

Land at Parkfield House, Manchester Old Road, Middleton

Phase 1 - Preliminary Risk Assessment

December 2022

PARKFIELD HOUSE, MIDDLETON

Phase 1 - Preliminary Risk Assessment



Prepared for:

Muller Property Group

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The report needs to be considered in the light of the BEK 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.

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1. INTRODUCTION

1.1 Appointment

1.1.1 BEK Enviro (BEK) has been commissioned by Muller Property Group to prepare a Preliminary Risk Assessment (PRA) for the proposed residential development at the Manchester Old Road (hereafter referred to as 'the site'). The PRA will assess the potential risks associated with contamination and ground gas considering change of use to residential use.

1.1.2 The site location and layout are presented in the BEK Drawing No 22165-1, a copy of which is presented in Appendix F.

1.2 Proposed Development

1.2.1 This report has been prepared to support a planning application for the demolition of the existing building and construction of a 74 bed care home and twenty 2.5 storey townhouses (see Figure 1).

1.2.2 The proposed development layout is presented on Archi-Scape Drawing No: MPG.PH.CDSL.01 entitled 'Coloured Detailed Site Layout' a copy of which is presented in Appendix F and an extract is presented as Figure 1.



Figure 1: Proposed Development Layout

1.3 Objective & Scope of Work

1.3.1 This report provides the details of the works undertaken by BEK to assess the potential risks from contamination considering the change of use to residential.

1.3.2 To achieve the objective BEK will undertake the following:

- Carry out a site inspection and collect photographs
- Review the available relevant background information for the site, including:
 - Recent Ordnance Survey Maps
 - Site Specific GroundSure Reports
 - Site Specific Historical Maps
 - Available Google Earth Images
 - Available historic photographs
 - Client Drawings
 - Magic Maps
 - Zetica UXO information
- Develop a preliminary conceptual site model in accordance with guidance to identify potentially significant pollutant linkages specific to the proposed development
- Establish areas of potential concern based on identified risks and/or potential risks
- Identify any actions required to assess or reduce the risks identified

1.4 Limitations

1.4.1 The conclusions and recommendations presented in this report are the result of our professional interpretation of the information currently available. BEK reserves the right to amend the conclusions and recommendations if further information becomes available.

1.4.2 However, it should be noted that much of the information has been derived from reports written by others and BEK takes no responsibility for the accuracy of that information. Notwithstanding the above, the reports reviewed have all been written by professional environmental consultants with a duty of care to provide relevant and accurate information.

1.4.3 This report does not include an assessment of the vegetation present at the site and specifically the identification of any invasive plant species.

2. SITE DESCRIPTION

2.1 Site Location

2.1.1 The site is located directly north of Manchester Old Road, in the area of Limefield approximately 1 km to the west of Middleton.

2.1.2 The National Grid Reference for the centre of the site is 386266 405559. The site location is shown on the BEK Drawing No 22165-1 and the general layout is shown on BEK Drawing No 22165-2. Copies of all drawings are presented in Appendix F.

2.2 Site Layout & Description

2.2.1 A site walkover/inspection was conducted by an engineer from BEK in November 2022. A selection of photographs showing the existing site layout is presented in Appendix E.

2.2.2 The site occupies an area some 1.1 hectares (11,000 m²) and is level and flat. The site consists of an unused large 4 storey office building in the western part of the site which is surrounded by hard covered car parking areas and some landscaped areas with mature trees (see Figure 2).



Figure 2: Site Layout

2.2.3 The site is secure and surrounded by fencing with numerous semi/mature trees shrubs along the site boundaries.

2.3 Surrounding Land Use

2.3.1 Manchester Old Road is located immediately south of the site with open amenity land and houses beyond. Middleton Cenotaph is located to the south-west of the site. Residential properties are located to the west, a leisure park to the north (open field) and a skate park and access road to the east.

3. SITE HISTORY

- 3.1 The history of the site has been established using historical OS maps supplied by Groundsure. A selection of historical OS maps reviewed is presented in Appendix A.

1848

- 3.2 The earliest available maps show the site to be occupied by a cluster of buildings marked as Park Field House. Directly west of the site is an area marked as Lime Field consisting of several buildings with a pump. Manchester Old Road is directly south of the site and the River Irk is located some 110 m (at its closest point) to the south. Much of the surrounding area is occupied by open fields

1893

- 3.3 The 1893 map shows additional of buildings in the north-east corner of the site and the demolition/clearance of several smaller central buildings. There is a greenhouse in the west. To the west of the site in the Lime Field area a small number of buildings have been added (see Figure 3). Parkfield Mills (smallwares) and Irkdale Bleach Works are located some 230 m to the east of the site.

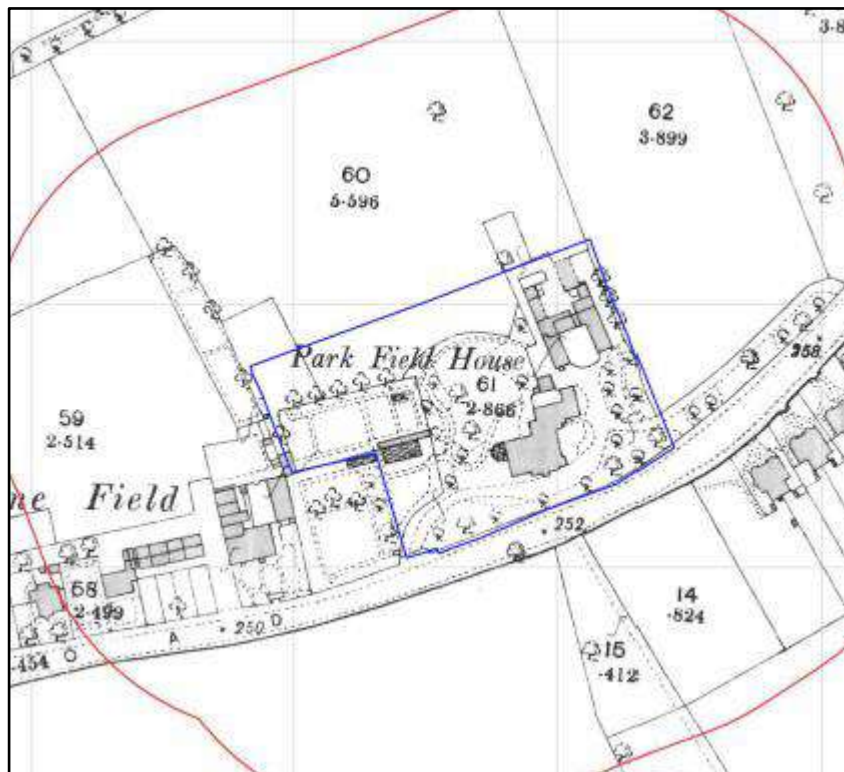


Figure 3: Extract from 1893 Map

1909 - 1922

- 3.4 The 1909 map shows that the site and the surrounding areas remain relatively unchanged. There is a tramline along Manchester Old Road to the south of the site and the Irkdale Bleach Works is no longer present.

1932

- 3.5 The 1932 map shows that on the site a pond and three greenhouses are located in the north/north-west part of the site. The building to the south of centre is marked as 'Town Hall'. A 'Garden of Remembrance' is located immediately to the south-west of the site. The land to the north is marked as 'Recreation Ground' (see Figure 4). Parkfield Mills (smallwares) to the east is now marked as 'Parkfield Works (bleaching and dyeing)

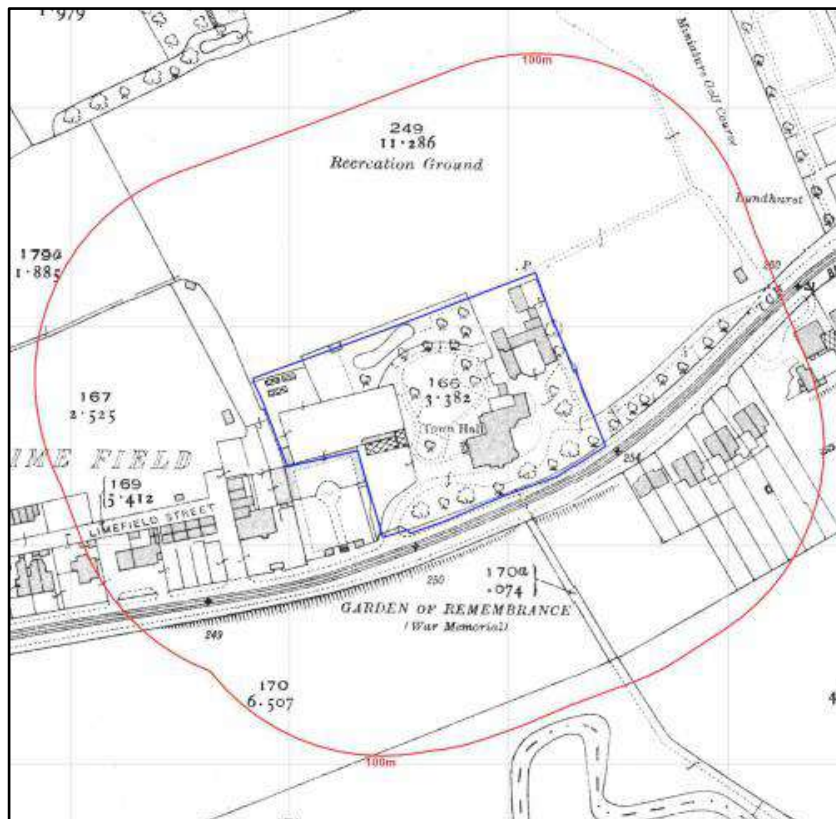


Figure 4: Extract from 1932 Map

1954 – 1965

- 3.6 The 1954 maps shows the building in the north-east to be absent and replaced by smaller buildings including a 'Lavatory'. The pond and the immediate surrounding area on site is marked as a 'Playground' and some more greenhouses have been added to the north-west of the site (see Figure 5). Numerous residential properties are located to the north-west of the site and Sunny Brow Nursery School is located some 200 m north of the site, the surrounding areas remain generally relatively unchanged.

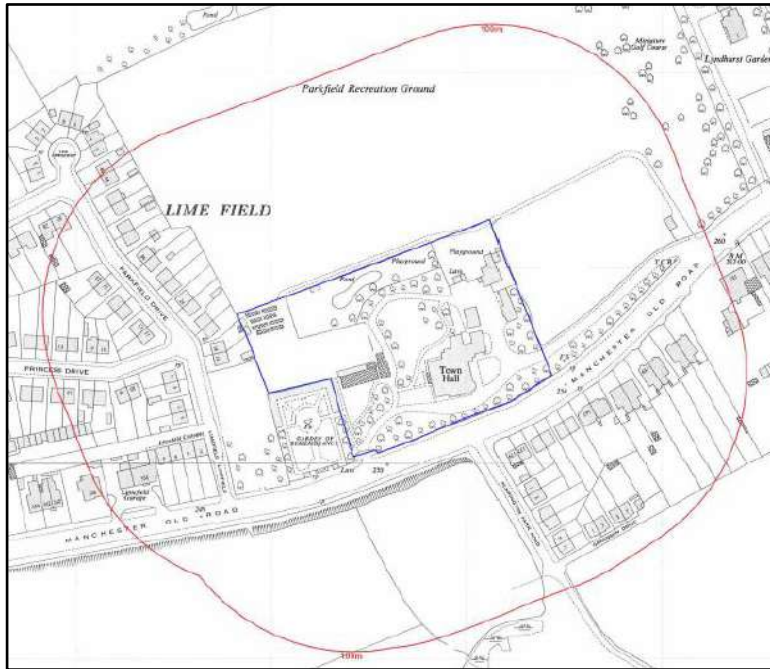


Figure 5: Extract from 1954 Map

1967 - 1972

- 3.7 These maps show a large municipal office is located to the west of the centre of the site and a smaller building has replaced the greenhouses on the north-west of the site. The pond on the north is absent (presumably infilled) and the buildings in the north-east are absent. A tennis court and associated sports building is located to the west (see Figure 6).

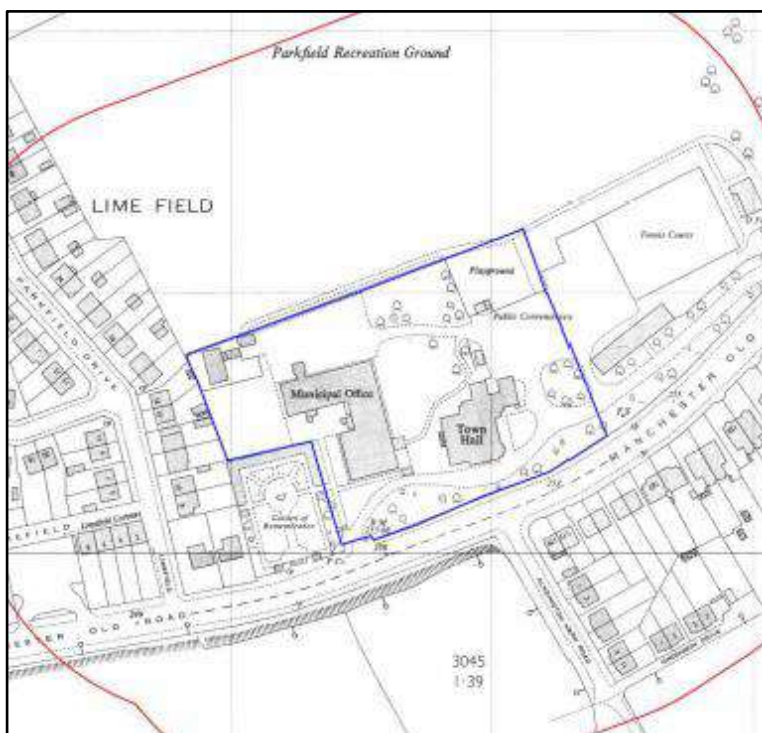


Figure 6: Extract from 1967 Map

1984

- 3.8 This map shows the building marked as Town Hall is now absent. There is no significant change to the surrounding area (see Figure 7).

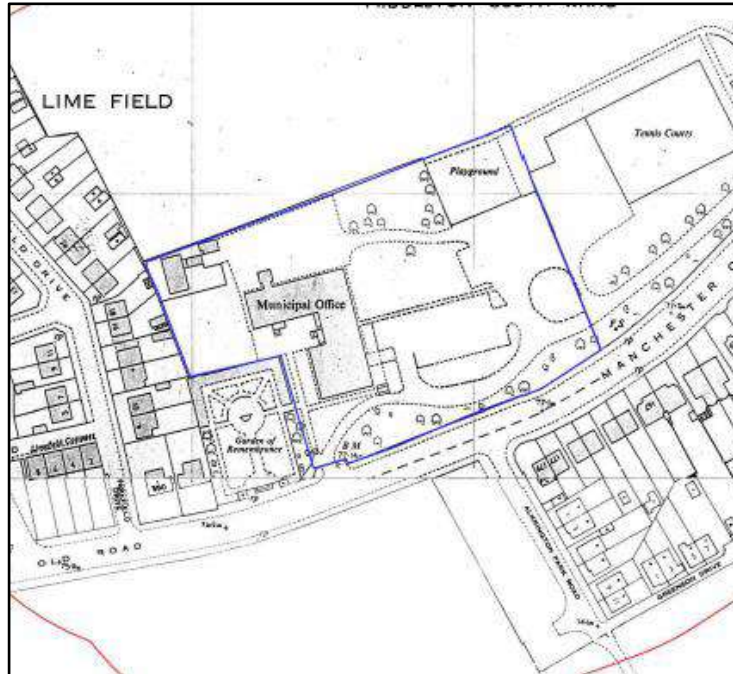


Figure 7: Extract from 1984 Map

1992 - 2001

- 3.9 The 1992 map shows all buildings are absent from the site with the exception of the large municipal office which is marked as 'Parkfield House' and the sub-station in the north-west.

2010

- 3.10 The map suggest the pre-existing Electricity Sub Station has been removed from the site area after 2010, however a site walkover confirms the Electricity Sub Station remains on the site. The surrounding areas remain relatively unchanged.

2021

- 3.11 The 2021 map shows a small road has been developed which connects from A576 Manchester Old Road some 100 m from the site and partially enters the site in the south-east corner. The surrounding areas remain relatively unchanged.

4. ENVIRONMENTAL SETTING

4.0.1 An Enviro+GeoInsight Report has been obtained from Groundsure and information provided in this report has been used within this section. A copy of the report is presented in Appendix B.

4.1 Geology

4.1.1 The site geology is illustrated in the Enviro+GeoInsight Report which has sourced data from several sources including British Geological Society (BGS), BRITPITS database and the Coal Authority. A copy of the Enviro+GeoInsight Report is presented in Appendix B.

4.1.2 The Enviro+GeoInsight Report indicates there are several boreholes within 250 m of the site, however they are not publicly available to view. These are all located to the south of the site (marked as black on Figure 8). However, there are 3 BGS boreholes to the east that can be viewed.



Figure 8: BGS Boreholes

4.1.3 The following table provides a summary of the information for each of the boreholes to the east.

Borehole Ref	Depth (m)	Strata
SD80NE21	0 – 32	Superficial Strata – running sands / gravel / clay with gravel
	32 - 91	Shale (band of 'shale coal' from 71 to 77 m bgl)
SD80NE13	0 - 35	Superficial Strata – interbedded sand and clay
	35 - 124	Shale
SD80NE14	0 - 39	Superficial Strata – sand and gravel
	39 - 94	Shale with fireclay (coal seam from 51 to 63 m bgl)

Table 1: Summary of BGS Borehole Information

Made Ground

- 4.1.4 According to the Enviro+GeoInsight Report there is artificial ground (made ground) located some 76 m south and 226 m east of the site. Given the history of development at the site, the presence of made ground across the whole site is considered to be highly likely.

Superficial Geology

- 4.1.5 The Enviro+GeoInsight Report states that the superficial deposits underlying the site comprise Glaciofluvial Sheet Deposits (Sand and Gravel). These are considered to overlie Glacial Till deposits (Boulder Clay).

Bedrock

- 4.1.6 The Enviro+GeoInsight Report states that the underlying solid geology comprises of 'Pennine Lower Coal Measures Formation. This is comprised up Mudstone, Siltstone and Sandstone.

Faults

- 4.1.7 There is a linear rock feature on site described as an inferred coal seam, running across the north-eastern corner of the site. There is a fault feature located 61 m east of the site and is described as an inferred normal fault.

4.2 Mining & Ground Stability

- 4.2.1 Information in the Enviro+GeoInsight Report indicates that the site is located in an area that may have been affected by coal mining. To further assess potential issues BEK has acquired a CON29M Coal Mining Report from the Coal Authority (Ref: 51002674785001, dated 13 September 2021) and the key points of this report are presented below.

- The property is not within a surface area that could be affected by any past recorded underground coal mining
- The property is not in an area where a licence has been granted to remove or otherwise work coal using underground methods.
- There are no recorded coal mine entries known to the Coal Authority within, or within 20 metres, of the boundary of the property
- The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining
- The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 m of the enquiry boundary, since 31 October 1994

4.2.2 It can be seen from the CON29M report that the site is not at risk from historic or future coal mining activity. A copy of the CON29M report is presented in Appendix C.

4.2.3 Following a review of the Coal Authority interactive map viewer it can be seen that the site is not located within a Coal Authority 'Development High Risk Area' which confirms the CON29M report that the site is not at risk from mining activities.

4.2.4 The Enviro+GeoInsight Report Report provides hazard ratings associated with ground subsidence at the site, as summarised below:

Shrink-Swell Clay:	Negligible
Landslides:	Very Low
Ground Dissolution of Soluble Rocks:	Negligible
Compressible Deposits:	Negligible
Collapsible Deposits:	Very Low
Running Sands:	Very Low

4.2.5 It can be seen from the above that the site is unlikely to be affected by natural ground instability.

4.3 Hydrogeology

4.3.1 The Enviro+GeoInsight Report indicates the underlying superficial strata and the bedrock are classified as a 'Secondary A Aquifer' which is described as '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.

4.3.2 The Enviro+GeoInsight Report indicates the site is not located within a groundwater source protection zone and there are no groundwater abstractions located within 250 m of the site.

4.4 Hydrology

- 4.4.1 There are no surface water features on site. The nearest surface water feature is the River Irk located some 193 m to the south of the site at its closest point. The river is described as an 'Inland river not influenced by normal tidal that contains water all year round (in normal circumstances).
- 4.4.2 There are no surface water abstractions located within 250 m of the site.
- 4.4.3 The Environment Agency flood map indicates that the development lies within Flood Zone 1.

4.5 Contaminated Land & Landfill Activities

- 4.5.1 Information provided in the Enviro+GeoInsight Report indicates that there is a Historical landfill (EA/NRW records) located some 14 m to the south of the site; this is also marked as a Historical landfill (BGS records) some 112 m south (see Figure 9).

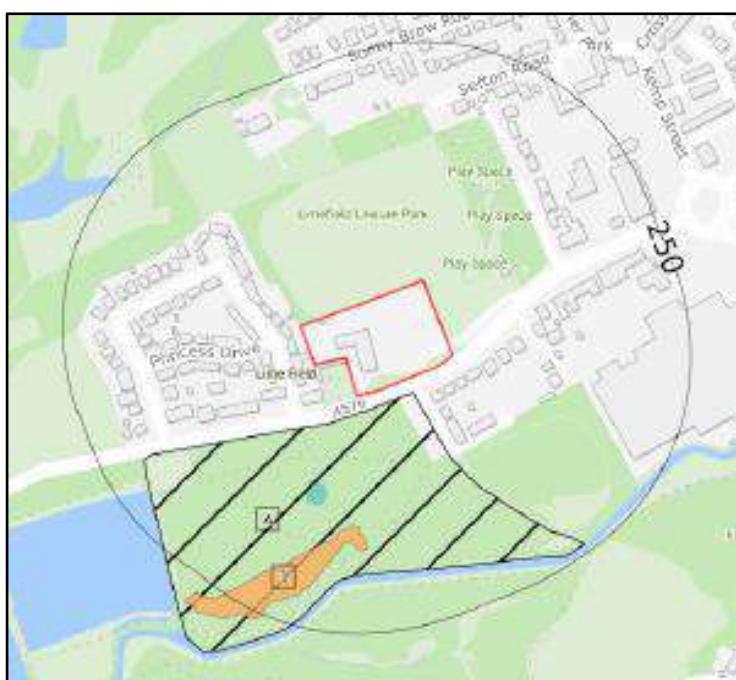


Figure 9: Location of Historic Landfill Sites

- 4.5.2 The details for the landfill site are summarized below.

Location	Ref	Waste Type	Operational Dates
14 m SE	D055	Inert, Industrial, Commercial, Household, Special, Liquid sludge	December 1967 to September 1974
112 m S	-	Not specified – marked as 'no risk to aquifer'	

Table 2: Summary of Landfill Site Information within 250 m from the Site

- 4.5.3 It can also be seen that there is a refuse tip located within the landfill site (brown area in Figure 9). This is located some 136 m from the site and is dated 1975.
- 4.5.4 Although the Enviro+GeoInsight Report indicates there is no infilled land on the site, historic OS maps indicate there is an infilled pond located in the north of the site; the nature of the fill material is unknown.
- 4.5.5 There is one Environment Agency recorded pollution incident located within 250 m of the site located some 202 m south. The incident occurred in September 2001 and was associated with 'other pollutants' and was categorised as Category 3 (Minor Impact on water) and Category 4 (No Impact on land and air).
- 4.5.6 There is one Control of Major Accidents Hazard (COMAH) sites within 250 m of the site, this is Robert McBride Limited located some 108 m east of the site.
- 4.5.7 The Enviro+GeoInsight Report has no recorded Part A or IPC Authorised Activities within 250 m of the site, although there is a Part B installation some 197 m west of the site. The installation involved the unloading of Petrol into Storage at Service Stations.
- 4.5.8 The Enviro+GeoInsight Report records one licensed discharge of effluent to controlled waters located within 250 m of the site. The discharge occurred some 213 m south-east of the site detailed as a miscellaneous discharge, surface water received by the River Irk in 1994.
- 4.5.9 The Enviro+GeoInsight Report states that there are 3 potentially contaminative, industrial land uses located on the site. These are an Electricity Sub Station and two Industrial Product companies, Chubb and TG Products both associated with Special Purpose Machinery and Equipment. There are 2 potentially contaminative, industrial land uses within 250 m of the site, both of which are Electricity Sub Stations, located some 142 m west and 230 m north-east of the site.
- 4.5.10 There is also a recorded petrol station some 84 m south-west of the site, however the status is marked as 'obsolete'.
- 4.5.11 The Enviro+GeoInsight Report shows 8 historical tanks have been identified within 250 m of the site, the closest of which is located some 221 m east of the site dating from 1983.
- 4.5.12 The historical Energy Feature on the site is an Electricity Sub Station located in the north-western corner of the site which was no longer visible on maps post 1992. The historical Energy Feature within 250 m of the site is an electricity sub-station dating from 1954-1992 located some 128 m west of the site.

4.6 Sensitive Land Use

- 4.6.1 Enviro+GeoInsight Report shows that the Local Nature Reserve (LNR) site located within 250 m of the site, the Alkington Woods some 15 m south of the site.

- 4.6.2 The site is not affected by any of the ecological systems identified as a statutory receptor in the DETR Circular 01/2006.
- 4.6.3 The site is located within a nitrate vulnerable zone associated with the River Irk (Moston Brook to River Irwell) Nitrate Vulnerable Zone.
- 4.7 Radon**
 - 4.7.1 Enviro+GeoInsight Reports that the site has a less than 1% of homes that are above the action trigger level and that 'no radon protective measures are necessary in the construction of new dwellings or extensions'.
- 4.8 Unexploded Ordnance**
 - 4.8.1 The regional unexploded bomb risk map from Zetica indicates that the site is in an area of LOW risk from Unexploded Ordnance (UXO) resulting from the Second World War.

5. POTENTIAL POLLUTANT LINKAGES

5.1 General

5.1.1 This section identifies the potential sources of contamination along with specific contaminants of concern, pathways and receptors that may be associated with the site based on its known history and the current condition and with respect to the re-development of the site for residential use.

5.1.2 This information is used to develop a preliminary conceptual model which is a qualitative description of potential sources of environmental pollutants, the pathways by which they are transported and the receptors:

- i) Potential sources of contamination: these include any actual or potentially contaminating materials and activities, located either on or in the vicinity of the site
- ii) Potential pathways for contamination migration: these comprise the routes or mechanisms by which contaminants may migrate from the source to the receptor including environmental migration pathways and human health exposure pathways
- iii) Potential receptors of contamination: these include future land users, ecological systems, water resources and property

5.1.3 If no potential sources of contamination are identified as part of the assessment, then there are no risks associated with contamination to potential receptors associated with the site.

5.2 Potential Contaminants of Concern

5.2.1 Based on the earliest available historical maps dating from 1848, the site is occupied by a cluster of unspecified buildings marked as Park Field House. By 1893 several smaller buildings are absent and a large building is located to the south of the centre of the site and another is located in the north-east corner. There is a greenhouse in the west. By 1932 map the central building is marked as 'Town Hall' and there is a pond and three greenhouses are located in the north/north-west of the site respectively.

5.2.2 The 1954 maps shows the building in the north-east to be absent and replaced by smaller buildings including a 'Lavatory' and some more greenhouses in the north-west of the site. The 1967 maps shows the existing building located to the west of centre (marked is municipal office) and a smaller building has replaced the greenhouses on the north-west of the site. The pond on the north is absent (presumably infilled) and the buildings in the north-east are absent.

