	1938	904925
AI	371m W	Cuttings	1925	904925
AI	371m W	Cuttings	1904	904925
AI	371m W	Cuttings	1925	965042
AJ	371m W	Cuttings	1925	850463
AK	378m NE	Railway Building	1925	978559
AK	378m NE	Railway Building	1904	978559
AK	383m NE	Railway Building	1925	878345
AK	383m NE	Railway Building	1904	878345
AG	389m NE	Railway Station	1950	987709
AK	390m N	Railway Building	1938	820106
AI	404m W	Railway Sidings	1925	923650
AI	404m W	Railway Sidings	1925	925161
7	406m NE	Railway Station	1891	822923
AJ	424m W	Cuttings	1967	954007
AJ	424m W	Cuttings	1980	954007
AJ	424m W	Cuttings	1974	954007
AI	427m W	Cuttings	1891	940444
8	463m SE	Railway Sidings	1968	972940
9	475m W	Cuttings	1955	929352
12	488m S	Unspecified Tanks	1991	815258
13	495m SE	Railway Building	1968	819431
14	496m N	Old Workhouse	1851	810392
AQ	496m NW	Railway Sidings	1891	983782



ID	Location	Land Use	Date	Group ID
AQ	497m NW	Railway Sidings	1938	929937
AQ	498m NW	Railway Sidings	1925	987624
AQ	498m NW	Railway Sidings	1904	987624

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

11

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

Features are displayed on the Past land use - un-grouped map on [page 21 >](#)

ID	Location	Land Use	Date	Group ID
2	35m E	Unspecified Tank	1991	112405
L	83m W	Unspecified Tank	1996	148635
L	83m W	Unspecified Tank	1985	148635
P	189m NW	Unspecified Tank	1927	147485
P	189m NW	Unspecified Tank	1936	147485
P	201m NW	Unspecified Tank	1967	112410
AC	318m NW	Unspecified Tank	1907	131328
AC	318m NW	Unspecified Tank	1927	131328
AC	318m NW	Unspecified Tank	1936	131328
6	349m W	Unspecified Tank	1936	112404
11	486m SW	Unspecified Tank	1971	112403

This data is sourced from Ordnance Survey / Groundsure.



2.3 Historical energy features

Records within 500m

143

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

Features are displayed on the Past land use - un-grouped map on [page 21 >](#)

ID	Location	Land Use	Date	Group ID
A	On site	Electricity Substation	1994	68687
A	On site	Electricity Substation	1996	68687
A	On site	Electricity Substation	1996	68687
A	On site	Electricity Substation	1997	68687
A	On site	Electricity Substation	1986	75586
A	On site	Electricity Substation	1993	68687
B	1m NW	Electricity Substation	1994	69400
B	1m NW	Electricity Substation	1996	69400
B	1m NW	Electricity Substation	1996	69400
B	1m NW	Electricity Substation	1997	69400
B	1m NW	Electricity Substation	1993	69400
B	2m NW	Electricity Substation	1969	78245
B	2m NW	Electricity Substation	1968	78245
B	2m NW	Electricity Substation	1986	78245
C	7m E	Electricity Substation	1969	78986
C	7m E	Electricity Substation	1970	78986
C	7m E	Electricity Substation	1996	78986
C	7m E	Electricity Substation	1993	78986
C	7m E	Electricity Substation	1988	78986
C	7m E	Electricity Substation	1991	78986
D	11m E	Electricity Substation	1970	80484
D	11m E	Electricity Substation	1996	80484
D	11m E	Electricity Substation	1993	80484



ID	Location	Land Use	Date	Group ID
E	12m E	Electricity Substation	1993	69689
D	12m E	Electricity Substation	1969	80484
E	13m E	Electricity Substation	1970	66935
E	13m E	Electricity Substation	1969	66935
E	15m E	Electricity Substation	1988	66935
E	15m E	Electricity Substation	1991	66935
F	16m W	Electricity Substation	1994	79759
F	16m W	Electricity Substation	1996	79759
F	16m W	Electricity Substation	1996	79759
F	16m W	Electricity Substation	1997	79759
G	22m W	Electricity Substation	1969	71929
G	22m W	Electricity Substation	1985	71929
H	38m W	Electricity Substation	1969	84134
H	38m W	Electricity Substation	1994	71940
H	38m W	Electricity Substation	1996	71940
H	38m W	Electricity Substation	1996	71940
H	38m W	Electricity Substation	1997	71940
H	38m W	Electricity Substation	1993	71940
H	38m W	Electricity Substation	1968	84134
H	38m W	Electricity Substation	1986	84134
I	59m E	Electricity Substation	1968	71512
3	59m SE	Electricity Substation	1995	60566
I	59m E	Electricity Substation	1969	71512
E	60m NE	Electricity Substation	1970	79868
E	61m NE	Electricity Substation	1996	73401
E	61m NE	Electricity Substation	1993	73401
E	61m NE	Electricity Substation	1969	73401
E	61m NE	Electricity Substation	1988	85161



ID	Location	Land Use	Date	Group ID
E	61m NE	Electricity Substation	1991	85161
I	64m NE	Electricity Substation	1986	77253
I	64m NE	Electricity Substation	1994	80727
I	64m NE	Electricity Substation	1996	80727
I	64m NE	Electricity Substation	1996	80727
I	64m NE	Electricity Substation	1997	80727
I	64m NE	Electricity Substation	1993	80727
J	67m SW	Electricity Substation	1986	72190
J	68m SW	Electricity Substation	1994	72190
J	68m SW	Electricity Substation	1996	72190
J	68m SW	Electricity Substation	1996	72190
J	68m SW	Electricity Substation	1997	72190
J	68m SW	Electricity Substation	1993	72190
J	68m SW	Electricity Substation	1969	72190
J	69m SW	Electricity Substation	1968	72190
K	77m N	Electricity Substation	1994	79154
K	77m N	Electricity Substation	1996	79154
K	77m N	Electricity Substation	1996	79154
K	77m N	Electricity Substation	1997	79154
K	77m N	Electricity Substation	1993	79154
K	77m N	Electricity Substation	1986	79154
M	139m NW	Electricity Substation	1993	83165
M	140m NW	Electricity Substation	1968	83165
M	140m NW	Electricity Substation	1994	83165
M	140m NW	Electricity Substation	1996	83165
M	140m NW	Electricity Substation	1996	83165
M	140m NW	Electricity Substation	1997	83165
M	141m NW	Electricity Substation	1986	83165



ID	Location	Land Use	Date	Group ID
M	141m NW	Electricity Substation	1969	83165
R	154m NE	Electricity Substation	1988	72232
R	154m NE	Electricity Substation	1991	72232
R	155m NE	Electricity Substation	1996	64684
R	155m NE	Electricity Substation	1993	64684
R	155m NE	Electricity Substation	1970	64684
R	156m NE	Electricity Substation	1969	71129
U	162m W	Electricity Substation	1996	66615
U	164m W	Electricity Substation	1985	66615
X	202m SW	Electricity Substation	1967	80098
X	202m SW	Electricity Substation	1984	85234
X	202m SW	Electricity Substation	1971	80098
X	202m SW	Electricity Substation	1967	80098
X	202m SW	Electricity Substation	1993	85234
5	223m SE	Electricity Substation	1995	60567
AB	260m W	Electricity Substation	1996	72598
AB	261m W	Electricity Substation	1969	76150
AB	262m W	Electricity Substation	1985	72598
N	317m NW	Electricity Substation	1988	73612
N	318m NW	Electricity Substation	1993	73612
N	318m NW	Electricity Substation	1987	76805
N	318m NW	Electricity Substation	1987	76805
N	318m NW	Electricity Substation	1989	76805
N	318m NW	Electricity Substation	1986	76805
AE	339m NW	Electricity Substation	1994	65149
AE	339m NW	Electricity Substation	1993	65149
AE	340m NW	Electricity Substation	1982	65149
AE	340m NW	Electricity Substation	1982	65149



ID	Location	Land Use	Date	Group ID
AE	340m NW	Electricity Substation	1967	65149
AE	340m NW	Electricity Substation	1969	65149
AG	353m NE	Electricity Substation	1993	81739
AG	353m NE	Electricity Substation	1970	81739
AG	354m NE	Electricity Substation	1969	81739
AG	354m NE	Electricity Substation	1988	69438
AL	382m N	Electricity Substation	1994	74687
AL	382m N	Electricity Substation	1993	74687
AL	382m N	Electricity Substation	1982	74687
AL	382m N	Electricity Substation	1982	74687
AL	382m N	Electricity Substation	1967	74687
AL	382m N	Electricity Substation	1969	74687
AM	413m SW	Electricity Substation	1984	78821
AM	413m SW	Electricity Substation	1993	78821
AN	424m SW	Electricity Substation	1971	64853
AN	424m SW	Electricity Substation	1993	64853
AO	461m NW	Electricity Substation	1977	75990
AO	461m NW	Electricity Substation	1988	75990
AO	461m NW	Electricity Substation	1993	75990
AO	462m NW	Electricity Substation	1987	83084
AO	462m NW	Electricity Substation	1979	76095
AO	462m NW	Electricity Substation	1984	76095
AO	462m NW	Electricity Substation	1987	76095
AO	462m NW	Electricity Substation	1989	76095
AP	475m S	Electricity Substation	1971	63912
AP	475m S	Electricity Substation	1984	63912
AP	475m S	Electricity Substation	1993	81556
10	486m SE	Electricity Substation	1984	60565



ID	Location	Land Use	Date	Group ID
AR	499m NW	Gas Governor	1993	77834
AR	499m NW	Gas Governor	1977	83007
AR	499m NW	Gas Governor	1988	78440
AR	499m NW	Gas Governor	1979	70775
AR	499m NW	Gas Governor	1984	70775
AR	499m NW	Gas Governor	1987	70775
AR	499m NW	Gas Governor	1989	70775
AR	499m NW	Gas Governor	1987	66249

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	0
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Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m	5
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Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

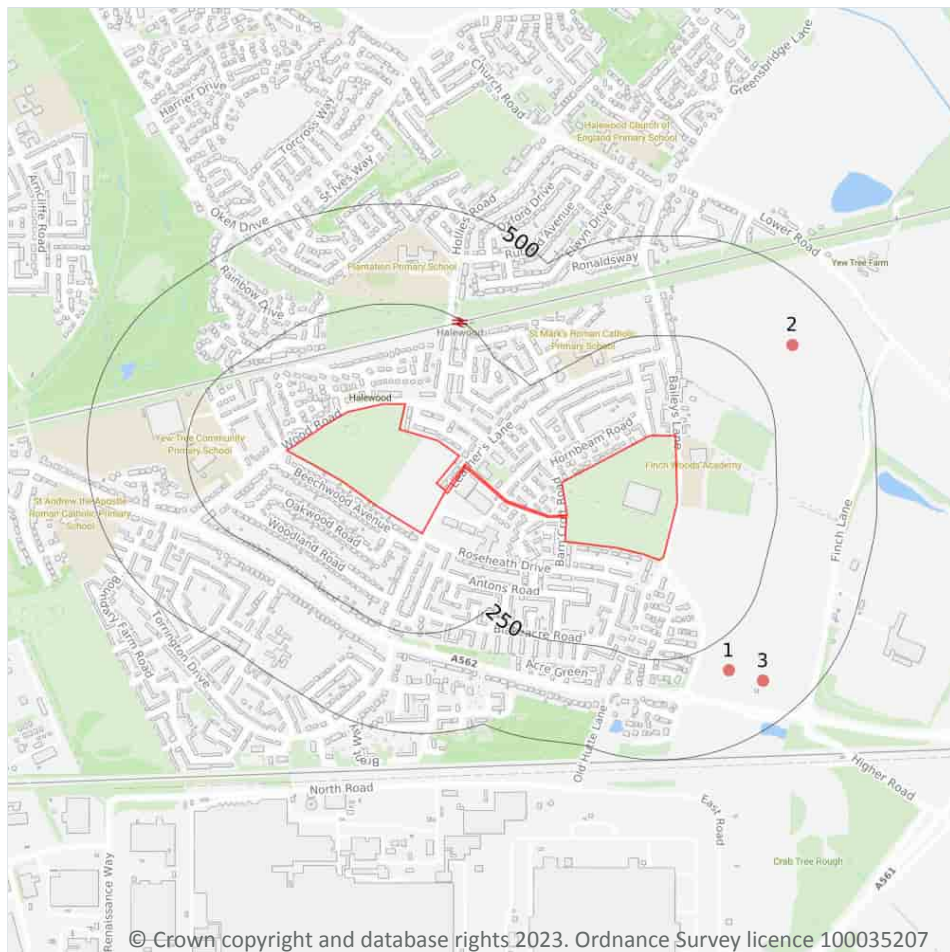
Features are displayed on the Past land use - un-grouped map on [page 21](#) >

ID	Location	Land Use	Date	Group ID
AA	224m SW	Garage	1984	23669
AA	224m SW	Garage	1971	22118
AA	224m SW	Garage	1967	24308
AA	224m SW	Garage	1967	24308
AA	225m SW	Garage	1993	21188

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



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

3.1 Active or recent landfill

Records within 500m

0

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

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

3.2 Historical landfill (BGS records)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



3.3 Historical landfill (LA/mapping records)

Records within 500m**0**

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m**0**

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

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

3.5 Historical waste sites

Records within 500m**0**

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

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

3.6 Licensed waste sites

Records within 500m**0**

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

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

3.7 Waste exemptions

Records within 500m**3**

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

Features are displayed on the Waste and landfill map on [page 32 >](#)

ID	Location	Site	Reference	Category	Sub-Category	Description
1	327m SE	-	WEX360412	Using waste exemption	Not on a farm	Use of waste in construction

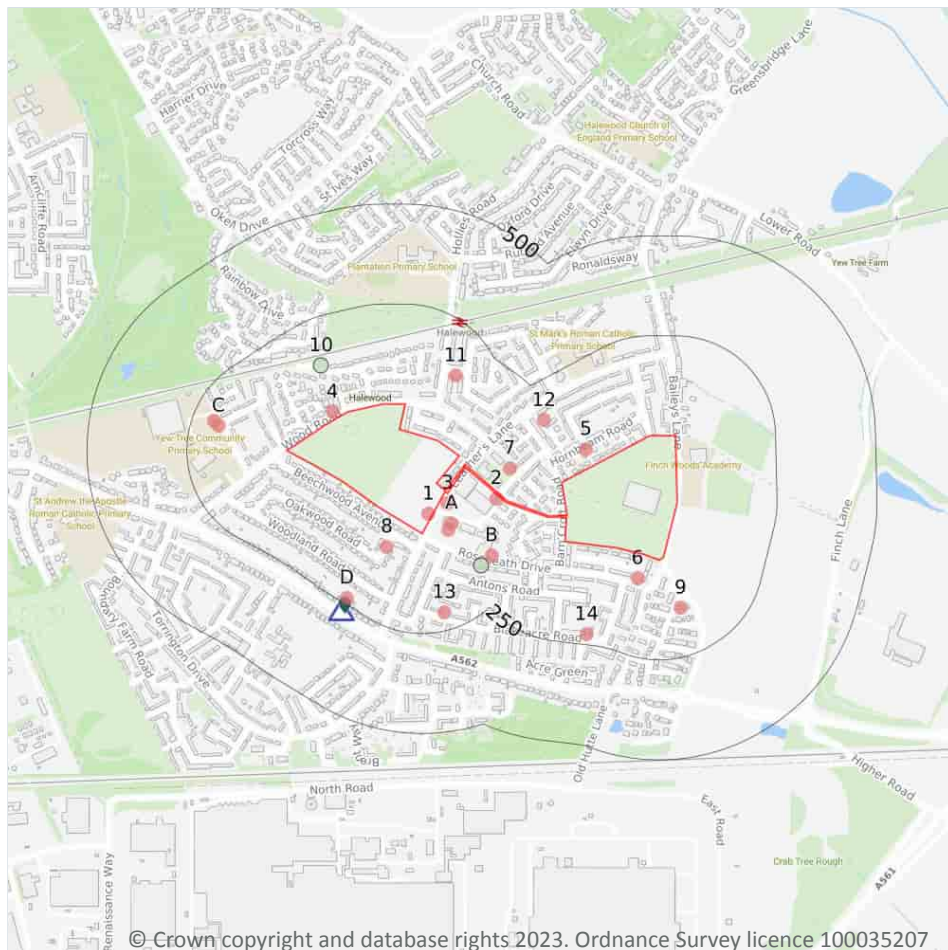


ID	Location	Site	Reference	Category	Sub-Category	Description
2	369m NE	-	WEX296802	Using waste exemption	Not on a Farm	Use of waste in construction
3	397m SE	-	WEX348169	Using waste exemption	Not on a farm	Use of waste in construction

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



4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- △ Current or recent petrol stations
- Licensed pollutant release (Part A(2)/B)
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m

19

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on [page 35 >](#)

ID	Location	Company	Address	Activity	Category
1	On site	Electricity Sub Station	Merseyside, L26	Electrical Features	Infrastructure and Facilities
2	8m S	Electricity Sub Station	Merseyside, L26	Electrical Features	Infrastructure and Facilities



ID	Location	Company	Address	Activity	Category
3	19m SW	Mast (Telecommu nication)	Merseyside, L26	Telecommunications Features	Infrastructure and Facilities
4	20m W	Electricity Sub Station	Merseyside, L26	Electrical Features	Infrastructure and Facilities
5	46m E	Electricity Sub Station	Merseyside, L26	Electrical Features	Infrastructure and Facilities
A	52m SW	Specsavers Hearcare	Barnados, 8 The Halewood Shopping Centre, Leathers Lane, Halewood, Merseyside, L26 0AD	Disability and Mobility Equipment	Consumer Products
A	53m SW	Electricity Sub Station	Merseyside, L26	Electrical Features	Infrastructure and Facilities
6	61m SE	Electricity Sub Station	Merseyside, L26	Electrical Features	Infrastructure and Facilities
7	66m NE	Electricity Sub Station	Merseyside, L26	Electrical Features	Infrastructure and Facilities
8	74m SW	Electricity Sub Station	Merseyside, L26	Electrical Features	Infrastructure and Facilities
9	131m SE	Picks Travel	10, Burland Road, Halewood, Merseyside, L26 9YJ	Airlines and Airline Services	Transport, Storage and Delivery
B	137m S	Electricity Sub Station	Merseyside, L26	Electrical Features	Infrastructure and Facilities
11	145m NW	Electricity Sub Station	Merseyside, L26	Electrical Features	Infrastructure and Facilities
12	158m NE	Electricity Sub Station	Merseyside, L26	Electrical Features	Infrastructure and Facilities
C	182m W	Electricity Sub Station	Merseyside, L26	Electrical Features	Infrastructure and Facilities
C	196m W	Mast	Merseyside, L26	Telecommunications Features	Infrastructure and Facilities
13	204m SW	Electricity Sub Station	Merseyside, L26	Electrical Features	Infrastructure and Facilities
14	223m SE	Electricity Sub Station	Merseyside, L26	Electrical Features	Infrastructure and Facilities
D	235m SW	Mfg Halewood	195, Higher Road, Liverpool, Merseyside, L26 1UN	Vehicle Cleaning Services	Personal, Consumer and Other Services

This data is sourced from Ordnance Survey.



4.2 Current or recent petrol stations

Records within 500m**1**

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on [page 35](#) >

ID	Location	Company	Address	LPG	Status
D	268m SW	SHELL	195, Higher Road, Halewood, Liverpool, Merseyside, L26 1UN	No	Open

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m**0**

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m**0**

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m**0**

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

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m**0**

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

This data is sourced from the Health and Safety Executive.



4.7 Regulated explosive sites

Records within 500m**0**

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

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m**0**

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

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m**0**

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

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m**0**

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

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

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

Records within 500m**1**

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

Features are displayed on the Current industrial land use map on [page 35](#) >

ID	Location	Address	Details	
D	255m SW	TotalFinaElf Service Station, 195 Higher Road, Halewood, L26 1UN	Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m

0

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

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

4.13 Licensed Discharges to controlled waters

Records within 500m

0

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

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

4.14 Pollutant release to surface waters (Red List)

Records within 500m

0

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

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

4.15 Pollutant release to public sewer

Records within 500m

0

Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

Records within 500m

0

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

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

4.17 List 2 Dangerous Substances

Records within 500m

0

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

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m

2

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

Features are displayed on the Current industrial land use map on [page 35 >](#)

ID	Location	Details	
10	133m NW	Incident Date: 01/11/2001 Incident Identification: 40552 Pollutant: Sewage Materials Pollutant Description: Other Sewage Material	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
B	167m S	Incident Date: 25/02/2002 Incident Identification: 60314 Pollutant: Sewage Materials Pollutant Description: Grey Water	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

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

4.19 Pollution inventory substances

Records within 500m

0

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

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

4.20 Pollution inventory waste transfers

Records within 500m

0

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

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

4.21 Pollution inventory radioactive waste

Records within 500m

0

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

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

5 Hydrogeology - Superficial aquifer



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

5.1 Superficial aquifer

Records within 500m

4

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on [page 42 >](#)

ID	Location	Designation	Description
1	On site	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
2	On site	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

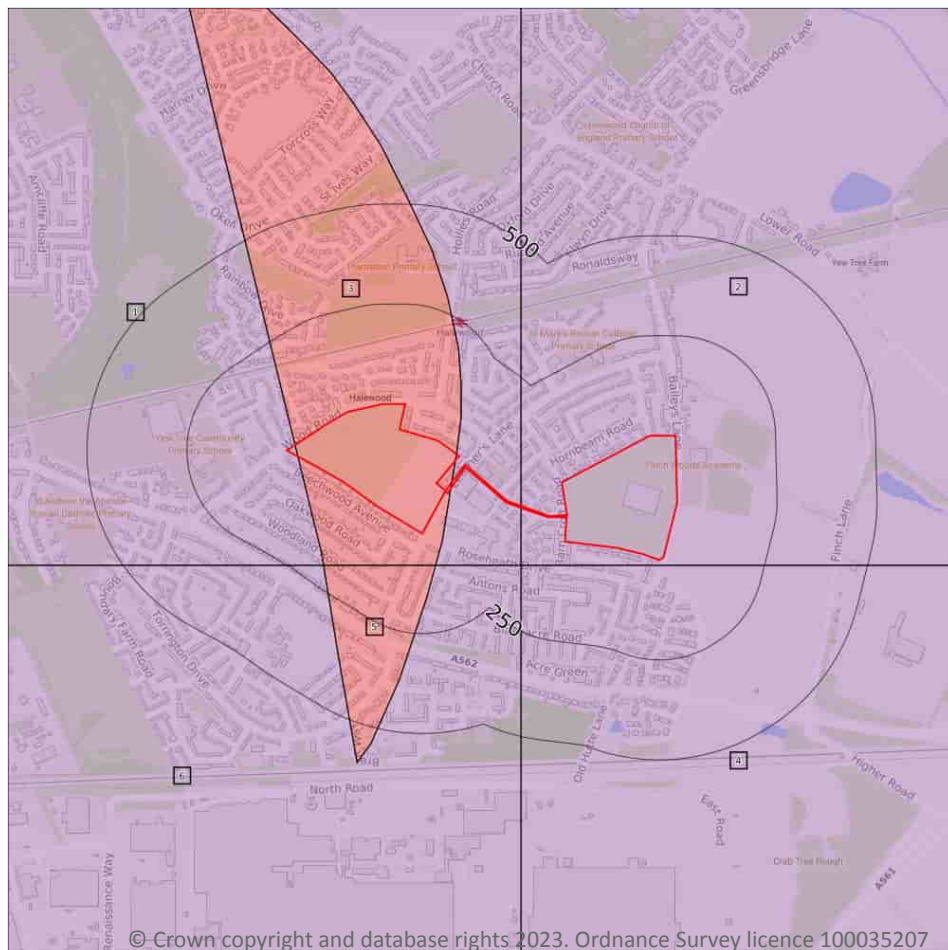


ID	Location	Designation	Description
3	13m SE	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
4	79m 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

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



Bedrock aquifer



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

5.2 Bedrock aquifer

Records within 500m

6

Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on [page 44](#) >

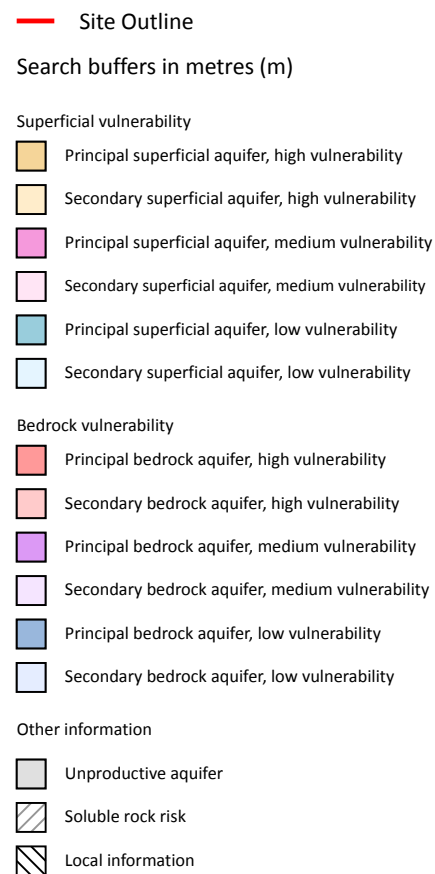
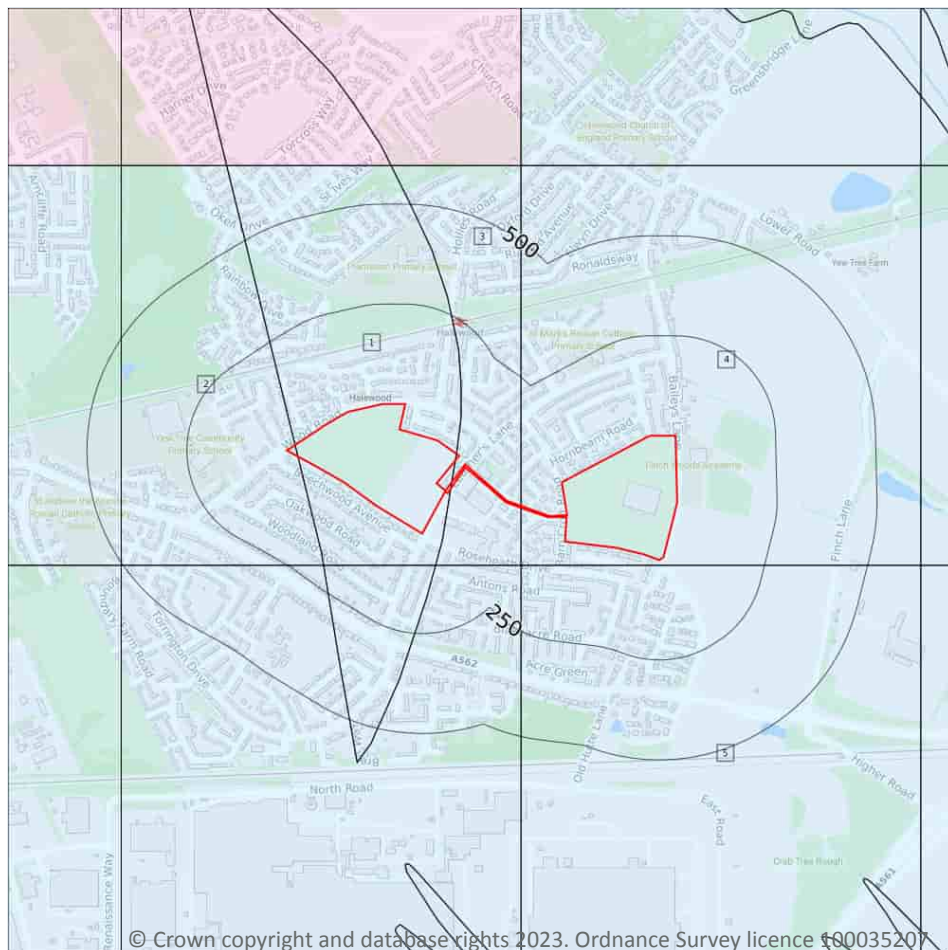
ID	Location	Designation	Description
1	On site	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
2	On site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

ID	Location	Designation	Description
3	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
4	13m SE	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
5	79m 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
6	86m SW	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers

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



Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m

5

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

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

Features are displayed on the Groundwater vulnerability map on [page 46](#) >



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: 300- 550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
2	On site	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: 300- 550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Well connected fractures
3	On site	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: 300- 550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Well connected fractures
4	On site	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: 300- 550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Intergranular
5	13m SE	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: 300- 550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Intergranular

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site

0

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

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



5.5 Groundwater vulnerability- local information

Records on site

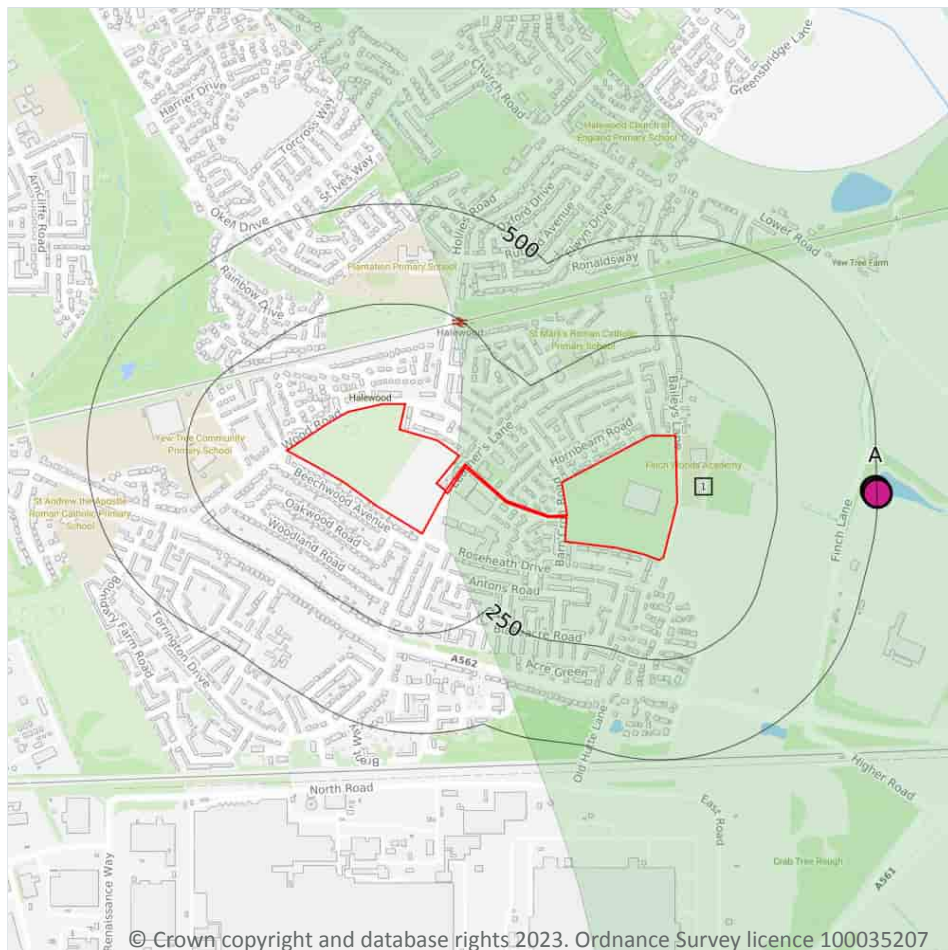
0

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

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



Abstractions and Source Protection Zones



- Site Outline
- Search buffers in metres (m)
- Source Protection Zone 1
Inner catchment
- Source Protection Zone 2
Outer catchment
- Source Protection Zone 3
Total catchment
- Source Protection Zone 4
Zone of Special Interest
- Source Protection Zone 1c
Inner catchment - confined aquifer
- Source Protection Zone 2c
Outer catchment - confined aquifer
- Source Protection Zone 3c
Total catchment - confined aquifer
- Drinking water abstraction licences
Point features
- Drinking water abstraction licences
Polygon features
- Drinking water abstraction licences
Linear features
- Groundwater abstraction licence (point)
- Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

5.6 Groundwater abstractions

Records within 2000m

63

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

Features are displayed on the Abstractions and Source Protection Zones map on [page 49 >](#)

ID	Location	Details	
A	496m E	Status: Active Licence No: NW/069/0028/025 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: BOREHOLE AT EVERTON FOOTBALL CLUB FINCH LANE HALEWOOD Data Type: Point Name: THE EVERTON FOOTBALL CLUB COMPANY LIMITED Easting: 345886 Northing: 385187	Annual Volume (m ³): 35000 Max Daily Volume (m ³): 492 Original Application No: NPS/WR/008532 Original Start Date: 02/06/2012 Expiry Date: 31/03/2028 Issue No: 100 Version Start Date: 02/06/2012 Version End Date: -
A	499m E	Status: Historical Licence No: 2569028025 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: BOREHOLE AT EVERTON FOOTBALL CLUB FINCH LANE HALEWOOD Data Type: Point Name: THE EVERTON FOOTBALL CLUB COMPANY LIMITED Easting: 345890 Northing: 385180	Annual Volume (m ³): 49142 Max Daily Volume (m ³): 491.42 Original Application No: - Original Start Date: 26/05/2007 Expiry Date: 01/06/2012 Issue No: 1 Version Start Date: 26/05/2007 Version End Date: -
-	998m W	Status: Historical Licence No: 2569030023 Details: Boiler Feed Direct Source: Ground Water - North West Region Point: "B/HOLE 'A' AT LH'S PREMESIS, FLEMING RD, SPEKE, L'POOL" Data Type: Point Name: ELI LILLY & CO LTD Easting: 343600 Northing: 384710	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 17/12/1999 Version End Date: -
-	998m W	Status: Historical Licence No: 2569030023 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: "B/HOLE 'A' AT LH'S PREMESIS, FLEMING RD, SPEKE, L'POOL" Data Type: Point Name: ELI LILLY & CO LTD Easting: 343600 Northing: 384710	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 17/12/1999 Version End Date: -

