BURO HAPPOLD

Fallowfield Campus Redevelopment Project

EIA Scoping Report

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Glossary

Term	Definition
AQMA	Air Quality Management Area
AQO	Air Quality Objectives
BRE	Building Research Establishment
CEMP	Construction Environmental Management Plan
CIEEM	Chartered Institute of Ecology and Environmental Management
CLP	Construction Logistic Plan
CTMP	Construction Traffic Management Plan
CDA	Critical Drainage Area
DEMP	Demolition Environmental Management Plan
EcIA	Ecological Impact Assessment
EA	Environmental Agency
EIA	Environmental Impact Assessment
EPUK	Environmental Protection UK
ES	Environmental Statement
EU	European Union
FRA	Flood Risk Assessment
GHG	Greenhouse Gas
GMAAS	Greater Manchester Archaeological Advisory Service
HTVIA	Heritage, Townscape, and Visual Impact Assessment
IAQM	Institute of Air Quality Management
IEMA	Institute of Environmental Management and Assessment
ILP	Institute of Lighting Professionals
MCC	Manchester City Council
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxide
NPPF	National Planning Policy Framework
OUV	Outstanding Universal Value
OWMS	Operational Waste Management Strategy
PM_{10}	Particulate Matter
PPG	Planning Practice Guidance
PBSA	Purpose Built Student Accommodation
SFRA	Strategic Flood Risk Assessment
SRF	Strategic Regeneration Framework
SPD	Supplementary Planning Document
TP	Transport Plan
UoM	University of Manchester

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1 INTRODUCTION

1.1 BACKGROUND TO THE PROPOSED DEVELOPMENT

1.1.1 This report presents a formal request to Manchester City Council (MCC) to adopt an Environmental Impact Assessment (EIA) scoping opinion for development proposed at the University of Manchester's Fallowfield Campus (hereafter referred to as the 'site').

1.1.2 The applicant (University of Manchester (UoM)) is seeking an EIA scoping opinion under the Town and Country Planning (EIA) Regulations 2017 for a development comprising purpose-built student accommodation (hereafter referred to as the 'proposed development').

1.1.3 The applicant intends to submit an outline planning application which will be subject to an EIA and is the focus of this EIA scoping report.

1.1.4 A description of the proposed development, based on the proposals known at the time of writing, is provided in Chapter 3 of this report.

1.2 REQUIREMENT FOR ENVIRONMENTAL IMPACT ASSESSMENT

1.2.1 The Town and Country Planning (EIA) Regulations 2017 (hereafter referred to as the "EIA Regulations") transposed the European Union (EU) Directive 2014/52/EU ('2014 EIA Directive') into UK law on 16th May 2017.

1.2.2 Projects that require or may require an EIA are set out in Schedule 1 and 2 of the EIA Regulations. A Schedule 1 development automatically requires an EIA as this has the most potential to cause environmental effects. The proposed development is not considered a Schedule 1 development in accordance with the EIA Regulations.

1.2.3 Schedule 2 relates to development, other than exempt development, of a description mentioned in column 1 of the table in Schedule 2, where:

a) "Any part of the development is to be carried out in a sensitive area; or

b) any applicable threshold or criterion in the corresponding part of column 2 of that table is respectively exceeded or met in relation to that development."

1.2.4 With regards to the first criteria for a Schedule 2 development, according to the EIA Regulations, a "sensitive area" relates to any of the following:

a) "Land notified under section 28(1) (sites of special scientific interest) of the Wildlife and Countryside Act 1981;

b) A National Park within the meaning of the National Parks and Access to the Countryside Act 1949;

c) The Broads;

d) A property appearing on the World Heritage List kept under article 11(2) of the 1972 UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage;

e) A scheduled monument within the meaning of the Ancient Monuments and Archaeological Areas Act 1979;

f) an area of outstanding natural beauty designated as such by an order made by Natural England under section 82(1) (areas of outstanding natural beauty) of the Countryside and Rights of Way Act 2000 as confirmed by the Secretary of State;

g) A European site."

1.2.5 The site itself does not contain any of the designations outlined above, therefore it does not constitute a "sensitive area".

1.2.6 Regarding the second criteria for a Schedule 2 development, the proposed development falls under Category 10b in Column 1 of the table in Schedule 2. This refers to infrastructure projects: urban development projects.

1.2.7 The 2017 EIA Regulations include 'exclusion thresholds and criteria', above which an EIA is typically required if significant environmental effects are considered likely. As the proposed development is classified as an urban regeneration project, the following criteria set out in Column 2 of Schedule 2 apply:

1. *"The development includes more than 1 hectare of urban development which is not dwellinghouse development; or*
2. *The development includes more than 150 dwellings; or*
3. *The overall area of the development exceeds 5 hectares."*

1.2.8 The site is over seven hectares in size, and therefore given the scale of the proposed development, the applicant acknowledges that the project constitutes EIA development, and is therefore proceeding to the EIA scoping stage.

1.3 THE PURPOSE OF SCOPING IN THE EIA PROCESS

1.3.1 There is no formal requirement for scoping to be undertaken prior to submission of an Environmental Statement (ES), although provision for it is made in the EIA Regulations to enable a scoping opinion request to be made to the local authority and responded to. Regulation 15(2) requires that a scoping opinion request includes the following information:

- *A plan sufficient to identify the land (provided in Chapter 2 of this report);*
- *A brief description of the nature and purpose of the development, including its location and technical capacity (provided in Chapter 2 and Chapter 3 of this report);*
- *An explanation of the likely significant effects of the proposed development on the environment (provided in Chapters 5 and Chapter 6 of this report); and*
- *Such other information or representations as the person making the request may wish to provide or make.*

1.3.2 The EIA Regulations set out a five-week timescale for a scoping opinion to be adopted by the Local Planning Authority and the need to gain the opinion of statutory consultees. A scoping opinion is adopted when the local authority is satisfied that sufficient information has been provided for them to form a decision.

1.3.3 The submission of a scoping opinion request is considered to be good practice for EIA. It ensures that the scope of the assessment focuses on the important issues and eliminates detailed study of areas that are considered to be less significant. This makes sure that the EIA process is proportionate.

1.3.4 The scoping report will form a basis of common reference for consultation regarding the scope and methodology of the EIA. The responses received from consultees on the scoping report will feed into the EIA and where appropriate the EIA will inform the ongoing design of the scheme. It is not the purpose of this report to provide detailed measurement, calculation or assessment of potential impacts and effects. Detailed assessments of the proposed development will be undertaken and presented in the ES.

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1.4 STRUCTURE OF THE SCOPING REPORT

1.4.1 The remainder of the scoping report is set out as follows:

- Chapter 2 describes the site, surrounding area, and potential sensitive resources and receptors;
- Chapter 3 describes the proposed development;
- Chapter 4 describes the overall approach for the EIA at a high level;
- Chapter 5 provides a summary of the proposed assessments and structure of the ES;
- Chapter 6 outlines the assessment methodologies for each environmental assessment topic, which will determine the impacts and effects of the proposed development on environmental receptors;
- Chapter 7 provides a summary of the potential environmental issues resulting from the proposed development; and
- Chapter 8 provides a summary of the wider planning documents proposed to be submitted with the planning application.

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2 THE SITE AND SURROUNDING AREA

2.1 SITE DESCRIPTION

Location and context

2.1.1 The maximum anticipated planning application area comprises approximately 7.5 hectares and is centred on Ordnance Survey Grid Reference SJ 85723 94142, as shown in Figure 2—1. Fallowfield Campus is one of the principal residential campuses of the UoM. It is located in Fallowfield, Manchester approximately 3km south-east of the main university site within Manchester city centre. It is connected to the centre by Wilmslow Road (A6010) which borders the site to the west. Moseley Road borders the site to the south. The site is located 750m west to the closest railway line. This line runs from Mauldeth Road Station north toward Manchester City Centre.

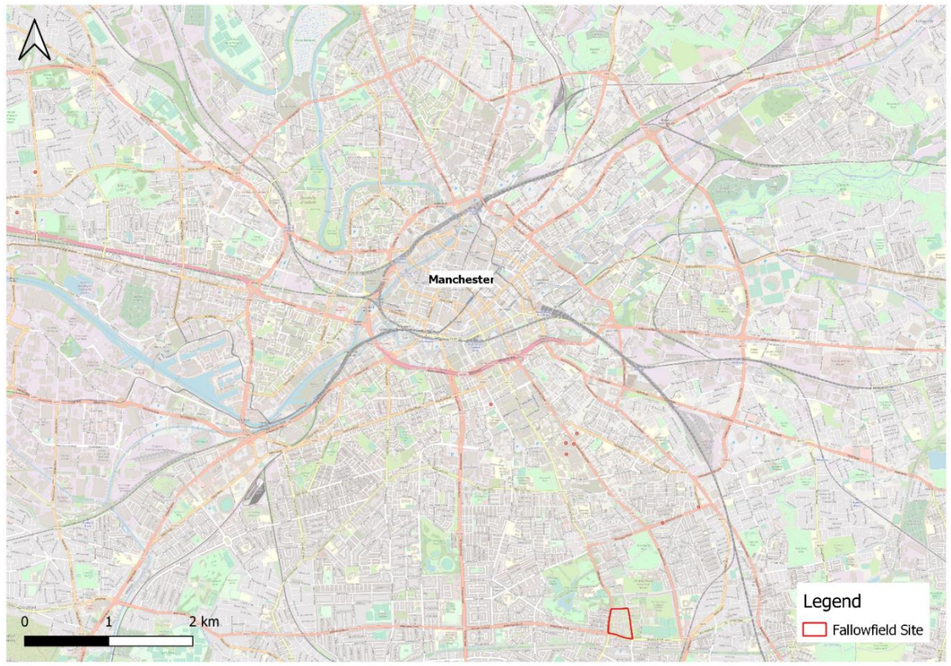


Figure 2—1 The Site shown outlined in red, approximately 3km south-east of Manchester City Centre



Figure 2—2 Site location with planning boundary line shown in red (Google (2023))

Planning history

2.1.2 A hybrid planning application for development of the Fallowfield campus, which included the site within a wider area (110184/FO/2015/S1) was submitted in 2015 and accompanied by an EIA. The application included the development of buildings between two and six storeys to replace the student accommodation with new purpose-built student accommodation (PBSA). Detailed consent was sought for the majority of the proposals, with an element based upon a series of parameter plans (outline consent). The application proposed to remove 2,176 units and develop 3,209 new residential units for students. The application was granted planning permission in 2015. The majority of the proposals from the application were not developed or constructed – including the area covered by the proposed development – however Unsworth Park and Uttley House (providing 1,185 beds) was delivered through the 2015 permission on land not previously in use as PBSA and therefore without any loss in bed spaces. This site can be seen in Figure 2—3.

Surrounding uses

2.1.3 The site forms part of the UoM Fallowfield Campus. Therefore, many of its immediate surroundings are UoM buildings. Surrounding uses include residential properties to the west and south, and student residential buildings to the south (Ladybarn House) and east (e.g., Richmond Park and Unsworth Park). Further UoM buildings are located to the north of the site boundary (e.g., Sheavyn House and Ashburne Hall) as shown in Figure 2—3. The surrounding area within and around the site provides significant green space including playing fields, areas of mature trees and parkland.

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Figure 2—3 Surrounding buildings and land uses

2.1.4 There are no listed buildings or scheduled monuments within the boundary of the site. However, there are a number of listed buildings in the immediate vicinity (within 300m) of the site. This is discussed further in the HERITAGE, TOWNSCAPE & VISUAL section including a map of receptor locations. Identified heritage receptors include:

1. Fallowfield War Memorial (Grade II)
2. Church of the Holy Innocent and St James (Grade II)
3. Queen of Hearts Public House (Grade II)
4. Ashburne Hall, including the Alice Barlow memorial gates and Ashburne Hall Lodge (Grade II)
5. Behrens Hall (Grade II)
6. The Firs and Attached Annes (Grade II)
7. Lodge of the Firs, with Attached Gateway (Grade II)
8. Unitarian Chapel, Platt Chapel (Grade II)
9. Hollings Building at Manchester Metropolitan University (Grade II)
10. Synagogue (Grade II)
11. Section of an early medieval boundary ditch known as the Nico Ditch in Platt Fields (Scheduled Monument)

Current conditions

2.1.5 The existing site is currently UoM student accommodation and university-related land uses. Oak House and Woolton Hall are still in use as student accommodation. Owens Park covering the northern half of the site is now closed as it does not meet current quality standards for its uses as student accommodation. The buildings on the site are predominately four storeys in height, with one tower in the north of the site which is 18 storeys tall (Owens Park tower). These buildings will be demolished to accommodate the proposed development as may the Limes Building, which may be relocated (under a future planning application).

2.1.6 There are a number of high value and mature trees on the site, and it is proposed to retain as many of these as possible, avoiding key groups of trees, and protecting all Class A trees where possible.

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3 DESCRIPTION OF THE PROPOSED DEVELOPMENT

3.1 INTRODUCTION

3.1.1 At present, the proposed development described here should be considered to be indicative only and whilst being at an early stage will naturally develop further during the design process and whilst the EIA is progressed.

3.1.2 This scoping report provides a mechanism for consulting on and agreeing the content and methodology of the ES at an early stage in the process. Definition of the scope is dependent upon the current state of knowledge about the design of the proposed development and how it is proposed to be implemented. The following description sets out the likely maximum quantum of development that is anticipated to be submitted to MCC.

3.2 PROPOSAL FOR THE SITE

3.2.1 The proposed development aims to demolish and redevelop part of the existing UoM Fallowfield Campus to create a new student residence comprising a number of buildings totalling up to 3,300 beds and with potential for supporting amenity uses (such as a student hub and study spaces) and landscaping/open space provision.

3.2.2 The landscape design and use of open space is a key part of the proposals, and it is anticipated that where possible tree retention will be prioritised on site, including the entirety of the woodland boundary edges. Where this is not possible, any trees lost will be replaced three for one either on-site or as off-site mitigation on other UoM-owned land. Other landscape proposals will seek to enhance the biodiversity value of the retained habitats on site by increasing species diversity and incorporating planting of value for native pollinator species.

3.2.3 The proposed development could include buildings of up to 14 storeys in height, plus roof plant.

3.2.4 A total of up to 2,350 bedrooms in older buildings, including those at Owen's Park which is no longer used because of their condition, could be demolished as part of the proposed development with a total net increase in bedrooms of up to 950 beds.

3.2.5 The development would be delivered in a phased manner, and reliance will be placed on existing points of access to the site.

3.3 PLANNING APPLICATION CONTEXT

3.3.1 This scoping report supports an outline planning application, with all matters reserved except access.

3.3.2 The UoM intends to deliver the proposed development in a phased manner in collaboration with a delivery partner, and will enter into a process of securing development partners in due course.

3.4 SITE ENABLING WORKS

3.4.1 Enabling works required to prepare the land for redevelopment, which will also be phased, include the removal of hazardous materials (including asbestos), demolition, and site clearance including the buildings, associated infrastructure, and foundation slabs in order to facilitate redevelopment. Specific activities required at an early stage to allow redevelopment, which will also be delivered in a phased manner, will include:

- Installation of temporary hoarding to the boundary to a standard height of 2.4 m;
- Disconnection of existing redundant services and the protection of retained services crossing the site and
- Removal and disposal of all asbestos containing/other hazardous materials as identified in the required Refurbishment and Demolition Surveys, and any other areas identified by the Contractor.

3.4.2 This will be followed by soft stripping of existing buildings in advance of demolition and removal of building foundations.

3.5 DEMOLITION, CONSTRUCTION AND PHASING

3.5.1 All current buildings on site are proposed to be demolished and delivery of the proposals will be phased, starting with the Owen Park area in the north and then progressing to the southern areas of the site.

3.5.2 The indicative start date for initial demolition work to begin on site is Q4 2023 with an estimated project delivery period of seven years through to completion of the final phase.

3.6 MASSING AND FORM

3.6.1 Given the outline nature of the planning application, the proposed development will be based on a series of defined parameters. At this stage a site boundary and maximum height of 14 storeys (plus roof plant) forms the proposed building envelope with all building massing sitting within this. No basements are proposed.

3.7 ACCESS

3.7.1 The proposed development will be largely car-free, with limited provision for vehicles other than accessible car parking spaces and access for emergency vehicles.

Pedestrian access

- The main pedestrian access will be via the existing entrance to the campus on Wilmslow Road. This access point will serve not only the proposed development but also the entire Fallowfield Campus – as a gateway into Fallowfield.
- The existing pedestrian access off Moseley Road will be retained and enhanced (to access Sainsbury's and other local amenities to the south of the Site).
- The existing pedestrian access point along Whitworth Lane will be retained and enhanced.

Vehicular access

- The existing car park and vehicular access via Wilmslow Road will be modified to provide maintenance, servicing and emergency access only as well as moving in/out days.
- The existing vehicular access off Moseley Road onto Chancellors Way is the main access route into the site and will be used by visitors to the campus and for maintenance, servicing and emergency vehicles only as well as moving in/out days.
- The existing vehicular access off Old Hall Lane onto Whitworth Lane will be retained for accessible parking, emergency, maintenance, and servicing access as well as moving in/out days.

3.7.2 As described above, reliance will be placed on existing points of access.

3.7.3 During enabling works / construction existing vehicular access points will be utilised. Additional temporary access point might be required off Moseley Road subject to contractor's requirement and will be dealt with by a reserved matter application.

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3.8 SCHEME PARAMETERS AND DESIGN PRINCIPLES

3.8.1 Reflecting the proposal to pursue an outline planning application, the parameters of the proposed development will be defined through a parameters plan which set limits in relation to the number of new bedrooms, range of ancillary uses and amount of ancillary floor space, developable areas and areas of the site which will be kept free from development, maximum heights across the site, total maximum amount of built footprint and standards in relation to cycle and car parking as well as points of access to the site.

3.8.2 The parameters of the proposed development for which planning permission will be sought will extend to more detailed design principles to be presented in a Design Principles Document. This will provide guidance to inform the detailed design of the proposed development including in relation to the layout of the site, the interrelationship of buildings, the approach to open space and movement through the site and the architectural approach to individual buildings as well as the approach to achieving the desired sustainability standards, sustainable drainage and biodiversity net gain. Applications for the approval of reserved matters pursuant to the outline permission will be required to demonstrate how the proposed development has been informed by the Design Principles Document and meets the quality standards sought in relation to the areas covered in the Document.

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4 PROPOSED APPROACH TO EIA

4.1 PURPOSE

4.1.1 The purpose of an EIA is to predict the effect of a development on its surrounding environment and, where appropriate, to identify, evaluate and develop methods to mitigate significant adverse effects.

4.1.2 An EIA is conducted by establishing baseline conditions for a number of topic areas and comparing these with the conditions that are predicted to occur were the scheme to be constructed and operated, thereby identifying likely changes in environmental conditions. Environmental effects on sensitive and valued receptors (e.g. people, built resources and natural resources) as a result of the changes are then predicted and their significance determined.

4.1.3 The output of the EIA is an ES, which is submitted with the planning application. A robust ES allows the local planning authority to make an informed decision on the scheme in terms of its environmental effects.

4.2 SCOPE OF THE ASSESSMENT

Technical scope

4.2.1 The range of environmental topics to be addressed in the ES is referred to as the technical scope. Schedule 4 of the EIA Regulations notes that an ES should describe the *'factors specified in regulation 4(2) likely to be significantly affected by the development: population, human health, biodiversity (for example fauna and flora), land (for example land take), soil (for example organic matter, erosion, compaction, sealing) water (for example hydro-morphological changes, quantity, and quality), air, climate (for example greenhouse gas emissions, impacts relevant to adaptation), material assets, cultural heritage, including architectural and archaeological aspects, and landscape'*.

4.2.2 Potential environmental issues have been evaluated as part of this scoping exercise in order to determine the extent to which they should be included in the EIA. These are discussed further in Chapter 5 and Chapter 6.

Spatial scope

4.2.3 The geographical or spatial scope of the EIA takes into account the following factors:

- The physical extent of the proposed works;
- The nature of the baseline environment;
- The manner in which the impacts are likely to be propagated; and
- Local, regional and national planning policy.

4.2.4 For the proposed development, the geographical extent of the assessment will include the site and its neighbours, as well as sensitive receptors in the wider area relevant to technical assessments (e.g. nearby heritage assets, residents etc.). The spatial scope for each environmental topic will be defined based on a combination of desk study, survey data, consultation and professional experience, as appropriate.

Temporal scope

4.2.5 The temporal scope for the proposed development is considered to include the demolition works, preparation (enabling) works, construction works and the operation of the proposed development.

4.2.6 The programme for the construction works will be confirmed within the ES and will be assessed appropriately as part of the technical assessments.

4.2.7 As there will be a period of time when areas of the proposed development will be operational (and occupied) while other areas of the site will be under construction, an assessment of the intermediate year effects (i.e., effects to occupants of the earlier phases, whilst the later phases are under construction, as well as effects to occupants of original buildings while the early phase is under construction) will be undertaken. As a precautionary approach, the date for this intermediate year assessment will often coincide with peak construction activity, i.e., when construction is potentially at its most disruptive. This date will be confirmed when more is known about the construction programme.

4.3 BASELINE

Existing baseline

4.3.1 The existing current baseline are the conditions in 2023 which are representative at the time of the assessment. In summary this comprises a university campus providing predominantly student accommodation with current provision between Oak House and Woolton Hall for 1,303 student beds and associated student services. Owens Park in the north (1,071 beds) is closed as it does not meet current quality standards for its uses as PBSA. However, the accommodation remains in situ and would be capable of reoccupation through significant refurbishment and extensive upgrade without the need for planning permission.

Future baseline – year of completion (without the proposed development in place)

4.3.2 The future baseline represents how environmental conditions may change if no new development on the site came forward by the time the proposed development is anticipated to be fully operational. Consideration of such a baseline will allow for an appreciation of how environmental conditions could change over time without the development in place.

4.4 ASSESSING THE PROPOSED DEVELOPMENT

Defining significance

4.4.1 The ES will report on those environmental effects arising from the proposed development that are considered likely to be significant. There is no statutory definition for what is significant but, in many cases, there are accepted methods for quantifying effects and determining the threshold of significance. Where a more qualitative approach is needed, a significant effect can be defined for the purposes of the assessment as an effect which, either in isolation or combination with others should be taken into account in the decision-making process. Where there are institute-specific guidelines for assessment methodologies these will be followed and briefly set out under the relevant disciplines in Section 6 of this report. Where there is no specific guidance there will be a consistent approach to determining the effects and in the terminology set out as follows.

4.4.2 Receptor sensitivity will be defined as high, moderate, low or negligible and magnitude of change will be defined as large, medium, small or negligible. Significance of effect is then determined using Table 4—1, whereby a significant effect is one which is judged as moderate or major. Where there is a level of subjectivity, professional judgement will be used by the technical assessor.

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Table 4—1 Matrix for determining effect significance

		Magnitude of change / impact			
		Large	**Medium**	**Small**	**Negligible**
Receptor sensitivity	**High**	Major	Major	Moderate/Minor	Negligible
	Moderate	Major	Moderate	Minor	Negligible
	Low	Moderate/Minor	Minor	Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

4.5 MITIGATION AND RESIDUAL EFFECTS

4.5.1 Ideally a development will achieve environmental enhancement, where possible; however, where adverse effects exist, the reduction of effect significance through mitigation will take into consideration the following hierarchy:

- Avoidance of significant effects;
- Reduction of the impacts and effects;
- Finding a way to reverse or repair the effect; and
- As a last resort, compensation.

4.5.2 Residual effects (assuming mitigation options are applied) will then be classified as not significant or still significant (albeit reduced), as appropriate.

4.6 DEVELOPMENT ALTERNATIVES

4.6.1 It is proposed that the alternatives section of the ES will consider:

- The 'do nothing' option; and
- Alternative options for the design and layout of the masterplan considered, including an explanation of how the proposals have developed in response to initial EIA findings and design input from the technical specialists.

4.7 APPLICATION CONTEXT

4.7.1 The planning application for the proposed development, which will be subject to EIA, is outline in nature. Therefore, the EIA will assess the parameter plans, underpinned by a Design Principles Document, and Design and Access Statement. The parameter plans will set the maximum building envelopes (including height and footprint) and a maximum number of student beds, thus giving the maximum quantum that could be delivered with the proposed development. Both the Design Principles Document and parameter plans would be binding on future developments with a conditional requirement for general compliance.

4.8 ASSESSMENT OF CUMULATIVE ENVIRONMENTAL EFFECTS

4.8.1 Cumulative interactions can occur either as interactions between multiple effects of the proposals on one receptor (intra-project effects) or through the effect of multiple development schemes on a receptor (inter-project effects).

4.8.2 The effects presented within each technical chapter will be reviewed to identify the potential for interaction effects and therefore cumulative effects. Where there is more than one effect on a particular receptor the cumulative effect will be determined and if found to be significant further mitigation will be proposed, if necessary. This review of intra-project cumulative effects will be set out in the cumulative effects chapter.

4.8.3 EIAs are also required to provide a review and assessment of the combined effects of the proposed development with other proposed developments. Cumulative projects that are of a size relevant to be considered for the cumulative effects assessment are typically those that are of a significant size (e.g. other EIA projects) within the zone of influence of the proposed development, defined as 1km from the site boundary. As an approximate threshold, the developments that would be relevant for inclusion in an intra-project cumulative assessment are:

- Those submitted for planning via a planning application, permitted/with a resolution to grant, or under construction;
- Located within approximately 1 km of the site;
- Those which are 10,000 square meters or greater gross external area (GEA); and
- Schemes below the above thresholds but of more than 50 residential units.

4.8.4 A review has been undertaken and there are no cumulative developments under construction, consented or proposed within the zone of influence of the proposed development that meet these criteria. Therefore it is suggested that if no cumulative projects come forward prior to the planning application for the proposed development being submitted, the intra-project cumulative assessment can be scoped out of the EIA.

4.9 PLANNING POLICY CONTEXT

4.9.1 The technical chapters contained within the ES will include reference to national, regional and local planning policy and guidance documents relevant to the proposed development. A summary of the relevant policy sources is set out below.

National planning policy

4.9.2 The National Planning Policy Framework ('NPPF') sets out the government's visions and strategies for development within England, and forms the baseline for planning decisions and policy making. The NPPF was revised in 2021 and details how planning policies are expected to be applied across developments.

4.9.3 The NPPF should be read in conjunction with published National Planning Practice Guidance ('NPPG'). Planning Practice Guidance provides further information to support the NPPF and is available to read online. The NPPG forms a 'material consideration' when determining planning applications.

4.9.4 The Levelling Up and Regeneration Bill ('LURB') was introduced to the House of Commons in May 2022 and sets out to reform the existent planning system. Consultations on the Bill began on 22nd December 2022 and came to a close on 2nd March 2023. The Government's Levelling Up and Regeneration Bill is currently at a report stage following its second reading at the House of Commons and will be unlikely to influence the EIA as it is presently in draft form.

Local and Regional Planning Policy

4.9.5 The ES will have regard to the planning policies set out in MCC's Local Development Framework Core Strategy Development Plan (July 2012) relevant to the proposed development. The Core Strategy sets out Manchester's long-term spatial visions and policies for the city for the duration of 2012-2027.

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4.9.6 Reference will be given to the draft Places for Everyone Joint Development Plan where required. This document has been drafted to set an informed integrated spatial vision for nine of the Greater Manchester Authorities. The draft Places for Everyone Submission Plan was published August 2021 and submitted with associated documents to the Secretary of State for examination on 14th February 2022. The examination hearings concerning the plan commenced in November 2022 and concluded in March 2023.

Other relevant guidance

4.9.7 Other guidance and supplementary planning documents that may be relevant to the proposed development include:

- Resolution of Manchester City Council Executive on Purpose Built Student Accommodation (PBSA) (December 2020);
- Oxford Road Corridor Strategic Spatial Framework Area (March 2018) & Oxford Road Corridor Strategic Regeneration Framework (SRF) Guidance (2019);
- Guide to development in Manchester Supplementary Planning Document (SPD) (April 2007);
- Providing for Housing Choice – SPD and Planning Guidance (September 2008);
- Green and Blue Infrastructure Strategy (2015 – 2025);
- Our Manchester Strategy – Forward to 2025 (2021);
- Manchester Residential Quality Guidance (March 2017);
- Manchester Extant Unitary Development Policies ('UDP') (July 1995); and
- Manchester Climate Change Framework 2020 – 2025 (February 2020).

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5 SEA TECHNICAL SCOPE

5.1 TOPIC OVERVIEW

5.1.1 The following topics are proposed for inclusion in the EIA. Further detail on their scopes, potential impacts and approach to assessment is provided in Chapters 6 and 7.

- Air Quality
- Noise and Vibration
- Ecology and Biodiversity
- Climate Change and Greenhouse Gas Emissions
- Heritage, Townscape and Visual

5.1.2 The following sections present an overview of the topics proposed to be scoped out of the EIA. While not part of the EIA, some of these topics will be considered through stand-alone assessments and deliverables in support of the outline planning application.

5.2 NON-SIGNIFICANT ISSUES TO BE SCOPED OUT OF THE ES

5.2.1 The purpose of the EIA Scoping Report is to help ensure that the EIA for the proposed development focuses on the significant effects that are likely to arise from the proposed development. In doing so, issues may be scoped out, if significant effects are not considered likely. The following sections provide detail, and justification, on the issues that are proposed to be scoped out of the EIA.

5.3 DAYLIGHT, SUNLIGHT AND OVERSHADOWING

Introduction

5.3.1 This section of the EIA Scoping Report has been prepared by GIA and has considered the potential effects on daylight, sunlight and overshadowing. Daylight, sunlight and overshadowing impacts can occur when new tall buildings limit the amount of daylight and sunlight reaching receptors. It is proposed that for the proposed development, no significant effects will arise and therefore daylight, sunlight and overshadowing will be scoped out of the EIA, and covered separately in a standalone Daylight, Sunlight and Overshadowing report.

Baseline Conditions

5.3.2 As mentioned previously, the existing site currently comprises student accommodation and university-related land use, with some of the accommodation no longer in use. The baseline assessment included in the standalone report will consider the existing site, with the existing buildings which currently occupy the site in place. The baseline assessment will benchmark the levels of daylight, sunlight and overshadowing to the surrounding residential properties.

Potential Sensitive Receptors

5.3.3 The Building Research Establishment (BRE) Guidelines 'Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice 2022, 3rd edition' (released June 2022) provides advice on site layout planning to achieve good sunlighting and daylighting within buildings, and in the open spaces between them.

5.3.4 The BRE Guidelines suggest that residential properties have the highest requirement for daylight and sunlight and states that:

"*the guidelines are intended for use for rooms in adjoining dwellings where light is required, including living rooms, kitchens and bedrooms*."

5.3.5 The scope of residential properties that have been assessed has been determined through professional judgement, considering their orientation and proximity to the site.

5.3.6 The residential properties identified in Table 5—1 will be considered in the standalone report due to their proximity to the site, and their sensitivity:

Table 5—1 Receptors identified for daylight, sunlight and overshadowing assessment

Receptors identified for daylight, sunlight and overshadowing assessment		
208-256 Wilmslow Road	Sheavyn House	Ladybarn House, Moseley Road
Hilltop Court	Ashburne Hall	12-32 Carill Drive
256 & 256a Wilmslow Road	Frinton House, Mayfield Road	34-48 Moseley Road
240-254 Wilmslow Road	2 Cawdor Road	Ladybarn Mews, Ladybarn Road
224-238 Wilmslow Road	1 Cawdor Road	60 Moseley Road
208-222 Wilmslow Road	2 Furness Road	64 Moseley Road
Hilltop Court, Wilmslow Road	1 Furness Road	23a-23f Ladybarn Road
Poplar Court, Moseley Road	2 Landcross Road	Orchard Court, Ladybarn Road
Willow Court, Moseley Road	Landcross House, Landcross Road	188 Wilmslow Road

5.3.7 The assessment will consider other adjacent residential properties and set out that due to the distance and orientation from the proposed development, they are unlikely to be affected, so will not be assessed in detail.

Potential Effects

5.3.8 Owing to the evolving and changing nature of demolition and construction activities, the assessment of potential effects during demolition and construction of the proposed development on daylight and sunlight to surrounding properties is not considered to be significant.

5.3.9 Since the potential daylight and sunlight effects relating to the demolition and construction works will vary throughout the construction programme and gradually increase to the potential effects identified for the completed development, interim construction effects are not assessed quantitatively as it is considered that the completed proposed development represents the worst-case assessment in terms of likely daylight and sunlight.

5.3.10 The impact of the proposed development on the daylight and sunlight received to the surrounding residential properties will be assessed in detail in the standalone report. Given the scale of the proposed development and its distance from the surrounding residential properties, significant effects are not anticipated. As such, the assessment of daylight, sunlight and overshadowing should be scoped out of the ES.

Conclusion

5.3.11 The assessment of daylight, sunlight and overshadowing will consider the levels of daylight and sunlight received to surrounding residential properties currently, without the proposed development in place. A second assessment will then be completed to understand any impacts brought about with the proposed development in place.

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5.3.12 Given the scale of the proposed development and its distance from surrounding residential properties, significant effects are not anticipated, and the assessment of daylight, sunlight and overshadowing should be scoped out of the ES.

5.4 WIND MICROCLIMATE

Introduction

5.4.1 This section of the EIA Scoping Report has been prepared by Buro Happold and has considered the potential effects in relation to wind flow within and adjacent to the proposed development.

Baseline Conditions

5.4.2 The prevailing wind across the site is from the south and southwest, with some lesser contributions from all other directions. During the winter there are some contributions from the north-east.

Potential Sensitive Receptors

5.4.3 Sensitive receptors in respect of wind microclimate are the occupants and users of the proposed development and users of the public realm in the area surrounding the site.

Potential Effects

5.4.4 High wind speeds as a result of the proposed development have the potential to cause discomfort and injury in extreme circumstances to occupants of the proposed development and users of the public realm in the area surrounding the site. However, it is not considered that significant effects will arise during demolition/construction or operation of the proposed development.

5.4.5 A standalone wind microclimate desktop study will be prepared for the proposed development and shall be submitted alongside the outline planning application based on the maximum parameters.

5.4.6 The desktop study will determine if areas within the proposed development could be subject to significant adverse effects without mitigation. This will determine if a further updated wind assessment is required at the reserved matters stage to provide appropriate design input to avoid significant effects.

Conclusion

5.4.7 The desktop wind study (which will be submitted as a standalone planning document) will determine if a further detailed wind assessment is required at the reserved matters stage through the implementation of a number of commitments to be made. Given significant effects are not anticipated, a wind microclimate ES chapter is not considered necessary, and it is concluded that this topic will be scoped out of the EIA.

5.5 GROUND CONDITIONS

Introduction

5.5.1 This section of the EIA Scoping Report has been prepared by Buro Happold and has considered the potential effects of the proposed development on ground conditions.

Baseline Conditions

5.5.2 A Phase 1 Environmental Risk Assessment (Appendix A) has been undertaken during 2015 by RSK Limited. Two phases of ground investigation have also been undertaken within the wider site by Geotechnics Limited (on behalf of Coffey Geotechnics Limited). A brief summary of the baseline conditions is provided below.

5.5.3 The history of the site and the surrounding area is detailed in Table 5—2 and Table 5—3.

Table 5—2 Site history

Map Year (scale)	Features recorded
1849-1859 (1:10,000)	The site is recorded to be open fields
1893 (1:2,500)	A number of unnamed buildings are recorded across the site, serviced by roads (Oak Drive and Carill Drive). A tramway is recorded from north to south in the western portion of the site.
1957-1958 (1:2,500)	The tramway is no longer recorded.
1972-1976 (1:10,000)	The site has been redeveloped and is now recorded as Owen Park.
1980-1983 (1:10,000)	Expansion of the buildings in Owen Park

Table 5—3 History of surrounding area

Map Year	Features recorded
1849-1859 (1:10,000)	Fallowfield Brook is recorded to the south of the site from east to west.
1890 (1:10,560)	Residential buildings, a church and some schools are recorded in the surrounding area. Manchester Central Station railway line is recorded 100m south of the site.
1905 (1:10,560)	Manchester Athletic Ground, Owen's College Athletic Ground and a nursery are recorded to the east of the site. Expansion of the residential buildings to the west of the site.
1932 (1:10,560)	Grangethorpe Hospital recorded ~100 m northwest of the site.
1934 (1:2,500)	Nursery no longer recorded - site was redeveloped and recorded as Manchester University Experimental Grounds
1955 (1:10,560)	School recorded where Grangethorpe Hospital was located previously.
2001 (1:10,000)	Railway line to the south, and stadium to the northeast are no longer recorded (present in 1985-1989 maps).

5.5.4 In 2015, Coffey Geotechnics Limited commissioned Geotechnics Limited to complete 2 phases of Site Investigation (2a and 2b) at the Manchester University Owen Park Campus (of which the site is part of). The 2015 works relevant to the site comprised a total of 36 No. boreholes (cable percussive and rotary), 14 No. window samples and 12 No. trial pits. Extracts of the relevant exploratory hole location plans are provided in Figure 5—1 and Table 5—4.

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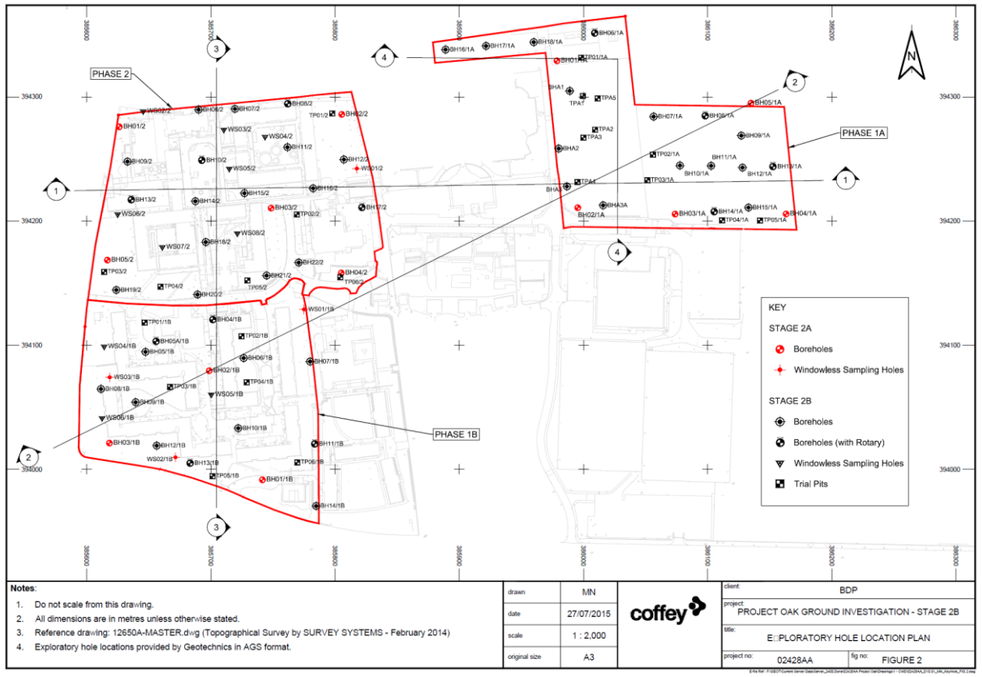


Figure 5—1 Coffey Geotechnics Limited Exploratory Hole location Plan (all phases)

5.5.5 The list of relevant exploratory positions to the site are provided in Table 5—4.

Table 5—4 Relevant exploratory positions to the site

Phase 2A			
BH01/1B	BH04/2	BH01/2	BH05/2
BH02/1B	WS01/1B	BH02/2	WS01/2
BH03/1B	WS02/1B	BH03/2	WS03/1B
Phase 2B			
BH06/2	BH19/2	BH12/1B	TP02/2
BH07/2	BH20/2	BH13/1B	TP03/2
BH08/2	BH21/2	WS02/2	TP04/2
BH09/2	BH22/2	WS03/2	TP05/2
BH10/2	BH04/1B	WS04/2	TP06/2
BH11/2	BH05/1B	WS05/2	TP01/1B
BH12/2	BH05A/1B	WS06/2	TP02/1B
BH13/2	BH06/1B	WS07/2	TP03/1B
BH14/2	BH07/1B	WS08/2	TP04/1B
BH15/2	BH08/1B	WS04/1B	TP05/1B
BH16/2	BH09/1B	WS05/1B	TP06/1B
BH17/2	BH10/1B	WS06/1B	
BH18/2	BH11/1B	TP01/2	

5.5.6 The ground conditions comprise varying depths of Made Ground which is underlain by superficial deposits (clay and sand), underlain by completely weathered sandstone bedrock, in turn underlain by extremely weak sandstone and/or mudstone bedrock (Chester Formation). Further details are contained in Table 5—5.