- 5.2.3 The large building (Town Hall) is absent from 1984 and the smaller buildings located in the north-west of the site are absent from 1992. The only remaining building on site at this time is the existing building and the sub-station in the north-west.
- 5.2.4 Whilst the use of the buildings on site from early maps is unspecified, it is unlikely to have been associated with industrial activities and more likely offices/small engineering/amenity buildings. More recently the buildings on site have been used as offices (Town Hall and Municipal Office). The use of the site is unlikely to have resulted in significant contamination being present at the site. However, given the numerous buildings on site over time, it is likely that made ground is present across the whole site, possibly associated with levelling land to facilitate development and/or demolition rubble from former building. There could also be infilled basements (typically filled with the demolition rubble). Historic mapping also indicates the presence of an infilled pond in the north of the site. The nature and full extent of any made ground present is currently unknown and it could contain contaminants of concern.
- 5.2.5 It is possible that some of the former buildings used oil fired boilers for heating/hot water and there may have been an associated kerosene oil tank. These are not marked on historic OS maps but should be considered, particularly if visual/olfactory evidence of organic contamination is encountered on site.
- 5.2.6 In addition, the sub-station located in the north-west of the site could represent a potential source of polychlorinated biphenols (PCBs).
- 5.2.7 The potential contaminants of concern associated with made ground are presented below:

Contaminants Associated with General Made Ground	
Arsenic	Cyanide
Cadmium	Phenols
Chromium	Sulphate
Copper	Polycyclic Aromatic Hydrocarbons (PAHs)
Lead	Total Petroleum Hydrocarbons (TPHCWG)
Mercury	pH
Nickel	Asbestos
Selenium	PCBs (sub station only)
Zinc	

Table 3: Potential Contaminants of Concern

- 5.2.8 It should be noted that the above list represents a broad range of potential contaminants of concern. Additional contaminants of concern may be present if ground conditions differ from those anticipated or visual/olfactory evidence for the presence of contamination is encountered.

- 5.2.9 Based on the available background information the potential risks from ground gas need to be considered. However, potential sources include made ground and/or, organic rich strata, the underlying coal measure strata and the landfill site located to the south of the site.

5.3 Potential Pathways

- 5.3.1 The pathways through which contaminants may reach receptors are in part dependent by the nature and behaviour of the contaminant and the intended end use of the site.

- 5.3.2 The following potential pathways have been identified with respect to the existing site condition, the environmental setting and the re-development of the site to a residential development comprising care home, private houses with gardens, car parking and shared landscaped areas all of which are assessed in the conceptual model:

- Ingestion of contaminated soil
- Inhalation of contamination dust
- Dissolution or suspension (leaching) of contaminants into pore waters affecting plant growth
- Indoor inhalation of organic vapours and ground gas
- Dermal contact
- Dissolution or suspension (leaching) of contaminants from site soils leading to contamination of groundwater
- Dissolution or suspension (leaching) of contaminants from site soils leading to lateral migration within perched waters to off-site receptors. Potential significant pathways include more permeable layers within the made ground/natural strata, underground services and piles/foundations.
- Contamination affecting the integrity of service pipelines by direct contact
- Buildings affected by direct contact with elevated concentrations of sulphate and/or extreme pH.

5.4 Receptors

- 5.4.1 Potential site specific receptors that may be affected by contamination at the site are listed below:

Future Site Users

- 5.4.2 Future occupants of the site (care home and bungalow residents) could be at risk from contamination present at the site.
- 5.4.3 Potential risks on site are associated with ingestion of soils and inhalation of contaminated dust (including asbestos), and dermal contact with contaminants of concern. Additional risk for bungalow residents is associated with the ingestion of home-grown vegetables. These risks are all associated with garden areas of the new development.
- 5.4.4 Potential risks associated with indoor inhalation of ground gas/organic vapours need to be considered.

Construction Workers

- 5.4.5 The primary risks to construction workers are associated with shallow excavations as asbestos could be present. Asbestos fibres (if present) can be released into the atmosphere during earthworks.
- 5.4.6 Standard personal protective equipment and site specific risk assessments and method statements should reduce risks associated with other contaminants of concern due to short exposure duration.

Off Site Receptors

- 5.4.7 Off site receptors include nearby home owners and employees. Human health could be at risk if asbestos fibres are released during the development.

Buildings & Services

- 5.4.8 Concrete used for the construction of buildings can be affected by high levels of sulphate and extreme pH.
- 5.4.9 The integrity of service pipes can be affected by concentrations of organic contamination.

Flora

- 5.4.10 Flora can be affected by phytotoxic contamination affecting growth.

Controlled Waters

- 5.4.11 There are no surface water features on site, there nearest significant receptor is River Irk some 192 m to the south.

5.4.12 The superficial strata (Sand and Gravel) and the bedrock are classified by the EA as a 'Secondary A Aquifer' which is described as 'Permeable layers capable of supporting water supplies at a local level and can form an important source of base flow to river'.

5.4.13 The site is not located within a groundwater source protection zone and there are no groundwater abstractions within 250 m of the site.

5.4.14 The superficial aquifer and the bedrock aquifer could be in hydraulic continuity providing a pathway for surface contamination to impact on aquifer quality.

5.5 Preliminary Conceptual Model

5.5.1 The identified potential sources of contaminants, pathways and receptors have been assessed to establish plausible pollutant linkages. All potentially significant pollutant linkages are detailed in Table B, in Appendix D.

5.6 Potentially Significant Pollutant Linkages

5.6.1 A number of possible 'significant pollutant linkages' have been identified associated with the site.

5.6.2 Potential risks relating to the potential harm to the health of humans and/or domestic pets due to the potential for direct contact/ingestion with contaminants in the made ground (**Link 1**).

5.6.3 There is also the possibility of windblown particulates being inhaled by people/animals both on site and off site (**Link 2**).

5.6.4 Human health could be at risk from the indoor inhalation of ground gases (**Link 3**) and/or volatile contamination migrating into properties on site (**Link 4**).

5.6.5 Potential risk of domestic crop plant uptake of contaminants and the subsequent ingestion of the contaminated plants by humans in the private gardens (**Link 5**).

5.6.6 Property (including services, flora and fauna) could be affected by direct contact to high concentrations of contaminants (**Link 6 & 7**).

5.6.7 Dissolution or suspension (leaching) of contaminants from site soils leading to impact on the superficial and bedrock aquifers (**Link 8**).

5.6.8 Site investigation is required to identify site specific conditions and assess the risks associated with each identified plausible pollutant linkage.

6. RECOMMENDATIONS

- 6.1 Based on the findings of the Preliminary Risk Assessment herein, a number of potential risks associated with contamination have been identified with respect to the proposed change of use to residential.
- 6.2 Risks have been identified to human health and property (including services) and controlled waters. Site investigation is required to determine shallow ground conditions and quantify the potential risks identified.
- 6.3 Site investigation is also recommended to assess ground conditions to provide recommendations for foundation design.
- 6.4 To assess the potential risks associated with contamination and ground gas at the site, BEK recommends that the following works should be undertaken:

Site Investigation

- 6.5 The investigation should comprise the drilling of a series of boreholes and the excavation of trial pits to characterise the shallow ground conditions across the site. The investigation should target key areas as well as providing widespread information for the ground conditions across the site to prove nature and thickness of any made ground present and characterise the natural strata.
- 6.6 In-situ strength tests (shear vane/SPTs) could also be carried out during the site investigation works to provide additional geotechnical information.
- 6.7 The site investigation should be supervised by an experienced engineer who will be responsible for recording ground conditions encountered.
- 6.8 If a significant thickness of made ground is encountered (>3 m thick) or organic rich strata is encountered (including high wood content), it may be necessary to install ground gas monitoring wells to facilitate a gas risk assessment.
- 6.9 The engineer will recover representative samples for laboratory testing. All samples recovered for chemical testing will be stored in appropriate sampling vessels in a pre-cooled cool box and dispatched to the laboratory within 24 hours.

Chemical Testing

- 6.10 Following a review of ground conditions encountered, a selection of samples should be tested for the contaminants of concern listed in Table 2 of this report. If visual or olfactory evidence of contamination is encountered during the site investigation then it may be necessary to undertake additional testing.

- 6.11 In addition, if soils or made ground materials are to be removed from site to facilitate the development works then it may be necessary to test soils/made ground for Waste Acceptance Criteria (WAC) and/or for Waste Duty of Care purposes.
- 6.12 Samples may also be submitted for geotechnical testing (depending on ground conditions) to support an assessment for foundation design.
- 6.13 All testing will be carried out by a UKAS accredited laboratory to MCERTS standard (where applicable).

Risk Assessment

- 6.14 The investigation findings will be assessed as part of a quantitative risk assessment to amend the conceptual site model and identify any potential significant pollutant linkages.
- 6.15 The assessment will be undertaken in accordance with current UK guidance and policy.

Reporting

- 6.16 The investigation findings should be assessed in accordance with current UK policy and guidance to identify any potential significant pollutant linkages and determine the requirements for mitigation and/or remediation.
- 6.17 The works undertaken will be detailed in a Site Investigation Contamination Assessment report along with full justifications for the assessment and the conclusions/recommendations.

Additional Site Investigation

- 6.18 It is recommended that the existing building is subject to an asbestos survey and asbestos identified is removed by a specialist contractor prior to demolition.
- 6.19 Additional site investigation will be required within the footprint on the building following demolition and clearance to confirm ground conditions are same/similar to elsewhere.

Other Considerations

- 6.20 In addition to the assessment of the shallow ground conditions with respect to contamination, the site investigation will characterise the shallow ground to facilitate a geotechnical assessment for foundation design. If a geotechnical assessment is required then we would also recommend deeper boreholes are drilled, specifically in the locations of the proposed care home.
- 6.21 Soakaway testing (to BRE365) may also be required to facilitate drainage design.



GEO-ENVIRONMENTAL CONSULTING ENGINEERS

- 6.22 We would also recommend that consideration is given to the requirements of the water supply service provider and the completion of the UKWIR risk assessment for water pipe selection.

APPENDIX A

Historical OS Maps

Site Details:

PARKFIELD HOUSE,
MANCHESTER OLD ROAD,
MIDDLETON, M24 4EB

Client Ref: 7650-22165-MLM
Report Ref: GS-9246319
Grid Ref: 386263, 405564

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
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Production date: 07 December 2022

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Site Details:

PARKFIELD HOUSE,
MANCHESTER OLD ROAD,
MIDDLETON, M24 4EB

Client Ref: 7650-22165-MLM
Report Ref: GS-9246319
Grid Ref: 386263, 405564

Map Name: County Series

Map date: 1909

Scale: 1:2,500

Printed at: 1:2,500



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Site Details:

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MIDDLETON, M24 4EB

Client Ref: 7650-22165-MLM
Report Ref: GS-9246319
Grid Ref: 386263, 405564

Map Name: County Series

Map date: 1922

Scale: 1:2,500

Printed at: 1:2,500



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Site Details:

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MIDDLETON, M24 4EB

Client Ref: 7650-22165-MLM
Report Ref: GS-9246319
Grid Ref: 386263, 405564

Map Name: County Series

Map date: 1932

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1932
Revised 1932
Edition N/A
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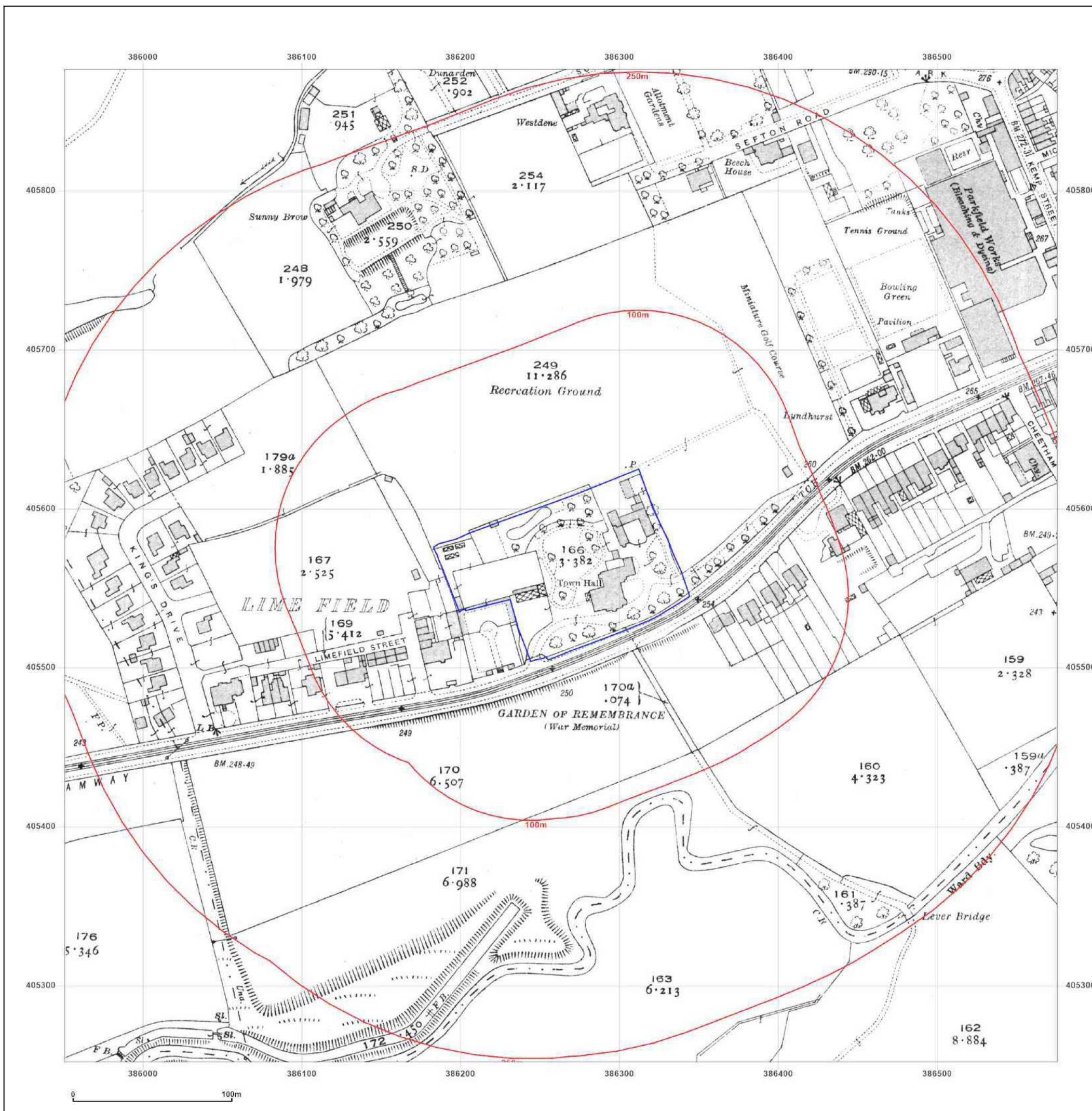


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Site Details:

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MIDDLETON, M24 4EB

Client Ref: 7650-22165-MLM
Report Ref: GS-9246319
Grid Ref: 386263, 405564

Map Name: National Grid

Map date: 1954

Scale: 1:1,250

Printed at: 1:2,000



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Copyright N/A
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Revised 1954
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Site Details:

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MIDDLETON, M24 4EB

Client Ref: 7650-22165-MLM
Report Ref: GS-9246319
Grid Ref: 386263, 405564

Map Name: National Grid

Map date: 1955

Scale: 1:1,250

Printed at: 1:2,000



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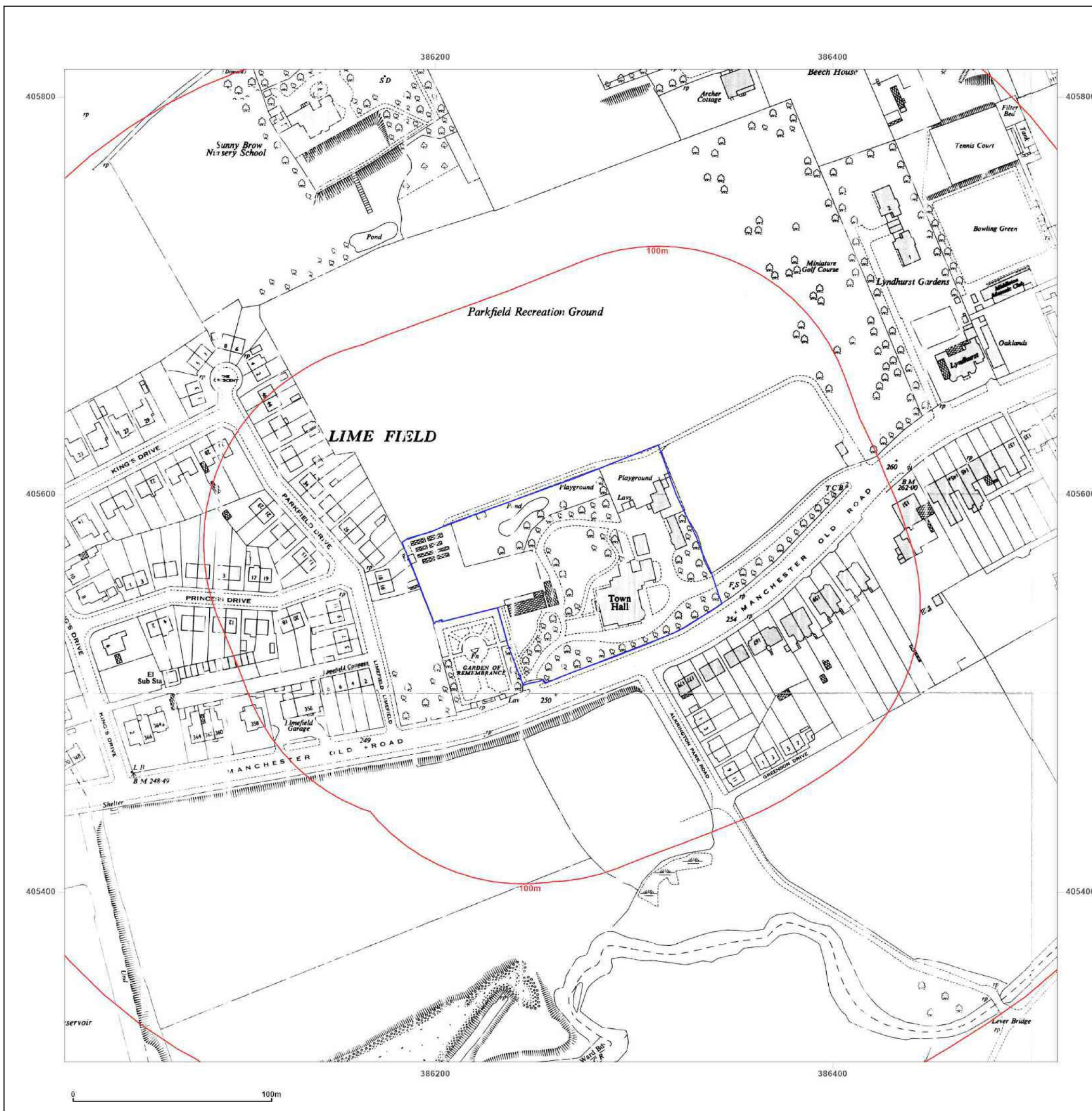


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Site Details:

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Client Ref: 7650-22165-MLM
Report Ref: GS-9246319
Grid Ref: 386263, 405564

Map Name: National Grid

Map date: 1955

Scale: 1:2,500

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Edition 1955
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Site Details:

PARKFIELD HOUSE,
MANCHESTER OLD ROAD,
MIDDLETON, M24 4EB

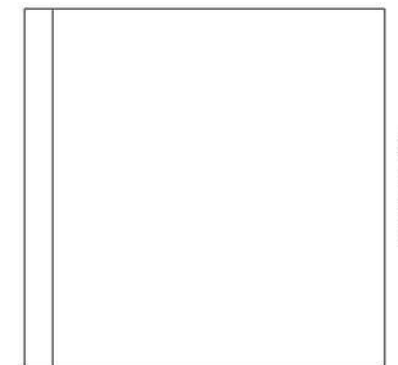
Client Ref: 7650-22165-MLM
Report Ref: GS-9246319
Grid Ref: 386263, 405564

Map Name: National Grid

Map date: 1968

Scale: 1:2,500

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Site Details:

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MANCHESTER OLD ROAD,
MIDDLETON, M24 4EB

Client Ref: 7650-22165-MLM
Report Ref: GS-9246319
Grid Ref: 386263, 405564

Map Name: National Grid

Map date: 1967-1972

Scale: 1:1,250

Printed at: 1:2,000



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Surveyed 1954
Revised 1971
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Site Details:

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MIDDLETON, M24 4EB

Client Ref: 7650-22165-MLM
Report Ref: GS-9246319
Grid Ref: 386263, 405564

Map Name: National Grid

Map date: 1984-1989

Scale: 1:1,250

Printed at: 1:2,000



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Site Details:

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MANCHESTER OLD ROAD,
MIDDLETON, M24 4EB

Client Ref: 7650-22165-MLM
Report Ref: GS-9246319
Grid Ref: 386263, 405564

Map Name: National Grid

Map date: 1992

Scale: 1:1,250

Printed at: 1:2,000



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Site Details:

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MIDDLETON, M24 4EB

Client Ref: 7650-22165-MLM
Report Ref: GS-9246319
Grid Ref: 386263, 405564

Map Name: National Grid

Map date: 1992

Scale: 1:1,250

Printed at: 1:2,000



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Site Details:

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MANCHESTER OLD ROAD,
MIDDLETON, M24 4EB

Client Ref: 7650-22165-MLM
Report Ref: GS-9246319
Grid Ref: 386263, 405564

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

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2003



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APPENDIX B

Enviro+GeoInsight Report

PARKFIELD HOUSE, MANCHESTER OLD ROAD, MIDDLETON, M24 4EB**Order Details**

Date: 07/12/2022
Your ref: 7650-22165-MLM
Our Ref: GS-9246320

Site Details

Location: 386264 405565
Area: 1.11 ha
Authority: [Rochdale Metropolitan Borough Council](#)

**Summary of findings**

p. 2

Aerial image

p. 8

OS MasterMap site plan

p.12

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Contact us with any questions at:

info@groundsure.com

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Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
13	1.1	Historical industrial land uses	0	1	30	37	-
16	1.2	Historical tanks	0	0	8	49	-
18	1.3	Historical energy features	1	0	1	9	-
19	1.4	Historical petrol stations	0	0	0	0	-
19	1.5	Historical garages	0	0	3	2	-
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	44	63	-
25	2.2	Historical tanks	0	0	13	80	-
29	2.3	Historical energy features	1	0	6	22	-
30	2.4	Historical petrol stations	0	0	0	0	-
31	2.5	Historical garages	0	0	5	3	-
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	1	0	-
33	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
33	3.4	Historical landfill (EA/NRW records)	0	1	0	1	-
34	3.5	Historical waste sites	0	0	1	0	-
34	3.6	Licensed waste sites	0	0	0	0	-
34	3.7	Waste exemptions	0	0	0	4	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
36	4.1	Recent industrial land uses	3	0	3	-	-
37	4.2	Current or recent petrol stations	0	0	1	0	-
37	4.3	Electricity cables	0	0	0	0	-
37	4.4	Gas pipelines	0	0	0	0	-
38	4.5	Sites determined as Contaminated Land	0	0	0	0	-



38	4.6	<u>Control of Major Accident Hazards (COMAH)</u>	0	0	1	0	-
38	4.7	Regulated explosive sites	0	0	0	0	-
38	4.8	<u>Hazardous substance storage/usage</u>	0	0	0	1	-
39	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
39	4.10	<u>Licensed industrial activities (Part A(1))</u>	0	0	0	2	-
40	4.11	<u>Licensed pollutant release (Part A(2)/B)</u>	0	0	1	1	-
40	4.12	Radioactive Substance Authorisations	0	0	0	0	-
40	4.13	<u>Licensed Discharges to controlled waters</u>	0	0	1	1	-
41	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
41	4.15	Pollutant release to public sewer	0	0	0	0	-
41	4.16	List 1 Dangerous Substances	0	0	0	0	-
41	4.17	List 2 Dangerous Substances	0	0	0	0	-
42	4.18	<u>Pollution Incidents (EA/NRW)</u>	0	0	1	4	-
42	4.19	Pollution inventory substances	0	0	0	0	-
43	4.20	Pollution inventory waste transfers	0	0	0	0	-
43	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
44	5.1	<u>Superficial aquifer</u>	Identified (within 500m)				
46	5.2	<u>Bedrock aquifer</u>	Identified (within 500m)				
47	5.3	<u>Groundwater vulnerability</u>	Identified (within 50m)				
48	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
48	5.5	Groundwater vulnerability- local information	None (within 0m)				
49	5.6	Groundwater abstractions	0	0	0	0	0
50	5.7	<u>Surface water abstractions</u>	0	0	0	5	0
51	5.8	Potable abstractions	0	0	0	0	0
51	5.9	Source Protection Zones	0	0	0	0	-
52	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
53	6.1	<u>Water Network (OS MasterMap)</u>	0	0	5	-	-



54	<u>6.2</u>	<u>Surface water features</u>	0	0	5	-	-
54	<u>6.3</u>	<u>WFD Surface water body catchments</u>	1	-	-	-	-
55	<u>6.4</u>	<u>WFD Surface water bodies</u>	0	0	1	-	-
55	<u>6.5</u>	<u>WFD Groundwater bodies</u>	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
56	<u>7.1</u>	<u>Risk of flooding from rivers and the sea</u>	High (within 50m)				
57	7.2	Historical Flood Events	0	0	0	-	-
57	7.3	Flood Defences	0	0	0	-	-
57	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
57	7.5	Flood Storage Areas	0	0	0	-	-
58	<u>7.6</u>	<u>Flood Zone 2</u>	Identified (within 50m)				
59	<u>7.7</u>	<u>Flood Zone 3</u>	Identified (within 50m)				
Page	Section	Surface water flooding					
60	<u>8.1</u>	<u>Surface water flooding</u>	1 in 30 year, 0.1m - 0.3m (within 50m)				
Page	Section	Groundwater flooding					
62	<u>9.1</u>	<u>Groundwater flooding</u>	Moderate (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
63	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
64	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
64	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
64	10.4	Special Protection Areas (SPA)	0	0	0	0	0
64	10.5	National Nature Reserves (NNR)	0	0	0	0	0
65	<u>10.6</u>	<u>Local Nature Reserves (LNR)</u>	0	1	0	0	0
65	10.7	Designated Ancient Woodland	0	0	0	0	0
65	10.8	Biosphere Reserves	0	0	0	0	0
65	10.9	Forest Parks	0	0	0	0	0
66	10.10	Marine Conservation Zones	0	0	0	0	0
66	<u>10.11</u>	<u>Green Belt</u>	0	0	0	0	2
66	10.12	Proposed Ramsar sites	0	0	0	0	0



66	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
67	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
67	10.15	Nitrate Sensitive Areas	0	0	0	0	0
67	10.16	<u>Nitrate Vulnerable Zones</u>	1	0	0	1	0
68	10.17	<u>SSSI Impact Risk Zones</u>	1	-	-	-	-
69	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
70	11.1	World Heritage Sites	0	0	0	-	-
71	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
71	11.3	National Parks	0	0	0	-	-
71	11.4	<u>Listed Buildings</u>	0	1	1	-	-
72	11.5	<u>Conservation Areas</u>	1	0	0	-	-
72	11.6	Scheduled Ancient Monuments	0	0	0	-	-
72	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
73	12.1	<u>Agricultural Land Classification</u>	Grade 4 (within 250m)				
74	12.2	Open Access Land	0	0	0	-	-
74	12.3	Tree Felling Licences	0	0	0	-	-
74	12.4	Environmental Stewardship Schemes	0	0	0	-	-
75	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
76	13.1	<u>Priority Habitat Inventory</u>	0	0	16	-	-
77	13.2	Habitat Networks	0	0	0	-	-
77	13.3	Open Mosaic Habitat	0	0	0	-	-
78	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
79	14.1	<u>10k Availability</u>	Identified (within 500m)				
80	14.2	<u>Artificial and made ground (10k)</u>	0	0	2	6	-
82	14.3	<u>Superficial geology (10k)</u>	1	1	1	3	-