ID	Location	Details	
-	998m W	Status: Historical Licence No: 2569030023 Details: Process water Direct Source: Ground Water - North West Region Point: "B/HOLE 'A' AT LH'S PREMESIS, FLEMING RD, SPEKE, L'POOL" Data Type: Point Name: ELI LILLY & CO LTD Easting: 343600 Northing: 384710	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 17/12/1999 Version End Date: -
-	998m W	Status: Historical Licence No: 2569030023 Details: Boiler Feed Direct Source: Ground Water - North West Region Point: B/HOLE 'A' AT LH'S PREMESIS, FLEMING RD, SPEKE, L'POOL Data Type: Point Name: ELI LILLY & CO LTD Easting: 343600 Northing: 384710	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 22/12/2004 Version End Date: -
-	998m W	Status: Historical Licence No: 2569030023 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: B/HOLE 'A' AT LH'S PREMESIS, FLEMING RD, SPEKE, L'POOL Data Type: Point Name: ELI LILLY & CO LTD Easting: 343600 Northing: 384710	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 22/12/2004 Version End Date: -
-	998m W	Status: Historical Licence No: 2569030023 Details: Process water Direct Source: Ground Water - North West Region Point: B/HOLE 'A' AT LH'S PREMESIS, FLEMING RD, SPEKE, L'POOL Data Type: Point Name: ELI LILLY & CO LTD Easting: 343600 Northing: 384710	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 22/12/2004 Version End Date: -



ID	Location	Details	
-	998m W	Status: Historical Licence No: 2569030023 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE A AT LH S PREMISES FLEMING ROAD SPEKE Data Type: Point Name: ELI LILLY & CO LTD Easting: 343600 Northing: 384710	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 45000 Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 22/12/2004 Version End Date: -
-	998m W	Status: Historical Licence No: 2569030023 Details: Boiler Feed Direct Source: Ground Water - North West Region Point: BOREHOLE A AT LH S PREMISES FLEMING ROAD SPEKE Data Type: Point Name: ELI LILLY & CO LTD Easting: 343600 Northing: 384710	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 45000 Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 22/12/2004 Version End Date: -
-	998m W	Status: Historical Licence No: 2569030023 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE A AT LH S PREMISES FLEMING ROAD SPEKE Data Type: Point Name: ELI LILLY & CO LTD Easting: 343600 Northing: 384710	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 45000 Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 22/12/2004 Version End Date: -
-	998m W	Status: Historical Licence No: 2569030023 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE 1 AT LH S PREMISES FLEMING ROAD SPEKE Data Type: Point Name: ELI LILLY & CO LTD Easting: 343600 Northing: 384710	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 45000 Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 22/12/2004 Version End Date: -



ID	Location	Details	
-	998m W	Status: Historical Licence No: 2569030023 Details: Non-Evaporative Cooling Direct Source: Ground Water - North West Region Point: BOREHOLE 1 AT LH S PREMISES FLEMING ROAD SPEKE Data Type: Point Name: ELI LILLY & CO LTD Easting: 343600 Northing: 384710	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 4500 Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 103 Version Start Date: 18/03/2015 Version End Date: -
-	998m W	Status: Active Licence No: 2569030023 Details: Evaporative Cooling Direct Source: Ground Water - North West Region Point: BOREHOLE 1 AT LH S PREMISES FLEMING ROAD SPEKE Data Type: Point Name: TriRx Speke Ltd Easting: 343600 Northing: 384710	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 4500 Original Application No: NPS/WR/037405 Original Start Date: 16/02/1966 Expiry Date: - Issue No: 107 Version Start Date: 16/03/2022 Version End Date: -
-	998m W	Status: Active Licence No: 2569030023 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE 1 AT LH S PREMISES FLEMING ROAD SPEKE Data Type: Point Name: TriRx Speke Ltd Easting: 343600 Northing: 384710	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 4500 Original Application No: NPS/WR/037405 Original Start Date: 16/02/1966 Expiry Date: - Issue No: 107 Version Start Date: 16/03/2022 Version End Date: -
-	998m W	Status: Active Licence No: 2569030023 Details: Boiler Feed Direct Source: Ground Water - North West Region Point: BOREHOLE 1 AT LH S PREMISES FLEMING ROAD SPEKE Data Type: Point Name: TriRx Speke Ltd Easting: 343600 Northing: 384710	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 4500 Original Application No: NPS/WR/037405 Original Start Date: 16/02/1966 Expiry Date: - Issue No: 107 Version Start Date: 16/03/2022 Version End Date: -

ID	Location	Details	
-	1026m SW	Status: Historical Licence No: 2569030023 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: "B/HOLE 'C' AT LH'S PREMESIS, FLEMING RD, SPEKE, L'POOL" Data Type: Point Name: ELI LILLY & CO LTD Easting: 343680 Northing: 384570	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 17/12/1999 Version End Date: -
-	1026m SW	Status: Historical Licence No: 2569030023 Details: Process water Direct Source: Ground Water - North West Region Point: "B/HOLE 'C' AT LH'S PREMESIS, FLEMING RD, SPEKE, L'POOL" Data Type: Point Name: ELI LILLY & CO LTD Easting: 343680 Northing: 384570	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 17/12/1999 Version End Date: -
-	1026m SW	Status: Historical Licence No: 2569030023 Details: Boiler Feed Direct Source: Ground Water - North West Region Point: "B/HOLE 'C' AT LH'S PREMESIS, FLEMING RD, SPEKE, L'POOL" Data Type: Point Name: ELI LILLY & CO LTD Easting: 343680 Northing: 384570	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 17/12/1999 Version End Date: -
-	1026m SW	Status: Historical Licence No: 2569030023 Details: Process Water Direct Source: Ground Water - North West Region Point: B/HOLE 'C' AT LH'S PREMESIS, FLEMING RD, SPEKE, L'POOL Data Type: Point Name: ELI LILLY & CO LTD Easting: 343680 Northing: 384570	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 45000 Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 22/12/2004 Version End Date: -



ID	Location	Details	
-	1026m SW	Status: Historical Licence No: 2569030023 Details: Boiler Feed Direct Source: Ground Water - North West Region Point: B/HOLE 'C' AT LH'S PREMESIS, FLEMING RD, SPEKE, L'POOL Data Type: Point Name: ELI LILLY & CO LTD Easting: 343680 Northing: 384570	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 45000 Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 22/12/2004 Version End Date: -
-	1026m SW	Status: Historical Licence No: 2569030023 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: B/HOLE 'C' AT LH'S PREMESIS, FLEMING RD, SPEKE, L'POOL Data Type: Point Name: ELI LILLY & CO LTD Easting: 343680 Northing: 384570	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 45000 Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 22/12/2004 Version End Date: -
-	1026m SW	Status: Historical Licence No: 2569030023 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: B/HOLE 3 AT LH'S PREMESIS, FLEMING RD, SPEKE, L'POOL Data Type: Point Name: ELI LILLY & CO LTD Easting: 343680 Northing: 384570	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 45000 Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 22/12/2004 Version End Date: -
-	1026m SW	Status: Historical Licence No: 2569030023 Details: Non-Evaporative Cooling Direct Source: Ground Water - North West Region Point: B/HOLE 3 AT LH'S PREMESIS, FLEMING RD, SPEKE, L'POOL Data Type: Point Name: ELI LILLY & CO LTD Easting: 343680 Northing: 384570	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 4500 Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 103 Version Start Date: 18/03/2015 Version End Date: -



ID	Location	Details	
-	1026m SW	Status: Active Licence No: 2569030023 Details: Evaporative Cooling Direct Source: Ground Water - North West Region Point: B/HOLE 3 AT LH'S PREMESIS, FLEMING RD, SPEKE, L'POOL Data Type: Point Name: TriRx Speke Ltd Easting: 343680 Northing: 384570	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 4500 Original Application No: NPS/WR/037405 Original Start Date: 16/02/1966 Expiry Date: - Issue No: 107 Version Start Date: 16/03/2022 Version End Date: -
-	1026m SW	Status: Active Licence No: 2569030023 Details: Process Water Direct Source: Ground Water - North West Region Point: B/HOLE 3 AT LH'S PREMESIS, FLEMING RD, SPEKE, L'POOL Data Type: Point Name: TriRx Speke Ltd Easting: 343680 Northing: 384570	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 4500 Original Application No: NPS/WR/037405 Original Start Date: 16/02/1966 Expiry Date: - Issue No: 107 Version Start Date: 16/03/2022 Version End Date: -
-	1026m SW	Status: Active Licence No: 2569030023 Details: Boiler Feed Direct Source: Ground Water - North West Region Point: B/HOLE 3 AT LH'S PREMESIS, FLEMING RD, SPEKE, L'POOL Data Type: Point Name: TriRx Speke Ltd Easting: 343680 Northing: 384570	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 4500 Original Application No: NPS/WR/037405 Original Start Date: 16/02/1966 Expiry Date: - Issue No: 107 Version Start Date: 16/03/2022 Version End Date: -
-	1144m W	Status: Historical Licence No: 2569030023 Details: Boiler Feed Direct Source: Ground Water - North West Region Point: "B/HOLE 'D' AT LH'S PREMESIS, FLEMING RD, SPEKE, L'POOL" Data Type: Point Name: ELI LILLY & CO LTD Easting: 343450 Northing: 384670	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 17/12/1999 Version End Date: -



ID	Location	Details	
-	1144m W	Status: Historical Licence No: 2569030023 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: "B/HOLE 'D' AT LH'S PREMESIS, FLEMING RD, SPEKE, L'POOL" Data Type: Point Name: ELI LILLY & CO LTD Easting: 343450 Northing: 384670	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 17/12/1999 Version End Date: -
-	1144m W	Status: Historical Licence No: 2569030023 Details: Process water Direct Source: Ground Water - North West Region Point: "B/HOLE 'D' AT LH'S PREMESIS, FLEMING RD, SPEKE, L'POOL" Data Type: Point Name: ELI LILLY & CO LTD Easting: 343450 Northing: 384670	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 17/12/1999 Version End Date: -
-	1144m W	Status: Historical Licence No: 2569030023 Details: Process water Direct Source: Ground Water - North West Region Point: B/HOLE 'D' AT LH'S PREMESIS, FLEMING RD, SPEKE, L'POOL Data Type: Point Name: ELI LILLY & CO LTD Easting: 343450 Northing: 384670	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 22/12/2004 Version End Date: -
-	1144m W	Status: Historical Licence No: 2569030023 Details: Boiler Feed Direct Source: Ground Water - North West Region Point: B/HOLE 'D' AT LH'S PREMESIS, FLEMING RD, SPEKE, L'POOL Data Type: Point Name: ELI LILLY & CO LTD Easting: 343450 Northing: 384670	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 22/12/2004 Version End Date: -



ID	Location	Details	
-	1144m W	Status: Historical Licence No: 2569030023 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: B/HOLE 'D' AT LH'S PREMESIS, FLEMING RD, SPEKE, L'POOL Data Type: Point Name: ELI LILLY & CO LTD Easting: 343450 Northing: 384670	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 22/12/2004 Version End Date: -
-	1144m W	Status: Historical Licence No: 2569030023 Details: Boiler Feed Direct Source: Ground Water - North West Region Point: BOREHOLE D AT LH S PREMISES FLEMING ROAD SPEKE Data Type: Point Name: ELI LILLY & CO LTD Easting: 343450 Northing: 384670	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 45000 Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 22/12/2004 Version End Date: -
-	1144m W	Status: Historical Licence No: 2569030023 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE D AT LH S PREMISES FLEMING ROAD SPEKE Data Type: Point Name: ELI LILLY & CO LTD Easting: 343450 Northing: 384670	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 45000 Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 22/12/2004 Version End Date: -
-	1144m W	Status: Historical Licence No: 2569030023 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE D AT LH S PREMISES FLEMING ROAD SPEKE Data Type: Point Name: ELI LILLY & CO LTD Easting: 343450 Northing: 384670	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 45000 Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 22/12/2004 Version End Date: -

ID	Location	Details	
-	1144m W	Status: Historical Licence No: 2569030023 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE 4 AT LH S PREMISES FLEMING ROAD SPEKE Data Type: Point Name: ELI LILLY & CO LTD Easting: 343450 Northing: 384670	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 45000 Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 22/12/2004 Version End Date: -
-	1144m W	Status: Historical Licence No: 2569030023 Details: Non-Evaporative Cooling Direct Source: Ground Water - North West Region Point: BOREHOLE 4 AT LH S PREMISES FLEMING ROAD SPEKE Data Type: Point Name: ELI LILLY & CO LTD Easting: 343450 Northing: 384670	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 4500 Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 103 Version Start Date: 18/03/2015 Version End Date: -
-	1144m W	Status: Active Licence No: 2569030023 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE 4 AT LH S PREMISES FLEMING ROAD SPEKE Data Type: Point Name: TriRx Speke Ltd Easting: 343450 Northing: 384670	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 4500 Original Application No: NPS/WR/037405 Original Start Date: 16/02/1966 Expiry Date: - Issue No: 107 Version Start Date: 16/03/2022 Version End Date: -
-	1144m W	Status: Active Licence No: 2569030023 Details: Boiler Feed Direct Source: Ground Water - North West Region Point: BOREHOLE 4 AT LH S PREMISES FLEMING ROAD SPEKE Data Type: Point Name: TriRx Speke Ltd Easting: 343450 Northing: 384670	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 4500 Original Application No: NPS/WR/037405 Original Start Date: 16/02/1966 Expiry Date: - Issue No: 107 Version Start Date: 16/03/2022 Version End Date: -



ID	Location	Details	
-	1144m W	Status: Active Licence No: 2569030023 Details: Evaporative Cooling Direct Source: Ground Water - North West Region Point: BOREHOLE 4 AT LH S PREMISES FLEMING ROAD SPEKE Data Type: Point Name: TriRx Speke Ltd Easting: 343450 Northing: 384670	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 4500 Original Application No: NPS/WR/037405 Original Start Date: 16/02/1966 Expiry Date: - Issue No: 107 Version Start Date: 16/03/2022 Version End Date: -
-	1152m NE	Status: Historical Licence No: 2569028014 Details: Potable Water Supply - Direct Direct Source: Ground Water - North West Region Point: "BOREHOLES (2) AT GREENSBRIDGE LANE PUMPING STATION, WHISTON" Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 345800 Northing: 386400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 23/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 01/09/2001 Version End Date: -
-	1152m NE	Status: Active Licence No: 2569028014 Details: Potable Water Supply - Direct Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT GREENSBRIDGE LANE PUMPING STATION, WHISTON Data Type: Point Name: United Utilities Water Ltd Easting: 345800 Northing: 386400	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 11400 Original Application No: 1611 Original Start Date: 23/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 01/09/2001 Version End Date: -
-	1167m SW	Status: Historical Licence No: 2569030023 Details: Process water Direct Source: Ground Water - North West Region Point: "B/HOLE 'B' AT LH'S PREMISES, FLEMING RD, SPEKE, L'POOL" Data Type: Point Name: ELI LILLY & CO LTD Easting: 343570 Northing: 384480	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 17/12/1999 Version End Date: -



ID	Location	Details	
-	1167m SW	Status: Historical Licence No: 2569030023 Details: Boiler Feed Direct Source: Ground Water - North West Region Point: "B/HOLE 'B' AT LH'S PREMISES, FLEMING RD, SPEKE, L'POOL" Data Type: Point Name: ELI LILLY & CO LTD Easting: 343570 Northing: 384480	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 17/12/1999 Version End Date: -
-	1167m SW	Status: Historical Licence No: 2569030023 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: "B/HOLE 'B' AT LH'S PREMISES, FLEMING RD, SPEKE, L'POOL" Data Type: Point Name: ELI LILLY & CO LTD Easting: 343570 Northing: 384480	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 17/12/1999 Version End Date: -
-	1167m SW	Status: Historical Licence No: 2569030023 Details: Process Water Direct Source: Ground Water - North West Region Point: B/HOLE 'B' AT LH'S PREMISES, FLEMING RD, SPEKE, L'POOL Data Type: Point Name: ELI LILLY & CO LTD Easting: 343570 Northing: 384480	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 45000 Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 22/12/2004 Version End Date: -
-	1167m SW	Status: Historical Licence No: 2569030023 Details: Boiler Feed Direct Source: Ground Water - North West Region Point: B/HOLE 'B' AT LH'S PREMISES, FLEMING RD, SPEKE, L'POOL Data Type: Point Name: ELI LILLY & CO LTD Easting: 343570 Northing: 384480	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 45000 Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 22/12/2004 Version End Date: -

ID	Location	Details	
-	1167m SW	Status: Historical Licence No: 2569030023 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: B/HOLE 'B' AT LH'S PREMISES, FLEMING RD, SPEKE, L'POOL Data Type: Point Name: ELI LILLY & CO LTD Easting: 343570 Northing: 384480	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 45000 Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 22/12/2004 Version End Date: -
-	1167m SW	Status: Historical Licence No: 2569030023 Details: Boiler Feed Direct Source: Ground Water - North West Region Point: B/HOLE2 AT LH'S PREMISES, FLEMING RD, SPEKE, L'POOL Data Type: Point Name: ELI LILLY & CO LTD Easting: 343570 Northing: 384480	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 45000 Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 22/12/2004 Version End Date: -
-	1167m SW	Status: Historical Licence No: 2569030023 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: B/HOLE2 AT LH'S PREMISES, FLEMING RD, SPEKE, L'POOL Data Type: Point Name: ELI LILLY & CO LTD Easting: 343570 Northing: 384480	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 45000 Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 22/12/2004 Version End Date: -
-	1167m SW	Status: Historical Licence No: 2569030023 Details: Process Water Direct Source: Ground Water - North West Region Point: B/HOLE2 AT LH'S PREMISES, FLEMING RD, SPEKE, L'POOL Data Type: Point Name: ELI LILLY & CO LTD Easting: 343570 Northing: 384480	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 45000 Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 22/12/2004 Version End Date: -



ID	Location	Details	
-	1212m SW	Status: Historical Licence No: 2569030023 Details: Non-Evaporative Cooling Direct Source: Ground Water - North West Region Point: B/HOLE2 AT LH'S PREMISES, FLEMING RD, SPEKE, L'POOL Data Type: Point Name: ELI LILLY & CO LTD Easting: 343506 Northing: 384484	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 4500 Original Application No: - Original Start Date: 16/02/1966 Expiry Date: - Issue No: 103 Version Start Date: 18/03/2015 Version End Date: -
-	1212m SW	Status: Active Licence No: 2569030023 Details: Process Water Direct Source: Ground Water - North West Region Point: B/HOLE2 AT LH'S PREMISES, FLEMING RD, SPEKE, L'POOL Data Type: Point Name: TriRx Speke Ltd Easting: 343506 Northing: 384484	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 4500 Original Application No: NPS/WR/037405 Original Start Date: 16/02/1966 Expiry Date: - Issue No: 107 Version Start Date: 16/03/2022 Version End Date: -
-	1212m SW	Status: Active Licence No: 2569030023 Details: Evaporative Cooling Direct Source: Ground Water - North West Region Point: B/HOLE2 AT LH'S PREMISES, FLEMING RD, SPEKE, L'POOL Data Type: Point Name: TriRx Speke Ltd Easting: 343506 Northing: 384484	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 4500 Original Application No: NPS/WR/037405 Original Start Date: 16/02/1966 Expiry Date: - Issue No: 107 Version Start Date: 16/03/2022 Version End Date: -
-	1212m SW	Status: Active Licence No: 2569030023 Details: Boiler Feed Direct Source: Ground Water - North West Region Point: B/HOLE2 AT LH'S PREMISES, FLEMING RD, SPEKE, L'POOL Data Type: Point Name: TriRx Speke Ltd Easting: 343506 Northing: 384484	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 4500 Original Application No: NPS/WR/037405 Original Start Date: 16/02/1966 Expiry Date: - Issue No: 107 Version Start Date: 16/03/2022 Version End Date: -



ID	Location	Details	
-	1802m E	Status: Active Licence No: 2569028001 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE AT LH S PREMISES HALEBANK WIDNES CHESHIRE Data Type: Point Name: Vertellus Specialites UK Limited Easting: 347154 Northing: 384787	Annual Volume (m ³): 250000 Max Daily Volume (m ³): 684.96 Original Application No: NPS/WR/030782 Original Start Date: 25/03/1966 Expiry Date: - Issue No: 104 Version Start Date: 22/03/2019 Version End Date: -
-	1844m E	Status: Historical Licence No: 2569028001 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLE AT LH'S PREMISES, HALEBANK, WIDNES, CHESHIRE" Data Type: Point Name: GREAT LAKES FINE CHEMICALS LTD Easting: 347200 Northing: 384800	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 25/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/01/1995 Version End Date: -
-	1844m E	Status: Historical Licence No: 2569028001 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: "BOREHOLE AT LH'S PREMISES, HALEBANK, WIDNES, CHESHIRE" Data Type: Point Name: GREAT LAKES FINE CHEMICALS LTD Easting: 347200 Northing: 384800	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 25/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/01/1995 Version End Date: -
-	1844m E	Status: Historical Licence No: 2569028001 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT LH'S PREMISES, HALEBANK, WIDNES, CHESHIRE Data Type: Point Name: PENTAGON FINE CHEMICALS LIMITED Easting: 347200 Northing: 384800	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 25/03/1966 Expiry Date: - Issue No: 102 Version Start Date: 17/12/2003 Version End Date: -



ID	Location	Details	
-	1844m E	Status: Historical Licence No: 2569028001 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLE AT LH'S PREMISES, HALEBANK, WIDNES, CHESHIRE Data Type: Point Name: PENTAGON FINE CHEMICALS LIMITED Easting: 347200 Northing: 384800	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 25/03/1966 Expiry Date: - Issue No: 102 Version Start Date: 17/12/2003 Version End Date: -
-	1844m E	Status: Historical Licence No: 2569028001 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT LH S PREMISES HALEBANK WIDNES CHESHIRE Data Type: Point Name: Vertellus Specialites UK Limited Easting: 347200 Northing: 384800	Annual Volume (m ³): 1136500 Max Daily Volume (m ³): 8182.8 Original Application No: - Original Start Date: 25/03/1966 Expiry Date: - Issue No: 103 Version Start Date: 23/11/2015 Version End Date: -
-	1844m E	Status: Historical Licence No: 2569028001 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE AT LH S PREMISES HALEBANK WIDNES CHESHIRE Data Type: Point Name: Vertellus Specialites UK Limited Easting: 347200 Northing: 384800	Annual Volume (m ³): 1136500 Max Daily Volume (m ³): 8182.8 Original Application No: - Original Start Date: 25/03/1966 Expiry Date: - Issue No: 103 Version Start Date: 23/11/2015 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m

2

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

Features are displayed on the Abstractions and Source Protection Zones map on [page 49 >](#)



ID	Location	Details	
-	1746m SE	Status: Historical Licence No: 2569029001 Details: General Washing/Process Washing Direct Source: "Surface, Non-Tidal - North West Region" Point: "RAMS BRK, HALEWOOD WASTEWATER TREATMENT WORKS, MERSEYSIDE" Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 346500 Northing: 383700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/06/1987 Expiry Date: - Issue No: 100 Version Start Date: 18/06/1987 Version End Date: -
-	1746m SE	Status: Historical Licence No: 2569029001 Details: General Washing/Process Washing Direct Source: Surface, Non-Tidal - North West Region Point: RAMS BRK, HALEWOOD WASTEWATER TREATMENT WORKS, MERSEYSIDE Data Type: Point Name: United Utilities Water Ltd Easting: 346500 Northing: 383700	Annual Volume (m ³): 13638 Max Daily Volume (m ³): 109.10 Original Application No: 2743 Original Start Date: 18/06/1987 Expiry Date: - Issue No: 100 Version Start Date: 18/06/1987 Version End Date: -

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

5.8 Potable abstractions

Records within 2000m

2

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

Features are displayed on the Abstractions and Source Protection Zones map on [page 49 >](#)

ID	Location	Details	
-	1152m NE	Status: Historical Licence No: 2569028014 Details: Potable Water Supply - Direct Direct Source: Ground Water - North West Region Point: "BOREHOLES (2) AT GREENSBIDGE LANE PUMPING STATION, WHISTON" Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 345800 Northing: 386400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 23/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 01/09/2001 Version End Date: -



ID	Location	Details	
-	1152m NE	Status: Active Licence No: 2569028014 Details: Potable Water Supply - Direct Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT GREENSBRIDGE LANE PUMPING STATION, WHISTON Data Type: Point Name: United Utilities Water Ltd Easting: 345800 Northing: 386400	Annual Volume (m ³): 1500000 Max Daily Volume (m ³): 11400 Original Application No: 1611 Original Start Date: 23/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 01/09/2001 Version End Date: -

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

5.9 Source Protection Zones

Records within 500m	1
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Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination. Features are displayed on the Abstractions and Source Protection Zones map on [page 49 >](#)

ID	Location	Type	Description
1	On site	3	Total catchment

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

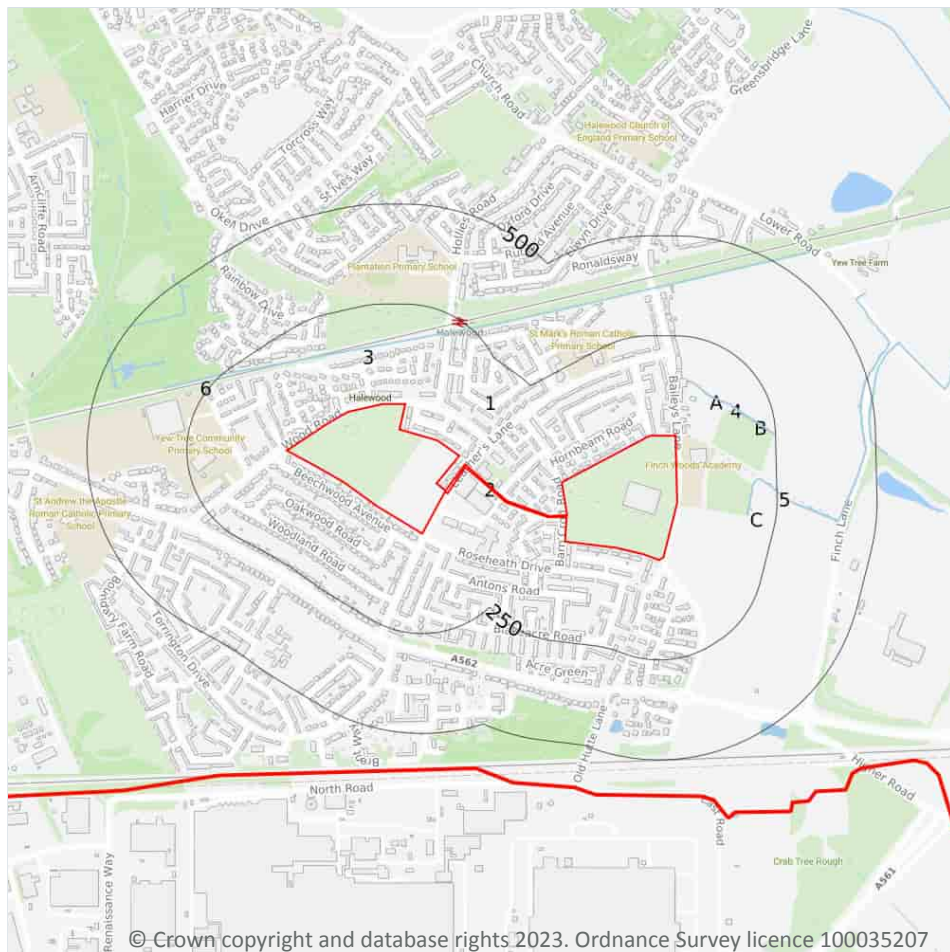
5.10 Source Protection Zones (confined aquifer)

Records within 500m	0
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Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

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

6 Hydrology



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

6.1 Water Network (OS MasterMap)

Records within 250m

10

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

Features are displayed on the Hydrology map on [page 68 >](#)

ID	Location	Type of water feature	Ground level	Permanence	Name
A	130m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
3	145m NW	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
4	149m E	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	158m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	178m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	180m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	180m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	183m E	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
5	194m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
6	248m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

4

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

Features are displayed on the Hydrology map on [page 68 >](#)

This data is sourced from the Ordnance Survey.



6.3 WFD Surface water body catchments

Records on site	1
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The Water Framework Directive is an EU-led framework for the protection of inland surface waters, estuaries, coastal waters and groundwater through river basin-level management planning. In terms of surface water, these basins are broken down into smaller units known as management, operational and water body catchments.

Features are displayed on the Hydrology map on [page 68 >](#)

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
1	On site	River	Ditton Brook (Halewood to Mersey Estuary)	GB112069061390	Ditton	Mersey Lower

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

6.4 WFD Surface water bodies

Records identified	1
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Surface water bodies under the Directive may be rivers, lakes, estuary or coastal. To achieve the purpose of the Directive, environmental objectives have been set and are reported on for each water body. The progress towards delivery of the objectives is then reported on by the relevant competent authorities at the end of each six-year cycle. The river water body directly associated with the catchment listed in the previous section is detailed below, along with any lake, canal, coastal or artificial water body within 250m of the site. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each water body listed.

Features are displayed on the Hydrology map on [page 68 >](#)

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	1038m NE	River	Ditton Brook (Halewood to Mersey Estuary)	GB112069061390 ↗	Moderate	Fail	Moderate	2019

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

6.5 WFD Groundwater bodies

Records on site	1
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Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.