Table 5—5 Summary of ground conditions

Depth to Top (m)	Thickness (m)	Description
0.00	0.20-2.60	Topsoil or Concrete/Macadam Over Sandy GRAVEL of brick, clinker and sandstone with low sandstone cobble content. Fragments of timber. And Gravelly sandy CLAY. Gravel of sandstone and limestone. [MADE GROUND]
0.80		Concrete obstruction (*)
0.20-2.00	Absent – 3.10	Soft becoming firm then very stiff slightly sandy slightly gravelly CLAY. Gravel of subangular to rounded siltstone, sandstone and coal. And Very dense slightly clayey SAND [GLACIAL TILL/GLACIOFLUVIAL]
1.40-4.10	Not proven	Very Dense clayey SAND with thinly laminated clay and extremely weak mudstone And Extremely weak red SANDSTONE And Extremely weak MUDSTONE [CHESTER FORMATION]

(*) borehole terminated on encountering concrete obstruction in BH06/2

5.5.7 Hydraulic gradient for the site is likely to be influenced by general site topography and any local watercourses near to the site. As such, any shallow groundwater in the site area is likely to flow either south/southwest towards Fallowfield Brook located ~62m south of the site, or towards Cringle Brook located ~470m south of the site

5.5.8 The hydrogeology of the site is likely to be characterised by a Principal Aquifer within the Chester Formation, overlain by unproductive strata of the till (Diamicton) unit. A Principal Aquifer comprises layers of rock or drift deposits that have high intergranular and/or fracture permeability (usually provide a high level of water storage). They may support water supply and/or river base flow on a strategic scale.

5.5.9 The site is situated within an Environment Agency Source Protection Zone 3 or the "Total Catchment" which is defined as the area around the source within which all groundwater recharge is presumed to be discharged at the source. One licensed groundwater abstraction has been identified within 2km of the site.

5.5.10 Groundwater is recorded to have been encountered across the wider site both during the intrusive investigation and during the post fieldwork monitoring visits undertaken as part of the Coffey 2015 works. Perched water was encountered within the Made Ground deposits between approximately 0.5m below ground level (BGL) and 1.75m BGL. Groundwater was also recorded in the sandstone at depths ranging between approximately 2.15m BGL and 5.8m BGL.

5.5.11 In addition, the Coffey report also advises that some post fieldwork ground gas monitoring was carried out, the results of which suggest the site has been classified as Characteristic Situation CS1 (i.e. low risk). However, it should be noted that further ground gas monitoring would be needed to generate a comprehensive ground gas regime risk assessment for planning purposes. This would be done in advance of any works being started on site to reduce any risk as a result of ground gas, although the risk is considered low given the limited Made Ground and sources of ground gas from site borehole data.

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Potential Sensitive Receptors

5.5.12 Land contamination is regulated under several regimes, including environmental protection, pollution prevention and control, waste management, planning and development control, and health and safety legislation. The primary regulatory regimes under which contaminated land are managed in the UK are under the planning process described in the National Planning Policy Framework and under Part 2A of the Environmental Protection Act. The framework for the assessment of potential land contamination adopted in this assessment is based on current guidance documents regarding the implementation of these regimes and the assessment of potentially contaminated land, with particular reference to: the Environment Agency Model Procedures and their Guiding Principles on Land Contamination; and the relevant British Standard (BS10175:2011+A2:2017).

5.5.13 Potential sources of contamination were identified (see Table 5—6). These are primarily associated with Made Ground present on the site and due to the historical use of the site. Receptors are detailed in Table 5—7.

Table 5—6 Potential sources of Contamination

Potential Source	Location	Likely Age	Potential Contaminants of Concern
Made Ground	Onsite	From 1859 to present	Metals, sulphates, Polycyclic Aromatic Hydrocarbons (PAHs), solvents, fuel and oil waste and asbestos.
Fuel and oil spills from car parking or tramway retained within soils	On and off site	From 1970s to present	Petroleum hydrocarbon, fuel, oils.
Ground gas sourced from Made Ground	On and off site	From 1859 to present	Methane, carbon dioxide.
Various commercial / industrial site uses	On and off site	From 1859 to present	Leachable contaminants: metals, PAHs, petroleum, hydrocarbons.

Table 5—7 Identified receptors

Receptor		Pathway
Human Health	Future site users / visitors.	Direct / dermal contact. Inhalation of contaminated dusts, gas and vapour.
	Offsite land users.	Inhalation / ingestion of contaminated dust.
	Investigation and construction workers.	Direct / dermal contact. Ingestion / inhalation of contaminated soils. Inhalation of gas and vapour.
Controlled Waters	Principal Aquifer within the Chester Formation.	Leaching of contaminants through permeable strata.
Below Ground Infrastructure	Buried concrete foundations. Services pipework (if any).	Direct contact.

5.5.14 Based on the above, the conceptual model of the site has not identified any significant source-pathway-receptor linkages.

5.5.15 There is a low to moderate risk to human health during demolition and construction in respect of the slightly elevated levels of heavy metals (lead & nickel), Total Petroleum Hydrocarbons (TPH) and PAHs above the residential without plant uptake threshold within the Made Ground. The elevated results of TPH/PAH are primarily related to samples which contain tarmac fragments. The reports also advise that all results from the natural samples tested were below the residential threshold criteria.

5.5.16 Slightly elevated PAH results were recorded within the groundwater samples which exceeded UK Drinking Water Standards. These thresholds are considered onerous for the site and in relation to the proposed development, therefore the risk to controlled water is low.

Potential Effects

5.5.17 The 2017 EIA Regulations introduced human health as a factor that could be subject to significant environmental effects arising from new development and as such, the potential for the proposed development to give rise to effects of this nature has been considered within this EIA Scoping Report.

5.5.18 The site is located in an urban environment, surrounded by existing buildings and structures, primarily covering wider university uses and residential areas.

5.5.19 There will be some short-term impacts to human health during the demolition and construction phase with the potential for accidental spillages, dust and noise and vibration arising from various activities. These will be considered, and mitigation will be proposed as part of a Construction Environmental Management Plan (CEMP), which will form a planning condition associated with the outline planning consent. Relevant mitigation will also be outlined in the Demolition Environmental Management Plan (DEMP) (for Phase 1 demolition only) which will be submitted with the planning application.

5.5.20 Other developments within a 500 m radius of the site are considered unlikely to have a significant cumulative effect in terms of ground and groundwater due to the nature of the baseline ground conditions and immobile nature of the ground contamination recorded.

Table 5—8 Summary of assessment scope

Receptor	Impact	Potential Effect	Scoped In / Out
Human Health – current site users / future site users. Construction workers.	Release of contaminants / ground gas during demolition /construction	Exposure pathways to contamination in Made Ground - oral ingestion of soil, dermal contact of soil, soil dust inhalation. Migration of ground gas.	Scoped out – construction phase mitigation measures to mitigate
Human health – off-site land users	Release of contaminants / ground gas during demolition / construction	Outdoor inhalation of site dust. Migration of ground gas.	Scoped out - construction phase mitigation measures to mitigate
Environment – Controlled Waters (Principal Aquifer – Chester Formation)	Release of contaminants during demolition / construction	Vertical migration of leachate from on-site Made Ground. Spillage from fuel in car parks/construction plant/storage areas.	Scoped out - construction phase mitigation measures to mitigate
Property – Below Ground Infrastructure	Release of contaminants during demolition / construction	Vertical migration of leachate from on-site Made Ground. Spillage from fuel in car parks/construction plant/storage areas.	Scoped out - construction phase mitigation measures to mitigate

Conclusion

5.5.21 The Phase 1 Environmental Risk Assessment (Appendix A) has defined the risks in relation to the redevelopment of the site on human health and the environment, including controlled waters.

5.5.22 The Coffey Geotechnics Limited investigation / clarification of the ground model carried out in 2015 with respect to areas of Made Ground has further established baseline conditions with respect to ground contamination, groundwater contamination and potential for ground gas from on-site and off-site sources.

5.5.23 Information from the ground investigation undertaken at the site to date has not identified any significant ground constraints that might render the site unsuitable for the proposed development. The presence of Made Ground will likely give rise to minor potential (not significant) impacts in the demolition and construction phase

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with an overall improvement for the operational phase of the proposed development due to clean cover (hardstanding and soft landscaping build ups).

5.5.24 The risks during demolition and construction can however be adequately managed (through industry recognised standards and best practice measures), and so the redevelopment of the site is unlikely to generate any significant ground conditions (including groundwater) related environmental effects. The risks can be adequately managed so as not to cause unacceptable harm to human health, the built environment, ecology or controlled waters.

5.5.25 As such, it is considered that the risks and resultant effects are sufficiently well understood and that based on the information currently available, it is likely that the l effects associated with ground conditions and groundwater would not be significant

5.5.26 The risks associated with UXO during demolition and construction need to be managed in accordance with CIRIA 681 Unexploded Ordnance (UXO) Five Point Plan.

5.5.27 Copies of the 2015 documentation are appended to this report. Buro Happold will prepare an updated Phase 1 Desk Study in respect of the proposed development, in accordance with current planning policy and legislation, which will form a standalone technical report with the future planning application.

5.5.28 It is envisaged that several procedures will need to be fulfilled pre-commencement of the works across the site to ensure the protection of human health and the environment. The procedures are standard practices that need to be undertaken prior to the start of below ground works on any site and would be undertaken in accordance with relevant legislation. It is envisaged that the fulfilment of these procedures would be secured through appropriately worded planning conditions attached to the planning permission.

5.5.29 On the basis of this information, given that the baseline position of the site has not otherwise changed since 2015 and that significant effects are unlikely, it is considered that ground conditions can therefore be scoped out of the ES.

5.6 WATER RESOURCES AND FLOOD RISK

Introduction

5.6.1 This section of the EIA Scoping Report has been prepared by Buro Happold and has considered the potential effects of the proposed development on water resources and flood risk.

Baseline Conditions

5.6.2 According to the Environmental Agency flood map for planning, the site is located entirely in flood zone 1, defined as land assessed to have less than 1 in 1,000 (<0.1%) annual probability of river or sea flooding. Based on the above information, the site is considered to have a low probability of flooding from fluvial sources.

5.6.3 No part of the site is shown to be at risk of reservoir flooding according to the Environment Agency long term flood risk map.

5.6.4 Flooding from surface water is difficult to predict as rainfall location and volumes are difficult to forecast. In addition, local features can greatly affect the change and severity of the flooding. In terms of topography, existing levels to the north of the site are circa 44.5m Above Ordnance Datum (AOD). Levels fall from north to south to a level of circa 39.0AOD at the boundary of the site with Moseley Road.

5.6.5 The risk of surface water flooding shown on the mapping is qualitatively consistent with local topography. Environment Agency surface water flood maps indicate that the majority of the site is at a very low risk of surface water flooding (with an annual probability of less than 1 in 1,000 (<0.1%)). However, an area at low risk of flooding is identified within the south-east section of the site, which is more susceptible to flooding. Furthermore, an area at high risk of surface water flooding is located immediately outside the south-east boundary of the site.

5.6.6 According to the Manchester City, Salford City and Trafford Councils' Level 2 Hybrid Strategic Flood Risk Assessment (SFRA) (2011), the site lies within Levenshulme and Fallowfield Critical Drainage Area (CDA). The SFRA has developed CDAs where:

- 'There is a high risk of localised flooding from ordinary watercourses, including culverts surcharging and overland surface water flows, including the potential for flooding from the sewer network due to failure/blockage or exceedance events when the storm return period is greater than the sewer was designed for; or
- Where there are areas of significant redevelopment planned that could have a significant impact on surface water runoff to local watercourses and the sewer network.'

5.6.7 The site is situated within an Environment Agency Source Protection Zone 3 or the "Total Catchment" which is defined as the area around the source within which all groundwater recharge is presumed to be discharged at the source. One licensed groundwater abstraction has been identified within 2km of the site.

5.6.8 The Manchester, Salford, and Trafford Level 2 SFRA does not identify the site as being in area at risk of groundwater flooding, however perched groundwater has been encountered within the Made Ground beneath the site and also within the sandstone (see Ground Conditions section above).

Potential Sensitive Receptors

5.6.9 There are no known watercourses or waterbodies within the boundary of the site. The following potentially sensitive receptors have been identified for the proposed development:

- Fallowfield Brook (surface water) - a historic watercourse that has been culverted within Moseley Road, south of the site. This culvert is identified as a 1500mm public surface water sewer on United Utilities records (and it is therefore assumed that Fallowfield Brook is now part of the public sewer network and under the management of United Utilities);
- Chorlton Platt Gore Brook (water quality) – an ordinary watercourse located approximately 250m north of the site;
- Cringle Black Brook (water quality) – a main river located approximately 400m south of the site;
- Water services infrastructure (combined sewer – foul and potable) – United Utilities sewer records show the site is surrounded by extensive network of combined sewers. A 900mm and 500mm combined sewer runs from south to north along Wilmslow Road to the west of the site. To the south there is a 1000mm and 525mm combined sewer running from east to west along Moseley Road. Within Whitworth Lane to the east of the site, a 375mm combined sewer runs south before connecting into the sewers within Moseley Road;
- Water services infrastructure (surface water) – a 225m surface water sewer is shown to run south within Whitworth Lane;
- Site users; and
- Construction staff

Potential Effects

5.6.10 The proposed development will potentially have the following effects during the demolition and construction phase:

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- Impacts associated with demolition and construction phases on the Chorlton Platt Gore Brook and Cringle Black Brook (i.e., due to an increase in sediment loads, release of hydrocarbons and oils, accidental leaks and use of hazardous materials, dust and debris, and leaks or breakage of temporary sewerage systems);
- Clogging of the surface water sewer system; and
- Flood risk to construction workers and plant during the demolition and construction period.

5.6.11 However, these effects are not likely to be significant with the DEMP and CEMP for the proposed development in place. This will ensure that the risk of fuel and oil contamination is minimised by reducing the risk of accidental spillage as well as the severity of a spillage should it occur. This includes the use of appropriate containers, the construction of bunded areas within which fuels and oils will be stored and vehicles refuelled, and the implementation of an incident response plan.

5.6.12 The proposed development will potentially have the following effects during operation:

- Impact associated with pollutants contained in surface water runoff on the water quality of the Chorlton Platt Gore Brook and Cringle Black Brook;
- Impact on water services infrastructure (surface water);
- Increased foul water discharge;
- Increased flood risk for Fallowfield Brook, Chorlton Platt Gore Brook and Cringle Black Brook; and
- Increase in flood risk on site users.

5.6.13 However, these effects are not likely to be significant, with recommendations of a Flood Risk Assessment (FRA) and Outline Drainage Strategy in place.

Conclusion

5.6.14 With a low residual flood risk and a very low to low risk of surface water flooding, no likely significant effects are anticipated to arise with respect to flood risk, surface water drainage and foul water drainage. A standalone FRA and an appropriately designed Outline Drainage Strategy with integrated Sustainable Drainage Systems (SuDS) will be submitted with the planning application for the proposed development.

5.6.15 Furthermore, no likely significant effects are anticipated to water resources throughout the demolition and construction works following the implementation of a DEMP and CEMP and various standard mitigation measures both pre-commencement and throughout the works.

5.6.16 On this basis, no further impact assessment work in respect of water resources, drainage and flood risk shall be presented within the ES and this topic will be scoped out of the EIA.

5.7 TRAFFIC AND TRANSPORT

Introduction

5.7.1 This section of the EIA Scoping Report has been prepared by Buro Happold and has considered the potential effects in relation to traffic and transport.

Potential Sensitive Receptors and Potential Effects

5.7.2 Whilst construction of the proposed development would inevitably lead to additional construction vehicle movements on the highway network, this would result in a temporary disruption to traffic and transport. The overall volume of construction traffic is expected to be small in the context of the future baseline traffic flows on the surrounding road network.

5.7.3 Given that the increased traffic levels during the demolition and construction phase would be temporary and mitigation measures will be implemented by managing construction traffic through the implementation of the CLP (secured by planning condition), effects on road users related to delay, safety and amenity are unlikely to be significant.

5.7.4 Whilst the proposed development seeks to provide an increase in the number of student residential units available in the area (proposed uplift of circa 950 beds), there is no additional car parking proposed (with the exception of a small amount of disabled parking) and is therefore not expected to generate transport impacts that would affect sensitive local receptors.

5.7.5 Once the proposed development is complete and operational, the majority of person trips to / from the site are expected to be by public transport and other sustainable travel modes (such as walking and cycling).

5.7.6 It is envisaged that either or both a Construction Environmental Management Plan (CEMP) or a Construction Logistics Plan (CLP) will be required as part of a reserved matters application or demolition proposals beyond Phase 1. Both of these would include transport matters and will set out best practice environmental approach to demolition and construction and a framework for a range of measures to help mitigate the temporary environmental impact of construction activities on the surrounding community. This would include proposals for a Construction Traffic Management Plan (CTMP) to define construction vehicle routes as well as appropriate controls to manage and co-ordinate the movement of vehicles and pedestrians in and around the site.

Conclusion

5.7.7 The planning application will be supported by a standalone Transport Assessment (TA), which will include sections on relevant transport policy; accessibility by all modes, and an assessment of the impact of the proposed development on the operation of the local transport network. The scope of this TA will be discussed and agreed in principle with highway officers at MCC during pre-application discussions.

5.7.8 In addition, sustainable travel modes will be promoted at the site as part of a Travel Plan and/or input into the Design Principles document. This will seek to encourage the use of sustainable travel modes and include measures to ensure that university residents travel by non-car modes and in particular encourage a modal shift to healthy travel modes such as walking and cycling.

5.7.9 Based on the availability of public transport services in the local area, and taking into account the implementation of travel planning measures and the car-free proposals, the effect of the completed and operational development is not expected to give rise to significant traffic and transport effects on the transport networks.

5.7.10 In view of the above, it is considered that traffic and transport should be scoped out of the ES.

5.8 ARCHAEOLOGY

Introduction

5.8.1 This section of the EIA Scoping Report has been prepared by Salford Archaeology and has considered the potential effects on archaeology.

Baseline Conditions

5.8.2 A desk-based archaeological assessment has been prepared by Salford Archaeology in 2023 (see Appendix B). This involved synthesis of existing data (such as data extracted from the Greater Manchester Historic

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Environment Record for a 750m radius around the site and the National Heritage List for England), archival resources and previous studies undertaken within the search area, including previous archaeological assessments. A site walkover survey was also undertaken to assess the character and condition of the site.

5.8.3 No prehistoric remains are known within the site. Prehistoric remains in Manchester are often based on chance finds, the nearest of which was discovered 650m to the south-west of the site and comprises a Neolithic stone axe (HER 1238.1.0).

5.8.4 No Roman remains are known within the site or surrounding area. Roman activity is focused on the military fort of Mamucium, its extramural settlement (located 4km north-west of the site) and the associated network of Roman roads that linked the fort to other military installations throughout the northwest.

5.8.5 No early medieval remains are known within the site, although the presence of the nearby Nico Ditch indicates that the site may have witnessed some early medieval activity. One of the only surviving sections of Nico Ditch lies 160m north-west of the site and is designated as a scheduled monument (List entry: 1015132). The scheduled section of the ditch is currently identifiable in Platt Park as a linear earthwork, which lies within an area of low-lying ground between two mosslands to the east and west of the site of the Anglo-Saxon town of Manchester. The name of the ditch is firmly Anglo-Saxon in origin, and it marks the boundary between several medieval townships along its length. The boundary was territorial and likely constructed during the administration of the Anglo-Saxon kingdoms between AD 600 and the 10th century (HER 1404.1.11). Nico Ditch continued along an east to west alignment, 160m to the north of the site, near to the present-day Old Hall Lane.

5.8.6 No late medieval sites are known within the site, and it likely lay within an area of undeveloped or agricultural land throughout the period. Birch Hall and potential moat (HER 1396.1.0) is the nearest known late medieval site, which lay 450m north-east of the site.

5.8.7 Settlement activity (HER 9773.1.0) began to develop and expand in the Fallowfield area during the post-medieval period. A small cottage or farmstead seems to have been erected within the site by the late 18th century, which was surrounded by fields. In addition, Wilmslow Road had been established alongside the west site boundary, whilst Withington Lane had been partly laid to the east of the site.

5.8.8 By the mid-19th century, the site consisted of a patchwork of fields, presumably defined by hedgerows. A parish boundary also ran through the southern part of the site and could have earlier origins. A footpath or track ran broadly east to west through the centre of the site. The building that had once stood within the site in the late 18th and early 19th centuries no longer existed.

5.8.9 By the late 19th century, the entire site area had been developed into grand Victorian villas, with ornamental gardens and orangeries. The same arrangement of buildings lay within the site into the late 1950s, except one of the properties had been extended and converted into 'The Faithful Companions of Jesus Grammar School'.

5.8.10 The former Victorian villas were progressively cleared throughout the 1960s and 70s and redeveloped by the UoM into Owens Park, currently known as the Fallowfield Campus.

Potential Sensitive Receptors

5.8.11 Potential receptors, including their level of sensitivity / significance are shown in Table 5—12**.**

5.8.12 The significance assessment uses the approach to assessing heritage value contained within '*Guidance on Heritage Impact Assessments for Cultural World Heritage Properties*' issued by the International Council on Monuments and Sites (ICOMOS) in January 2011.

5.8.13 Table 5—9 shows the criteria for determining the sensitivity / value of archaeological sites / receptors.

Table 5—9 Sensitivity / value of heritage asset (receptor) criteria (ICOMOS 2011)

Sensitivity / Value	Description
Very High	Sites of acknowledged international importance inscribed as World Heritage (WH) property; Individual attributes that convey Outstanding Universal Value (OUV) of the WH property; and Assets that can contribute significantly to acknowledged international research objectives (ICOMOS, 2011).
High	Nationally designated Archaeological Monuments protected by the State Party's laws; Undesignated sites of the quality and importance to be designated; and Assets that can contribute significantly to acknowledged national research objectives (ICOMOS, 2011).
Medium	Designated or undesignated assets that can contribute significantly to regional research objectives (ICOMOS, 2011)
Low	Designated or undesignated assets of local importance; Assets compromised by poor preservation and/or poor survival of contextual associations; and Assets of limited value, but with potential to contribute to local research objectives (ICOMOS, 2011).
Negligible	Assets with little or no surviving archaeological interest (ICOMOS, 2011).

5.8.14 The impact was assessed in terms of the sensitivity of the site to the magnitude of change or scale of impact during any future redevelopment scheme. The magnitude, or scale of an impact is often difficult to define, but has been termed as major, moderate, minor or negligible as shown in Table 5—10.

Table 5—10 Scale of Impact Magnitude (ICOMOS 2022)

Magnitude	Description
Major	Changes to attributes that convey OUV of WH properties. Most or all key archaeological materials, including those that contribute to OUV such that the resource is totally altered.
Moderate	Changes to many key archaeological materials, such that the resource is clearly modified.
Minor	Changes to key archaeological materials, such that the resource is slightly altered.
Negligible	Very minor changes to key archaeological materials or setting.

5.8.15 The interaction of the scale of impact (Table 5—10) and the importance of the archaeological site Table 5—9 produce the impact significance. This may be calculated by using the matrix shown in Table 5—11**.**

Table 5—11 Significance Matrix (ICOMOS 2011)

Value of heritage asset (receptor)	Scale & severity of impact				
	No change	**Negligible change**	**Minor change**	**Moderate change**	**Major change**
Very High	Neutral	Slight	Slight/Moderate	Large/Very large	Very large
High	Neutral	Slight	Slight/Moderate	Moderate/Large	Large/Very large
Medium	Neutral	Neutral/Slight	Slight	Moderate	Moderate/Large
Low	Neutral	Neutral/Slight	Neutral/Slight	Slight	Slight/Moderate
Negligible	Neutral	Neutral	Neutral/Slight	Neutral/Slight	Slight

5.8.16 The scoping assessment of the site has concluded that the proposed development, in the absence of any mitigation, has potential to cause slight harm to non-designated buried archaeological remains (not significant) (Table 5—12). This is based on an assumption that the scale of impact will be moderate, and the value of the resource is likely to be of low (local) significance (Table 5—9).

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Table 5—12 Significance assessment of archaeological receptors within the site

Receptor	Sensitivity	Magnitude / Impact	Potential Effect (pre-mitigation)	Scoped in / Out
Demolition and Construction Phase				
Post-medieval to late 18th-century field boundaries	Low	Moderate change	Slight	Scoped out
Post-medieval farmstead or cottage	Low	Moderate change	Slight	Scoped out
Parish boundary	Low (potentially Medium)	Moderate change	Slight (to Moderate)	Scoped out
Victorian villas	Low	Moderate change	Slight	Scoped out
Orangeries / hot houses	Low	Moderate change	Slight	Scoped out

Potential Effects

5.8.17 Initial research has shown that the site is of archaeological interest and has some potential to contain buried remains dating from the post-medieval to industrial periods. Remains may include post-medieval field boundaries, a post-medieval farmstead or cottage, a parish boundary, late 19th-century Victorian Villas and orangeries / hot houses.

5.8.18 The delivery of the demolition and construction phase will involve ground-breaking works that have the potential to affect any surviving archaeological remains within the site. Any such remains that do exist within the site are likely to be non-statutory archaeological remains of low (local) significance (see Table 5—9) and, without a programme of mitigation, the scheme could damage or destroy these remains.

5.8.19 The exact scope and extent of any further investigation of the site area will be determined by the Greater Manchester Archaeological Advisory Service (GMAAS), in their capacity as archaeological advisor to MCC, however, it may be anticipated that a programme of intrusive archaeological investigation may be required to establish the presence or absence of buried archaeological remains and, if present, their extent and significance.

5.8.20 Should significant archaeological remains be encountered during the intrusive archaeological works, further excavation may be required to offset the harm of the development to the buried archaeological resource, in line with the guidance provided by the National Planning Policy Framework. The scope and extent of any such further investigation will be determined by the GMAAS, in their capacity as archaeological advisor to Manchester City Council.

5.8.21 The proposed mitigation measures will ensure that the potential effects are controlled and render residual effects insignificant.

Conclusion

5.8.22 The scoping assessment of the site has concluded that the proposed development, in the absence of any mitigation, has potential to cause slight harm (not significant in EIA terms) to non-designated buried archaeological remains, particularly potential remains dating from the post-medieval to industrial periods. This is based on an assumption that the scale of impact will be moderate, and the value of the resource is likely to be low.

5.8.23 Whilst there is high potential for below-ground remains of low (local) importance to survive *in-situ*, significant effects are unlikely (i.e. less than substantial harm). It would thus be appropriate for archaeological issues to be scoped out of the ES, given that a comprehensive archaeological desk-based assessment to assess the potential impact of the proposed development on the sub-surface archaeological resource is in the process of being prepared. Intrusive archaeological investigation of the site will also be carried out in advance of development; the presence or absence of archaeological remains require verification through a programme of intrusive archaeological investigation, prior to development and, pending the extent and significance of any surviving buried remains, further archaeological excavation may be required to mitigate the loss of buried remains during the proposed demolition and construction programme.

5.8.24 Consequently, it is considered that there will be no significant archaeological impacts associated with the proposed development and this topic will be scoped out of the ES.

5.9 SOCIO-ECONOMICS

Introduction

5.9.1 This section of the EIA Scoping Report has been prepared by Buro Happold and has considered the potential effects of the proposed development in relation to socio-economics.

Baseline Conditions

5.9.2 As previously noted, the existing site is currently UoM student accommodation and university-related land use. Oak House and Woolton Hall are still in use as student accommodation (Owens Park is now closed). There is limited employment land use currently occupying the site (a café on the ground floor of Owens Park tower along with a Student Union bar) and all existing buildings will be demolished to make space for the proposed development.

Potential Sensitive Receptors

5.9.3 The socio-economic assessment considers the impacts during the demolition/construction and operational phases of the proposed development. The likely sensitive receptors of the proposed development are considered to be:

- Existing and future local businesses and employees;
- Existing and future local residents/students; and
- Local social infrastructure resources (including open space and health facilities).

Potential Effects

5.9.4 During demolition and construction, the proposed development will generate temporary employment opportunities, both direct and indirect.

5.9.5 During operation, the proposed development will result in the following potential effects:

- The creation of long-term, direct, indirect and induced employment opportunities from any proposed commercial uses on-site such as those from the supporting amenity uses;
- Additional local spending associated with the students and employees brought to the site by the proposed development; and
- The new students expected to reside within the proposed PBSA units and the demand for social infrastructure from the on-site population, including primary healthcare and open space provision.

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5.9.6 Despite the potential beneficial effects, it is not considered that the socio-economic effects relating to the proposed development are likely to be significant.

5.9.7 A standalone socio-economics regeneration statement will be completed for the proposed development and will be submitted alongside the planning application to include the potential effects above.

Conclusion

5.9.8 It is not anticipated that the proposed development will have significant effects in relation to socio-economics. Therefore, a socio-economics ES chapter is not considered necessary, and this topic will be scoped out of the EIA.

5.10 WASTE MANAGEMENT

5.10.1 It is proposed that waste management will be scoped out of the EIA for the proposed development as effects associated with waste management will be suitably mitigated through other means.

5.10.2 To mitigate effects during the demolition phase of the proposed development, a DEMP will be produced and submitted alongside the planning application, focussing on phase 1 of the demolition at this stage.

5.10.3 During the construction phase waste management will be covered under the contractor's waste management and procurement policies. Additionally, a CEMP will be produced for the construction phase, which will provide suitable mitigation measures in line with industry best practice.

5.10.4 For the operational phase of the proposed development, operational waste management will be managed in line with relevant policies and building standards. An Operational Waste Management Strategy (OWMS) will be produced and submitted alongside the planning application. This report will calculate estimated operational waste arising and detail the strategy for waste storage, transfer and collection.

5.11 ARTIFICIAL LIGHTING

5.11.1 The Institute of Lighting Professionals (ILP) publication 'Guidance Note for the Reduction of Obtrusive Light' (GN01:2020) makes recommendations aimed particularly at avoiding nuisance from obtrusive external lighting installations. The guidance advises that this can be achieved by good lighting design through careful selection of light sources, luminaires and the method of installation.

5.11.2 Any external lighting around the proposed development will be suitably designed and specified, taking on board the ILP recommendations, so that light spillage is minimised. Additionally, lighting will need to be sensitively designed in response to habitats of value (such as the woodland belts on the periphery) and ecological receptors on site, including bats.

5.11.3 With suitable design and mitigation, a dedicated ES chapter assessing light spill is not considered necessary and is scoped out of the ES. However, it is anticipated that preparation of a Lighting Strategy will be included as a planning condition for the proposed development.

5.12 ELECTRONIC INTERFERENCE

5.12.1 Due to its high frequency and reliance on static aerials, television signal reception is vulnerable from interference from buildings. A building of a significant mass and height can cause disruption. However, the digital switchover is now complete. This switched off the UK's analogue TV signal and replaced it with digital signal. The digital switchover means that everyone is able to receive digital TV through an aerial (Freeview), as part of Government policy to roll this out. It is proposed that electronic interference will not be considered within the ES, as no significant effects in EIA terms are anticipated. Instead, a standalone TV Reception assessment will be prepared and submitted with the planning application.

5.13 AVIATION

5.13.1 Manchester Airport is located approximately 10km to the south-west of the site. It is proposed that aviation will not be included within the ES, as this primarily relates to health and safety requirements that are not necessarily well aligned to the EIA process. In addition, the existing Owens Park tower, at 18 storeys in height, exceeds that of the tallest building of the proposed development (maximum height of 14 storeys, plus roof plant).

5.14 MAJOR ACCIDENTS AND/OR NATURAL DISASTERS

5.14.1 The proposed development is unlikely to produce a significantly elevated risk of accidents or natural disasters outside of the existing context. Demolition and construction practices will adhere to good practice guidance and a DEMP and CEMP will be prepared for the demolition and construction phases respectively. This will include mitigation as proposed by the various assessments to be included within the ES.

5.14.2 As for the potential for accidents and/or disasters to impact on the proposed development itself, the proposed development will be designed in accordance with industry standards, including for drainage and building regulations. Furthermore, the FRA will assess the potential impacts and effects relating to flood risk to the proposed development itself. Additionally, a climate change resilience and adaptation risk assessment will be undertaken, and a summary included in the 'Alternatives and Design Evolution' ES chapter.

5.14.3 The proposed development itself would not include any potentially dangerous operations such as the use and processing of hazardous chemicals, however, the proposed land uses may be considered potentially vulnerable to malicious incidents such as terrorist attacks and public disorder (e.g., protests).

5.14.4 Considering the commitments and measures outlined in this section of the EIA scoping report, a dedicated ES chapter assessing major accidents and/or natural disasters is scoped out of the ES.

5.15 ENVIRONMENTAL ISSUES TO BE SCOPED INTO THE ES

Technical Chapters

5.15.1 The assessments will focus on the potentially significant effects associated with that topic area. The proposed technical studies for inclusion within the EIA are as follows:

- Air Quality;
- Noise and Vibration;
- Ecology and Biodiversity;
- Climate Change/Greenhouse Gas emissions; and
- Heritage, Townscape and Visual Assessment.

5.15.2 These are described further in Chapter 6.

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5.16 CROSS CUTTING ISSUES

Climate Change resilience and adaptation

5.16.1 The assessment of greenhouse gas (GHG) emissions associated with the proposed development (climate change mitigation) shall be reported upon in the 'Greenhouse Gas Emissions' ES Chapter. The effects of climate change on the development itself shall be assessed through a climate change resilience risk assessment, a summary of which shall be provided in the 'Alternatives and Design Evolution' ES chapter, as per the IEMA EIA Guide to Climate Change Resilience and Adaptation (2020). Additionally, in line with the IEMA (2020) guidance, the extent to which climate change exacerbates or ameliorates the effects of the project on the environment shall be covered across each ES chapter, where relevant (i.e. in-combination climate change effects). There shall be a dedicated section in each chapter where the technical specialist will discuss the extent to which the effects of climate change shall affect the significance of effects identified.

Human Health

5.16.2 Potentially significant effects on human health will be directly or indirectly considered across a number of the technical chapters of the ES, rather than in a dedicated ES chapter. For example, exposure to dust and pollutants will be assessed within the air quality ES chapter, exposure of future residents to noise disturbance will be assessed in the noise and vibration ES chapter and effects to visual amenity and key views will be assessed in the landscape and visual impact assessment. Non-significant human health aspects will be considered in the relevant standalone reports submitted with the planning application, for example in the ground conditions Phase 1 Desk Study, FRA and Outline Drainage Strategy.

5.17 ENVIRONMENTAL STATEMENT GENERAL CHAPTERS

5.17.1 Further to the technical chapters, the following chapters will also be provided as part of the ES:

- Introduction;
- Development Description;
- Alternatives and Design Evolution;
- Demolition and Construction;
- Methodology;
- Cumulative and interactive effects (intra-project effects only); and
- Residual effects and conclusions, including a summary of supplementary mitigation measures.

5.18 VOLUMES OF THE ES

5.18.1 The ES will consist of the following volumes:

- Environmental Statement: Non-Technical Summary;
- Environmental Statement Volume I: Main Report;
- Environmental Statement Volume II: Built Heritage, Townscape and Visual Impact Assessment; and
- Environmental Statement Volume III: Appendices to Main Report.

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6 TOPICS SCOPED IN

6.1 INTRODUCTION

6.1.1 Agreeing the assessment methodology is a crucial stage of the process and is the primary purpose of requesting a scoping opinion. Ensuring the EIA methodology is acceptable to decision makers and consultees helps to avoid unnecessary delays in the post-planning determination process.

6.1.2 The assessment methodologies for each of the topic areas that will determine the impact of the proposed development on environmental receptors are set out below. To aid MCC and the statutory consultees in determining whether the methodology proposed is adequate, some baseline contextual information is provided, and preliminary consideration is given to potential areas of significant effects.

6.2 AIR QUALITY

Assessment context

6.2.1 Part IV of the Environment Act 1995[1] places a duty on local authorities to undergo a process of Local Air Quality Management. This requires local authorities to review and assess air quality within their boundaries against a series of air quality objectives (AQOs) and appraise planning policy, transport plans and new development in line with these assessments.

6.2.2 Air Quality Management Areas (AQMAs) are declared in areas where the AQOs are not likely to be met[2]. The Greater Manchester AQMA covers much of the city centre and many roadside areas farther from the city centre. The AQMA includes sections of Winslow Road and Moseley Road which border the site to the west and south, respectively (Figure 6—1). This highlights that air quality is a significant issue in the area, especially at the roadside of major roads.

6.2.3 MCC monitor air quality at 39 locations, using non-automatic diffusion tubes and three continuous automatic monitoring sites. The nearest monitoring site is an urban background diffusion tube on Peaceville Road, 720 m to the east of the site (MA81NO) (Figure 6—1). This site recorded an annual average NO_2 concentration of 23.1 $\mu g/m^3$ in 2019, significantly below the AQO (40 $\mu g/m^3$).

6.2.4 However, concentrations are significantly elevated roadside of major roads in the area. For example, site MA75NO roadside of Stockport Road, recorded an annual average NO_2 concentration of 47.0 $\mu g/m^3$ in 2019. This is significantly greater than the 40 $\mu g/m^3$ AQO.