83	14.4	Landslip (10k)	0	0	0	0	-
84	14.5	<u>Bedrock geology (10k)</u>	1	0	3	6	-
85	14.6	<u>Bedrock faults and other linear features (10k)</u>	1	0	8	6	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
87	15.1	<u>50k Availability</u>	Identified (within 500m)				
88	15.2	Artificial and made ground (50k)	0	0	0	0	-
88	15.3	Artificial ground permeability (50k)	0	0	-	-	-
89	15.4	<u>Superficial geology (50k)</u>	1	1	1	2	-
90	15.5	<u>Superficial permeability (50k)</u>	Identified (within 50m)				
90	15.6	Landslip (50k)	0	0	0	0	-
90	15.7	Landslip permeability (50k)	None (within 50m)				
91	15.8	<u>Bedrock geology (50k)</u>	1	0	3	6	-
92	15.9	<u>Bedrock permeability (50k)</u>	Identified (within 50m)				
92	15.10	<u>Bedrock faults and other linear features (50k)</u>	1	0	6	5	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
94	16.1	<u>BGS Boreholes</u>	0	0	4	-	-
Page	Section	Natural ground subsidence					
96	17.1	<u>Shrink swell clays</u>	Very low (within 50m)				
97	17.2	<u>Running sands</u>	Low (within 50m)				
99	17.3	<u>Compressible deposits</u>	Moderate (within 50m)				
101	17.4	<u>Collapsible deposits</u>	Very low (within 50m)				
102	17.5	<u>Landslides</u>	Very low (within 50m)				
103	17.6	<u>Ground dissolution of soluble rocks</u>	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
105	18.1	Natural cavities	0	0	0	0	-
106	18.2	<u>BritPits</u>	0	0	0	1	-
106	18.3	<u>Surface ground workings</u>	0	1	48	-	-
108	18.4	<u>Underground workings</u>	0	0	0	0	6
109	18.5	Historical Mineral Planning Areas	0	0	0	0	-



109	18.6	Non-coal mining	0	0	0	0	0
109	18.7	Mining cavities	0	0	0	0	0
109	18.8	JPB mining areas	None (within 0m)				
109	18.9	<u>Coal mining</u>	Identified (within 0m)				
110	18.10	Brine areas	None (within 0m)				
110	18.11	Gypsum areas	None (within 0m)				
110	18.12	Tin mining	None (within 0m)				
110	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
111	19.1	<u>Radon</u>	Less than 1% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
112	20.1	<u>BGS Estimated Background Soil Chemistry</u>	1	3	-	-	-
112	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
113	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
114	21.1	Underground railways (London)	0	0	0	-	-
114	21.2	Underground railways (Non-London)	0	0	0	-	-
114	21.3	Railway tunnels	0	0	0	-	-
114	21.4	Historical railway and tunnel features	0	0	0	-	-
114	21.5	Royal Mail tunnels	0	0	0	-	-
115	21.6	Historical railways	0	0	0	-	-
115	21.7	Railways	0	0	0	-	-
115	21.8	Crossrail 1	0	0	0	0	-
115	21.9	Crossrail 2	0	0	0	0	-
115	21.10	HS2	0	0	0	0	-

Recent aerial photograph



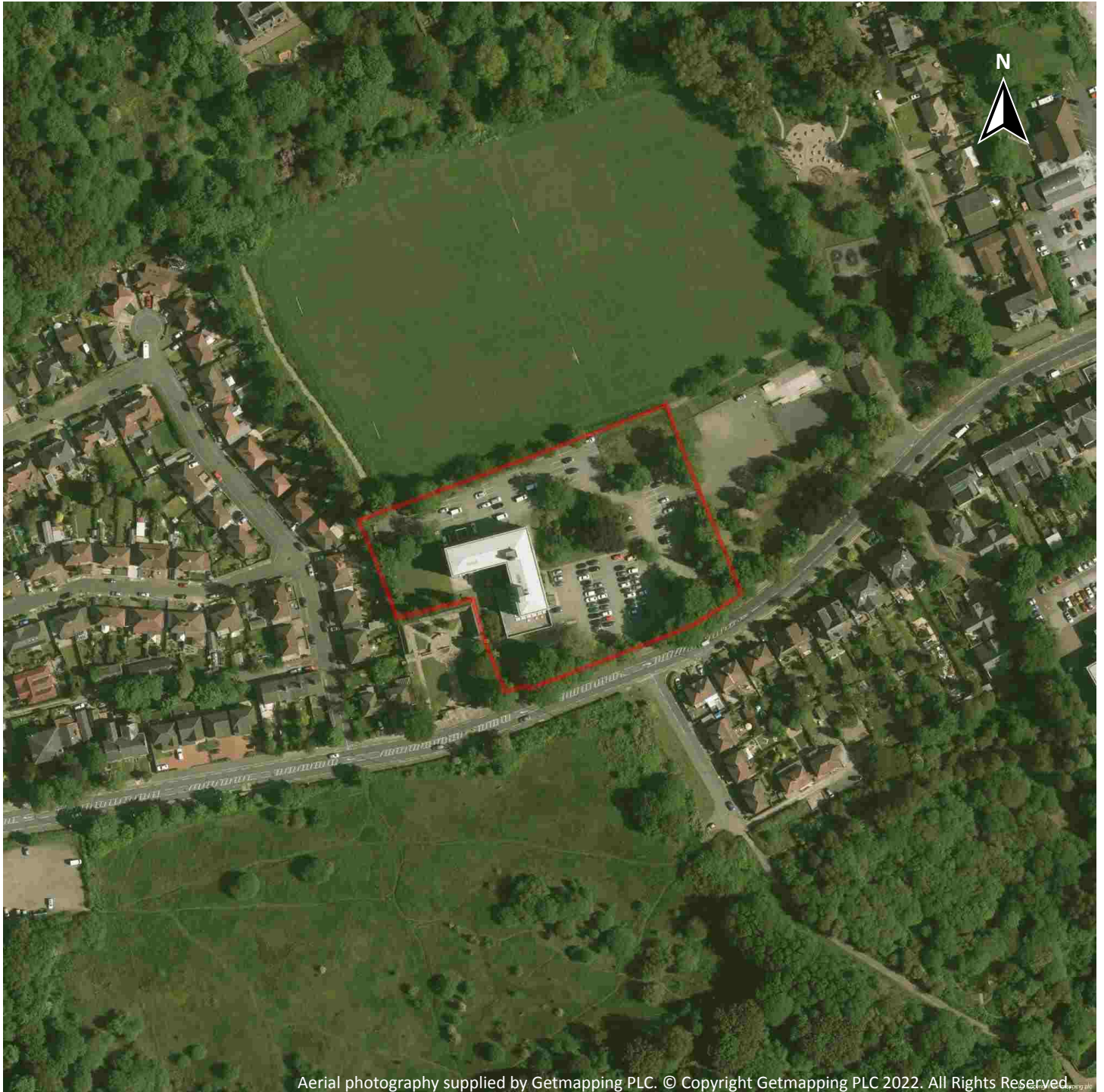
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Capture Date: 22/04/2019

Site Area: 1.11ha



Recent site history - 2015 aerial photograph



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Capture Date: 11/06/2015

Site Area: 1.11ha



Recent site history - 2011 aerial photograph



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Capture Date: 01/05/2011

Site Area: 1.11ha



Recent site history - 2000 aerial photograph



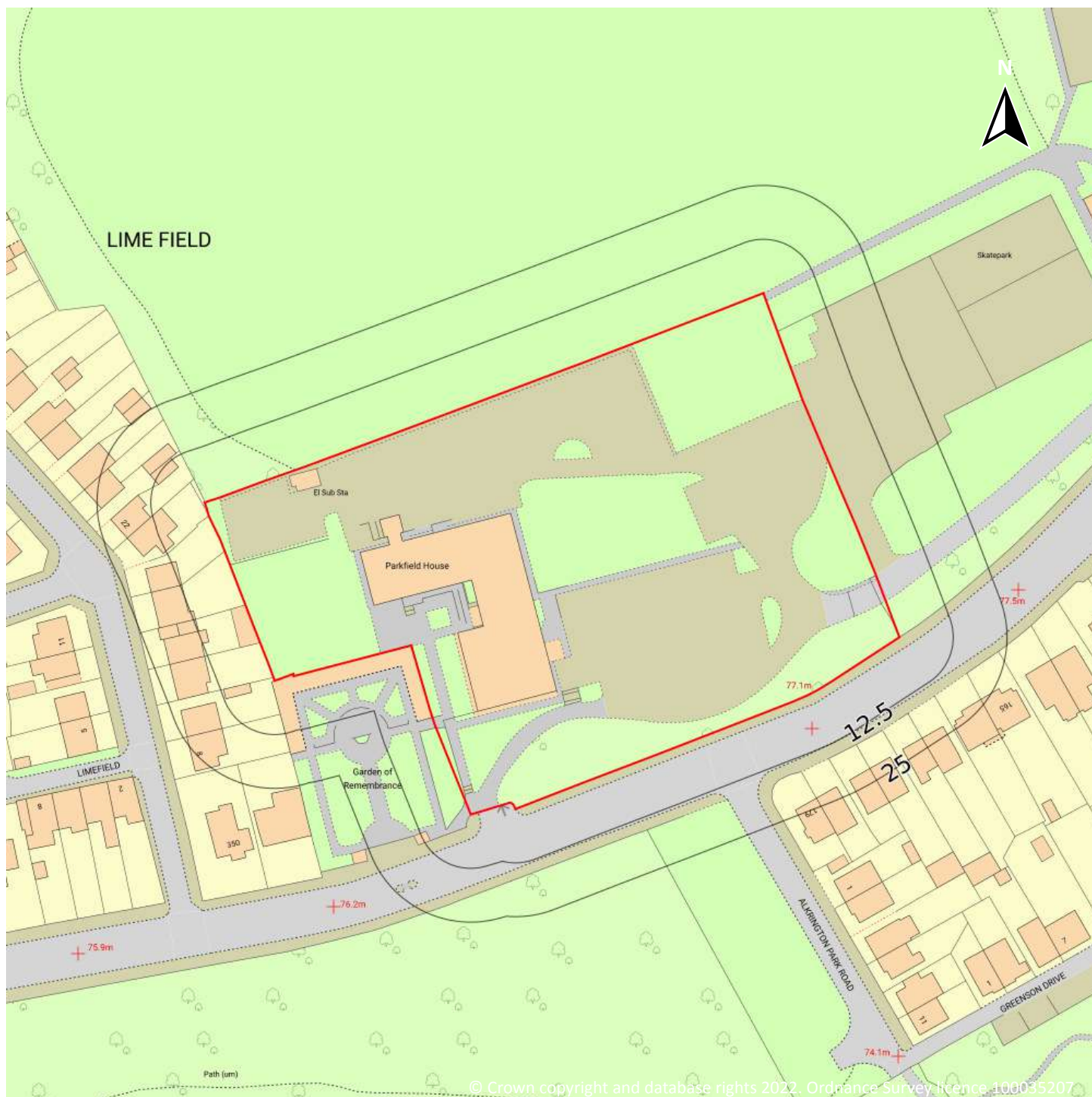
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Capture Date: 19/06/2000

Site Area: 1.11ha



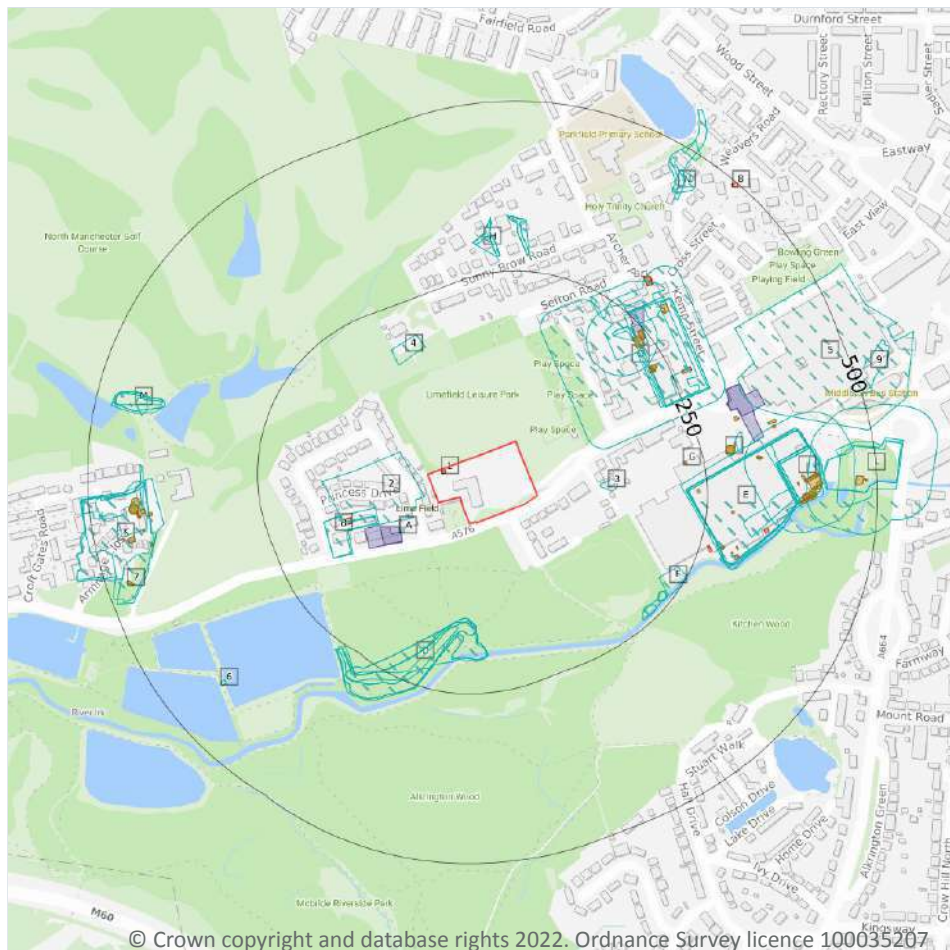
OS MasterMap site plan



Site Area: 1.11ha



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

68

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

Features are displayed on the Past land use map on **page 13**

ID	Location	Land use	Dates present	Group ID
2	16m W	Lime Field	1891	769348



ID	Location	Land use	Dates present	Group ID
A	65m SW	Pump	1851	675605
B	89m W	Lime Field	1907 - 1915	773915
3	94m E	Unspecified Pit	1932	690966
B	95m W	Lime Field	1932	720057
C	99m NE	Unspecified Works	1938	774509
D	139m S	Gravel Pit	1955	652927
D	139m S	Refuse Heap	1965 - 1975	726653
D	143m S	Refuse Heap	1932	730371
D	143m S	Refuse Heap	1915	767366
D	146m S	Refuse Heap	1923	707572
D	154m S	Sand Pit	1907	643969
C	163m NE	Unspecified Tanks	1932 - 1938	754704
4	165m NW	Unspecified Ground Workings	1907 - 1932	716687
C	190m NE	Unspecified Mills	1891 - 1907	738986
E	211m E	Bleach Works	1891	736786
C	211m NE	Unspecified Ground Workings	1915	648275
C	211m NE	Unspecified Pit	1907	690967
F	216m SE	Refuse Heap	1915 - 1923	750521
E	218m E	Unspecified Mills	1938	701740
C	219m NE	Unspecified Works	1932	759842
E	220m E	Unspecified Works	1982	721737
E	221m E	Unspecified Mills	1955 - 1975	729569
E	221m E	Bleach Works	1907 - 1923	710169
E	221m E	Unspecified Mills	1932	745881
C	222m NE	Unspecified Works	1915 - 1923	703374
C	224m NE	Unspecified Works	1965 - 1975	738209
C	225m NE	Unspecified Works	1982	729013
F	228m SE	Unspecified Heaps	1915	679648



ID	Location	Land use	Dates present	Group ID
F	230m SE	Unspecified Heap	1923	650981
F	231m SE	Unspecified Heap	1923	650983
H	272m N	Unspecified Pit	1907	690968
H	272m N	Unspecified Ground Workings	1932	734913
H	272m N	Unspecified Ground Workings	1915	771667
H	274m N	Unspecified Pit	1907	690969
H	274m N	Unspecified Ground Workings	1932	713163
H	274m N	Unspecified Ground Workings	1915	770651
I	285m E	Unspecified Tank	1982	674877
I	301m E	Unspecified Ground Workings	1932 - 1938	710222
E	306m E	Unspecified Pit	1975	690965
J	309m E	Unspecified Works	1965	733431
5	333m E	Bus Station	1975 - 1982	713332
J	354m E	Dye Works	1938	717287
J	357m E	Dye Works	1907 - 1932	736449
J	359m E	Unspecified Commercial/Industrial	1975	643358
K	395m W	Bleach Works	1938	772039
L	395m E	Unspecified Works	1965	783661
M	399m W	Old Sand Pit	1907 - 1923	757202
M	399m W	Unspecified Pit	1932	790894
M	402m W	Old Sand Pit	1891	726981
M	404m W	Unspecified Pit	1938	746392
6	409m SW	Boat House	1907 - 1923	728211
K	409m W	Bleach Works	1915 - 1932	700557
J	409m E	Unspecified Tank	1923	674875
K	412m W	Bleach Works	1891 - 1907	765055
K	418m W	Bleach Works	1851	777929
K	419m W	Abattoir	1938	693743



ID	Location	Land use	Dates present	Group ID
L	421m E	Dye Works	1932 - 1938	698517
M	422m W	Unspecified Pit	1955 - 1965	708725
K	423m W	Unspecified Tank	1907 - 1932	753059
L	424m E	Unspecified Mill	1907 - 1923	733766
N	426m NE	Unspecified Ground Workings	1907 - 1932	780387
K	427m W	Unspecified Tank	1891	722001
N	433m NE	Refuse Heap	1891	678061
L	441m E	Unspecified Commercial/Industrial	1975 - 1982	735119
N	445m NE	Unspecified Ground Workings	1955 - 1982	779034
N	490m NE	Unspecified Pit	1907	690971
9	495m E	Print and Dye Works	1851	644977

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

57

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 13**

ID	Location	Land use	Dates present	Group ID
G	221m E	Unspecified Tank	1983	84627
C	223m NE	Unspecified Tank	1954	84633
C	225m NE	Tanks	1922 - 1932	100536
C	226m NE	Tanks	1954	98710
C	228m NE	Tanks	1954 - 1967	91367
G	235m E	Unspecified Tank	1978	84632
C	237m NE	Unspecified Tank	1954 - 1984	91734



ID	Location	Land use	Dates present	Group ID
C	237m NE	Unspecified Tank	1954 - 1967	89858
E	280m E	Unspecified Tank	1909	84631
I	285m E	Unspecified Tank	1983 - 1989	96423
I	285m E	Unspecified Tank	1978	89536
I	286m E	Unspecified Tank	1992	103486
E	287m E	Unspecified Tank	1893	84629
C	287m NE	Unspecified Tank	1922	84634
C	290m NE	Tanks	1954 - 1967	101618
E	297m E	Unspecified Tank	1909	84630
E	302m E	Tanks	1909	87830
I	310m E	Tanks	1932	87833
I	327m E	Tanks	1954	102388
I	328m E	Tanks	1954 - 1967	92408
I	330m E	Tanks	1954	101740
I	355m E	Tanks	1922	87832
I	360m E	Tanks	1909	87831
J	383m E	Unspecified Tank	1932	84628
J	387m E	Tanks	1932	93007
J	388m E	Tanks	1922	90244
J	389m E	Disused Tanks	1954 - 1967	100544
J	389m E	Tanks	1978 - 1992	89994
J	394m E	Tanks	1989 - 1992	92256
J	394m E	Tanks	1983	97552
J	395m E	Tanks	1978	93436
J	402m E	Tanks	1989	94748
J	403m E	Tanks	1983	95208
J	405m E	Tanks	1978	95255
K	409m W	Unspecified Tank	1954 - 1967	104054



ID	Location	Land use	Dates present	Group ID
J	411m E	Tanks	1978 - 1983	89390
J	411m E	Tanks	1978	90741
K	415m W	Unspecified Tank	1954 - 1985	92971
K	419m W	Unspecified Tank	1954 - 1965	102135
K	424m W	Unspecified Tank	1967	97202
K	424m W	Unspecified Tank	1954	98126
K	424m W	Disused Tank	1954 - 1967	100230
K	425m W	Unspecified Tank	1965	95468
K	425m W	Unspecified Tank	1954	96131
K	426m W	Disused Tanks	1954 - 1967	101510
K	427m W	Disused Tanks	1954 - 1965	88895
K	428m W	Gasometer	1909	78102
K	428m W	Unspecified Tank	1922 - 1932	98345
K	429m W	Disused Tanks	1954 - 1965	90469
K	440m W	Tanks	1922 - 1932	89382
7	460m W	Unspecified Tank	1909 - 1922	94505
L	468m E	Unspecified Tank	1954 - 1983	98549
L	481m E	Tanks	1954	97217
L	482m E	Tanks	1967	103567
L	483m E	Tanks	1954	92803
L	484m E	Tanks	1954	97668
L	484m E	Tanks	1967	101386

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m

11

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 13**

ID	Location	Land use	Dates present	Group ID
1	On site	Electricity Substation	1992	45627
B	128m W	Electricity Substation	1954 - 1992	46805
E	261m E	Electricity Substation	1992	45923
C	265m NE	Electricity Substation	1954 - 1992	47007
C	299m NE	Electricity Substation	1983 - 1989	56619
C	299m NE	Electricity Substation	1967 - 1992	57358
C	300m NE	Electricity Substation	1954	58095
E	302m E	Electricity Substation	1992	45924
E	337m E	Electricity Substation	1992	45925
K	428m W	Gasometer	1909	46154
8	491m NE	Electricity Substation	1981 - 1996	52746

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

5

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 13**

ID	Location	Land use	Dates present	Group ID
A	68m SW	Garage	1987 - 1992	19153
A	71m SW	Garage	1954	15289
C	228m NE	Works and Garage	1954 - 1967	17521
I	308m E	Garage	1954 - 1967	19331
I	310m E	Garage	1954	16575

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

Records within 500m

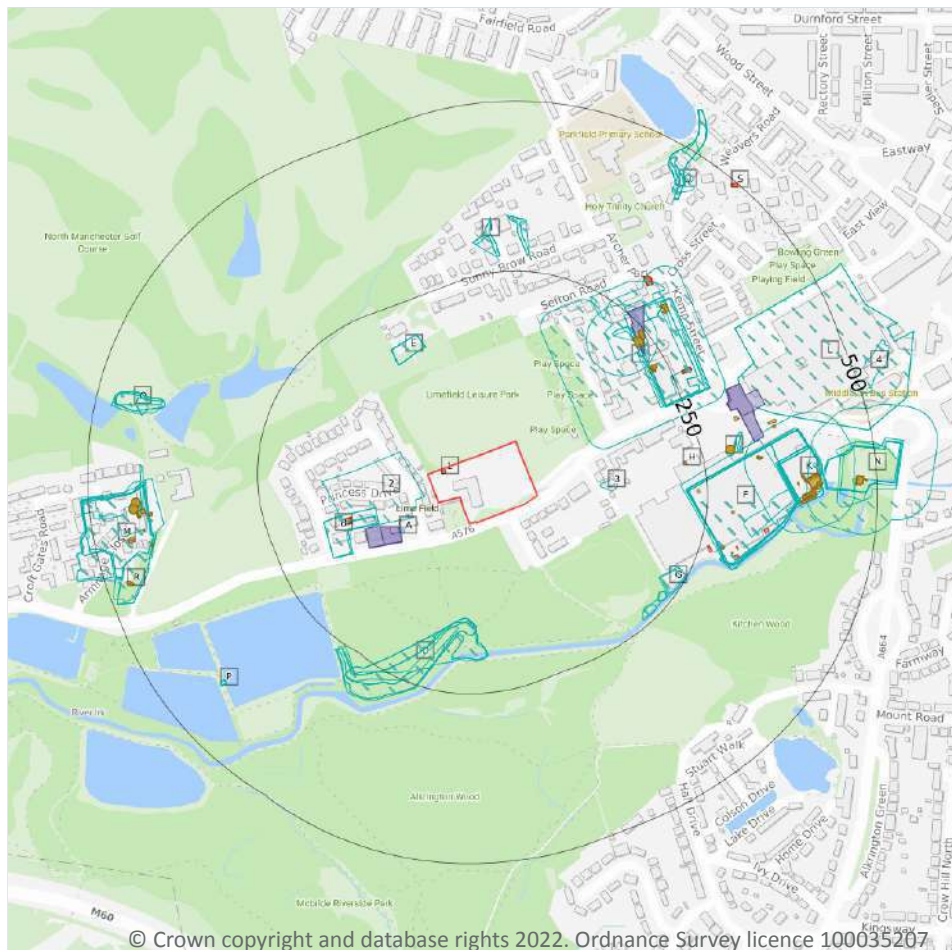
0

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

108

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
2	16m W	Lime Field	1891	769348
A	65m SW	Pump	1851	675605
B	89m W	Lime Field	1915	773915



ID	Location	Land Use	Date	Group ID
B	89m W	Lime Field	1907	773915
3	94m E	Unspecified Pit	1932	690966
B	95m W	Lime Field	1932	720057
C	99m NE	Unspecified Works	1938	774509
D	139m S	Refuse Heap	1975	726653
D	139m S	Refuse Heap	1965	726653
D	139m S	Gravel Pit	1955	652927
D	143m S	Refuse Heap	1932	730371
D	143m S	Refuse Heap	1915	767366
D	146m S	Refuse Heap	1923	707572
D	154m S	Sand Pit	1907	643969
C	163m NE	Unspecified Tanks	1938	754704
E	165m NW	Unspecified Ground Workings	1932	716687
E	165m NW	Unspecified Ground Workings	1915	716687
E	165m NW	Unspecified Ground Workings	1907	716687
E	165m NW	Unspecified Ground Workings	1923	716687
C	190m NE	Unspecified Mills	1891	738986
F	211m E	Bleach Works	1891	736786
C	211m NE	Unspecified Ground Workings	1915	648275
C	211m NE	Unspecified Pit	1907	690967
G	216m SE	Refuse Heap	1923	750521
G	217m SE	Refuse Heap	1915	750521
F	218m E	Unspecified Mills	1938	701740
C	219m NE	Unspecified Works	1932	759842
F	220m E	Unspecified Works	1982	721737
F	221m E	Unspecified Mills	1975	729569
F	221m E	Unspecified Mills	1965	729569
F	221m E	Unspecified Mills	1955	729569