Features are displayed on the Hydrology map on [page 68](#) >

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
2	On site	Lower Mersey Basin and North Merseyside Permo-Triassic Sandstone Aquifers	GB41201G101700 ↗	Poor	Poor	Poor	2019

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



7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m**0**

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

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

7.2 Historical Flood Events

Records within 250m**0**

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

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

7.3 Flood Defences

Records within 250m**0**

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

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



7.4 Areas Benefiting from Flood Defences

Records within 250m

0

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

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

7.5 Flood Storage Areas

Records within 250m

0

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

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

River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m

0

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

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

7.7 Flood Zone 3

Records within 50m

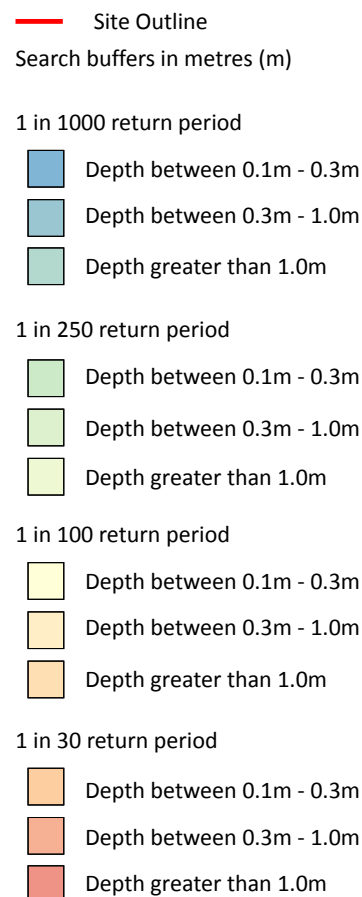
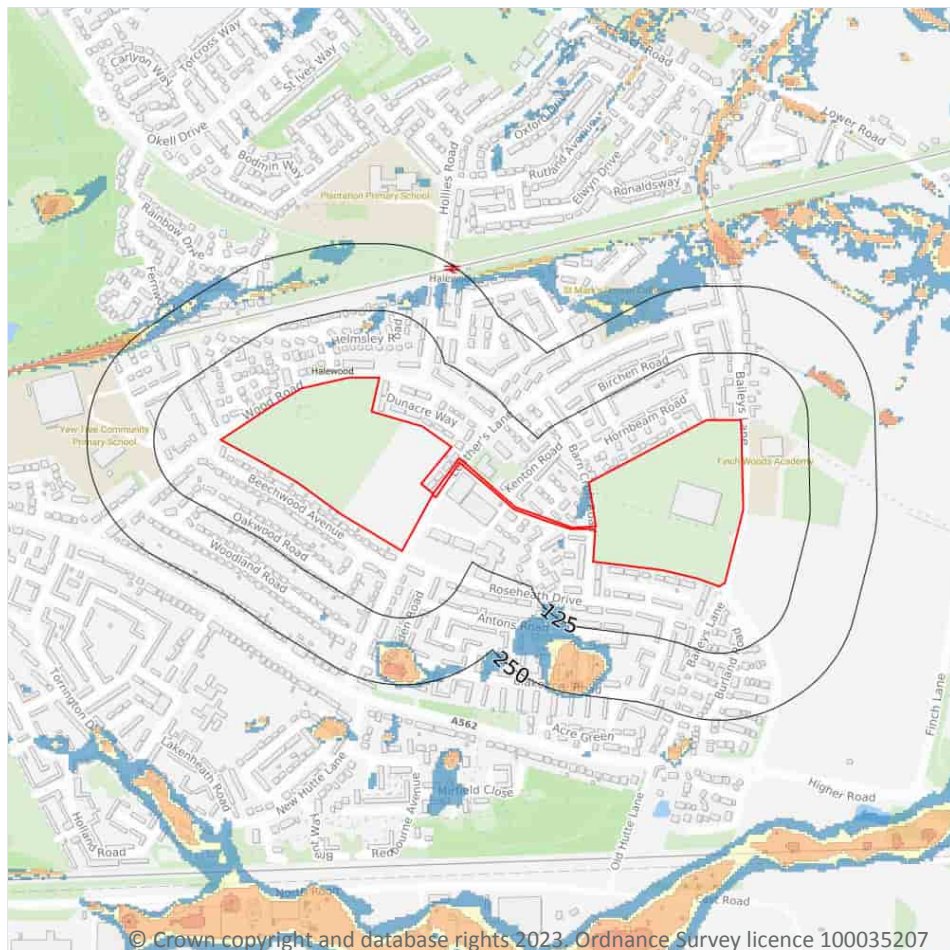
0

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

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



8 Surface water flooding



8.1 Surface water flooding

Highest risk on site

1 in 1000 year, 0.1m - 0.3m

Highest risk within 50m

1 in 1000 year, 0.3m - 1.0m

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

Features are displayed on the Surface water flooding map on [page 75 >](#)

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

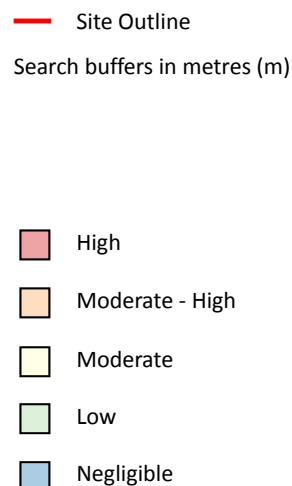
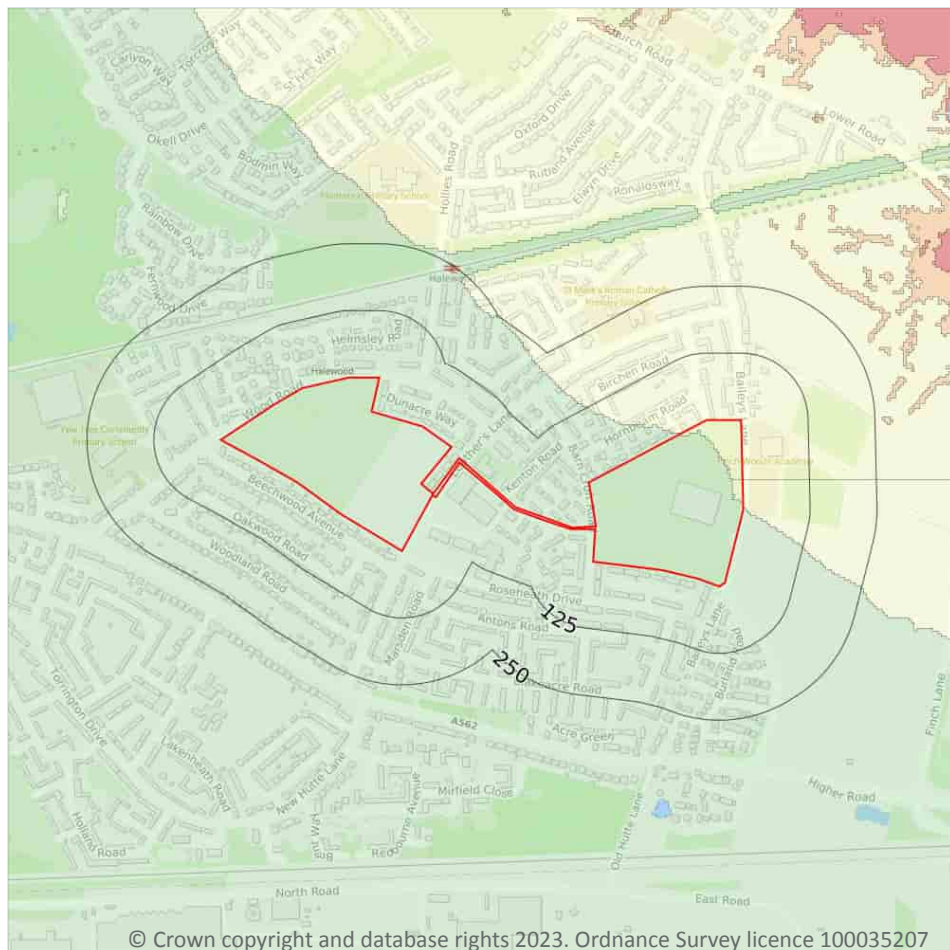
The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Between 0.1m and 0.3m
1 in 250 year	Negligible
1 in 100 year	Negligible
1 in 30 year	Negligible

This data is sourced from Ambiantal Risk Analytics.



9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site

Moderate

Highest risk within 50m

Moderate

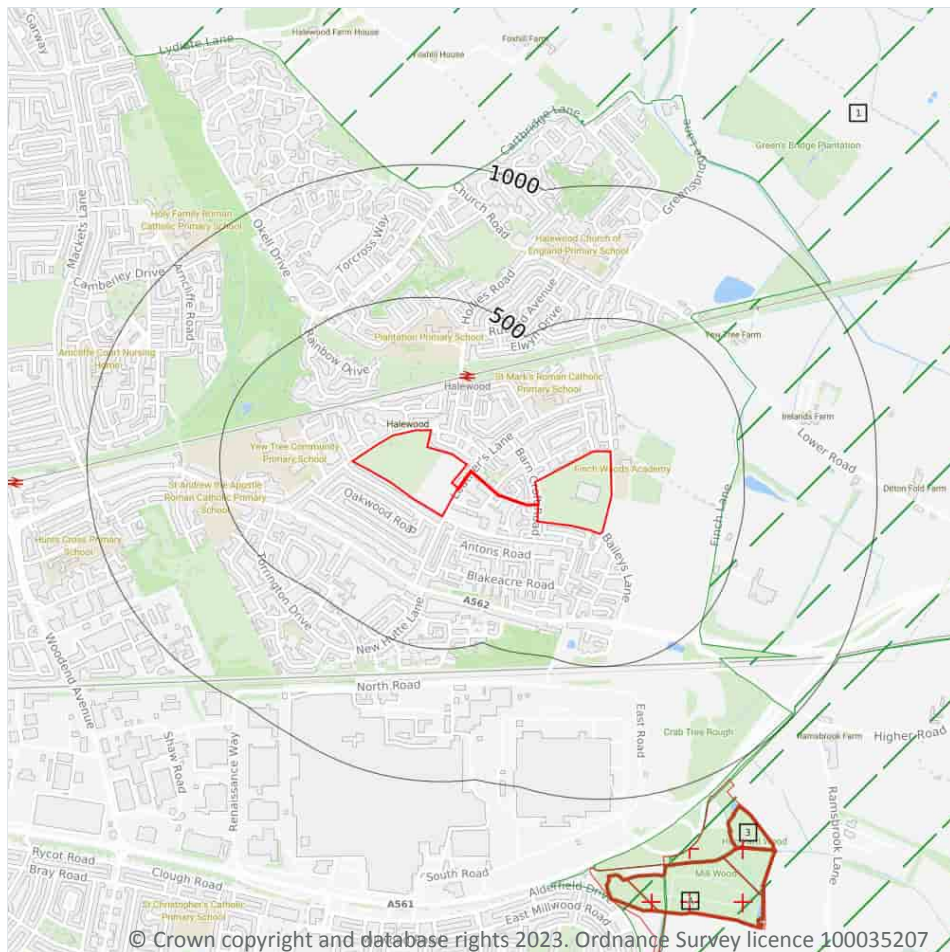
Groundwater flooding is caused by unusually high groundwater levels. It occurs when the water table rises above the ground surface or within underground structures such as basements or cellars. Groundwater flooding tends to exhibit a longer duration than surface water flooding, possibly lasting for weeks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

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

This data is sourced from Ambiantal Risk Analytics.



10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- + Local Nature Reserves (LNR)
- ▨ Designated Ancient Woodland
- ▨ Green Belt

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

0

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

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m**0**

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m**0**

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m**0**

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m**0**

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m

1

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

Features are displayed on the Environmental designations map on [page 78 >](#)

ID	Location	Name	Data source
A	1046m SE	Millwood & Alder Wood	Natural England

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

10.7 Designated Ancient Woodland

Records within 2000m

2

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

Features are displayed on the Environmental designations map on [page 78 >](#)

ID	Location	Name	Woodland Type
3	1154m SE	Hop Yard Wood	Ancient & Semi-Natural Woodland
A	1274m SE	Mill Wood	Ancient & Semi-Natural Woodland

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

10.8 Biosphere Reserves

Records within 2000m

0

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

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

10.9 Forest Parks

Records within 2000m**0**

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m**0**

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

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

10.11 Green Belt

Records within 2000m**4**

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

Features are displayed on the Environmental designations map on [page 78 >](#)

ID	Location	Name	Local Authority name
1	420m E	Merseyside and Greater Manchester	Knowsley
2	982m SE	Merseyside and Greater Manchester	Halton
4	1253m S	Merseyside and Greater Manchester	Liverpool
-	1992m N	Merseyside and Greater Manchester	Liverpool

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

10.12 Proposed Ramsar sites

Records within 2000m**0**

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

This data is sourced from Natural England.



10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m

0

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

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

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m

0

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m

0

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

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m

4

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

Location	Name	Type	NVZ ID	Status
On site	Ditton Brook (Halewood to Mersey Estuary) NVZ	Surface Water	640	Existing

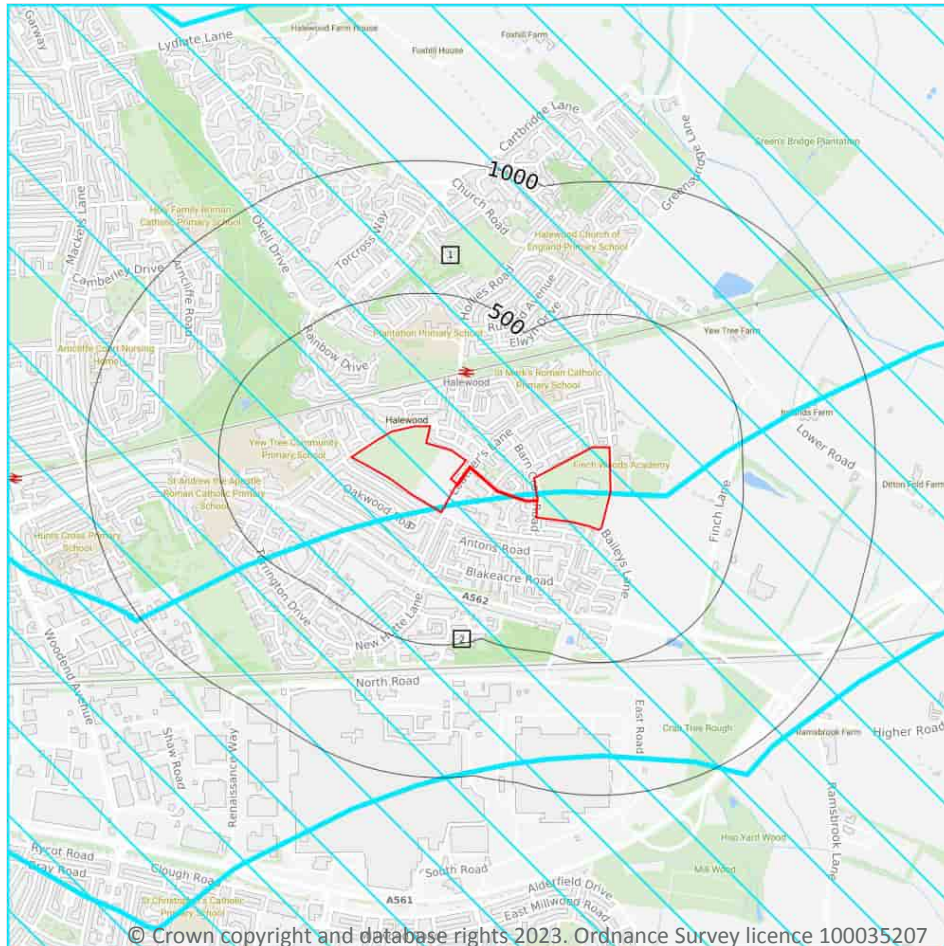


Location	Name	Type	NVZ ID	Status
322m W	Dittton Brook (Halewood to Mersey Estuary) NVZ	Surface Water	640	Existing
578m N	Dittton Brook (Halewood to Mersey Estuary) NVZ	Surface Water	640	Existing
757m NW	Dittton Brook (Halewood to Mersey Estuary) NVZ	Surface Water	640	Existing

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



SSSI Impact Zones and Units



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

10.17 SSSI Impact Risk Zones

Records on site

2

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

Features are displayed on the SSSI Impact Zones and Units map on [page 84](#) >

ID	Location	Type of developments requiring consultation
1	On site	Infrastructure - Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals. Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines. Minerals, Oil and Gas - Planning applications for quarries: new proposals or extensions, outside or extending outside existing settlements/urban areas affecting greenspace, farmland or semi natural habitats. Oil & gas exploration/extraction. Rural non-residential - Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha. Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas. Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t). Combustion - General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion. Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill. Discharges - Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream. Notes: New residential developments in this area should consider recreational disturbance impacts on the coastal designated sites. Please consider this issue in the HRA screening.
2	On site	Infrastructure - Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals. Wind and Solar - Solar schemes with footprint > 0.5ha, all wind turbines. Minerals, Oil and Gas - Planning applications for quarries: new proposals or extensions, outside or extending outside existing settlements/urban areas affecting greenspace, farmland or semi natural habitats. Oil & gas exploration/extraction. Rural non-residential - Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha. Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas. Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t). Combustion - General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion. Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill. Discharges - Any discharge of water or liquid waste of more than 5m³/day to ground (ie to seep away) or to surface water, such as a beck or stream. Notes: New residential developments in this area should consider recreational disturbance impacts on the coastal designated sites. Please consider this issue in the HRA screening.

This data is sourced from Natural England.



10.18 SSSI Units

Records within 2000m

0

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

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



11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m

0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

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

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

11.3 National Parks

Records within 250m

0

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

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

11.4 Listed Buildings

Records within 250m

0

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



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

11.5 Conservation Areas

Records within 250m

0

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

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

11.6 Scheduled Ancient Monuments

Records within 250m

0

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

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

11.7 Registered Parks and Gardens

Records within 250m

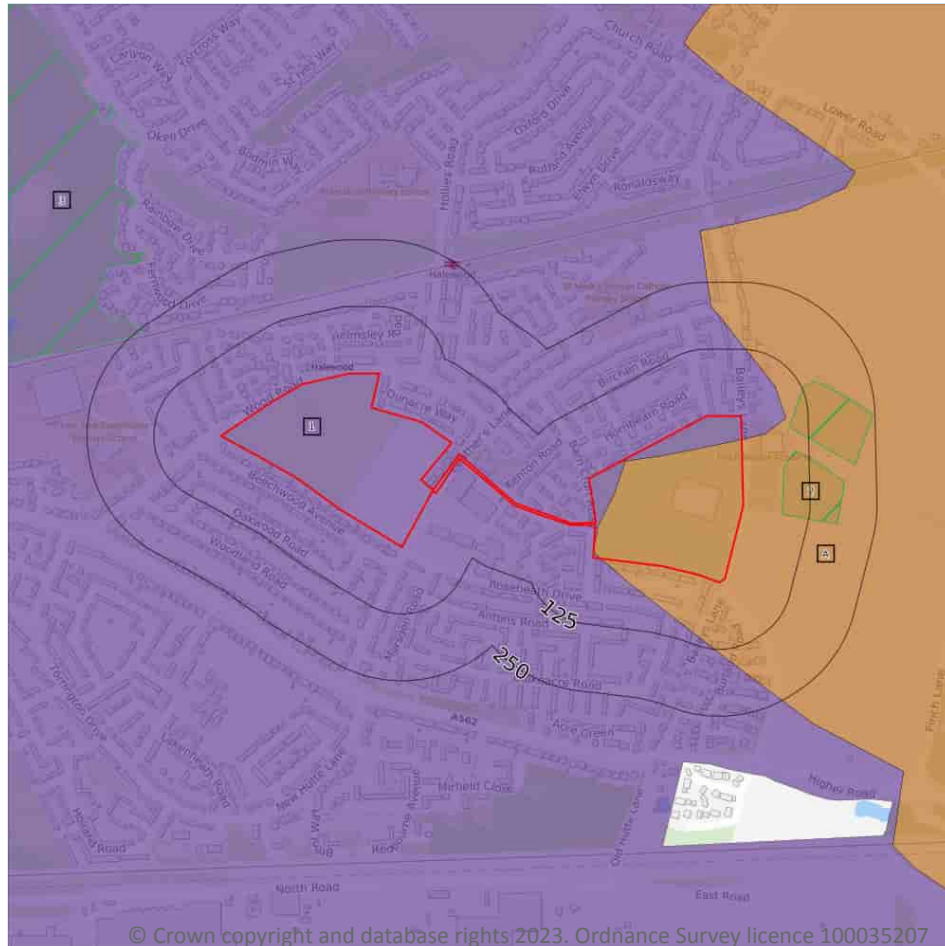
0

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

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



12 Agricultural designations



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

12.1 Agricultural Land Classification

Records within 250m

2

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

Features are displayed on the Agricultural designations map on [page 89](#) >

ID	Location	Classification	Description
1	On site	Urban	-

ID	Location	Classification	Description
A	On site	Grade 2	Very good quality agricultural land. Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m	0
----------------------------	----------

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

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

12.3 Tree Felling Licences

Records within 250m	3
----------------------------	----------

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

Features are displayed on the Agricultural designations map on [page 89](#) >

ID	Location	Description	Reference	Application date
2	74m E	Selective Fell/Thin (Unconditional)	010/117/09-10	18/12/2009
A	90m E	Selective Fell/Thin (Unconditional)	010/117/09-10	18/12/2009
3	240m W	Selective Fell/Thin (Unconditional)	010/117/09-10	18/12/2009

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m

0

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

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m

0

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

This data is sourced from Natural England.

13 Habitat designations



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

13.1 Priority Habitat Inventory

Records within 250m

11

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

Features are displayed on the Habitat designations map on [page 92 >](#)

ID	Location	Main Habitat	Other habitats
1	74m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
2	90m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
3	161m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
4	166m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)



ID	Location	Main Habitat	Other habitats
5	210m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
A	212m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
A	227m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
A	232m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
6	240m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
7	244m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
8	250m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m

0

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m

0

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

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m

0

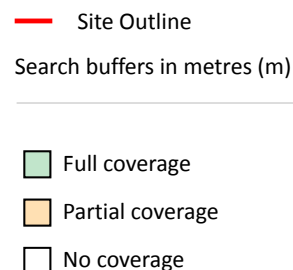
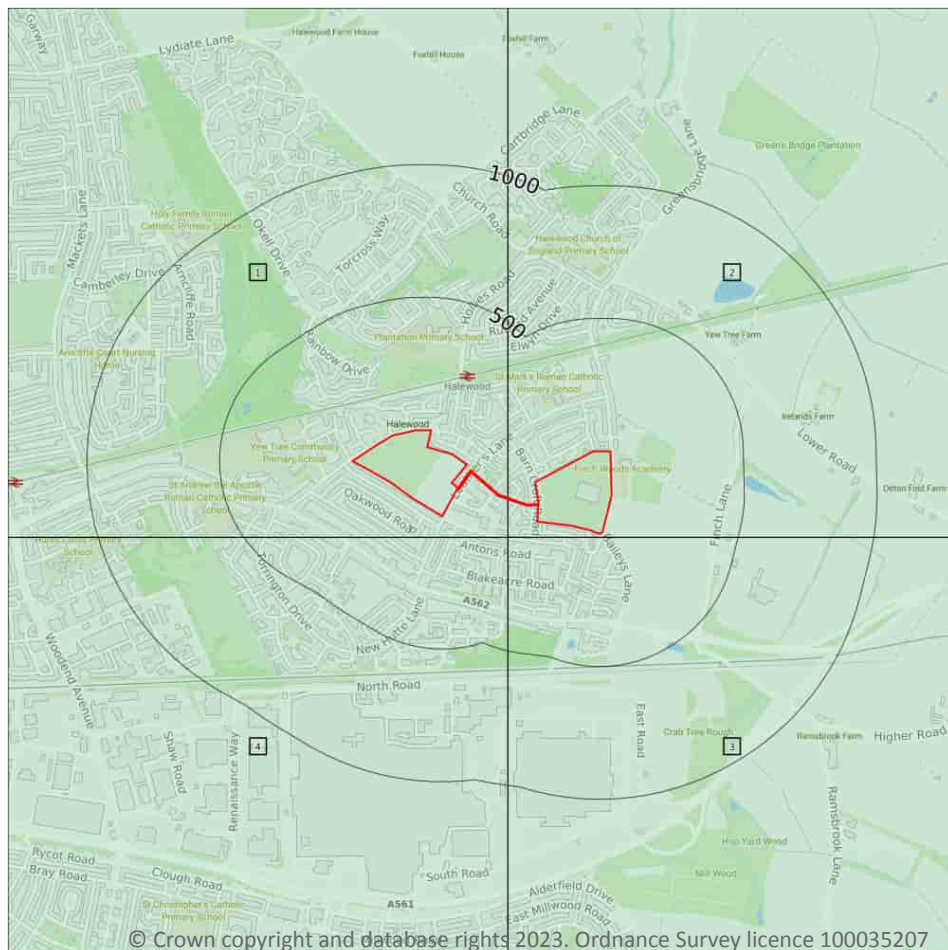
Limestone pavements are outcrops of limestone where the surface has been worn away by natural means over millennia. These rocks have the appearance of paving blocks, hence their name. Not only do they have geological interest, they also provide valuable habitats for wildlife. These habitats are threatened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



This data is sourced from Natural England.



14 Geology 1:10,000 scale - Availability



14.1 10k Availability

Records within 500m

4

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

Features are displayed on the Geology 1:10,000 scale - Availability map on [page 95](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	Full	Full	No coverage	SJ48NW
2	On site	No coverage	Full	Full	No coverage	SJ48NE
3	13m SE	No coverage	Full	Full	No coverage	SJ48SE
4	79m SW	No coverage	Full	Full	No coverage	SJ48SW



This data is sourced from the British Geological Survey.



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

14.2 Artificial and made ground (10k)

Records within 500m

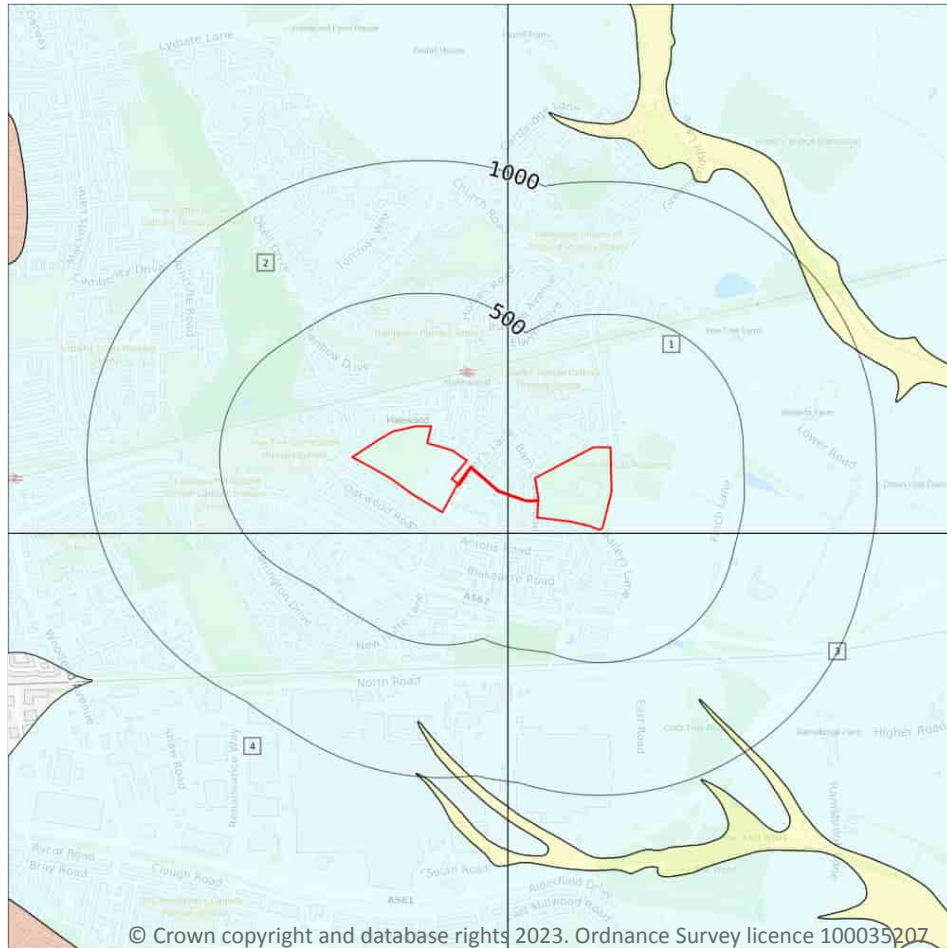
0

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

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (10k)

Superficial geology (10k)
Please see table for more details.

14.3 Superficial geology (10k)

Records within 500m

4

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

Features are displayed on the Geology 1:10,000 scale - Superficial map on [page 98](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
2	On site	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
3	13m SE	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton



ID	Location	LEX Code	Description	Rock description
4	79m SW	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

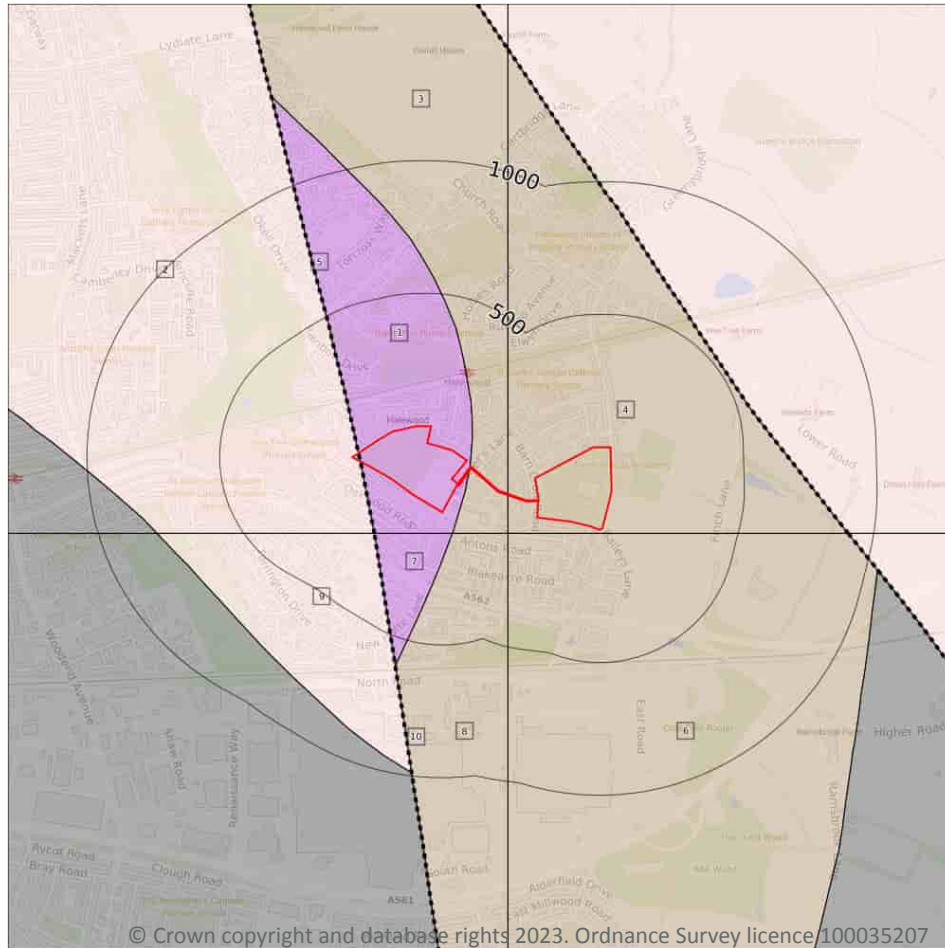
0

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

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock



— Site Outline

Search buffers in metres (m)

.... Bedrock faults and other linear features (10k)

Bedrock geology (10k)
Please see table for more details.

14.5 Bedrock geology (10k)

Records within 500m

8

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

Features are displayed on the Geology 1:10,000 scale - Bedrock map on [page 100](#) >

ID	Location	LEX Code	Description	Rock age
1	On site	ETM-MDSC	Etruria Formation - Mudstone, Sandstone And Conglomerate	Westphalian Age
2	On site	WLSF-SDST	Wilmslow Sandstone Formation - Sandstone	Early Triassic Epoch
3	On site	KNSF-SDST	Kinnerton Sandstone Formation - Sandstone	Early Triassic Epoch



ID	Location	LEX Code	Description	Rock age
4	On site	KNSF-SDST	Kinnerton Sandstone Formation - Sandstone	Early Triassic Epoch
6	13m SE	KNSF-SDST	Kinnerton Sandstone Formation - Sandstone	Early Triassic Epoch
7	79m SW	ETM-MDSC	Etruria Formation - Mudstone, Sandstone And Conglomerate	Westphalian Age
8	88m SW	KNSF-SDST	Kinnerton Sandstone Formation - Sandstone	Early Triassic Epoch
9	204m SW	WLSF-SDST	Wilmslow Sandstone Formation - Sandstone	Early Triassic Epoch

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

2

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

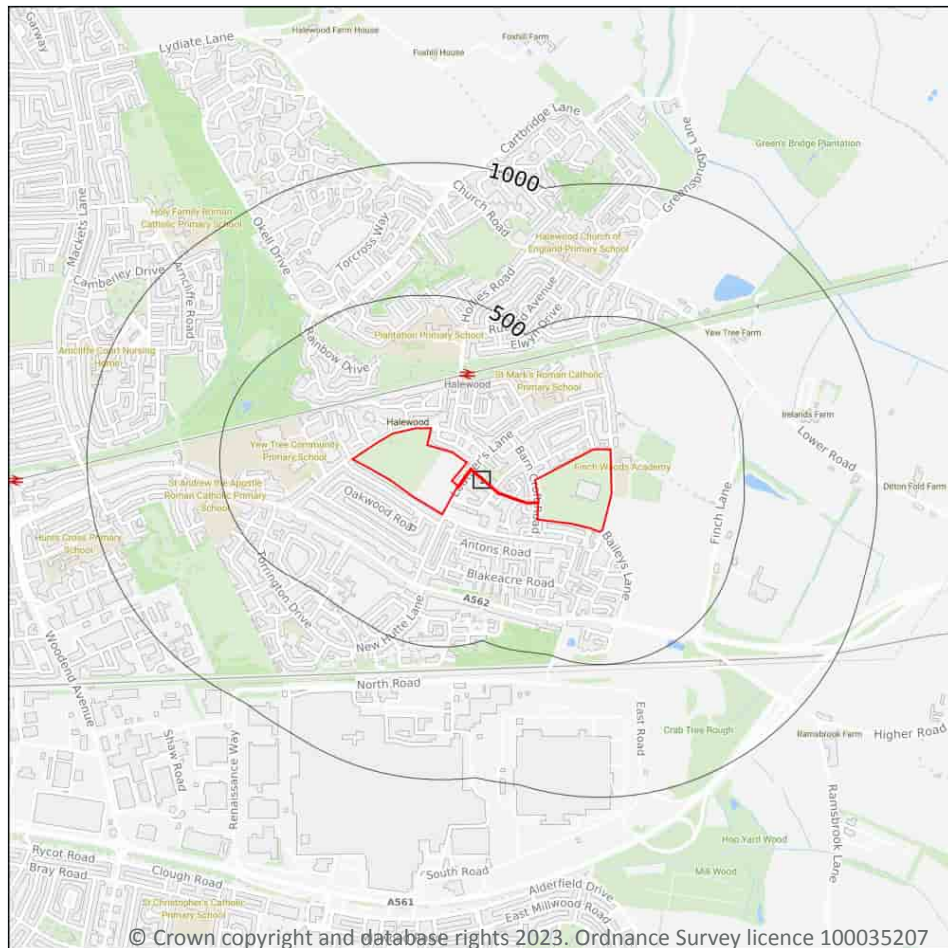
Features are displayed on the Geology 1:10,000 scale - Bedrock map on [page 100](#) >

ID	Location	Category	Description
5	On site	FAULT	Normal fault, inferred; crossmarks on downthrow side
10	204m SW	FAULT	Normal fault, inferred; crossmarks on downthrow side

This data is sourced from the British Geological Survey.



15 Geology 1:50,000 scale - Availability



— Site Outline

Search buffers in metres (m)

□ Geological map tile

15.1 50k Availability

Records within 500m

1

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

Features are displayed on the Geology 1:50,000 scale - Availability map on [page 102](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	Full	Full	No coverage	EW097_runcorn_v4

This data is sourced from the British Geological Survey.