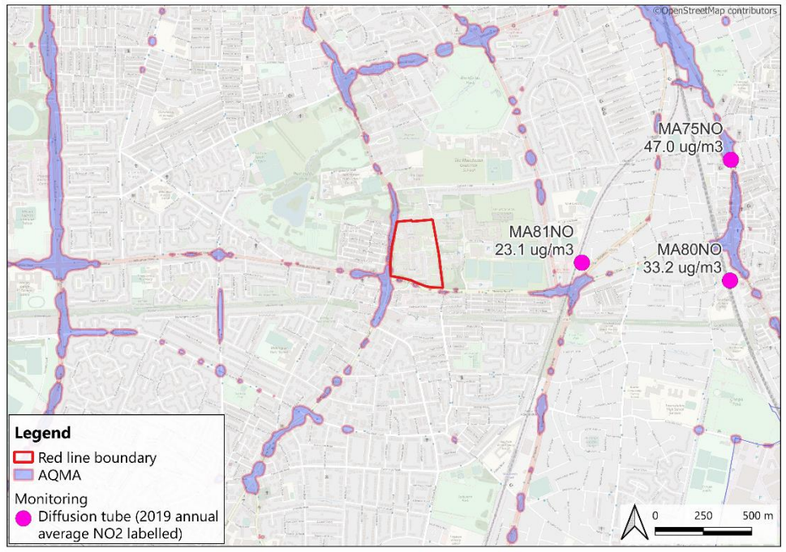


Figure 6—1 AQMAs and local authority air quality monitoring sites in the vicinity of the site

Scope of assessment

6.2.5 The air quality ES chapter will assess the impacts and subsequent effects of the proposed development on local air quality during both the demolition/construction and operational phases. The significance of potential effects, including cumulative (intra-project) effects, during both phases will be identified. Appropriate mitigation measures will be proposed where required.

6.2.6 The assessment will focus on impacts associated with nitrogen dioxide (NO_2) and particulate matter with an aerodynamic diameter of less than 10 microns (PM_{10}) and 2.5 microns ($PM_{2.5}$).

Potential demolition and construction effects

6.2.7 The potential for significant effects as a result of the demolition and construction of the proposed development will be addressed in the assessment by considering the following:

- Effects from dust and PM10 emissions generated during the construction phase, including from demolition, earthworks, construction activities and trackout. Proportionate mitigation measures, informed by the construction dust risk assessment shall be proposed. The significance of effects shall be reported after mitigation is applied, after which the residual effect will be not significant;
- Effects of emissions from construction traffic, in particular heavy-duty vehicles associated with construction works; and
- The potential for cumulative (intra-project) effects to take place as a result of the proposed development, during demolition and construction.

Potential operational effects

6.2.8 The potential for effects as a result of the operation of the proposed development will be addressed in the assessment by considering the following:

[1] HM Government. (1995). Environment Act. *Part IV.* https://www.legislation.gov.uk/ukpga/1995/25/part/IV

[2] Defra. (2022). Air Quality Management Areas (AQMAs). https://uk-air.defra.gov.uk/aqma/

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- Effects of emissions from road traffic generated as a result of the operation of the proposed development on human health;
- Effects associated with emissions from any on-site combustion plant/energy centre;
- Effects associated with existing and future sources of emissions on future receptors that would be introduced to the area through the proposed development; and
- The potential for cumulative (intra-project) effects to take place as a result of the proposed development during operation.

Assessment methodology

Technical scope

6.2.9 It is proposed that the following scope of works will be carried out:

- A review and summary of existing local, regional, national and international policies and guidelines regarding air quality and planning;
- Identify sensitive receptors to air pollution on and around the site with the potential to be affected by the proposed development;
- Qualitative assessment of dust and particulate impacts during the demolition and construction stage in accordance with Institute of Air Quality Management (IAQM) construction guidance3 to determine the likely impacts on sensitive receptors. The mitigation measures determined to be necessary to minimise any predicted effects will be recommended for implementation into a CEMP (via planning condition) accordingly in order to minimise dust and Particulate Matter (PM10) release;
- Owing to the outline nature of the application there is likely to be limited detail regarding predicted construction traffic generated by the proposed development. It is therefore recommended that assessment of construction traffic emissions is scoped out of this assessment and any necessary assessment be carried out at the detailed design/reserved matters stage.
- As there is likely to be a reduction in operational traffic resulting from the proposed development, detailed assessment of operational traffic emissions is scoped out of the assessment.
- With regards to onsite exposure to poor air quality, Greater Manchester's AQMA has been declared owing to exceedances of the annual mean air quality objective for NO_2, and the Greater Manchester AQMA boundary is based upon modelled isopleths that exceed 35µg/m^3, which considering the annual mean objective is 40µg/m^3, accounts for modelling uncertainties and can be regarded as a cautious approach. The modelled 35 µg/m^3 isopleth upon which the AQMA is based extends to a maximum of 15m from the roadside along Wilmslow Road. Taking into account the existing parameter plans and the fact that the existing perimeter planting which is to be retained occupies the area up to 20m from the roadside, the reduction in pollutant concentrations with distance from the roadside, as well as the future improvements in air quality that are predicted, it is considered unlikely that the proposed development will lead to any air quality objective exceedances at proposed receptor locations. Detailed assessment of onsite exposure will therefore be scope out of the assessment and consideration of onsite conditions will be assessed qualitatively.
- Owing to the outline nature of this application there is likely to be limited detail in terms of the proposed energy strategy, however it is anticipated that emission free heating plant will be utilised which will not give rise to any onsite emissions. Combustion plant emissions will therefore be assessed qualitatively based on the proposed energy strategy and recommend that any proposed combustion plant be assessed based on the detailed design at the reserved matter stage.

6.2.10 The assessment of impacts of air pollution on ecological sites has been scoped out due to there being no designated ecological sites in the vicinity of the site.

6.2.11 There are no existing significant odour sources that are likely to impact the amenity of users of the proposed development. In addition, the current proposals do not include any land uses that are likely to generate any significant odour emissions. Therefore, assessment of odour is scoped out of the assessment.

Baseline assessment

6.2.12 Baseline conditions will be established by a review of local monitoring data.

6.2.13 2019 is considered to be the most representative baseline year with fully ratified air quality monitoring data as this is the most recent full year that was not impacted by the COVID-19 pandemic. The restrictions imposed in response to the COVID-19 pandemic, in addition to the changes in travel patterns and industrial processes, significantly impacted pollutant concentrations making monitoring results from 2020 and 2021 atypical from previous years. Alternatively, if 2022 air quality monitoring and traffic data is available prior to carrying out the assessment, this year shall be presented.

Effect prediction and assessment of effect significance

6.2.14 Significance levels will be reported using the criteria set out in the IAQM and EPUK guidance on land-use planning and development control.

6.2.15 Mitigation measures for both the demolition/ construction and operational phase impacts of the proposed development will be dependent on the level of risk and significance of the impact. Construction mitigation will follow the IAQM's construction dust guidance. Operational mitigation measures will follow industry best practice and will be informed through professional experience and relevant guidance.

6.3 NOISE AND VIBRATION

Assessment context

6.3.1 The noise environment around the site is dominated by road traffic noise, primarily from Wilmslow Road which runs along the western site boundary, and Mosely Road which runs along the southern boundary. To the north and east of the site is existing student accommodation as well as various sports pitches further east which are understood to be associated with the UoM. Regarding vibration, no existing sources of vibration such as overground rail have been identified in the vicinity of the site.

6.3.2 It is noted that the site is already occupied by student accommodation and therefore there will be no change in the acoustic character of the area arising from the redevelopment of the site for the same purpose.

6.3.3 In the absence of the proposed development, the future noise environment is likely to continue to be dominated by road traffic noise. Whilst traffic flows may fluctuate over time, it is not expected that the acoustic character of the area and the baseline noise environment would materially change in the future.

[3] IAQM. (2014). Guidance on the assessment of dust from demolition and construction http://iaqm.co.uk/text/guidance/construction-dust-2014.pdf

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6.3.4 The nearest noise sensitive receptors to the site which would be considered in terms of potential noise and vibration impacts include:

- Sheavyn House (student accommodation) to the north;
- Richmond Park and Utterly House (both student accommodation) to the east;
- Residential dwellings units above commercial units on Wilmslow Road; and
- Residential and student accommodation to the south bordering Mosely Road.

6.3.5 As well as the EIA Regulations, the noise and vibration assessment will address the relevant requirements of the Noise Policy Statement for England, the National Planning Policy Framework, and the National Planning Guidance on Noise, as well as MCC policy.

Scope of assessment

6.3.6 The noise and vibration assessment will consider the following demolition and construction phase effects:

- Demolition and construction noise effects from equipment operating within the site boundary; and
- Vibration where piling or certain types of ground compaction are expected to occur in close proximity to sensitive receptors, i.e., within 100 m.

6.3.7 It is understood from the project traffic consultant that whilst the demolition and construction phase of the proposed development would inevitably lead to additional construction vehicle movements on the highway network, this would result in a temporary disruption to traffic and transport. The overall volume of construction traffic is expected to be small in the context of the future baseline traffic flows on the surrounding road network. Furthermore, a Construction Traffic Management Plan would be prepared and implemented prior to commencement of construction which would define construction vehicle routes. Therefore, it is proposed to scope out the assessment of demolition and construction traffic noise.

6.3.8 Regarding the operational phase of the proposed development, the noise impact of fixed building services plant serving the buildings will be considered.

6.3.9 It is understood that while the proposed development seeks to provide an increase in the number of student residential units compared to those currently on the site (proposed uplift of circa 950 beds), there is no additional car parking proposed (with the exception of a small amount of disabled parking) and is therefore not expected to generate transport impacts that would affect sensitive local receptors. The majority of trips to and from the site are expected to be by public transport and other sustainable travel modes (such as walking and cycling). Therefore, it is unlikely that any significant operational road traffic noise effects would arise, and any changes are likely to be negligible given the volume of existing traffic on Wilmslow Road and Mosely Road. Therefore, it is proposed to scope out an operational traffic noise assessment.

6.3.10 Once operational, it is not anticipated that the proposed development will include any significant sources of vibration and therefore operational vibration will be scoped out of the assessment.

6.3.11 Whilst not strictly part of the EIA, the suitability of the site in terms of the proposed noise sensitive accommodation being introduced will be assessed, forming an Appendix to the ES Chapter.

Potential demolition and construction effects

6.3.12 It is likely that the demolition and construction phase of the proposed development will result in the temporary generation of noise and vibration from any activities taking place on the site itself such as demolition, earthworks and the construction of the new buildings.

6.3.13 The potential significance of any effects from the demolition and construction phase will depend primarily on the type of activity being undertaken, which dictates the level of noise and/or vibration it produces, the distance of the activity from the nearby sensitive receptors, and the duration of the activity.

6.3.14 Temporary adverse vibration effects are only likely to be associated with the demolition/construction phase of the proposed development where piling or certain types of ground compaction methods are employed and will occur in close proximity (typically less than 100 m) from sensitive receptors. Where specific information is available that indicates that these methods are to be employed, the potential vibration effects associated with that activity will be assessed specifically. Where these activities do not form part of the proposed construction method or are sufficiently far from any receptors, vibration effects would be scoped out of the assessment.

Potential operational effects

6.3.15 Once the proposed development is completed and operational, there is the potential for noise from fixed building services plant to adversely affect surrounding noise sensitive receptors. However, it is anticipated that this can be mitigated by setting target noise levels at the surrounding receptors to be incorporated as part of the detailed design that plant noise will comply with.

Assessment methodology

Technical scope

6.3.16 The scope of the noise and vibration assessment will include:

- Determination of baseline noise environment through noise monitoring undertaken to be representative of the noise exposure of both the site and the surrounding sensitive receptors;
- Assessment of potential demolition and construction noise effects as a result of the proposed development; and
- Determination of target noise levels for fixed mechanical services plant that will serve the proposed development buildings.

6.3.17 As discussed, an assessment of the suitability of the site for the proposed noise sensitive uses, including outline glazing and ventilation strategies (this will form an ES Appendix).

Baseline assessment

6.3.18 The prevailing baseline noise environment will be established through a baseline noise survey undertaken at locations across the site which represent the likely noise exposure of the proposed development buildings to the existing sources of traffic noise and are also representative of the noise exposure of surrounding noise sensitive receptors identified in the section above.

6.3.19 The survey will be undertaken in accordance with the principles of BS 7445:2003 and BS 4142:2014+A1:2019. This will include a combination of unattended monitoring positions to capture data over a several weekdays and a weekend supported by shorter term attended measurements.

6.3.20 The survey locations, measurement duration and measurement parameters will all be agreed with the relevant officers at MCC prior to commencement of the survey.

Effect prediction and assessment of effect significance

6.3.21 The overarching approach to the identification and assessment of adverse noise effects is based on the NPPF, the Noise Policy Statement for England (NPSE), and the associated Planning Practice Guidance on Noise (PPG:N).

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6.3.22 Fundamental to this approach are the aims that potentially adverse effects on health and quality of life resulting from noise from new developments should be mitigated and minimised and that significant adverse effects should be avoided.

6.3.23 Key to the identification of adverse and significant adverse effects are the concepts of the Lowest Observed Adverse Effect Level (LOAEL) and Significant Observed Adverse Effect Level (SOAEL), introduced in the NPSE in 2010.

6.3.24 Current government policy does not include specific, quantified definitions of the LOAEL or SOAEL. The NPSE does note that the SOAEL is likely to be different for different sources of noise, for different receptors and at different times. Typically, thresholds to represent the LOAEL and SOAEL are taken from recognised guidance such as relevant British Standards, local planning guidance, regulations or research, and guidance produced by organisations such as the World Health Organisation, as well as accepted thresholds previously defined for other, similar, schemes.

Demolition and Construction

6.3.25 Calculation of the magnitude of both noise (and where applicable vibration) will be based upon the methods contained within BS 5228-1:2009+A1:2014 'Noise and Vibration Control on Construction and Open Sites Part 1 – Noise' and BS 5228-2:2009+A1:2014 'Part 2 – Vibration' as far as reasonably practicable. Demolition and construction noise predictions will be made based on available indicative information regarding the proposed demolition and construction methods and overall programme. Significance criteria for construction noise will be based on the thresholds described in Annex E of the British standard.

Operation

6.3.26 The potential effects of noise from fixed plant and equipment associated with the proposed development will be considered with reference to BS 4142:2014+A1:2019 'Methods for rating and assessing industrial and commercial sound'. It is unlikely that detailed information regarding the plant will be available at the time of the assessment, so it is proposed to specify appropriate target noise levels that the plant will comply with. These levels will be based on surveyed ambient (L_{Aeq}) and background (L_{A90}) sound levels at the nearest sensitive receptors, the guidance contained in BS 4142:2014+A1:2019, BS 8233:2014[vi], and MCC's Planning and Noise Technical Guidance.

6.3.27 MCC's Planning and Noise Technical Guidance sets out criteria for internal ambient and maximum noise level events for residential developments and requires that noise from external plant shall be designed to achieve a rating level of 5 dB (L_{Aeq}) below the typical background sound level (L_{A90}) at the nearest noise sensitive receptor.

6.4 ECOLOGY AND BIODIVERSITY

Assessment context

6.4.1 The ecology and biodiversity ES Chapter will consider the potential ecological impacts of the proposed development during the demolition/ construction and operational phases.

6.4.2 Semi natural habitats found on the site include other neutral grassland, patches of broadleaved woodland, broadleaved trees, and hedgerows. These habitats provide valuable foraging and nesting opportunities for wildlife, particularly bird and bat species, and contribute to a relatively high baseline ecology value for an urban located site. There are a total of 29 buildings on site with 22 identified to have some level of potential to support roosting bats. Previous bat surveys were undertaken on site in 2015 and identified the presence of a bat maternity roost within the Little Court building and two small day roosts identified in the Green Court and Tree Court buildings. Five protected species records were returned within the site boundary. These records comprise three records of common pipistrelle *Pipistrellus pipistrellus* bat roosts (corresponding to those previously listed), and two records of European hedgehog *Erinaceus europaeus*. Further bat surveys will be undertaken in the 2023 survey season (May to July) to update the previous surveys and support the planning application.

6.4.3 One non-statutory designated site has been identified within 1km of the site known as The Fallowfield Loop, a disused railway cutting designated as a Regionally Important Geological Site (RIGS). A feasibility study prepared by Buro Happold in November 2022 identified six parcels of Habitat of Principal Importance (HPI), also known as priority habitat types, within the site boundary. These six HPI's were all parcels of deciduous woodland, found in the north and south of the site.

6.4.4 Japanese knotweed *Fallopia japonica*, listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) was present on site at the time of survey. It is understood that there is a wider campus eradication programme to remove Japanese knotweed.

6.4.5 The presence of semi-natural habitats on site, historical records of bat roosts and the number of buildings with potential to support roosting bats, the potential for the habitats on site to support other species including nesting birds, the presence of the non-statutory designated site, and the presence of an invasive non-native species on site must be considered in the EIA.

6.4.6 A number of planning and framework documents at local and regional level are relevant for development of the site with regards to biodiversity. These include:

- Greater Manchester Strategy 2021-2031;
- 5-Year Environment Plan for Greater Manchester 2019-2024; and
- Manchester's Local Development Framework Core Strategy Development Plan Document 2012-2027.

6.4.7 Additional relevant policies include:

- Greater Manchester Biodiversity Action Plan;
- Biodiversity Strategy 2022-2030:
- The City of Manchester's Nature Recovery, Manchester Biodiversity Action Plan 2012–2016;
- Greater Manchester Green Infrastructure Framework; and
- Greater Manchester Ecological Framework.

Scope of assessment

6.4.8 The scope of the assessment includes:

- Producing an Ecological Impact Assessment (EcIA), as an Ecology ES Chapter to Chartered Institute of Ecology and Environmental Management (CIEEM) standards (2018).
- Establishing the baseline conditions currently existing at the site and surrounding area using the previously commissioned Preliminary Ecological Assessment and further bat surveys.
- Establishing the mitigation measures required to prevent, reduce or offset any significant adverse effects; the likely residual effects after these measures have been adopted; and opportunities for ecological enhancement.
- Undertake a biodiversity net gain assessment of the proposed development as a measure of habitat change.
- Review the requirements of relevant biodiversity legislation, regulations, plans and policies.

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Potential demolition and construction effects

6.4.9 In general, demolition and construction effects are considered to be:

- Loss of known, or potential, bat roosts and the potential for harm to roosting bats;
- Loss of and/or disturbance to flora and fauna;
- Loss of existing on-site habitats during site clearance;
- Spread of invasive species, specifically Japanese knotweed as identified on site.
- Damage/disturbance to adjacent sites/habitats of ecological value, or the species utilising these;
- Pollution (air quality, dust generation, pollution of habitats);
- Construction lighting; and
- Construction site hazards.

Potential operational effects

6.4.10 Operational effects of the proposed development on ecology include the potential for lighting, noise and human disturbance deterring fauna species from utilising the site and adjacent habitats. Similarly, overshadowing by tall buildings could also adversely affect semi-natural habitats and associated species.

6.4.11 There are opportunities for increasing the ecological value of the site with the proposed development, and achieving biodiversity net gain through a metric-based approach (utilising the Biodiversity Metric 4.0). This will demonstrate how post-development interventions support an improvement in habitats on site. Any loss of resting, nesting or foraging habitat for fauna should be replaced where possible, and opportunities for enhancement sought, particularly for species/habitats of conservation importance locally.

Assessment methodology

Technical scope

6.4.12 This chapter of the ES will assess the potential effects of the proposed development on ecology, including impacts on protected and priority species and habitats on and adjacent to the site. In addition, potential impacts on nearby statutory and non-statutory designated sites will be assessed, as well as the cumulative effects of the proposed development (inra-project effects only). Local and regional planning policies and Biodiversity Action Plans will be taken into account to assess the effects of the proposed development on locally important species and habitats.

6.4.13 There is potential for ecological enhancement of the site and the assessment will outline mitigation, compensation and enhancement plans to be implemented.

Baseline assessment

6.4.14 A preliminary ecological appraisal of the site was undertaken on the 3rd of November 2022, to identify and assess habitat features of significance and with potential to support protected species. The survey also included a ground level assessment of the trees on site and a preliminary roost assessment of the buildings to support roosting bats. The preliminary ecological appraisal found that out of a total of 29 buildings on site, 22 were assessed as having high, moderate or low potential to support roosting bats, and seven as having negligible potential. Previous surveys on site also identified the presence of a maternity roost and two day roosts for common pipistrelle bats on site. Ahead of any proposals to demolish or refurbish buildings identified to have bat roosting potential, further surveys including presence/ absence surveys are being undertaken to support understanding of the site and the requirements for mitigation and enhancement design and future licensing from Natural England. In addition, six trees on site were assessed as having low potential to support roosting bats. In line with best practice guidance, these trees will not require further surveys.

6.4.15 The survey also found the Schedule 9 invasive non-native plant species Japanese Knotweed was present on site between buildings B18 and B22. In addition, a number of other plant species listed under Schedule 9 were also identified on site during the habitat survey, which include Curled waterweed *Lagarosiphon major/ Elodea densa, Cotoneaster spp*., and Montbretia *Crocosmia x crocosmiiflora*. Full removal of Japanese knotweed should be ensured prior to construction and eradication programmes should be implemented for the other two invasive species.

6.4.16 The baseline ecological assessments comprise following data sources: desk-top study (including records obtained from the local biological records centre and Multi-Agency Geographic Information for the Countryside (MAGIC) website), an extended UK Habitat Classification survey, and additional bat surveys (to be carried out). The results of these will form the baseline assessment for the ecology chapter of the ES. This information will be used to determine the ecological value of the site and need for any mitigation, based on current conditions and the proposed development.

Effect prediction and assessment of effect significance

6.4.17 The assessment for the ES will be carried out in accordance with the CIEEM Guidelines for Ecological Impact Assessment (EcIA) in the UK and Ireland (CIEEM, 2018). This document provides best practice guidance on identifying when and where an EcIA is required, determination of the importance of ecological features, and characterisation of impacts including cumulative impacts.

6.4.18 The importance of ecological features will be determined on a geographic scale in accordance with CIEEM 2018 guidelines. Some features have a pre-assigned geographic value (i.e. sites protected at a national, metropolitan/ county or local level). Others will be valued based on relevant legal, policy and local planning guidance documents, available baseline assessment information and professional knowledge of the ecological feature being assessed. In accordance with the guidelines, only features considered to be important (those of local value or above) will be evaluated further in the impact assessment. However, ecological enhancements on site and statutory requirements regarding legally protected species may still seek to include these features in mitigation/enhancement plans.

6.4.19 Characterisation of impacts will be based on a number of factors including the extent, magnitude, reversibility and duration of the impact. An assessment will then be made regarding whether, or not the effect of these impacts will be significant to the important ecological feature. Under CIEEM 2018 guidelines, a significant effect is defined as one which 'either supports or undermines biodiversity conservation objectives for important ecological features or for biodiversity in general'. Where a significant effect is identified, the geographic scale of that effect is also determined (i.e. significant at the local, county/metropolitan or regional level based on available quantitative information and professional knowledge).

6.4.20 Measures to avoid, reduce and compensate ecological impacts will be described and an assessment of residual ecological impacts of the proposed development remaining after mitigation and the significance of their effects, including cumulative effects will be made.

6.4.21 The process for evaluating the importance of ecological features, assessing impacts and determining the significance of their effects, both before and after mitigation, in accordance with CIEEM 2018 guidelines, will be described fully in the ES Chapter.

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6.5 CLIMATE CHANGE / GREENHOUSE GAS (GHG) EMISSIONS

Assessment context

6.5.1 Buildings and construction account for 39% of the world's GHG emissions. Of this, operational emissions (i.e., from energy used to heat, cool and light buildings) account for 28%, while 11% comes from embodied emissions (i.e., the GHG emissions associated with materials and construction processes throughout the building lifecycle) (World Green Building Council, 2019). Therefore, it is of paramount importance that future buildings are designed in a way that minimises their GHG emissions.

6.5.2 The EIA Regulations state that the ES should include "a description of the likely significant effects of the development on the environment resulting from, inter alia… (f) the impact of the project on climate (for example the nature and magnitude of GHG emissions) and the vulnerability of the project to climate change".

6.5.3 It is proposed that the GHG emissions ES chapter assesses the effects of the proposed development on climate change (i.e., climate change mitigation). GHG emissions associated with the proposed development shall be assessed for both the demolition/construction and operation phases. These will be reported on in the GHG emissions ES chapter, in line with the IEMA EIA Guide to Assessing Greenhouse Gas Emissions and Evaluating their Significance (2022). The ES chapter shall be carried out in line with relevant national, regional, and local planning policy and legislation.

Scope of assessment

6.5.4 The sources of GHG emissions scoped into the assessment are set out within the potential demolition and construction effects and potential operational effect sections.

- The sources of GHG emissions that are scoped out of the assessment are as follows:
  - GHG emissions associated with operational waste production. These GHG emissions are likely to make up a small proportion of the overall GHG emissions associated with the proposed development;
  - GHG emissions associated with carbon sequestration of green infrastructure. This will be low relative to total GHG emissions over the whole life of the proposed development, therefore the offset benefits will not be quantified;
  - GHG emissions associated with beyond building lifecycle. These emissions cannot be guaranteed, e.g. material and component re-use, therefore potential benefits will not be quantified and taken as an offset.

Potential demolition and construction effects

6.5.5 Sources of GHG emissions during the demolition and construction stage are as follows:

- GHG emissions associated with demolition and construction waste removal;
- GHG emissions associated with the extraction and manufacturing of building materials (i.e. the product stage); and
- GHG emissions associated with the transport of materials to the site and construction and installation of products on site (i.e. the construction process stage).

Potential operational effects

6.5.6 Sources of GHG emissions during the operational stages are as follows:

- GHG emissions associated with maintenance, repair, replacement and refurbishment within the proposed buildings (i.e., the embodied carbon);
- GHG emissions associated with the operational energy requirements for the day to day running of the building (i.e. heating, cooling, lighting etc.);
- GHG emissions associated with operational transport (i.e. deliveries and staff journeys), where appropriate transport figures are available for the proposed development;
- GHG emissions associated with operational water consumption; and
- GHG emissions associated with end-of-life demolition.

Assessment methodology

Technical scope

6.5.7 There is currently no standard methodology for quantifying GHG emissions within EIA. However, best practice will be drawn from the following:

- EIA Guide to Assessing GHG Emissions and Evaluating their Significance (IEMA, 2022);
- Royal Institute of Chartered Surveyors (RICS) Whole Life Carbon Assessment for the Built Environment (2017); and
- BS EN 15978:2011 Sustainability of construction works. Assessment of environmental performance of buildings. Calculation method.

6.5.8 An assessment period of 60 years is proposed, as per the principles outlined in BS EN 15978. This is based on the typical expected service life of a building. The total estimated GHG emissions will be estimated to 60 years after completion of the proposed development.

6.5.9 The GHG emissions scope will align with the lifecycle stages defined as modules within BS EN 15978, with building elements included as per guidance within the RICS guidance on Whole Life Carbon Assessment for the Built Environment (2017), as shown in Figure 6—2.

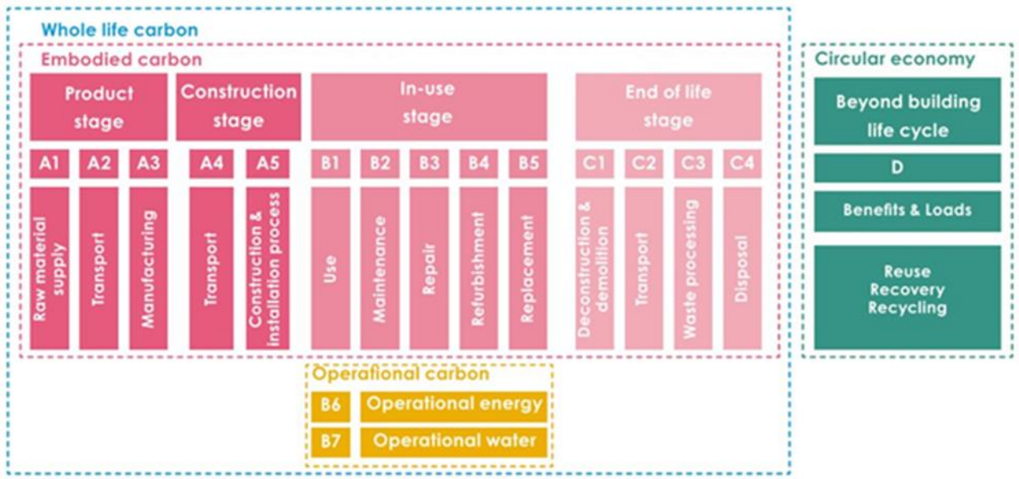


Figure 6—2 Diagram showing the stages of a lifecycle GHG emissions assessment, taken from the LETI Embodied Carbon Primer (2020) Diagram based on lifecycle stages set out in BS EN 15978

6.5.10 It is proposed that GHG emissions associated with the demolition and construction stage are based on appropriate published benchmarks.

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6.5.11 It is proposed that the GHG emissions associated with operational embodied carbon and end-of-life demolition are estimated based on appropriate published benchmarks. Where information is available from the sustainability/energy consultants and utilities engineers on likely operational energy and water, carbon factors shall be applied to determine GHG emissions associated with these sources. Where this information is not available, appropriate published benchmarks shall be used.

6.5.12 Where information on operational transport trip generation is available from the project's transport consultants, carbon factors shall be applied and assumptions on journey distances shall be made.

6.5.13 The ES chapter shall provide a whole life carbon summary including all sources of GHG emissions assessed. Total estimated GHG emissions shall be compared to appropriate national and regional carbon budgets to illustrate the scale of GHG emissions associated with the proposed development.

Baseline assessment

6.5.14 For the GHG emissions ES chapter, the baseline for the proposed development is defined as the current GHG emissions arising from activities and infrastructure within the site boundary, in line with the IEMA (2022) guidance. The current site includes student accommodation and university-related land use. The current operational energy consumption of the existing development shall be estimated using available Display Energy Certificates (DECs) or published benchmark data for the building typology (CIBSE TM26:2008) operational energy benchmarks.

6.5.15 For the future scenario, the appropriate carbon factor for the completion year of the proposed development shall be used to estimate the GHG emissions associated with the existing development if the proposed development did not go ahead, over a 60-year study period.

6.5.16 For the baseline and future baseline assessment, it will be assumed that any buildings currently occupied will remain occupied, and any buildings currently unoccupied will remain unoccupied for the 60-year study period.

Effect prediction and assessment of effect significance

6.5.17 In line with the Institute of Environmental Management and Assessment (IEMA) (2022) guidance, the sensitivity of the receptor (i.e., the global atmosphere) in relation to GHG emissions is always considered to be 'high', based on the following:

- Value of the resource: the atmosphere and its role regulating the global climate is of high ecological, social and economic value and underpins life on the planet, therefore is of global critical value;
- Vulnerability: it is recognised by the Paris Agreement (2015) that the GHG concentrations in the atmosphere are already approaching their environmental limit and the effects of climate change are already evident; and
- Reversibility of the effect: climate change is considered irreversible, with a delayed effect in any actions or technologies employed to reduce concentrations of GHG emissions already in the atmosphere.

6.5.18 The effect significance for demolition/construction and operational GHG emissions will be assessed against the magnitude of change and significance criteria set out in Table 6—1 using professional judgement and previous project experience. This criteria is used to assess how far an effect deviated from the baseline condition, this is based on the IEMA (2022) guidance document.

Table 6—1 Criteria for determining significance of effects

Magnitude	Criteria
Major adverse	The proposed development's GHG impacts are not mitigated or are only compliant with do-minimum standards set through regulation, and do not provide further reductions required by existing local and national policy for projects of this type. A project with major adverse effects is locking in emissions and does not make a meaningful contribution to the UK's trajectory towards net zero.
Moderate adverse	The proposed development's GHG impacts are partially mitigated and may partially meet the applicable existing and emerging policy requirements but would not fully contribute to decarbonisation in line with local and national policy goals for projects of this type. A project with moderate adverse effects falls short of fully contributing to the UK's trajectory towards net zero.
Minor adverse	The proposed development's GHG impacts would be fully consistent with applicable existing and emerging policy requirements and good practice design standards for projects of this type. A project with neutral effects is fully in line with or exceeds measures necessary to achieve the UK's trajectory towards net zero.
Negligible	The proposed development's GHG impacts would be reduced through measures that go well beyond existing and emerging policy and design standards for projects of this type, such that radical decarbonisation or net zero is achieved well before 2050. A project with negligible effects provides GHG performance that is well 'ahead of the curve' for the trajectory towards net zero and has minimal residual emissions.
Beneficial	The proposed development's net GHG impacts are below zero and it causes a reduction in atmospheric GHG concentration, whether directly or indirectly, compared to the without-project baseline. A project with major beneficial effects substantially exceeds net zero requirements with a positive climate impact.

6.5.19 Appropriate mitigation measures will be recommended for both the demolition and construction and operational phases of the proposed development. With these mitigation measures in place, the significance of effects will be assessed again against the significance criteria set out in Table 6—1 using professional judgement and previous project experience.

6.6 HERITAGE, TOWNSCAPE & VISUAL

Assessment context

6.6.1 The Heritage, Townscape, and Visual Impact Assessment (HTVIA) volume of the ES will assess the likely potential effects of the proposed development on the significance of surrounding built (above ground) heritage assets, townscape character, views and visual amenity. Whilst closely interrelated, built heritage, townscape and visual receptors will be assessed under their own methodology and with individual effects identified for each, as per best practice guidance.

6.6.2 The site is not protected by any built heritage designations; it does not contain any statutorily listed buildings, nor does it lie within a conservation area. At the time of writing, MCC, who is the local planning authority, does not have a local list of heritage assets and subsequently there are no formally identified non-designated heritage assets within the site. The site is, however, situated within the setting of a number of listed buildings and a scheduled monument, including a number of heritage assets which are adjacent to the site boundary. The proposed development subsequently has the potential to affect the settings and significance of these surrounding built heritage assets.

6.6.3 The site itself is occupied by a series of student residential housing and ancillary buildings ranging from two to 18 storeys and which were built in phases in the second half of the 20th century. The student accommodation is generally arranged in a series of courtyards with landscaped green spaces at the centre and pedestrian routes weaving through the campus. The site is accessed from Wilmslow Road to the west, Moseley Road to the south, Whitworth Lane to the east and is bounded by further student accommodation to the north. The site's western, southern and much of the eastern boundary is defined by a belt of mature trees.

6.6.4 The townscape surrounding the site is varied; it includes fine grain residential terraces, various phases of development associated with the university including further student accommodation and sports/leisure facilities, and a range of commercial development. Open green space is a feature of the site's setting, including Platt Fields Park to the north-west and sports pitches associated with the university to the east. A detailed assessment of the townscape character of the site and its surroundings will form part of the baseline assessment within the HTVIA.

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Legislation and Policy Context

6.6.5 The HTVIA will consider the relevant legislation, national and local planning policy listed below. For the purposes of this assessment, it will be those policies concerned with design, townscape, views and historic environment matters that are of the greatest relevance.

- Planning (Listed Buildings and Conservation Areas) Act 1990;
- National Planning Policy Framework ('NPPF'), July 2021;
- Planning Practice Guidance ('PPG'), live on-line resource;
- Manchester's Local Development Framework, Core Strategy, July 2012; and
- Manchester Extant Unitary Development Policies ('UDP'), July 1995

Scope of assessment

Heritage

6.6.6 Based on the urban character of the site's surroundings and the height of the proposed development, a study area of 250m is proposed for the identification of built heritage receptors. An assessment of the potential effects of the proposed development on the following designated built heritage assets has thus been identified for inclusion within the ES:

- Fallowfield War Memorial (Grade II);
- Church of the Holy Innocents and St James (Grade II);
- Queen of Hearts Public House (Grade II);
- Ashburne Hall (Lees, Mary Worthington, Ward and Central block), including the Alice Barlow memorial gates and Ashburne Hall Lodge (Grade II);
- Behrens Hall (Grade II);
- The Firs and Attached Annex (Grade II);
- Lodge of the Firs, with Attached Gateway (Grade II);
- Unitarian Chapel (Platt Chapel) (Grade II);
- Hollings Building at Manchester Metropolitan University (Grade II);
- Synagogue (Grade II); and
- Section of an early medieval boundary ditch known as the Nico Ditch in Platt Fields 480m SSE of Platt Hall (Scheduled Monument).

6.6.7 A number of additional listed buildings, conservation areas and scheduled monuments lie within the wider setting of the site. Given the relative distance, intervening built development, and mature vegetation, the proposed development is unlikely to result in any significant effects on the significance of these designated built heritage assets and they have thus been excluded from the ES.

6.6.8 The setting of any additional heritage assets outside the 250m study which are identified during the baseline assessment phase to have the potential to be significantly affected by the proposed development will be incorporated into the assessment where necessary.

Townscape and Visual

6.6.9 Due to the grain and knit of the surrounding urban townscape and the mature vegetation which defines the edge of the site, and owing to the nature of the proposed development, it is considered that the proposals are unlikely to result in any significant effects on townscape character outside an area of 250m from the site boundary.

6.6.10 Views towards the site are largely limited to the local surroundings of the residential campus and from taller buildings in the local and wider townscape. Due to the scale of the existing buildings on the site, medium distance views towards the campus are possible from areas of open public space, such as from Platt Fields Park to the north-west.

6.6.11 The proposed viewpoints for inclusion in the assessment are plotted on the map at Figure 6—3 below. A description of the proposed viewpoint locations is provided in Table 6—2.



Figure 6—3 Proposed viewpoint locations plan

Table 6—2 Proposed viewpoint locations table

Viewpoint Number	Description of Viewpoint Location
1	Looking south-east along Wilmslow Road towards the site from the 'Langley Road' bus stop.
2	Looking north along Wilmslow Road from the junction with Mosely Road, located on the corner outside 258 Wilmslow Road. View should take in the collection of historic buildings on the north side of Mosely Road and the south-western corner of the site.
3	Looking south-west from the northern pavement of Old Hall Lane opposite its junction with Whitworth Lane. View should take in visible elements of the northern part of Ashburne Hall.

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Viewpoint Number	Description of Viewpoint Location
4	Looking north-east toward the site from the southern pavement of Mosely Road, adjacent to entrance of Manchester South Seventh-Day Adventist Church.
5	Looking south-east toward the site from Platt Fields Park to the south of the scheduled medieval wall, 'Nico Ditch'.
6	Looking south along Wilmslow Road from the eastern pavement at the junction with Cromwell Range.
7	Looking west along Gunnery Lane toward the site from the junction with Chancellors Way.
8	Looking south-west from Whitworth Road into the site, adjacent to south-eastern block of Ashburne Hall.
9	Looking north-west from Moseley Road along the southern boundary of the site.

Potential demolition and construction effects

6.6.12 The redevelopment of the site, including the demolition of the existing buildings and construction of new buildings, has the potential to change the existing townscape character of the area, views to and from the site, and the setting of surrounding heritage assets. The physical effects related to this phase of works would include dust, noise, vibrations, hoardings, and increased activity on the site related to the demolition and construction of new buildings.

6.6.13 The activity associated with the demolition and construction phase is temporary and as such no significant effects on receptors are identified as resulting from this element of the proposed development. This element will therefore be scoped out of the townscape and visual assessment.

Potential operational effects

6.6.14 The proposed development has the potential to permanently alter the setting of surrounding built heritage assets, the townscape character of the site and surrounding locality, and views into the site and across the local area through the introduction of new buildings and changes to landscaping and access within the campus.

6.6.15 In terms of heritage, the potential for significant operational effects on those assets closest to the site is judged to be relatively low owing to the nature of the proposed development and the existing visual separation afforded by mature greenery which defines the periphery of the site. The impact of the proposed development on the significance and setting of heritage assets will be assessed in the HTVIA.