ID	Location	Land Use	Date	Group ID
F	221m E	Unspecified Mills	1932	745881
F	221m E	Bleach Works	1915	710169
F	221m E	Bleach Works	1907	710169
F	221m E	Bleach Works	1923	710169
C	222m NE	Unspecified Works	1915	703374
C	222m NE	Unspecified Mills	1907	738986
C	222m NE	Unspecified Works	1923	703374
C	224m NE	Unspecified Works	1975	738209
C	224m NE	Unspecified Works	1965	738209
C	225m NE	Unspecified Works	1982	729013
C	225m NE	Unspecified Tanks	1932	754704
G	228m SE	Unspecified Heaps	1915	679648
G	230m SE	Unspecified Heap	1923	650981
G	231m SE	Unspecified Heap	1923	650983
I	272m N	Unspecified Ground Workings	1932	734913
I	272m N	Unspecified Ground Workings	1915	771667
I	272m N	Unspecified Pit	1907	690968
I	274m N	Unspecified Ground Workings	1932	713163
I	274m N	Unspecified Ground Workings	1915	770651
I	274m N	Unspecified Pit	1907	690969
J	285m E	Unspecified Tank	1982	674877
J	301m E	Unspecified Ground Workings	1932	710222
J	302m E	Unspecified Ground Workings	1938	710222
F	306m E	Unspecified Pit	1975	690965
K	309m E	Unspecified Works	1965	733431
L	333m E	Bus Station	1975	713332
L	333m E	Bus Station	1982	713332
K	354m E	Dye Works	1938	717287

ID	Location	Land Use	Date	Group ID
K	357m E	Dye Works	1932	736449
K	357m E	Dye Works	1915	736449
K	357m E	Dye Works	1907	736449
K	357m E	Dye Works	1923	736449
K	359m E	Unspecified Commercial/Industrial	1975	643358
M	395m W	Bleach Works	1938	772039
N	395m E	Unspecified Works	1965	783661
O	399m W	Unspecified Pit	1932	790894
O	399m W	Old Sand Pit	1923	757202
O	399m W	Old Sand Pit	1915	757202
O	399m W	Old Sand Pit	1907	757202
O	402m W	Old Sand Pit	1891	726981
O	404m W	Unspecified Pit	1938	746392
M	409m W	Bleach Works	1932	700557
P	409m SW	Boat House	1915	728211
P	409m SW	Boat House	1907	728211
P	409m SW	Boat House	1923	728211
K	409m E	Unspecified Tank	1923	674875
M	411m W	Bleach Works	1915	700557
M	411m W	Bleach Works	1923	700557
M	412m W	Bleach Works	1907	765055
M	414m W	Bleach Works	1891	765055
M	418m W	Bleach Works	1851	777929
M	419m W	Abattoir	1938	693743
N	421m E	Dye Works	1938	698517
O	422m W	Unspecified Pit	1965	708725
O	422m W	Unspecified Pit	1955	708725
M	423m W	Unspecified Tank	1932	753059

ID	Location	Land Use	Date	Group ID
M	423m W	Unspecified Tank	1915	753059
M	423m W	Unspecified Tank	1907	753059
M	423m W	Unspecified Tank	1923	753059
N	424m E	Dye Works	1932	698517
N	424m E	Unspecified Mill	1915	733766
N	424m E	Unspecified Mill	1907	733766
N	424m E	Unspecified Mill	1923	733766
Q	426m NE	Unspecified Ground Workings	1932	780387
Q	426m NE	Unspecified Ground Workings	1915	780387
Q	426m NE	Unspecified Ground Workings	1907	780387
Q	426m NE	Unspecified Ground Workings	1923	780387
M	427m W	Unspecified Tank	1891	722001
Q	433m NE	Refuse Heap	1891	678061
N	441m E	Unspecified Commercial/Industrial	1982	735119
Q	445m NE	Unspecified Ground Workings	1975	779034
Q	445m NE	Unspecified Ground Workings	1965	779034
Q	445m NE	Unspecified Ground Workings	1955	779034
Q	445m NE	Unspecified Ground Workings	1982	779034
N	445m E	Unspecified Commercial/Industrial	1975	735119
Q	490m NE	Unspecified Pit	1907	690971
4	495m E	Print and Dye Works	1851	644977

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

93

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
H	221m E	Unspecified Tank	1983	84627
C	223m NE	Unspecified Tank	1954	84633
C	225m NE	Tanks	1922	100536
C	225m NE	Tanks	1932	100536
C	226m NE	Tanks	1954	98710
C	228m NE	Tanks	1954	91367
C	228m NE	Tanks	1967	91367
H	235m E	Unspecified Tank	1978	84632
C	237m NE	Unspecified Tank	1984	91734
C	237m NE	Unspecified Tank	1967	89858
C	237m NE	Unspecified Tank	1954	89858
C	238m NE	Unspecified Tank	1954	91734
C	238m NE	Unspecified Tank	1967	91734
F	280m E	Unspecified Tank	1909	84631
J	285m E	Unspecified Tank	1983	96423
J	285m E	Unspecified Tank	1989	96423
J	285m E	Unspecified Tank	1978	89536
J	286m E	Unspecified Tank	1992	103486
F	287m E	Unspecified Tank	1893	84629
C	287m NE	Unspecified Tank	1922	84634
C	290m NE	Tanks	1954	101618
C	290m NE	Tanks	1954	101618
C	291m NE	Tanks	1954	101618
C	291m NE	Tanks	1967	101618
F	297m E	Unspecified Tank	1909	84630
F	302m E	Tanks	1909	87830
J	310m E	Tanks	1932	87833
J	327m E	Tanks	1954	102388



ID	Location	Land Use	Date	Group ID
J	328m E	Tanks	1954	92408
J	328m E	Tanks	1967	92408
J	330m E	Tanks	1954	101740
J	355m E	Tanks	1922	87832
J	360m E	Tanks	1909	87831
K	383m E	Unspecified Tank	1932	84628
K	387m E	Tanks	1932	93007
K	388m E	Tanks	1922	90244
K	389m E	Disused Tanks	1954	100544
K	389m E	Tanks	1983	89994
K	389m E	Tanks	1989	89994
K	390m E	Disused Tanks	1954	100544
K	390m E	Disused Tanks	1967	100544
K	390m E	Tanks	1978	89994
K	390m E	Tanks	1992	89994
K	394m E	Tanks	1989	92256
K	394m E	Tanks	1983	97552
K	395m E	Tanks	1978	93436
K	396m E	Tanks	1992	92256
K	402m E	Tanks	1989	94748
K	403m E	Tanks	1983	95208
K	405m E	Tanks	1978	95255
M	409m W	Unspecified Tank	1954	104054
M	409m W	Unspecified Tank	1967	104054
K	411m E	Tanks	1983	89390
K	411m E	Tanks	1978	90741
K	412m E	Tanks	1978	89390
M	415m W	Unspecified Tank	1985	92971



ID	Location	Land Use	Date	Group ID
M	415m W	Unspecified Tank	1954	92971
M	415m W	Unspecified Tank	1967	92971
M	416m W	Unspecified Tank	1965	92971
M	416m W	Unspecified Tank	1954	92971
M	419m W	Unspecified Tank	1954	102135
M	419m W	Unspecified Tank	1965	102135
M	424m W	Unspecified Tank	1954	98126
M	424m W	Unspecified Tank	1967	97202
M	424m W	Disused Tank	1954	100230
M	424m W	Disused Tank	1965	100230
M	424m W	Disused Tank	1954	100230
M	424m W	Disused Tank	1967	100230
M	425m W	Unspecified Tank	1965	95468
M	425m W	Unspecified Tank	1954	96131
M	426m W	Disused Tanks	1954	101510
M	426m W	Disused Tanks	1967	101510
M	427m W	Disused Tanks	1954	88895
M	427m W	Disused Tanks	1965	88895
M	428m W	Gasometer	1909	78102
M	428m W	Unspecified Tank	1922	98345
M	428m W	Unspecified Tank	1932	98345
M	429m W	Disused Tanks	1954	90469
M	429m W	Disused Tanks	1965	90469
M	440m W	Tanks	1922	89382
M	441m W	Tanks	1932	89382
R	460m W	Unspecified Tank	1909	94505
R	460m W	Unspecified Tank	1922	94505
N	468m E	Unspecified Tank	1983	98549

ID	Location	Land Use	Date	Group ID
N	469m E	Unspecified Tank	1954	98549
N	469m E	Unspecified Tank	1978	98549
N	469m E	Unspecified Tank	1954	98549
N	469m E	Unspecified Tank	1967	98549
N	481m E	Tanks	1954	97217
N	482m E	Tanks	1967	103567
N	483m E	Tanks	1954	92803
N	484m E	Tanks	1954	97668
N	484m E	Tanks	1967	101386

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

29

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
1	On site	Electricity Substation	1992	45627
B	128m W	Electricity Substation	1954	46805
B	128m W	Electricity Substation	1967	46805
B	128m W	Electricity Substation	1992	46805
B	128m W	Electricity Substation	1984	46805
B	129m W	Electricity Substation	1967	46805
B	129m W	Electricity Substation	1954	46805
F	261m E	Electricity Substation	1992	45923
C	265m NE	Electricity Substation	1983	47007
C	265m NE	Electricity Substation	1989	47007
C	265m NE	Electricity Substation	1954	47007



ID	Location	Land Use	Date	Group ID
C	265m NE	Electricity Substation	1978	47007
C	266m NE	Electricity Substation	1992	47007
C	266m NE	Electricity Substation	1954	47007
C	266m NE	Electricity Substation	1967	47007
C	299m NE	Electricity Substation	1983	56619
C	299m NE	Electricity Substation	1989	56619
C	299m NE	Electricity Substation	1978	57358
C	300m NE	Electricity Substation	1954	58095
C	300m NE	Electricity Substation	1967	57358
C	300m NE	Electricity Substation	1992	57358
C	301m NE	Electricity Substation	1954	58095
F	302m E	Electricity Substation	1992	45924
F	337m E	Electricity Substation	1992	45925
M	428m W	Gasometer	1909	46154
S	491m NE	Electricity Substation	1981	52746
S	491m NE	Electricity Substation	1983	52746
S	492m NE	Electricity Substation	1983	52746
S	492m NE	Electricity Substation	1996	52746

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.



2.5 Historical garages

Records within 500m

8

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'.

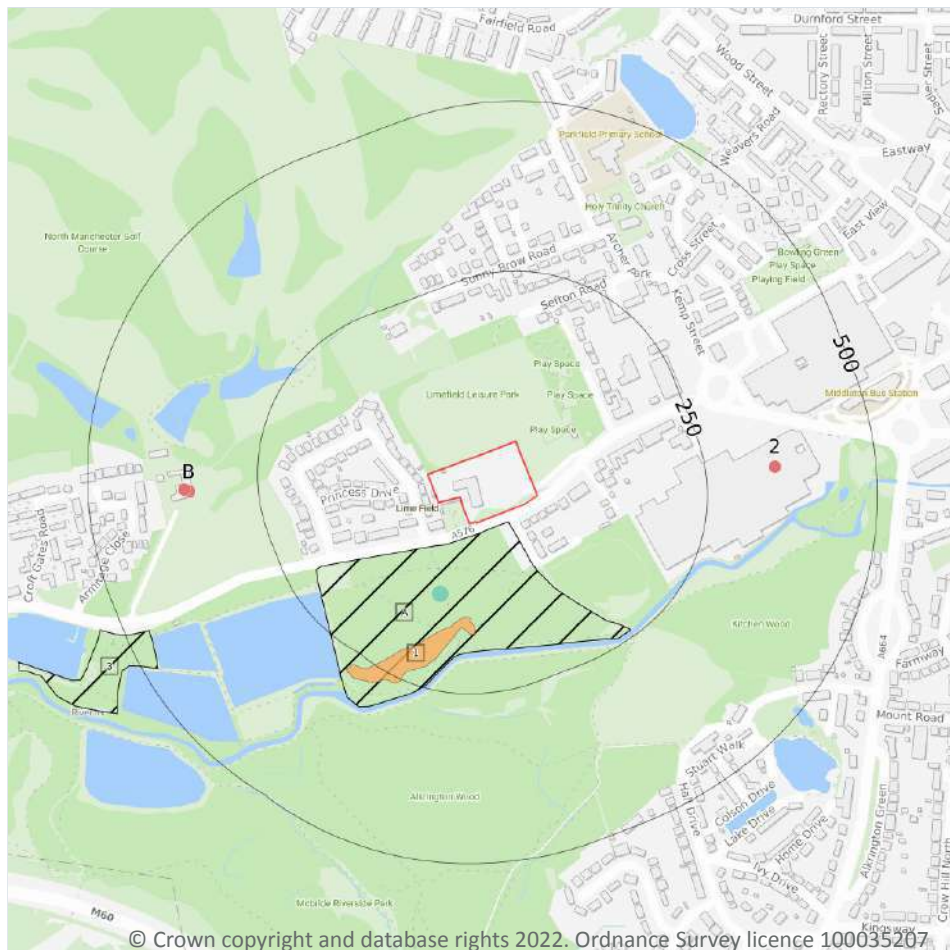
Features are displayed on the Past land use - un-grouped map on **page 21**

ID	Location	Land Use	Date	Group ID
A	68m SW	Garage	1992	19153
A	69m SW	Garage	1987	19153
A	71m SW	Garage	1954	15289
C	228m NE	Works and Garage	1967	17521
C	228m NE	Works and Garage	1954	17521
J	308m E	Garage	1954	19331
J	309m E	Garage	1967	19331
J	310m E	Garage	1954	16575

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



- Site Outline
- Search buffers in metres (m)
- Historical landfill (EA/NRW)
- Historical landfill (BGS)
- Historical waste sites
- 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

1

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

Features are displayed on the Waste and landfill map on **page 32**

ID	Location	Address	BGS Number	Risk	Waste Type
A	113m SW	Manchester Old Road, Middleton	2596	No risk to aquifer	N/A

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	2
----------------------------	----------

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

Features are displayed on the Waste and landfill map on **page 32**

ID	Location	Details		
A	14m S	Site Address: Land off Manchester Old Road, Manchester Old Road, Middleton, Manchester, Greater Manchester Licence Holder Address: -	Waste Licence: Yes Site Reference: D055 Waste Type: Inert, Industrial, Commercial, Household, Special, Liquid sludge Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 01/01/1974 Licence Surrender: -	Operator: Borough of Middleton Licence Holder: Rochdale Metropolitan Borough Council First Recorded 31/12/1967 Last Recorded: 09/09/1974
3	465m SW	Site Address: Former Reservoir, Manchester Old Road, Middleton, Manchester, Greater Manchester Licence Holder Address: -	Waste Licence: - Site Reference: D098 Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: - Licence Holder: - First Recorded - Last Recorded: -

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

3.5 Historical waste sites

Records within 500m

1

Waste site records derived from Local Authority planning records and high detail historical mapping. Features are displayed on the Waste and landfill map on **page 32**

ID	Location	Address	Further Details	Date
1	136m S	Site Address: N/A	Type of Site: Ground Workings and Refuse Heap Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1975

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

4

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
2	352m E	Robert McBride Ltd Middleton Way MANCHESTER M24 4DP	EPR/JF0405UU /A001	Treating waste exemption	Non-Agricultural Waste Only	Crushing waste fluorescent tubes
B	353m W	Rhodes House Manchester Old Road Manchester Lancashire M24 4PE	EPR/XF0132CV /A001	Disposing of waste exemption	Both agricultural and non-agricultural waste	Burning waste in the open
B	358m W	RHODES HOUSE, MANCHESTER OLD ROAD, MIDDLETON, MANCHESTER, M24 4PE	WEX217626	Disposing of waste exemption	Not on a farm	Burning waste in the open

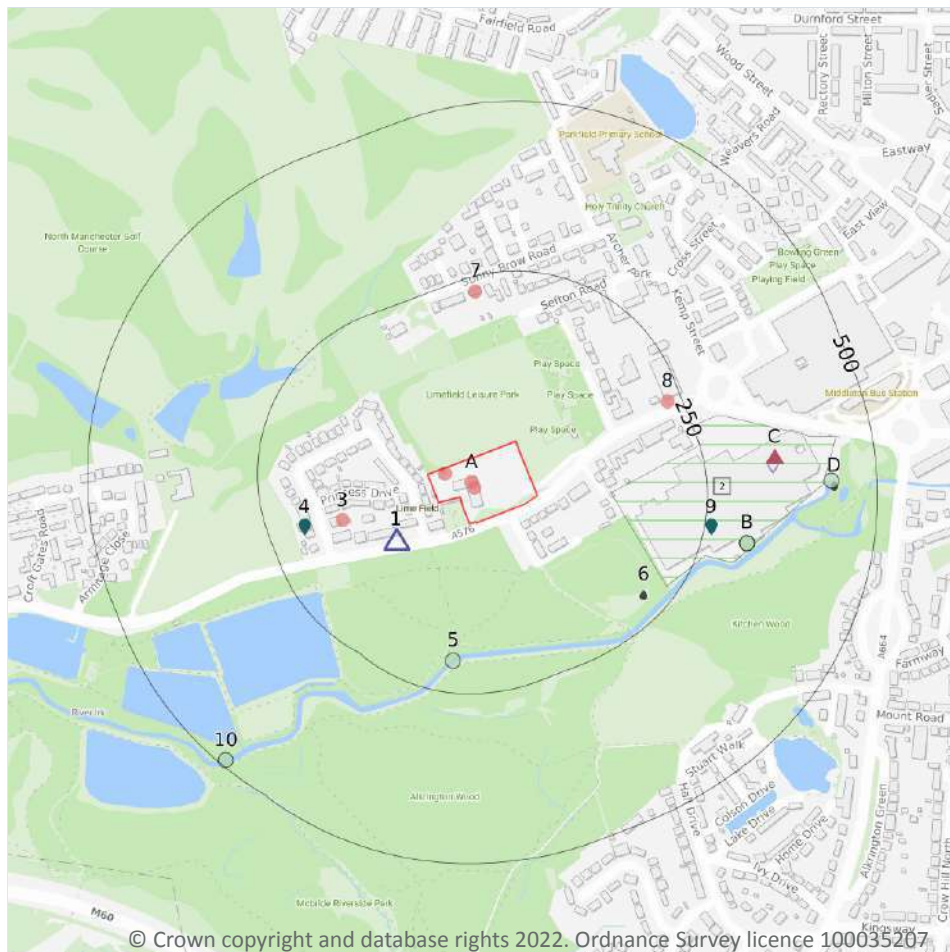


ID	Location	Site	Reference	Category	Sub-Category	Description
B	358m W	RHODES HOUSE, MANCHESTER OLD ROAD, MIDDLETON, MANCHESTER, M24 4PE	WEX066710	Disposing of waste exemption	Not on a farm	Burning waste in the open

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
- Control of Major Accident Hazards
- ▲ Hazardous substance storage/usage
- ◇ Part A(1) industrial activities
- Licensed pollutant release (Part A(2)/B)
- Licensed Discharges to controlled waters
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m

6

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 36**

ID	Location	Company	Address	Activity	Category
A	On site	Chubb	Parkfield House, Manchester Old Road, Middleton, Greater Manchester, M24 4DY	Special Purpose Machinery and Equipment	Industrial Products
A	On site	T G Products	Parkfield House Manchester Old Road, Middleton, Manchester, Greater Manchester, M24 4RF	Special Purpose Machinery and Equipment	Industrial Products



ID	Location	Company	Address	Activity	Category
A	On site	Electricity Sub Station	Greater Manchester, M24	Electrical Features	Infrastructure and Facilities
3	142m W	Electricity Sub Station	Greater Manchester, M24	Electrical Features	Infrastructure and Facilities
7	229m N	Handprint T-shirts	27, Sunny Brow Road, Middleton, Greater Manchester, M24 4AD	Textiles, Fabrics, Silk and Machinery	Industrial Products
8	229m NE	Electricity Sub Station	Greater Manchester, M24	Electrical Features	Infrastructure and Facilities

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 36**

ID	Location	Company	Address	LPG	Status
1	83m SW	TOTAL	Manchester Old Road, Middleton, Manchester, Greater Manchester, M24 4EB	Not Applicable	Obsolete

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

1

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

Features are displayed on the Current industrial land use map on **page 36**

ID	Location	Company	Address	Operational status	Tier
2	108m E	Robert McBride Limited	Robert McBride Limited, Middleton Head Office, Irkvale Works, Middleton Way, Middleton, Manchester, Greater Manchester, M24 4DP	Current COMAH Site	COMAH Upper Tier Operator

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m

0

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

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m

1

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

Features are displayed on the Current industrial land use map on **page 36**



ID	Location	Details	
C	352m E	Application reference number: 10/D53337 Application status: Approved Application date: 04/06/2010 Address: Robert McBride Ltd, Middleton Way, Middleton, Lancashire, England, M24 2SJ	Details: Application for consent to store hazardous substances. Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified

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	2
----------------------------	----------

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

Features are displayed on the Current industrial land use map on **page 36**

ID	Location	Details	
C	348m E	Operator: ROBERT MCBRIDE LTD Installation Name: MIDDLETON SITE Process: ORGANIC CHEMICALS; SURFACE-ACTIVE AGENTS Permit Number: KP3933MX Original Permit Number: KP3933MX	EPR Reference: - Issue Date: 28/06/2007 Effective Date: 28/06/2007 Last date noted as effective: 02/11/2022 Status: SUPERCEDED
C	348m E	Operator: ROBERT MCBRIDE LTD Installation Name: MIDDLETON SITE Process: ORGANIC CHEMICALS; SURFACE-ACTIVE AGENTS Permit Number: SP3436TW Original Permit Number: KP3933MX	EPR Reference: - Issue Date: - Effective Date: 02/08/2010 Last date noted as effective: 02/11/2022 Status: SURRENDER EFFECTIVE

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



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

Records within 500m

2

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

Features are displayed on the Current industrial land use map on **page 36**

ID	Location	Address	Details	
4	197m W	Middleton Service Station, Manchester Old Road, Middleton, M24 4EB	Process: Unloading of Petrol into Storage at Service Stations Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
9	259m E	R McBride Ltd Middleton Way	Process: Printing Status: Historical 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

2

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

Features are displayed on the Current industrial land use map on **page 36**

ID	Location	Address	Details	
6	213m SE	ROBERT MCBRIDE LTD SWO, MIDDLETON WAY, MIDDLETON, GREATER MANCHESTER, M24 4DP	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: 016991141 Permit Version: 1 Receiving Water: RIVER IRK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/10/1994 Revocation Date: 01/10/1994



ID	Location	Address	Details	
D	436m E	ROBERT MCBRIDE LTD SWO, MIDDLETON WAY, MIDDLETON, GREATER MANCHESTER, M24 4DP	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: 016991122 Permit Version: 1 Receiving Water: RIVER IRK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/10/1994 Revocation Date: 30/11/1994

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

4.14 Pollutant release to surface waters (Red List)

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

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

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

4.15 Pollutant release to public sewer

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

Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

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

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

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

4.17 List 2 Dangerous Substances

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

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

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m

5

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

Features are displayed on the Current industrial land use map on **page 36**

ID	Location	Details	
5	202m S	Incident Date: 15/09/2001 Incident Identification: 30951 Pollutant: Other Pollutant Pollutant Description: Other	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
B	315m E	Incident Date: 14/04/2009 Incident Identification: 669886 Pollutant: Inorganic Chemicals/Products Pollutant Description: Alkalis	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
B	315m E	Incident Date: 14/04/2009 Incident Identification: 669886 Pollutant: Organic Chemicals/Products Pollutant Description: Surfactants and Detergents	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
D	432m E	Incident Date: 04/03/2003 Incident Identification: 140943 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
10	491m SW	Incident Date: 20/02/2003 Incident Identification: 138064 Pollutant: Sewage Materials Pollutant Description: Final Effluent	Water Impact: Category 3 (Minor) 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

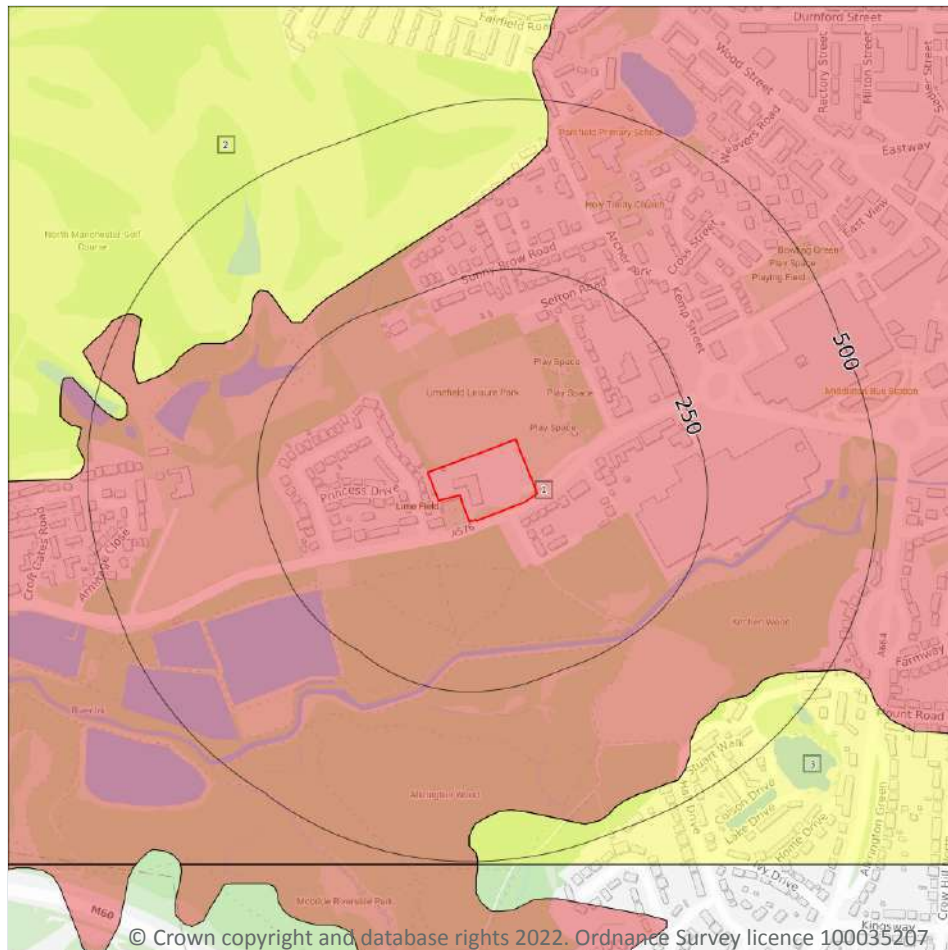
0

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

3

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 44**

ID	Location	Designation	Description
1	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
2	288m NW	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