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

15.2 Artificial and made ground (50k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m

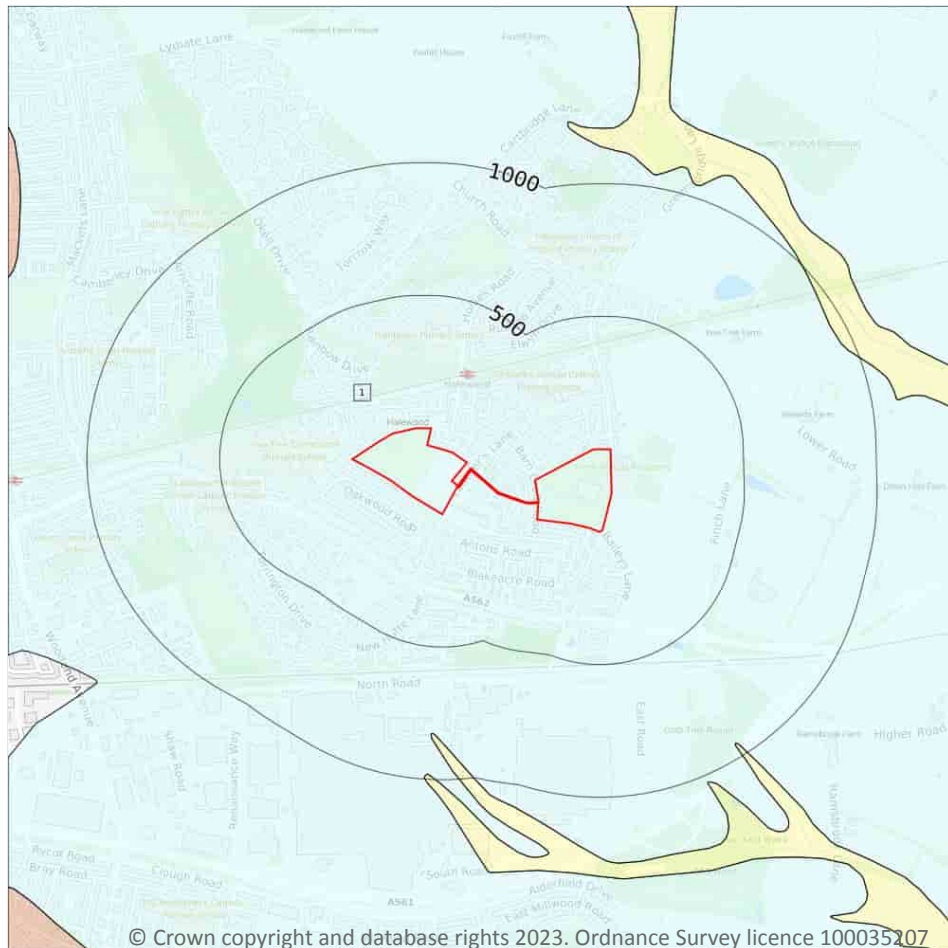
0

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

Superficial geology (50k)
Please see table for more details.

15.4 Superficial geology (50k)

Records within 500m

1

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

Features are displayed on the Geology 1:50,000 scale - Superficial map on [page 104](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	TILLD-DMTN	TILL, DEVANSIAN	DIAMICTON

This data is sourced from the British Geological Survey.



15.5 Superficial permeability (50k)

Records within 50m**3**

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	Mixed	High	Low
On site	Mixed	High	Low
13m SE	Mixed	High	Low

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m**0**

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

This data is sourced from the British Geological Survey.

15.7 Landslip permeability (50k)

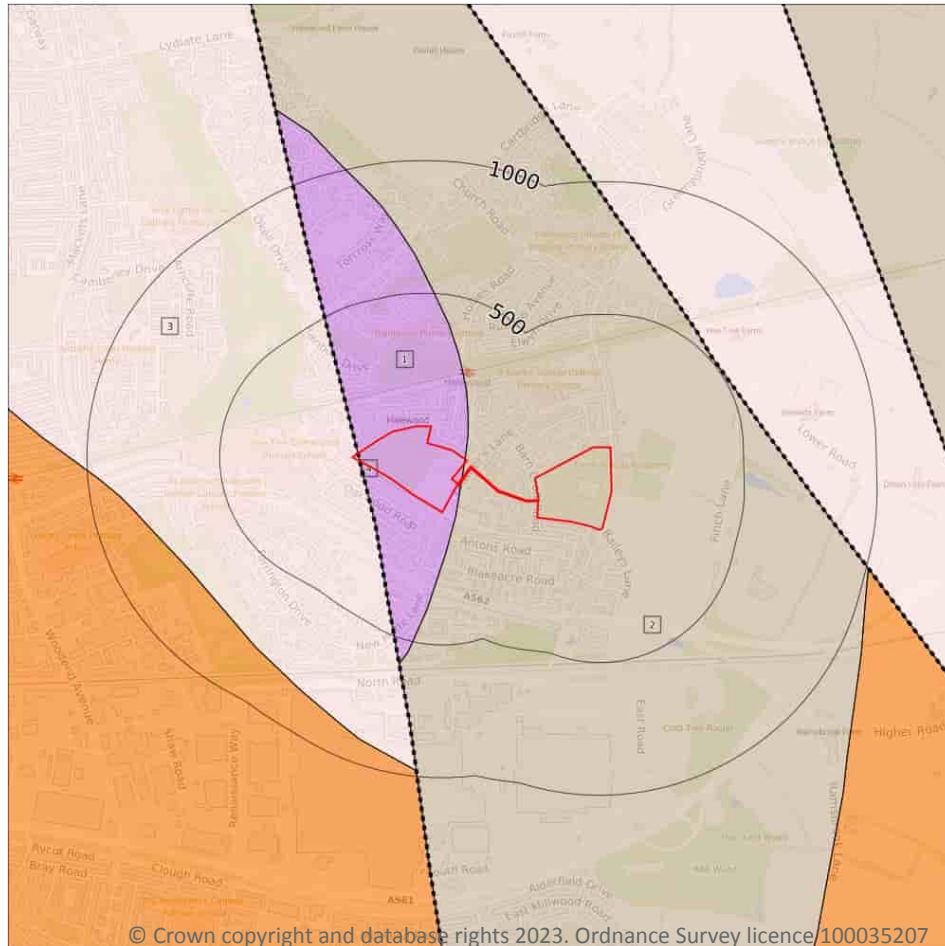
Records within 50m**0**

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Bedrock



— Site Outline

Search buffers in metres (m)

.... Bedrock faults and other linear features (50k)

Bedrock geology (50k)
Please see table for more details.

15.8 Bedrock geology (50k)

Records within 500m

3

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on [page 106](#) >

ID	Location	LEX Code	Description	Rock age
1	On site	ETM-MDSC	ETRURIA FORMATION - MUDSTONE, SANDSTONE AND CONGLOMERATE	WESTPHALIAN
2	On site	KNSF-SDST	KINNERTON SANDSTONE FORMATION - SANDSTONE	-
3	On site	WLSF-SDST	WILMSLOW SANDSTONE FORMATION - SANDSTONE	-

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m

5

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	Intergranular	High	High
On site	Intergranular	High	High
On site	Fracture	Moderate	Low
On site	Intergranular	High	High
13m SE	Intergranular	High	High

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m

1

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

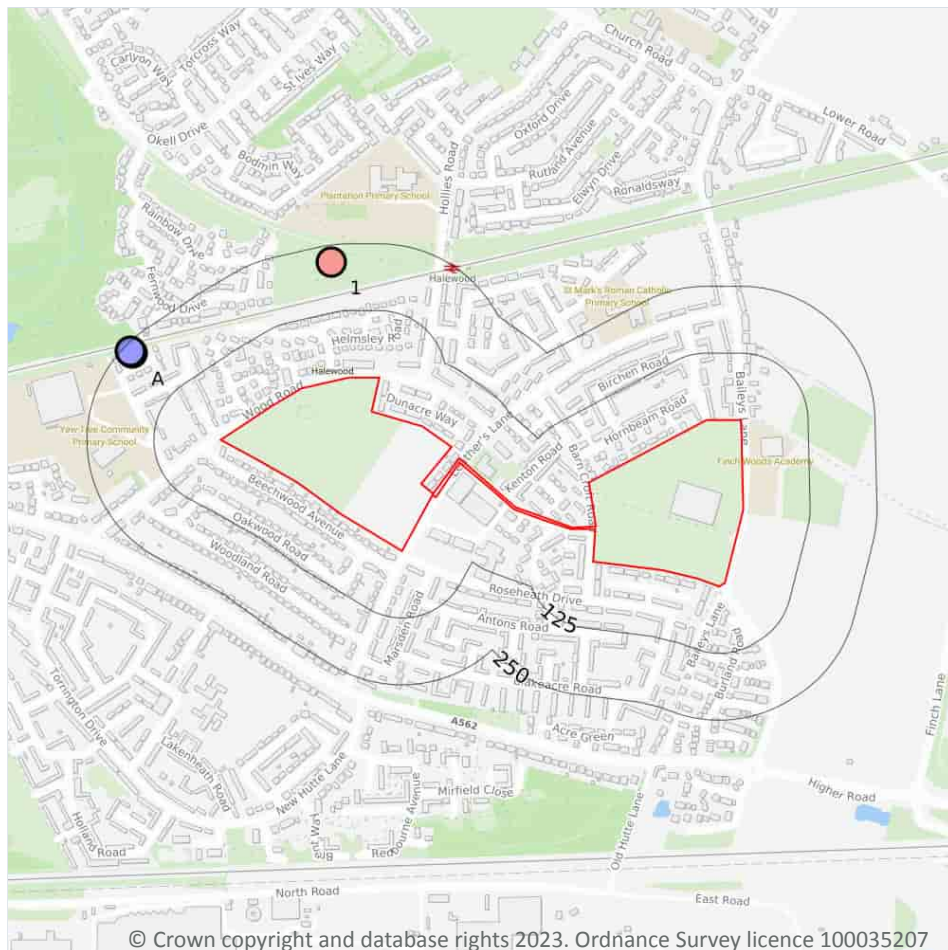
Features are displayed on the Geology 1:50,000 scale - Bedrock map on [page 106 >](#)

ID	Location	Category	Description
4	On site	FAULT	Fault, inferred

This data is sourced from the British Geological Survey.



16 Boreholes



— Site Outline
Search buffers in metres (m)

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

16.1 BGS Boreholes

Records within 250m

3

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

Features are displayed on the Boreholes map on [page 108](#) >

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	219m NW	344620 385620	CHESHIRE LINES RAILWAY ENGINE SHEDS	127.71	N	164243 ↗
A	232m W	344249 385450	MER 0126 HILTON GRACE-A THE AVENUE HALEWOOD 2	5.0	N	164367 ↗



ID	Location	Grid reference	Name	Length	Confidential	Web link
A	237m W	344245 385453	MER 0126 HILTON GRACE-A THE AVENUE LIVERPOOL 1	5.0	N	164366 ↗

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.1 Shrink swell clays

Records within 50m

2

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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on [page 110](#) >

Location	Hazard rating	Details
On site	Very low	Ground conditions predominantly low plasticity.
13m SE	Very low	Ground conditions predominantly low plasticity.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☒ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.2 Running sands

Records within 50m

2

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

Features are displayed on the Natural ground subsidence - Running sands map on [page 111](#) >

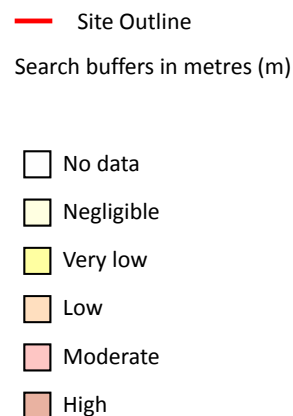
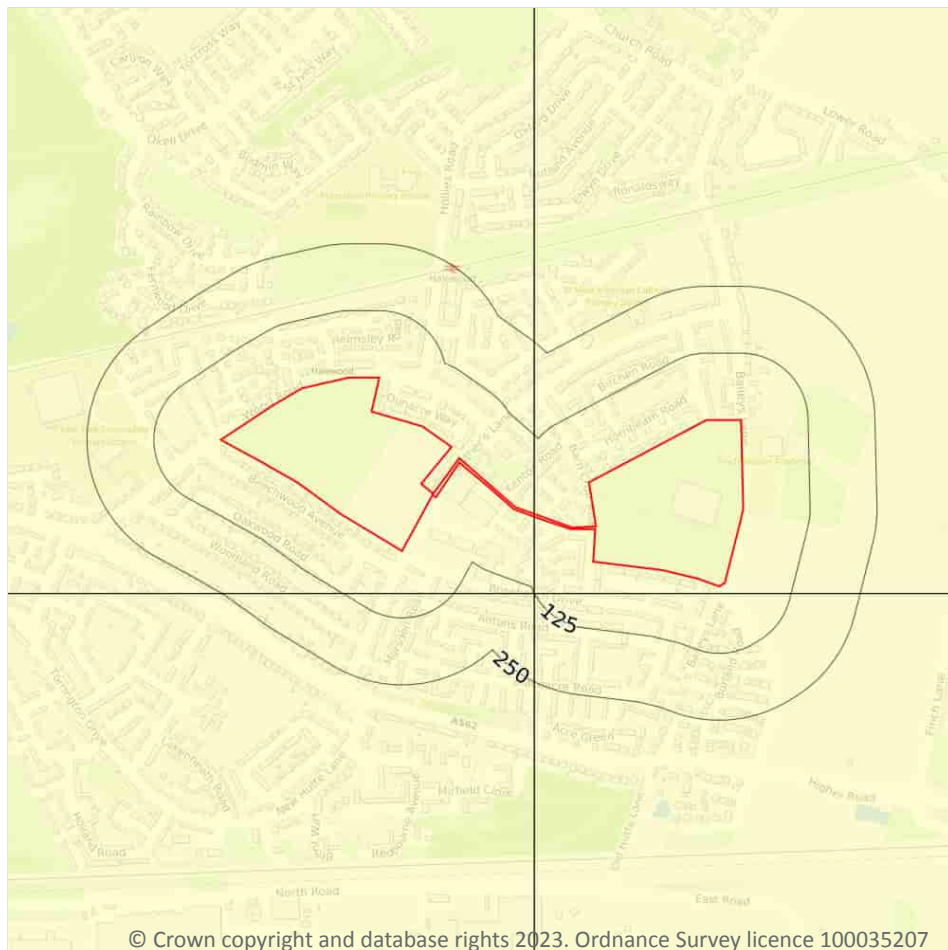
Location	Hazard rating	Details
On site	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.

Location	Hazard rating	Details
13m SE	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



17.3 Compressible deposits

Records within 50m

2

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

Features are displayed on the Natural ground subsidence - Compressible deposits map on [page 113](#) >

Location	Hazard rating	Details
On site	Negligible	Compressible strata are not thought to occur.
13m SE	Negligible	Compressible strata are not thought to occur.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.4 Collapsible deposits

Records within 50m

2

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

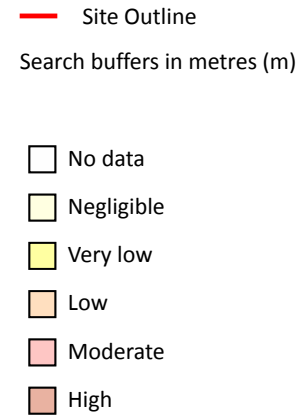
Features are displayed on the Natural ground subsidence - Collapsible deposits map on [page 114 >](#)

Location	Hazard rating	Details
On site	Very low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.
13m SE	Very low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Landslides



17.5 Landslides

Records within 50m

2

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

Features are displayed on the Natural ground subsidence - Landslides map on [page 115 >](#)

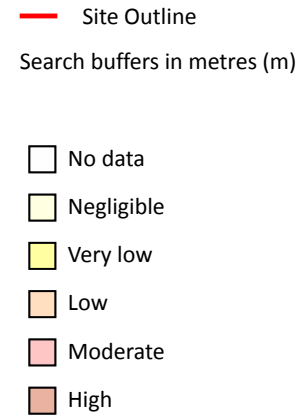
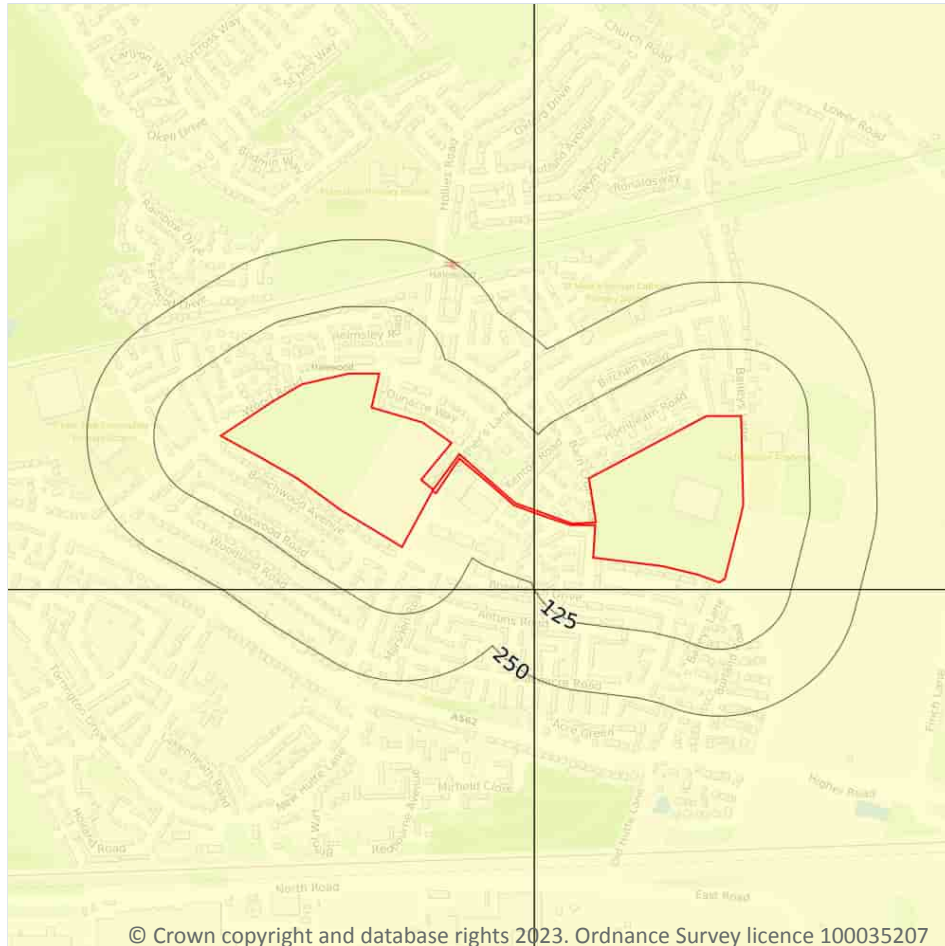
Location	Hazard rating	Details
On site	Very low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

Location	Hazard rating	Details
13m SE	Very low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



17.6 Ground dissolution of soluble rocks

Records within 50m

2

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

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on [page 117 >](#)

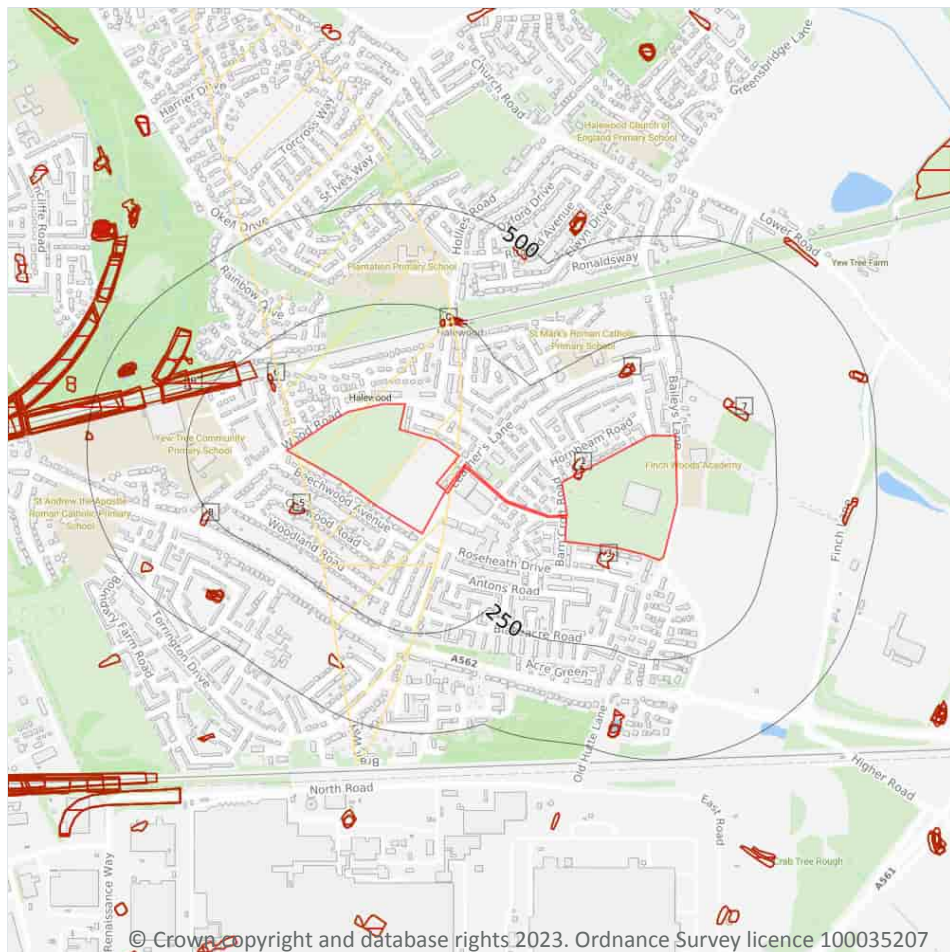
Location	Hazard rating	Details
On site	Negligible	Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.

Location	Hazard rating	Details
13m SE	Negligible	Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.

This data is sourced from the British Geological Survey.



18 Mining and ground workings



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

18.1 BritPits

Records within 500m

0

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

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m

21

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

Features are displayed on the Mining and ground workings map on [page 119](#) >

ID	Location	Land Use	Year of mapping	Mapping scale
1	On site	Pond	1851	1:10560
3	9m SE	Ponds	1851	1:10560
5	106m W	Pond	1851	1:10560
6	141m W	Pond	1851	1:10560
7	142m E	Pond	1851	1:10560
A	160m NE	Pond	1938	1:10560
A	160m NE	Pond	1925	1:10560
A	160m NE	Pond	1904	1:10560
A	166m NE	Pond	1891	1:10560
B	195m NW	Cuttings	1891	1:10560
B	201m W	Cuttings	1925	1:10560
B	201m W	Cuttings	1904	1:10560
B	207m W	Cuttings	1925	1:10560
B	207m W	Cuttings	1925	1:10560
C	215m N	Unspecified Pit	1925	1:10560
C	215m N	Unspecified Pit	1904	1:10560
C	227m N	Unspecified Pit	1925	1:10560
C	227m N	Unspecified Pit	1904	1:10560
C	228m N	Unspecified Pit	1925	1:10560
C	228m N	Unspecified Pit	1925	1:10560
8	245m W	Pond	1851	1:10560

This is data is sourced from Ordnance Survey/Groundsure.



18.3 Underground workings

Records within 1000m**0**

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

This data is sourced from Ordnance Survey/Groundsure.

18.4 Underground mining extents

Records within 500m**0**

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

This data is sourced from Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m**0**

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

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m**2**

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

Features are displayed on the Mining and ground workings map on [page 119](#) >

ID	Location	Name	Commodity	Class	Likelihood
2	On site	Not available	Vein Mineral	A	Underground mine workings are uncommon, although the geology is similar to that worked elsewhere. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.



ID	Location	Name	Commodity	Class	Likelihood
4	79m SW	Not available	Vein Mineral	A	Underground mine workings are uncommon, although the geology is similar to that worked elsewhere. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.

This data is sourced from the British Geological Survey.

18.7 JPB mining areas

Records on site	0
------------------------	----------

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

This data is sourced from Johnson Poole and Bloomer.

18.8 The Coal Authority non-coal mining

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

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

This data is sourced from The Coal Authority.

18.9 Researched mining

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

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

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m**0**

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

This data is sourced from Groundsure.

18.11 BGS mine plans

Records within 500m**0**

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

This data is sourced from Groundsure.

18.12 Coal mining

Records on site**1**

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

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

This data is sourced from the Coal Authority.

18.13 Brine areas

Records on site**0**

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

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



18.14 Gypsum areas

Records on site	0
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Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

Records on site	0
-----------------	---

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.16 Clay mining

Records on site	0
-----------------	---

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

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

19 Ground cavities and sinkholes

19.1 Natural cavities

Records within 500m

0

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

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m

0

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

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m

0

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

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m

0

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

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



This data is sourced from Groundsure.

19.5 National karst database

Records within 500m

0

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

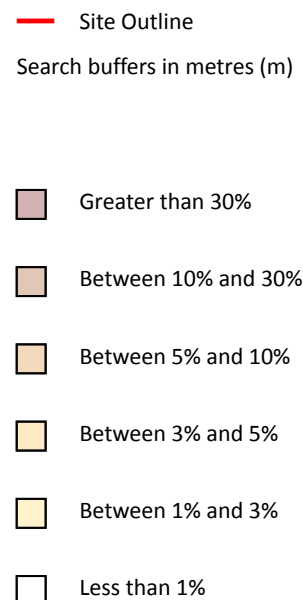
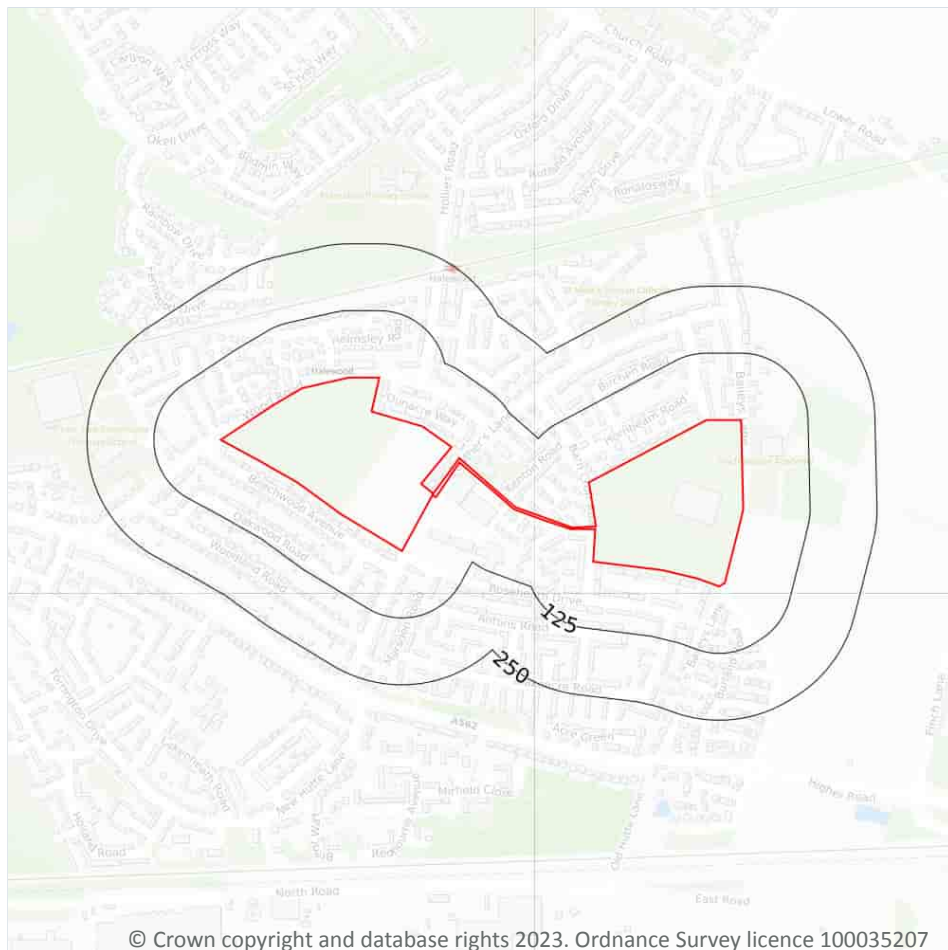
Since the database was set up in 2002 data covering most of the evaporite karst areas of the UK have now been added, along with data covering about 60% of the Chalk, and 35% of the Carboniferous Limestone outcrops. Many of the classic upland karst areas have yet to be included. Recorded so far are: Over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

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

This data is sourced from the British Geological Survey.



20 Radon



20.1 Radon

Records on site

1

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

Features are displayed on the Radon map on [page 127](#) >

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



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



21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m

8

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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
13m SE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
13m SE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg

This data is sourced from the British Geological Survey.



21.2 BGS Estimated Urban Soil Chemistry

Records within 50m**0**

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

This data is sourced from the British Geological Survey.

21.3 BGS Measured Urban Soil Chemistry

Records within 50m**0**

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

This data is sourced from the British Geological Survey.

22 Railway infrastructure and projects



- Site Outline
- Search buffers in metres (m)
- C1 Crossrail 1 Stations
- Crossrail 1 Route
- C2 Crossrail 2 Stations
- Crossrail 2 Route
- Crossrail 2 Worksites
- Crossrail 2 Safeguarding
- Crossrail 2 Headhouses
- Railway stations
- Active railways
- Active tunnels
- Abandoned railways
- Historic railways
- Historic tunnels
- Underground stations
- Underground Lines
- Royal Mail tunnels
- HS2 optimised route
- HS2 Stations
- HS2 Depots
- HS2 Surface Safeguarding
- HS2 Subsurface Safeguarding

22.1 Underground railways (London)

Records within 250m

0

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

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m

0

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



This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m

0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

Records within 250m

24

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

Features are displayed on the Railway infrastructure and projects map on [page 131](#) >

Location	Land Use	Year of mapping	Mapping scale
139m NW	Railway Sidings	1967	10560
139m NW	Railway Sidings	1955	10560
151m NW	Railway Sidings	1938	10560
151m NW	Railway Sidings	1925	10560
151m NW	Railway Sidings	1904	10560
154m NW	Railway Sidings	1907	2500
154m NW	Railway Sidings	1927	2500
154m NW	Railway Sidings	1936	2500
155m NW	Railway Sidings	1893	2500
155m NW	Railway Sidings	1938	10560
155m NW	Railway Sidings	1925	10560
155m NW	Railway Sidings	1904	10560
156m NW	Railway Sidings	1925	10560
161m NW	Railway Sidings	1963	2500
164m NW	Railway Sidings	1964	1250
165m NW	Railway Sidings	1967	1250
168m NW	Railway Sidings	1891	10560



Location	Land Use	Year of mapping	Mapping scale
168m NW	Railway Sidings	1964	1250
171m NW	Railway Sidings	1975	-
176m NW	Railway Sidings	1975	-
186m NW	Railway Sidings	1975	-
199m NW	Railway Sidings	1964	1250
217m NW	Railway Sidings	1963	1250
230m NW	Railway Sidings	1964	1250

This data is sourced from Ordnance Survey/Groundsure.

22.5 Royal Mail tunnels

Records within 250m

0

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

This data is sourced from Groundsure/the Postal Museum.

22.6 Historical railways

Records within 250m

3

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

Features are displayed on the Railway infrastructure and projects map on [page 131 >](#)

Location	Description
200m NW	Razed
208m NW	Razed
231m NW	Abandoned

This data is sourced from OpenStreetMap.



22.7 Railways

Records within 250m

9

Currently existing railway lines, including standard railways, narrow gauge, funicular, trams and light railways. Features are displayed on the Railway infrastructure and projects map on [page 131 >](#)

Location	Name	Type
153m NW	Manchester and Allerton Junction Line	rail
154m NW	Not given	Multi Track
157m NW	Manchester and Allerton Junction Line	rail
184m NW	Not given	Multi Track
205m NW	Not given	Multi Track
214m N	Manchester and Allerton Junction Line	rail
218m N	Manchester and Allerton Junction Line	rail
233m N	Manchester and Allerton Junction Line	rail
237m N	Manchester and Allerton Junction Line	rail

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 Crossrail 1

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

22.9 Crossrail 2

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.



22.10 HS2

Records within 500m

0

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

This data is sourced from HS2 Ltd.