6.6.16 The site and the townscape within it will evidently be affected by the proposed development, notwithstanding the continued use as student accommodation and with development taking a similar form in terms of courtyard arrangement and landscape provision. The degree to which the proposed development will incur a significant townscape effect upon the site will be assessed within the HTVIA. Likewise, local views into the site and around its perimeter have the potential to be materially affected by the introduction of new buildings into the site.

6.6.17 The impact of the proposed development on townscape and visual receptors in the wider setting of the site will be assessed in the HTVIA.

Assessment methodology

Technical scope

6.6.18 As identified above, the topics of built heritage and townscape and visual assessment are closely interrelated and there is considerable overlap in the assessment of the likely potential effects of the proposed development on these receptors. For the purposes of this ES, the HTVIA combines the topics into a single document, although each of the receptors (built heritage and townscape and visual) will be assessed under their own methodology based on best practice guidance and with individual effects identified for each.

Baseline assessment

Heritage

6.6.19 A Heritage Statement prepared in accordance with the requirements of the NPPF will form part of the HTVIA. The heritage baseline assessment will:

- Identify the heritage assets (heritage receptors) surrounding the site which may be affected by the proposed development; and
- Assess the significance of the identified heritage assets, including the contribution of their settings to an appreciation of their significance.

6.6.20 The baseline assessment element will draw upon site survey work, map regression analysis, and desk-based research.

Townscape and Visual

6.6.21 The townscape baseline assessment will inform the identification of a series of townscape character areas i.e. geographical areas which have readily identifiable characteristics in common (townscape receptors). The baseline conditions of each townscape character area will be described in terms of their: quality (in relation to their built form, materials and maintenance); value (in terms of statutory and non-statutory designations); and sensitivity (reflected in the degree or capacity to which a particular character area is able to accommodate change without adverse effects on its character). The identification of townscape character areas will be informed by site survey work and any relevant supplementary planning documents such as local character appraisals.

6.6.22 The baseline visual effects assessment will establish locations from which the site is visible and from which views have the potential to be affected by the proposed development. Within the baseline stage the groups of people (visual receptors) who are likely to experience views to the site will be identified, such as residents, users of public open spaces, transport routes, and publicly accessible heritage assets, whose visual amenity might be affected by the proposed development. Representative viewpoint locations from publicly accessible areas will be identified from a proportion of the visual receptors that are likely to be affected by the proposed development.

6.6.23 A series of proposed representative viewpoint locations have been identified to inform the assessment of townscape and visual effects. The proposed representative viewpoint locations are provided above at Figure 6-3 and Table 6-2 for comment and agreement with MCC.

6.6.24 The baseline assessment will determine the sensitivity of the identified townscape and visual receptors to changes of the type proposed.

Consultation

6.6.25 No consultation on the scope of the HTVIA has yet been undertaken. MCC is invited to review the receptors and proposed viewpoint locations and provide comment where necessary.

Effect prediction and assessment of effect significance

Heritage

6.6.26 The HTVIA will provide an assessment of the likely potential effects of the proposed development upon the significance and setting of the heritage assets during both the demolition/construction and operational phases. A significant effect upon a heritage asset is identified as anything that qualifies as a 'moderate' change to the way in which its significance is appreciated, or its setting is affected.

6.6.27 The assessment will be undertaken with reference to the legislation and planning policy outlined above, as well as the following guidance documents:

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- Historic England, Historic Environment Good Practice Advice in Planning: Note 2 (GPA2): Managing Significance in Decision-Taking in the Historic Environment (March 2015);
- Historic England, Historic Environment Good Practice Advice in Planning: Note 3 (GPA3, 2nd edition): The Setting of Heritage Assets (December 2017);
- Historic England, Conservation Principles, Policies and Guidance (2008);
- Historic England, Historic England Advice Note 4: Tall Buildings (December 2015); and
- Historic England, Historic England Advice Note 12: Statements of Heritage Significance (October 2019).

Townscape and Visual

6.6.28 An assessment of the effects of the proposed development on townscape and visual receptors are closely related but separately assessed, the former relating specifically to the townscape as a resource and its overall character and the latter relating to views and the visual amenity of people.

6.6.29 The assessment of townscape and visual effects will be informed by the principles set out in the third (2013) edition of the Guidelines for Landscape and Visual Impact Assessment (GLVIA3), produced by the Landscape Institute and Institute of Environmental Management and Assessment. The GLVIA3 states that assessment work needs to respond to the particular context in which it takes place and defines townscape as being *"areas where the built environment is dominant"* (Para. 2.7). The principles in GLVIA3 are best suited to assessing landscape rather than townscape and so they only form a general guide to the method of assessment. As such, the assessment will also consider the relevant design guidance in the PPG and guidance included within Historic England's The Setting of Heritage Assets (December 2017) and Historic England Advice Note 4: Tall Buildings (December 2015).

6.6.30 For each of the final agreed representative viewpoints, the assessment will include images of the view as existing and as proposed. Usually, a cumulative image would also be provided (i.e. the proposed development in combination with surrounding cumulative schemes) however this is not required in this ES as no cumulative schemes have been identified. The images will take the form of Accurate Visual Representations (AVRs), also known as Verified Views, produced by accurately combining a three-dimensional model of the proposed development with a baseline photograph of the view. The AVRs will be prepared by a specialist visualisation company and a detailed methodology of their production will be included as an appendix to the HTVIA. The proposed development will be represented in wireline form (AVR Level 1) utilising the maximum parameters for the proposed development.

6.6.31 Informed by a thorough understanding of the proposed development, the assessment will determine the magnitude of change that would be experienced by each receptor for both the demolition/construction and operational phases. The sensitivity and magnitude of change for each receptor will be combined to give a level of effect and a conclusion will be drawn as to whether the effects are significant or not for both the demolition/construction and operational phases. The assessment will be based on professional judgement, however, tabulated criteria for identifying sensitivity, magnitude of change and the significance and type of effect will inform the assessment where relevant.

Mitigation

6.6.32 The mitigation of any potential impacts will be considered through the design of the proposed development and will therefore be 'embedded'.

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7 SUMMARY OF KEY POTENTIAL ENVIRONMENTAL ISSUES

7.1.1 Table 7—1 provides a summary of the key potential environmental effects that will be addressed as part of the EIA, as well as those which will not be addressed as part of the EIA.

Table 7—1 Summary of key potential environmental effects

Environmental Topic	Proposed for inclusion in ES	Potential environmental effects / reason for inclusion or exclusion in ES
Topics to be scoped into the EIA		
Air Quality	Yes	Local air quality has the potential to be significantly affected by both the demolition and construction, and operational phases of the proposed development. The ES chapter will include an assessment of effects associated with existing and future sources of emissions on future receptors introduced to the area by the proposed development.
Noise and Vibration	Yes	Likely significant noise and vibration effects associated with the demolition and construction phase of the proposed development include effects on sensitive receptors, such as student accommodation and residential dwellings. Likely significant noise and vibration effects to be considered within the operational phase of the proposed development include the existing noise environment at proposed sensitive areas of the proposed development and noise from proposed ancillary equipment/building services within the proposed development at existing and proposed receptors.
Ecology and Biodiversity	Yes	It is considered that the proposed development could give rise to significant ecological effects and ecology and biodiversity has therefore been scoped into the ES. In particular there is the potential for the existing buildings to host bats and bat roosts.
Climate Change / GHG Emissions	Yes	Potential for significant effects associated with GHG emissions during the demolition and construction and operational phases of the proposed development. Therefore, climate change and GHG emissions is scoped into the ES.
Heritage, Townscape & Visual	Yes	There are several heritage assets (listed buildings and a scheduled monument) within close proximity of the site. The proposed development gives rise to the potential for significant heritage, townscape and visual impacts during both the demolition/construction and operation phases and therefore has been scoped into the ES.
Topics to be scoped out of the EIA		
Daylight, Sunlight and Overshadowing	No	Given the scale of the proposed development and its distance from surrounding residential properties, significant effects are not anticipated, and the assessment of daylight, sunlight and overshadowing should be scoped out of the ES.
Wind Microclimate	No	Receptors in relation to wind microclimate are the occupants and users of the proposed development, including areas of public realm. It is not considered that significant effects will arise during demolition/construction or operation of the proposed development. Given significant effects are not anticipated, it is concluded that this topic will be scoped out of the EIA.
Ground Conditions	No	It is considered that the risks and resultant effects are sufficiently well understood and that based on the information currently available, it is likely that the residual effects associated with ground conditions would be insignificant. Therefore, ground conditions are to be scoped out of the EIA.
Water Resources and Flood Risk	No	With a low residual flood risk and a very low to low risk of surface water flooding, no likely significant effects are anticipated to arise with respect to flood risk, surface water drainage and foul water drainage. A standalone FRA and an Outline Drainage Strategy will be submitted with the planning application. Furthermore, no likely significant effects are anticipated to water resources throughout the demolition and construction works following the implementation of a DEMP and CEMP and various standard mitigation measures both pre-commencement and throughout the works.
Traffic and Transport	No	It is considered the proposed development will not generate any significant transport effects. Given that increased traffic levels during the demolition and construction phase will be temporary and mitigation measures will be implemented by managing construction traffic through the implementation of the CLP, effects on road users related to delay, safety and amenity are unlikely to be significant. During operation, based on the availability of public transport services in the local area, and considering the implementation of travel planning measures and the car-free proposals, no significant traffic and transport effects are anticipated. Therefore, it is considered that traffic and transport should be scoped out of the ES.
Archaeology	No	It is proposed that the topic of archaeology is scoped out of the EIA as it is unlikely that there will be significant effects. However, an archaeological desk-based assessment shall be undertaken and submitted alongside the planning application. An intrusive archaeological investigation of the site will also be carried out in advance of development to document non-statutory archaeological remains of low (local) significance.
Socio-economics	No	It is not anticipated that the proposed development will result in significant effects in relation to socio-economics. Therefore, a socio-economics ES chapter is not considered necessary and will be scoped out of the ES.
Waste Management	No	It is proposed that waste management will be scoped out of the EIA for the proposed development as effects associated with waste management will be suitably mitigated through the use of relevant management plans and strategies.
Artificial Lighting	No	A dedicated ES chapter assessing light spill is not considered necessary and is scoped out of the ES. However, it is anticipated that preparation of a Lighting Strategy will be included as a planning condition for the proposed development.
Electronic Interference	No	No significant environmental effects anticipated due to the digital switchover. A standalone TV Reception assessment will be prepared and submitted with the planning application.
Aviation	No	It is proposed that aviation will not be included within the ES, as this primarily relates to health and safety requirements that are not necessarily well aligned to the EIA process. In addition, the existing Owens Park tower, at 18 storeys in height, exceeds that of the tallest building of the proposed development (maximum height of 14 storeys, plus roof plant).
Major Accidents and/or Natural Disasters	No	Considering the nature of the proposed development, the commitment to building regulations/statutory requirements and the commitment to undertake an FRA and a climate change resilience risk assessment, a dedicated ES chapter assessing major accidents and or natural disasters is scoped out of the ES.
Human Health	No	Potentially significant effects on human health will be directly or indirectly considered across the technical chapters of the ES, rather than in a dedicated ES chapter. Non-significant human health aspects will be considered in the relevant standalone reports submitted with the outline planning application.

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8 OTHER PLANNING DOCUMENTS

8.1.1 In addition to the ES, the following standalone documents will be submitted as part of the outline planning application:

- Site Location Plan;
- Development Parameter Plans (three plans intended at this stage – Development Area, Heights and Phasing);
- Access Plans;
- Illustrative Master Plan (and associated illustrated plans, including site sections and landscape scheme);
- Archaeology Desk Based Assessment;
- Biodiversity Net Gain Assessment;
- Tree Report;
- Crime Impact Statement;
- Design & Access Statement;
- Design Principles Document;
- Planning Statement;
- Sustainability and Energy Statement (including BREEAM pre-assessment);
- Environmental Standards Statement;
- Blue and Green Infrastructure Strategy;
- Operational Waste Management Strategy;
- Socio-economic Regeneration Statement;
- Student Demand/Need Report;
- Student Management Plan;
- Statement of Community Engagement;
- Ground Conditions Phase 1 Desk Study Report;
- Daylight, Sunlight and Overshadowing Assessment
- Flood Risk Assessment;
- Outline Drainage Strategy;
- Transport Assessment and Travel Plan;
- Wind Microclimate Desk Based Assessment
- Broadband Connectivity Assessment
- TV Reception Assessment
- Outline Ventilation Strategy;
- Outline Fire Safety Report (note that a Gateway One Fire Statement is not needed at the outline planning stage but will be provided at reserved matters); and
- Demolition Environmental Management Plan (restricted to Phase 1 demolition).
- The ES will contain the following appendices:
- Parameter plans for proposed development;
- EIA Scoping report;
- EIA Scoping opinion;
- Climate change resilience risk assessment;
- Appendices associated with the air quality ES chapter;
- Appendices associated with the noise and vibration ES chapter;
- Appendices associated with the ecology and biodiversity ES chapter; and
- Appendices associated with the climate change and GHG emissions ES chapter.

8.1.2 These documents and reports will reflect the outline nature of the planning application with an expectation that a number of these will be supplemented with additional information in respect of specific phases of development at the reserved matters application stage where needed. Any such additional information will need to demonstrate how individual phases comply with the standards and approach set out in the outline submission documents and that impacts will be no greater than those identified in the outline documents.

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APPENDIX A

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BDP

Project Oak, Fallowfield

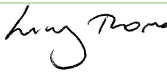
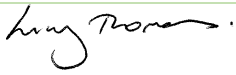
Stage 1 - Geoenvironmental Desk Study

321991

MARCH 2015

RSK GENERAL NOTES

Project No.:	321991-R1-01
Title:	Stage 1 – Geoenvironmental Desk Study: Project Oak, Fallowfield
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Signature		**Signature**	
Date	24 March 2015	**Date**	24 March 2015

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

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

This work has been undertaken in accordance with the quality management system of RSK Environment Ltd.

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EXECUTIVE SUMMARY

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Site description and proposed development	The site is an active Manchester university campus, comprising student accommodation and other key university buildings including a central catering unit, sports building, a conference centre and hotel, and gardens. It is understood the site is to be demolished and re-constructed to include a larger and more varied mix of student, warden and pastoral accommodation, an amenity block with healthcare unit, a central piazza incorporating kitchens and dining space, offices and student learning space, a new catering block, an FM facility and associated utilities and areas of hard and soft landscaping.
Purpose of assessment	In accordance with the tender documentation, this assessment was undertaken to support an outline planning application for redevelopment for continued student accommodation and amenities and to inform the stage 2 geoenvironmental intrusive site investigation.
PRELIMINARY RISK ASSESSMENT	
Site walkover	A site walkover was carried out on 03 March 2015. The site comprised numerous university buildings and a combination of paved and concrete hardstanding and soft landscaping. Soft landscaping appeared to be utilised for recreational and sport use. Potential Japanese Knotweed was identified along the northeastern boundary within the wooded area adjacent to the Richmond Park Halls of Residence.
History of site and surrounding area	Between 1851 and 1892, Fallowfield Brook is shown to have flowed east to west through the southern half of the site. It was presumably later infilled as it no longer appeared on maps and has since been shown as culverted ~13m south of the site. Academic buildings appear present from mapping dated 1851. Between 1851 and 1905, the first sporting facilities were introduced and development around the site progressed, seeing the construction of the Manchester Central Rail Line. Around the time of mapping in 1954 the former athletic stadium was expanded and a second rail line was constructed 70m east of the site, a petrol filling station was also constructed adjacent to the southeast corner of the site. During the 1970's, redevelopment occurred and the present layout attained. Around this time the Manchester Central Line ceased operation. No significant changes occurred on-site or in the surrounding land between 2009, when the petrol filling station was decommissioned, and the present day.

Geology, hydrogeology and hydrology	The geology beneath the site is expected to comprise made ground from former redevelopment, glacial Till (clays, sands and gravels) overlying sandstone of the Chester Pebble Beds Formation. The superficial deposits are considered unproductive strata and the Chester Pebble Beds Formation is classified as a principal aquifer. The closest surface watercourses are considered to be the culverted Fallowfield Brook ~13m south, Platt Brook 241m north and Cringle Brook 282m south of the site.
Potentially contaminative uses on site and in surrounding area	Made ground likely comprising building rubble and likely asbestos, given the redevelopment ages, is expected across the majority of the site. A former garage is located adjacent (offsite) to the southeast boundary on the corner of Birchfields Road and Moseley Road. The site is believed to have been decommissioned in 2009 and is now used as a used car dealership.
Conceptual model	One potentially complete pollutant linkage was identified with a risk estimate of moderate or above: • Direct contact (including dust and fibre inhalation) with made ground through future site residents and on-site workers.
CONCLUSIONS AND RECOMMENDATIONS	
Environmental assessment	The most significant contamination issue associated with the site is considered to be the potential of asbestos from any made ground associated with the demolition of the former athletic stadium and also from the redevelopment of the student halls during the 1970's. Made ground potentially used to raise levels across the site may also have come from nearby sources such as the disused railways and comprise ash, ballast and asbestos amongst other contaminants. A programme of investigation comprising a preliminary intrusive investigation within each phase of the development is recommended to reduce the existing uncertainty pertaining to the geotechnical and chemical ground conditions. From this and the information contained within the desk study, a refined principal intrusive site investigation can be scoped. Following intrusive investigation remedial measures can be advised as necessary to demonstrate the suitability of the site for the proposed redevelopment. Specifically this will need to focus on the suitability of near surface soil that will be re-used, particularly subsoil and topsoil, and also deeper ground conditions to allow foundation design. With regards to other matters, the site is located on the proposed HS2 route. Further works are also recommended with respect to asbestos in building, flood risk assessment, UXO, arboriculture and Japanese Knotweed.
This is a summary only, and should be read in conjunction with the report text.	

1 INTRODUCTION

RSK Environment Limited (RSK) was commissioned by BDP to carry out a stage 1 geoenvironmental desk study (desk study) for the land located at Owens Park University of Manchester Campus in Fallowfield, Manchester. The desk study is to support detailed design and planning as part of for BDP's 'Project Oak' redevelopment proposal for the site.

It is understood the site is to be demolished and re-constructed to include a larger and more varied mix of student, warden and pastoral accommodation; an amenity block with healthcare unit; a central piazza incorporating kitchens and dining space, offices and student learning space; a new catering block; an FM facility and associated utilities; and, areas of hard and soft landscaping.

This report is subject to the RSK service constraints given in APPENDIX A.

1.1 Objective

The objective of the work is to support an outline planning application and to inform the stage 2 geoenvironmental intrusive site investigation.

1.2 Scope

The scope of the investigation and layout of this report has been designed with consideration of CLR11 (Environment Agency, 2004a) and BS 10175: 2013 (BSI, 2011) and guidance on land contamination reports issued by the Environment Agency (EA) (2010a).

The scope is as per BDP document number SI/001, 'Scope of Works 2 Stage Geoenvironmental Site Investigation'.

1.3 Existing Reports

The client is aware of existing reports but these could not be made available to RSK for review and therefore have not been taken into account in this assessment.

1.4 Limitations

The comments given in this report and the opinions expressed herein are based on the information available to RSK during the desk study including possible anecdotal information collected during the site reconnaissance and information provided by the Client. There may also be conditions pertaining to the site that have not been disclosed by the assessment and therefore could not be taken into account. It should be noted that the site boundary was altered after the environmental database had been obtained and therefore does not tally with the site boundary shown in Figure 2.

2 THE SITE

2.1 Site location and description

The site is located at Owens Park, 293 Wilmslow Road M14 6HD at National Grid reference 385796, 394171, as shown on Figure 1

The area around the site is summarised in Table 1.

Table 1: Site surroundings

To the North	Old Hall Lane with residential properties and a former Manchester Metropolitan University building beyond. Several schools and colleges including the Manchester Grammar Scholl and Hollings College
To the South	Moseley Road with residential properties beyond
To the East	Birchfields Road with residential properties, Birchfields Primary School and associated playing fields and Fallowfield Retail Park beyond
To the West	Wilmslow Road with residential and commercial properties beyond including bars and restaurants

The site covers approximately 28 hectares at an elevation of typically 43m above Ordnance Datum (AOD).The site is on a very slight north to south downhill gradient ranging from 44m AOD along Old Hall Lane to 39m AOD along Moseley Road.

2.2 Site Walkover

A site walkover survey was undertaken by an RSK Engineer on 3 March 2015. The photographs from the walkover are included in APPENDIX C. Key points to note with respect to the conceptual model are:

- The site comprises a combination of paved and concrete hardstanding along with multiple areas of soft landscaping. Many areas of soft landscaping are utilised for recreational use. Designated sports fields are located in the southeast of the site.
- Multiple university buildings located on site, including student accommodation, central reception area, dining facilities, estate management services, experimental grounds (nursery) and security.
- There is an area of previous re-development in North-East of the site. The previous athletic stadium was converted to student accommodation, now called Richmond Park Halls of Residence. Made ground is expected within the vicinity of the former stadium footprint.
- A former garage is located adjacent (off-site) to the southeast boundary on the corner of Birchfields Road and Moseley Road. Anecdotal evidence collected on

site indicates that the garage was decommissioned in 2009 and is now operated as a used car dealership.

- Suspected Japanese Knotweed was noted in a wooded area in the northeast of the site. The wooded area runs along the eastern side of Richmond Park Halls of residence and is separated by Chancellors Way.
- Area of land in the northeast of the site, currently housing large containers and outbuildings. One of the containers known to store unleaded and diesel fuel for site maintenance machines such as lawnmowers. Fuel demonstrated to be stored securely within another inner storage container..
- Two substations were noted to be present inside the site boundary. One along Whitworth Lane and the other housed beneath Oak House Halls of Residence. Their location is illustrated on Figure 2.

2.3 Proposed development

RSK understands that the redevelopment is to be undertaken in three separate phases: 'Stage 1a', 'Stage 1b' and 'Stage 2'. At this stage the timescales for each of the redevelopment phases are not known by RSK.

The redevelopment includes for demolition of existing buildings followed by construction of mixed student, warden and pastoral accommodation; an amenity block with healthcare unit; a central piazza incorporating kitchens and dining space; offices and student learning space; a new catering block; an FM facility and associated utilities; and, areas of hard and soft landscaping.

The planned layout of the site is shown Figure 3.

2.4 History of site and surrounding area

The history of the land-use and development of the site and surrounding area has been assessed based on the following sources:

- historical maps from 1851 to 2014 included in an environmental database report purchased from Groundsure available information on the Internet
- interviews with site staff
- information from the local planning authority
- aerial photography

The development history of the site and surrounding area from the above sources is detailed in **Error! Reference source not found.** and summarised below.

2.4.1 Historical plans

Copies of Ordnance Survey maps are included in the environmental database report in Appendix E. Reference to historical maps provides invaluable information regarding the

land use history of the site, but historical evidence may be incomplete for the period pre-dating the first edition and between successive maps.

Table 2: Summary of historical development

Date	Land use/features on site	Land use/features relevant to the conceptual model
1851 - 1892	The site is mostly undeveloped with exception to The Oaks in the north of the site and The Firs in the centre	Fallowfield brook enters along the eastern boundary and cuts east to west across the south of the site
1892-1905	Construction of Manchester Athletic Ground and academic buildings within the central and western half of the site.	Fallowfield Brook has now been culverted 13m south of the southern site boundary. The brook is presumed to have been infilled. Construction of Manchester Central Line 160m south of southern site boundary
1905 - 1923	Construction of further sporting facilities including Owens College Athletic Ground, further academic buildings and a nursery	Several unspecified heaps are positioned on site. Presumed to be associated with ongoing site development. Construction of a second railway 70m from southeastern boundary
1923 - 1956	Increased number of buildings onsite, nursery now Manchester University Experimental Grounds	Tramway depot constructed 50m from eastern boundary
1956 - 1974	Athletic Stadium expansion and now called Harris Stadium, no further significant change	Tramway depot now a bus depot. Petrol filling station located adjacent to the far southeast of the site along the eastern boundary. Garage located 100m south of the site.
1974 - 1994	Redevelopment of site buildings into the current halls of residence Site now labelled Owens Park	Onsite redevelopment indicates the potential for widespread made ground across site. Substations assumed to have been constructed at this stage due to incorporation within the university buildings. Manchester Central Railway no longer active
1994 - 2009	Harris Stadium demolished to make way for the construction of Richmond Park Halls of Residence	Harris Stadium expected to be founded on made ground due to the construction of terraces. Made ground may have been obtained from near-by sources such as the disused railway south of the site. Made ground therefore expected to lie beneath and within the vicinity of Richmond Park Halls of Residence
2009 - Present	No significant change	Petrol filling station decommissioned and utilised as a used car dealership

3 GEOLOGY, HYDROGEOLOGY AND HYDROLOGY

3.1 Geology

Published records for the area (provided as part of the Groundsure report and from the BGS website) indicated the geology of the site to be characterised by the succession recorded in Table 3.

Table 3: Geology at the site

Geological unit	Description	Estimated thickness (m)
Till - Devensian. (Diamicton)	Clays, gravel and sands	3.5-7m
Chester Pebble Beds	Fine to coarse grained sandstone, commonly pebbly, with conglomerates and sporadic siltstones; cross-stratified	90m – 220m
Depths estimated from available borehole records and geological maps		

A fault runs northeast to south west across the far east of the site. The attitude of the fault could not be determined.

In addition, owing to two main phases of development and stockpiles shown on historical plans before development, made ground is also anticipated.

3.1.1 Radon

The environmental database indicates that the site is not located within an 'Affected Area' as defined by the Documents of the National Radiological Protection Board (Radon Atlas of England and Wales, NRPB-W26-2002). Therefore, the risk of significant ingress of radon into structures on site is considered to be low and no radon protective measures are required within new dwellings at the site.

3.2 Mining and Quarrying

3.2.1 Coal

The environmental database report indicates that the site does not lie within an area, or within 500m of an area, affected by coal mining. Subsequently it is considered that there is minimal risk to the development from coal mining activities.

3.2.2 Brine

The environmental database report indicates that there are no brine extraction areas within 1000m of the site boundary.

3.2.3 Mines or Quarries

There are no recorded mines or quarries within a 500m radius of the site.

3.2.4 Landfills

Evidence has been sought to identify any landfilling or land reclamation operations, past and present, which have taken place in the vicinity of the site. The sources of information referenced in this element of the desk study include:

- environmental database report

There are no records of landfill sites (former or current) within 250m of the site (i.e. within the planning consultation zone). Furthermore, there are no records of landfills within a 0.5km radius of the site. However, the site and surrounding areas have a long history of development therefore the presence of made ground and materials used as fill to raise levels are likely to be present both on- and off-site.

3.3 Hydrogeology and hydrology

3.3.1 Aquifer characteristics

Based on the published geological information referred to above, the hydrogeology of the site is likely to be characterised by a principal aquifer within the Chester Pebble Beds Formation, overlain by unproductive strata of the till unit.

Any shallow groundwater in the site area is anticipated to flow either northwards towards Platt Brook located 242m north of the site, or towards Cringle Brook located 281m south of the site. From the available borehole records groundwater is present in the weathered sandstone which was encountered around 3.5-7m bgl.

The presence of low permeability clay at relatively shallow depths beneath the site, while restricting downwards migration, may increase the potential for lateral migration of shallow groundwater (and therefore mobile contamination, if present).

3.3.2 Vulnerability of groundwater resources

The EA website indicates that the site overlies strata classified as a:

- ‘Unproductive’ strata: low permeability with negligible significance for water supply or river base flow which relates to the glacial Till
- Principal aquifer: layers of rock or drift deposit that have high intergranular and/or fracture permeability (usually providing a high level of water storage). They may

support water supply and/or river base flow on a strategic scale. This classification relates to the underlying sandstone.

The soils beneath the site are classified as:

High Urban - soil information for restored mineral workings and urban areas is based on fewer observations than elsewhere, so a worst-case vulnerability classification is assumed until proven otherwise.

3.3.3 Licensed groundwater abstraction

The environmental database report indicates that there are 3 current licensed groundwater abstractions, none of which are public water supply boreholes within a 2km radius of the site summarised in Table 4.

Table 4: Groundwater abstractions

Reference	Distance and direction from site (m)	Comment
1	1138.0 (S)	Burnage Lane, Levenshulme - Laundry use
2	1865.0 (SE)	Crossley Road, Levenshulme – Unknown use
3	1979.0 (SE)	Heaton Moor Golf Club – Spray irrigation
Notes:		

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

- Zone 3 or the 'total catchment' is the area around the source within which all groundwater recharge is presumed to be discharged at the source.

3.3.4 Surface water abstractions

There are no surface water abstractions identified by the environmental database report, within a 2km radius of the site.

3.3.5 Preliminary flood risk assessment

The indicative floodplain map for the area, published by the EA, shows that the site lies outside of the designated floodplain. Nonetheless, owing to the size and nature of the development a flood risk will be required.

3.4 Sensitive land uses

No national or internationally designated sensitive land uses such as sites of special scientific interest (SSSI) were identified in the vicinity of the site.

4 CONCEPTUAL MODEL AND QUALITATIVE RISK ASSESSMENT

In line with CLR11 and BS10175 RSK has used information in the preceding sections to identify sources of contaminants, receptors that may be impacted and plausible pathways. Where all three are present this is termed a potentially complete contaminant linkage and qualitative risk estimation is made.

4.1 Sources of contamination

The on-site and off-site sources of contamination and chemicals that might be associated with them are presented in Table 5.

Table 5 Potential sources and types of contamination

Potential sources	Contaminants of concern
On-site historical	
Possible presence of made ground as a result of two phases of redevelopment. Made ground expected to have historically been used as fill to raise levels.	Petroleum hydrocarbons (TPH), polycyclic aromatic hydrocarbons (PAHs), ground gases, metals and asbestos
On-site present day	
Made ground previously used as fill to raise levels, disturbed during redevelopment of the stadium and also building material from the two previous phases of development	Petroleum hydrocarbons (TPH), polycyclic aromatic hydrocarbons (PAHs), ground gases, metals and asbestos
Substations	Transformer oils (possibly containing PCBs)
Off-site	
Former petrol filling station adjacent to the far southeast of the site boundary	Petroleum hydrocarbons (TPH) including phase separated hydrocarbons (PSH), polycyclic aromatic hydrocarbons (PAHs) and volatile organic compounds (VOC)
Disused railway 160m south of the site	Ash ballast (possibly containing metals, sulphates, phenols and PAH's), asbestos, fuel oils and greases

4.2 Receptors

Given the proposed end use (ongoing residential with soft landscaping) the following receptors have been identified:

- future site residents of student halls

- future on-site workers
- adjacent site users
- on-site buildings and infrastructure
- vegetation
- groundwater in principal aquifer (total source protection zone)
- water in culvert ~13m south of site

Please note that construction workers have not been identified in the conceptual model as receptors because risks are considered to be managed through health and safety procedures according to CDM regulations.

4.3 Plausible pathways

Pathways that could result in a potentially complete contaminant linkage are:

- direct contact
- inhalation
- vertical and lateral migration through strata
- chemical attack
- root uptake

4.4 Potentially complete contaminant linkages

Table 6 Potentially complete contaminant linkages

Source	Pathway	Receptor	Potentially complete
Human health			
Made ground (metals, PAH, TPH, asbestos) from previous development phases, fuel oils local to fuel storage areas also potentially including ash ballast (containing metals, sulphates, phenols and PAH's), asbestos, fuel oils and greases from reuse of disused railway materials if such were used in the development. Former Fallowfield Brook assumed to be infilled also presenting a source for made ground	Direct contact, vapour and dust inhalation	Future site residents	Yes
		Future on-site workers	Yes
Ground gas (methane and carbon dioxide) from made ground	Inhalation and ingress of gases resulting in asphyxiation and/or explosion	Future site residents	Yes
		Future on-site workers	Yes

Source	Pathway	Receptor	Potentially complete
Petroleum and/or chlorinated hydrocarbons from off-site sources	Vapour inhalation	Future site residents	No. Works are not proposed in the southeast of the site
		Future on-site workers	
Transformer oils (possibly containing PCBs)	Direct contact	Future site residents	Yes
		Future on-site workers	Yes
Controlled waters			
Made ground (see description above)	Vertical and lateral migration including leaching	Principal Aquifer (SPZ 3)	Yes
		Surface water off-site	Yes
Transformer oils (possibly containing Polychlorinated Biphenols (PCBs))	Vertical migration including leaching	Principal Aquifer	No
Building infrastructure			
Ground gas (methane and carbon dioxide) from made ground	Ground gas / vapour migration through strata resulting in explosion	On-site buildings	Yes
Made ground (see description above)	Chemical attack	On-site building foundations and water supply pipes	Yes

The potentially complete contaminant linkages identified for the proposed end use are:

1. Direct contact with made ground and dust (including asbestos fibres) inhalation through future site residents in soft landscaping areas and on-site workers during groundworks stage of construction
2. Inhalation of ground gas from made ground by future site residents and on-site workers or accumulation in buildings potentially resulting in explosion
3. Direct contact with transformer oils by future site residents and on-site workers
4. Vertical and lateral migration of contaminants in made ground to underlying principal aquifer (SPZ 3)
5. Vertical and lateral migration of contaminants in made ground to culverted brook ~13m south of the site

6. Chemical attack of building foundations and water supply pipes from on-site made ground and off-site hydrocarbon contamination

4.5 Risk estimation

The risk associated with each linkage identified in Section 4.4 has been qualitatively assessed and is presented in Table 7. The risk classification has been undertaken in accordance with CIRIA C552, a summary of which is included in Appendix F. Uncertainty in any risk assessment must also be considered. This is discussed after Table 7.

Table 7 Risk estimation for potentially complete contaminant linkages

Contaminant linkage	Probability	Severity	Risk and justification
1	Likely	Medium	**Moderate** – potential for future site users to come into contact with potentially contaminated soils within soft landscaping. Site investigation inclusive of a programme of chemical testing will determine the chemical quality of soil at the site and further evaluate this risk
2	Unlikely	Medium	**Low** – although made ground is anticipated, the quantity of degradable material capable of producing gas is unknown, but unlikely since the site is not registered as a former landfill and made ground is likely to be demolition rubble. Although organic material may be associated with the former culvert, the gas generation potential of such material is typically low to very low.
3	Low	Medium	**Moderate/low** – potential for future site users to come into contact with potentially PCB contaminated soils within soft landscaping local to former substation locations if substations used PCBs. Site investigation inclusive of a programme of chemical testing will determine the chemical quality of soil at the site
4	Unlikely	Medium	**Low** - Areas of soft landscaping form part of the proposed development. The presence of soft cover materials permits infiltration and leaching of any contamination. Although made ground is present, it is more likely to comprise demolition materials and the site history is unlikely to have resulted in significant quantities of mobile contaminants. Based on these factors, combined with the presence of glacial Till, RSK considers it unlikely that groundwater quality in the principal aquifer will be adversely affected.
5	Unlikely	Medium	**Low** - As mentioned above, the expected composition of made ground is unlikely to contain significant quantities of mobile contaminants. Based on this RSK considers that the culverted surface water is unlikely to be adversely affected

Contaminant linkage	Probability	Severity	Risk and justification
6	Low	Mild	**Low** – Potential for aggressive chemicals in made ground with respect to concrete but unlikely to have sufficient concentrations of hydrocarbons to permeate plastic utility pipes. Site investigation to determine presence of made ground and if present, confirmatory chemical testing to determine 'chemical aggressiveness' of ground in these areas.
6	Unlikely	Mild	**Very low –** vegetation appeared healthy during the walkover survey and therefore this linkage is considered unlikely.

4.6 Japanese Knotweed

Japanese knotweed is a non-native, highly invasive species and in the UK spreads via rhizomes (underground 'stems') rather than seeds. It is found in a range of habitats including roadsides, riverbanks and derelict land.

The client advised RSK that Japanese knotweed was in the wooded area in the northeast of the site. The RSK walkover was not undertaken in the growing season and therefore the extent of the impacted area cannot be ascertained presently. There are several methods by which Japanese knotweed can be treated/eradicated, all of which are detailed in the EA's (2006b) 'The Knotweed Code of Practice'. A competent knotweed contractor should be employed to manage and carry out the works in line with this guidance.

Since Japanese knotweed is difficult to identify outside the growing season (March to September/October), it is unlikely that any Japanese knotweed present could be identified accurately and, as such, RSK recommends that the site be resurveyed during the growing season.

4.7 Data gaps and uncertainties

The ground conditions (including made ground) underlying the site is unknown along with the extent of asbestos-containing materials, if any, within the buildings to be demolished or in the soil. As no information from previous ground works was available during the completion of this desk study, uncertainty exists regarding the chemical status of the soil and groundwater. It has been assumed made ground will be present on-site as a result of previous redevelopment and it is reasonable to assume that the made ground would comprise demolition materials from former site layouts, such made ground would often include asbestos but would not usually include significant quantities of more mobile contaminants such as petroleum or chlorinated hydrocarbons.

4.8 Summary of linkages driving further work

Linkages with risk estimations of moderate or above would typically require further investigation. These linkages are:

- linkage 1 - potential for future site users to come into contact with potentially contaminated soils within soft landscaping including dust and fibre inhalation.

To further evaluate this linkage and confirm underlying ground conditions, to demonstrate that the land is suitable for its intended use RSK recommends:

- a site investigation inclusive of a chemical testing programme to provide information on quality of the soil and potentially groundwater underlying the site
- potentially a programme of gas monitoring to confirm the gas regime beneath the site; the length of which would also be dependent upon ground conditions encountered during the investigation.

4.9 Unexploded Ordnance Risk Assessment

RSK was requested by the client to include a desk-based unexploded ordnance (UXO) risk assessment. RSK commissioned 6 Alpha to produce the report, which can be found in Appendix F. Two figures accompany the report, the Second World War High Explosive (HE) Bomb Density and the final Probability of UXO Encounter. The purpose of this approach is deemed to be in order to demonstrate that whilst bomb density statistics give an indication for WWII bombing, they should not be relied upon exclusively to generate a holistic assessment.

A summary of the report is as follows:

- during WWII, the site was situated within the Manchester County Borough, which was the subject of 26 HE bomb strikes per 1,000 acres; a relatively low level of bombing
- a tramway depot, a goods yard and a railway station were located in the vicinity of the site and were likely to be considered secondary bombing targets
- air Raid Precaution (ARP) records show 2 HE bombs struck the site. Additionally, 2 bombs were recorded within 20m of the site's boundary
- a heavy anti-aircraft (HAA) was located within the site's boundary, which may have been considered a bombing target and therefore may be a potential source for UXO contamination
- given that the site was occupied by a HAA gunsite (a potential source for UXO contamination) and 2 HE bomb strikes were recorded within the site, suggests that further action is warranted to address the potential for UXO encounter.

Based on the above information the threat potential has been classified by 6 Alpha as medium risk, this equals a UXO probability assessment rating of 3. Consequential to this and in accordance with CIRIA C681 Chapter 5 on managing UXO risks, 6 Alpha recommends that the next stage in the risk management framework is: a Detailed UXO Threat and Risk Assessment.

4.10 High Speed Rail 2

The Groundsure High Speed 2 (HS2) and Crossrail report; reference GS-1936832 dated 02 March 2015, indicates that the site is located above a section of the current proposed HS2 route. The current proposed section of route beneath the site lies in the form of a

tunnel with a maximum permitted track speed of 143 mph. RSK understands that the exact route has not yet been fixed so may be subject to change.