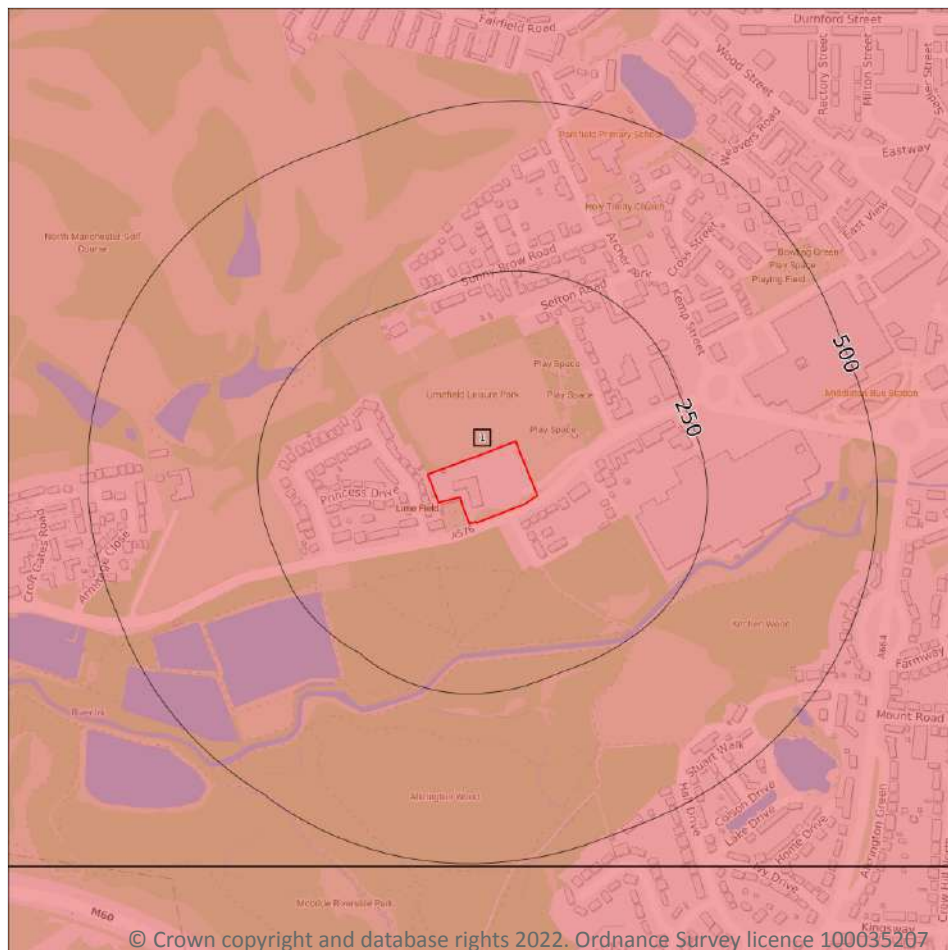


ID	Location	Designation	Description
3	408m SE	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

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

1

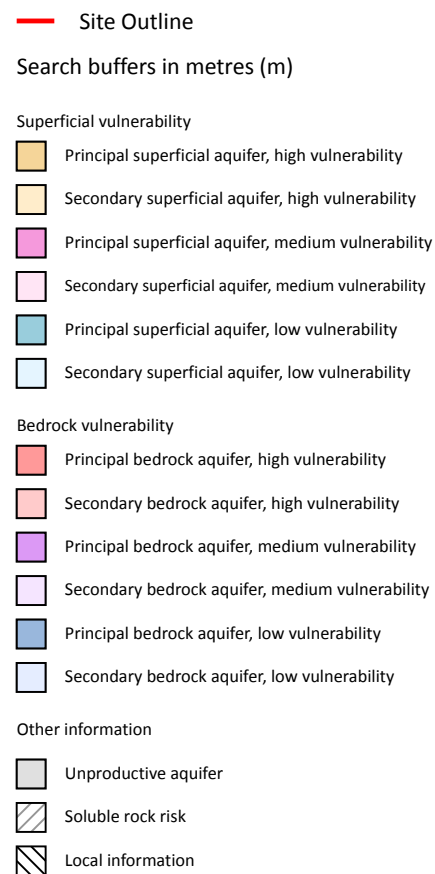
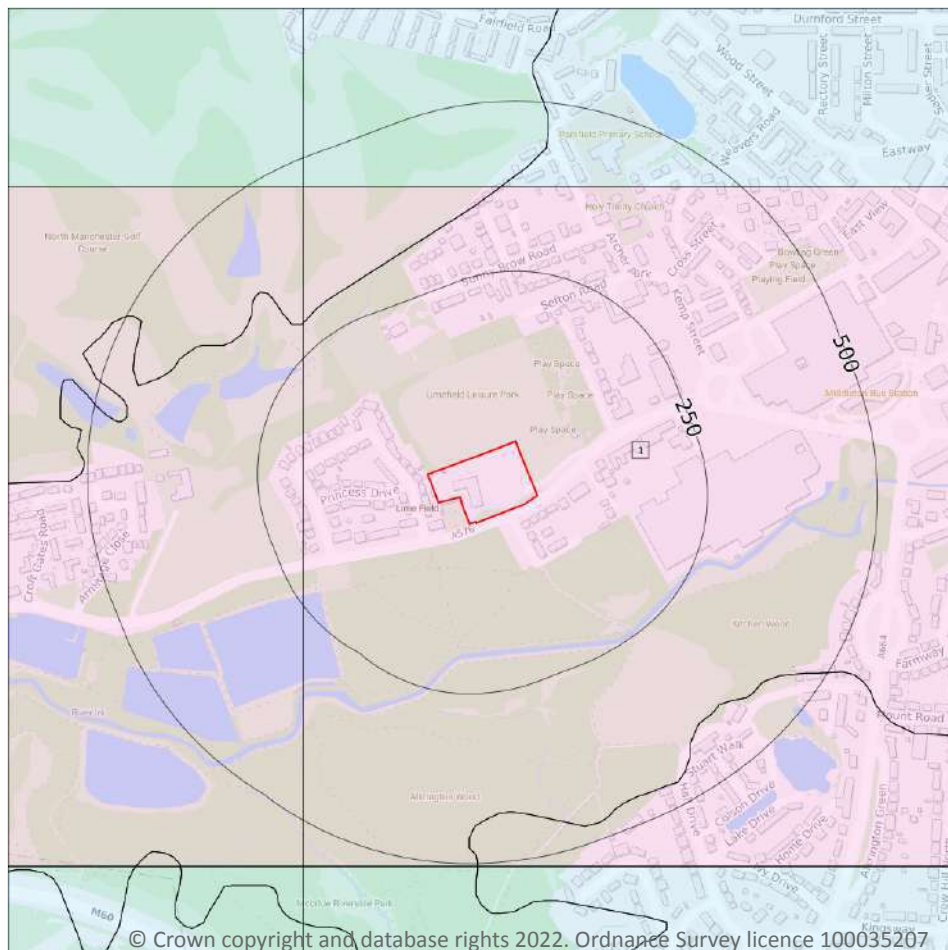
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 46**

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

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

1

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 47**

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

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

5.4 Groundwater vulnerability- soluble rock risk

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

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

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

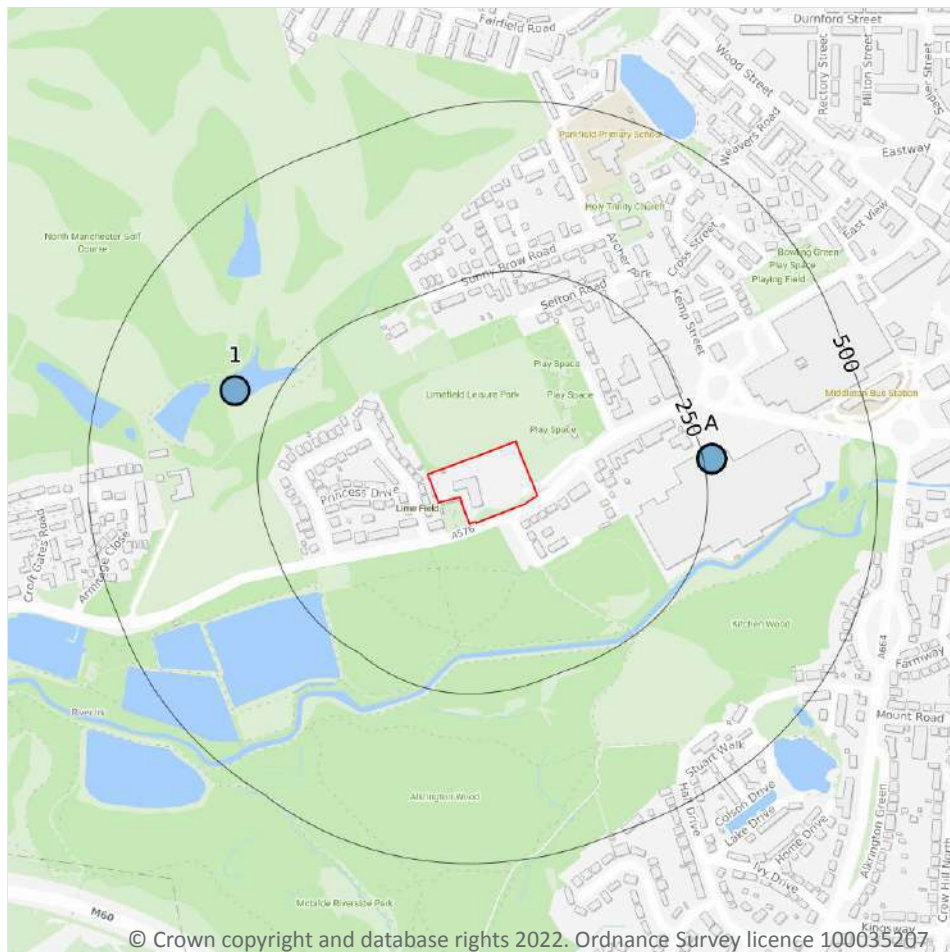
5.5 Groundwater vulnerability- local information

Records on site	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
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

0

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

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

5.7 Surface water abstractions

Records within 2000m

5

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	
A	261m E	Status: Historical Licence No: 2569005035 Details: Boiler Feed Direct Source: "Surface, Non-Tidal - North West Region" Point: "RESERVOIR FED BY SURFACE DRAINAGE AT MIDDLETON, MANCHESTER(T" Data Type: Point Name: ROBERT McBRIDE LTD Easting: 386600 Northing: 405600	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 18/01/1995 Version End Date: -
A	261m E	Status: Historical Licence No: 2569005035 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: "Surface, Non-Tidal - North West Region" Point: "RESERVOIR FED BY SURFACE DRAINAGE AT MIDDLETON, MANCHESTER(T" Data Type: Point Name: ROBERT McBRIDE LTD Easting: 386600 Northing: 405600	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 18/01/1995 Version End Date: -
A	261m E	Status: Active Licence No: 2569005035 Details: Boiler Feed Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIR FED BY SURFACE DRAINAGE AT MIDDLETON, MANCHESTER(T Data Type: Point Name: ROBERT McBRIDE LTD Easting: 386600 Northing: 405600	Annual Volume (m ³): 28,867 Max Daily Volume (m ³): 2,182.08 Original Application No: 1898 Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2007 Version End Date: -



ID	Location	Details	
A	261m E	Status: Active Licence No: 2569005035 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIR FED BY SURFACE DRAINAGE AT MIDDLETON, MANCHESTER(T Data Type: Point Name: ROBERT McBRIDE LTD Easting: 386600 Northing: 405600	Annual Volume (m ³): 28,867 Max Daily Volume (m ³): 2,182.08 Original Application No: 1898 Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2007 Version End Date: -
1	308m W	Status: Active Licence No: 2569005055 Details: Spray Irrigation - Direct Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIR FED BY SURFACE DRAINAGE AT NORTH MANCHESTER GOLF C Data Type: Point Name: THE NEW NORTH MANCHESTER GOLF CLUB LTD Easting: 385900 Northing: 405700	Annual Volume (m ³): 2,273 Max Daily Volume (m ³): 45.46 Original Application No: 2477 Original Start Date: 21/02/1977 Expiry Date: - Issue No: 101 Version Start Date: 01/04/2008 Version End Date: -

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

5.8 Potable abstractions

Records within 2000m

0

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

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

5.9 Source Protection Zones

Records within 500m

0

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

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



5.10 Source Protection Zones (confined aquifer)

Records within 500m

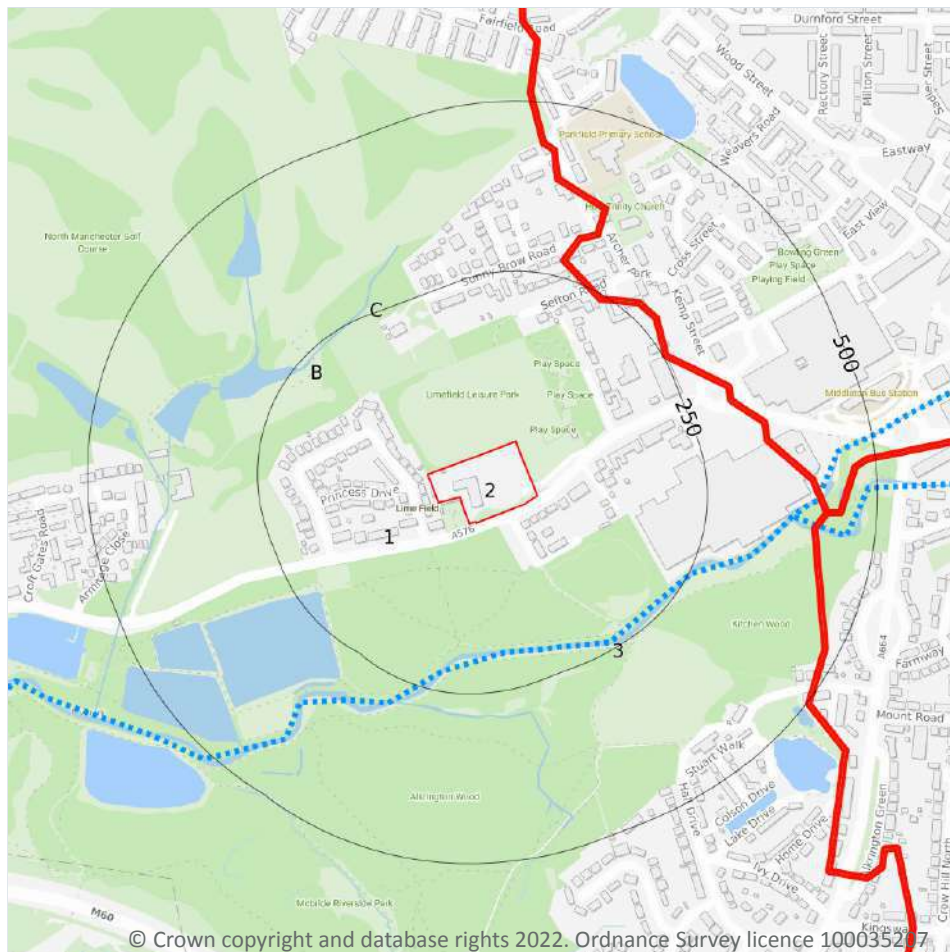
0

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

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



6 Hydrology



- 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

5

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 53**

ID	Location	Type of water feature	Ground level	Permanence	Name
3	193m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Irk



ID	Location	Type of water feature	Ground level	Permanence	Name
B	238m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	241m NW	Reservoir. An area of non-tidal water used for storing water.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	242m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
C	243m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

5

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 53**

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site

1

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

Features are displayed on the Hydrology map on **page 53**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
1	On site	River	Irk (Wince to Irwell)	GB112069061131	Roch Irk Medlock	Irwell

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



6.4 WFD Surface water bodies

Records identified

1

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

Features are displayed on the Hydrology map on **page 53**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
4	195m S	River	Irk (Wince to Irwell)	GB112069061131	Moderate	Fail	Moderate	2019

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

6.5 WFD Groundwater bodies

Records on site

1

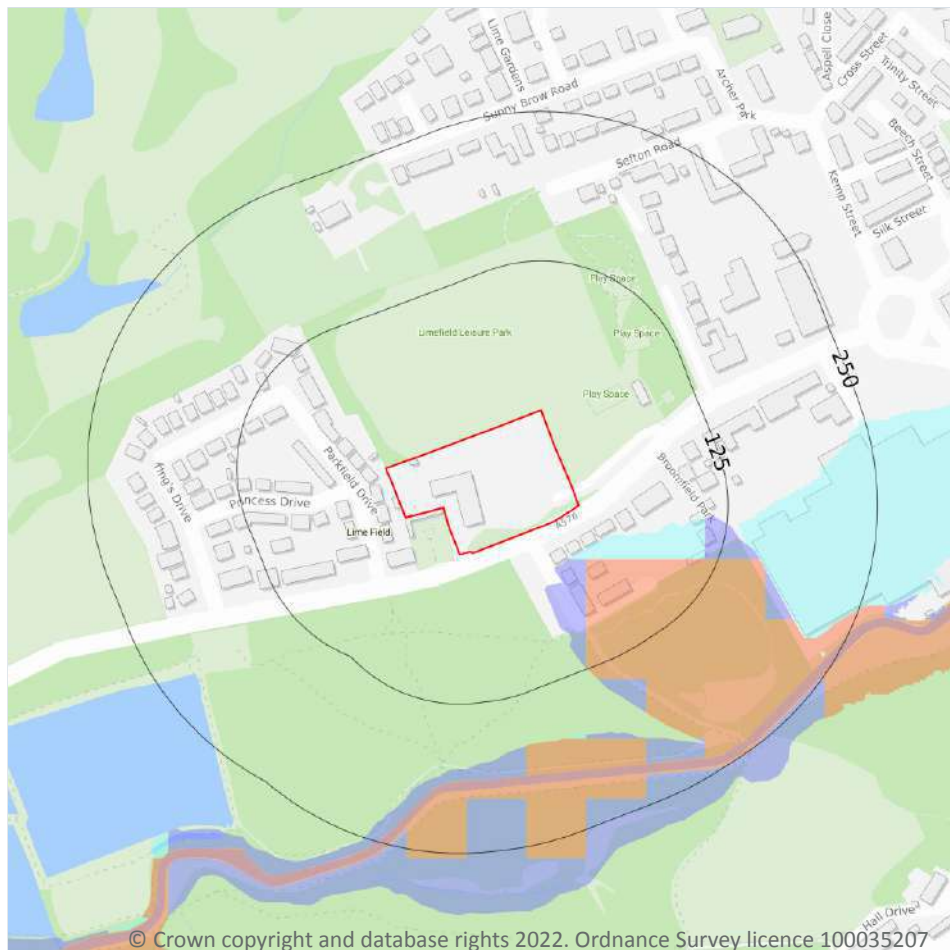
Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

Features are displayed on the Hydrology map on **page 53**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
2	On site	Northern Manchester Carboniferous Aquifers	GB41202G101800	Poor	Poor	Good	2019

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

7 River and coastal flooding



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

7.1 Risk of flooding from rivers and the sea

Records within 50m

3

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

Features are displayed on the River and coastal flooding map on **page 56**

Distance	Flood risk category
On site	N/A
0 - 50m	High

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

7.2 Historical Flood Events

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

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

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

7.3 Flood Defences

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

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

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

7.4 Areas Benefiting from Flood Defences

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

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

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

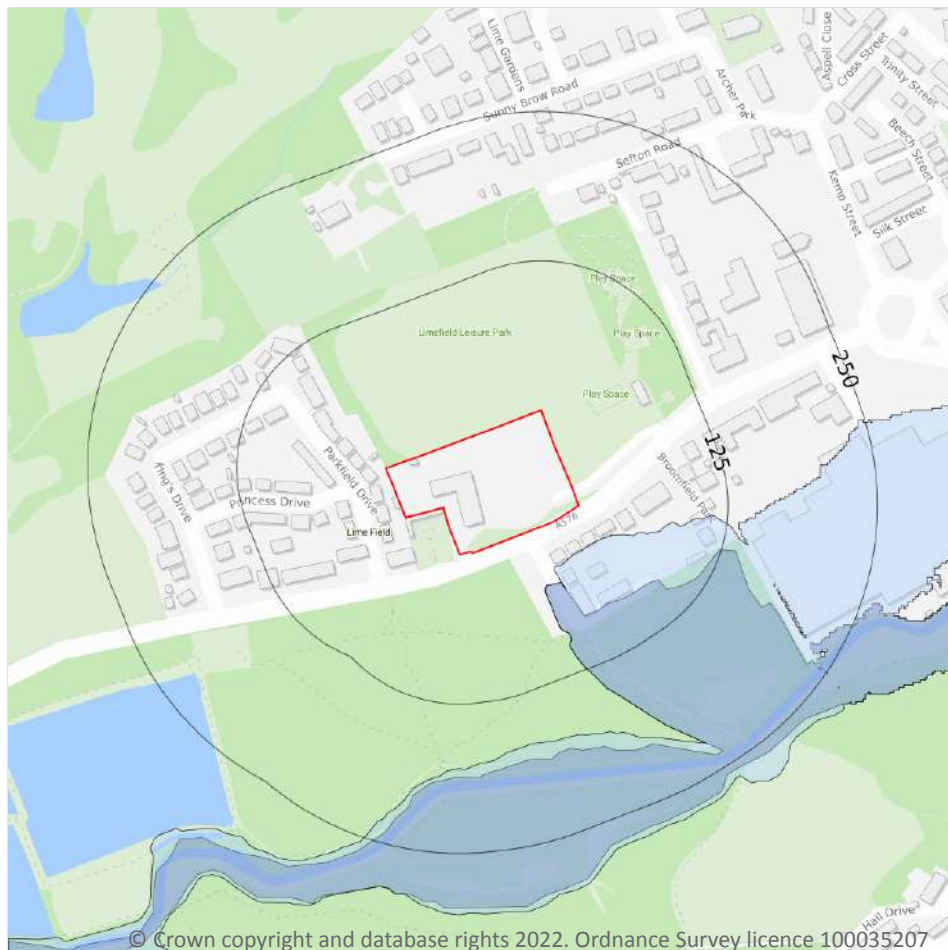
7.5 Flood Storage Areas

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

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

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

River and coastal flooding - Flood Zones



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

7.6 Flood Zone 2

Records within 50m

1

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

Features are displayed on the River and coastal flooding map on **page 56**

Location	Type
32m SE	Zone 2 - (Fluvial /Tidal Models)

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



7.7 Flood Zone 3

Records within 50m

1

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

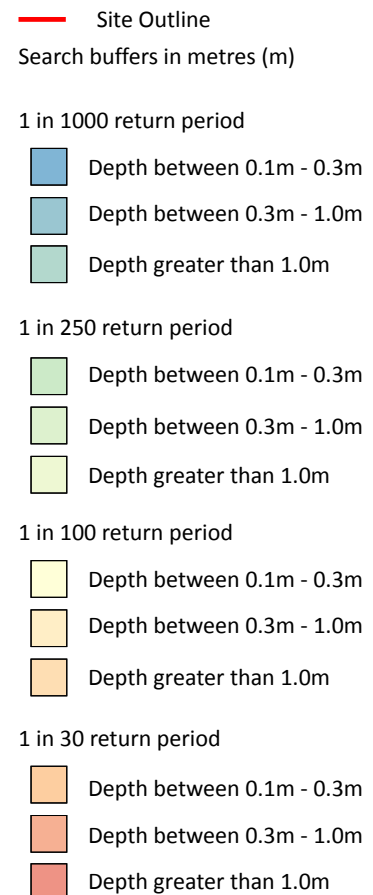
Features are displayed on the River and coastal flooding map on **page 56**

Location	Type
48m SE	Zone 3 - (Fluvial Models)

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



8 Surface water flooding



8.1 Surface water flooding

Highest risk on site

1 in 30 year, 0.1m - 0.3m

Highest risk within 50m

1 in 30 year, 0.1m - 0.3m

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 60**

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.

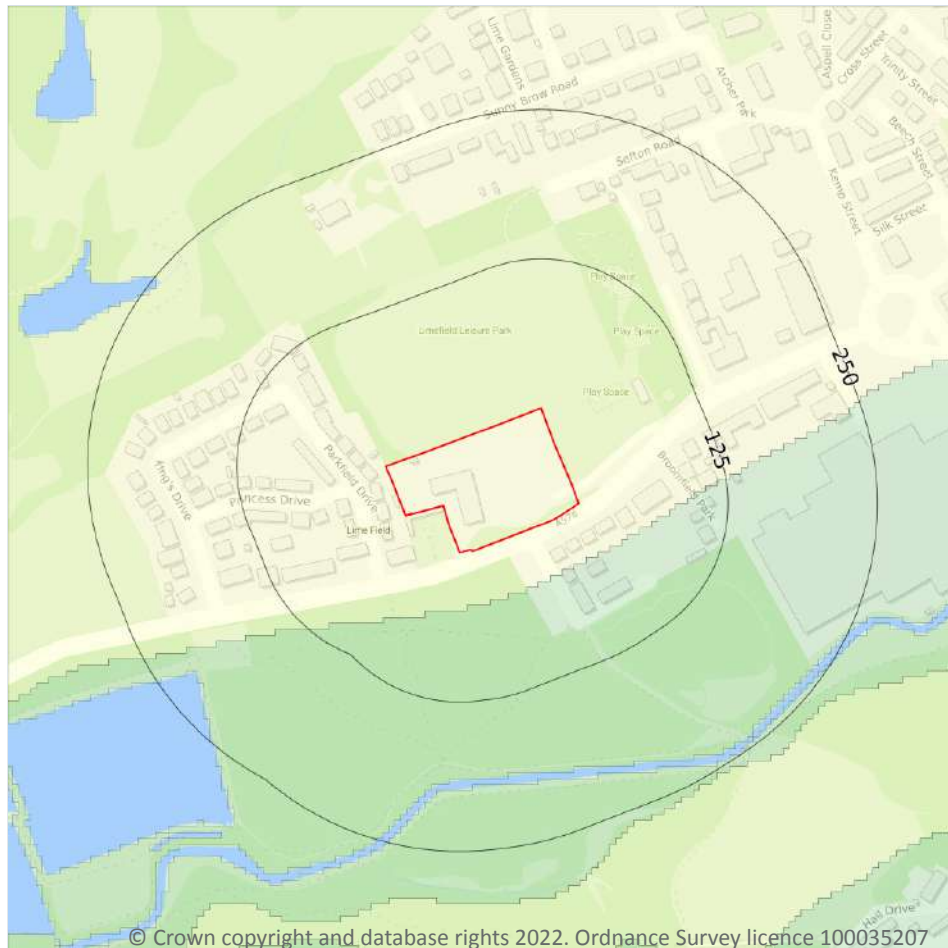
The table below shows the maximum flood depths for a range of return periods for the site.

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

This data is sourced from Ambiantal Risk Analytics.



9 Groundwater flooding



— Site Outline
Search buffers in metres (m)

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

9.1 Groundwater flooding

Highest risk on site

Moderate

Highest risk within 50m

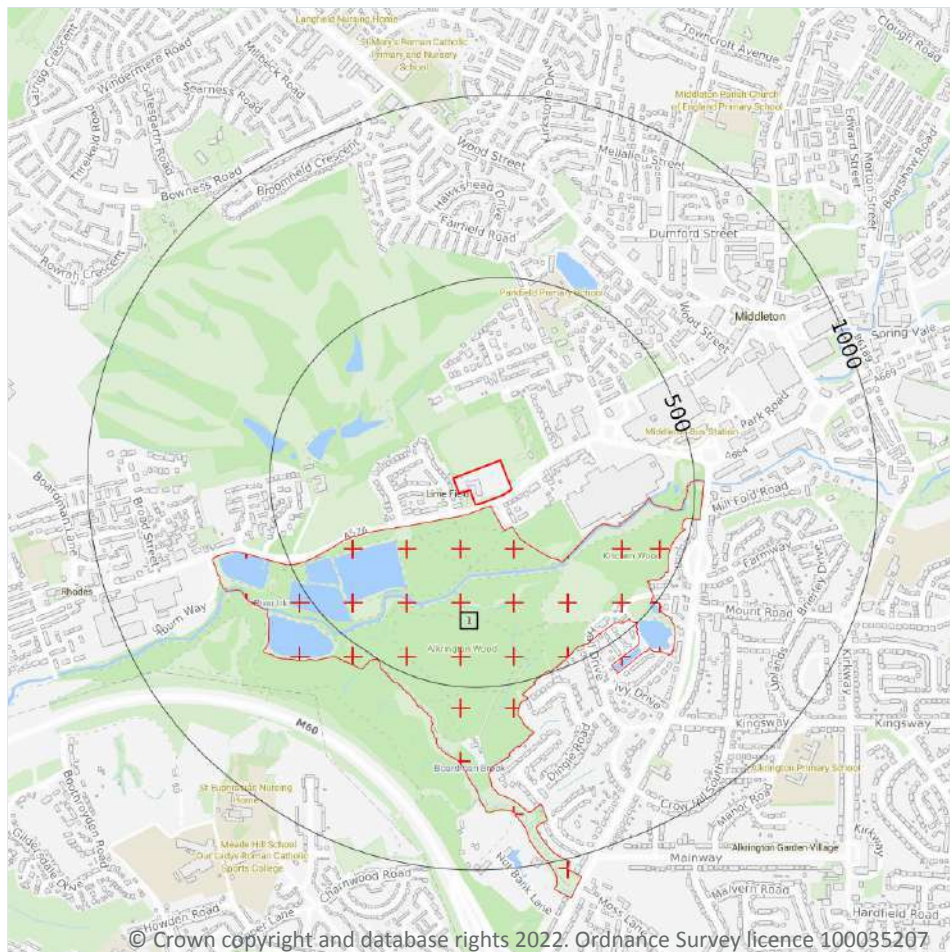
Moderate

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 62**

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- + Local Nature Reserves (LNR)
- 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 63**

ID	Location	Name	Data source
1	15m S	Alkington Woods	Natural England

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

10.7 Designated Ancient Woodland

Records within 2000m**0**

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

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

10.8 Biosphere Reserves

Records within 2000m**0**

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

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

10.9 Forest Parks

Records within 2000m**0**

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

This data is sourced from the Forestry Commission.