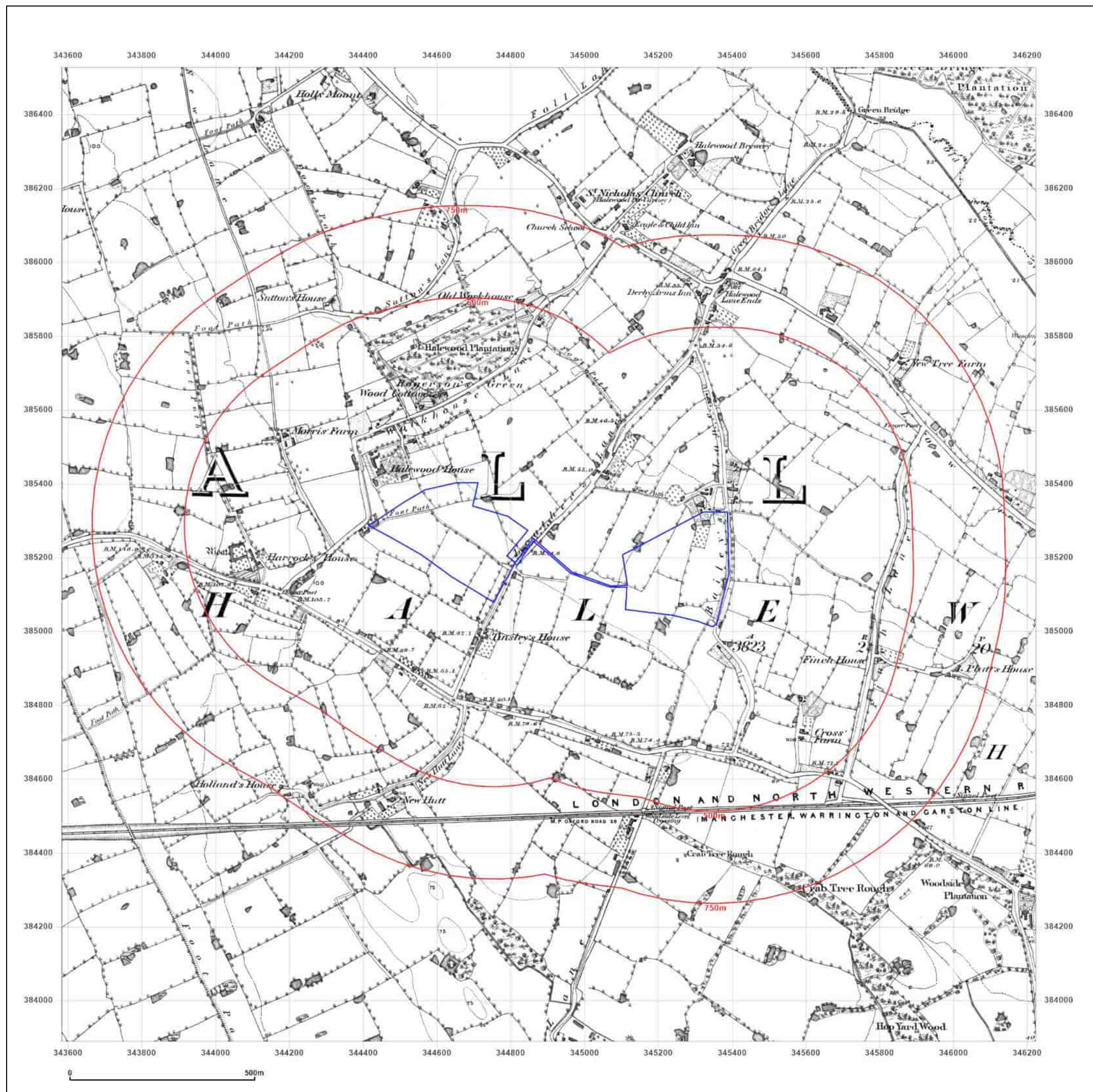
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Client Ref: Halewood_Purchase_Order_20165609
Report Ref: WSP-4PL-8RI-4PK-TV8
Grid Ref: 344902, 385208

Map Name: County Series

Map date: 1849

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1846
Revised N/A
Edition 1849
Copyright N/A
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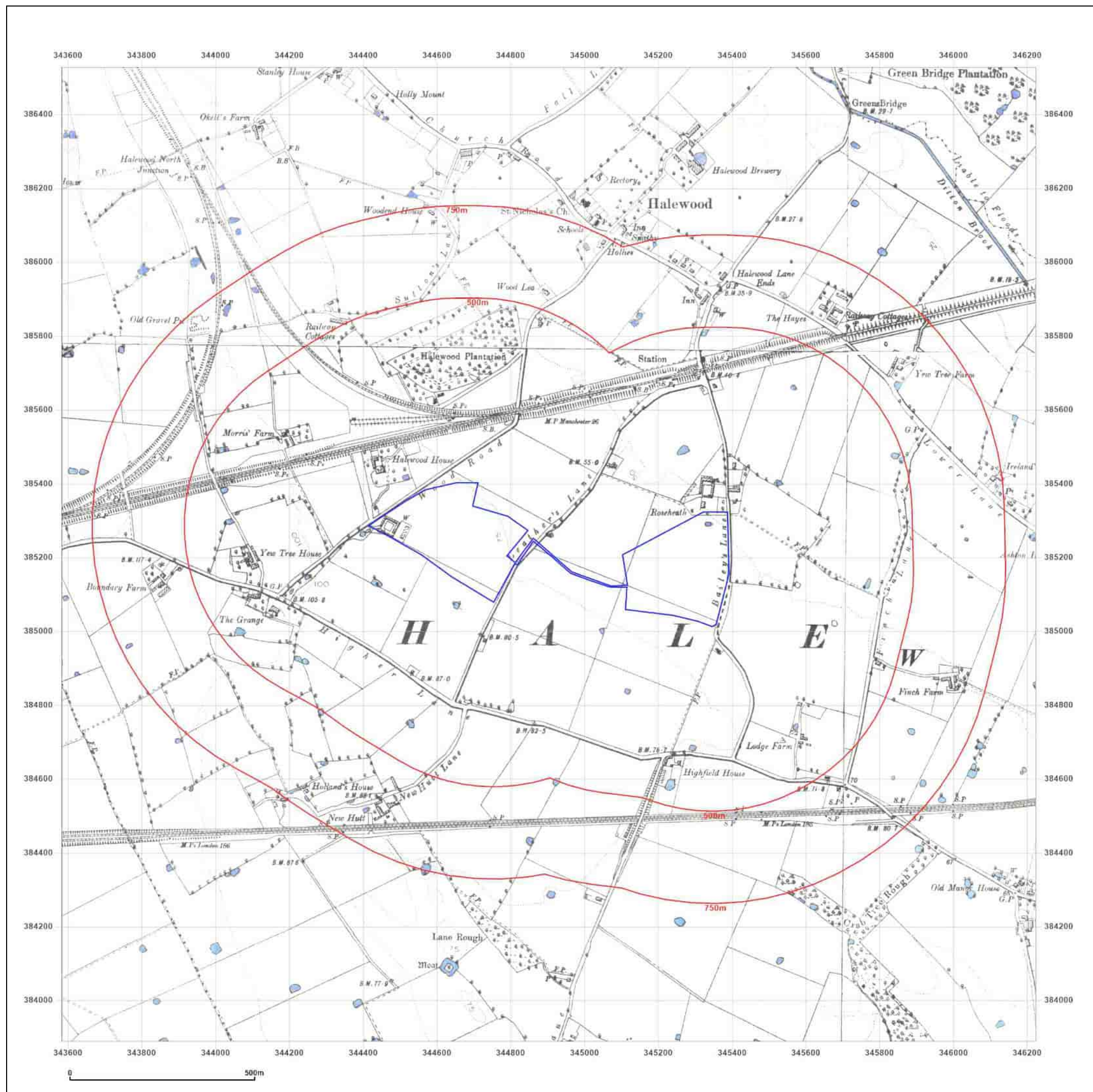


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Client Ref: Halewood_Purchase_Order_20165609
Report Ref: WSP-4PL-8RI-4PK-TVB
Grid Ref: 344902, 385208

Map Name: County Series

Map date: 1891-1894

Scale: 1:10,560

Printed at: 1:10,560



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

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

Surveyed 1894
Revised 1894
Edition N/A
Copyright N/A
Levelled N/A

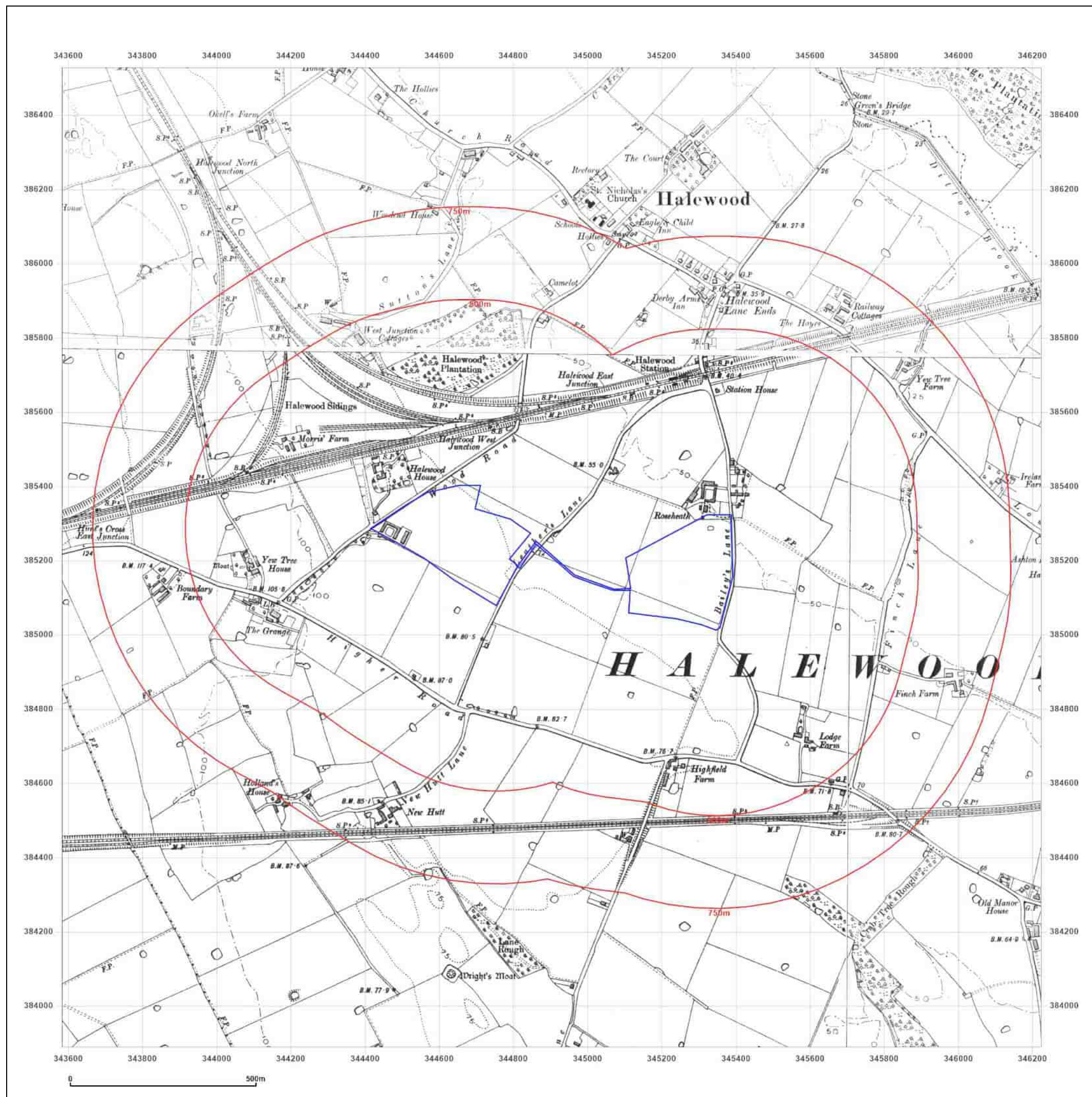


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Report Ref: WSP-4PL-8RI-4PK-TVB
Grid Ref: 344902, 385208

Map Name: County Series

Map date: 1904-1905

Scale: 1:10,560

Printed at: 1:10,560



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

Surveyed 1891
Revised 1904
Edition N/A
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Surveyed 1891
Revised 1905
Edition N/A
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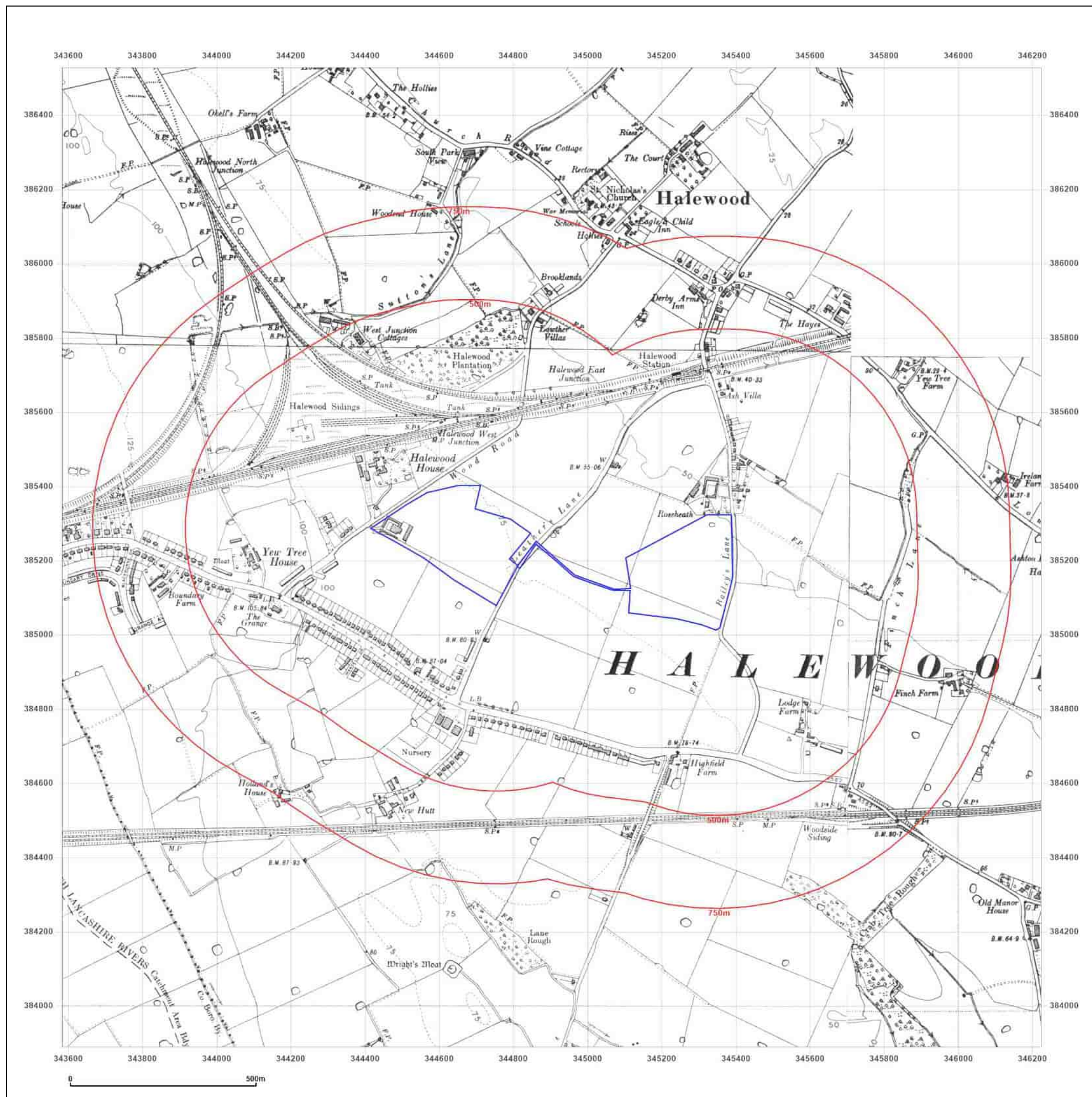


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Grid Ref: 344902, 385208

Map Name: County Series

Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



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Report Ref: WSP-4PL-8RI-4PK-TVb
Grid Ref: 344902, 385208

Map Name: Provisional

Map date: 1954-1956

Scale: 1:10,560

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Surveyed 1954
Revised 1955
Edition N/A
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Surveyed N/A
Revised 1955
Edition N/A
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Revised 1955
Edition 1956
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Surveyed N/A
Revised 1953
Edition 1954
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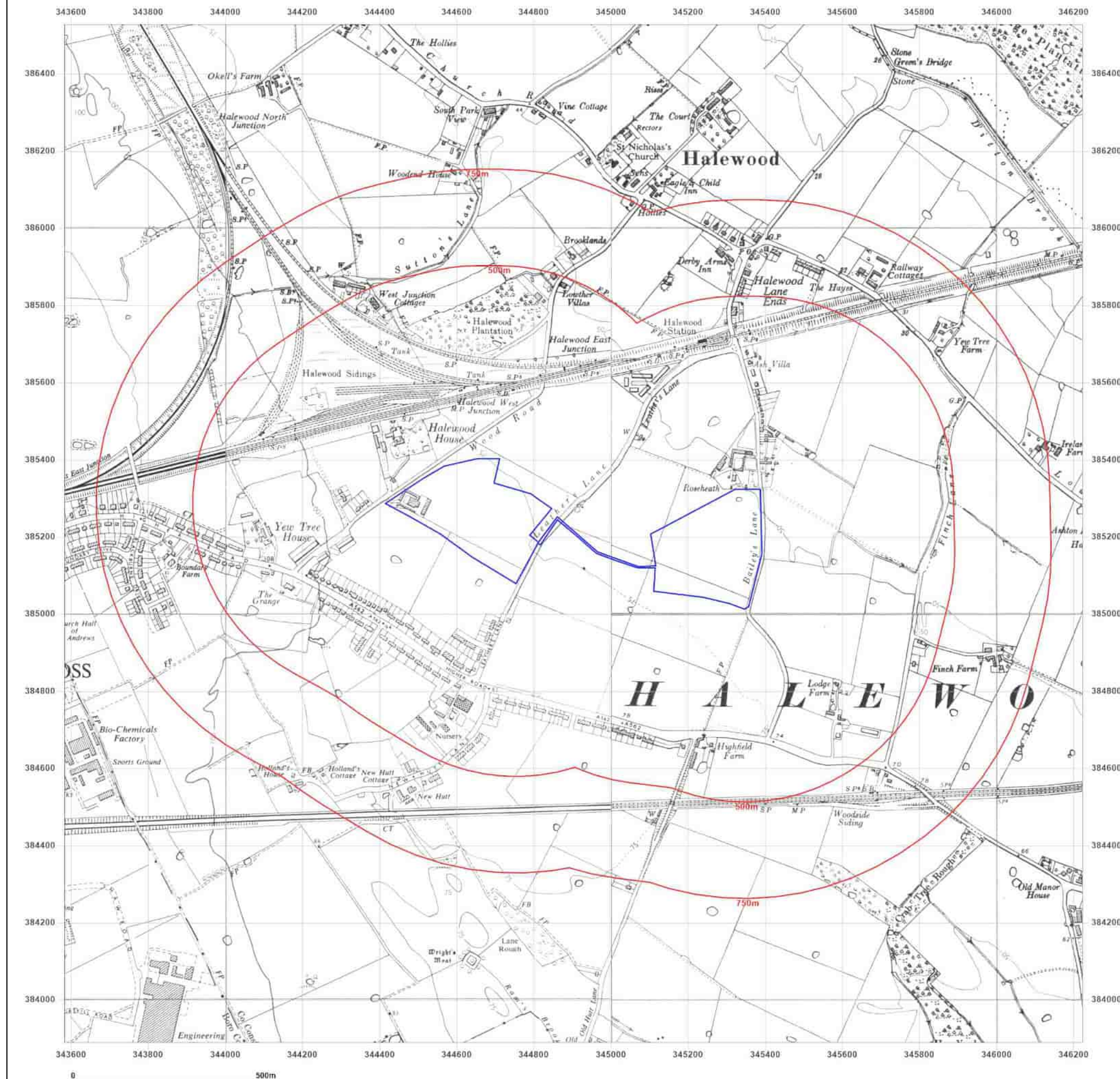


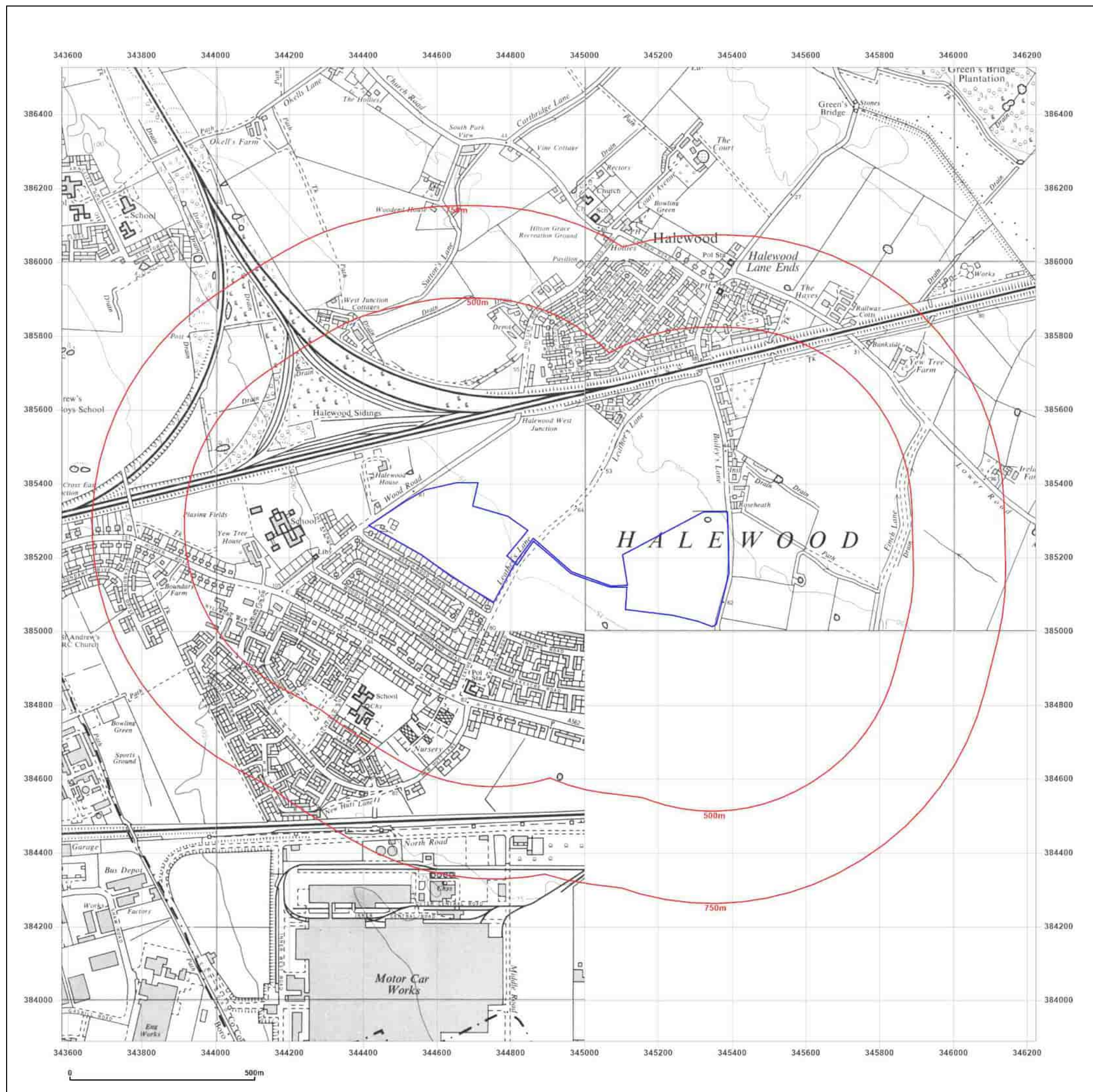
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Client Ref: Halewood_Purchase_Order_20165609
Report Ref: WSP-4PL-8RI-4PK-TVB
Grid Ref: 344902, 385208

Map Name: Provisional

Map date: 1966-1967

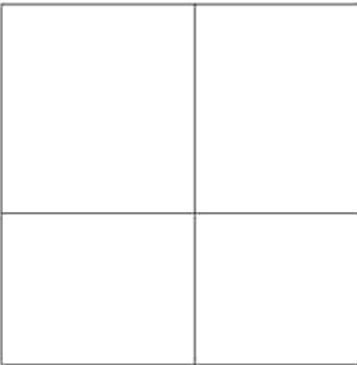
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Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1966
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Edition N/A
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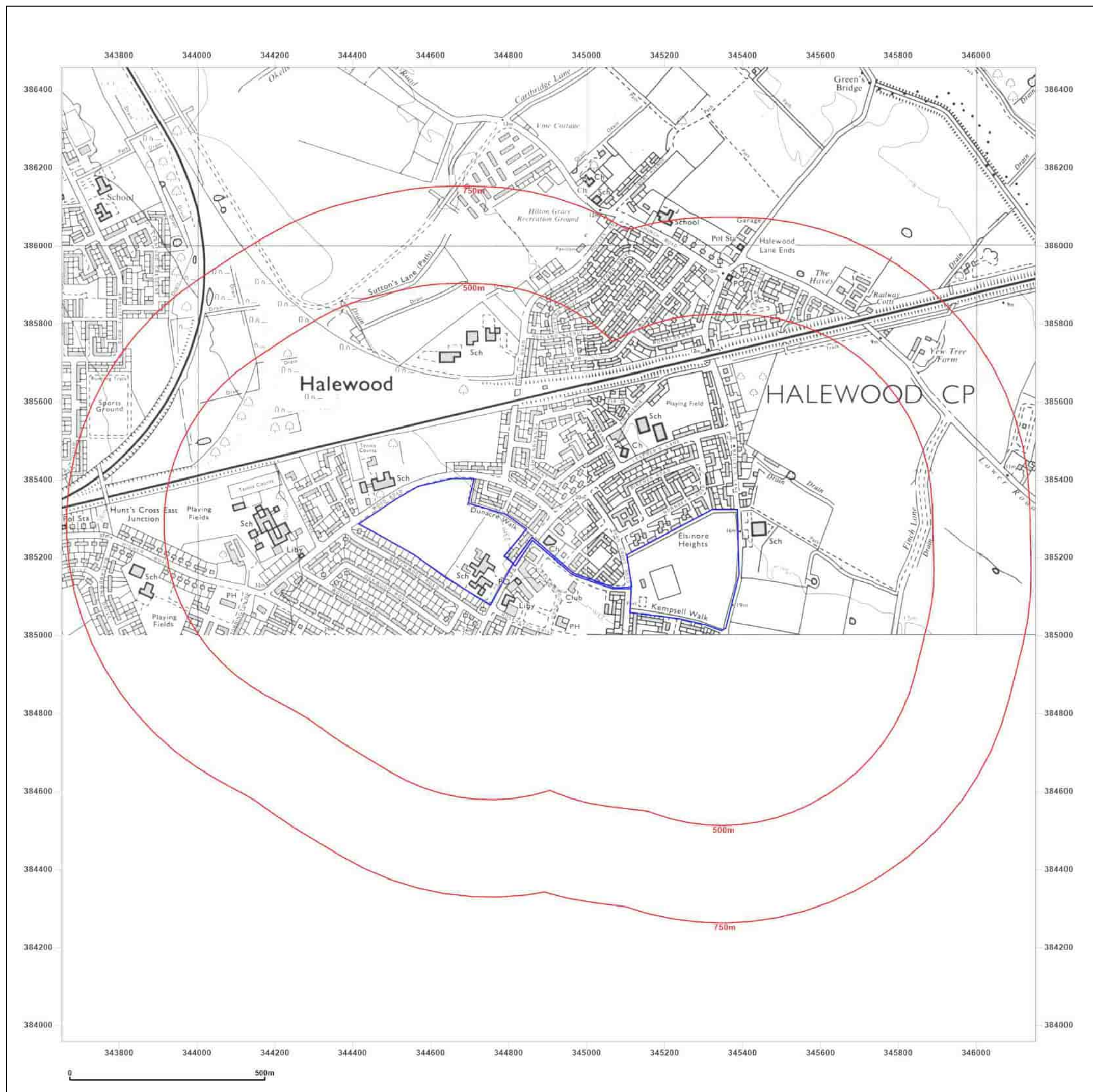


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Report Ref: WSP-4PL-8RI-4PK-TVB
Grid Ref: 344902, 385208

Map Name: National Grid

Map date: 1974-1977

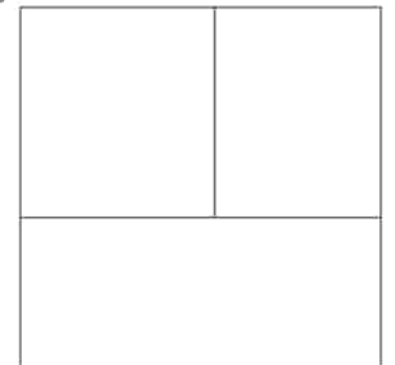
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Surveyed 1975
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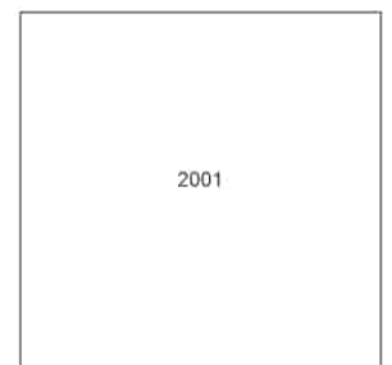
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Grid Ref: 344902, 385208

Map Name: National Grid

Map date: 2001

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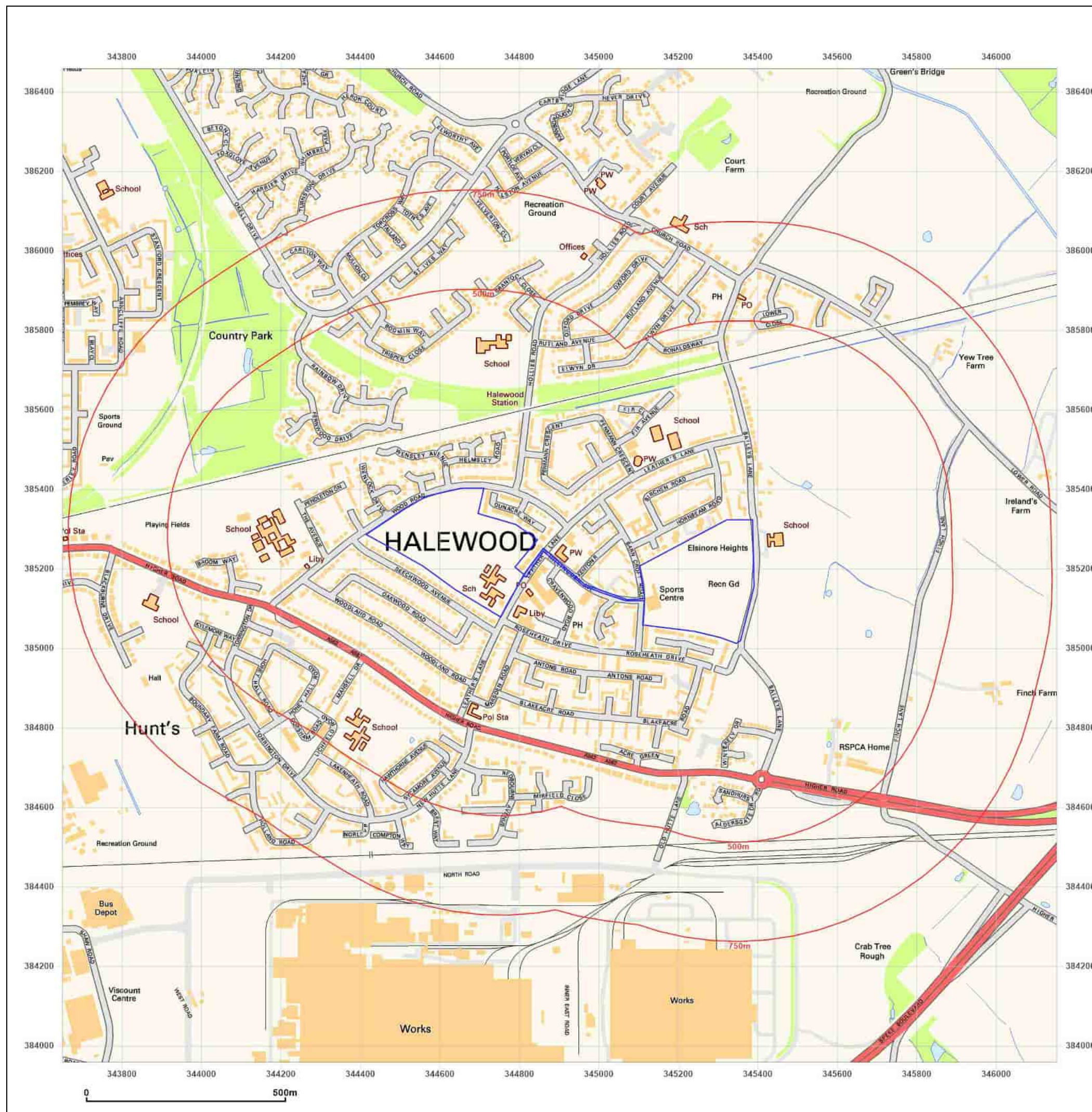


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Report Ref: WSP-4PL-8RI-4PK-TVB
Grid Ref: 344902, 385208