5 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

The desk study undertaken by RSK confirms the site was developed in the mid to late 1800s and has undergone two further phases of development. Therefore, it is likely that made ground will be present at the site comprising former demolition rubble and potentially asbestos, over the natural geology that comprises glacial Till and the Chester Pebble Beds Formation.

From RSK's review, one potentially complete pollutant linkage with a risk of moderate or above has been identified post development. This linkage relates to direct contact with soil by future residents within soft landscaping areas and the potential inhalation of dust and asbestos fibres. Such linkages, if they are confirmed to be complete after site investigation, can be easily managed by placement of a cover system.

Areas of uncertainty were also identified including the thickness of glacial Till and nature of the underlying made ground for which investigation was proposed. The proposed investigation would focus on understanding the nature of near surface soil to which people could be exposed to in soft landscaped areas, particularly any topsoil that may be re-used during development, in addition to understanding the ground conditions for geotechnical purposes. It will also be necessary to ascertain the potential for desiccation owing to the potential for underlying clay beneath the wooded area that is proposed for development.

The UXO report concluded a medium risk and recommended, in line with CIRIA C681, a detailed UXO Threat and Risk Assessment be undertaken. This will require us to send through the proposed investigation works including the depths of investigation and type of drilling.

The Groundsure report also indicates the site is located above a proposed section of the HS2 route which is proposed to be in a tunnel at this location.

5.2 Recommendations for further investigation

RSK recommends refinement of the proposed scope of work to include the following:

Preliminary Site Investigation

- Undertake five window sampling probeholes to a maximum depth of 5m below ground level (or refusal) within each of the development phase areas (phase 1a, 1b and 2). The rationale for proposing window sampling probeholes as opposed to trial pits is to reduce the area of disturbance for future development and to assess shallow ground conditions.
- Undertake two percussion with follow on rotary boreholes using a commachio rig to a nominal depth of 10m bgl (or refusal) in each of the development phase areas (phase 1a, 1b ad 2) in order to assess deeper ground conditions and determine the depth to rockhead.

- Undertake standard penetration tests (SPTs) at 1m intervals within the boreholes and probeholes
- Install six combined gas and groundwater monitoring wells in the deeper boreholes to allow prolonged seasonal monitoring of the ground gas regime and groundwater level fluctuations
- Undertake rising/falling head tests within the deeper boreholes to validate the underlying sandstone bedrock as a suitable soakaway receptor
- A suite of standard geotechnical and environmental tests
- Clearance of each borehole/probehole location of buried services by a specialist contractor
- UXO risk assessment by specialist contractor

Principal Site Investigation

The findings of the desk study and the preliminary site investigation will be used to scope the principal site investigation, however, RSK propose that, as a minimum, the following should be undertaken:

- Full underground buried services search by specialist contractor
- Post-demolition topographic survey of all excavations resulting from demolition activities
- Post-demolition survey to include detailed information about the extents of underground obstructions (for example existing piles), basements and areas of disturbed ground in order to strategically locate trial pits and trial trenches. A programme of trial pitting/trenching will be undertaken across the site to investigation existing underground site structures and other areas of environmental concern
- Undertake a programme of deep borehole drilling with rotary follow-on to assess deeper ground conditions and investigate the depth to rockhead. This will also allow the installation of deeper monitoring wells, in-situ rising/falling head tests and in-situ and ex-situ geotechnical testing
- A Japanese Knotweed survey once the growing season has commenced and an arboriculture survey in the development phases
- a flood risk assessment owing to the size and nature of the development

6 BIBLIOGRAPHY

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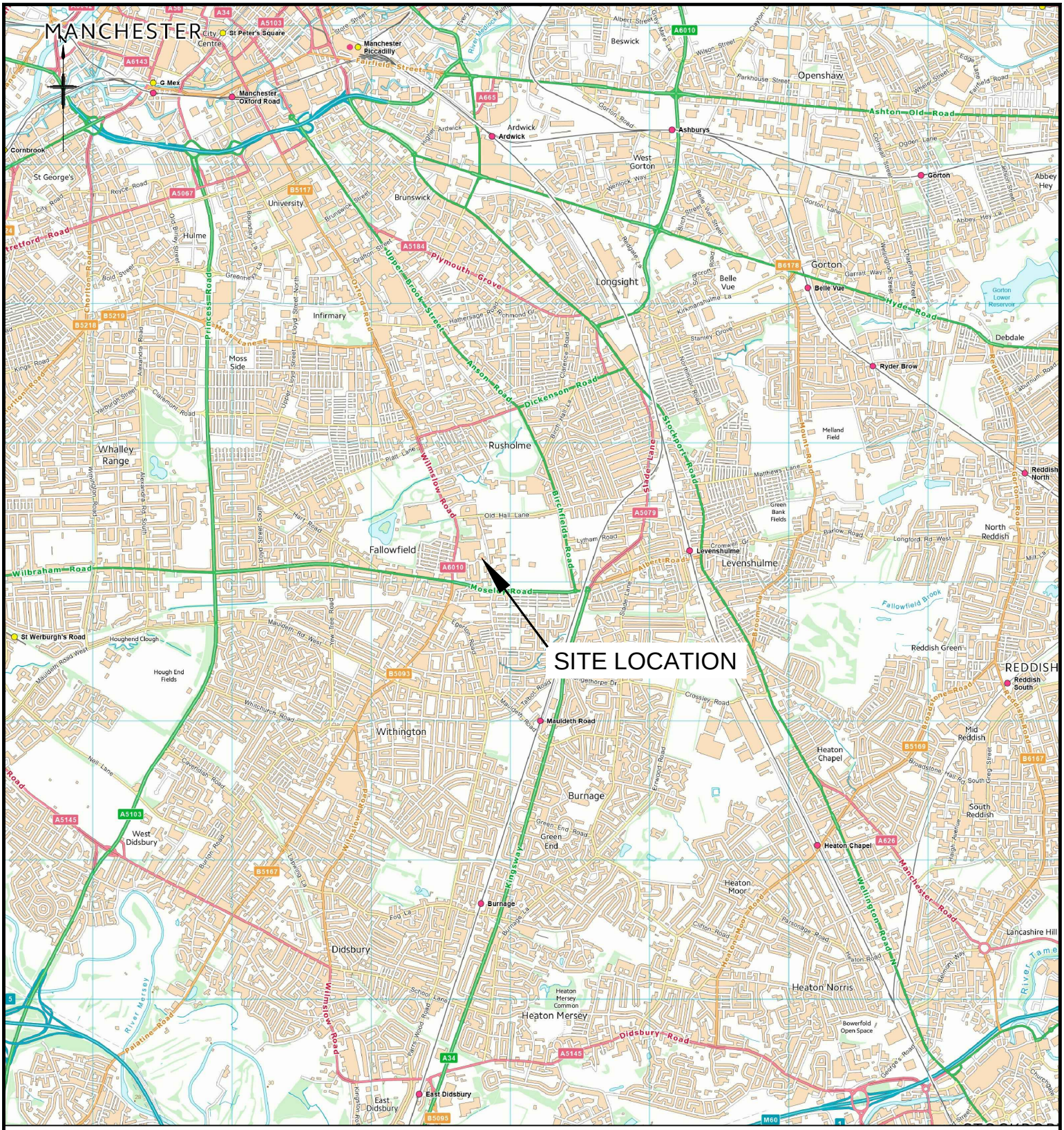
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FIGURES



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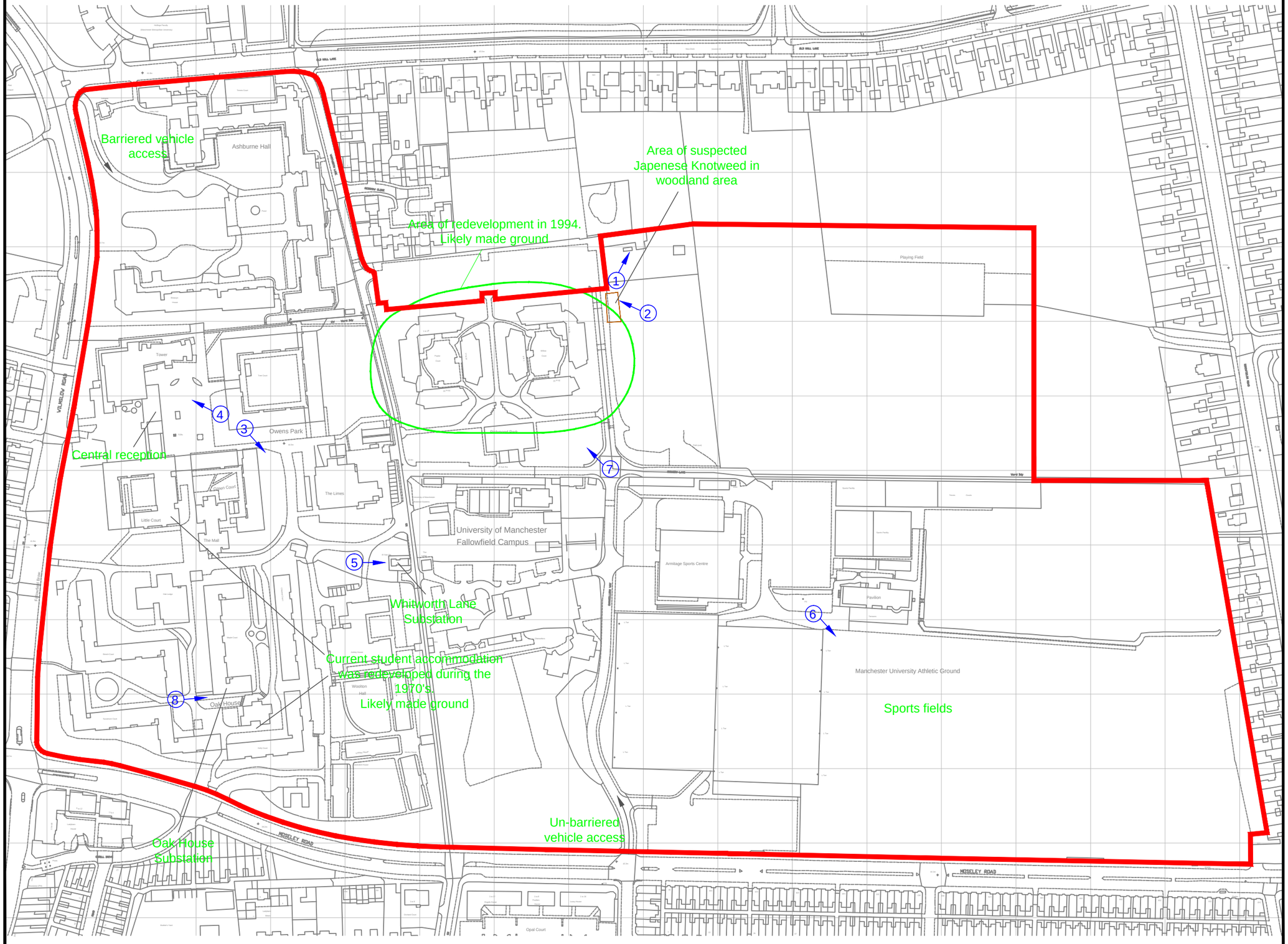
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Client	BDP
Project Title	PROJECT OAK, FALLOWFIELD
Drawing Title	SITE LOCATION PLAN

Drawn	Date	Checked	Date	Approved	Date	Project No.	Drawing File
HD	09.03.15	KH	09.03.15	KH	09.03.15	321991	331991-R1(00)D001A

Scale	Orig Size	Dimensions	Drawing No.	Rev.
NTS	A4	—	FIGURE 1	A



LEGEND:

2 Indicates photo number in appendix and direction of shot

Site boundary

N

REV	DATE	DESCRIPTION	BY	CHD.	APR.
A	09.03.15	FIRST ISSUE	HD	KH	KH

Dimensions	Projection	Scale	Orig Size
m		AS SHOWN	A3

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CLIENT
BDP

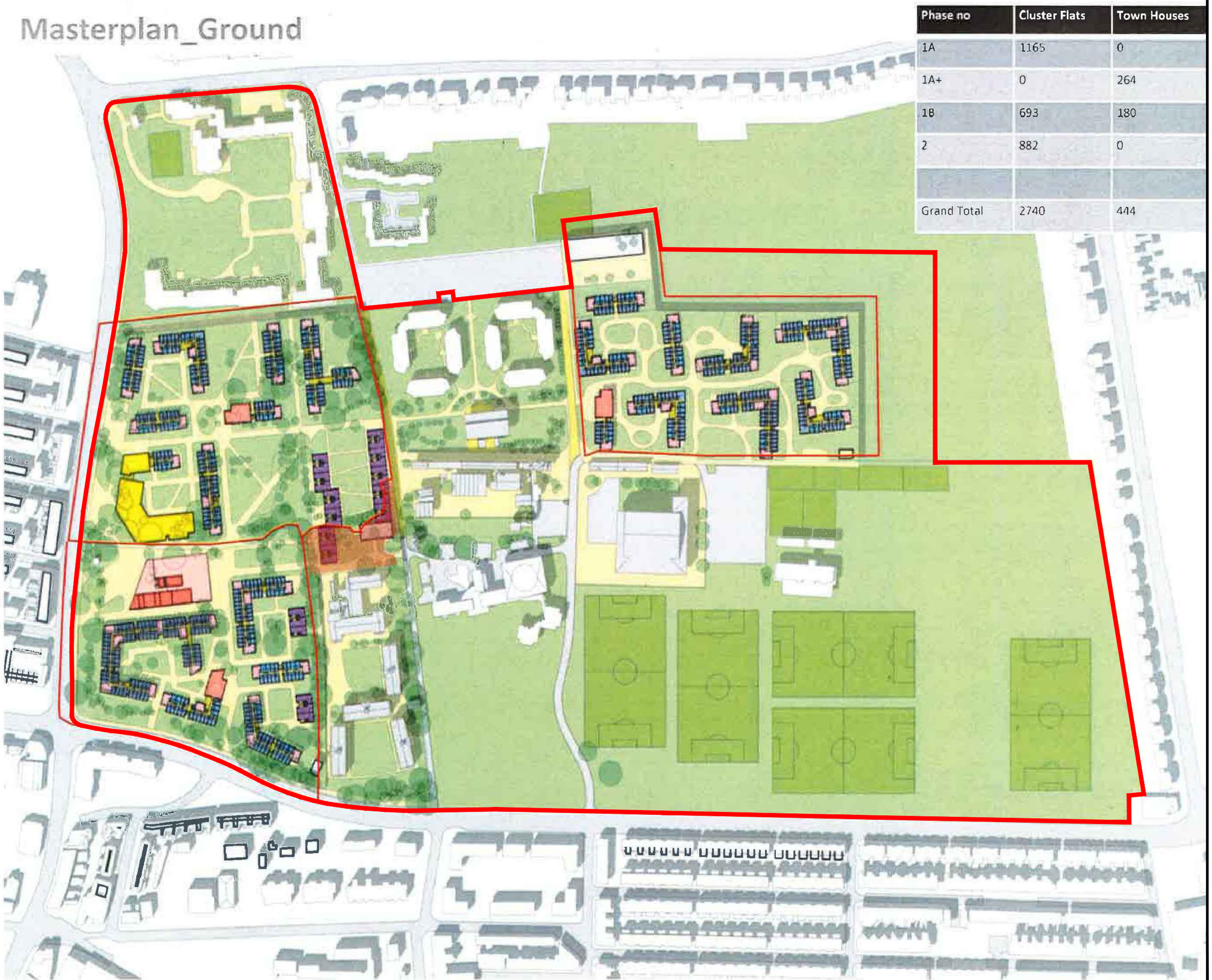
PROJECT
PROJECT OAK, FALLOWFIELD

TITLE
CURRENT SITE LAYOUT

JOB No.:	DRAWING FILE:
321991	321991-R1(00)D002A

BY:	DATE:	CONTRACT NO.		REV:
HD	09.03.15		FIGURE 2	A

Scale bar
0 20 40 60 80 100m



Phase no	Cluster Flats	Town Houses
1A	1165	0
1A+	0	264
1B	693	180
2	882	0
Grand Total	2740	444

NOTE:
Masterplan obtained from BDP 04.03.2015

N

REV	DATE	DESCRIPTION	BY	CHD.	APR.
A	11.03.15	FIRST ISSUE	HD	KH	KH

Dimensions	Projection	Scale	Orig Size
m		NTS	A3

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CLIENT
BDP

PROJECT
PROJECT OAK, FALLOWFIELD

TITLE
PROPOSED DEVELOPMENT PLAN

JOB No.:	DRAWING FILE:
321991	321991-R1(00)D003A

BY:	DATE:	CONTRACT NO.		REV:
HD	11.03.15		FIGURE 3	A

APPENDICES

APPENDIX A
SERVICE CONSTRAINTS

1. This report and the site investigation carried out in connection with the report (together the "Services") were compiled and carried out by RSK Environment Limited (RSK) for BDP (the "client") in accordance with the terms of a contract between RSK and the "client", dated 11/03/2015. The Services were performed by RSK with the skill and care ordinarily exercised by a reasonable environmental consultant at the time the Services were performed. Further, and in particular, the Services were performed by RSK taking into account the limits of the scope of works required by the client, the time scale involved and the resources, including financial and manpower resources, agreed between RSK and the client.

2. Other than that expressly contained in paragraph 1 above, RSK provides no other representation or warranty whether express or implied, in relation to the Services.

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

4. It is RSK's understanding that this report is to be used for the purpose described in the introduction to the report. That purpose was a significant factor in determining the scope and level of the Services. Should the purpose for which the report is used, or the proposed use of the site change, this report may no longer be valid and any further use of or reliance upon the report in those circumstances by the client without RSK 's review and advice shall be at the client's sole and own risk. Should RSK be requested to review the report after the date hereof, RSK shall be entitled to additional payment at the then existing rates or such other terms as agreed between RSK and the client.

5. The passage of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the report inaccurate or unreliable. The information and conclusions contained in this report should not be relied upon in the future without the written advice of RSK. In the absence of such written advice of RSK, reliance on the report in the future shall be at the client's own and sole risk. Should RSK be requested to review the report in the future, RSK shall be entitled to additional payment at the then existing rate or such other terms as may be agreed between RSK and the client.

6. The observations and conclusions described in this report are based solely upon the Services which were provided pursuant to the agreement between the client and RSK. RSK has not performed any observations, investigations, studies or testing not specifically set out or required by the contract between the client and RSK. RSK is not liable for the existence of any condition, the discovery of which would require performance of services not otherwise contained in the Services. For the avoidance of doubt, unless otherwise expressly referred to in the introduction to this report, RSK did not seek to evaluate the presence on or off the site of asbestos, electromagnetic fields, lead paint, heavy metals, radon gas or other radioactive or hazardous materials.

7. The Services are based upon RSK's observations of existing physical conditions at the Site gained from a walk-over survey of the site together with RSK's interpretation of information including documentation, obtained from third parties and from the client on the history and usage of the site. The Services are also based on information and/or analysis provided by independent testing and information services or laboratories upon which RSK was reasonably entitled to rely. The Services clearly are limited by the accuracy of the information, including documentation, reviewed by RSK and the observations possible at the time of the walk-over survey. Further RSK was not authorised and did not attempt to independently verify the accuracy or completeness of information, documentation or materials received from the client or third parties, including laboratories and information services, during the performance of the Services. RSK is not liable for any inaccurate information or conclusions, the discovery of which inaccuracies required the doing of any act including the gathering of any information which was not reasonably available to RSK and including the doing of any independent investigation of the information provided to RSK save as otherwise provided in the terms of the contract between the client and RSK.

8. The phase II or intrusive environmental site investigation aspects of the Services is a limited sampling of the site at pre-determined borehole and soil vapour locations based on the operational configuration of the site. The conclusions given in this report are based on information gathered at the specific test locations and can only be extrapolated to an undefined limited area around those locations. The extent of the limited area depends on the soil and groundwater conditions, together with the position of any current structures and underground facilities and natural and other activities on site. In addition chemical analysis was carried out for a limited number of parameters [as stipulated in the contract between the client and RSK] [based on an understanding of the available operational and historical information,] and it should not be inferred that other chemical species are not present.

9. Any site drawing(s) provided in this report is (are) not meant to be an accurate base plan, but is (are) used to present the general relative locations of features on, and surrounding, the site.

APPENDIX B
SUMMARY OF LEGISLATION AND POLICY RELATING TO CONTAMINATED LAND

Part IIA of the Environmental Protection Act 1990 (EPA) and its associated Contaminated Land Regulations 2000 (SI 2000/227), which came into force in England on 1 April 2000, formed the basis for the current regulatory framework and the statutory regime for the identification and remediation of contaminated land. Part IIA of the EPA 1990 defines contaminated land as 'any land which appears to the Local Authority in whose area it is situated to be in such a condition by reason of substances in, on or under the land, that significant harm is being caused, or that there is significant possibility of significant harm being caused, or that pollution of controlled waters is being or is likely to be caused'. Controlled waters are considered to include all groundwater, inland waters and estuaries.

In August 2006, the Contaminated Land (England) Regulations 2006 (SI 2006/1380) were implemented, which extended the statutory regime to include Part IIA of the EPA as originally introduced on 1 April 2000, together with changes intended chiefly to address land that is contaminated by virtue of radioactivity. These have been replaced subsequently by the Contaminated Land (England) (Amendment) Regulations 2012, which now exclude land that is contaminated by virtue of radioactivity.

The intention of Part IIA of the EPA is to deal with contaminated land issues that are considered to cause significant harm on land that is not undergoing development (see Environmental Protection Act 1990: Part 2A Contaminated Land Statutory Guidance, April 2012). This document replaces Annex III of Defra Circular 01/2006, published in September 2006 (the remainder of this document is now obsolete).

Water Framework Directive (WFD)

The Water Framework Directive 2000/60/EC is designed to:

- enhance the status and prevent further deterioration of aquatic ecosystems and associated wetlands that depend on the aquatic ecosystems
- promote the sustainable use of water
- reduce pollution of water, especially by 'priority' and 'priority hazardous' substances
- ensure progressive reduction of groundwater pollution.

The WFD requires a management plan for each river basin be developed every six years.

Groundwater Directive (GWD)

The 1980 Groundwater Directive 80/68/EEC and the 2006 Groundwater Daughter Directive 2006/118/EC of the WFD are the main European legislation in place to protect groundwater. The 1980 Directive is due to be repealed in December 2013. The European legislation has been transposed into national legislation by regulations and directions to the Environment Agency.

Environmental Permitting Regulations (EPR)

The Environmental Permitting (England and Wales) Regulations 2010 provide a single regulatory framework that streamlines and integrates waste management licensing, pollution prevention and control, water discharge consenting, groundwater authorisations, and radioactive substances regulation. Schedule 22, paragraph 6 of EPR 2010 states: 'the regulator must, in exercising its relevant functions, take all necessary measures - (a) to prevent the input of any hazardous substance to groundwater; and (b) to limit the input of non-hazardous pollutants to groundwater so as to ensure that such inputs do not cause pollution of groundwater.'

Water Resources Act (WRA)

The Water Resources Act 1991 (Amendment) (England and Wales) Regulations 2009 updated the Water Resources Act 1991, which introduced the offence of causing or knowingly permitting pollution of controlled waters. The Act provides the Environment Agency with powers to implement remediation necessary to protect controlled waters and recover all reasonable costs of doing so.

Priority Substances Directive (PSD)

The Priority Substances Directive 2008/105/EC is a 'Daughter' Directive of the WFD, which sets out a priority list of substances posing a threat to or via the aquatic environment. The PSD establishes environmental quality standards for priority substances, which have been set at concentrations that are safe for the aquatic environment and for human health. In addition, there is a further aim of reducing (or eliminating) pollution of surface water (rivers, lakes, estuaries and coastal waters) by pollutants on the list. The WFD requires that countries establish a list of dangerous substances that are being discharged and EQS for them. In England and Wales, this list is provided in the River Basin Districts Typology, Standards and Groundwater threshold values (Water Framework Directive) (England and Wales) Directions 2010. In order to achieve the objectives of the WFD, classification schemes are used to describe where the water environment is of good quality and where it may require improvement.

Planning Policy

Contaminated land is often dealt with through planning because of land redevelopment. This approach was documented in Planning Policy Statement: Planning and Pollution Control PPS23, which states that it remains the responsibility of the landowner and developer to identify land affected by contamination and carry out sufficient remediation to render the land suitable for use. PPS23 was withdrawn early in 2012 and has been replaced by much reduced guidance within the National Planning Policy Framework (NPPF).

The new framework has only limited guidance on contaminated land, as follows:

- *"planning policies and decisions should also ensure that:*
    - *the site is suitable for its new use taking account of ground conditions and land instability, including from natural hazards or former activities such as mining, pollution arising from previous uses and any proposals for mitigation including*

land remediation or impacts on the natural environment arising from that remediation;

- *after remediation, as a minimum, land should not be capable of being determined as contaminated land under Part IIA of the Environmental Protection Act 1990; and*
- *adequate site investigation information, prepared by a competent person, is presented".*

APPENDIX C SITE PHOTOGRAPHS

PHOTOGRAPHIC LOG

Photo no. 1	**Date:** 03/03/2015	
Direction photo taken: **Northeast**		
Description: Containers housed on the land in the northeast of the site		

Photo No. 2	**Date:** 03/03/2015	
Direction photo taken: **West**		
Description: Area of suspected Japanese Knotweed		

Photo No.	Date:	
3	03/03/2015	
Direction Photo Taken: Southeast		
Description: An area of soft landscaping adjacent to Green Court Halls of residence		

Photo No.	Date:	
4	03/03/2015	
Direction Photo Taken: West		
Description: View towards central reception area and the tower, across a hardstanding inner courtyard		

Photo No.	Date:	
5	03/03/2015	
Direction Photo Taken: East		
Description: View to the rear of the Whitworth Lane substation		

Photo No.	Date:	
6	03/03/2015	
Direction Photo Taken: Southeast		
Description: View across sports fields in the southeast of the site		

Photo No.	Date:	
7	03/03/2015	
Direction Photo Taken: Northwest		
Description: View towards Richmond Park Hall of Residence		

Photo No.	Date:	
8	03/03/2015	
Direction Photo Taken: East		
Description: View towards Oak House substation		

APPENDIX D
RISK ASSESSMENT METHODOLOGY

CLR11 outlines the framework to be followed for risk assessment in the UK. The framework is designed to be consistent with UK legislation and policies including planning. Under CLR11, three stages of risk assessment exist: preliminary, generic quantitative and detailed quantitative. An outline conceptual model should be formed at the preliminary risk assessment stage that collates all the existing information pertaining to a site in text, tabular or diagrammatic form. The outline conceptual model identifies potentially complete (termed possible) pollutant linkages (contaminant–pathway–receptor) and is used as the basis for the design of the site investigation. The outline conceptual model is updated as further information becomes available, for example as a result of the site investigation.

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

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

- highly likely: the event appears very likely in the short term and almost inevitable over the long term or there is evidence at the receptor of harm or pollution
- likely: it is probable that an event will occur or circumstances are such that the event is not inevitable, but possible in the short term and likely over the long term
- low likelihood: circumstances are possible under which an event could occur, but it is not certain even in the long term that an event would occur and it is less likely in the short term
- unlikely: circumstances are such that it is improbable the event would occur even in the long term.

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

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

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

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

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

- Very high: there is a high probability that severe harm could occur or there is evidence that severe harm is currently happening. This risk, if realised, could result in substantial liability; urgent investigation and remediation are likely to be required.
- High: harm is likely to occur. Realisation of the risk is likely to present a substantial liability. Urgent investigation is required. Remedial works may be necessary in the short term and are likely over the long term.
- Moderate: it is possible that harm could arise, but it is unlikely that the harm would be severe and it is more likely that the harm would be relatively mild. Investigation is normally required to clarify the risk and determine the liability. Some remedial works may be required in the longer term.
- Low: it is possible that harm could occur, but it is likely that if realised this harm would at worst normally be mild.
- Very low: there is a low possibility that harm could occur and if realised the harm is unlikely to be severe.

APPENDIX E GROUNDSURE REPORT AND HS2/CROSSRAIL REPORT

RSK Group

57 FOURWAYS HOUSE R S K LTD, HILTON STREET,
MANCHESTER, M1 2EJ

GroundSure Reference:	GS-1936834
Your Reference:	Project_Oak
Report Date	2 Mar 2015
Report Delivery Method:	Email - pdf

GroundSure Geoinsight

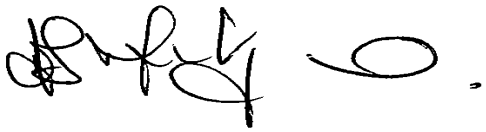
Address: Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD

Dear Sir/ Madam,

Thank you for placing your order with GroundSure. Please find enclosed the **GroundSure GeoInsight** as requested.

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

Yours faithfully,



Managing Director
Groundsure Limited

Enc.
GroundSure GeoInsight

GroundSure GeoInsight

Address:	**Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD**
Date:	**2 Mar 2015**
Reference:	**GS-1936834**
Client:	**RSK Group**

NW N NE



W E

SW S SE

Aerial Photograph Capture date:	02-Jun-2009
Grid Reference:	385796,394171
Site Size:	27.54ha

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Overview of Findings

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

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

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

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

Section 2: Ground Workings	On-site	0-50m	51-250	251-500	501-1000
2.1 Historical Surface Ground Working Features from Small Scale Mapping	7	0	55	Not Searched	Not Searched
2.2 Historical Underground Workings from Small Scale Mapping	0	0	0	0	3
2.3 Current Ground Workings	0	0	0	0	0

Section 3: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
3.1 Historical Mining	0	0	0	0	0

Section 3: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
3.2 Coal Mining	0	0	0	0	1
3.3 Johnson Poole and Bloomer Mining Area	4	0	0	0	9
3.4 Non-Coal Mining	0	0	0	1	1
3.5 Non-Coal Mining Cavities	0	0	0	0	0
3.6 Natural Cavities	0	0	0	0	0
3.7 Brine Extraction	0	0	0	0	0
3.8 Gypsum Extraction	0	0	0	0	0
3.9 Tin Mining	0	0	0	0	0
3.10 Clay Mining	0	0	0	0	0

Section 4: Natural Ground Subsidence	On-site
4.1 Shrink Swell Clay	Very Low
4.2 Landslides	Very Low
4.3 Ground Dissolution of Soluble Rocks	Negligible
4.4 Compressible Deposits	Negligible
4.5 Collapsible Deposits	Very Low
4.6 Running Sand	Very Low

Section 5: Borehole Records	On-site	0-50m	51-250
5 BGS Recorded Boreholes	13	6	11

Section 6: Estimated Background Soil Chemistry	On-site	0-50m	51-250
6 Records of Background Soil Chemistry	6	3	20

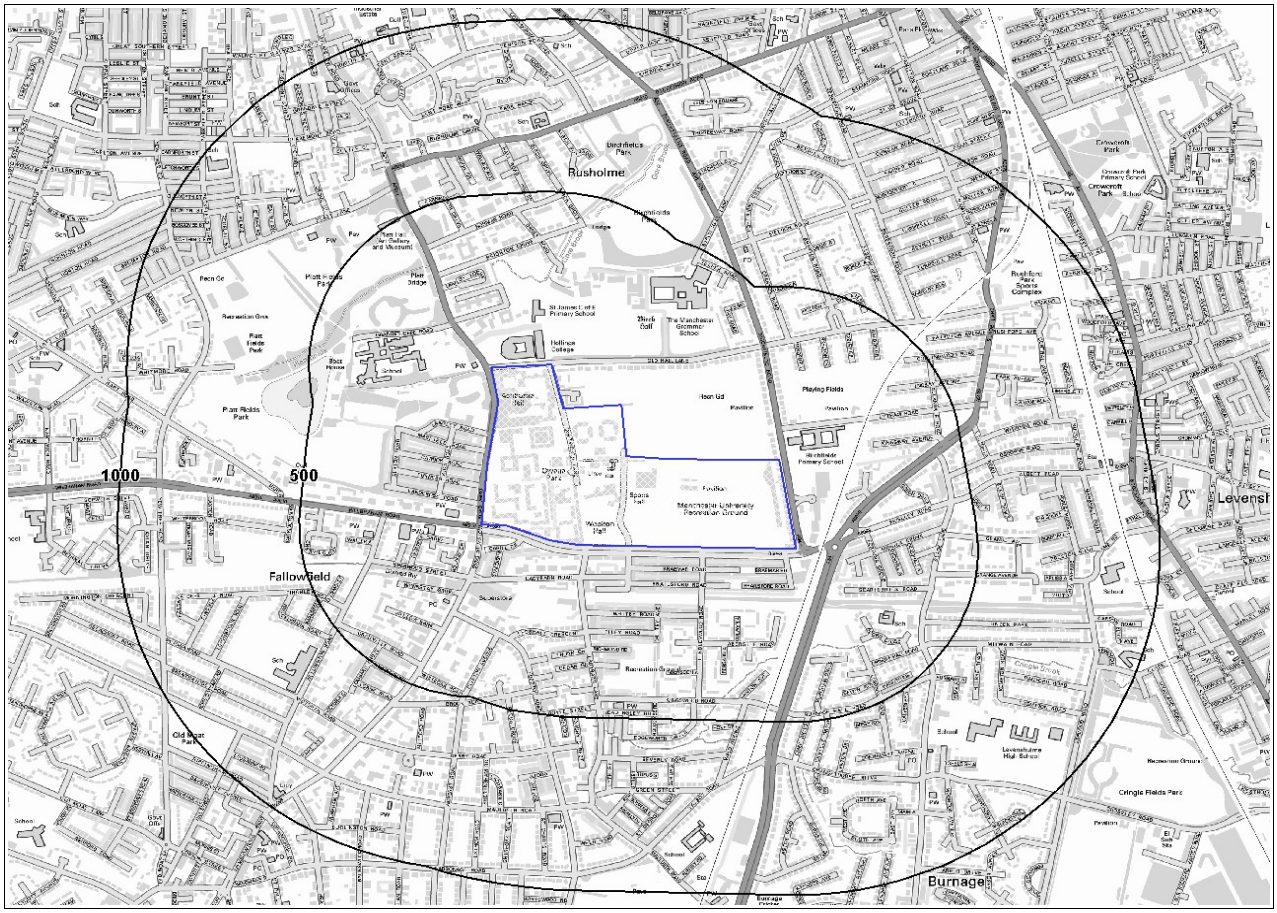
Section 7: Railways and Tunnels	On-site	0-50m	51-250	251-500
7.1 Tunnels	0	0	0	Not Searched
7.2 Historical Railway and Tunnel Features	0	0	26	Not Searched
7.3 Historical Railways	0	0	3	Not Searched
7.4 Active Railways	0	0	11	Not Searched

Section 7:Railways and Tunnels	On-site	0-50m	51-250	251-500
7.5 Railway Projects	1	0	0	0

1 Geology

1.1 Artificial Ground Map

NW N NE



W E

SW S SE

Artificial Ground Legend

Mapping sourced from Ordnance Survey

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Site Outline

500
1000
Search Buffers (m)

Made Ground (undivided)

Disturbed Ground (undivided)

Worked Ground (undivided)

Landscaped Ground (undivided)

Infilled Ground

Reclaimed Ground

1 Geology

1.1 Artificial Ground

1.1.1Artificial/ Made Ground

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:085

Are there any records of Artificial/Made Ground within 500m of the study site boundary? No

Database searched and no data found.

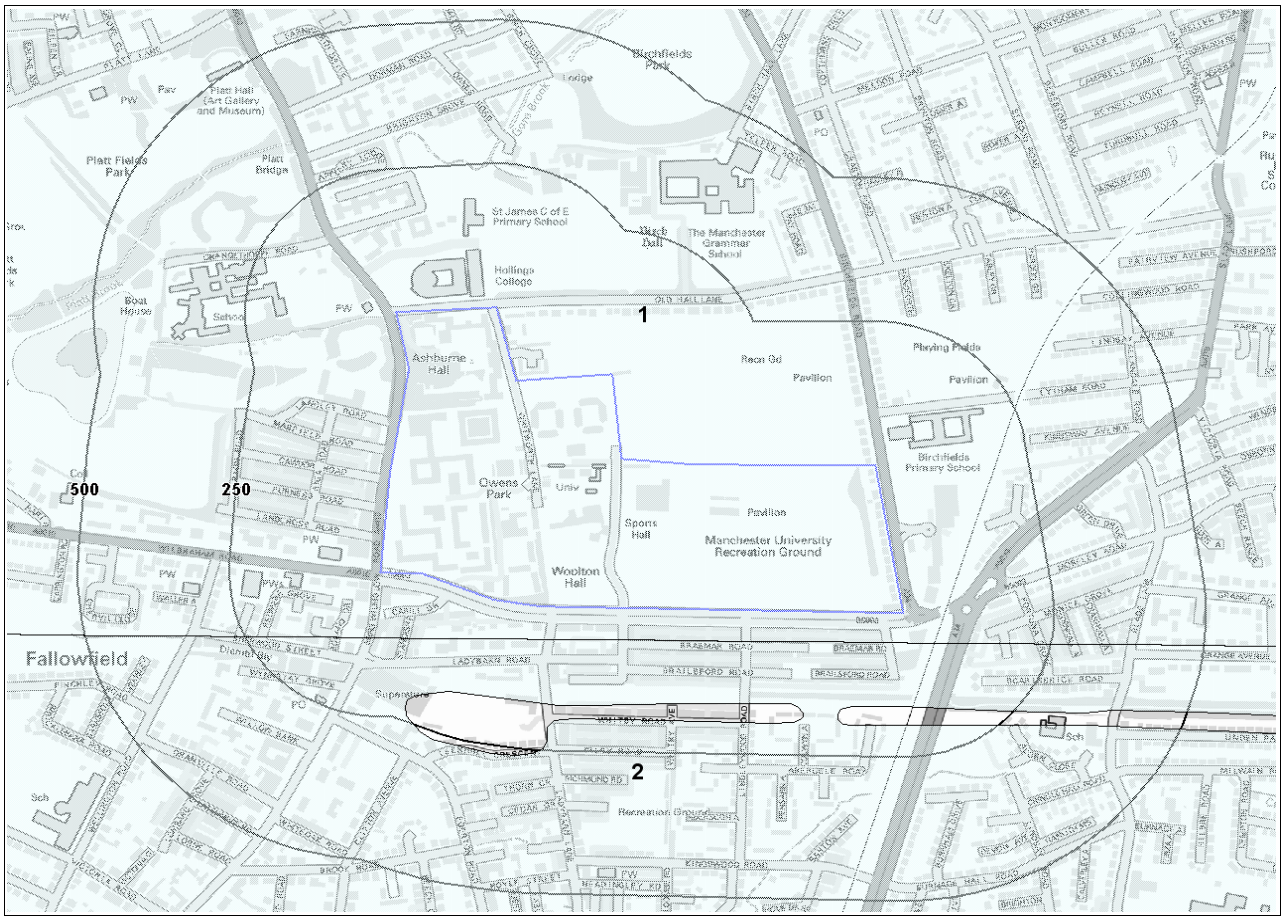
1.1.2 Permeability of Artificial Ground

Are there any records relating to permeability of artificial ground within the study site boundary? No

Database searched and no data found.