10.10 Marine Conservation Zones

Records within 2000m

0

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

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

10.11 Green Belt

Records within 2000m

2

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

Features are displayed on the Environmental designations map on **page 63**

ID	Location	Name	Local Authority name
-	1639m W	Merseyside and Greater Manchester	Bury
-	1975m NW	Merseyside and Greater Manchester	Rochdale

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

2

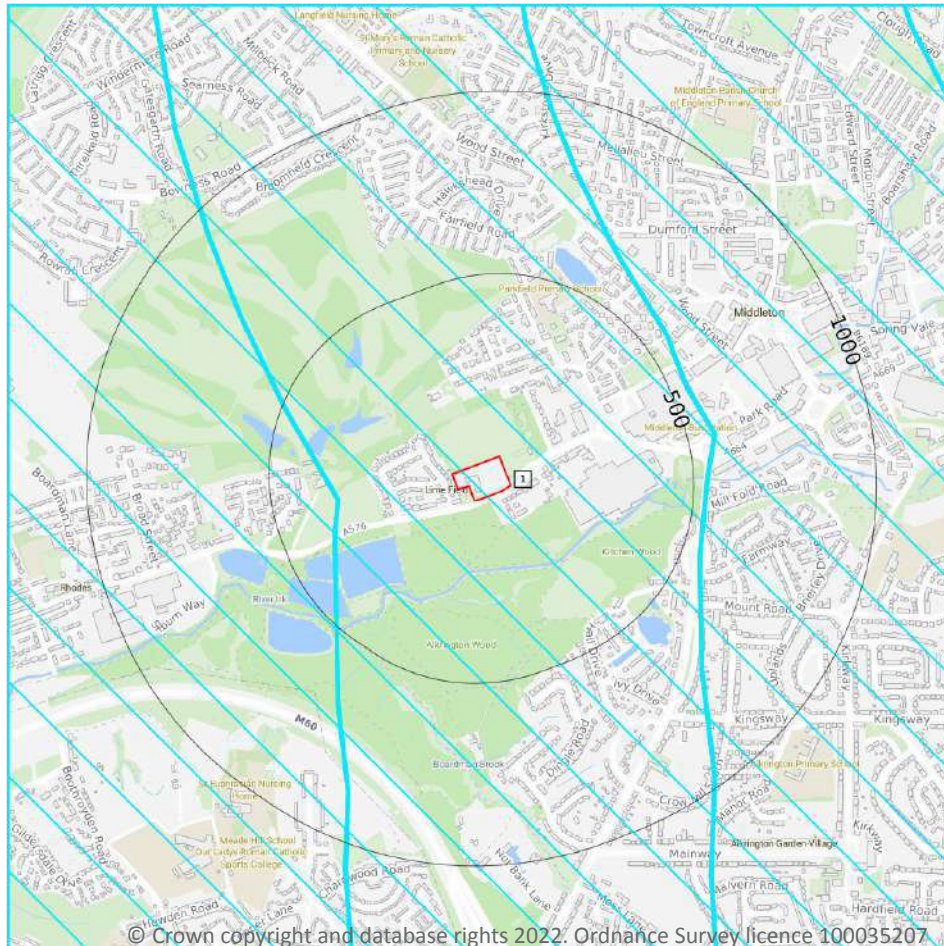
Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

Location	Name	Type	NVZ ID	Status
On site	River Irk (Moston Brook to River Irwell) NVZ	Surface Water	638	Existing
357m N	River Irk (Moston Brook to River Irwell) NVZ	Surface Water	638	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

1

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 68**

ID	Location	Type of developments requiring consultation
1	On site	Infrastructure - Airports, helipads and other aviation proposals. Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, review of minerals permissions (romp), extensions, variations to conditions etc. oil & gas exploration/extraction. 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.

This data is sourced from Natural England.

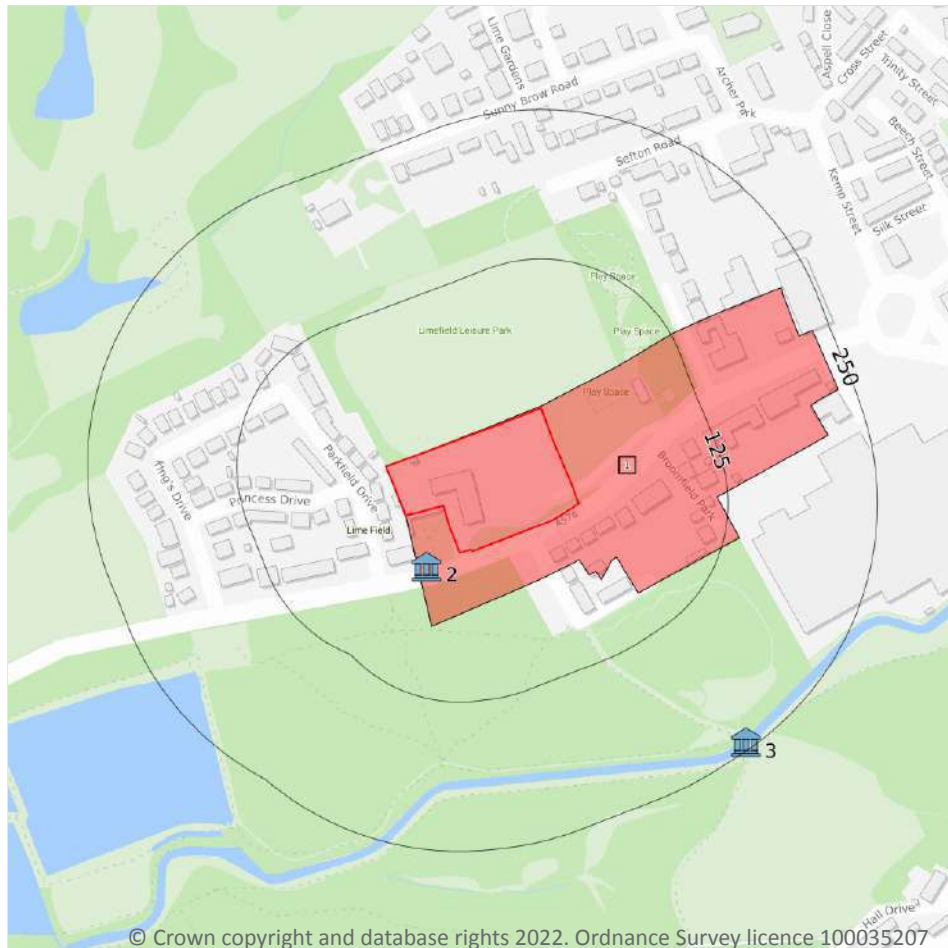
10.18 SSSI Units

Records within 2000m	0
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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



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

11.1 World Heritage Sites

Records within 250m

0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

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

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

11.3 National Parks

Records within 250m

0

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

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

11.4 Listed Buildings

Records within 250m

2

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

Features are displayed on the Visual and cultural designations map on **page 70**

ID	Location	Name	Grade	Reference Number	Listed date
2	30m SW	War Memorial, Perimeter Walls and Loggia, Garden of Remembrance, Manchester Old Road, Middleton, South Middleton, Rochdale, M24	II	1415410	21/08/2013
3	244m SE	Lever Bridge, South Middleton, Rochdale, M24	II	1068500	15/03/1957

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



11.5 Conservation Areas

Records within 250m

1

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.

Features are displayed on the Visual and cultural designations map on **page 70**

ID	Location	Name	District	Date of designation
1	On site	Manchester Old Road	Rochdale	08/07/2010

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

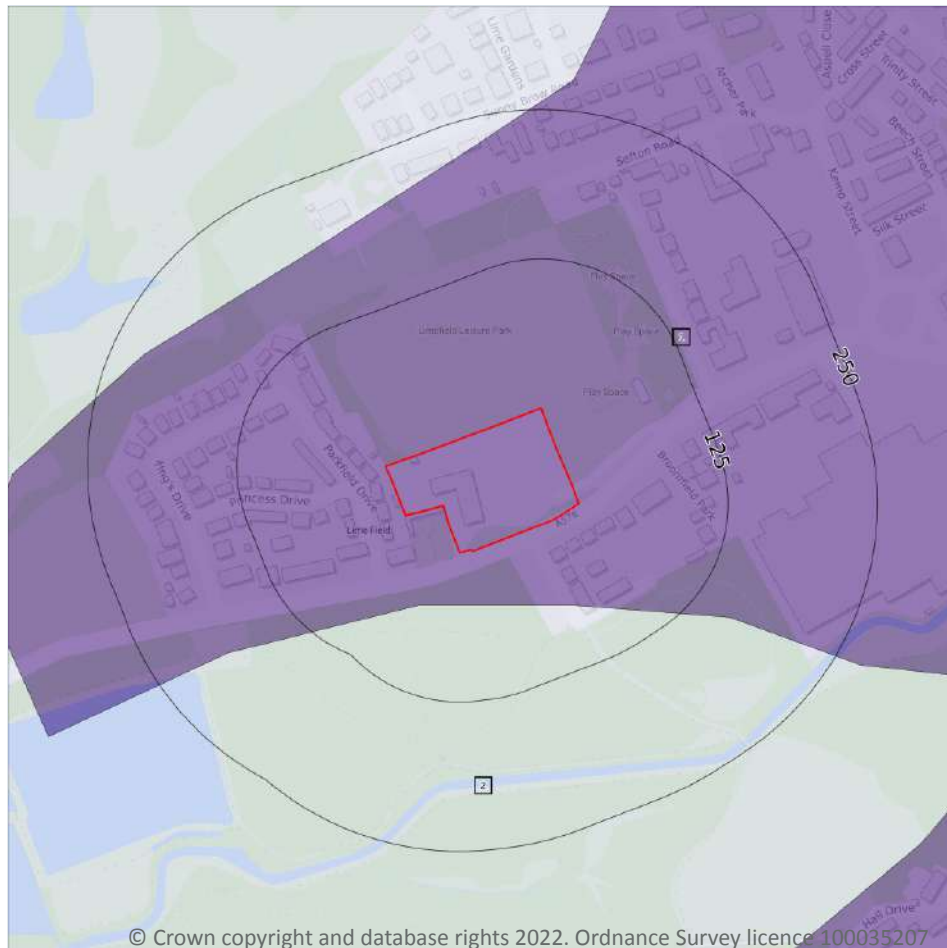
0

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 73**

ID	Location	Classification	Description
1	On site	Urban	-

ID	Location	Classification	Description
2	44m S	Grade 4	Poor quality agricultural land. Land with severe limitations which significantly restrict the range of crops and/or level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.

This data is sourced from Natural England.

12.2 Open Access Land

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

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

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

12.3 Tree Felling Licences

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

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

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

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

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m

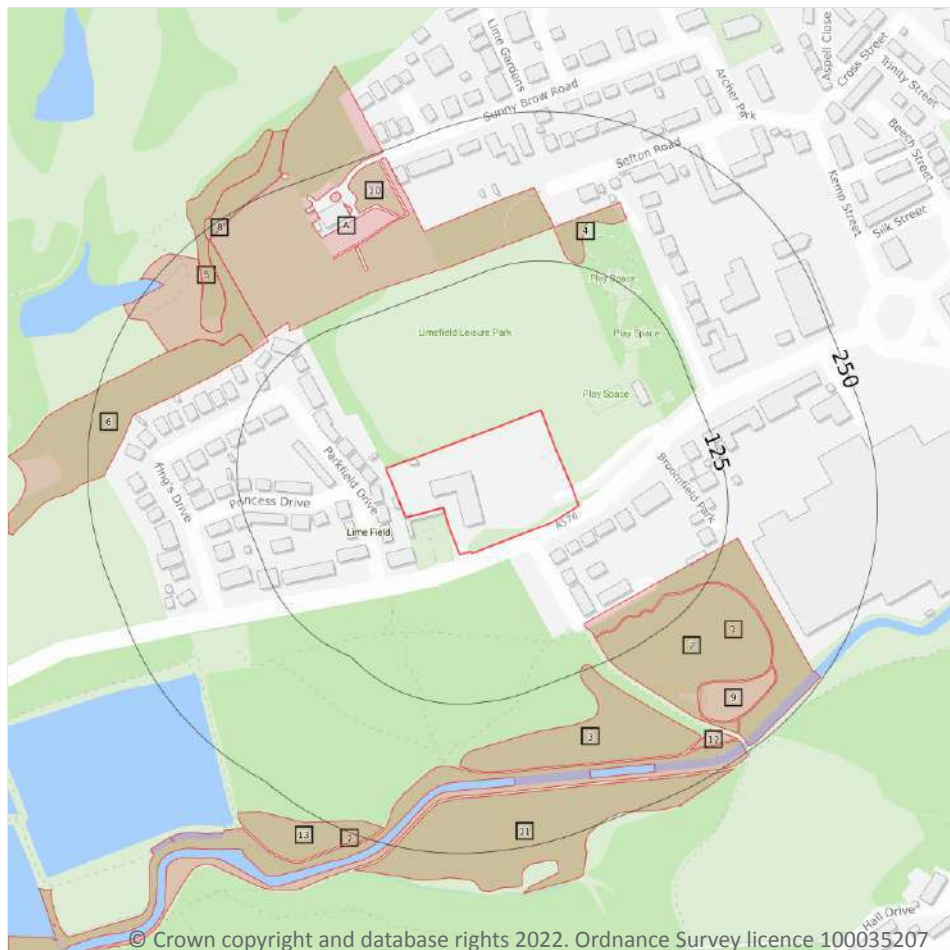
0

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

16

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 76**

ID	Location	Main Habitat	Other habitats
1	87m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
2	101m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
3	121m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
4	127m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)



ID	Location	Main Habitat	Other habitats
A	138m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
5	145m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
6	148m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
7	178m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
8	180m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
9	183m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
10	193m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
11	203m S	No main habitat but additional habitats present	Additional: DWOOD (INV 50%)
A	210m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
12	217m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
A	224m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
13	237m S	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

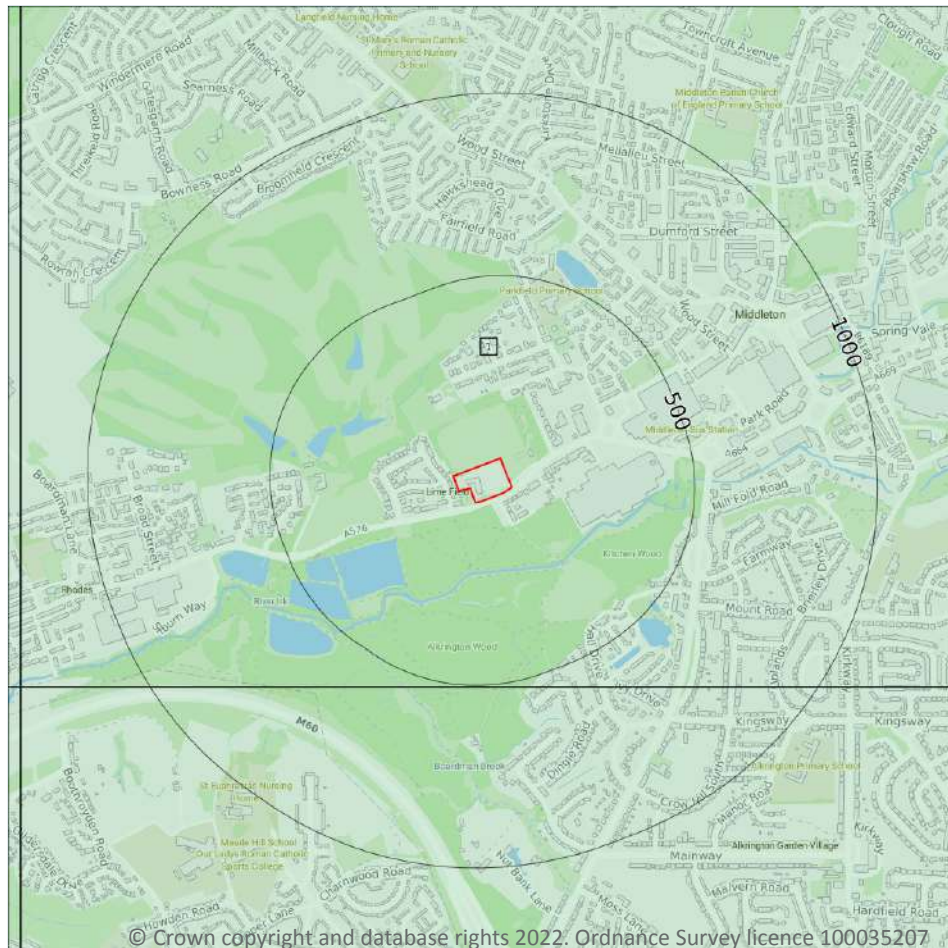
0

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



— Site Outline
Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

14.1 10k Availability

Records within 500m

1

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.

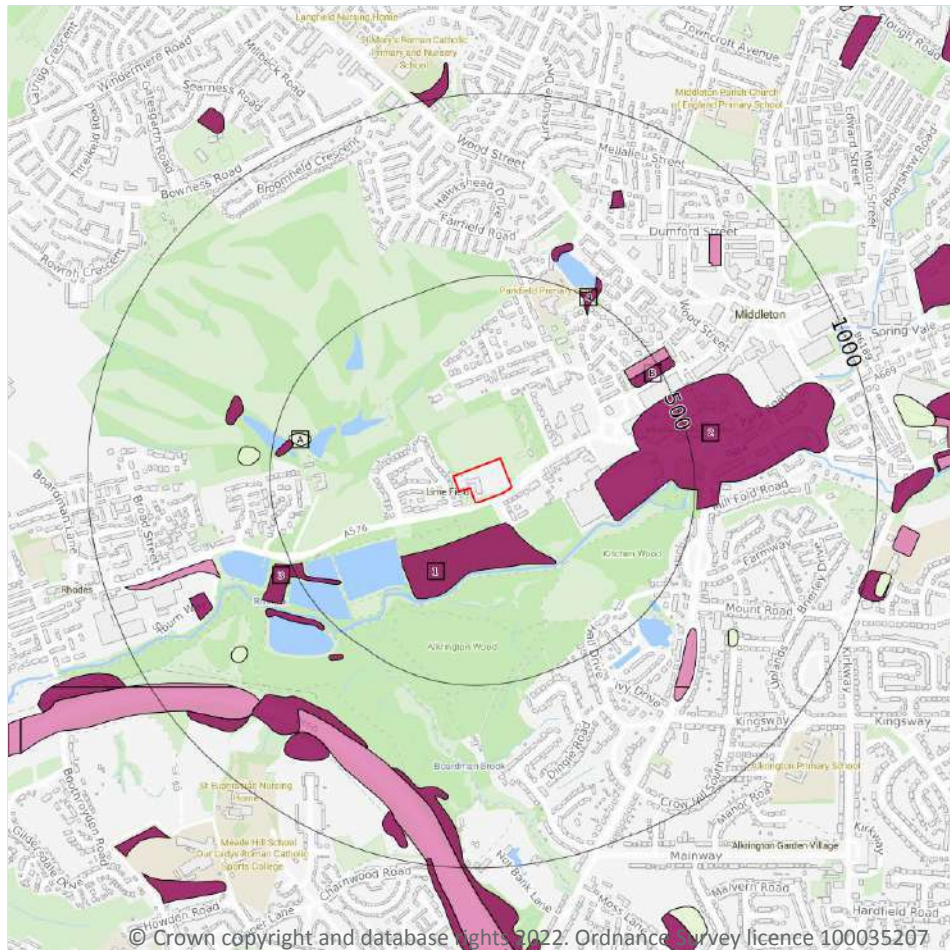
Features are displayed on the Geology 1:10,000 scale - Availability map on **page 79**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	SD80NE

This data is sourced from the British Geological Survey.



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



— Site Outline
Search buffers in metres (m)

- Reclaimed ground
- Made ground
- Worked ground
- Infilled ground
- Disturbed ground
- Landscaped ground

14.2 Artificial and made ground (10k)

Records within 500m

8

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

Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on **page 80**

ID	Location	LEX Code	Description	Rock description
1	76m S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	226m E	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
A	401m W	WMGR-ARTDP	Infilled Ground	Artificial Deposit
3	406m SW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

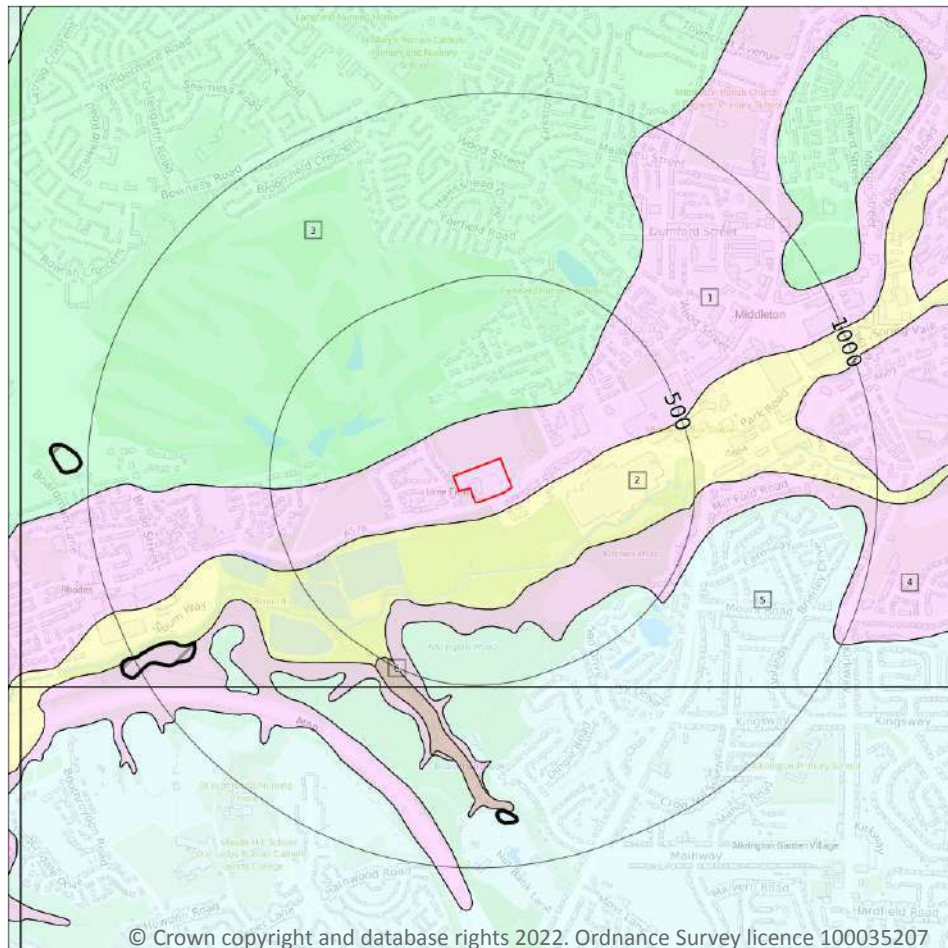


ID	Location	LEX Code	Description	Rock description
B	412m NE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
B	413m NE	WGR-VOID	Worked Ground (Undivided)	Void
A	445m W	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
4	458m NE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (10k)

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

14.3 Superficial geology (10k)

Records within 500m

6

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 82**

ID	Location	LEX Code	Description	Rock description
1	On site	GFSDDD-XSV	Glaciofluvial Sheet Deposits, Devensian - Sand And Gravel	Sand And Gravel
2	43m SE	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
3	128m N	HMGDD-XSV	Hummocky (moundy) Glacial Deposits, Devensian - Sand And Gravel	Sand And Gravel



ID	Location	LEX Code	Description	Rock description
4	254m SE	GFSDD-XSV	Glaciofluvial Sheet Deposits, Devensian - Sand And Gravel	Sand And Gravel
5	342m S	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
6	488m SW	HEAD- XCZSV	Head - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

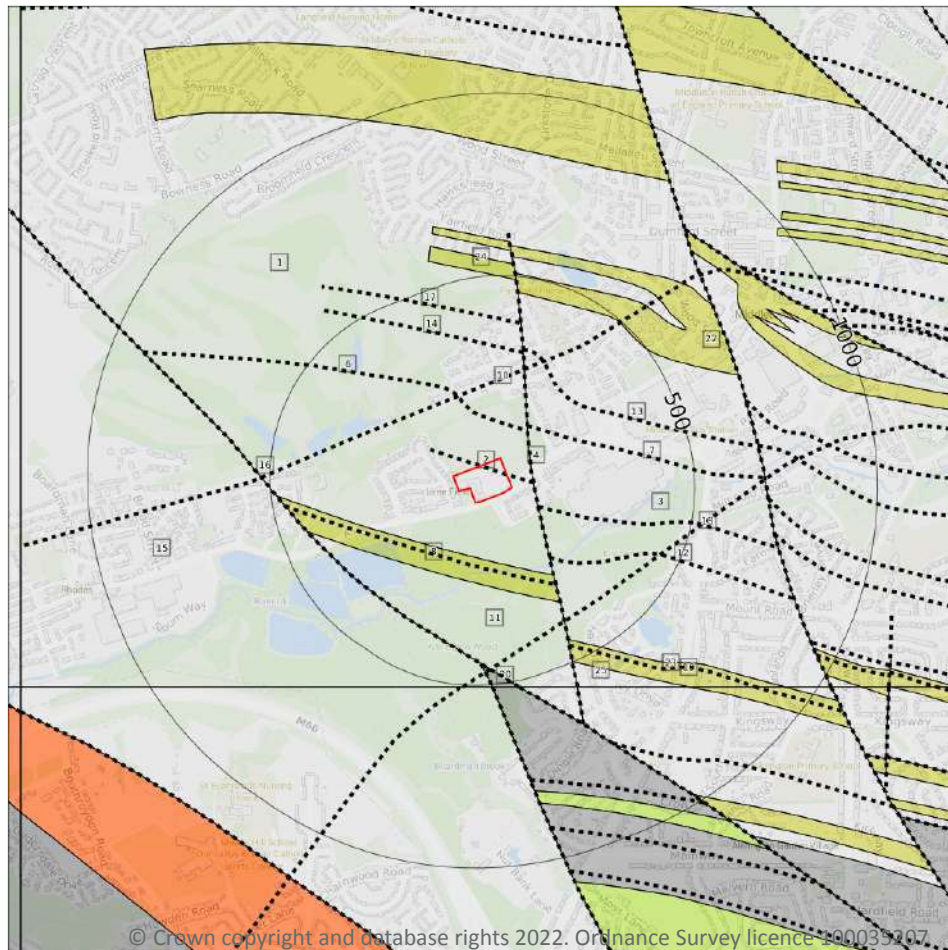
0

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

10

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 84**

ID	Location	LEX Code	Description	Rock age
1	On site	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
3	61m E	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
8	146m S	BLR-SDST	Blenfire Rock - Sandstone	Langsettian Sub-age