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000

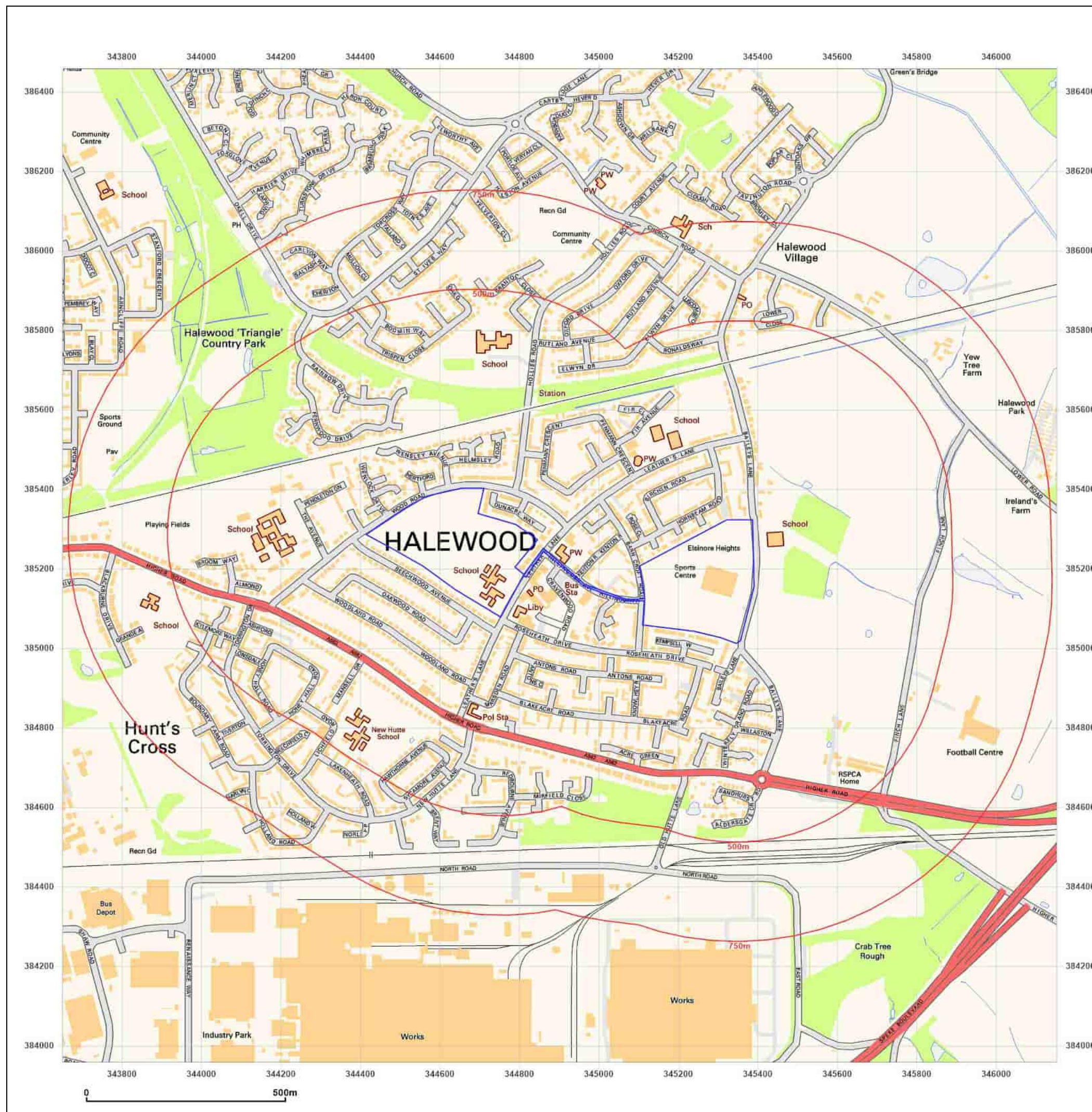


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Grid Ref: 344902, 385208

Map Name: National Grid

Map date: 2023

Scale: 1:10,000

Printed at: 1:10,000



2023

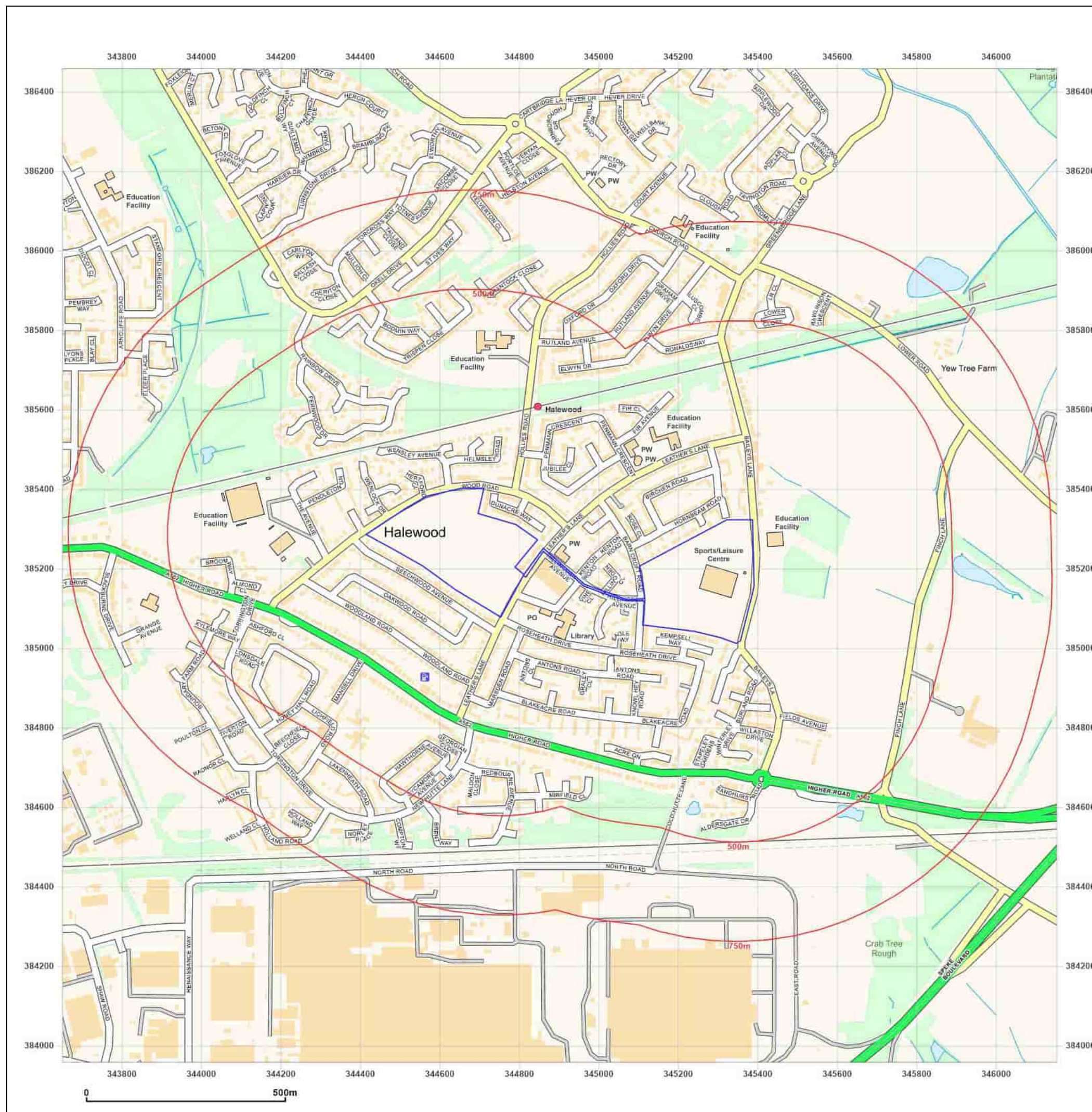


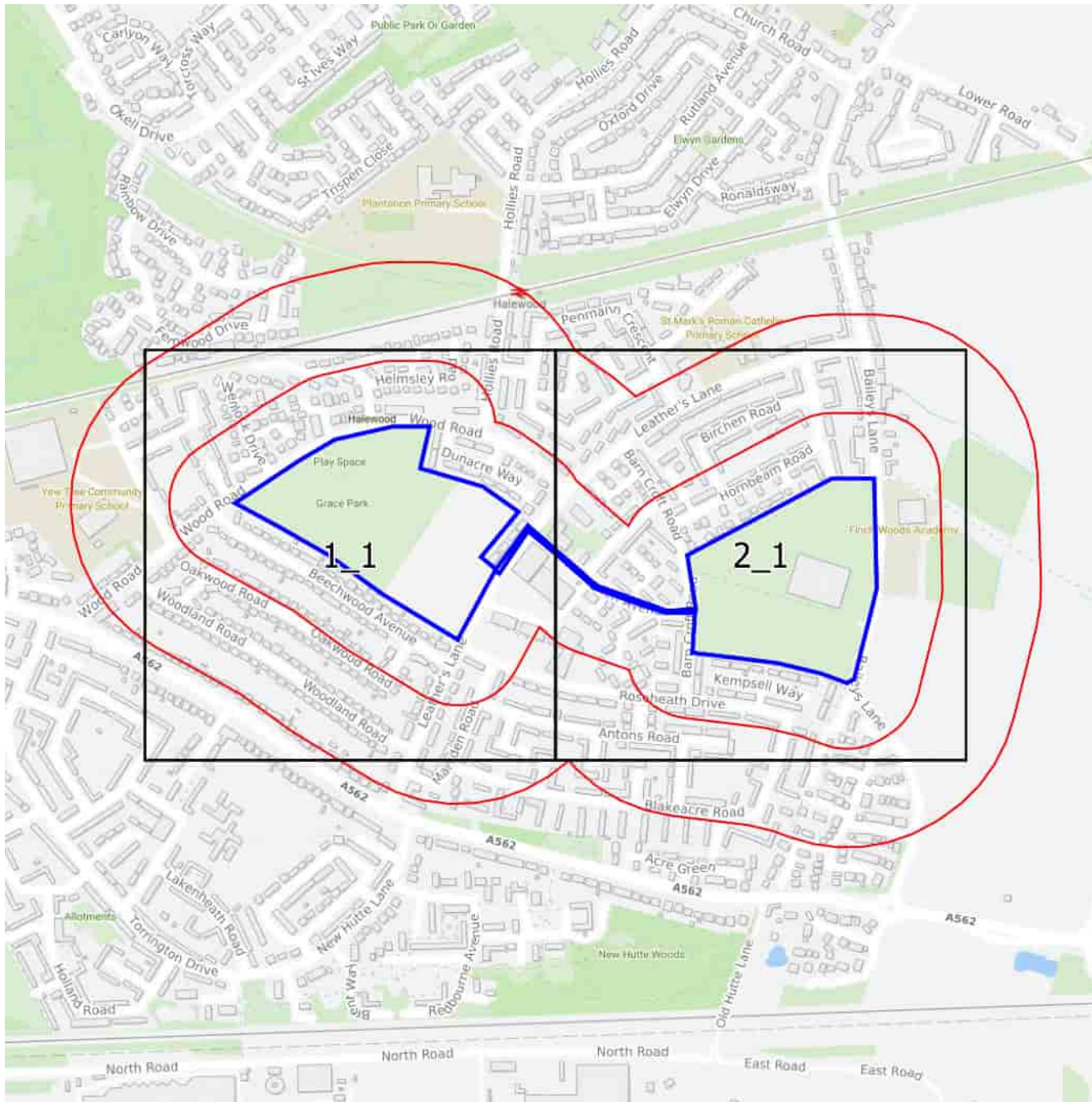
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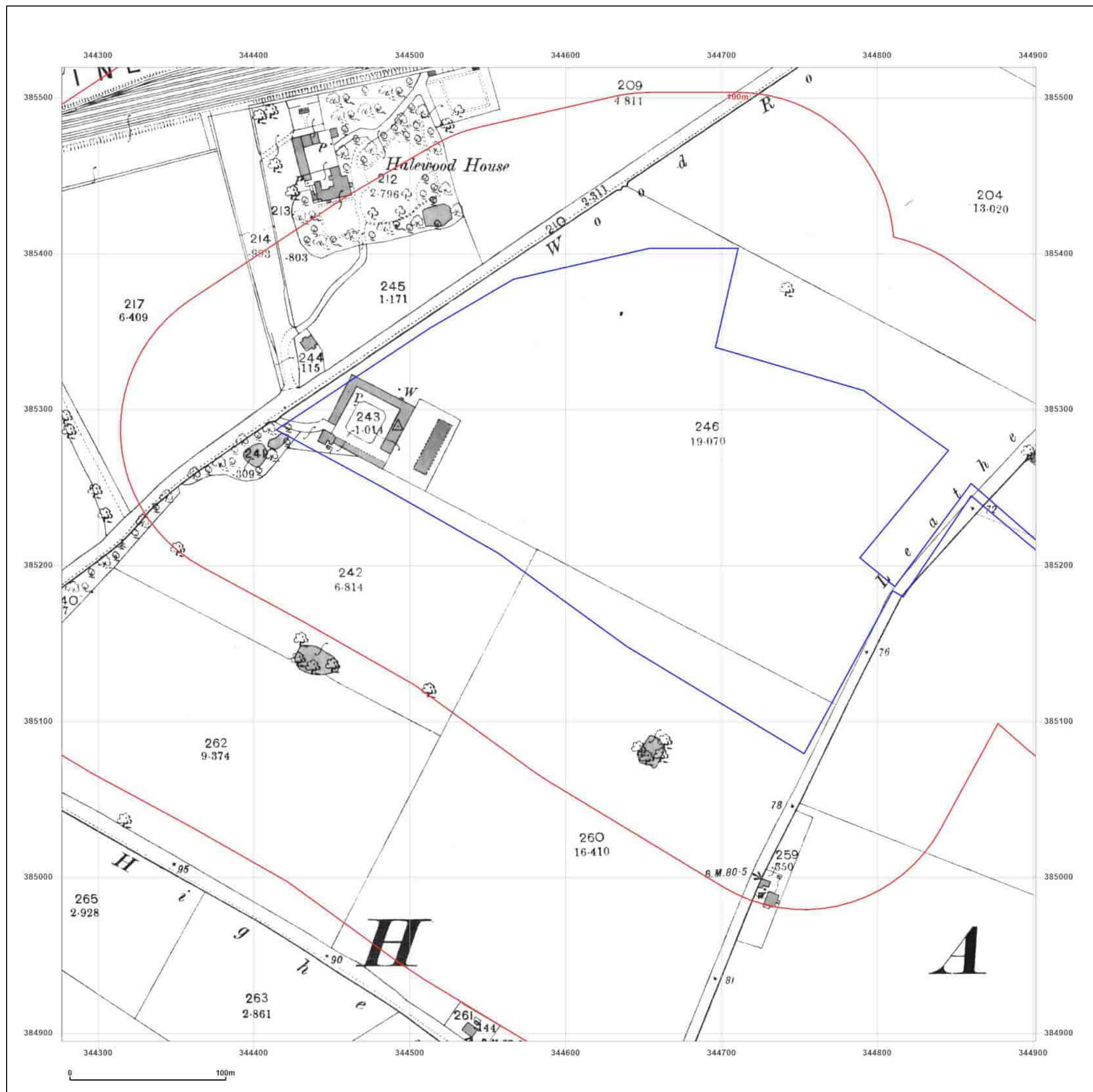
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1:2,500 Scale Grid Index





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Client Ref: Halewood_Purchase_Order_20165609
Report Ref: WSP-4PL-8RI-4PK-TVB_LS_1_1
Grid Ref: 344589, 385207

Map Name: County Series

Map date: 1893

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1893
Revised 1893
Edition N/A
Copyright N/A
Levelled N/A

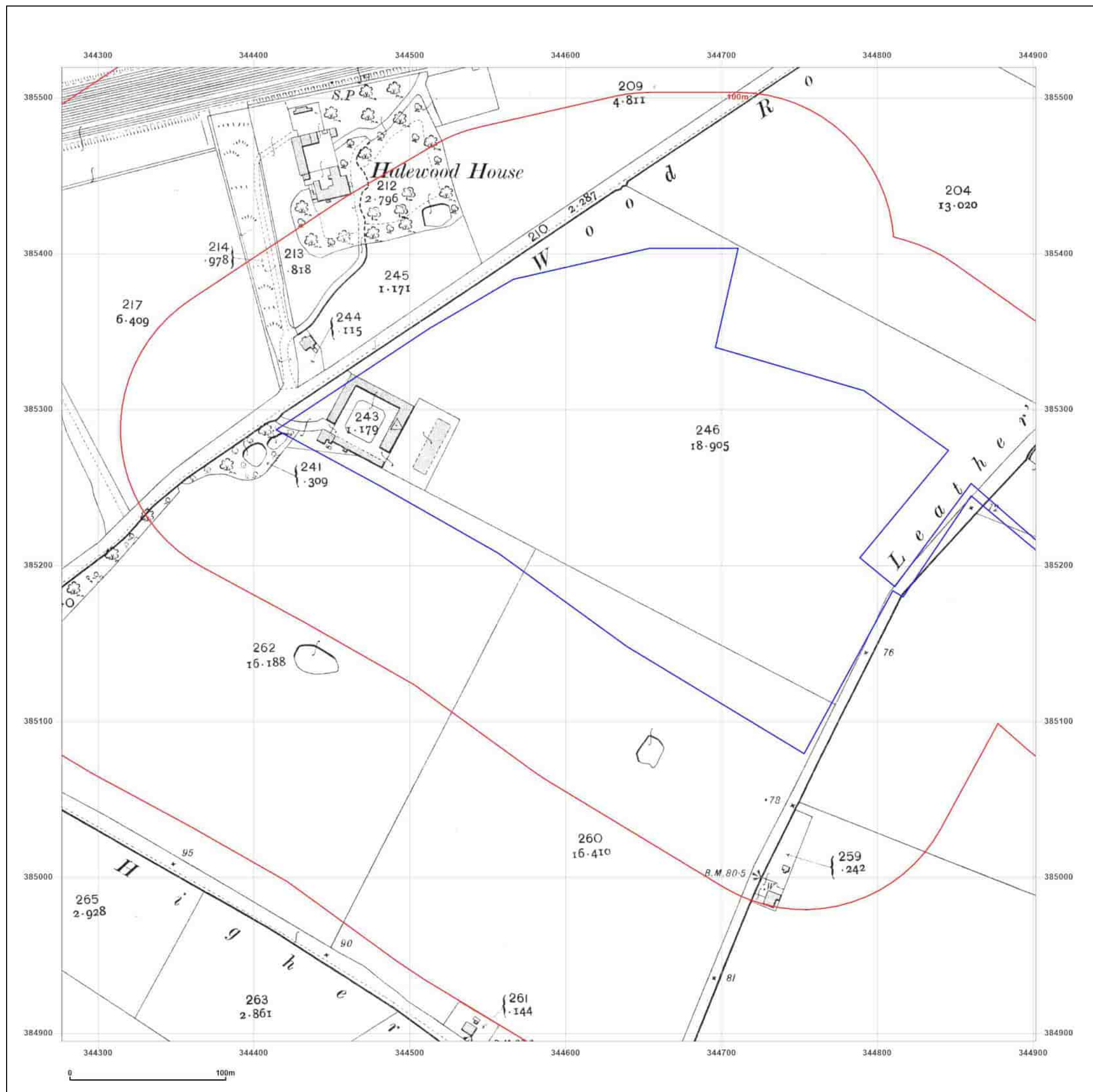


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Report Ref: WSP-4PL-8RI-4PK-TVB_LS_1_1
Grid Ref: 344589, 385207

Map Name: County Series

Map date: 1907

Scale: 1:2,500

Printed at: 1:2,500



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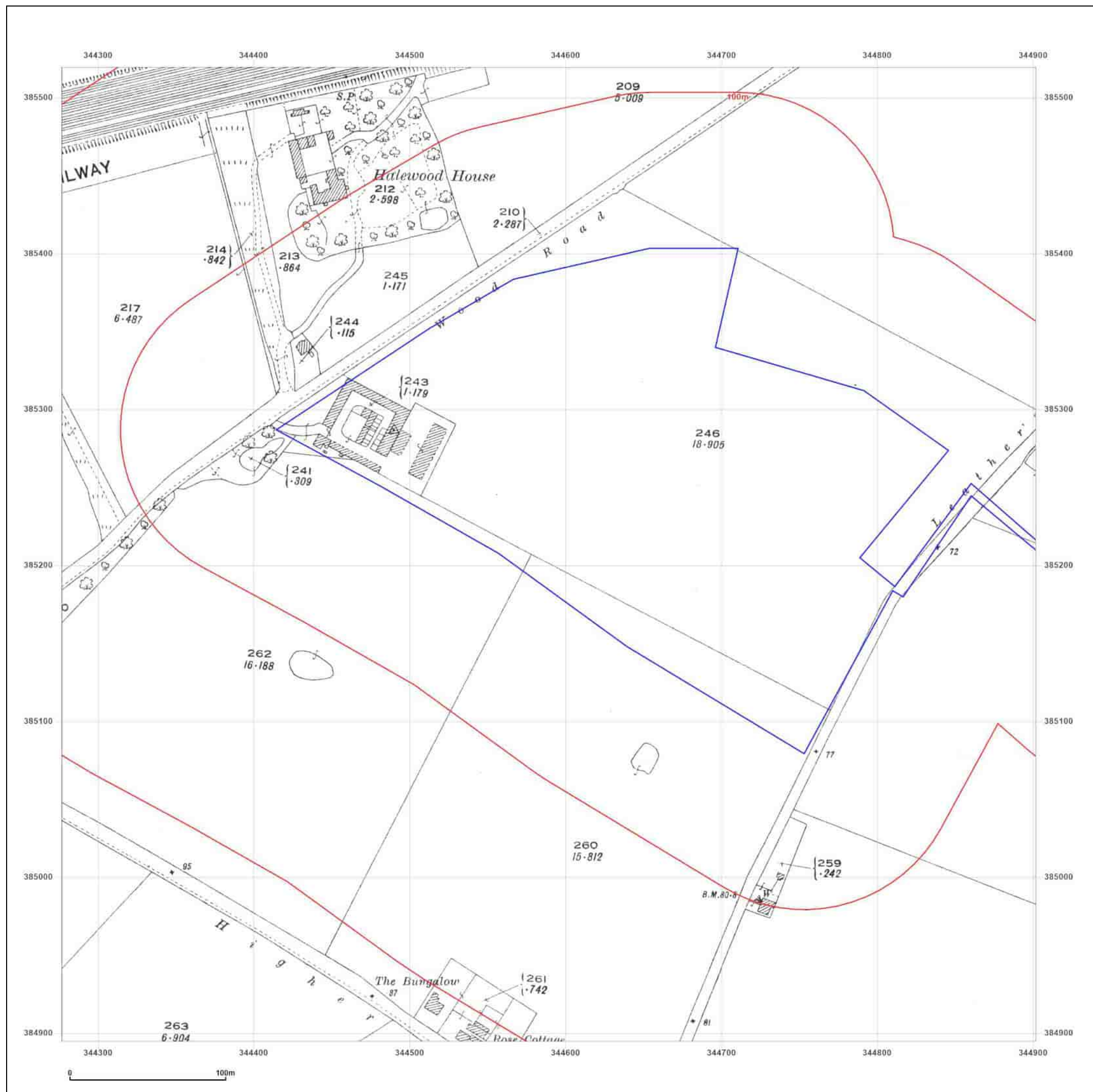


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Report Ref: WSP-4PL-8RI-4PK-TVB_LS_1_1
Grid Ref: 344589, 385207

Map Name: County Series

Map date: 1927

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1927
Revised 1927
Edition N/A
Copyright N/A
Levelled N/A

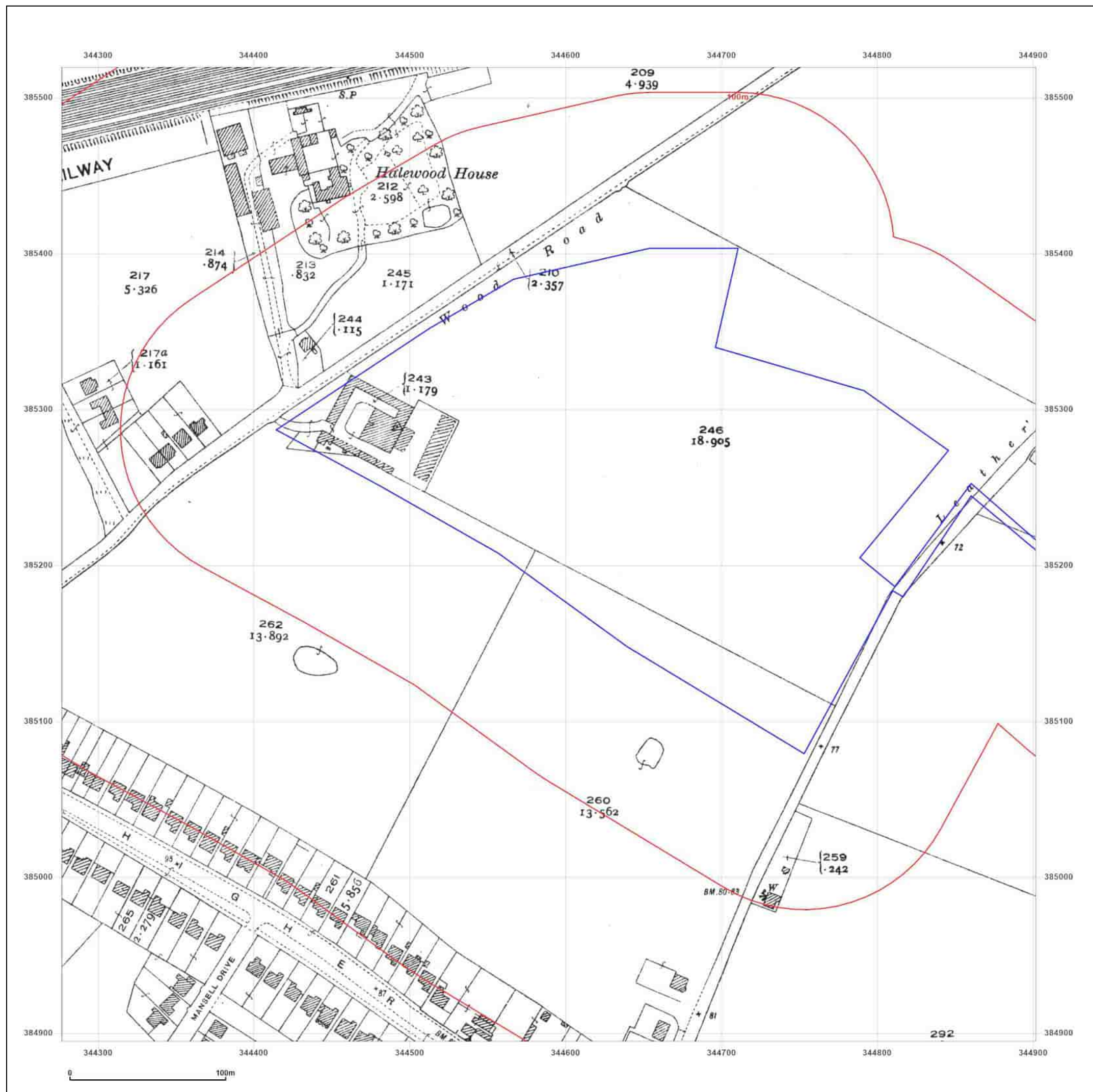


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Client Ref: Halewood_Purchase_Order_20165609
Report Ref: WSP-4PL-8RI-4PK-TVB_LS_1_1
Grid Ref: 344589, 385207

Map Name: County Series

Map date: 1936

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1936
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Levelled N/A

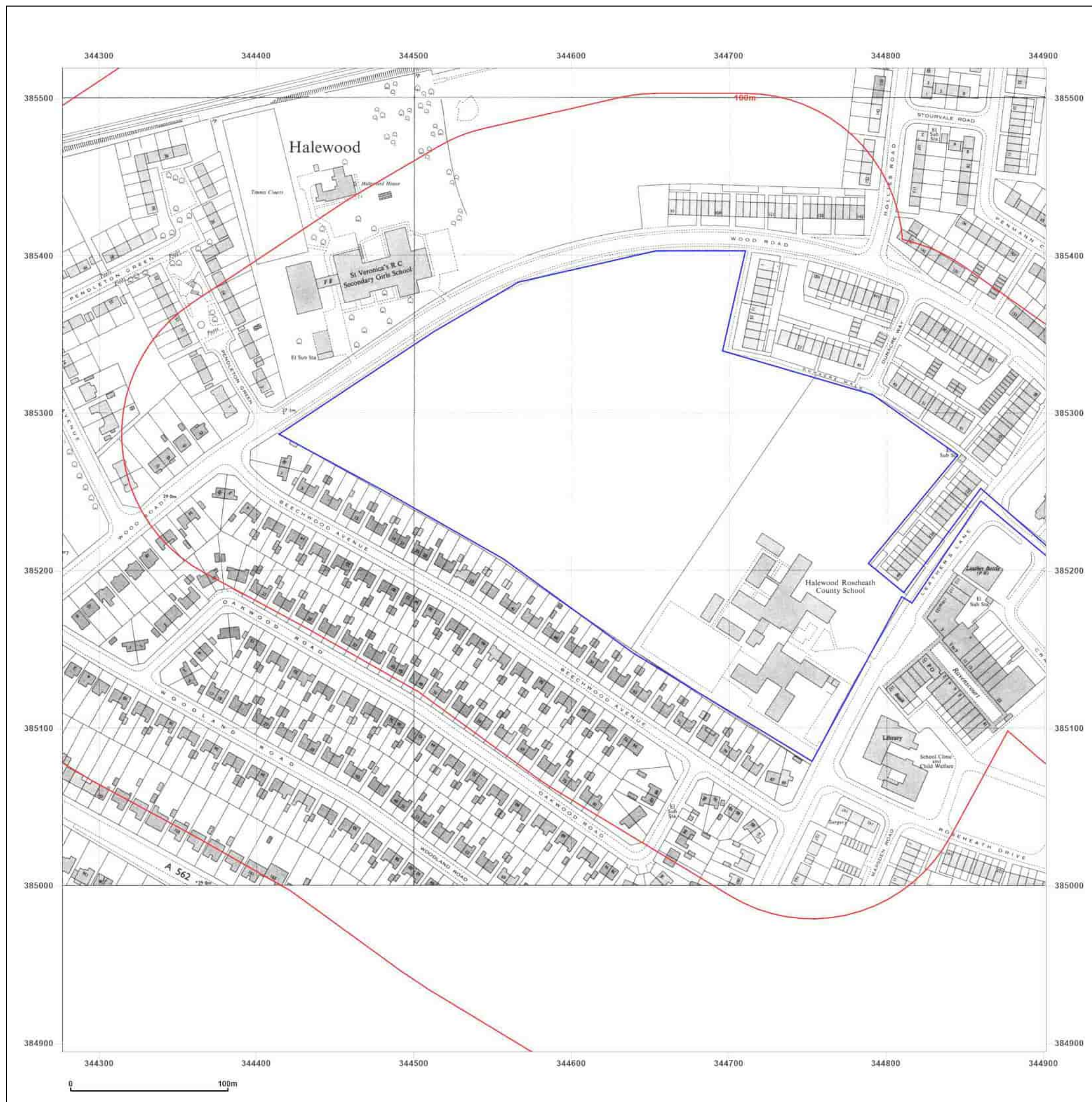


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Client Ref: Halewood_Purchase_Order_20165609
Report Ref: WSP-4PL-8RI-4PK-TVB_LS_1_1
Grid Ref: 344589, 385207

Map Name: National Grid

Map date: 1971

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1963
Revised 1969
Edition N/A
Copyright 1971
Levelled 1960