1.2 Superficial Deposits and Landslips Map

NW N NE



W E

SW S SE

Superficial Deposits and Landslips Legend

Mapping sourced from Ordnance Survey

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Site Outline

500
1000
Search Buffers (m)

1.2 Superficial Deposits and Landslips

1.2.1 Superficial Deposits/ Drift Geology

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

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
2	50.0	S	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON

1.2.2 Permeability of Superficial Ground

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

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

1.2.3 Landslip

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

Database searched and no data found.

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

1.2.4 Landslip Permeability

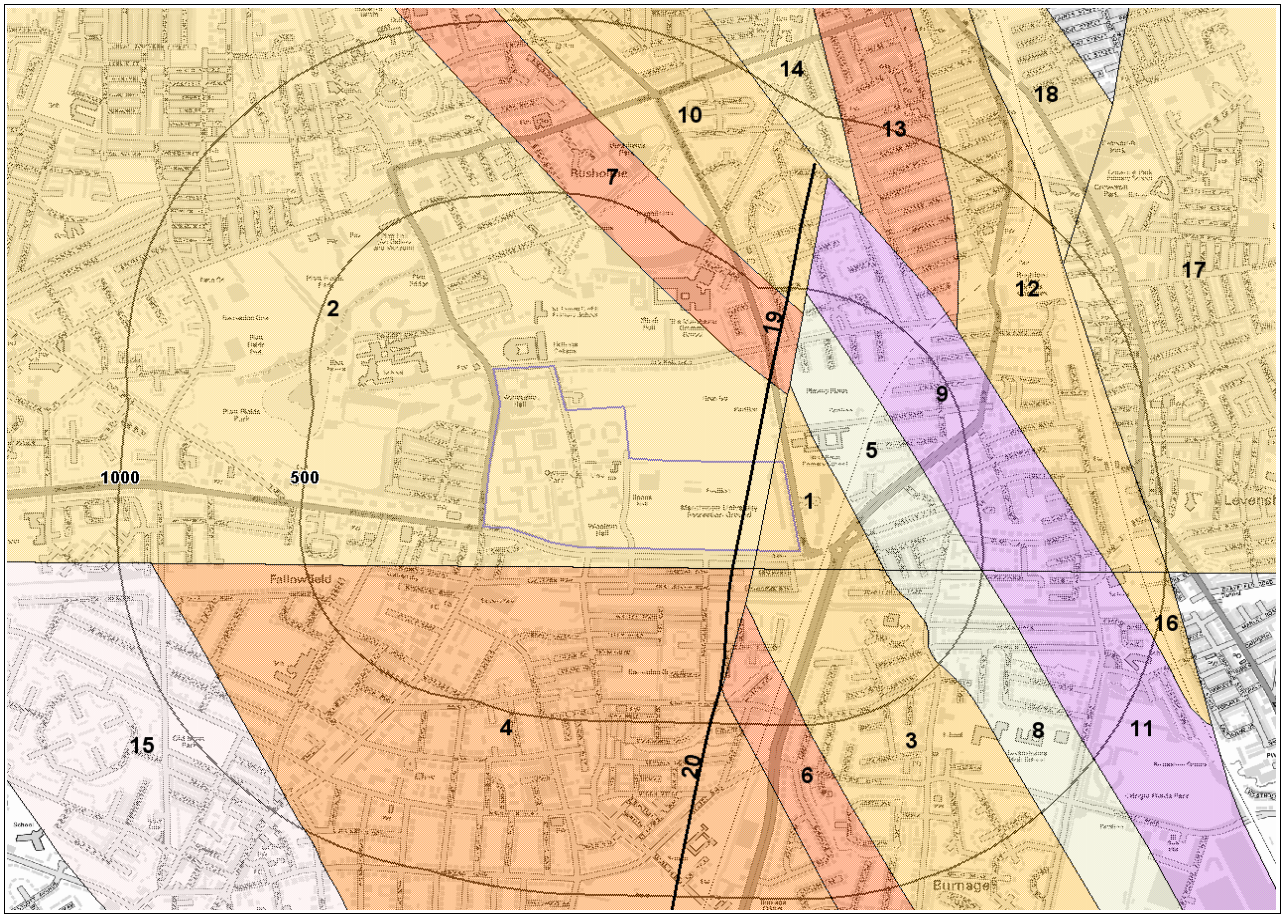
Are there any records relating to permeability of landslips within the study site* boundary? No

Database searched and no data found.

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

1.3 Bedrock and Faults Map

NW N NE



W E

SW SE

Bedrock and Faults Legend

Mapping sourced from Ordnance Survey®

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Site Outline

500
1000
Search Buffers (m)

1.3 Bedrock, Solid Geology & Faults

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:085

1.3.1 Bedrock/ Solid Geology

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

ID	Distance (m)	Direction	LEX Code	Description	Rock Age
1	0.0	On Site	CS-SDST	Collyhurst Sandstone Formation - Sandstone	Early Permian
2	0.0	On Site	SSG-SDST	Sherwood Sandstone Group - Sandstone	Ladinian /
3	50.0	S	CS-SDST	Collyhurst Sandstone Formation - Sandstone	Early Permian
4	52.0	S	CPB-PEST	Chester Pebble Beds Formation - Pebbly (gravelly) Sandstone	Scythian
5	103.0	NE	HA-MDSS	Halesowen Formation - Mudstone, Siltstone And Sandstone	Westphalian D
6	154.0	S	MM-MDST	Manchester Marls Formation - Mudstone	Late Permian
7	193.0	N	MM-MDST	Manchester Marls Formation - Mudstone	Late Permian
8	238.0	E	HA-MDSS	Halesowen Formation - Mudstone, Siltstone And Sandstone	Westphalian D
9	316.0	NE	ETM-MDSC	Etruria Formation - Mudstone, Sandstone And Conglomerate	Westphalian
10	430.0	N	CS-SDST	Collyhurst Sandstone Formation - Sandstone	Early Permian
11	500.0	E	ETM-MDSC	Etruria Formation - Mudstone, Sandstone And Conglomerate	Westphalian

1.3.2 Permeability of Bedrock Ground

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

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Intergranular	High	High
0.0	On Site	Mixed	High	High

1.3.3 Faults

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

ID	Distance (m)	Direction	Category Description	Feature Description
19	0.0	On Site	FAULT	Fault, inferred, crossmark on downthrow side, throw in metres
20	53.0	S	FAULT	Fault, inferred, displacement unknown

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

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

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

1.4 Radon Data

1.4.1 Radon Affected Areas

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

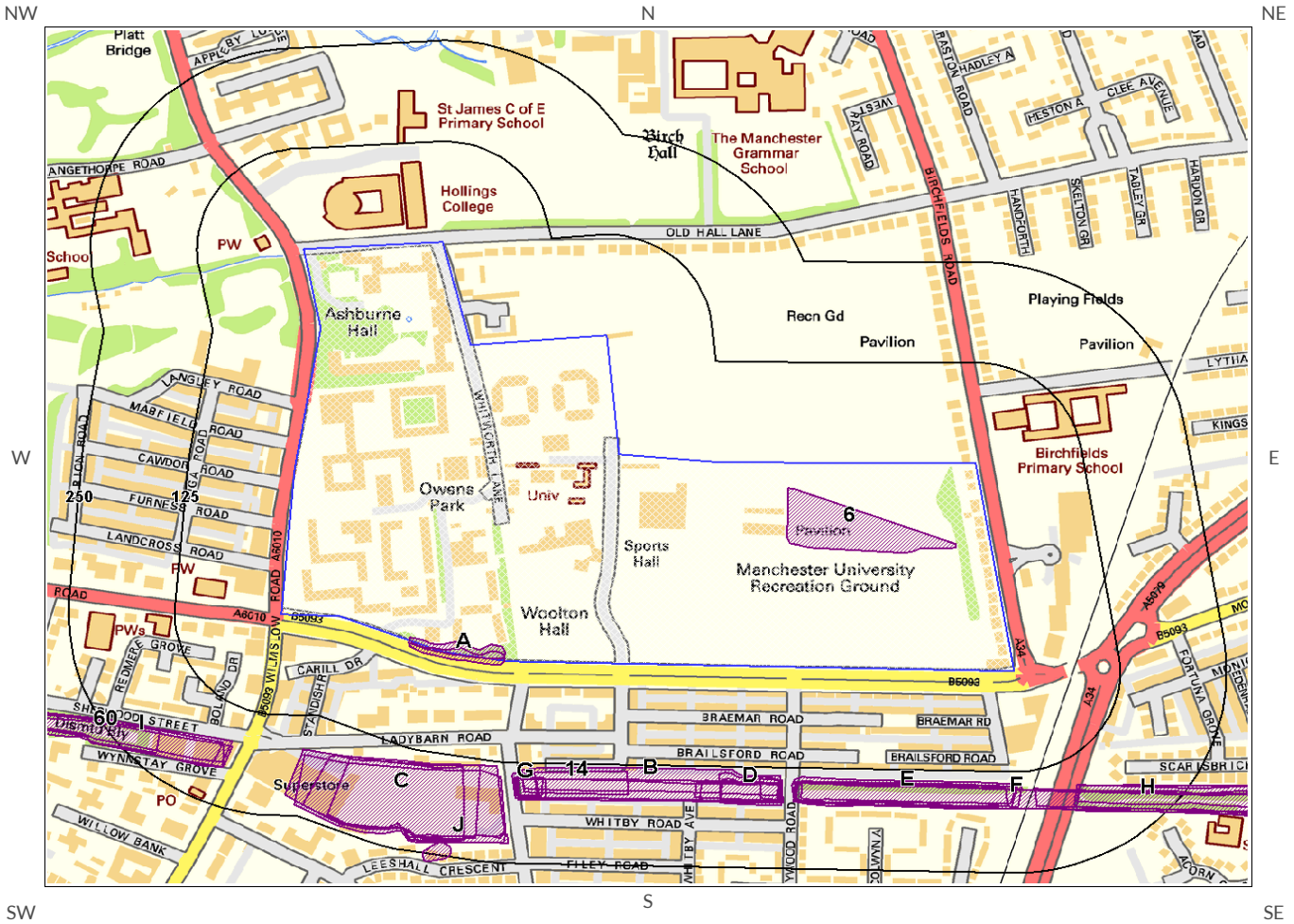
---

1.4.2 Radon Protection

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

---

2 Ground Workings Map



Ground Workings Legend

Mapping sourced from Ordnance Survey

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Site Outline

Search Buffers (m)

125

250

Historic Surface Ground Workings

Historic Underground Workings

Current Ground Workings



2 Ground Workings

2.1 Historical Surface Ground Working Features derived from Historical Mapping

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

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

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

ID	Distance (m)	Direction	NGR	Use	Date
1A	0.0	On Site	385797 393958	Unspecified Heap	1905
2A	0.0	On Site	385797 393958	Unspecified Heap	1934
3A	0.0	On Site	385797 393958	Unspecified Heap	1938
4A	0.0	On Site	385797 393958	Unspecified Heap	1916
5A	0.0	On Site	385797 393958	Unspecified Heap	1923
6	0.0	On Site	386284 394123	Unspecified Ground Workings	1965
7A	0.0	On Site	385796 393965	Unspecified Heap	1949
8B	129.0	S	386024 393799	Cuttings	1974
9B	129.0	S	386024 393799	Cuttings	1983
10B	129.0	S	386024 393799	Cuttings	1989
11C	130.0	S	385724 393785	Cuttings	1949
12C	132.0	S	385734 393779	Cuttings	1965
13D	133.0	S	386141 393792	Cuttings	1949
14	134.0	S	385935 393797	Cuttings	1965
15E	136.0	S	386325 393786	Cuttings	1949
16C	137.0	S	385710 393777	Cuttings	1983
17C	137.0	S	385710 393777	Cuttings	1989
18G	138.0	S	385876 393796	Cuttings	1949
19C	138.0	S	385754 393773	Cuttings	1892
20C	138.0	S	385754 393773	Cuttings	1934
21C	138.0	S	385754 393773	Cuttings	1938

ID	Distance (m)	Direction	NGR	Use	Date
22D	140.0	S	386165 393789	Cuttings	1965
23D	140.0	S	386142 393786	Cuttings	1934
24D	140.0	S	386142 393786	Cuttings	1938
25E	141.0	S	386318 393784	Cuttings	1916
26E	141.0	S	386328 393786	Cuttings	1989
27E	141.0	S	386328 393786	Cuttings	1974
28E	141.0	S	386328 393786	Cuttings	1983
29E	141.0	S	386328 393786	Cuttings	1965
30D	143.0	S	386125 393788	Cuttings	1916
31F	143.0	S	386495 393777	Cuttings	1905
32F	143.0	S	386495 393777	Cuttings	1923
33E	143.0	S	386323 393782	Cuttings	1934
34E	143.0	S	386323 393782	Cuttings	1938
35F	143.0	S	386497 393777	Cuttings	1892
36G	143.0	S	385881 393792	Cuttings	1916
37B	144.0	S	386021 393789	Cuttings	1905
38B	145.0	S	386023 393787	Cuttings	1892
39G	145.0	S	385885 393790	Cuttings	1923
40D	145.0	S	386130 393786	Cuttings	1923
41G	145.0	S	385879 393790	Cuttings	1938
42G	145.0	S	385879 393790	Cuttings	1934
43H	148.0	S	386634 393776	Cuttings	1916
44H	159.0	SE	386658 393777	Cuttings	1949
45H	162.0	SE	386658 393781	Cuttings	1974
46H	162.0	SE	386658 393781	Cuttings	1983
47H	162.0	SE	386658 393781	Cuttings	1989
48I	167.0	S	385401 393856	Cuttings	1974
49I	167.0	S	385401 393856	Cuttings	1965
50I	167.0	S	385401 393856	Cuttings	1949
51H	168.0	SE	386660 393772	Cuttings	1934

ID	Distance (m)	Direction	NGR	Use	Date
52H	168.0	SE	386660 393772	Cuttings	1938
53I	173.0	SW	385402 393852	Cuttings	1983
54I	174.0	S	385399 393850	Cuttings	1905
55I	174.0	S	385399 393850	Cuttings	1892
56I	174.0	S	385399 393850	Cuttings	1934
57I	174.0	S	385399 393850	Cuttings	1923
58I	174.0	S	385399 393850	Cuttings	1938
59I	177.0	SW	385399 393850	Cuttings	1916
60	203.0	SW	385365 393861	Cuttings	1989
61J	214.0	S	385757 393731	Unspecified Ground Workings	1923
62J	233.0	S	385773 393712	Unspecified Pit	1905

2.2 Historical Underground Working Features derived from Historical Mapping

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

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

The following Historical Underground Working Features are provided by GroundSure:

ID	Distance (m)	Direction	NGR	Use	Date
Not shown	962.0	E	387429 393778	Tunnel	1974
Not shown	962.0	E	387429 393778	Tunnel	1983
Not shown	962.0	E	387429 393778	Tunnel	1989

2.3 Current Ground Workings

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

Are there any BGS Current Ground Workings within 1000m of the study site boundary? No

Database searched and no data found.

3 Mining, Extraction & Natural Cavities Map

NW N NE

W E

SW S SE



Mining, Extraction and Natural Cavities Legend

Mapping sourced from Ordnance Survey®

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Site Outline

250 / 500 Search Buffers (m)

Historical Mining

Non-Coal Mining Cavities

Natural Cavities

Non-Coal Mining

Highly likely

Likely

Unlikely

Highly unlikely

Rare



3 Mining, Extraction & Natural Cavities

3.1 Historical Mining

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

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

Database searched and no data found.

3.2 Coal Mining

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

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

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

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

3.3 Johnson Poole and Bloomer

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

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

The following information provided by JPB is not represented on mapping: In addition to being located inside an area where The Coal Authority have information on coal mining activities, Johnson Poole & Bloomer (JPB) have information such as mining plans and maps held within their archive of mining activities that have occurred within 1km of this property which may supplement this information. Further details and a quote for services can be obtained by emailing this report to enquiries.gs@jpb.co.uk.

3.4 Non-Coal Mining

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

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

The following non-coal mining information is provided by the BGS:

ID	Distance (m)	Direction	Name	Commodity	Assessment of likelihood
1	316.0	NE	Not available	Vein Mineral	Occasional minor mining may have occurred but of restricted extent.
Not shown	815.0	N	Not available	Vein Mineral	Occasional minor mining may have occurred but of restricted extent.

3.5 Non-Coal Mining Cavities

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

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

Database searched and no data found.

3.6 Natural Cavities

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

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

Database searched and no data found.

3.7 Brine Extraction

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

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

Database searched and no data found.

3.8 Gypsum Extraction

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

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

Database searched and no data found.

3.9 Tin Mining

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

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

Database searched and no data found.

3.10 Clay Mining

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

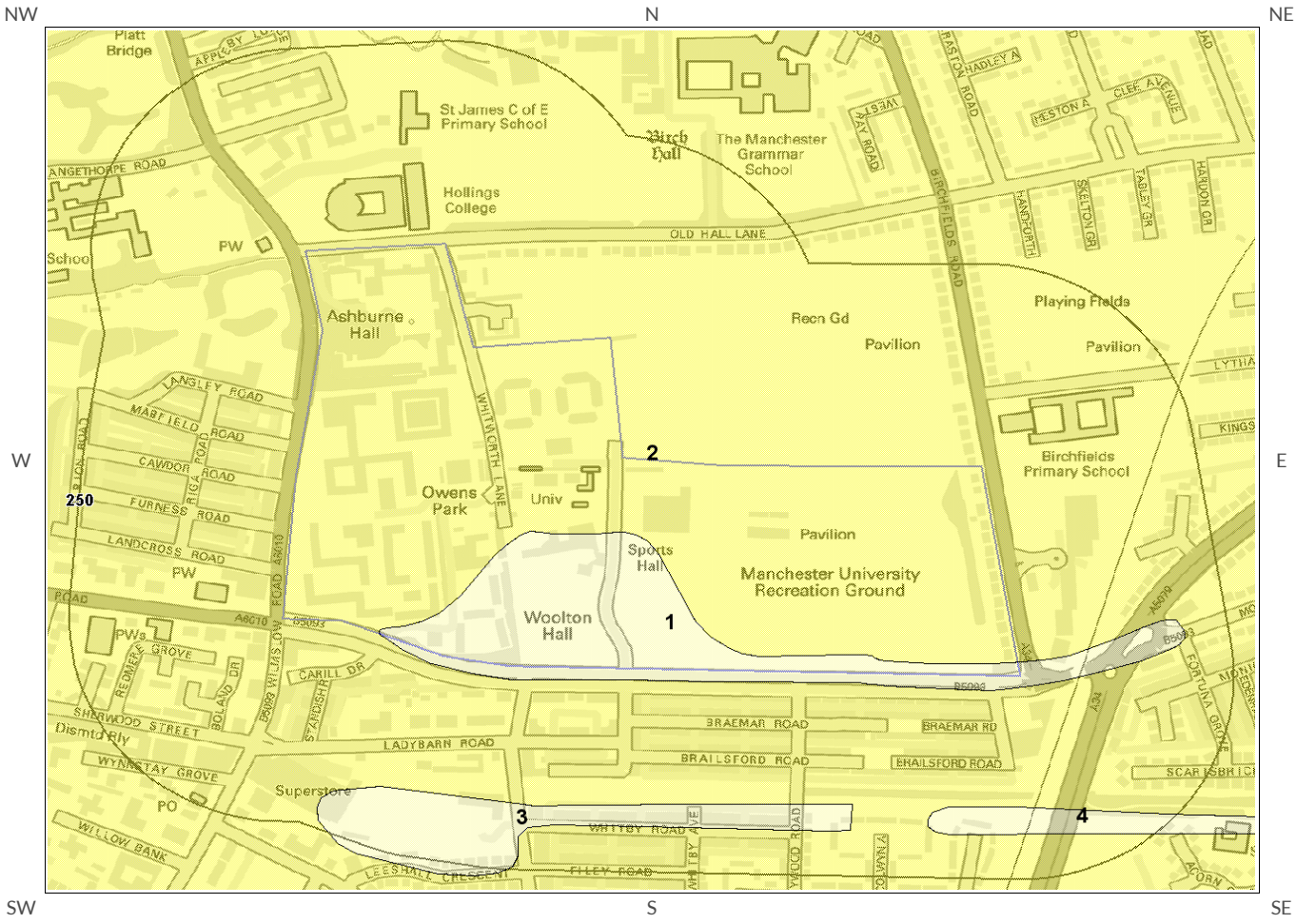
Are there any Clay Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

---

4 Natural Ground Subsidence

4.1 Shrink-Swell Clay Map



Shrink Swell Clay Legend

Mapping sourced from Ordnance Survey

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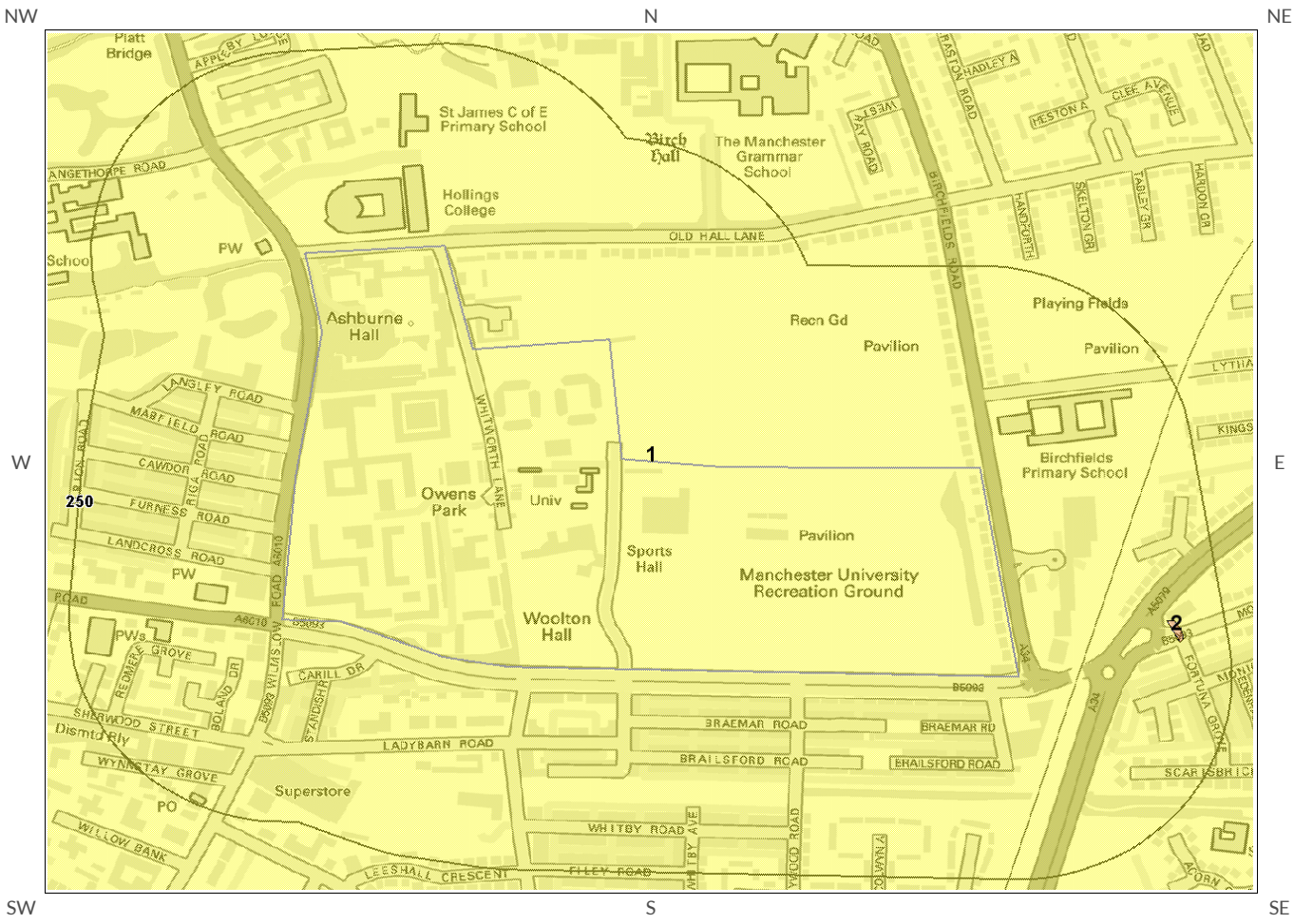
Site Outline

125
250
Search Buffers (m)

No Data / Null
Negligible
Very Low

Low
Moderate
High

4.2 Landslides Map



Landslides Legend

Mapping sourced from Ordnance Survey

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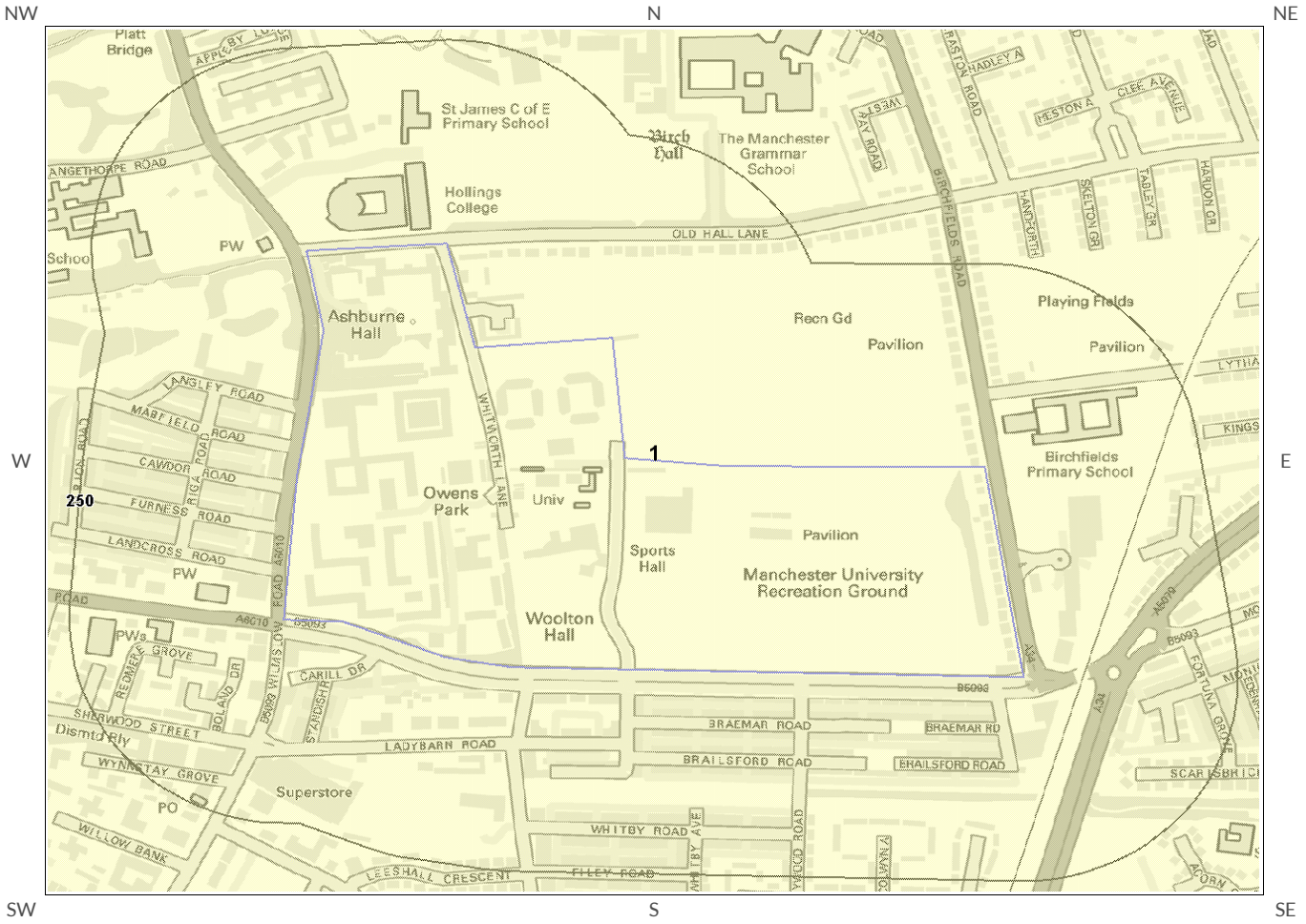
Site Outline

125
250
Search Buffers (m)

No Data / Null
Negligible
Very Low

Low
Moderate
High

4.3 Ground Dissolution Soluble Rocks Map



Ground Dissolution Soluble Rocks Legend

Mapping sourced from Ordnance Survey

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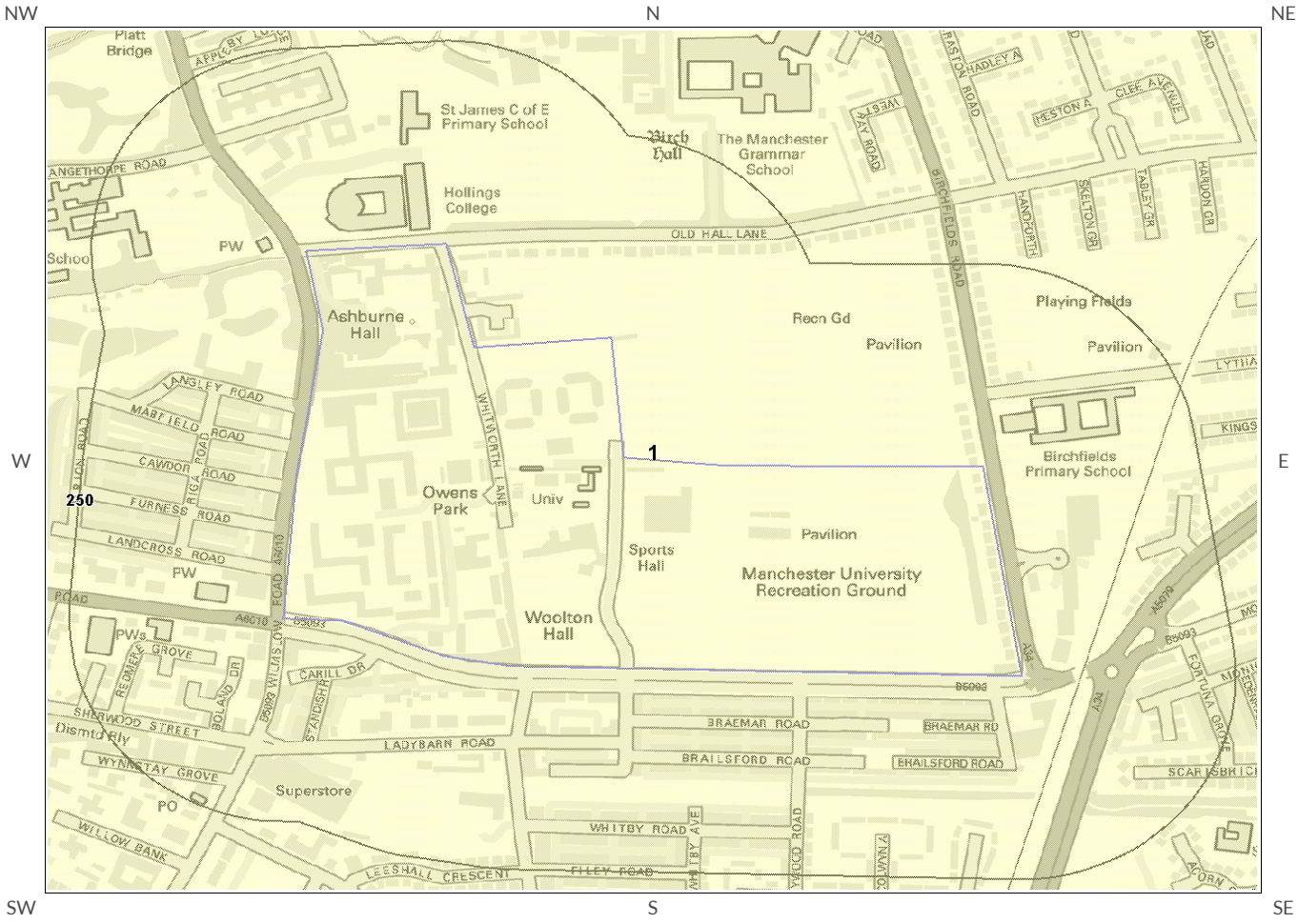
Site Outline

125
250
Search Buffers (m)

No Data / Null
Negligible
Very Low

Low
Moderate
High

4.4 Compressible Deposits Map



Compressible Deposits Legend

Mapping sourced from Ordnance Survey

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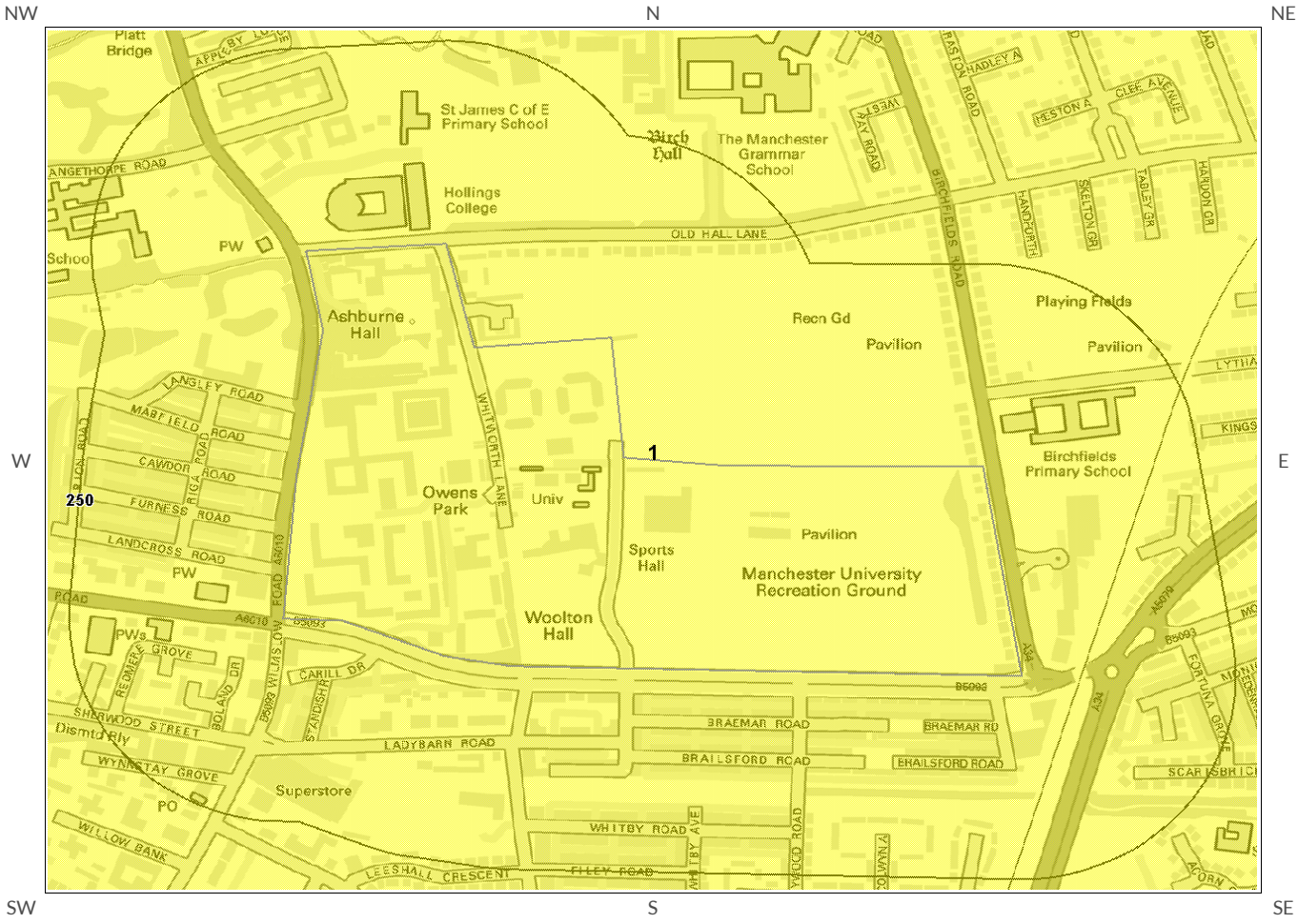
Site Outline

125
250
Search Buffers (m)

No Data / Null
Negligible
Very Low

Low
Moderate
High

4.5 Collapsible Deposits Map



Collapsible Deposits Legend

Mapping sourced from Ordnance Survey

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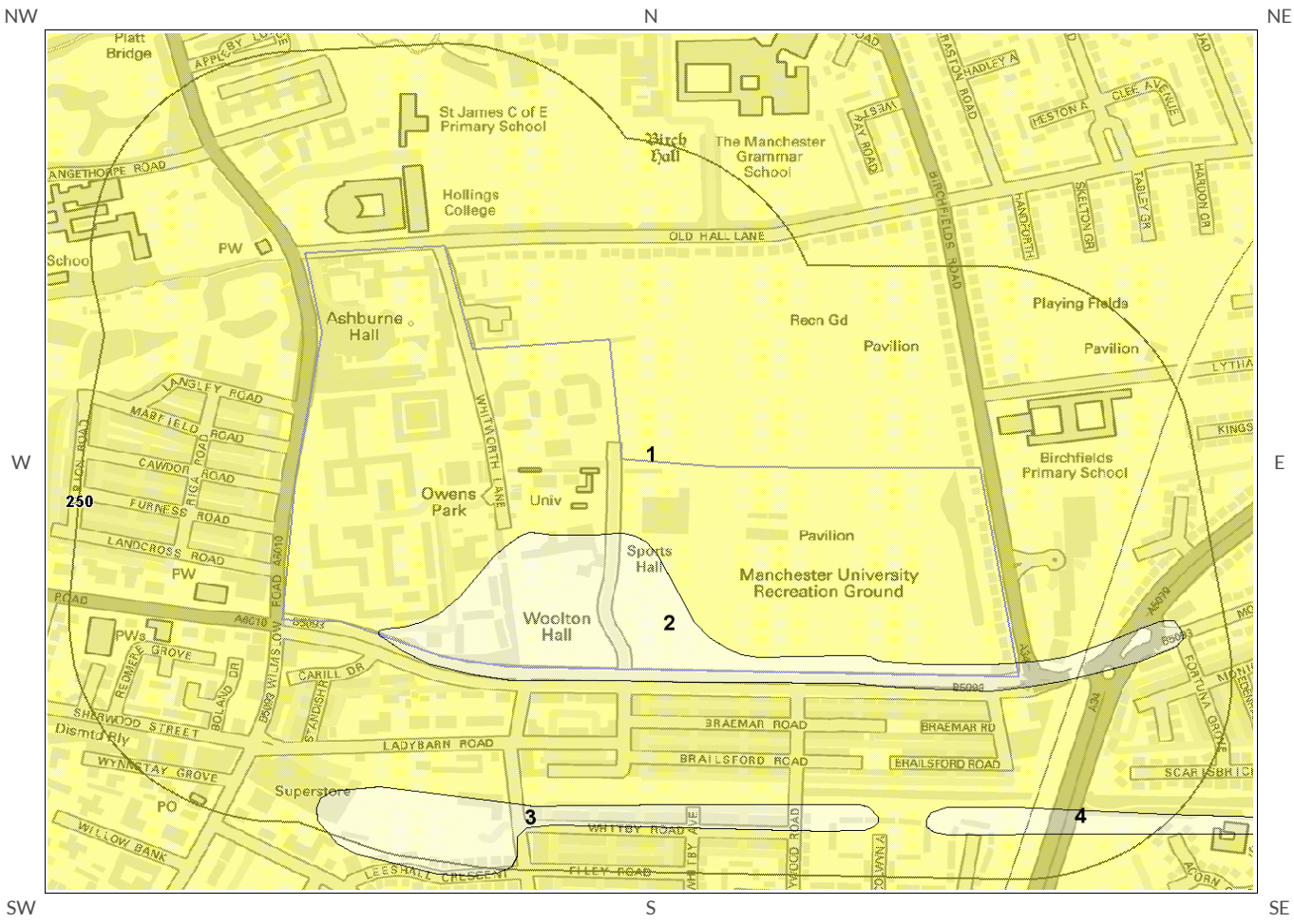
Site Outline

125
250
Search Buffers (m)

No Data / Null
Negligible
Very Low

Low
Moderate
High

4.6 Running Sand Map



Running Sand Legend

Mapping sourced from Ordnance Survey

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Site Outline

125
250
Search Buffers (m)

No Data / Null
Negligible
Very Low

Low
Moderate
High



4 Natural Ground Subsidence

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

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

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

4.1 Shrink-Swell Clays

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

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely likely due to potential problems with shrink-swell clays.
2	0.0	On Site	Very Low	Ground conditions predominantly low plasticity. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.