ID	Location	LEX Code	Description	Rock age
11	214m S	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
15	363m SW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
19	438m SE	BLR-SDST	Blenfire Rock - Sandstone	Langsettian Sub-age
20	441m S	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovia Sub-age - Duckmantian Sub-age
22	453m N	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
24	491m N	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
25	498m SE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

15

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 84**

ID	Location	Category	Description
2	On site	ROCK	Coal seam, inferred
4	61m E	FAULT	Normal fault, inferred; crossmarks on downthrow side
5	89m SE	ROCK	Coal seam, inferred
6	94m NE	ROCK	Coal seam, inferred
7	117m NE	ROCK	Coal seam, inferred
9	168m S	ROCK	Coal seam, inferred
10	198m NW	LANDFORM	Buried channel or valley margin
12	217m SE	ROCK	Coal seam, inferred
13	248m NE	ROCK	Coal seam, inferred
14	296m N	ROCK	Coal seam, inferred



ID	Location	Category	Description
16	363m SW	FAULT	Normal fault, inferred; crossmarks on downthrow side
17	374m N	ROCK	Coal seam, inferred
18	385m SE	LANDFORM	Buried channel or valley margin
21	441m S	FAULT	Normal fault, inferred; crossmarks on downthrow side
23	455m SE	ROCK	Coal seam, inferred

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 87**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	Full	Full	No coverage	EW085_manchester_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

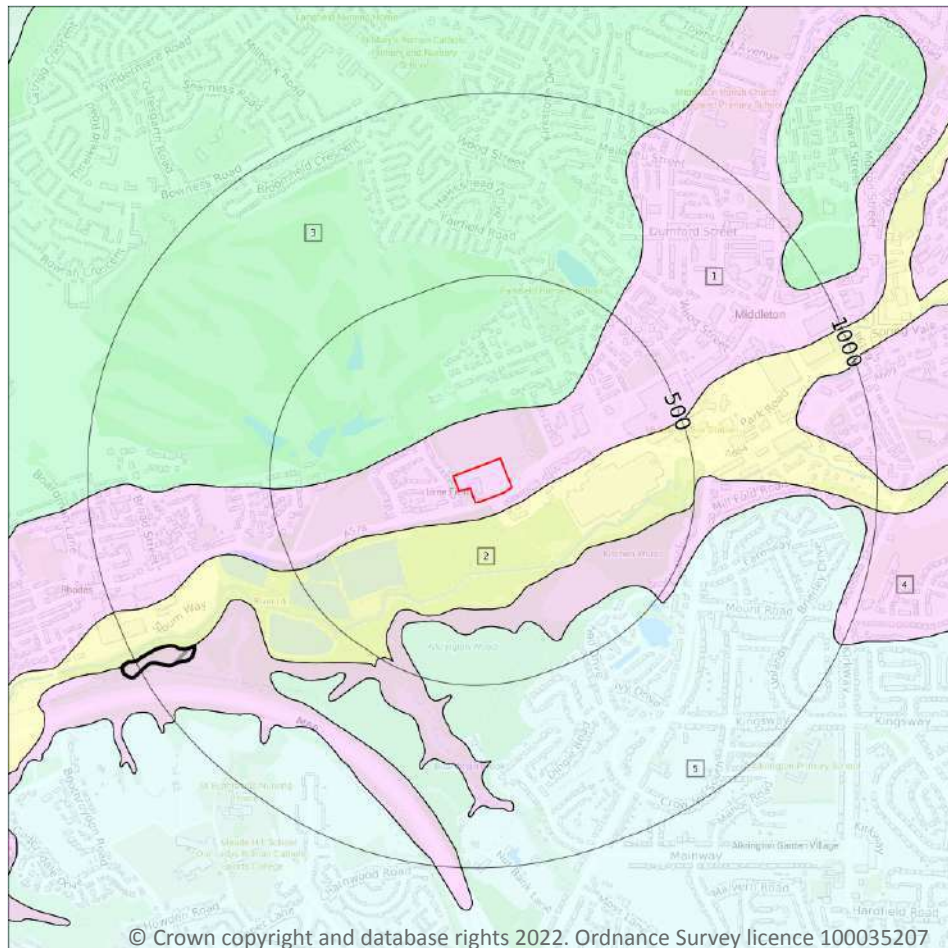
0

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

5

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 89**

ID	Location	LEX Code	Description	Rock description
1	On site	GFSDD-XSV	GLACIOFLUVIAL SHEET DEPOSITS, DEVENSIAN	SAND AND GRAVEL
2	44m SE	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
3	128m NW	HMGDD-XSV	HUMMOCKY (MOUNDY) GLACIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL



ID	Location	LEX Code	Description	Rock description
4	254m SE	GFSDD-XSV	GLACIOFLUVIAL SHEET DEPOSITS, DEVENSIAN	SAND AND GRAVEL
5	342m S	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	Intergranular	Very High	High
44m SE	Intergranular	High	Very Low

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

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

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

This data is sourced from the British Geological Survey.

15.7 Landslip permeability (50k)

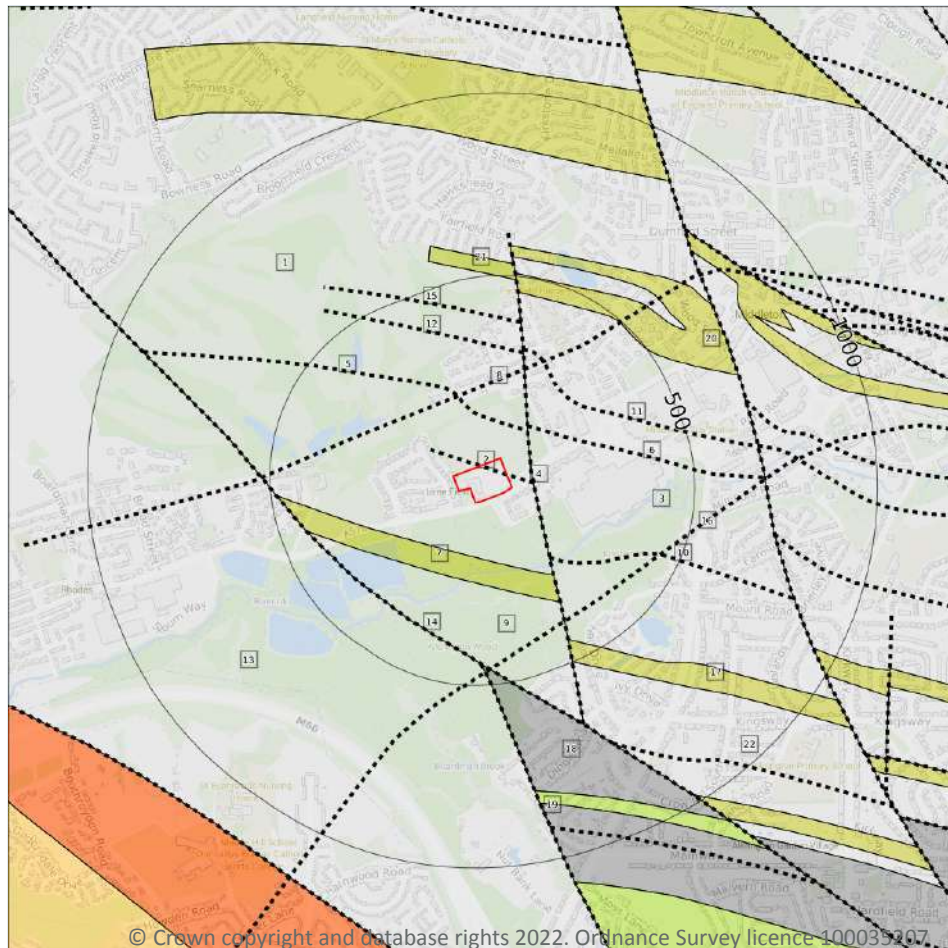
Records within 50m	0
---------------------------	----------

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Bedrock



— Site Outline

Search buffers in metres (m)

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

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

15.8 Bedrock geology (50k)

Records within 500m

10

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 91**

ID	Location	LEX Code	Description	Rock age
1	On site	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
3	61m E	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
7	145m S	BLR-SDST	BLENFIRE ROCK - SANDSTONE	WESTPHALIAN



ID	Location	LEX Code	Description	Rock age
9	214m S	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
13	362m SW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
17	438m SE	BLR-SDST	BLENFIRE ROCK - SANDSTONE	WESTPHALIAN
18	441m S	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
20	453m N	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
21	491m N	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
22	499m SE	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	1
---------------------------	----------

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	Fracture	Moderate	Low

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	12
----------------------------	-----------

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 91**

ID	Location	Category	Description
2	On site	ROCK	Coal seam, inferred



ID	Location	Category	Description
4	61m E	FAULT	Fault, inferred
5	94m NE	ROCK	Coal seam, inferred
6	116m NE	ROCK	Coal seam, inferred
8	198m NW	LANDFORM	Approximate margin of buried (superficial deposit-filled) channel or valley
10	217m SE	ROCK	Coal seam, inferred
11	248m NE	ROCK	Coal seam, inferred
12	296m N	ROCK	Coal seam, inferred
14	362m SW	FAULT	Fault, inferred
15	376m N	ROCK	Coal seam, inferred
16	386m SE	LANDFORM	Approximate margin of buried (superficial deposit-filled) channel or valley
19	441m S	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

4

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

Features are displayed on the Boreholes map on **page 94**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	220m S	386300 405290	RIVER IRK MIDDLETON TP 2	-	Y	N/A
2	227m S	386210 405280	RIVER IRK MIDDLETON TP 4	-	Y	N/A
3	233m SE	386420 405320	RIVER IRK MIDDLETON TP 1	-	Y	N/A

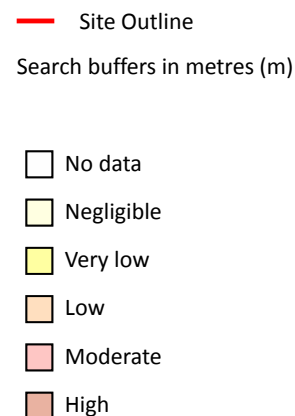
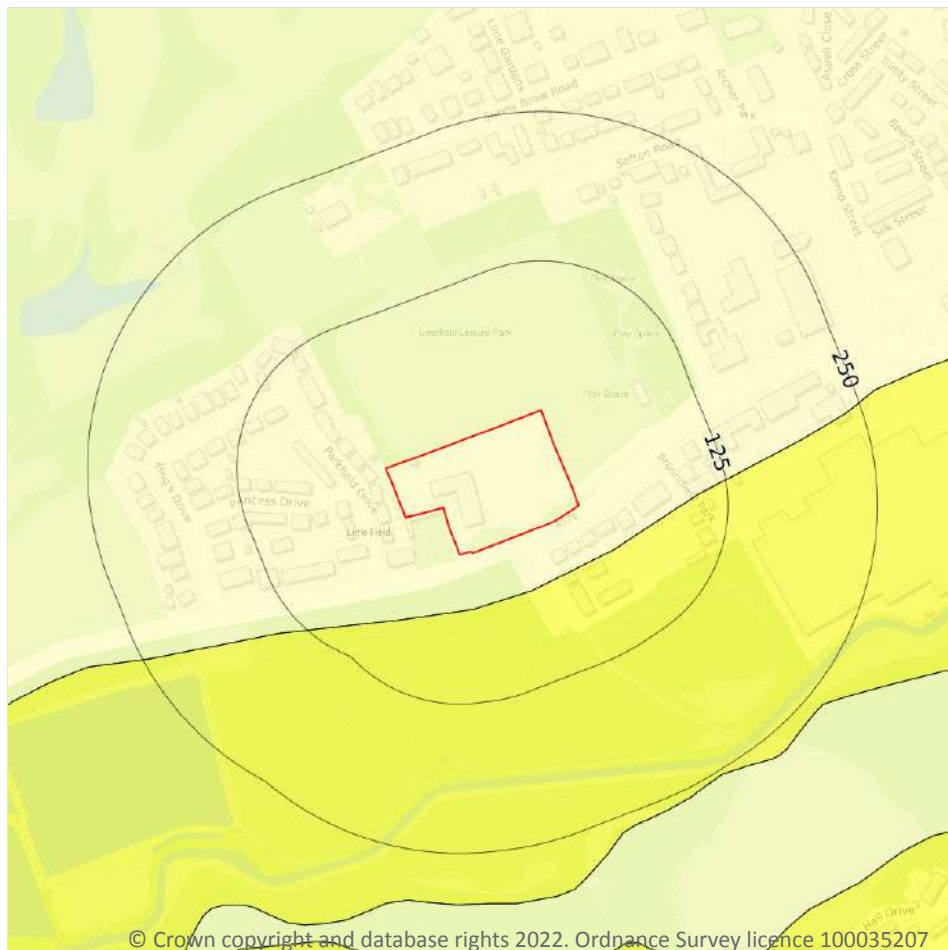


ID	Location	Grid reference	Name	Length	Confidential	Web link
4	245m S	386260 405260	RIVER IRK MIDDLETON TP 3	-	Y	N/A

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



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).

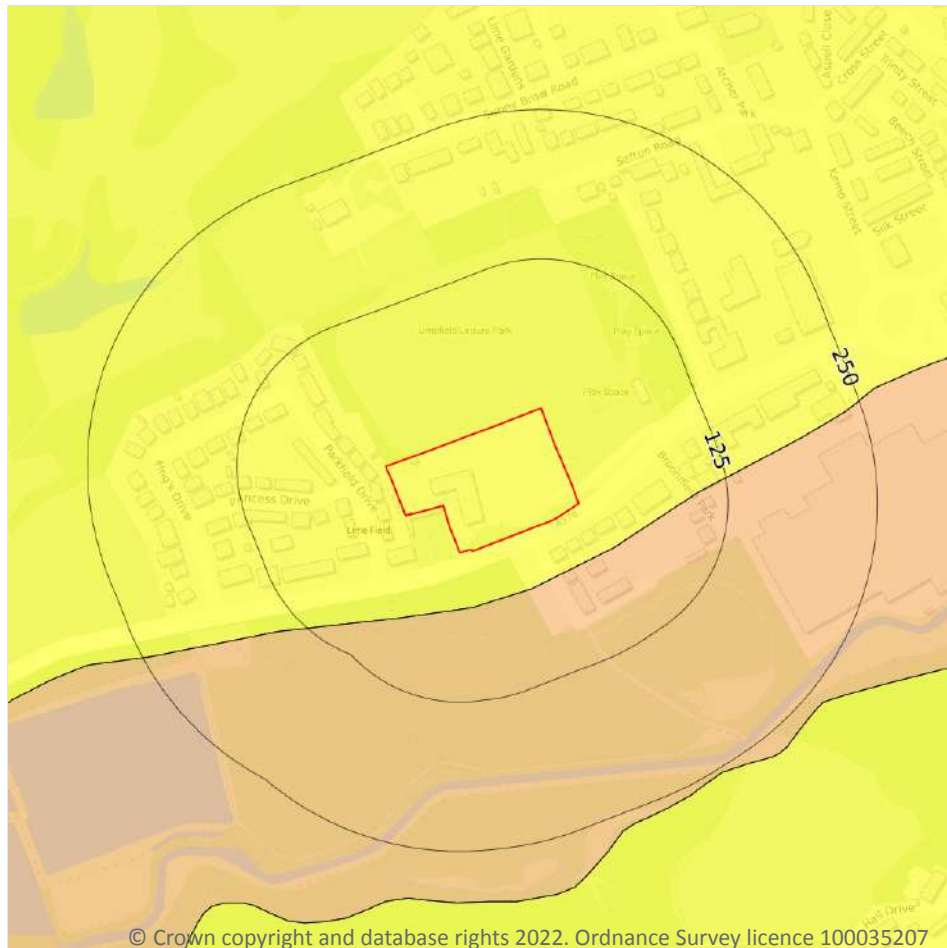
Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 96**

Location	Hazard rating	Details
On site	Negligible	Ground conditions predominantly non-plastic.
44m 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 97**

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.

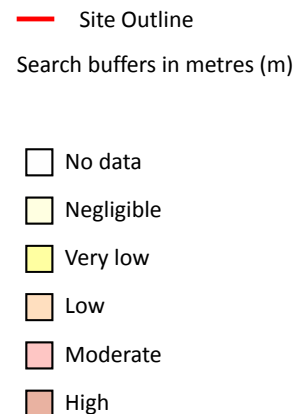
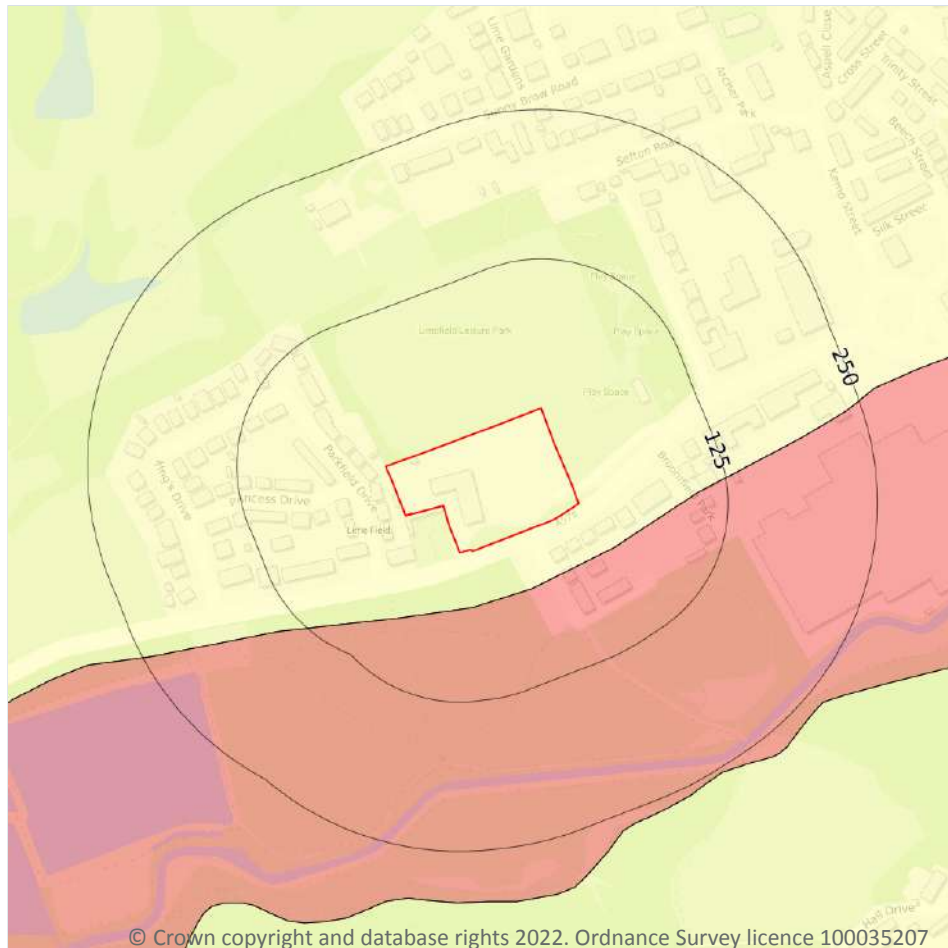


Location	Hazard rating	Details
44m SE	Low	Running sand conditions may be present. Constraints may apply to land uses involving excavation or the addition or removal of water.

This data is sourced from the British Geological Survey.



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 99**

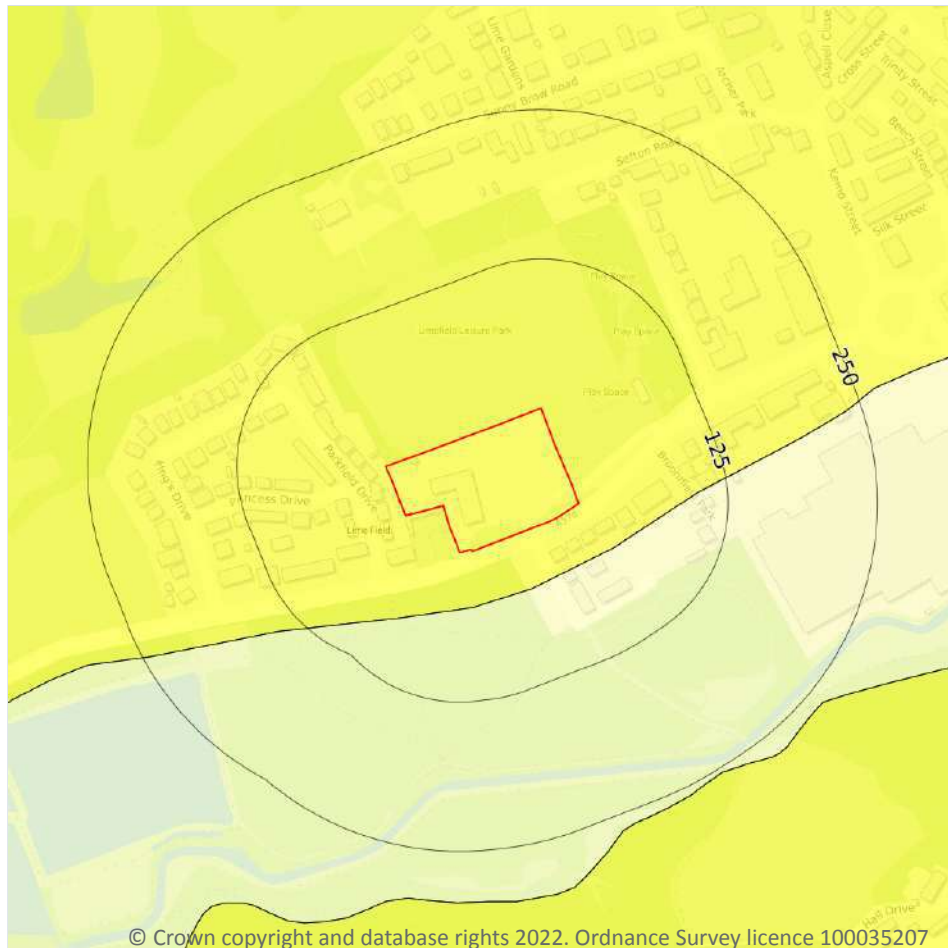
Location	Hazard rating	Details
On site	Negligible	Compressible strata are not thought to occur.
44m SE	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.



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

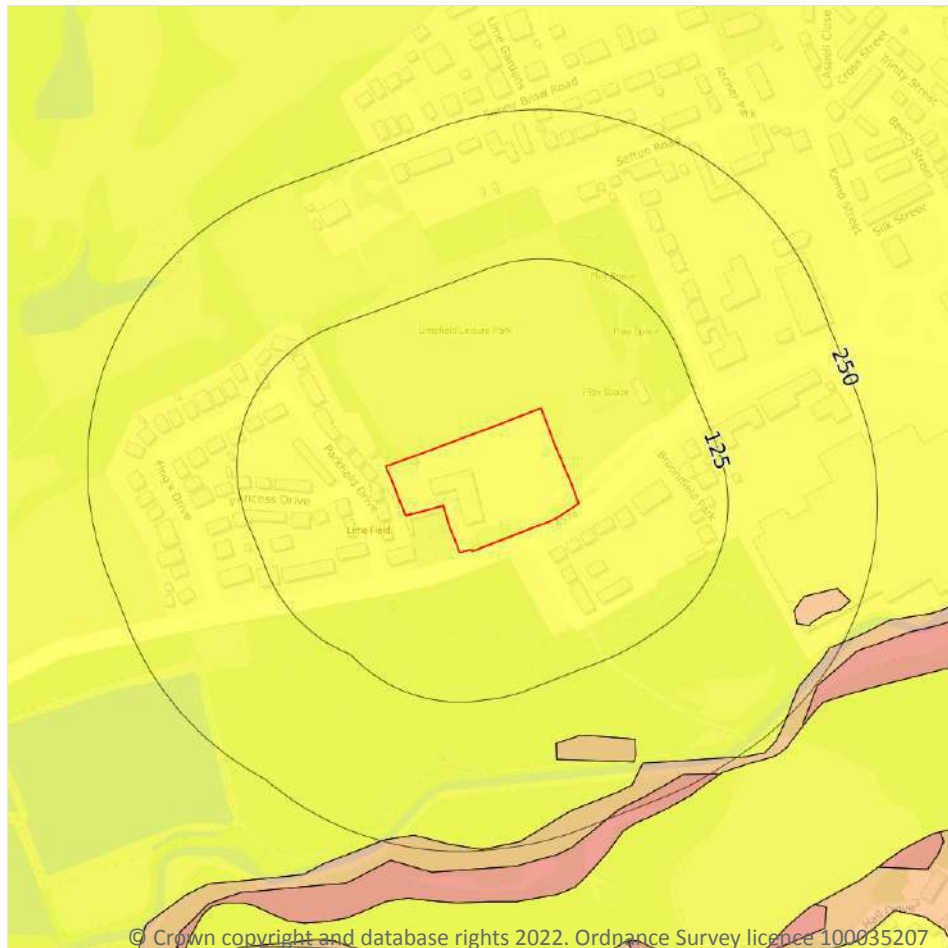
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 101**

Location	Hazard rating	Details
On site	Very low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.
44m SE	Negligible	Deposits with potential to collapse when loaded and saturated are believed not to be present.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



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

17.5 Landslides

Records within 50m

1

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

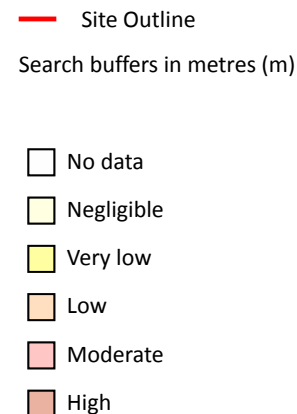
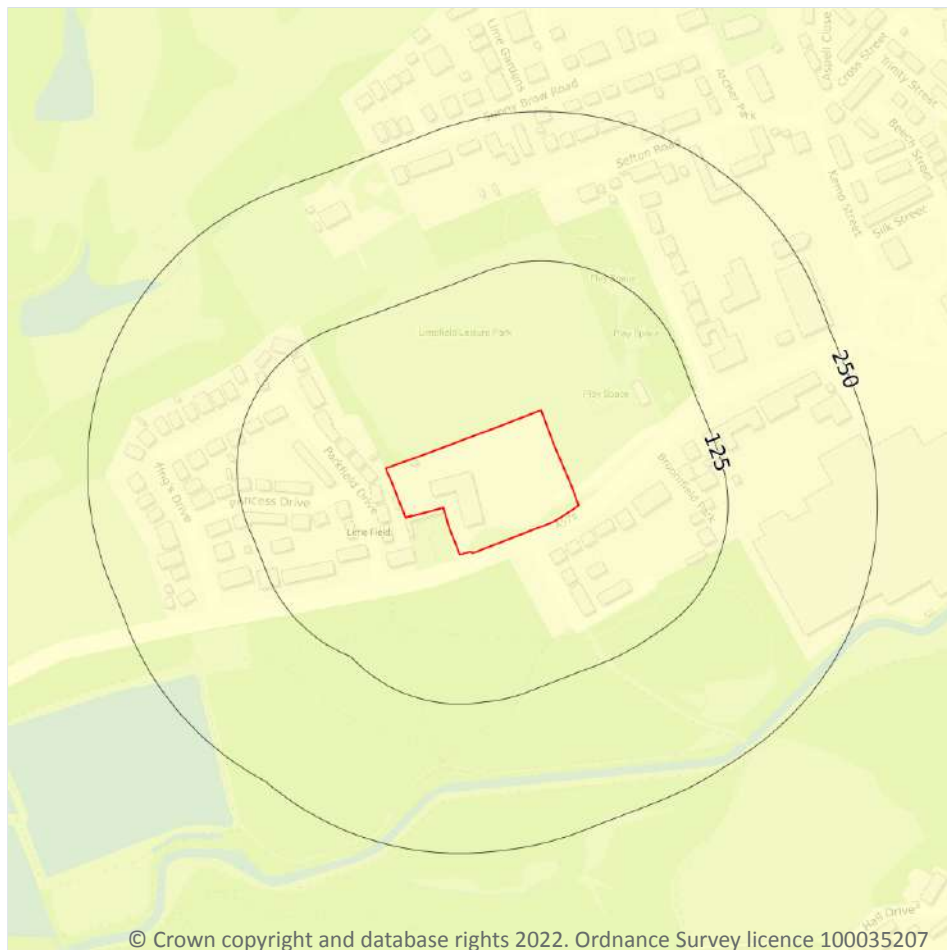
Features are displayed on the Natural ground subsidence - Landslides map on **page 102**