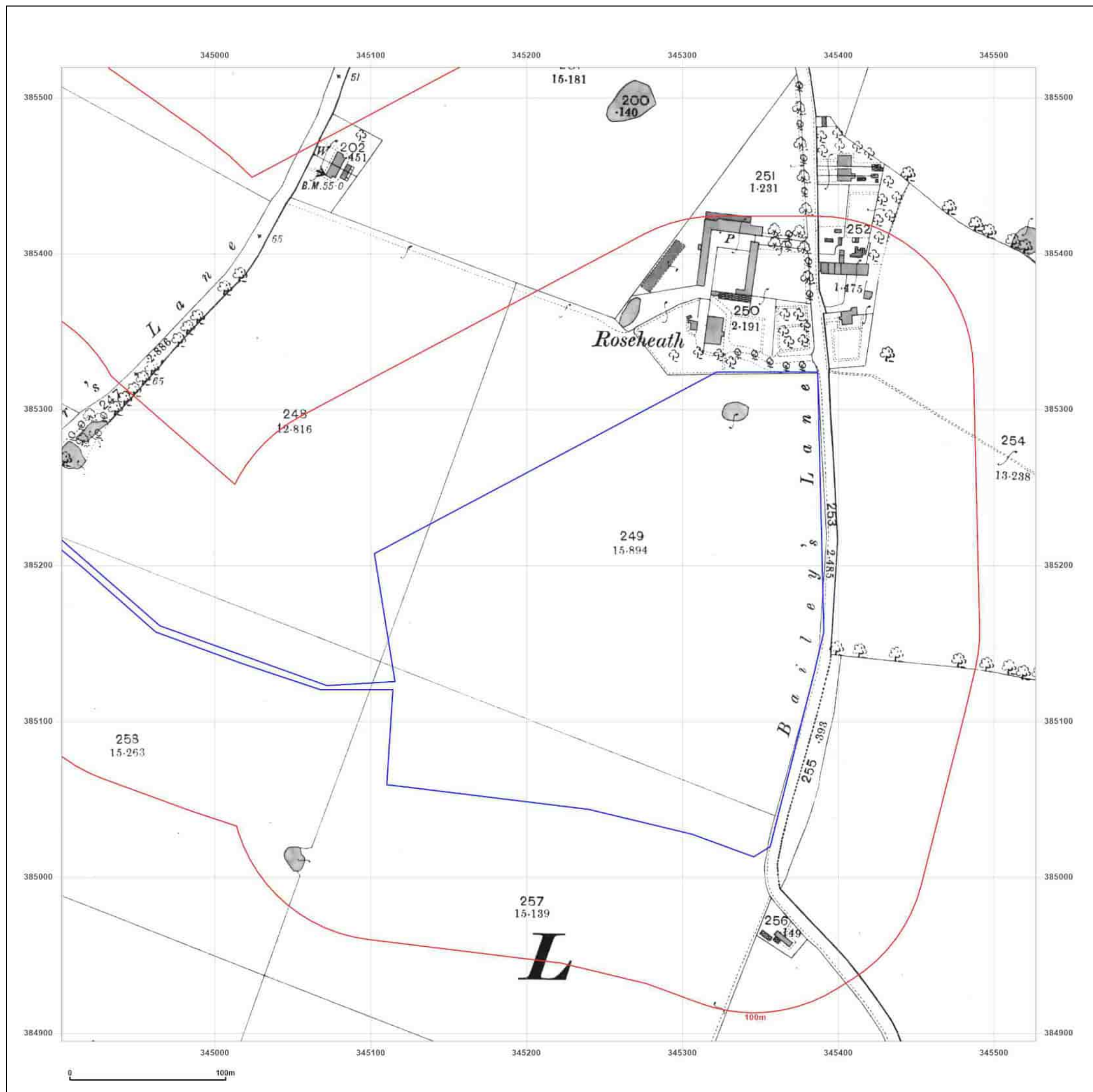


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Client Ref: Halewood_Purchase_Order_20165609
Report Ref: WSP-4PL-8RI-4PK-TVB_LS_2_1
Grid Ref: 345214, 385207

Map Name: County Series

Map date: 1893

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1893
Revised 1893
Edition N/A
Copyright N/A
Levelled N/A

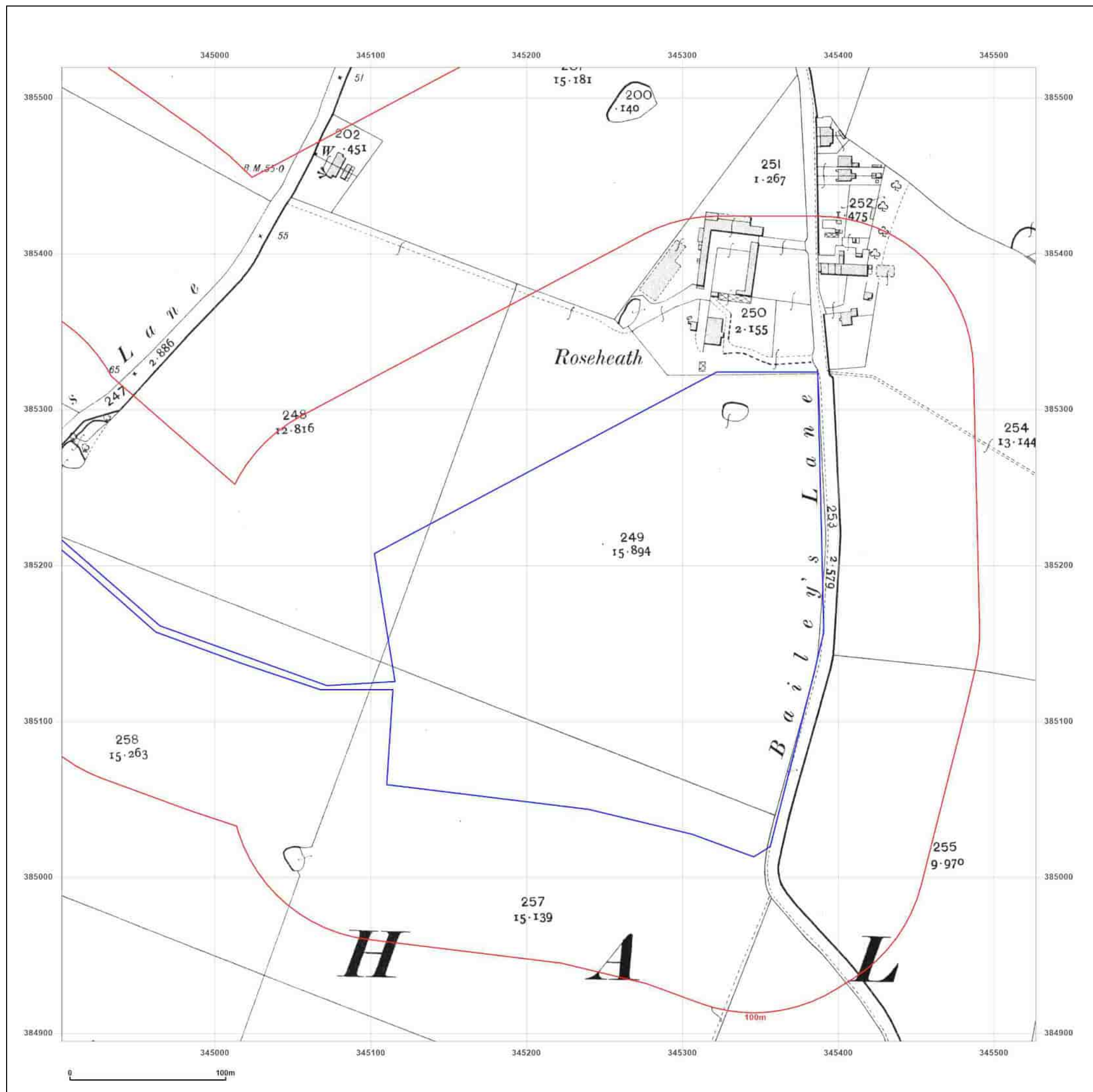


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Client Ref: Halewood_Purchase_Order_20165609
Report Ref: WSP-4PL-8RI-4PK-TVB_LS_2_1
Grid Ref: 345214, 385207

Map Name: County Series

Map date: 1907

Scale: 1:2,500

Printed at: 1:2,500



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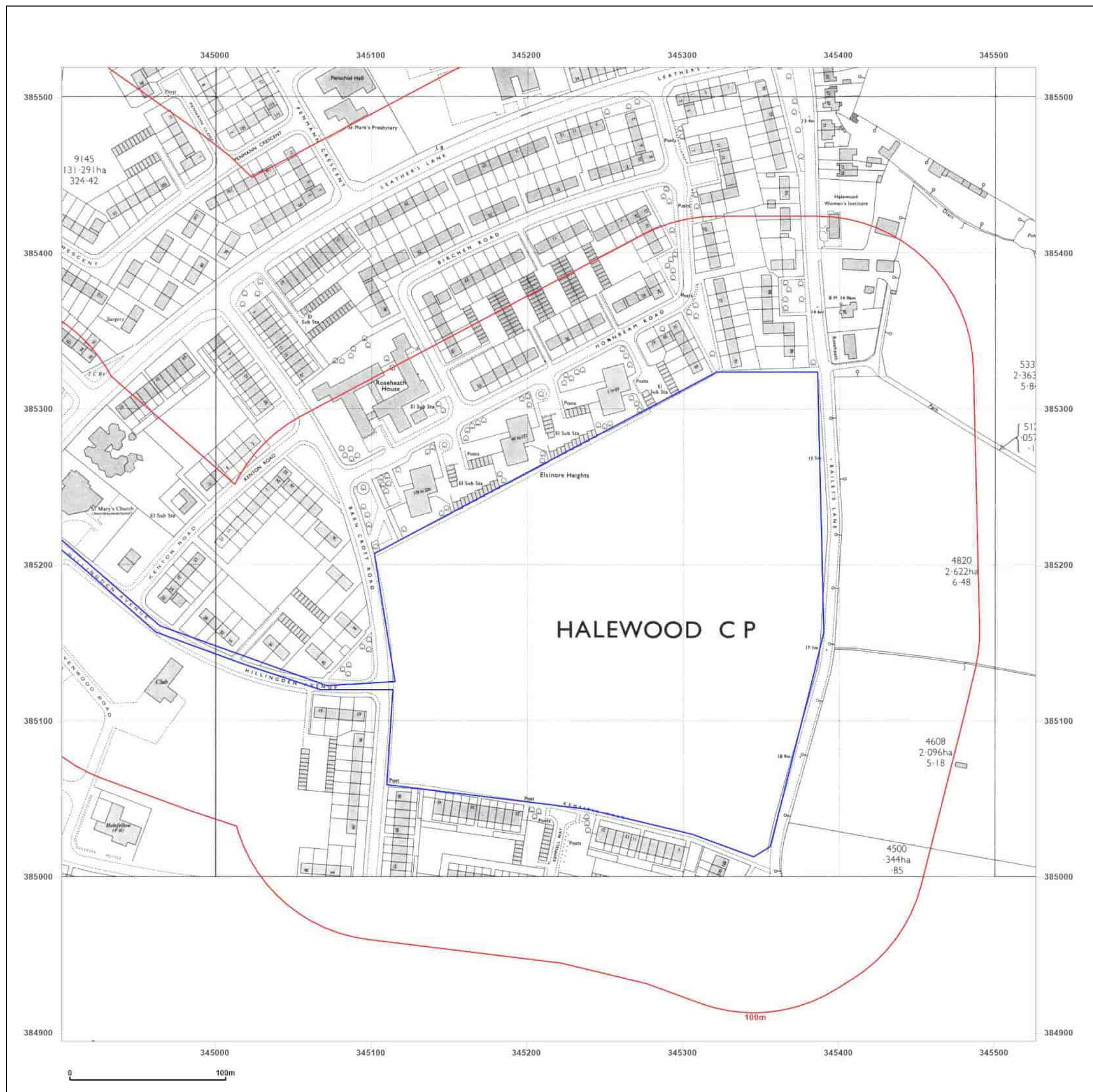


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Client Ref: Halewood_Purchase_Order_20165609
Report Ref: WSP-4PL-8RI-4PK-TVB_LS_2_1
Grid Ref: 345214, 385207

Map Name: National Grid

Map date: 1971

Scale: 1:2,500

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Client Ref: Halewood_Purchase_Order_20165609
Report Ref: WSP-4PL-8RI-4PK-TVB_1250_2_1
Grid Ref: 344902, 384958

Map Name: National Grid

Map date: 1963-1967

Scale: 1:1,250

Printed at: 1:2,000



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Client Ref: Halewood_Purchase_Order_20165609
Report Ref: WSP-4PL-8RI-4PK-TVB_1250_2_1
Grid Ref: 344902, 384958

Map Name: National Grid

Map date: 1984-1988

Scale: 1:1,250

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Client Ref: Halewood_Purchase_Order_20165609
Report Ref: WSP-4PL-8RI-4PK-TVB_1250_2_1
Grid Ref: 344902, 384958

Map Name: National Grid

Map date: 1993-1994

Scale: 1:1,250

Printed at: 1:2,000



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Client Ref: Halewood_Purchase_Order_20165609
Report Ref: WSP-4PL-8RI-4PK-TVB_1250_2_1
Grid Ref: 344902, 384958

Map Name: National Grid

Map date: 1993-1995

Scale: 1:1,250

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Client Ref: Halewood_Purchase_Order_20165609
Report Ref: WSP-4PL-8RI-4PK-TVB_1250_2_2
Grid Ref: 344902, 385458

Map Name: National Grid

Map date: 1963-1964

Scale: 1:1,250

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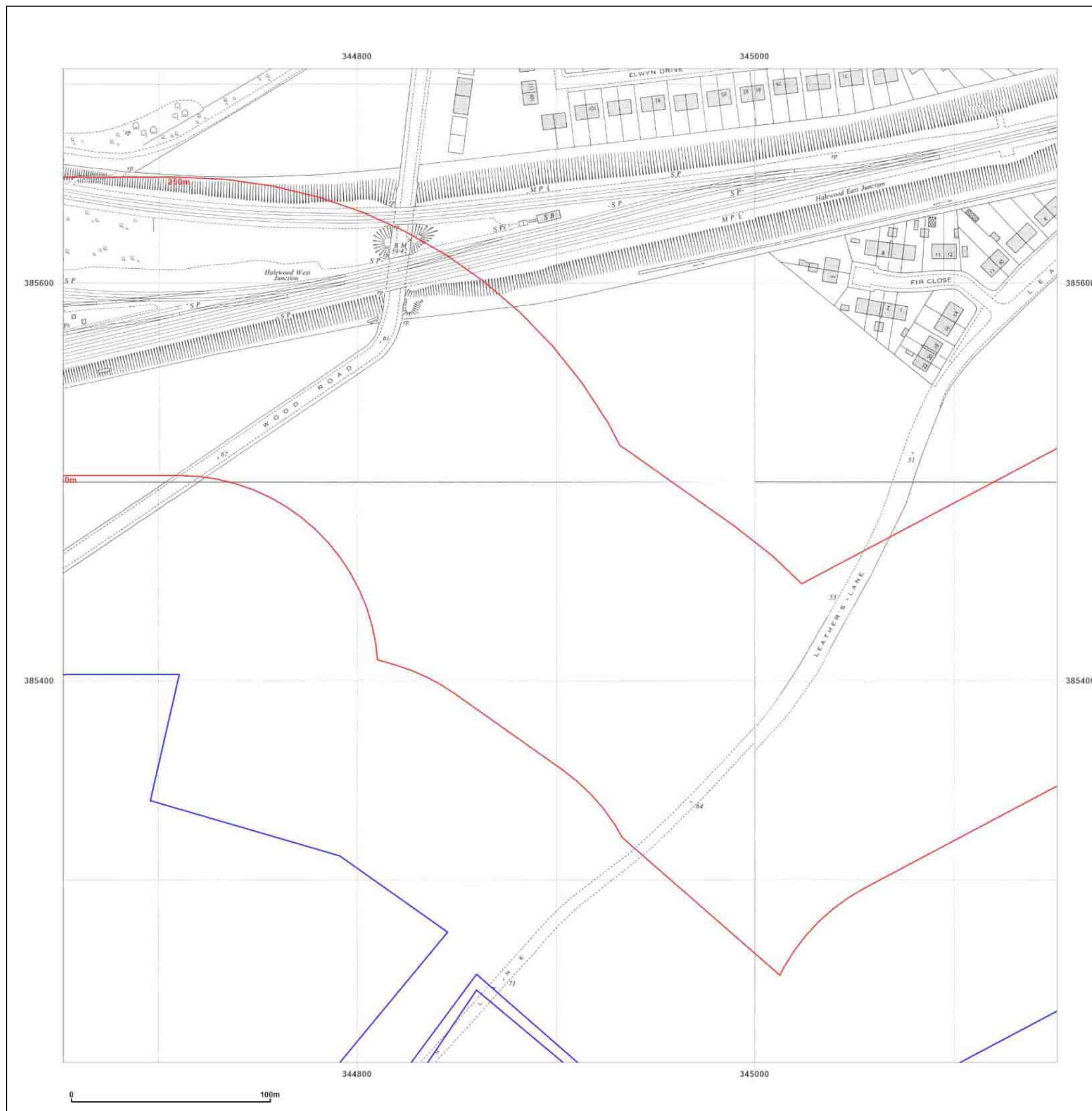


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Client Ref: Halewood_Purchase_Order_20165609
Report Ref: WSP-4PL-8RI-4PK-TVB_1250_2_2
Grid Ref: 344902, 385458

Map Name: National Grid

Map date: 1982-1986

Scale: 1:1,250

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Client Ref: Halewood_Purchase_Order_20165609
Report Ref: WSP-4PL-8RI-4PK-TVB_1250_2_2
Grid Ref: 344902, 385458

Map Name: National Grid

Map date: 1988-1993

Scale: 1:1,250

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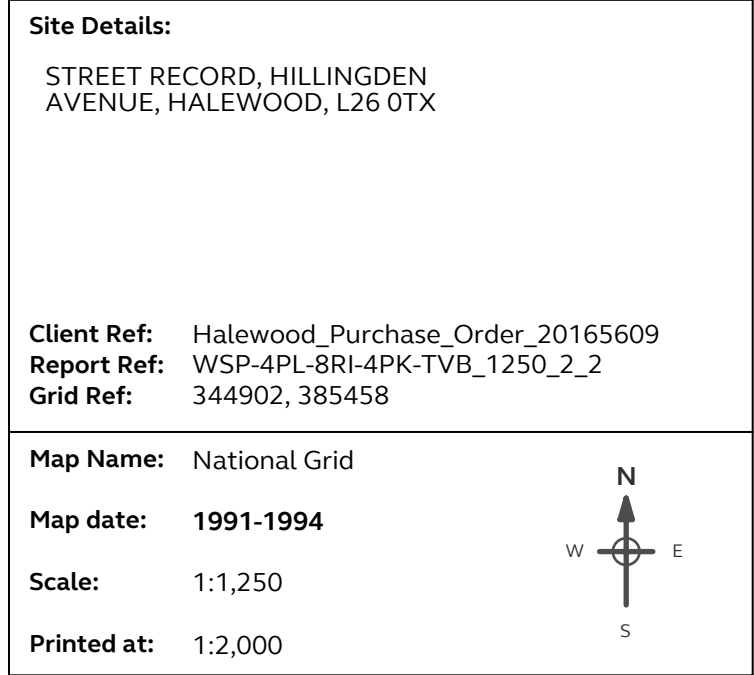
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Client Ref: Halewood_Purchase_Order_20165609
Report Ref: WSP-4PL-8RI-4PK-TVB_1250_2_2
Grid Ref: 344902, 385458

Map Name: National Grid

Map date: 1993-1994

Scale: 1:1,250

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Client Ref: Halewood_Purchase_Order_20165609
Report Ref: WSP-4PL-8RI-4PK-TVB_1250_3_1
Grid Ref: 345402, 384958

Map Name: National Grid

Map date: 1963-1966

Scale: 1:1,250

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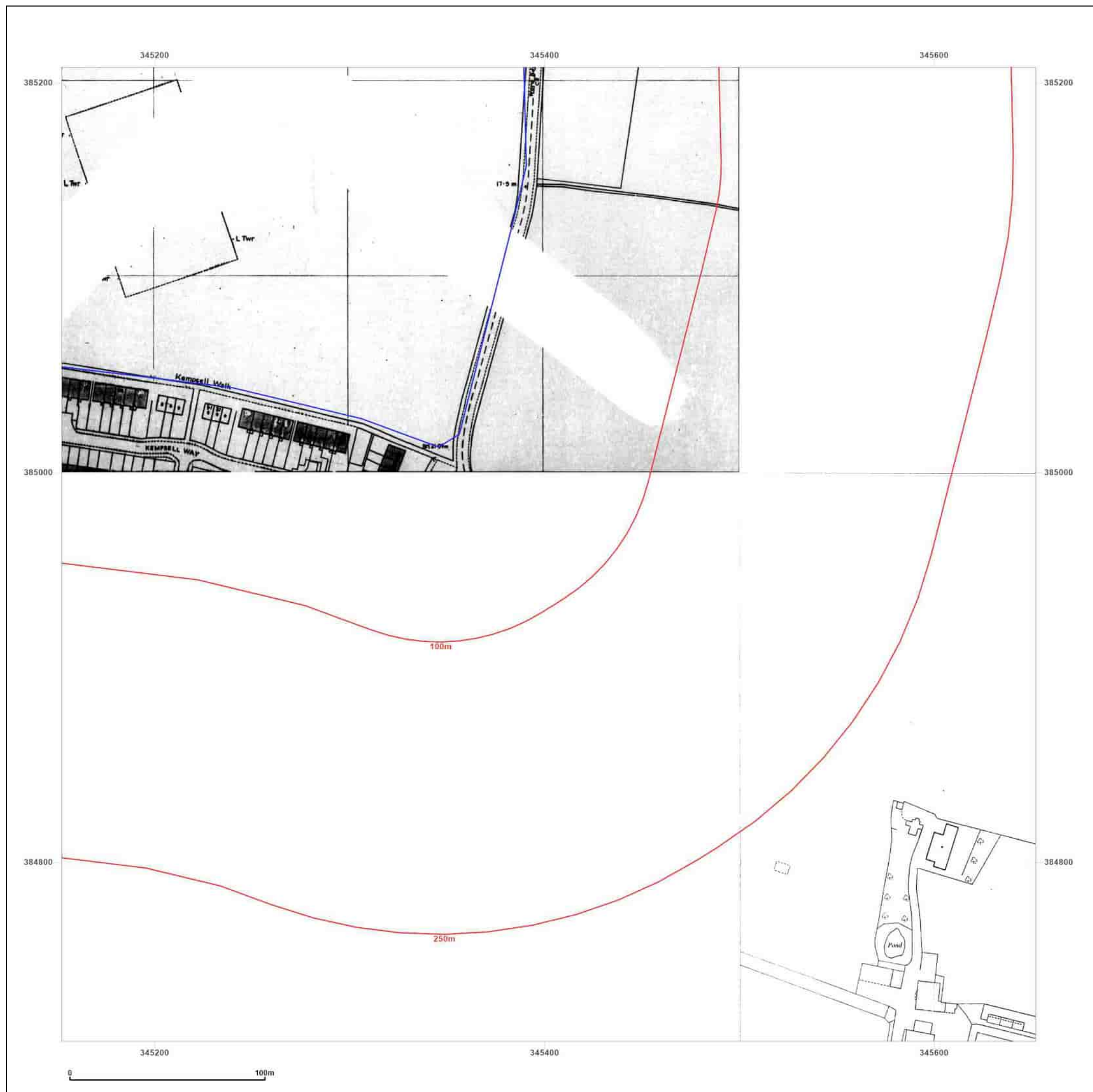
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Client Ref: Halewood_Purchase_Order_20165609
Report Ref: WSP-4PL-8RI-4PK-TVB_1250_3_1
Grid Ref: 345402, 384958

Map Name: National Grid

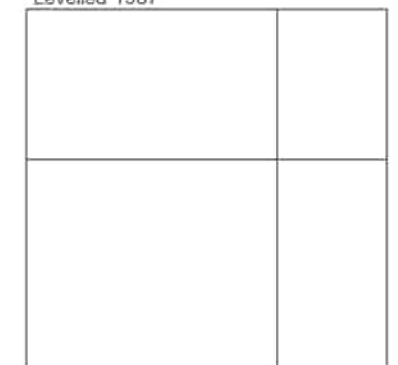
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Report Ref: WSP-4PL-8RI-4PK-TVB_1250_3_1
Grid Ref: 345402, 384958

Map Name: National Grid

Map date: 1993

Scale: 1:1,250

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Client Ref: Halewood_Purchase_Order_20165609
Report Ref: WSP-4PL-8RI-4PK-TVB_1250_3_2
Grid Ref: 345402, 385458

Map Name: National Grid

Map date: 1963-1964

Scale: 1:1,250

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Client Ref: Halewood_Purchase_Order_20165609
Report Ref: WSP-4PL-8RI-4PK-TVB_1250_3_2
Grid Ref: 345402, 385458

Map Name: National Grid

Map date: 1970

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Client Ref: Halewood_Purchase_Order_20165609
Report Ref: WSP-4PL-8RI-4PK-TVB_1250_3_2
Grid Ref: 345402, 385458

Map Name: National Grid

Map date: 1988-1993

Scale: 1:1,250

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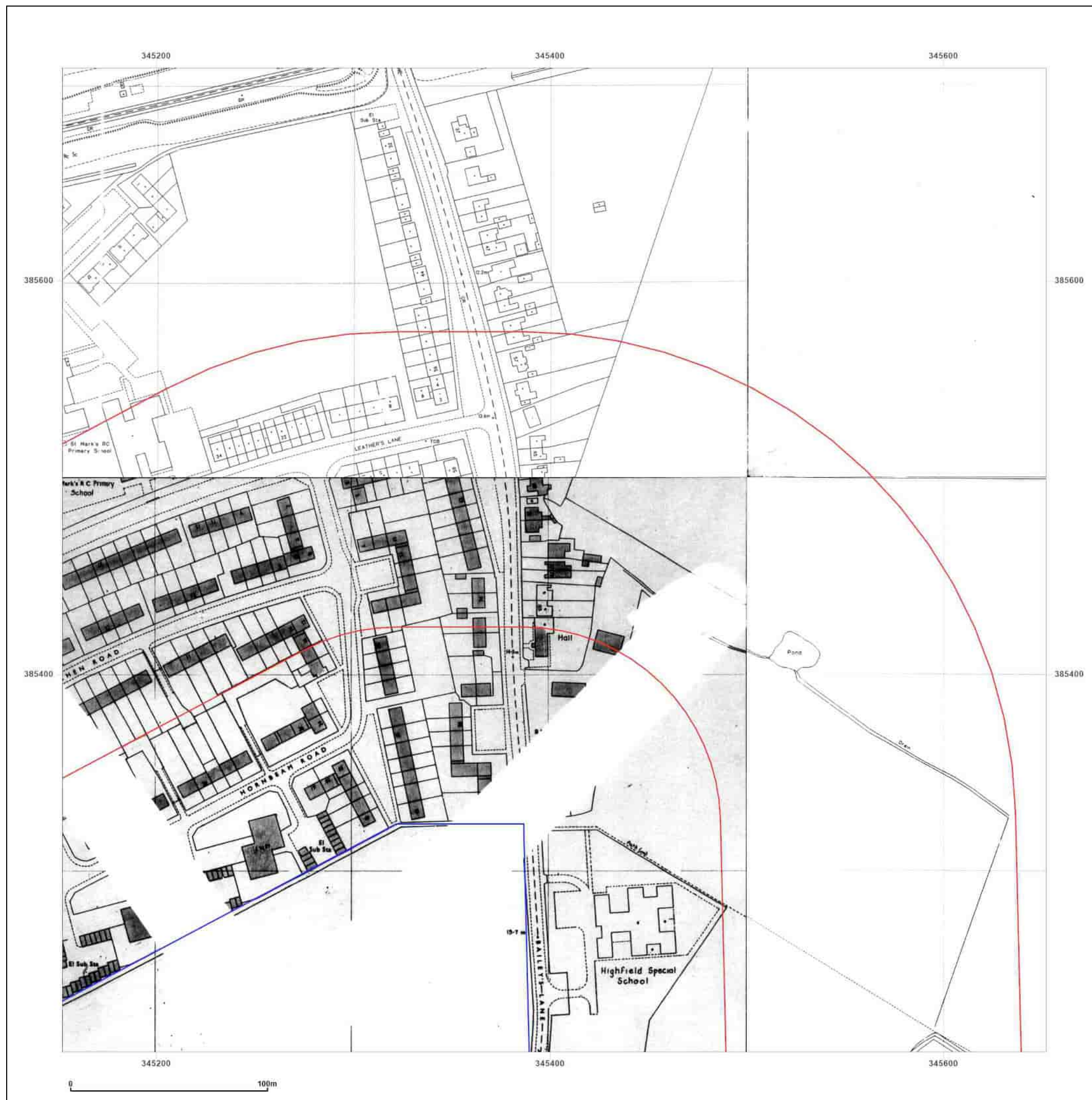


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Client Ref: Halewood_Purchase_Order_20165609
Report Ref: WSP-4PL-8RI-4PK-TVB_1250_3_2
Grid Ref: 345402, 385458

Map Name: National Grid

Map date: 1988-1993

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Client Ref: Halewood_Purchase_Order_20165609
Report Ref: WSP-4PL-8RI-4PK-TVB_1250_3_2
Grid Ref: 345402, 385458

Map Name: National Grid

Map date: 1993

Scale: 1:1,250

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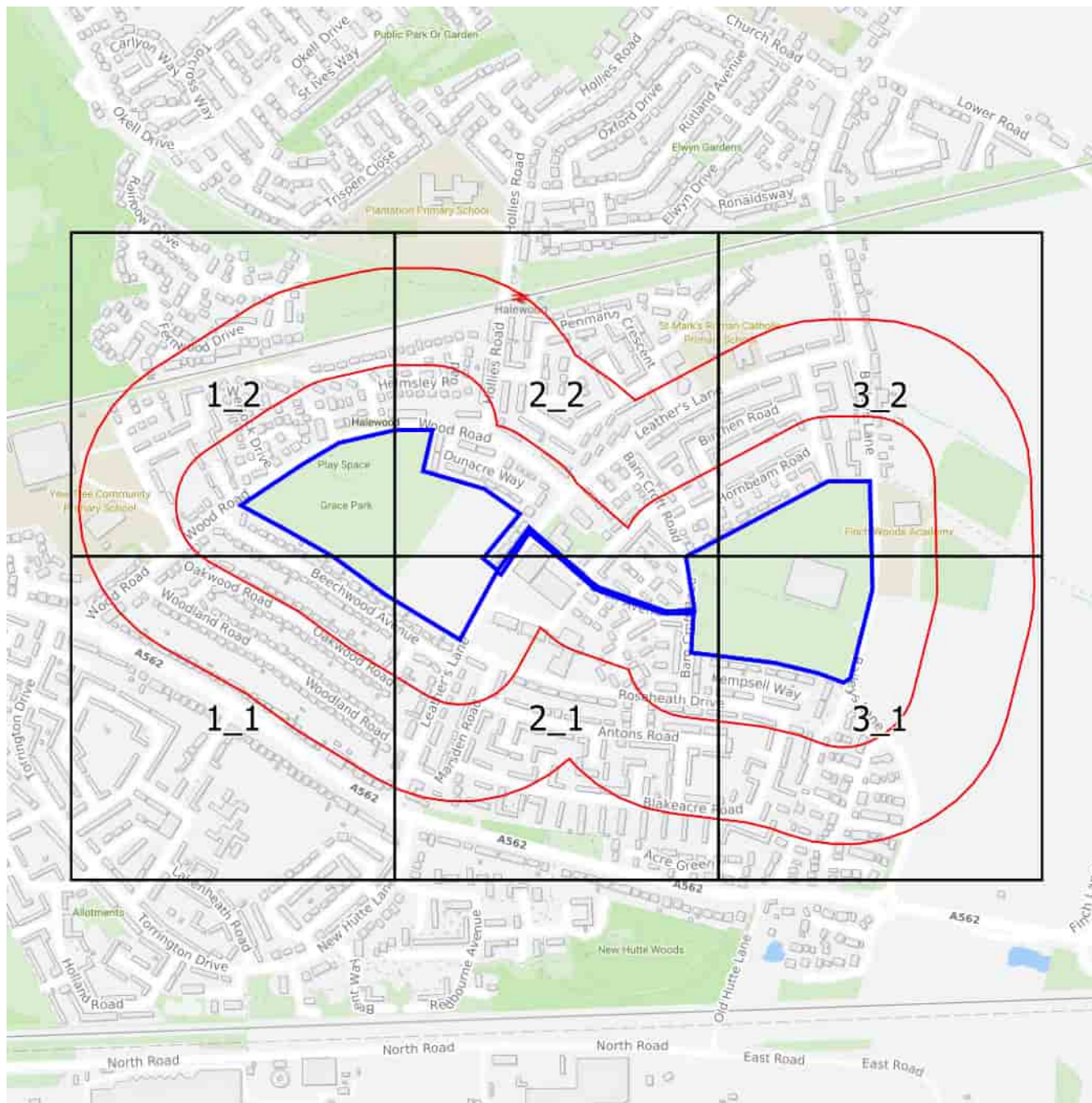
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1:1,250 Scale Grid Index





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Client Ref: Halewood_Purchase_Order_20165609
Report Ref: WSP-4PL-8RI-4PK-TVB_1250_1_1
Grid Ref: 344402, 384958

Map Name: National Grid

Map date: 1963-1967

Scale: 1:1,250

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Client Ref: Halewood_Purchase_Order_20165609
Report Ref: WSP-4PL-8RI-4PK-TVB_1250_1_1
Grid Ref: 344402, 384958

Map Name: National Grid

Map date: 1984-1986

Scale: 1:1,250

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Client Ref: Halewood_Purchase_Order_20165609
Report Ref: WSP-4PL-8RI-4PK-TVB_1250_1_1
Grid Ref: 344402, 384958