4.2 Landslides

The following Landslides information provided by the British Geological Survey:

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

4.3 Ground Dissolution of Soluble Rocks

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

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

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

4.4 Compressible Deposits

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

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

4.5 Collapsible Deposits

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

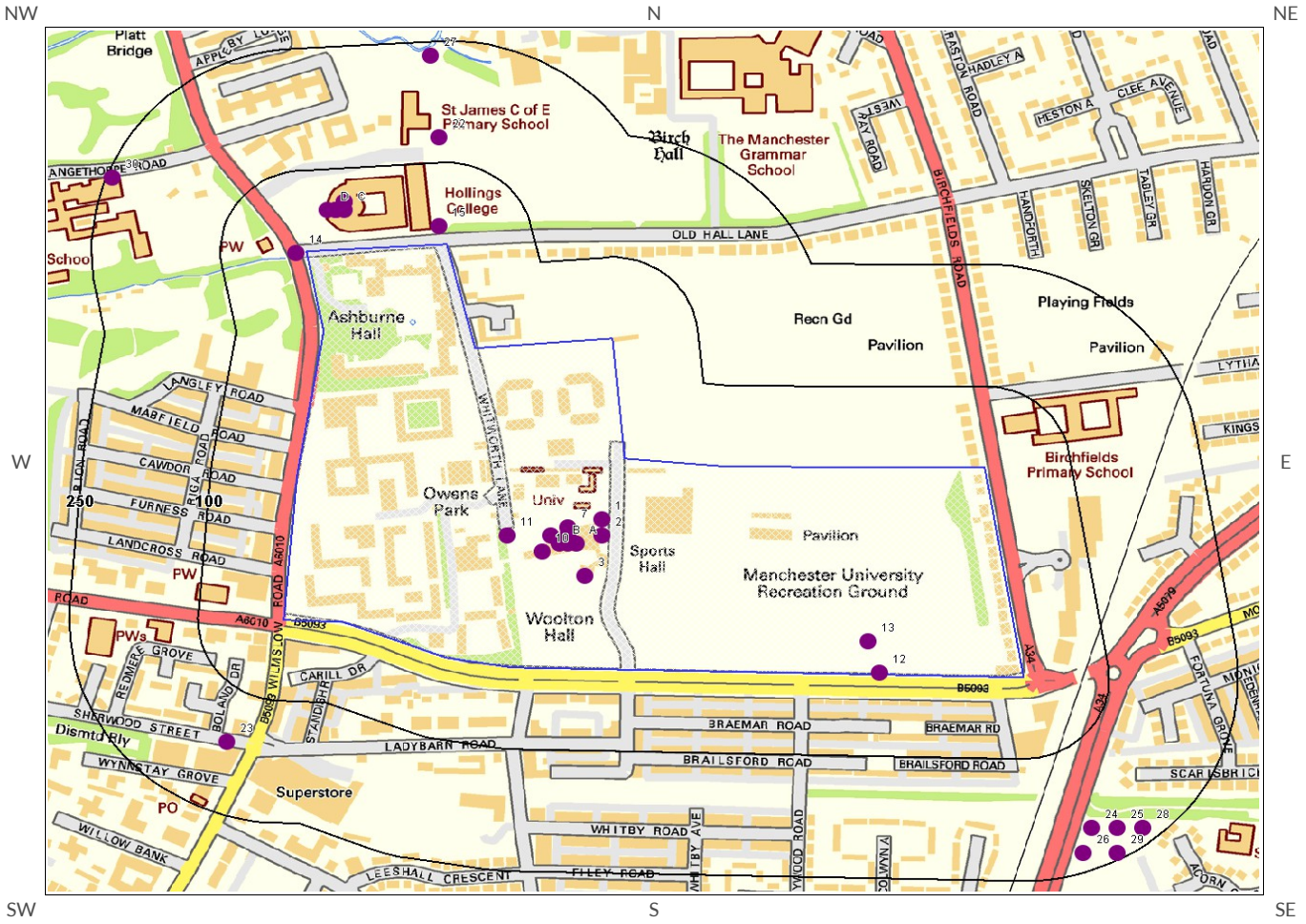
ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible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

4.6 Running Sands

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

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

5 Borehole Records Map





5 Borehole Records

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

Records of boreholes within 250m of the study site boundary:	30

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
1	0.0	On Site	385960 394130	SJ89SE430	-1.0	THE FIRS FALLOWFIELD TP 5
2	0.0	On Site	385960 394110	SJ89SE431	-1.0	THE FIRS FALLOWFIELD TP 6
3	0.0	On Site	385940 394060	SJ89SE423	-1.0	THE FIRS FALLOWFIELD 2
4A	0.0	On Site	385930 394100	SJ89SE424	-1.0	THE FIRS FALLOWFIELD 3
5A	0.0	On Site	385920 394100	SJ89SE429	-1.0	THE FIRS FALLOWFIELD TP 4
6A	0.0	On Site	385920 394110	SJ89SE432	-1.0	THE FIRS FALLOWFIELD TP 7
7	0.0	On Site	385920 394120	SJ89SE433	-1.0	THE FIRS FALLOWFIELD TP 8
8B	0.0	On Site	385910 394100	SJ89SE425	-1.0	THE FIRS FALLOWFIELD 4
9B	0.0	On Site	385900 394110	SJ89SE428	-1.0	THE FIRS FALLOWFIELD TP 3
10	0.0	On Site	385890 394090	SJ89SE427	-1.0	THE FIRS FALLOWFIELD TP 2
11	0.0	On Site	385850 394110	SJ89SE426	-1.0	THE FIRS FALLOWFIELD TP 1
12	0.0	On Site	386283 393941	SJ89SE7	8.23	MANCHESTER CORP. FALLOWFIELD 32
13	0.0	On Site	386270 393980	SJ89SE611	-1.0	BRADFORD COLLIERY
14	12.0	W	385604 394457	SJ89SE9	13.11	MANCHESTER CORP. FALLOWFIELD 33
15	22.0	N	385770 394490	SJ89SE466	0.8	CHORLTON BROOK TP 111
16C	48.0	N	385660 394510	SJ89SE825	-1.0	MANCHESTER METROPOLITIAN UNIVERSITY HOLLINGS LIBRARY TP 3
17C	48.0	N	385650 394510	SJ89SE823	-1.0	MANCHESTER METROPOLITIAN UNIVERSITY HOLLINGS LIBRARY TP 1
18C	48.0	N	385650 394510	SJ89SE824	-1.0	MANCHESTER METROPOLITIAN UNIVERSITY HOLLINGS LIBRARY TP 2
19D	49.0	N	385640 394510	SJ89SE819	-1.0	MANCHESTER METROPOLITIAN UNIVERSITY HOLLINGS LIBRARY A
20D	57.0	N	385660 394520	SJ89SE821	-1.0	MANCHESTER METROPOLITIAN UNIVERSITY HOLLINGS LIBRARY C
21C	57.0	N	385660 394520	SJ89SE822	-1.0	MANCHESTER METROPOLITIAN UNIVERSITY HOLLINGS LIBRARY D
22	131.0	N	385770 394600	SJ89SE465	1.0	CHORLTON BROOK TP 110
23	165.0	SW	385523 393856	SJ89SE8	11.28	MANCHESTER CORP. FALLOWFIELD 30
24	202.0	SE	386530 393750	SJ89SE658	-1.0	DUCHESS OF YORK HOSPITAL TP1
25	216.0	SE	386560 393750	SJ89SE659	-1.0	DUCHESS OF YORK HOSPITAL TP2

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
26	227.0	S	386520 393720	SJ89SE666	-1.0	DUCHESS OF YORK HOSPITAL TP9
27	232.0	N	385760 394700	SJ89SE464	1.6	CHORLTON BROOK TP 109
28	232.0	SE	386590 393750	SJ89SE660	-1.0	DUCHESS OF YORK HOSPITAL TP3
29	242.0	SE	386560 393720	SJ89SE665	-1.0	DUCHESS OF YORK HOSPITAL TP8
30	243.0	W	385390 394550	SJ89SE849	-1.0	MANCHESTER HIGH SCHOOL FOR GIRLS 1

Additional online information is available for the following boreholes listed above:

#12: scans.bgs.ac.uk/sobi_scans/boreholes/865685
#13: scans.bgs.ac.uk/sobi_scans/boreholes/866291
#14: scans.bgs.ac.uk/sobi_scans/boreholes/865687
#15: scans.bgs.ac.uk/sobi_scans/boreholes/866146
#22: scans.bgs.ac.uk/sobi_scans/boreholes/866145
#23: scans.bgs.ac.uk/sobi_scans/boreholes/865686
#27: scans.bgs.ac.uk/sobi_scans/boreholes/866144



6 Estimated Background Soil Chemistry

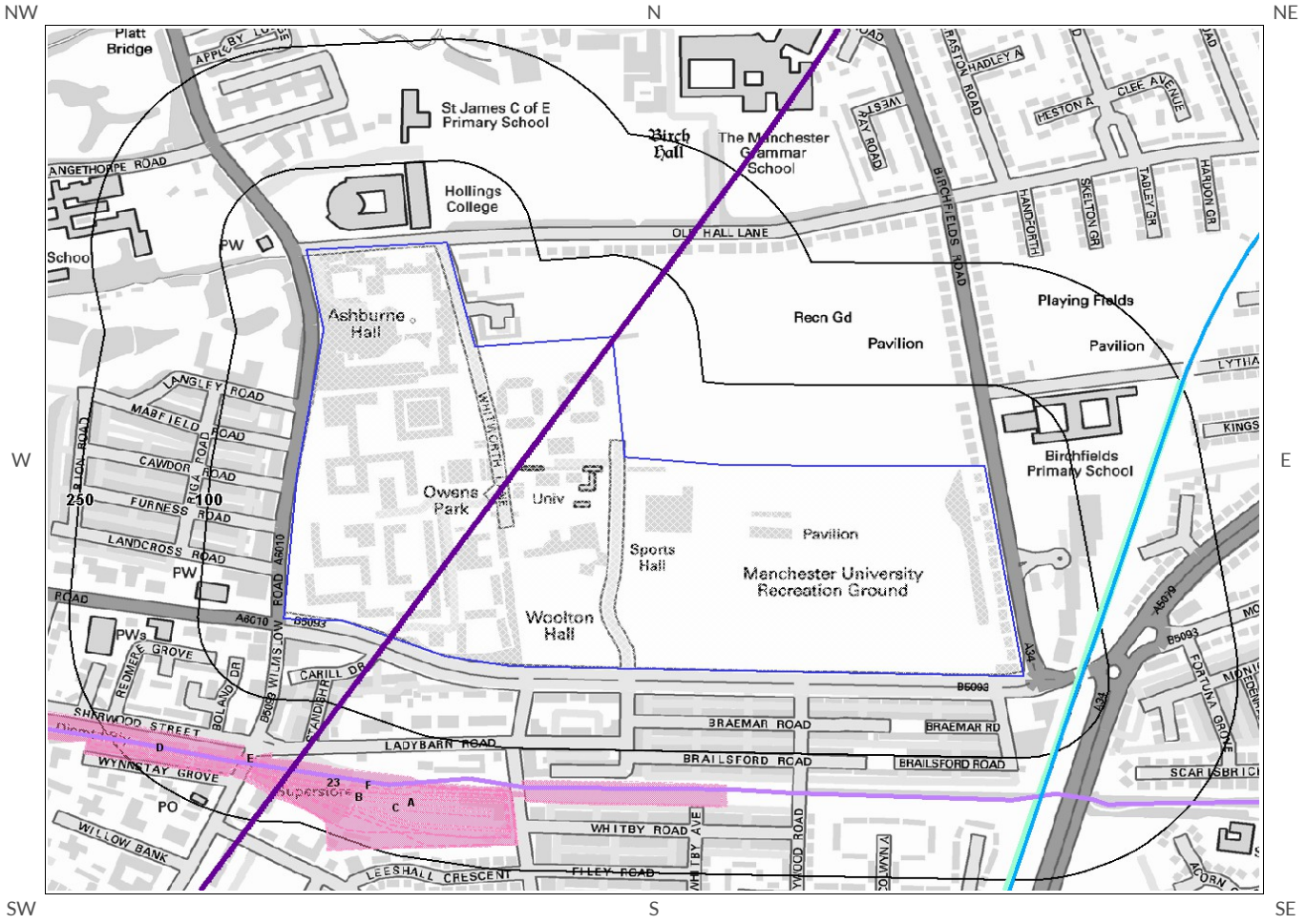
Records of background estimated soil chemistry within 250m of the study site boundary: 29

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

Distance (m)	Direction	Sample Type	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Nickel (Ni)	Lead (Pb)
0.0	On Site	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	100 - 200 mg/kg
0.0	On Site	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	100 - 200 mg/kg
0.0	On Site	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	100 - 200 mg/kg
0.0	On Site	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
0.0	On Site	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	100 - 200 mg/kg
0.0	On Site	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	100 - 200 mg/kg
31.0	N	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	100 - 200 mg/kg
49.0	E	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	<100 mg/kg
50.0	S	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	100 - 200 mg/kg
52.0	S	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
55.0	S	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	100 - 200 mg/kg
59.0	E	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	<100 mg/kg
71.0	SE	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	<100 mg/kg
90.0	W	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	100 - 200 mg/kg
90.0	W	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	100 - 200 mg/kg
103.0	NE	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
103.0	NE	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
123.0	W	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	100 - 200 mg/kg
144.0	SW	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	100 - 200 mg/kg
150.0	N	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	100 - 200 mg/kg
154.0	S	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
161.0	S	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	<15 mg/kg	100 - 200 mg/kg
161.0	S	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
167.0	S	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	<15 mg/kg	100 - 200 mg/kg
171.0	S	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
181.0	E	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
193.0	N	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
200.0	S	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg	<100 mg/kg
238.0	E	RuralSoil	25 - 35 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg

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

7 Railways and Tunnels Map



Railways and Tunnels Legend

Mapping sourced from Ordnance Survey

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© OpenStreetMapContributors

- Site Outline
- Search Buffers (m) — 250 / 500
- Underground or Partially Underground Railway / Subway System
- Railway Tunnel (OS Mapping)
- Abandoned or Dismantled Railway (OpenStreetMap)
- Railway Track (OS Mapping)
- Railway Track (OpenStreetMap)
- High Speed 2
- Crossrail
- Railway and/or Tunnel Feature from Historical Mapping



7 Railways and Tunnels

7.1 Tunnels

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

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

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

Database searched and no data found.

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

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

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

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

Database searched and no data found.

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

7.2 Historical Railway and Tunnel Features

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

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

Have any historical railway or tunnel features been identified within 250m of the study site boundary? Yes

ID	Distance (m)	Direction	NGR	Details	Date
21F	139	S	n/a	Railway	1892
22F	143	S	n/a	Railway	1907
1A	151	S	385704 393781	Railway Sidings	1955
2A	153	S	385707 393785	Railway Sidings	1974
3C	153	S	385707 393785	Railway Sidings	1965
23	153	S	385593 393808	Railway Sidings	1957
24C	154	S	385710 393781	Railway Sidings	1957
25C	154	S	385710 393781	Railway Sidings	1971
4B	158	S	385609 393790	Railway Sidings	1923

ID	Distance (m)	Direction	NGR	Details	Date
5B	158	S	385609 393790	Railway Sidings	1934
6B	158	S	385609 393790	Railway Sidings	1905
7B	158	S	385609 393790	Railway Sidings	1916
8B	158	S	385609 393790	Railway Sidings	1938
9C	158	S	385609 393790	Railway Sidings	1892
13E	177	S	385551 393831	Tunnel	1981
14E	177	S	385551 393831	Tunnel	1988
15E	177	S	385553 393830	Tunnel	1957
16E	177	S	385553 393830	Tunnel	1971
17E	177	S	385552 393830	Tunnel	1957
18E	178	S	385553 393832	Tunnel	1995
19E	178	S	385553 393832	Tunnel	1996
20E	178	S	385553 393832	Tunnel	1994
10D	183	S	385445 393845	Railway Sidings	1974
11D	183	S	385445 393845	Railway Sidings	1955
12D	183	S	385445 393845	Railway Sidings	1965
26D	195	SW	385436 393847	Railway Sidings	1957

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

7.3 Historical Railways

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

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

Have any historical railway lines been identified within 250m of the study site boundary? Yes

Distance (m)	Direction	Status
144	S	Abandoned
144	S	Dismantled
146	S	Abandoned

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

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

7.4 Active Railways

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

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

Have any active railway lines been identified within 250m of the study site boundary? Yes

Distance (m)	Direction	Name	Type
62	E	Styal Line	Rail
63	SE	Styal Line	Rail
65	E	Not given	Multi Track
80	E	Styal Line	Rail
83	E	Styal Line	Rail
87	SE	Styal Line	Rail
128	S	Styal Line	Rail
148	S	Styal Line	Rail
179	E	Styal Line	Rail
189	S	Styal Line	Rail
194	E	Styal Line	Rail

Note: multiple sections of the same track may be listed in the detail above
Any records that have been identified are represented on the Railways and Tunnels Map.

7.5 Railway Projects

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

Is the study site within 5km of the route of the High Speed 2 rail project? Yes

Is the study site within 500m of the route of the Crossrail rail project? No

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

Contact Details

GroundSure Helpline

Telephone: 08444 159 000
info@groundsure.com

British Geological Survey Enquiries

Kingsley Dunham Centre
Keyworth, Nottingham NG12 5GG
Tel: 0115 936 3143.
Fax: 0115 936 3276.
Email:**enquiries@bgs.ac.uk**
Web:**www.bgs.ac.uk**
BGS Geological Hazards Reports and general geological enquiries

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LE12 6HX

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Mansfield
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Public Health England

Public information access office
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133-155 Waterloo Road, London, SE1 8UG
https://www.gov.uk/government/organisations/public-health-england
Email: **enquiries@phe.gov.uk**
Main switchboard: 020 7654 8000

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Acknowledgements: Ordnance Survey © Crown Copyright and/or Database Right. All Rights Reserved. Licence Number [03421028]. This report has been prepared in accordance with the GroundSure Ltd standard Terms and Conditions of business for work of this nature.

Standard Terms and Conditions

1 Definitions

In these terms and conditions unless the context otherwise requires:
"Beneficiary" means the person or entity for whose benefit the Client has obtained the Services.
"Client" means the party or parties entering into a Contract with GroundSure.
"Commercial" means any building or property which is not Residential.
"Confidential Information" means the contents of this Contract and all information received from the Client as a result of, or in connection with, this Contract other than

(i) information which the Client can prove was rightfully in its possession prior to disclosure by GroundSure and

(ii) any information which is in the public domain (other than by virtue of a breach of this Contract).

"Support Services" means Support Services provided by GroundSure including, without limitation, interpreting third party and in-house environmental data, providing environmental support advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.
"Contract" means the contract between GroundSure and the Client for the provision of the Services, and which shall incorporate these terms and conditions, the Order, and the relevant User Guide.
"Third Party Data Provider" means any third party providing Third Party Content to GroundSure.
"Data Reports" means reports comprising factual data with no accompanying interpretation.
"Fees" has the meaning set out in clause 5.1.
"GroundSure" means GroundSure Limited, a company registered in England and Wales under number 03421028.
"GroundSure Materials" means all materials prepared by GroundSure and provided as part of the Services, including but not limited to Third Party Content, Data Reports, Mapping, and Risk Screening Reports.
"Intellectual Property" means any patent, copyright, design rights, trade or service mark, moral rights, data protection rights, know-how or trade mark in each case whether registered or not and including applications for the same or any other rights of a similar nature anywhere in the world.
"Mapping" means a map, map data or a combination of historical maps of various ages, time periods and scales.
"Order" means an electronic, written or other order form submitted by the Client requesting Services from GroundSure in respect of a specified Site.
"Ordnance Survey" means the Secretary of State for Business, Innovation and Skills, acting through Ordnance Survey, Adanac Drive, Southampton, SO16 0AS, UK.
"Order Website" means the online platform through which Orders may be placed by the Client and accepted by GroundSure.
"Report" means a Risk Screening Report or Data Report for Commercial or Residential property.
"Residential" means any building or property used as or intended to be used as a single dwelling.
"Risk Screening Report" means a risk screening report comprising factual data with an accompanying interpretation by GroundSure.
"Services" means any Report, Mapping and/or Support Services which GroundSure has agreed to provide by accepting an Order pursuant to clause 2.6.
"Site" means the area of land in respect of which the Client has requested GroundSure to provide the Services.
"Third Party Content" means data, database information or other information which is provided to GroundSure by a Third Party Data Provider.
"User Guide" means the user guide, as amended from time to time, available upon request from GroundSure and on the website (www.GroundSure.com) and forming part of this Contract.

2 Scope of Services, terms and conditions, requests for insurance and quotations

2.1 GroundSure agrees to provide the Services in accordance with the Contract.
2.2 GroundSure shall exercise reasonable skill and care in the provision of the Services.
2.3 Subject to clause 7.3 the Client acknowledges that it has not relied on any statement or representation made by or on behalf of GroundSure which is not set out and expressly agreed in writing in the Contract and all such statements and representations are hereby excluded to the fullest extent permitted by law.
2.4 The Client acknowledges that terms and conditions appearing on a Client's order form, printed stationery or other communication, or any terms or conditions implied by custom, practice or course of dealing shall be of no effect, and that this Contract shall prevail over all others in relation to the Order.
2.5 If the Client or Beneficiary requests insurance in conjunction with or as a result of the Services, GroundSure shall use reasonable endeavours to recommend such insurance, but makes no warranty that such insurance shall be available from insurers or that it will be offered on reasonable terms. Any insurance purchased by the Client or Beneficiary shall be subject solely to the terms of the policy issued by insurers and GroundSure will have no liability therefor. In addition you acknowledge and agree that GroundSure does not act as an agent or broker for any insurance providers. The Client should take (and ensure that the Beneficiary takes) independent advice to ensure that the insurance policy requested or offered is suitable for its requirements.
2.6 GroundSure's quotations or proposals are valid for a period of 30 days only unless an alternative period of time is explicitly stipulated by GroundSure. GroundSure reserves the right to withdraw any quotation or proposal at any time before an Order is accepted by GroundSure. GroundSure's acceptance of an Order shall be binding only when made in writing and signed by GroundSure's authorised representative or when accepted through the Order Website.

3 The Client's obligations

3.1The Client shall comply with the terms of this Contract and

(i) procure that the Beneficiary or any third party relying on the Services complies with and acts as if it is bound by the Contract and

(ii) be liable to GroundSure for the acts and omissions of the Beneficiary or any third party relying on the Services as if such acts and omissions were those of the Client.

3.2 The Client shall be solely responsible for ensuring that the Services are appropriate and suitable for its and/or the Beneficiary's needs.
3.3 The Client shall supply to GroundSure as soon as practicable and without charge all requisite information (and the Client warrants that such information is accurate, complete and appropriate), including without limitation any environmental information relating to the Site and shall give such assistance as GroundSure shall reasonably require in the provision of the Services including, without limitation, access to the Site, facilities and equipment.
3.4 Where the Client's approval or decision is required to enable GroundSure to carry out work in order to provide the Services, such approval or decision shall be given or procured in reasonable time and so as not to delay or disrupt the performance of the Services.
3.5 Save as expressly permitted by this Contract the Client shall not, and shall procure that the Beneficiary shall not, re-sell, alter, add to, or amend the GroundSure Materials, or use the GroundSure Materials in a manner for which they were not intended. The Client may make the GroundSure Materials available to a third party who is considering acquiring some or all of, or providing funding in relation to, the Site, but such third party cannot rely on the same unless expressly permitted under clause 4.
3.6 The Client is responsible for maintaining the confidentiality of its user name and password if using the Order Website and the Client acknowledges that GroundSure accepts no liability of any kind for any loss or damage suffered by the Client as a consequence of using the Order Website.

4 Reliance

4.1The Client acknowledges that the Services provided by GroundSure consist of the presentation and analysis of Third Party Content and other content and that information obtained from a Third Party Data Provider cannot be guaranteed or warranted by GroundSure to be reliable.
4.2 In respect of Data Reports, Mapping and Risk Screening Reports, the following classes of person and no other are entitled to rely on their contents;

(i) the Beneficiary,

(ii) the Beneficiary's professional advisers, (iii) any person providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate),

(iv) the first purchaser or first tenant of the Site, and

(v) the professional advisers and lenders of the first purchaser or tenant of the Site.

4.3 In respect of Support Services, only the Client, Beneficiary and parties expressly named in a Report and no other parties are entitled to rely on its contents.
4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise expressly agreed in writing, no other person or entity of any kind is entitled to rely on any Services or Report issued or provided by GroundSure. Any party considering such Reports and Services does so at their own risk.

5 Fees and Disbursements

5.1GroundSure shall charge and the Client shall pay fees at the rate and frequency specified in the written proposal, Order Website or Order acknowledgement form, plus (in the case of Support Services) all proper disbursements incurred by GroundSure. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services (together "Fees").
5.2 The Client shall pay all outstanding Fees to GroundSure in full without deduction, counterclaim or set off within 30 days of the date of GroundSure's invoice or such other period as may be agreed in writing between GroundSure and the Client ("Payment Date"). Interest on late payments will accrue on a daily basis from the Payment Date until the date of payment (whether before or after judgment) at the rate of 8% per annum.
5.3 The Client shall be deemed to have agreed the amount of any invoice unless an objection is made in writing within 28 days of the date of the invoice. As soon as reasonably practicable after being notified of an objection, without prejudice to clause 5.2 a member of GroundSure's management team will contact the Client and the parties shall then use all reasonable endeavours to resolve the dispute within 15 days.

6 Intellectual Property and Confidentiality

6.1 Subject to

(i) full payment of all relevant Fees and

(ii) compliance with this Contract, the Client is granted (and is permitted to sub-licence to the Beneficiary) a royalty-free, worldwide, non-assignable and (save to the extent set out in this Contract) non-transferable licence to make use of the GroundSure Materials.

6.2 All Intellectual Property in the GroundSure Materials are and shall remain owned by GroundSure or GroundSure's licensors (including without limitation the Third Party Data Providers) the Client acknowledges, and shall procure acknowledgement by the Beneficiary of, such ownership. Nothing in this Contract purports to transfer or assign any rights to the Client or the Beneficiary in respect of such Intellectual Property.
6.3 Third Party Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.

6.4 The Client shall, and shall procure that any recipients of the GroundSure Materials shall:

(i) not remove, suppress or modify any trade mark, copyright or other proprietary marking belonging to GroundSure or any third party from the Services;

(ii) use the information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;

(iii) not create any product or report which is derived directly or indirectly from the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);

(iv) not combine the Services with or incorporate such Services into any other information data or service;

(v) not reformat or otherwise change (whether by modification, addition or enhancement), the Services (save that those acting for the Beneficiary in a professional capacity shall not be in breach of this clause 6.4(v) where such reformatting is in the normal course of providing advice based upon the Services);

(vi) where a Report and/or Mapping contains material belonging to Ordnance Survey, acknowledge and agree that such content is protected by Crown Copyright and shall not use such content for any purpose outside of receiving the Services; and

(vii) not copy in whole or in part by any means any map prints or run-on copies containing content belonging to Ordnance Survey (other than that contained within Ordnance Survey's OS Street Map) without first being in possession of a valid Paper Map Copying Licence from Ordnance Survey,

6.5 Notwithstanding clause 6.4, the Client may make reasonable use of the GroundSure Materials in order to advise the Beneficiary in a professional capacity. However, GroundSure shall have no liability in respect of any advice, opinion or report given or provided to Beneficiaries by the Client.

6.6 The Client shall procure that any person to whom the Services are made available shall notify GroundSure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

7.Liability: Particular Attention Should Be Paid To This Clause

7.1 This Clause 7 sets out the entire liability of GroundSure, including any liability for the acts or omissions of its employees, agents, consultants, subcontractors and Third Party Content, in respect of:

(i) any breach of contract, including any deliberate breach of the Contract by GroundSure or its employees, agents or subcontractors;

(ii) any use made of the Reports, Services, Materials or any part of them; and

(iii) any representation, statement or tortious act or omission (including negligence) arising under or in connection with the Contract.

7.2 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from the Contract.

7.3 Nothing in the Contract limits or excludes the liability of the Supplier for death or personal injury resulting from negligence, or for any damage or liability incurred by the Client or Beneficiary as a result of fraud or fraudulent misrepresentation.

7.4 GroundSure shall not be liable for

(i) loss of profits;

(ii) loss of business;

(iii) depletion of goodwill and/or similar losses;

(iv) loss of anticipated savings;

(v) loss of goods;

(vi) loss of contract;

(vii) loss of use;

(viii) loss or corruption of data or information;

(ix) business interruption;

(x) any kind of special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;

(xi) loss or damage that arise as a result of the use of all or part of the GroundSure Materials in breach of the Contract;

(xii) loss or damage arising as a result of any error, omission or inaccuracy in any part of the GroundSure Materials where such error, omission or inaccuracy is caused by any Third Party Content or any reasonable interpretation of Third Party Content;

(xiii) loss or damage to a computer, software, modem, telephone or other property; and

(xiv) loss or damage caused by a delay or loss of use of GroundSure's internet ordering service.

7.5 GroundSure's total liability in relation to or under the Contract shall be limited to £10 million for any claim or claims.

7.6 GroundSure shall procure that the Beneficiary shall be bound by limitations and exclusions of liability in favour of GroundSure which accord with those detailed in clauses 7.4 and 7.5 (subject to clause 7.3) in respect of all claims which the Beneficiary may bring against GroundSure in relation to the Services or other matters arising pursuant to the Contract.

8 GroundSure's right to suspend or terminate

8.1 If GroundSure reasonably believes that the Client or Beneficiary has not provided the information or assistance required to enable the proper provision of the Services, GroundSure shall be entitled to suspend all further performance of the Services until such time as any such deficiency has been made good.

8.2 GroundSure shall be entitled to terminate the Contract immediately on written notice in the event that:

(i) the Client fails to pay any sum due to GroundSure within 30 days of the Payment Date; or

(ii) the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an administration order made against it or if a receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or

(iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or

(iv) the Client or the Beneficiary breaches any term of the Contract (including, but not limited to, the obligations in clause 4) which is incapable of remedy or if remediable, is not remedied within five days of notice of the breach.

9. Client's Right to Terminate and Suspend

9.1 Subject to clause 10.1, the Client may at any time upon written notice terminate or suspend the provision of all or any of the Services.

9.2 In any event, where the Client is a consumer (and not a business) he/she hereby expressly acknowledges and agrees that:

(i) the supply of Services under this Contract (and therefore the performance of this Contract) commences immediately upon GroundSure's acceptance of the Order; and

(ii) the Reports and/or Mapping provided under this Contract are
(a) supplied to the Client's specification(s) and in any event
(b) by their nature cannot be returned.

10 Consequences of Withdrawal, Termination or Suspension

10.1 Upon termination of the Contract:

(i) GroundSure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client and/or Beneficiary any property of the Client and/or Beneficiary in GroundSure's possession or control; and

(ii) the Client shall pay to GroundSure all and any Fees payable in respect of the performance of the Services up to the date of termination or suspension. In respect of any Support Services provided, the Client shall also pay GroundSure any additional costs incurred in relation to the termination or suspension of the Contract.

11 Anti-Bribery

11.1 The Client warrants that it shall:

(i) comply with all applicable laws, statutes and regulations relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010;

(ii) comply with such of GroundSure's anti-bribery and anti-corruption policies as are notified to the Client from time to time; and

(iii) promptly report to GroundSure any request or demand for any undue financial or other advantage of any kind received by or on behalf of the Client in connection with the performance of this Contract.

11.2 Breach of this Clause 11 shall be deemed a material breach of this Contract.

12 General

12.1 The Mapping contained in the Services is protected by Crown copyright and must not be used for any purpose other than as part of the Services or as specifically provided in the Contract.

12.2 The Client shall be permitted to make one copy only of each Report or Mapping Order. Thereafter the Client shall be entitled to make unlimited copies of the Report or Mapping Order only in accordance with an Ordnance Survey paper map copy license available through GroundSure.

12.3 GroundSure reserves the right to amend or vary this Contract. No amendment or variation to this Contract shall be valid unless signed by an authorised representative of GroundSure.

12.4 No failure on the part of GroundSure to exercise, and no delay in exercising, any right, power or provision under this Contract shall operate as a waiver thereof.

12.5 Save as expressly provided in this Contract, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.

12.6 The Secretary of State for Business, Innovation and Skills ("BIS") or BIS' successor body, as the case may be, acting through Ordnance Survey may enforce a breach of clause 6.4(vi) and clause 6.4(vii) of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.

12.7 GroundSure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:

(i) the Client or Beneficiary's failure to provide facilities, access or information;

(ii) fire, storm, flood, tempest or epidemic;

(iii) Acts of God or the public enemy;

(iv) riot, civil commotion or war;

(v) strikes, labour disputes or industrial action;

(vi) acts or regulations of any governmental or other agency;

(vii) suspension or delay of services at public registries by Third Party Data Providers;

(viii) changes in law; or

(ix) any other reason beyond GroundSure's reasonable control.

In the event that GroundSure is prevented from performing the Services (or any part thereof) in accordance with this clause 12.6 for a period of not less than 30 days then GroundSure shall be entitled to terminate this Contract immediately on written notice to the Client.

12.8 Any notice provided shall be in writing and shall be deemed to be properly

given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.

12.9 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email (save to the extent such day is not a working day where it shall be deemed to have been delivered on the next working day) and on the second working day after the day of posting if sent by first class post.

12.10 The Contract constitutes the entire agreement between the parties and shall supersede all previous arrangements between the parties relating to the subject matter hereof.

12.11 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.

12.12 This Contract shall be governed by and construed in accordance with English law and any proceedings arising out of or connected with this Contract shall be subject to the exclusive jurisdiction of the English courts.

12.13 GroundSure is an executive member of the Council of Property Search Organisation (CoPSO) and has signed up to the Search Code administered by the Property Codes Compliance Board (PCCB). All Risk Screening Reports shall be supplied in accordance with the provisions of the Search Code.

12.14 If the Client or Beneficiary has a complaint about the Services, written notice should be given to the Compliance Officer at GroundSure who will respond in a timely manner.

12.15 The Client agrees that it shall, and shall procure that each Beneficiary shall, treat in confidence all Confidential Information and shall not, and shall procure that each Beneficiary shall not (i) disclose any Confidential Information to any third party other than in accordance with the terms of this Contract; and (ii) use Confidential Information for a purpose other than the exercise of its rights and obligations under this Contract. Subject to clause 6.6, nothing shall prevent the Client or any Beneficiary from disclosing Confidential Information to the extent required by law

© GroundSure Limited June 2013

RSK Group

57 FOURWAYS HOUSE R S K LTD, HILTON STREET,
MANCHESTER, M1 2EJ

GroundSure Reference:	GS-1936833
Your Reference:	Project_Oak
Report Date	2 Mar 2015
Report Delivery Method:	Email - pdf

GroundSure EnviroInsight

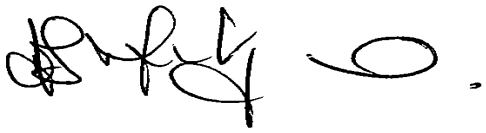
Address: Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD

Dear Sir/ Madam,

Thank you for placing your order with GroundSure. Please find enclosed the **GroundSure Enviroinsight** as requested.

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

Yours faithfully,



Managing Director
Groundsure Limited

Enc.
GroundSure EnviroInsight

GroundSure EnviroInsight

Address:	**Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD**
Date:	**2 Mar 2015**
Reference:	**GS-1936833**
Client:	**RSK Group**

NW N NE



W E

SW S SE

Aerial Photograph Capture date:	02-Jun-2009
Grid Reference:	385796,394171
Site Size:	27.54ha

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Overview of Findings

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

Section 1: Environmental Permits, Incidents and Registers	On-site	0-50m	51-250	251-500
1.1 Industrial Sites Holding Environmental Permits and/or Authorisations				
1.1.1 Records of historic IPC Authorisations	0	0	0	0
1.1.2 Records of Part A(1) and IPPC Authorised Activities	0	0	0	0
1.1.3 Records of Water Industry Referrals (potentially harmful discharges to the public sewer)	0	0	0	0
1.1.4 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters)	0	0	0	0
1.1.5 Records of List 1 Dangerous Substances Inventory sites	0	0	0	0
1.1.6 Records of List 2 Dangerous Substances Inventory sites	0	0	0	0
1.1.7 Records of Part A(2) and Part B Activities and Enforcements	1	1	0	2
1.1.8 Records of Category 3 or 4 Radioactive Substances Authorisations	0	0	0	0
1.1.9 Records of Licensed Discharge Consents	0	0	0	4
1.1.10 Records of Planning Hazardous Substance Consents and Enforcements	0	0	0	0
1.2 Records of COMAH and NIHHS sites	0	0	0	0
1.3 Environment Agency Recorded Pollution Incidents				
1.3.1 National Incidents Recording System, List 2	0	0	0	1
1.3.2 National Incidents Recording System, List 1	0	0	0	0
1.4 Sites Determined as Contaminated Land under Part 2A EPA 1990	0	0	0	0

Section 2: Landfill and Other Waste Sites	On-site	0-50m	51-250	251-500	501-1000	1000-5000
2.1 Landfill Sites						
2.1.1 Environment Agency Registered Landfill Sites	0	0	0	0	0	Not searched
2.1.2 Environment Agency Historic Landfill Sites	0	0	0	0	0	2
2.1.3 BGS/DoE Landfill Site Survey	0	0	0	0	0	0
2.1.4 GroundSure Local Authority Landfill Sites Data	0	0	0	0	0	0
2.2 Landfill and Other Waste Sites Findings						
2.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	0	0	Not searched	Not searched
2.2.2 Environment Agency Licensed Waste Sites	0	0	0	0	0	3

Section 3: Current Land Use

	On-site	0-50m	51-250	251-500
3.1 Current Industrial Sites Data	5	0	14	Not searched
3.2 Records of Petrol and Fuel Sites	1	0	0	2
3.3 Underground High Pressure Oil and Gas Pipelines	0	0	0	0

Section 4: Geology

4.1 Are there any records of Artificial Ground and Made Ground present beneath the study site?	No
4.2 Are there any records of Superficial Ground and Drift Geology present beneath the study site?	Yes
4.3 For records of Bedrock and Solid Geology beneath the study site see the detailed findings section.	