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



17.6 Ground dissolution of soluble rocks

Records within 50m

1

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

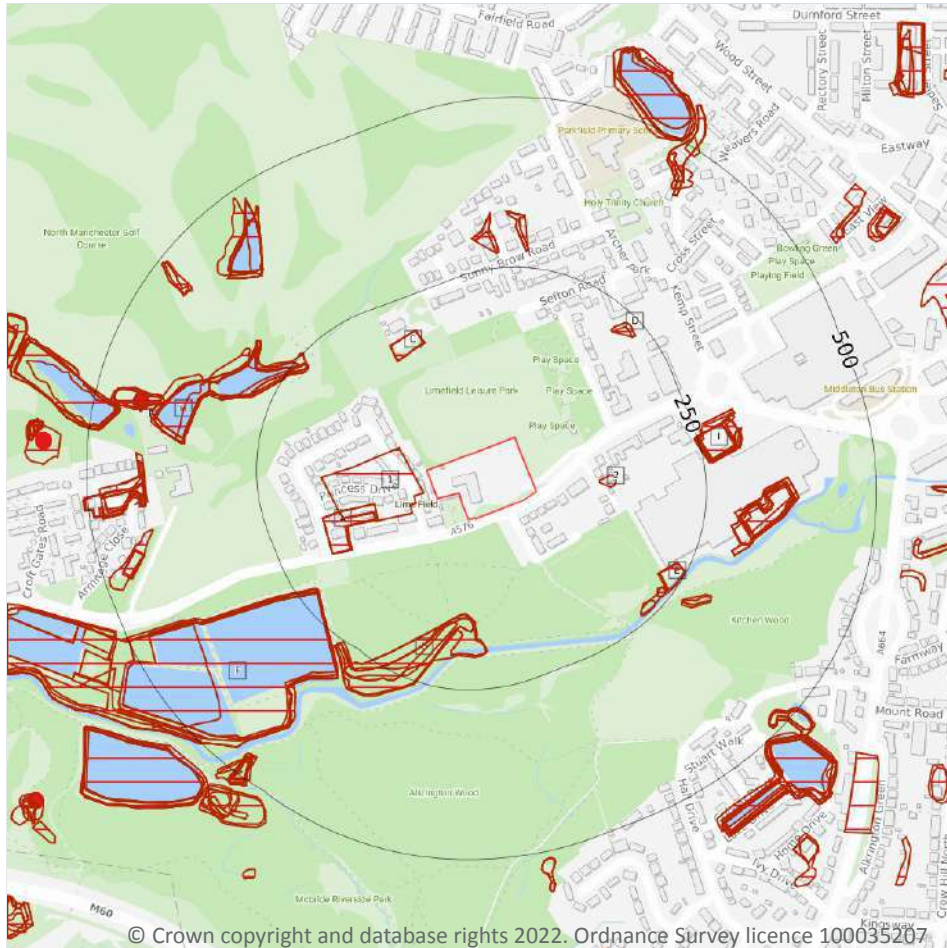
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 103**

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

This data is sourced from the British Geological Survey.



18 Mining, ground workings and natural cavities



- Site Outline
- Search buffers in metres (m)
- Natural cavities (Area)
- Natural cavities (Point)
- BritPits
- Surface ground workings
- Underground workings
- Historical Mineral Planning Areas
- Mining Cavities
- Non Coal Mining
 - Sporadic underground mining of restricted extent possible
 - Localised small scale underground mining possible
 - Small scale mining possible
 - Underground mining known or likely within or in close proximity
 - Underground mining known within or in very close proximity

18.1 Natural cavities

Records within 500m

0

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

This data is sourced from Stantec UK Ltd.

18.2 BritPits

Records within 500m

1

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 105**

ID	Location	Details	Description
N	431m W	Name: Rhodes Sand Pit Address: Rhodes, MIDDLETON, Lancashire Commodity: Sand Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m

49

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 105**

ID	Location	Land Use	Year of mapping	Mapping scale
1	16m W	Lime Field	1891	1:10560
A	89m W	Lime Field	1915	1:10560
A	89m W	Lime Field	1907	1:10560
2	94m E	Unspecified Pit	1932	1:10560
A	95m W	Lime Field	1932	1:10560
B	139m S	Gravel Pit	1955	1:10560
B	139m S	Refuse Heap	1975	1:10000
B	139m S	Refuse Heap	1965	1:10560
B	143m S	Refuse Heap	1932	1:10560
B	143m S	Refuse Heap	1915	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
B	146m S	Refuse Heap	1923	1:10560
B	154m S	Sand Pit	1907	1:10560
C	165m NW	Unspecified Ground Workings	1923	1:10560
C	165m NW	Unspecified Ground Workings	1932	1:10560
C	165m NW	Unspecified Ground Workings	1915	1:10560
C	165m NW	Unspecified Ground Workings	1907	1:10560
D	211m NE	Unspecified Ground Workings	1915	1:10560
D	211m NE	Unspecified Pit	1907	1:10560
E	216m SE	Refuse Heap	1923	1:10560
E	217m SE	Refuse Heap	1915	1:10560
F	221m SW	Reservoirs	1975	1:10000
F	221m SW	Ponds	1965	1:10560
F	221m SW	Reservoirs	1955	1:10560
F	222m SW	Reservoirs	1982	1:10000
G	223m SW	Reservoirs	1891	1:10560
G	223m SW	Reservoirs	1938	1:10560
G	223m SW	Reservoirs	1932	1:10560
G	223m SW	Reservoirs	1915	1:10560
G	223m SW	Reservoirs	1907	1:10560
G	223m SW	Reservoirs	1923	1:10560
E	228m SE	Unspecified Heaps	1915	1:10560
H	230m NW	Reservoirs	1932	1:10560
H	230m NW	Reservoirs	1915	1:10560
H	230m NW	Reservoirs	1907	1:10560
H	230m NW	Reservoirs	1923	1:10560
E	230m SE	Unspecified Heap	1923	1:10560
E	231m SE	Unspecified Heap	1923	1:10560
H	232m NW	Reservoirs	1891	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
H	232m NW	Reservoirs	1938	1:10560
H	238m NW	Pond	1851	1:10560
H	241m NW	Reservoirs	1975	1:10000
H	241m NW	Ponds	1965	1:10560
H	241m NW	Reservoirs	1955	1:10560
H	241m NW	Reservoirs	1982	1:10000
I	245m E	Pond	1891	1:10560
I	247m E	Pond	1965	1:10560
I	247m E	Reservoir	1955	1:10560
I	248m E	Reservoirs	1923	1:10560
I	248m E	Reservoirs	1932	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m

6

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 105**

ID	Location	Land Use	Year of mapping	Mapping scale
-	986m SE	Unspecified Old Shaft	1891	1:10560
-	986m SE	Unspecified Old Shaft	1938	1:10560
-	990m SE	Unspecified Old Shaft	1932	1:10560
-	990m SE	Unspecified Old Shaft	1915	1:10560
-	990m SE	Unspecified Old Shaft	1907	1:10560
-	990m SE	Unspecified Old Shaft	1923	1:10560

This is data is sourced from Ordnance Survey/Groundsure.



18.5 Historical Mineral Planning Areas

Records within 500m

0

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

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m

0

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

This data is sourced from the British Geological Survey.

18.7 Mining cavities

Records within 1000m

0

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

This data is sourced from Stantec UK Ltd.

18.8 JPB mining areas

Records on site

0

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

This data is sourced from Johnson Poole and Bloomer.

18.9 Coal mining

Records on site

1

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

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

This data is sourced from the Coal Authority.

18.10 Brine areas

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

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

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

18.11 Gypsum areas

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

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

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

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

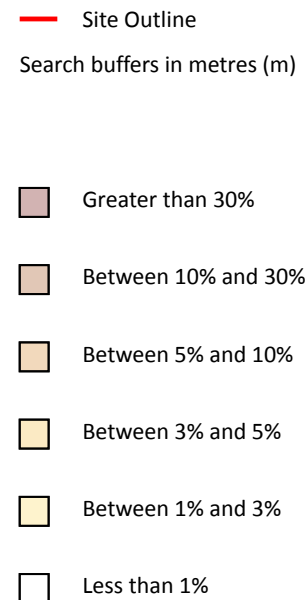
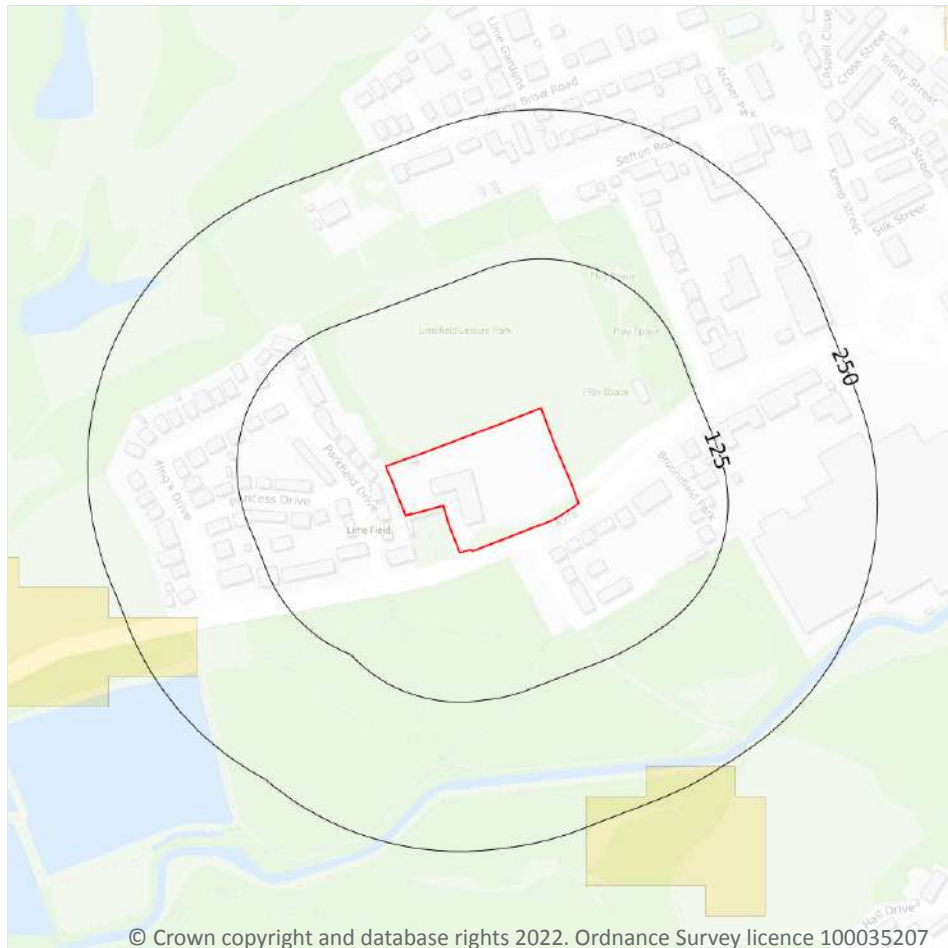
18.13 Clay mining

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

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

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

19 Radon



19.1 Radon

Records on site

1

Estimated percentage of dwellings exceeding the Radon Action Level. This data is the highest resolution radon dataset available for the UK and is produced to a 75m level of accuracy to allow for geological data accuracy and a 'residential property' buffer. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain. The data was derived from both geological assessments and long term measurements of radon in more than 479,000 households.

Features are displayed on the Radon map on **page 111**

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

This data is sourced from the British Geological Survey and Public Health England.



20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m

4

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	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
4m S	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
40m SE	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
41m SE	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.



20.3 BGS Measured Urban Soil Chemistry

Records within 50m

0

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

This data is sourced from the British Geological Survey.



21 Railway infrastructure and projects

21.1 Underground railways (London)

Records within 250m**0**

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

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m**0**

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

This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m**0**

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m**0**

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.

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m**0**

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



This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

Records within 250m

0

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

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m

0

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

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

21.10 HS2

Records within 500m

0

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

This data is sourced from HS2 Ltd.



Data providers

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

Terms and conditions

Groundsure's Terms and Conditions can be accessed at this link: <https://www.groundsure.com/terms-and-conditions-jan-2020/>.



APPENDIX C

CON29M Coal Mining Report



The Coal
Authority

CON29M

coal mining report

ELECTRICITY SUB STATION, PARKFIELD HOUSE, MANCHESTER OLD ROAD,
MIDDLETON, ROCHDALE, M24 4ED



Known or potential coal mining risks

Future underground coal mining

Page 3



Further action

No further reports from the Coal Authority are required. Further information on any next steps can be found in our Professional opinion.

For more information on our reports please visit
www.groundstability.com



Professional opinion

According to the official mining information records held by the Coal Authority at the time of this search, evidence of, or the potential for, coal mining related features have been identified. It is unlikely that these features will impact on the stability of the enquiry boundary.

Your reference: **7233-21937-M**
Our reference: **51002674785001**
Date: **13 September 2021**

Client name:
Michael Buckley

If you require any further assistance please
contact our experts on:
0345 762 6848
groundstability@coal.gov.uk



The Law
Society

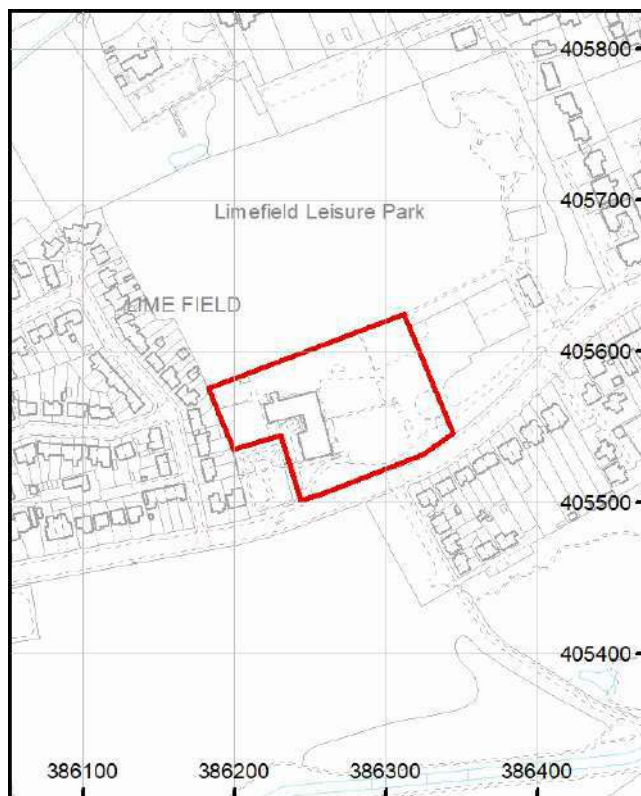
Enquiry boundary

Key

Approximate position of enquiry boundary shown



We can confirm that the location is
on the coalfield



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This report is prepared in accordance with the latest Law Society's Guidance Notes 2018, the User Guide 2018 and the Coal Authority's Terms and Conditions applicable at the time the report was produced.



Accessibility

If you would like this information in an alternative format, please contact our communications team on 0345 762 6848 or email communications@coal.gov.uk.

Detailed findings

Information provided by the Coal Authority in this report is compiled in response to the Law Society's CON29M Coal Mining enquiries. The said enquiries are protected by copyright owned by the Law Society of 113 Chancery Lane, London WC2A 1PL.

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1 Past underground coal mining

The property is not within a surface area that could be affected by any past recorded underground coal mining.

2 Present underground coal mining

The property is not within a surface area that could be affected by present underground mining.

3 Future underground coal mining

The property is not in an area where the Coal Authority has received an application for, and is currently considering whether to grant a licence to remove or work coal by underground methods.

The property is not in an area where a licence has been granted to remove or otherwise work coal using underground methods.

The property is not in an area likely to be affected from any planned future underground coal mining.

However, reserves of coal exist in the local area which could be worked at some time in the future.

No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

4 Mine entries

There are no recorded coal mine entries known to the Coal Authority within, or within 20 metres, of the boundary of the property.

5 Coal mining geology

The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining.

6 Past opencast coal mining

The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.

7 Present opencast coal mining

The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.

8 Future opencast coal mining

There are no licence requests outstanding to remove coal by opencast methods within 800 metres of the boundary.

The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.

9 Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

10 Mine gas

The Coal Authority has no record of a mine gas emission requiring action.

11 Hazards related to coal mining

The property has not been subject to remedial works, by or on behalf of the Coal Authority, under its Emergency Surface Hazard Call Out procedures.

12 Withdrawal of support

The property is not in an area where a notice to withdraw support has been given.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

13 Working facilities order

The property is not in an area where an order has been made, under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

14 Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Statutory cover



Coal mining subsidence

In the unlikely event of any coal mining related subsidence damage, the Coal Authority or the mine operator has a duty to take remedial action in respect of subsidence caused by the withdrawal of support from land or property in connection with lawful coal mining operations.

When the works are the responsibility of the Coal Authority, our dedicated public safety and subsidence team will manage the claim. The house or land owner ("the owner") is covered for these works under the terms of the Coal Mining Subsidence Act 1991 (as amended by the Coal Industry Act 1994). Please note, this Act does not apply where coal was worked or gotten by virtue of the grant of a gale in the Forest of Dean, or any other part of the Hundred of St. Briavels in the county of Gloucester.

If you believe your land or property is suffering from coal mining subsidence damage and you need more information on what to do next, please use the following link to our website which sets out what your rights are and what you need to consider before making a claim.

www.gov.uk/government/publications/coal-mining-subsidence-damage-notice-form



Coal mining hazards

Our public safety and subsidence team provide a 24 hour a day, 7 days a week hazard reporting service, to help protect the public from hazards caused by past coal workings, such as a mine shaft or shallow working collapse. To report any hazards please call **01623 646 333**. Further information can be found on our website: www.gov.uk/coalauthority.

Glossary



Key terms

adit - horizontal or sloped entrance to a mine

coal mining subsidence - ground movement caused by the removal of coal by underground mining

Coal Mining Subsidence Act 1991 - the Act setting out the duties of the Coal Authority to repair damage caused by coal mining subsidence

coal mining subsidence damage - damage to land, buildings or structures caused by the removal of coal by underground mining

coal seams - bed of coal of varying thickness

future opencast coal mining - a licence granted, or licence application received, by the Coal Authority to excavate coal from the surface

future underground coal mining - a licence granted, or licence application received, by the Coal Authority to excavate coal underground. Although it is unlikely, remaining coal reserves could create a possibility for future mining, which would be licensed by the Coal Authority

mine entries - collective name for shafts and adits

payments to owners of former copyhold land - historically, copyhold land gave rights to coal to the copyholder. Legislation was set up to allow others to work this coal, but they had to issue a notice and pay compensation if a copyholder came forward

shaft - vertical entry into a mine

site investigation - investigations of coal mining risks carried out with the Coal Authority's permission

stop notice - a delay to repairs because further coal mining subsidence damage may occur and it would be unwise to carry out permanent repairs

subsidence claim - a formal notice of subsidence damage to the Coal Authority since it was established on 31 October 1994

withdrawal of support - a historic notice informing landowners that the coal beneath their property was going to be worked

working facilities orders - a court order which gave permission, restricted or prevented coal mine workings

APPENDIX D

Potential Pollutant Linkages

POTENTIAL RECEPTOR	COMMENTS	Include in PCM
PROPERTY: Other		
On Site		
Crops	None intended on site	✗
Domestic Produce	Residents may grow fruit/vegetables	✓
Livestock	Not applicable	✗
Domestic Animals	Domestic pets owned by future residents	✓
Game	Not applicable	✗
Off Site		
Crops	Not applicable	✗
Domestic Produce	Possibly in gardens in vicinity of the site	✓
Livestock	Not applicable	✗
Domestic Animals	May belong to adjacent residents	✓
Game	Not applicable	✗
PROPERTY: Buildings		
On Site		
	Residential properties, services, flora	✓
Off Site		
	Buildings, services, flora	✓
HUMANS		
On Site		
Residents	Residential properties with gardens and a public landscaped areas associated with care home.	✓
Construction Workers	During ground excavations	✓
Employees	Not applicable	✗
Surface water users	No current surface water abstractions located on site	✗
Off Site		
Residents	Residents adjacent to the site	✓
Recreational users	Possibly adjacent to the site.	✓
Groundwater users	No groundwater abstractions within 250 m.	✗
Controlled Waters		
On Site		
Surface Waters	None on site	✗
Groundwater	The superficial strata and the bedrock is classified by the EA as a 'Secondary A Aquifer'. This strata is relatively permeable and can form an important source of base flows to rivers. The site is not located within a source protection zone and there are no groundwater abstractions within 250 m of the site. However, the superficial and bedrock aquifer could be in hydraulic continuity and risks to groundwater quality should be considered.	✓
Off Site		
Controlled Waters	The nearest potential receptor is the River Irk some 192 m south of the site. Given the distance, this is not considered as a significant receptor	✗
Ecological Systems		
On/Off Site		
SSSIs, national nature reserves, SACs etc	There are no environmental designations within 250 m of the site.	✗

Table A: Potential Receptors to be Considered in the Preliminary Conceptual Model

Link	Source	Hazard	Transport Mechanism	Pathway	Medium of Exposure	Receptor	Risk Summary*
1	Contaminated soils	Direct contact with contaminants	Direct contact	Ingestion or dermal contact	Soil	Humans (on-site), domestic pets	Medium
2	Contaminated soils	Particulate inhalation	Windblown particulates	Inhalation of particulates	Air	Humans (on-site/off-site), domestic pets	Medium
3	Contaminated Soils	Inhalation of Ground Gas	Degradation of contaminants generating ground gas through unsaturated zone to soil leading to inhalation	Inhalation of Gases	Air	Humans (on-site/off-site), domestic pets	Low - Medium
4	Contaminated Soils	Vapour Inhalation	Volatalisation of organic compounds through unsaturated zone of soil leading to inhalation	Inhalation of Gases	Air	Humans (on-site/off-site), domestic pets)	Low
5	Contaminated Soils	Ingestion of Contaminants	Uptake of contaminants by homegrown produce	Consumption of homegrown produce	Vegetable produce	Humans	Low-Medium
6	Contaminated Soils	Impaired produce growth	Uptake of contaminants by homegrown produce resulting in loss	Uptake during growth	Vegetable produce	Property (domestic produce)	Low-Medium
7	Contaminated Soils	Damage to structure/services	Direct contact of contaminants with building structures/services	Direct contact	Soil/Water	Flora, services	Low-Medium
8	Contaminated Soils	Pollution of underlying groundwater	Dissolution or suspension of contaminants into groundwaters (Bedrock Aquifer)	Dissolution or Suspension	Water	Groundwaters	Low

Table B: Preliminary Conceptual Model

***Relative Risk Screening and Prioritisation for further Investigation & or Assessment**

High	Higher probability of occurrence and identification of primary sources of contamination with respect to most sensitive receptors.
Medium	Pollutant linkage generally dependent on the presence of other primary pollutant linkages and/or where pollutant linkage generally associated with less sensitive receptors.
Low	Lower probability of occurrence such as based on requirement for significant migration pathway or where pollutant linkage requires the presence of source contaminants at concentration likely to be much higher than other identified pollutant linkages.

APPENDIX E

Site Photographs



P1: Looking west from site entrance.



P2: Sub Station in north-west of the site.



P3: Looking south from near the north-east corner of the site.



P4: Looking south from near the north-east corner of the site.



P5: Looking at north-west corner of the building.



P6: Looking at north-west corner of the building from sub-station.

Comments:



Photographs 1 to 6

This appendix is for illustrative purposes only and is for use only in conjunction with associated reports relating to the project

Site:
Parkfield House, Middleton

Title: Appendix E – Site Photographs

Project No:
22165

Created By:
M Leigh-Monk

Date:
December 2022

Client: Muller Property Group

APPENDIX F

Drawings



LEGEND

— SITE LOCATION

REV	DESCRIPTION	DATE	BY



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Email: mbuckley@benviro.co.uk
Web: www.benviro.co.uk

CLIENT.

MULLER STRATEGIIC PROJECTS LIMITED

JOB TITLE.

PARKFIELD HOUSE,
MIDDLETON

DRAWING TITLE.

SITE LOCATION PLAN

SCALE © A3. N'TS	DRAWN BY. D.E.	APPROVED BY. M.B.	DATE. 07/12/22
DRAWING No. 22165-1			REV. -



LEGEND

— SITE FOOTPRINT

REV	DESCRIPTION	DATE	BY



Suite One, No 3 Mitton Road Business Park, Mitton Road,
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MULLER STRATEGIC PROJECTS LIMITED

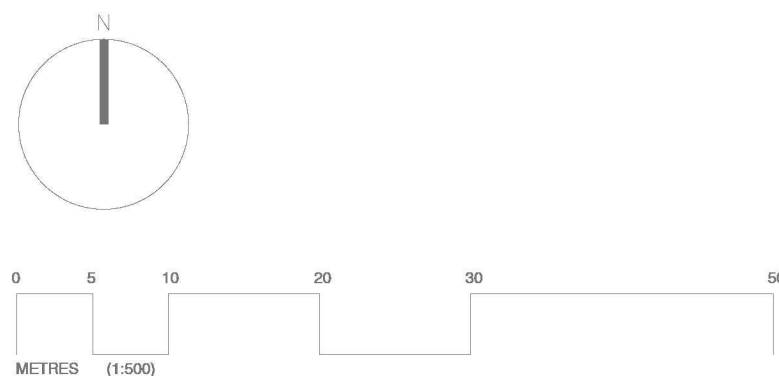
JOB TITLE.

PARKFIELD HOUSE,
MIDDLETON

DRAWING TITLE.

SITE LAYOUT PLAN

SCALE © A3. N'TS	DRAWN BY. D.E.	APPROVED BY. M.B.	DATE. 07/12/22
DRAWING No. 22165-2			REV. -



Project Name:	Parkfield House
Project Number:	01-123-0012
Project Status:	Stage 3 - Spatial Coordination

Project Address:	Parkfield House, Manchester Old Road, Middleton
Date:	21.11.2022

Drawing Title:	Coloured Detailed Site Layout
Drawing Number:	MFG.PH.CDSLO1
Drawn By:	JB
Scale:	1:500 @A2
Rev:	



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