Map Name: National Grid

Map date: 1993

Scale: 1:1,250

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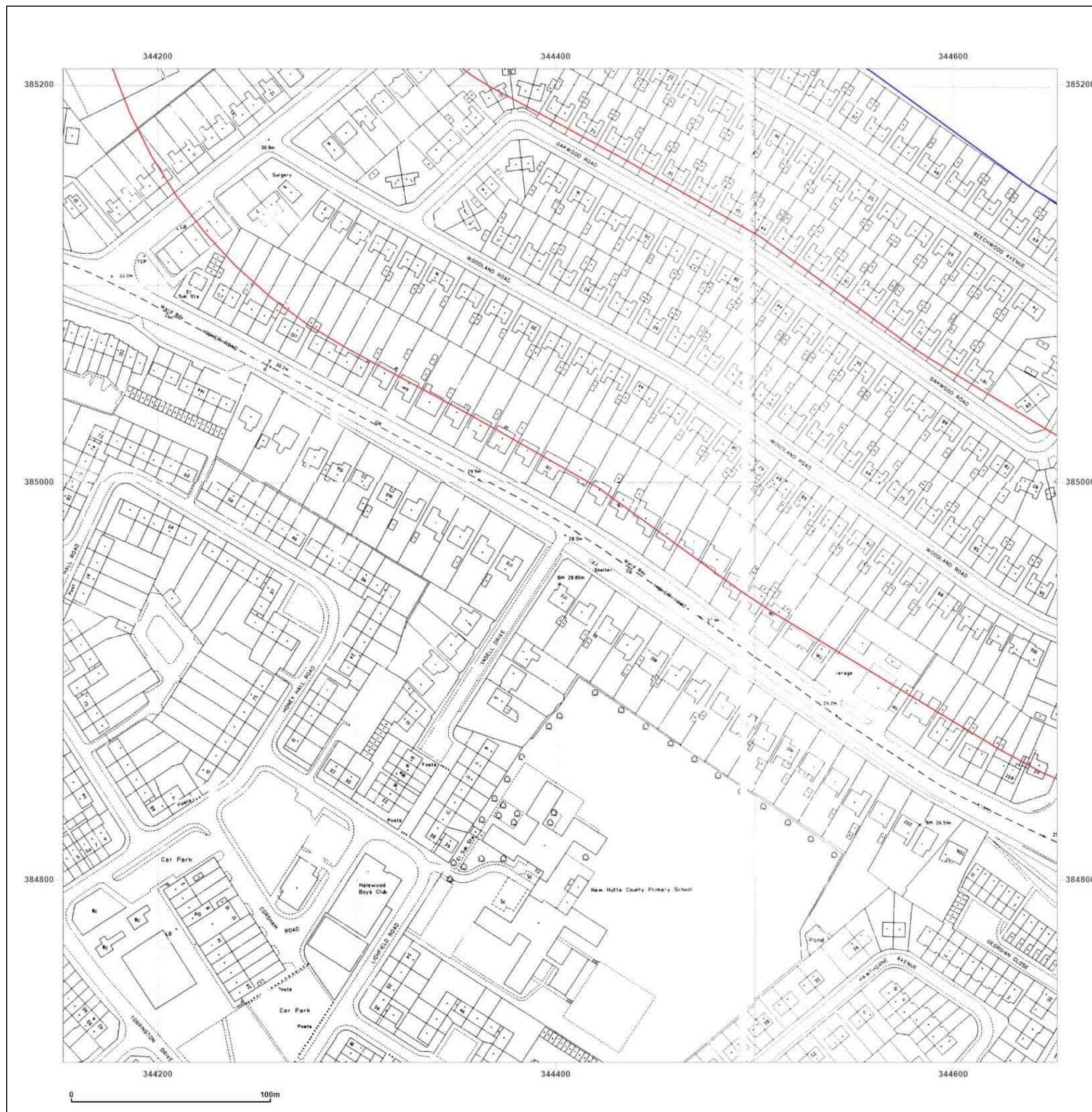


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Site Details:

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AVENUE, HALEWOOD, L26 0TX

Client Ref: Halewood_Purchase_Order_20165609
Report Ref: WSP-4PL-8RI-4PK-TVB_1250_1_1
Grid Ref: 344402, 384958

Map Name: National Grid

Map date: 1993-1994

Scale: 1:1,250

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Client Ref: Halewood_Purchase_Order_20165609
Report Ref: WSP-4PL-8RI-4PK-TVB_1250_1_1
Grid Ref: 344402, 384958

Map Name: National Grid

Map date: 1993-1994

Scale: 1:1,250

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Client Ref: Halewood_Purchase_Order_20165609
Report Ref: WSP-4PL-8RI-4PK-TVB_1250_1_2
Grid Ref: 344402, 385458

Map Name: National Grid

Map date: 1963-1964

Scale: 1:1,250

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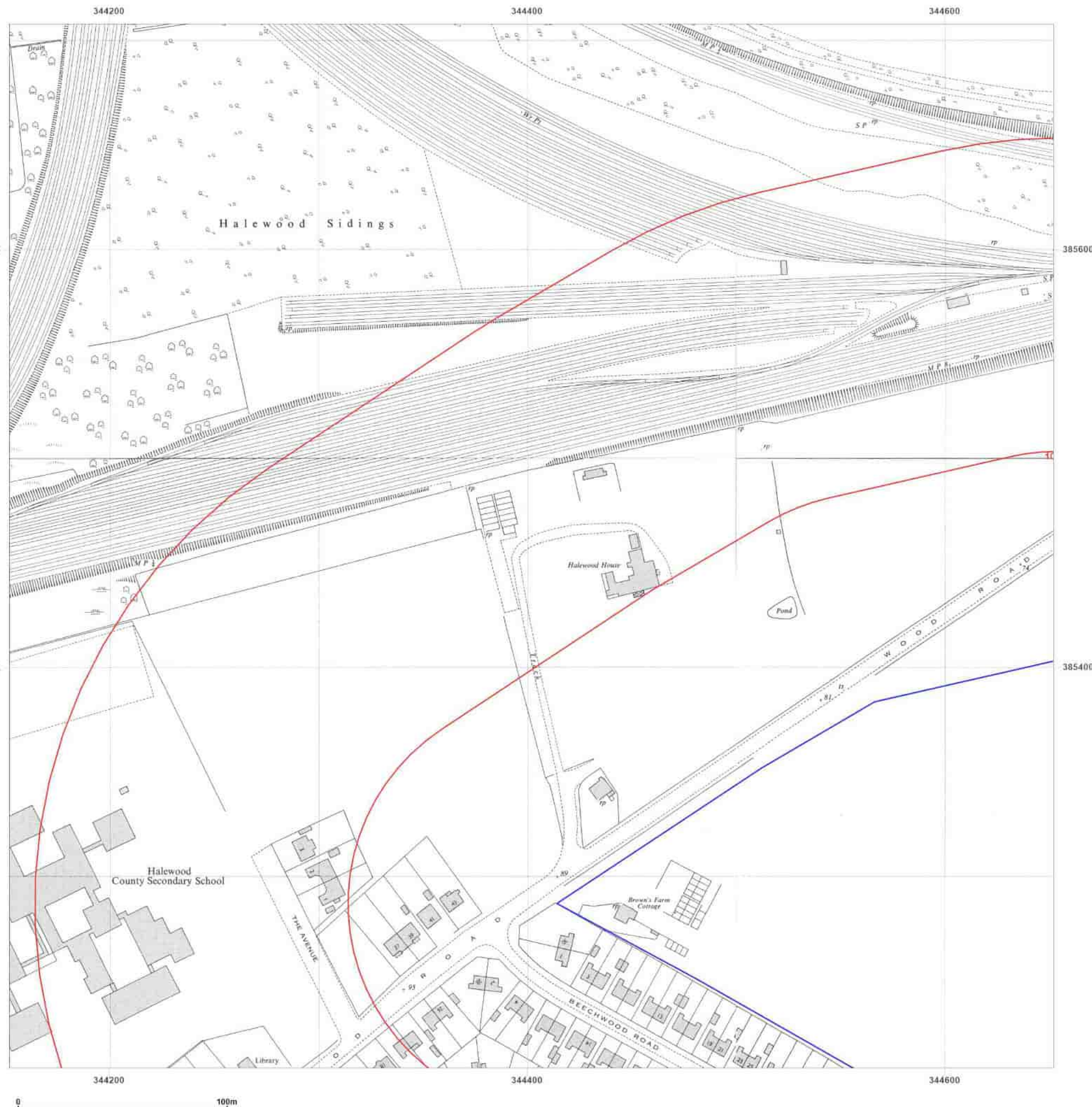


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Client Ref: Halewood_Purchase_Order_20165609
Report Ref: WSP-4PL-8RI-4PK-TVB_1250_1_2
Grid Ref: 344402, 385458

Map Name: National Grid

Map date: 1988-1993

Scale: 1:1,250

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Revised N/A
Edition N/A
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Site Details:

STREET RECORD, HILLINGDEN
AVENUE, HALEWOOD, L26 0TX

Client Ref: Halewood_Purchase_Order_20165609
Report Ref: WSP-4PL-8RI-4PK-TVB_1250_1_2
Grid Ref: 344402, 385458

Map Name: National Grid

Map date: 1989-1994

Scale: 1:1,250

Printed at: 1:2,000



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Revised 1989
Edition N/A
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Surveyed N/A
Revised N/A
Edition N/A
Copyright 1994
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
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Levelled N/A

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Appendix C.3

ZETICA REPORT



UNEXPLODED BOMB RISK MAP



SITE LOCATION

Map Centre: 344742,385223



LEGEND

- High:** Areas indicated as having a bombing density of 50 bombs per 1000acre or higher.
- Moderate:** Areas indicated as having a bombing density of 15 to 49 bombs per 1000acre.
- Low:** Areas indicated as having 15 bombs per 1000acre or less.

- military**
- industry**
- UXO find**
- transport**
- dock**
- Luftwaffe targets**
- utilities**
- Bombing decoy**
- other**

How to use your Unexploded Bomb (UXB) risk map?

The map indicates the potential for Unexploded Bombs (UXB) to be present as a result of World War Two (WWII) bombing.

You can incorporate the map into your preliminary risk assessment* for potential Unexploded Ordnance (UXO) for a site. Using this map, you can make an informed decision as to whether more in-depth detailed risk assessment* is necessary.

What do I do if my site is in a moderate or high risk area?

Generally, we recommend that a detailed UXO desk study and risk assessment is undertaken for sites in a moderate or high UXB risk area.

Similarly, if your site is near to a designated Luftwaffe target or bombing decoy then additional detailed research is recommended.

More often than not, this further detailed research will conclude that the potential for a significant UXO hazard to be present on your site is actually low.

Never plan site work or undertake a risk assessment using these maps alone. More detail is required, particularly where there may be a source of UXO from other military operations which are not reflected on these maps.

If my site is in a low risk area, do I need to do anything?

If both the map and other research confirms that there is a low potential for UXO to be present on your site then, subject to your own comfort and risk tolerance, works can proceed with no special precautions.

A low risk really means that there is no greater probability of encountering UXO than anywhere else in the UK.

If you are unsure whether other sources of UXO may be present, you can ask for one of our **pre-desk study assessments (PDSA)**

If I have any questions, who do I contact?

tel: **+44 (0) 1993 886682**

email: **uxo@zetica.com**

web: **www.zeticauxo.com**

The information in this UXB risk map is derived from a number of sources and should be used in conjunction with the accompanying notes on our website: (<https://zeticauxo.com/downloads-and-resources/risk-maps/>)

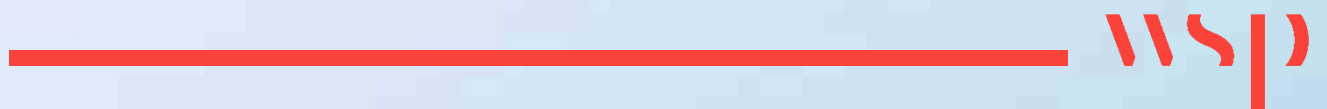
Zetica cannot guarantee the accuracy or completeness of the information or data used and cannot accept any liability for any use of the maps. These maps can be used as part of a technical report or similar publication, subject to acknowledgment. The copyright remains with Zetica Ltd.

It is important to note that this map is not a UXO risk assessment and should not be reported as such when reproduced.

*Preliminary and detailed UXO risk assessments are advocated as good practice by industry guidance such as CIRIA C681 'Unexploded Ordnance (UXO), a guide for the construction industry'.

Appendix D

LEGISLATIVE BACKGROUND



THE REGULATORY FRAMEWORK FOR OUR ASSESSMENT

Our assessment is made within the framework of the Contaminated Land Regime defined by Part 2A of the Environmental Protection Act and the Contaminated Land Statutory Guidance 2012. We have considered the contaminated land guidance documents issued by the Department for Environment, Food and Rural Affairs (DEFRA) including Model Procedures for the Management of Land Contamination (CLR11) (Environment Agency 2004a).

Our method is to create a clear conceptual model of the potential Pollutant Linkages present on site, consider the Sources (potential contaminants on site) which may cause harm, via Pathways, to Receptors such as human health (e.g. that of site users), the water environment (groundwater, surface water) and the built environment (buildings, services). Contaminated Land has a precise definition, and does not include all land which contains contaminants, but only land where there is a Pollutant Linkage causing (or giving rise to a significant risk of) a degree of harm.

Our approach to the assessment of risks to Human Health is consistent with that established in CLR11. This establishes a tiered approach including:

Preliminary Risk Assessment (e.g. the establishment of potential pollutant linkages) – normally through desk based work;

Generic Quantitative Risk Assessment (GQRA) (e.g. the comparison of contaminant concentrations against Soil Guideline Values (SGV) or other Generic Assessment Criteria (GAC)); and,

Detailed Quantitative Risk Assessment (DQRA) (e.g. the comparison of contaminant concentrations against site specific assessment criteria).

Our approach to Generic Quantitative Risk Assessment (GQRA) is described in outline in the following section.

In addition to the Contaminated Land Regime, where appropriate, we have considered

The Environmental Damage Regulations (2009). These implement the European Environmental Liability Directive and provide that; for certain activities, where there is an imminent risk of environmental damage, steps must be taken to prevent such damage, and if environmental damage has already occurred, the operator of the activity must prevent further damage.

Common Law Liability. This remains an important aspect of contaminated land law, particularly for third parties harmed by, or suffering loss as a result of, contaminated land. Through Nuisance a person may be liable if he owns or occupies land and behaves in a way so as to cause foreseeable injury, loss or damage by creating a nuisance, for example by allowing contamination to migrate off-site either over a period of time or as a one-off event. By Negligence, where the owner of contaminated land owes a duty of care (to a claimant) which was breached. In Trespass where the contamination on a defendant's land has directly interfered with the property of a claimant.

OUR APPROACH TO GQRA

Once we have an initial understanding of the site and the potential pollutant linkages in place we plan our investigation, soil sampling regime and analytical suites. Our plan is informed by documentation such as:

- The available desk study/preliminary risk assessment reports available for the site;
- CLR 8 'Priority Contaminants for the Assessment of Land' (Environment Agency 2002a); and,
- The Department of the Environment's Industry Profiles (DoE 1995-95).

In order to undertake a GQRA, contaminant concentrations need to be compared to appropriate generic assessment criteria. Current UK industry practice is to use, as first preference, UK Soil Guideline Values (SGV)s which are generic assessment criteria published by the Environment Agency and derived using the Contaminated Land Exposure Assessment model (CLEA).

The CLEA model provides an approach for the assessment of chronic risks to human health from concentrations of a substance within soil; where appropriate. However, the SGVs published to date are limited to only a small number of contaminants. Consequently, where published SGV do not exist, other GAC can be used including:

- GAC prepared in accordance with the CLEA V1.06 model by authoritative bodies (e.g. Chartered Institute of Environmental Health (CIEH), Environment Industries Commission (EIC)); or in their absence,
- WSP in-house GAC prepared in accordance with the CLEA V1.06 model and associated documents.

The approach adopted by WSP has been to generate GAC for chronic risks to human health using CLEA V1.06. In generating GAC, input parameters consistent with Environment Agency publications have been adopted by WSP. In generating GAC, the default CLEA assumptions have been applied to a range of likely human health exposure models and associated critical age receptor groups including:

- Residential with Plant Uptake;
- Residential without Plant Uptake;
- Allotments;
- Parks;
- Open Spaces; and
- Commercial/Industrial.

CYANIDES

The primary risk to human receptors from free cyanide in soils is an acute risk (i.e. a single dose could have a lethal affect as opposed to adverse effects from cumulative intake (chronic affect)). There is no current UK guidance available for calculating acute risks from free cyanide; therefore, an in-house methodology has been used to derive an acute GAC of 60 mg/kg for all exposure scenarios.

Volatile Hydrocarbons from Groundwater and Impacts to Human Health.

The CLEA model does not explicitly consider the potential for chronic impact to Human Health from indoor inhalation of concentrations of volatile vapours from dissolved phase contamination. The potential exists for this to be an important exposure route for a limited number of highly volatile contaminants. GAC have been calculated for volatile contaminants for volatilisation from groundwater using an in-house implementation of the Johnson and Ettinger model (WSP In-house Groundwater Model V1.1) which has been adapted to account for a dissolved phase source through consideration of (a) partitioning from groundwater to soil vapour, and (b) transport through the capillary zone.

GENERIC QUANTITATIVE RISK ASSESSMENT - CONTROLLED WATERS / WATER ENVIRONMENT

Our approach to the assessment of plausible pollutant linkages with respect to the pollution of Controlled Waters / Water Environment is consistent with UK guidance. The guidance identifies that for the pollution of the water environment to occur; poisonous, noxious, polluting or solid waste matter must be entering such waters or must be considered more likely than not to enter the water environment in the future. The assessment of whether the pollution of the water environment is likely to occur in the future requires consideration of those contaminants at source, which are present in a mobile form, at such a concentration that they will reach a receptor at concentrations considered to be poisonous, noxious, polluting or solid waste matter.

Our adopted approach for GQRA assessment therefore typically comprises the following:

- Consideration of soil concentrations of organic substances in the context of soil saturation to assess the potential for migration under gravity;
- Comparison of soil leachate/pore water concentrations against appropriate GAC; and
- Comparison of groundwater concentrations against appropriate GAC.

This approach is equivalent to Tier 1 / Level 1 Assessment as undertaken using ConSim (2009) / Environment Agency Remedial Targets Methodology V3.1 (2006).

Effectively, for the majority of sites, contaminant concentrations are compared to both drinking water standards and environmental quality standards to identify the need for further consideration/DQRA.

FURTHER WORK

Where a GAC is exceeded further work and/or remediation is normally required. For moderate exceedances further work may include progression to a Detailed Quantitative Risk Assessment (DQRA) which is likely to require further data collection. The outcome of the DQRA may be that the risk is not significant or, if the risk is identified as being significant, the generation of site-specific remedial targets.

Where significant exceedances of GAC are identified or there is evidence of potential acute risks remedial measures may be immediately required.

GROUND GAS

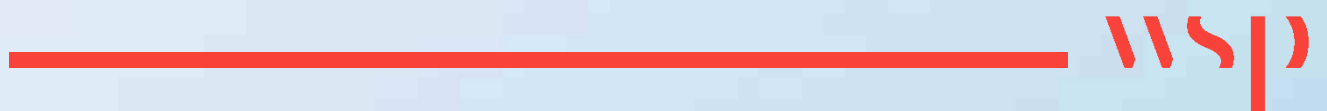
Gas results have been assessed with regard to Assessing Risks Posed by Hazardous Gases to Buildings, CIRIA Report C665, 2007 (CIRIA C665) and, where a residential end use is being considered, Guidance on Evaluation of Development Proposals on Sites where Methane and Carbon Dioxide are Present, Edition 4, NHBC, 2007 (NHBC 2007).

The method in CIRIA C665 uses both gas concentrations and borehole flow rates to define a characteristic situation for a site based on the gas screening value for methane and carbon dioxide. Gas screening value = borehole flow rate (litres of gas per hour) x gas concentration (%). The calculation is carried out for both methane and carbon dioxide and the worse-case value adopted.

If necessary, more detailed information on our approach to risk assessment can be provided if required.

Appendix E

CIRIA RISK DEFINITIONS



CIRIA RISK DEFINITIONS

Table E-1 – Classifications of Probability

Classification	Definition
High likelihood	There is a pollution linkage and an event that either appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution
Likely	There is a pollution linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.
Low likelihood	There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place, and is less likely in the shorter term.
Unlikely	There is a pollution linkage but circumstances are such that it is improbable that an event would occur even in the very long term

Table E-2 – Classification of Consequence

Classification	Definition
Severe	Short-term (acute) risk to human health likely to result in "significant harm" as defined by the Environment Protection Act 1990, Part IIA. Short-term risk of pollution of sensitive water resource. Catastrophic damage to buildings/property. A short-term risk to a particular ecosystem, or organism forming part of such ecosystem.
Medium	Chronic damage to Human Health ("significant harm" as defined in DETR, 2000). Pollution of sensitive water resources. A significant change in a particular ecosystem, or organism forming part of such ecosystem.
Mild	Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services (significant harm as defined in the Draft Circular on Contaminated Land, DETR, 2000). Damage to sensitive buildings/structures/services or the environment.
Minor	Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve, Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc.). Easily repairable effects of damage to buildings, structures and services.

The risk categories presented in this reporting, taking into account both probability and severity, are based on the matrix presented in Table A3 below, following CIRIA C552.

Table E-3 – Adopted Risk Categories / Comparison of Consequence against Probability

Probability	Consequence			
	Severe	Medium	Mild	Minor
High Likelihood	Very High Risk	High Risk	Moderate Risk	Low to Moderate Risk
Likely	High Risk	Moderate Risk	Low to Moderate Risk	Low Risk
Low Likelihood	Moderate Risk	Low to Moderate Risk	Low Risk	Very Low Risk
Unlikely	Low to Moderate Risk	Low Risk	Very Low Risk	Very Low Risk

Table E-4 – Contaminant Linkage under consideration

CPL	Source	Pathway	Receptor ¹	Comments
Human Health (on-site)				
H1	Contaminants in near surface materials	Dermal contact, ingestion, inhalation of dust	Current and future site users; construction personnel	
H2	Contaminants in deeper materials	Dermal contact, ingestion, inhalation of dust during groundwork's	Construction personnel	Usually managed by use of personal protective equipment (PPE) except in incidents of extreme contamination where further measures are needed

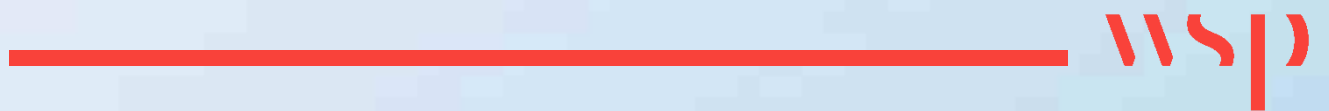
¹ 'Receptors' are defined in BS10175 as "persons, living organisms, ecological systems, controlled waters, atmosphere, structures and utilities that could be adversely affected by the contaminant(s)". Controlled waters equate to water environment receptors in Scotland. The Contaminated Land (Scotland) Regulations 2005 which extend to Scotland only, amends Part IIA of the Environmental Protection Act 1990 (c.43) ("the 1990 Act") and the Contaminated Land (Scotland) Regulations 2000 (S.S.I. 2000/178) ("the 2000 Regulations") in light of the Water Environment and Water Services (Scotland) Act 2003 (asp 3) ("the 2003 Act").

CPL	Source	Pathway	Receptor1	Comments
H3	Contaminants in near surface materials	Root uptake in site-grown produce followed by ingestion	Consumers of produce	Requires residential, allotment or agricultural use
H4	Volatile contaminants in ground or groundwater	Migration to indoor air	Current and future site users	Requires occupied, enclosed structures
H5	Ground Gas generation from made ground, organic material degradation, or coal measures	Migration to indoor air	Current and future site users	Requires occupied, enclosed structures
H6	Contaminants in groundwater	Abstraction and ingestion	Current and future site users	Not a viable linkage in the absence of groundwater abstractions
H7	Contaminants in surface water	Dermal contact, ingestion, or abstraction and ingestion	Current and future site users, construction personnel	Usually not a viable linkage in the absence of surface water abstractions, however contact with surface waters may occur
H8	Radon Gas	Migration of radon gas from bedrock to indoor air and inhalation	Current and future site users	
H9	Radioactive materials in ground	Exposure through radiation	Current and future site users; construction personnel	
H10	Radon, Ground gas, and volatile materials	Outdoor air inhalation	Current and future site users; construction personnel	Generally, not a viable risk due to dilution with outdoor air, unless significant contamination / source is present. May need consideration for trenching works or confined space entry.
Water Environment (on-site and surrounding)				
W1	Contaminants in ground	Leaching to groundwater	Groundwater	

CPL	Source	Pathway	Receptor1	Comments
W2	Near-surface contaminants	Surface run-off	Surface Water	Viability of linkage is dependent on the distance to surface water receptors
W3	Contaminants in groundwater	Lateral migration	Surface Water	Viability of linkage is dependent on the distance to surface water receptors
W4	Contaminants in groundwater	Lateral and downward migration	Superficial aquifer	
W5	Contaminants in groundwater	Downward migration	Bedrock aquifer with Future Resource Potential	
Built Environment (on-site)				
B1	Phytotoxic contaminants in shallow ground	Root uptake	Plant life	
B2	pH and sulphate in shallow ground and/or groundwater in contact with concrete structures	Attack on concrete by direct contact	Buried concrete	
B3	Contaminants in shallow ground	Permeation of water pipes	Pipe material and water ingestion	
Off-Site Human Health / Built Environment Receptors				
O1	Ground Gas / volatile contaminants vapour generation on-site	Migration to indoor air on off-site properties	Adjacent site users	Requires occupied, enclosed structures within influencing distance of site
O2	Groundwater with volatile contamination	Migration off-site and subsequent volatilisation to indoor air	Adjacent site users	Requires occupied, enclosed structures within influencing distance of site
O3	Contaminated groundwater	Migration off-site and contact with services	Services and structures in adjacent site	Requires built environment structures within influencing distance of site

Appendix F

GENERAL LIMITATIONS



REPORT LIMITATIONS - GROUND RISK AND REMEDIATION

GENERAL

1. WSP UK Limited has prepared this report solely for the use of the Client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed and outlined in the body of the report.
2. Unless explicitly agreed otherwise, in writing, this report has been prepared under WSP UK Limited standard Terms and Conditions as included within our proposal to the Client.
3. Project specific appointment documents may be agreed at our discretion and a charge may be levied for both the time to review and finalise appointments documents and also for associated changes to the appointment terms. WSP UK Limited reserves the right to amend the fee should any changes to the appointment terms create an increase risk to WSP UK Limited.
4. The report needs to be considered in the light of the WSP UK Limited proposal and associated limitations of scope. The report needs to be read in full and isolated sections cannot be used without full reference to other elements of the report and any previous works referenced within the report.

PHASE 1 GEO ENVIRONMENTAL AND PRELIMINARY RISK ASSESSMENTS

Coverage: *This section covers reports with the following titles or combination of titles: phase 1; desk top study; geo environmental assessment; development appraisal; preliminary environmental risk assessment; constraints report; due diligence report; geotechnical development review; environmental statement; environmental chapter; project scope summary report (PSSR), program environmental impact report (PEIR), geotechnical development risk register; and, baseline environmental assessment.*

5. The works undertaken to prepare this report comprised a study of available and easily documented information from a variety of sources (including the Client), together with (where appropriate) a brief walk over inspection of the Site and correspondence with relevant authorities and other interested parties. Due to the short timescales associated with these projects responses may not have been received from all parties. WSP UK Limited cannot be held responsible for any disclosures that are provided post production of our report and will not automatically update our report.
6. The opinions given in this report have been dictated by the finite data on which they are based and are relevant only for the purpose for which the report was commissioned. The information reviewed should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions. Should additional information become available which may affect the opinions expressed in this report, WSP UK Limited reserves the right to review such information and, if warranted, to modify the opinions accordingly.
7. It should be noted that any risks identified in this report are perceived risks based on the information reviewed. Actual risks can only be assessed following intrusive investigations of the site.
8. WSP UK Limited does not warrant work / data undertaken / provided by others.

REPORT LIMITATIONS - GROUND RISK AND REMEDIATION

INTRUSIVE INVESTIGATION REPORTS

Coverage: *The following report titles (or combination) may cover this category of work: geo environmental site investigation; geotechnical assessment; GIR (Ground Investigation reports); preliminary environmental and geotechnical risk assessment; and, geotechnical risk register.*

9. The investigation has been undertaken to provide information concerning either:
 - i. The type and degree of contamination present at the site in order to allow a generic quantitative risk assessment to be undertaken; or
 - ii. Information on the soil properties present at the site to allow for geotechnical development constraints to be considered.
10. The scope of the investigation was selected on the basis of the specific development and land use scenario proposed by the Client and may be inappropriate to another form of development or scheme. If the development layout was not known at the time of the investigation the report findings may need revisiting once the development layout is confirmed.
11. For contamination purposes, the objectives of the investigation are limited to establishing the risks associated with potential contamination sources with the potential to cause harm to human health, building materials, the environment (including adjacent land), or controlled waters.
12. For geotechnical investigations the purpose is to broadly consider potential development constraints associated with the physical property of the soils underlying the site within the context of the proposed future or continued use of the site, as stated within the report.
13. The amount of exploratory work, soil property testing and chemical testing undertaken has necessarily been restricted by various factors which may include accessibility, the presence of services; existing buildings; current site usage or short timescales. The exploratory holes completed assess only a small percentage of the area in relation to the overall size of the Site, and as such can only provide a general indication of conditions.
14. The number of sampling points and the methods of sampling and testing do not preclude the possible existence of contamination where concentrations may be significantly higher than those actually encountered or ground conditions that vary from those identified. In addition, there may be exceptional ground conditions elsewhere on the site which have not been disclosed by this investigation and which have therefore not been taken into account in this report.
15. The inspection, testing and monitoring records relate specifically to the investigation points and the timeframe that the works were undertaken. They will also be limited by the techniques employed. As part of this assessment, WSP UK Limited has used reasonable skill and care to extrapolate conditions between these points based upon assumptions to develop our interpretation and conclusions. The assumption made in forming our conclusions is that the ground and groundwater conditions (both chemically and physically) are the same as have been encountered during the works undertaken at the specific points of investigation. Conditions can change between investigation points and these interpretations should be considered indicative.
16. The risk assessment and opinions provided are based on currently available guidance relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of any future changes or amendments to these values. Specific assumptions associated

REPORT LIMITATIONS - GROUND RISK AND REMEDIATION

with the WSP UK Limited risk assessment process have been outlined within the body or associated appendix of the report.

17. Additional investigations may be required in order to satisfy relevant planning conditions or to resolve any engineering and environmental issues.
18. Where soil contamination concentrations recorded as part of this investigation are used for commentary on potential waste classification of soils for disposal purposes, these should be classed as indicative only. Due consideration should be given to the variability of contaminant concentrations taken from targeted samples versus bulk excavated soils and the potential variability of contaminant concentrations between sampling locations. Where major waste disposal operations are considered, targeted waste classification investigations should be designed.
19. The results of the asbestos testing are factually reported and interpretation given as to how this relates to the previous use of the site, the types of ground encountered and site conceptualisation. This does not however constitute a formal asbestos assessment. These results should be treated cautiously and should not be relied upon to provide detailed and representative information on the delineation, type and extent of bulk ACMs and / or trace loose asbestos fibres within the soil matrix at the site.
20. If costs have been included in relation to additional site works, and / or site remediation works these must be considered as indicative only and must be confirmed by a qualified quantity surveyor.

EUROCODE 7: GEOTECHNICAL DESIGN

21. On 1st April 2010, BS EN 1997-1:2004 (Eurocode 7: Geotechnical Design – Part 1) became the mandatory baseline standard for geotechnical ground investigations.
22. In terms of geotechnical design for foundations, slopes, retaining walls and earthworks, EC7 sets guidance on design procedures including specific guidance on the numbers and spacings of boreholes for geotechnical design, there are limits to methods of ground investigation and the quality of data obtained and there are also prescriptive methods of assessing soil strengths and methods of design. Unless otherwise explicitly stated, the work has not been undertaken in accordance with EC7. A standard geotechnical interpretative report will not meet the requirements of the Geotechnical Design Report (GDR) under Eurocode 7. The GDR can only be prepared following confirmation of all structural loads and serviceability requirements. The report is likely to represent a Ground Investigation Report (GIR) under the Eurocode 7 guidance.

DETAILED QUANTITATIVE RISK ASSESSMENTS AND REMEDIAL STRATEGY REPORTS

23. These reports build upon previous report versions and associated notes. The scope of the investigation, further testing and monitoring and associated risk assessments were selected on the basis of the specific development and land use scenario proposed by the Client and may not be appropriate to another form of development or scheme layout. The risk assessment and opinions provided are based on currently available approaches in the generation of Site Specific Assessment Criteria relating to contamination concentrations and are not considered to represent a risk in a specific land use scenario to a specific receptor. No liability can be accepted for the retrospective effects of any future changes or amendments to these values, associated models or associated guidance.



REPORT LIMITATIONS - GROUND RISK AND REMEDIATION

- 24. The outputs of the Detailed Quantitative Risk Assessments are based upon WSP UK Limited manipulation of standard risk assessment models. These are our interpretation of the risk assessment criteria.
- 25. Prior to adoption on site they will need discussing and agreeing with the Regulatory Authorities prior to adoption on site. The regulatory discussion and engagement process may result in an alternative interpretation being determined and agreed. The process and timescales associated with the Regulatory Authority engagement are not within the control of WSP UK Limited. All costs and programmes presented as a result of this process should be validated by a quantity surveyor and should be presumed to be indicative.

GEOTECHNICAL DESIGN REPORT (GDR)

- 26. The GDR can only be prepared following confirmation of all structural loads and serviceability requirements. All the relevant information needs to be provided to allow for a GDR to be produced.

MONITORING (INCLUDING REMEDIATION MONITORING REPORTS)

- 27. These reports are factual in nature and comprise monitoring, normally groundwater and ground gas and data provided by contractors as part of an earthworks or remedial works.
- 28. The data is presented and will be compared with assessment criteria.



110 Queen Street
Glasgow
G1 3BX

wsp.com