Section 5: Hydrogeology and Hydrology

	0-500m
5.1 Are there any records of Strata Classification in the Superficial Geology within 500m of the study site?	Yes
5.2 Are there any records of Strata Classification in the Bedrock Geology within 500m of the study site?	Yes

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
5.3 Groundwater Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	6
5.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
5.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
5.6 Source Protection Zones (within 500m of the study site)	1	0	0	0	Not searched	Not searched
5.7 Source Protection Zones within Confined Aquifer	0	0	0	0	Not searched	Not searched
5.8 Groundwater Vulnerability and Soil Leaching Potential (within 500m of the study site)	1	0	1	0	Not searched	Not searched

	On-site	0-50m	51-250	251-500	501-1000	1000-1500
5.9 Is there any Environment Agency information on river quality within 1500m of the study site?	No	No	No	No	Yes	Yes
5.10 Detailed River Network entries within 500m of the site	0	1	3	15	Not searched	Not searched
5.11 Surface water features within 250m of the study site	No	Yes	Yes	Not searched	Not searched	Not searched

Section 6: Flooding

6.1 Are there any Environment Agency Zone 2 floodplains within 250m of the study site?	Yes
6.2 Are there any Environment Agency Zone 3 floodplains within 250m of the study site?	Yes
6.3 Are there any Flood Defences within 250m of the study site?	Yes
6.4 Are there any areas benefiting from Flood Defences within 250m of the study site?	No
6.5 Are there any areas used for Flood Storage within 250m of the study site?	No
6.6 What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site?	Limited potential
6.7 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?	Low

Section 7: Designated Environmentally Sensitive Sites

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
7.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	0	0	0	0
7.2 Records of National Nature Reserves (NNR)	0	0	0	0	0	0
7.3 Records of Special Areas of Conservation (SAC)	0	0	0	0	0	0
7.4 Records of Special Protection Areas (SPA)	0	0	0	0	0	0
7.5 Records of Ramsar sites	0	0	0	0	0	0
7.6 Records of Ancient Woodlands	0	0	0	0	0	0
7.7 Records of Local Nature Reserves (LNR)	0	0	0	0	0	1
7.8 Records of World Heritage Sites	0	0	0	0	0	0
7.9 Records of Environmentally Sensitive Areas	0	0	0	0	0	0
7.10 Records of Areas of Outstanding Natural Beauty (AONB)	0	0	0	0	0	0
7.11 Records of National Parks	0	0	0	0	0	0
7.12 Records of Nitrate Sensitive Areas	0	0	0	0	0	0
7.13 Records of Nitrate Vulnerable Zones	0	0	0	0	0	0
7.14 Records of Green Belt Data	0	0	0	0	0	0

Section 8: Natural Hazards

8.1 What is the maximum risk of natural ground subsidence?	Very Low
8.1.1 What is the maximum Shrink-Swell hazard rating identified on the study site?	Very Low
8.1.2 What is the maximum Landslides hazard rating identified on the study site?	Very Low
8.1.3 What is the maximum Soluble Rocks hazard rating identified on the study site?	Negligible
8.1.4 What is the maximum Compressible Ground hazard rating identified on the study site?	Negligible
8.1.5 What is the maximum Collapsible Rocks hazard rating identified on the study site?	Very Low
8.1.6 What is the maximum Running Sand hazard rating identified on the study site?	Very Low

Section 9: Mining

9.1 Are there any coal mining areas within 75m of the study site?	No
9.2 What is the risk of subsidence relating to shallow mining within 150m of the study site?	Negligible
9.3 Are there any brine affected areas within 75m of the study site?	No

Using this report

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

1. Environmental Permits, Incidents and Registers

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

2. Landfills and Other Waste Sites

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

3. Current Land Uses

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

4. Geology

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

5. Hydrogeology and Hydrology

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

6. Flooding

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

7. Designated Environmentally Sensitive Sites

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

8. Natural Hazards

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

9. Mining

Provides information on areas of coal and shallow mining.

10. Contacts

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

Note: Maps

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

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

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

1. Environmental Permits, Incidents and Registers Map



Environmental Permits, Incidents and Registers Legend

Mapping sourced from Ordnance Survey

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- Site Outline
- Search Buffers (m) — 250 — 500
- Recorded Pollution Incident
- Dangerous Substances (List 1)
- Dangerous Substances (List 2)
- Water Industry Referrals
- Licenced Discharge Consents
- Red List Discharge Consents
- RAS 3 & 4 Authorisations
- Part A(1) Authorised Processes and Historic IPC Authorisations
- Part A(2) and Part B Authorised Processes
- COMAH / NIHHS Sites
- Sites Determined as Contaminated Land
- Hazardous Substance Consents and Enforcements



1. Environmental Permits, Incidents and Registers

1.1 Industrial Sites Holding Licences and/or Authorisations

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

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

4

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

ID	Distance	Direction	NGR	Details	
6	0.0	On Site	386428 393945	Address: Birchfields Service Station, Moseley Road/Birchfields Road, Fallowfield, M14 6PA Process: Petrol Filling Station Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
7	42.0	W	385556 394101	Address: Mr. Bubbles, 246 Wilmslow Road, Fallowfield, Manchester, M14 6LD Process: Dry Cleaning Status: Current Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
8	347.0	S	385900 393600	Address: S. Marshall Motor Engineers, 65-67 Ladybarn Lane, M14 6YL Process: Waste Oil Burning Process Status: Current Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
9	383.0	S	385908 393564	Address: Regalead Ltd, 65-67 Ladybarn Lane, Fallowfield Process: Waste Oil Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified

---

1.1.8 Records of Category 3 or 4 Radioactive Substances Authorisations:

0

Database searched and no data found.

1.1.9 Records of Licensed Discharge Consents within 500m of the study site: 4

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

ID	Distance	Direction	NGR	Details	
2A	368.0	SE	386600 393600	Address: Former Duchess Of York Hospital, Cringle Lane, Burnage, Manchester, Greater Manchester Effluent Type: Miscellaneous Discharges - Surface Water Permit Number: 016991372 Permit Version: 1	Receiving Water: Unnamed Watercourse O/f2 Status: Revoked - Unspecified Issue date: - Effective Date: 1/11/1994 Revocation Date: 1/11/1994
3A	368.0	SE	386600 393600	Address: Former Duchess Of York Hospital, Cringle Lane, Burnage, Manchester, Greater Manchester Effluent Type: Miscellaneous Discharges - Surface Water Permit Number: 016991371 Permit Version: 1	Receiving Water: The Peak Forest Canal Status: Revoked - Unspecified Issue date: - Effective Date: 1/11/1994 Revocation Date: 1/11/1994
4B	418.0	SE	386700 393600	Address: Former Duchess Of York Hospital, Cringle Lane, Burnage, Manchester, Greater Manchester Effluent Type: Miscellaneous Discharges - Surface Water Permit Number: 016991373 Permit Version: 1	Receiving Water: The Peak Forest Canal Status: Revoked - Unspecified Issue date: - Effective Date: 1/11/1994 Revocation Date: 1/11/1994
5B	418.0	SE	386700 393600	Address: Former Duchess Of York Hospital, Cringle Lane, Burnage, Manchester, Greater Manchester Effluent Type: Miscellaneous Discharges - Surface Water Permit Number: 016991374 Permit Version: 1	Receiving Water: The Peak Forest Canal Status: Revoked - Unspecified Issue date: - Effective Date: 1/11/1994 Revocation Date: 1/11/1994

1.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site: 0

Database searched and no data found.

1.2 Dangerous or Hazardous Sites

Records of COMAH & NIHHS sites within 500m of the study site: 0

Database searched and no data found.

1.3 Environment Agency Recorded Pollution Incidents

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

1

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

ID	Distance	Direction	NGR	Details	
1	299.0	N	385616 394759	Incident Date: 12/04/2013 Incident Identification: 1101954 Pollutant: Inorganic Chemicals/Products Pollutant Description: Other Inorganic Chemical or Product	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

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

0

Database searched and no data found.

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

How many records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site? 0

Database searched and no data found.

2. Landfill and Other Waste Sites Map

NW N NE



W E

SW S SE

Landfill and Other Waste Sites Legend

Mapping sourced from Ordnance Survey

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Site Outline

250
500 Search Buffers (m)

E.A. Active Landfill

E.A. Historic Landfill

Local Authority Landfill

Historic and Planned Waste Sites

E.A. Licensed Waste Site

BGS / DoE Survey Landfill



2. Landfill and Other Waste Sites

2.1 Landfill Sites

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

0

Database searched and no data found.

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

2

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

ID	Distance (m)	Direction	NGR	Details	
Not shown	1371.0	E	388200 393500	Site Address: Cringle Road, Manchester Waste Licence: Yes Site Reference: F011, RD/RES/012/79, 4200/9709 Waste Type: Inert, Industrial, Commercial, Household, Special, Liquid sludge, Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: 01-Oct-1974 Licence Surrendered: 30-Apr-1991 Licence Hold Address: - Operator: -
Not shown	1442.0	NE	387800 395000	Site Address: Matthews Lane, Longsight, Greater Manchester Waste Licence: Yes Site Reference: F009 Waste Type: Inert, Industrial, Commercial, Household, Special, Liquid sludge, Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: 01-Jan-1974 Licence Surrendered: Licence Hold Address: - Operator: Manchester Corporation Cleansing Department

---

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

0

Database searched and no data found.

2.1.4 Records of Local Authority landfill sites within 1500m of the study site:

0

Database searched and no data found.

2.2 Other Waste Sites

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

0

Database searched and no data found.

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

3

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

ID	Distance (m)	Direction	NGR	Details	
Not shown	1456.0	N	385400 395900	Site Address: - Type: Clinical Waste Transfer Station Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: CMH001 EPR reference: - Operator: Central Manchester Area Health Authority Waste Management licence No: 53906 Annual Tonnage: 417.0	Issue Date: 18/04/1990 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Manchester Royal Infirmary Correspondence Address: -, Facilities Directorate, Gate 9, Oxford Road, Manchester, M13 9WL
Not shown	1456.0	N	385400 395900	Site Address: Manchester Royal Infirmary, Oxford Road, Manchester, M13 9WL Type: Clinical Waste Transfer Station Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: CMH001 EPR reference: EA/EPR/PP3391CE/A001 Operator: Central Manchester & Manchester Childrens University Hospital Nhs Trust Waste Management licence No: 53906 Annual Tonnage: 417.0	Issue Date: 18/04/1990 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Central Manchester & Manchester Childrens University Hospital Nhs Trust Correspondence Address: -, -
Not shown	1456.0	N	385400 395900	Site Address: Manchester Royal Infirmary, Oxford Road, Manchester, M13 9WL Type: Clinical Waste Transfer Station Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: CMH001 EPR reference: EA/EPR/PP3391CE/S002 Operator: Central Manchester University Hospitals N H S Foundation Trust Waste Management licence No: 53906 Annual Tonnage: 110088.0	Issue Date: 18/04/1990 Effective Date: - Modified: - Surrendered Date: 24/08/2012 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Central Manchester University Hospitals N H S Foundation Trust Correspondence Address: -, -

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3. Current Land Use Map

NW N NE



W E

SW S SE

Current Land Use Legend

Mapping sourced from Ordnance Survey

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Site Outline

250 500 Search Buffers (m)

Current Industrial Sites

Petrol & Fuel Sites

Underground High Pressure Oil & Fuel Pipelines



3. Current Land Uses

3.1 Current Industrial Data

Records of potentially contaminative industrial sites within 250m of the study site: 19

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

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1B	0.0	On Site	The Car Centre	386413 393952	227, Moseley Road, Fallowfield, Manchester, M14 6PD	New Vehicles	Motoring
2	0.0	On Site	Chimney	385786 394214	M14	Chimneys	Industrial Features
3	0.0	On Site	Electricity Sub Station	385823 394142	M14	Electrical Features	Infrastructure and Facilities
4	0.0	On Site	Electricity Sub Station	385903 394202	M14	Electrical Features	Infrastructure and Facilities
5	0.0	On Site	TCS Birchfields	386441 393947	227 Moseley Road, Fallowfield, Manchester, Lancashire, M14 6PA	Petrol and Fuel Stations	Road and Rail
6	74.0	S	Depot	386451 393862	M14	Container and Storage	Transport, Storage and Delivery
7	74.0	S	Kwik-Fit (GB) Limited	386471 393864	244a, Moseley Road, Fallowfield, Manchester, M14 6PD	Vehicle Repair, Testing and Servicing	Repair and Servicing
8	95.0	E	Electricity Sub Station	386524 394070	M14	Electrical Features	Infrastructure and Facilities
9	108.0	S	HSS Hire Service Group Ltd	385693 393876	Harburg House 11, Ladybarn Road, Manchester, M14 6WN	Construction and Tool Hire	Hire Services
10	116.0	N	Electricity Sub Station	385668 394579	M14	Electrical Features	Infrastructure and Facilities
11	134.0	S	Electricity Sub Station	386174 393808	M14	Electrical Features	Infrastructure and Facilities
12	151.0	S	Electricity Sub Station	385600 393856	M14	Electrical Features	Infrastructure and Facilities
13	153.0	W	Electricity Sub Station	385440 393977	M14	Electrical Features	Infrastructure and Facilities
14	177.0	W	Electricity Sub Station	385449 394318	M14	Electrical Features	Infrastructure and Facilities
15	199.0	NW	Electricity Sub Station	385463 394587	M14	Electrical Features	Infrastructure and Facilities
16	219.0	S	Electricity Sub Station	385812 393733	M14	Electrical Features	Infrastructure and Facilities
17A	226.0	NW	Electricity Sub Station	385503 394656	M14	Electrical Features	Infrastructure and Facilities
18	234.0	S	Electricity Sub Station	385588 393773	M14	Electrical Features	Infrastructure and Facilities
19A	242.0	NW	Hamley Car Dealers	385511 394678	24, Appleby, Manchester, M14 6HQ	New Vehicles	Motoring

3.2 Petrol and Fuel Sites

Records of petrol or fuel sites within 500m of the study site: 3

The following petrol or fuel site records provided by Catalist are represented as points on the Current Land Use map:

ID	Distance (m)	Direction	NGR	Company	Address	LPG	Status
20B	0.0	On Site	386435 393943	Unbranded	Birchfields Service Station, 227, Moseley Road, Moseley Road, Fallowfield, Manchester, Lancashire, M14 6PA	Not Applicable	Obsolete
21	389.0	NW	385454 394814	Obsolete	Wilmslow Service Station, 261-263, Wilmslow Road, Wilmslow Road, Rusholme, Manchester, Lancashire, M14 5LN	Not Applicable	Obsolete
22	478.0	SW	385402 393568	Shell	Shell Fallowfield, 385, Wilmslow Road, Wilmslow Road, Fallowfield, Manchester, Lancashire, M14 6AH	No	Open

3.3 Underground High Pressure Oil and Gas Pipelines

Records of high pressure underground pipelines within 500m of the study site: 0

Database searched and no data found.



4. Geology

4.1 Artificial Ground and Made Ground

Database searched and no data found.

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

4.2 Superficial Ground and Drift Geology

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

Lex Code	Description	Rock Type
TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON

4.3 Bedrock and Solid Geology

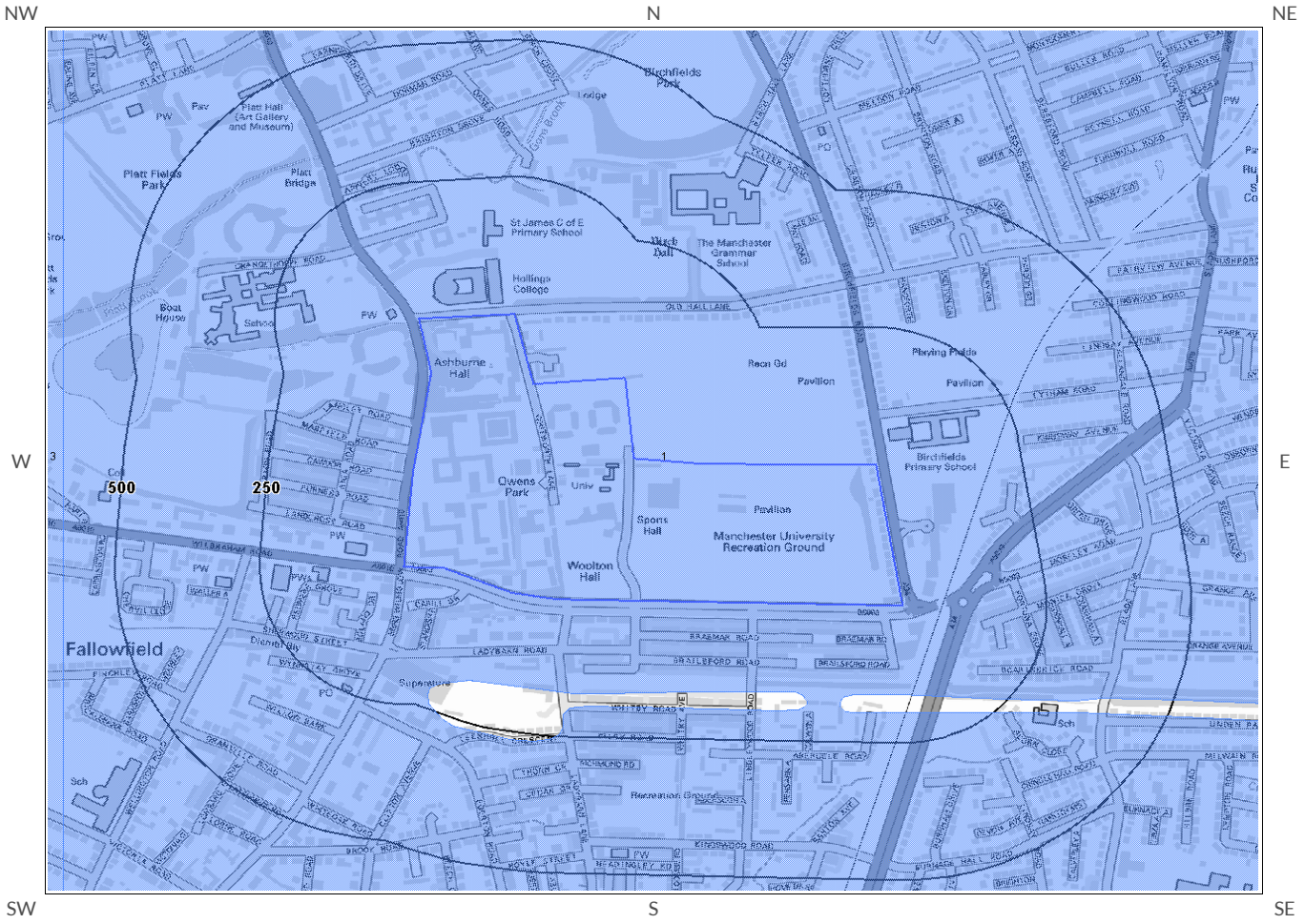
The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
CS-SDST	COLLYHURST SANDSTONE FORMATION	SANDSTONE
SSG-SDST	SHERWOOD SANDSTONE GROUP	SANDSTONE
CS-SDST	COLLYHURST SANDSTONE FORMATION	SANDSTONE

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

5. Hydrogeology and Hydrology

5a. Aquifer Within Superficial Geology



Aquifer Within Superficial Geology

Mapping sourced from Ordnance Survey

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Site Outline

Search Buffers (m) 250 500

Principal Aquifer

Secondary (A) Aquifer - Permeable Layers

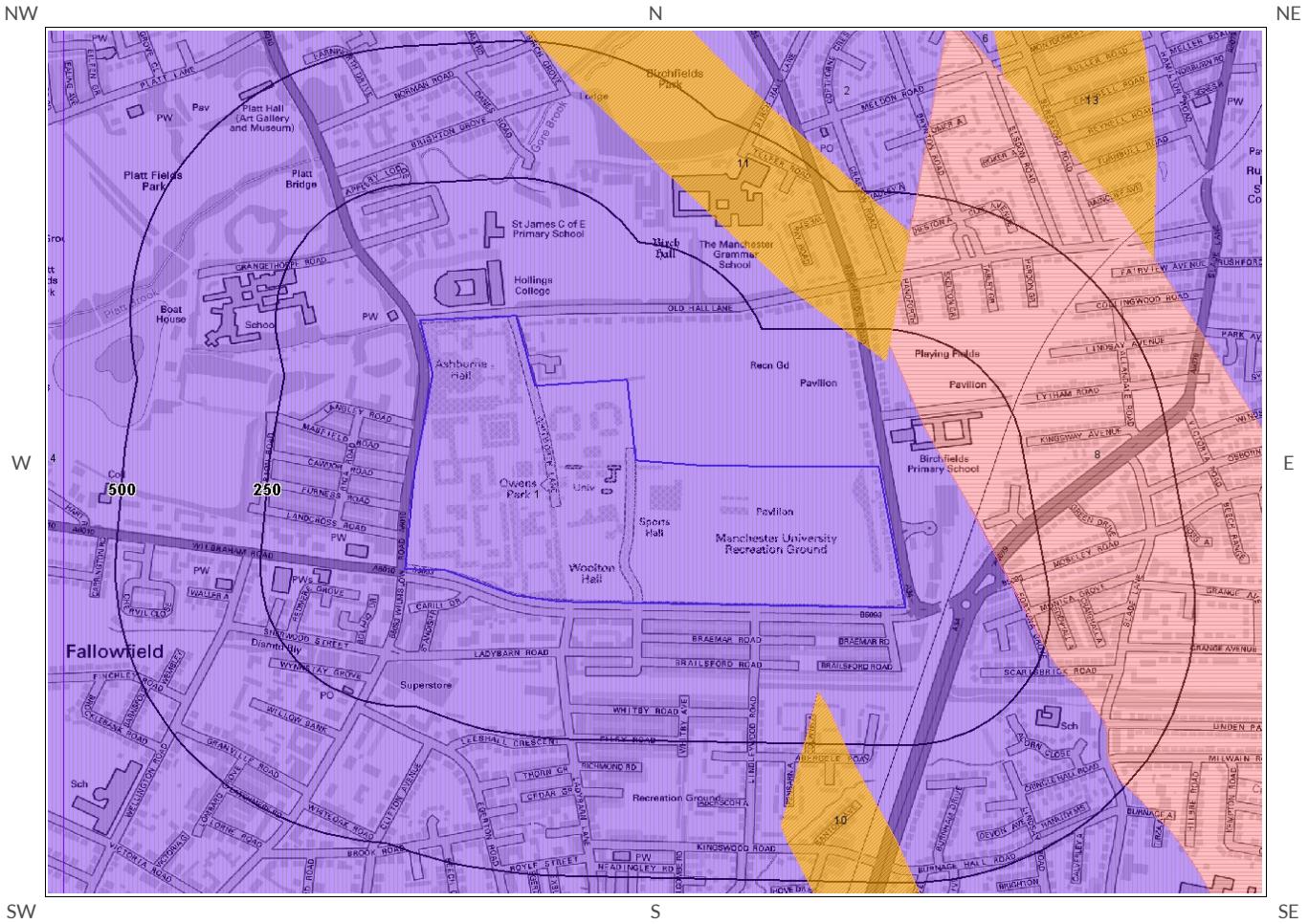
Secondary (B) Aquifer - Lower Permeability Layers

Secondary Aquifer - Undifferentiated Layers

Unproductive

Unknown (lakes and landslip)

5b. Aquifer Within Bedrock Geology and Abstraction Licenses



Aquifer Within Bedrock Geology and Abstraction Licenses

Mapping sourced from Ordnance Survey

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Site Outline

250
500
Search Buffers (m)

Principal Aquifer

Secondary (A) Aquifer - Permeable Layers

Secondary (B) Aquifer - Lower Permeability Layers

Groundwater Abstraction Licence

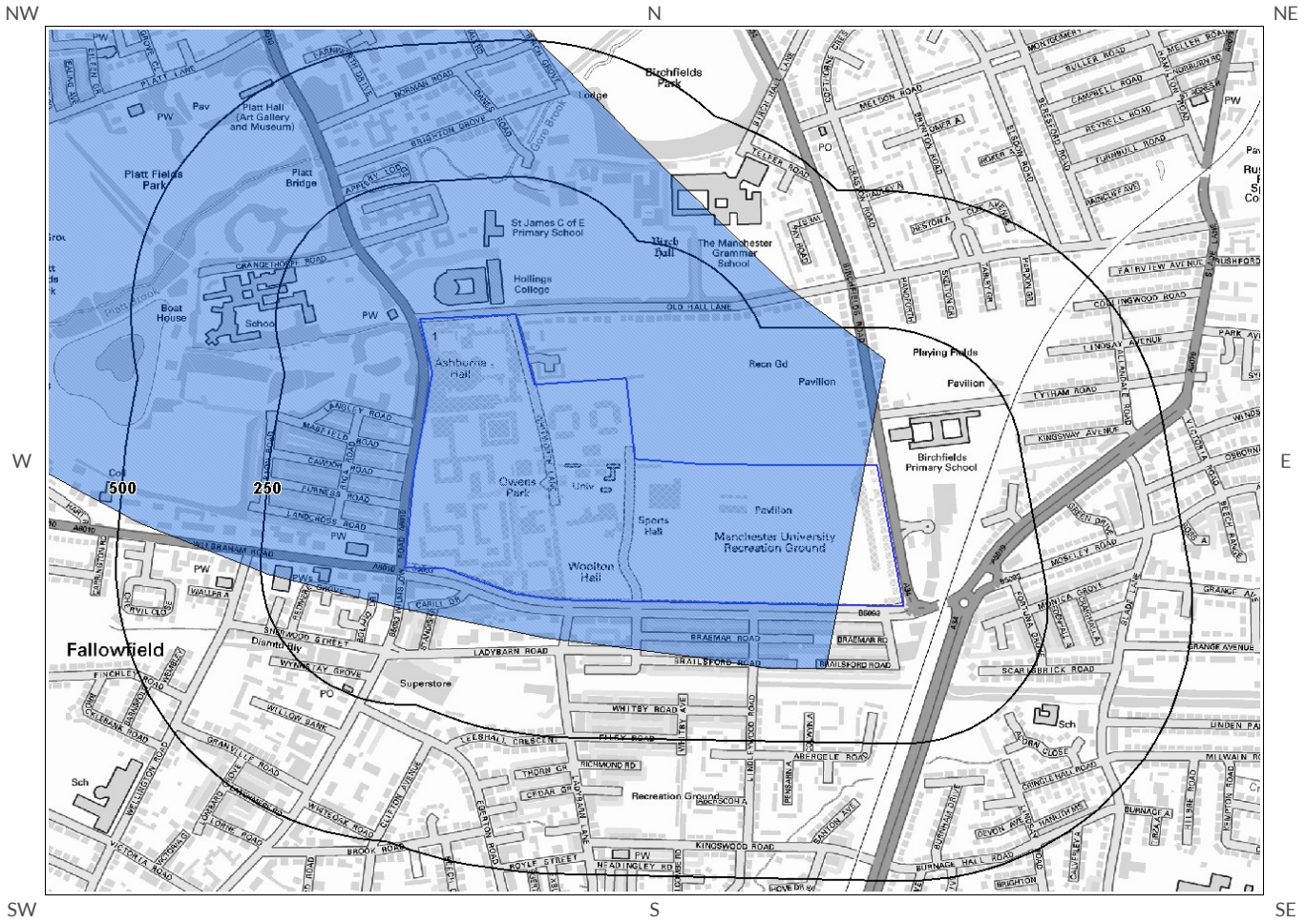
Secondary Aquifer - Undifferentiated Layers

Unproductive

Unknown (lakes and landslip)

Surface Water Abstraction Licence

5c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses



Map LegendSource Protection Zonesand PotableWater Abstraction Licenses

Mapping sourced from Ordnance Survey®

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Site Outline

250 / 500 Search Buffers (m)

Source Protection Zone 1 - Inner Catchment

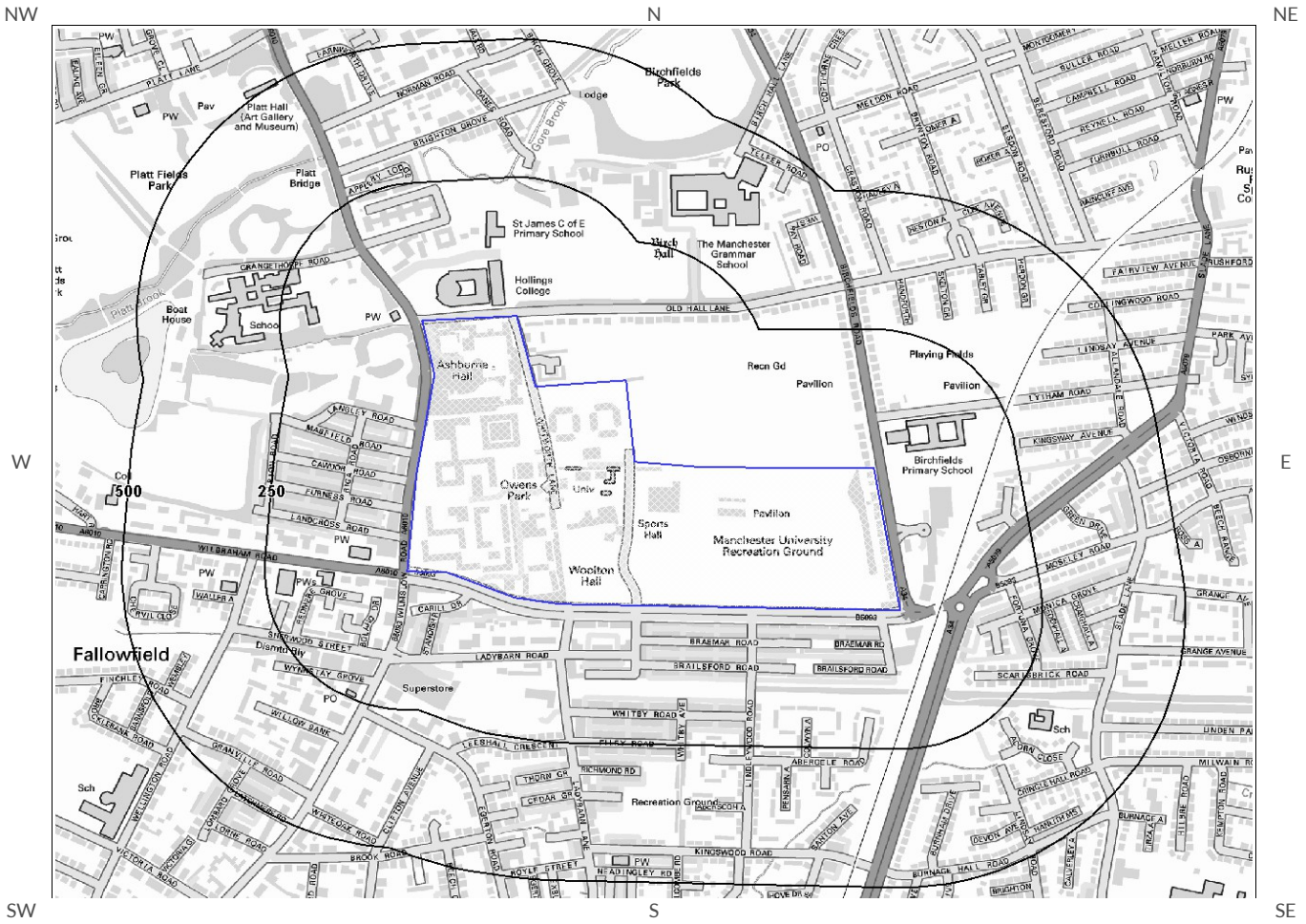
Source Protection Zone 2 - Outer Catchment

Source Protection Zone 3 - Total Catchment

Source Protection Zone 4 - Zone of Special Interest

Potable Water Abstraction Licence

5d. Hydrology Source Protection Zones within confined aquifer



Hydrology Source Protection Zones

Mapping sourced from Ordnance Survey®

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Site Outline

250
500
Search Buffers (m)

Source Protection Zone 1C - Inner Catchment within Confined Aquifer

Source Protection Zone 2C - Outer Catchment within Confined Aquifer

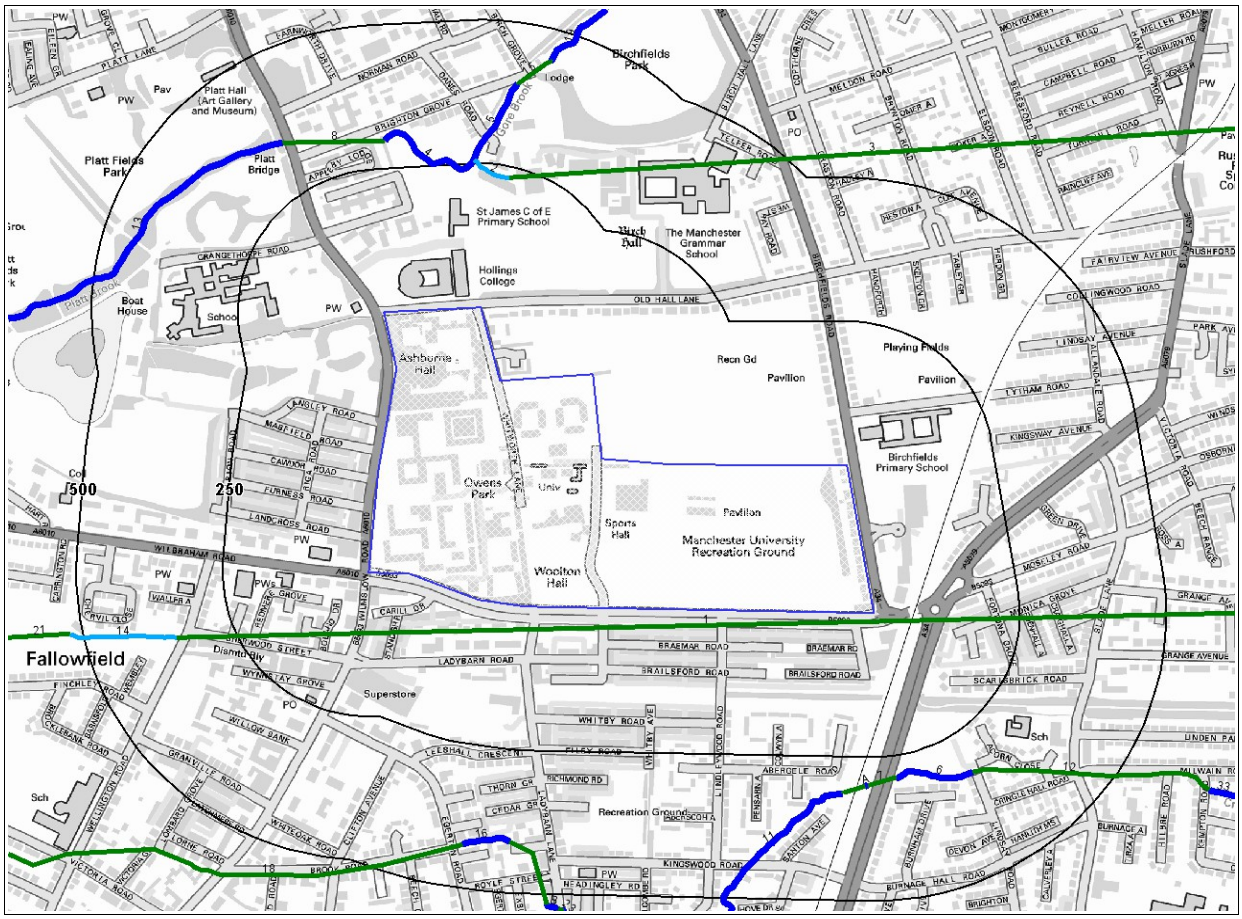
Source Protection Zone 3C - Total Catchment within Confined Aquifer

Potable Water Abstraction Licence

5 e. Hydrology – Detailed River Network and River Quality

NW N NE

W E



SW S SE

Hydrology – Detailed River Network and River Quality

Mapping sourced from Ordnance Survey

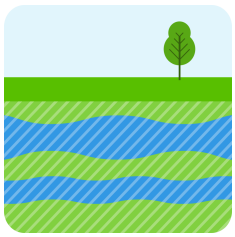
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Site Outline

250 500 Search Buffers (m)

Primary River
Secondary River
Tertiary River
Lake/Reservoir
Underground River (inferred)
General Quality Assessment: Biology
General Quality Assessment: Chemistry

Canal
Canal Tunnel
Culvert
Multiple Channel Culvert
Underground River (Potential Sewer)
Underground River (local knowledge)



5. Hydrogeology and Hydrology

5.1 Aquifer within Superficial Deposits

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

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

The following aquifer records are shown on the Aquifer within Superficial Geology Map (5a):

ID	Distance (m)	Direction	Designation	Description
1	0.0	On Site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

5.2 Aquifer within Bedrock Deposits

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

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

The following aquifer records are shown on the Aquifer within Bedrock Geology Map (5b):

ID	Distance (m)	Direction	Designation	Description
1	0.0	On Site	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
8	103.0	NE	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
10	154.0	S	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeablehorizons and weathering. These are generally the water-bearing parts of the former non-aquifers
11	193.0	N	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeablehorizons and weathering. These are generally the water-bearing parts of the former non-aquifers
2	430.0	N	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers

5.3 Groundwater Abstraction Licences

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

The following Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (5b):

ID	Distance (m)	Direction	NGR	Details	
Not shown	1138.0	S	386720 392830	Licence No: 2569013021 Details: Laundry Use Direct Source: Ground Water - North West Region Point: Burnage Lane , Levenshulme, Manchester Data Type: Point	Annual Volume (m^3): 91000 Max Daily Volume (m^3): 350 Original Application No: 7537 Original Start Date: 19/3/2004 Expiry Date: 31/3/2014 Issue No: 2 Version Start Date: 17/1/2008 Version End Date:
Not shown	1865.0	SE	387960 392840	Licence No: 2569011037 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: Borehole At Crossley Rd Levenshulme Data Type: Point	Annual Volume (m^3): 170000 Max Daily Volume (m^3): 700 Original Application No: 7405 Original Start Date: 16/3/1998 Expiry Date: 16/3/2008 Issue No: 101 Version Start Date: 1/1/2006 Version End Date:
Not shown	1865.0	SE	387960 392840	Licence No: 2569011040 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: Borehole At Crossley Rd Levenshulme Data Type: Point	Annual Volume (m^3): 132046 Max Daily Volume (m^3): 498 Original Application No: 7405 Original Start Date: 3/10/2008 Expiry Date: 31/3/2017 Issue No: 1 Version Start Date: 3/10/2008 Version End Date:
Not shown	1979.0	SE	387260 392130	Licence No: 2569013020 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: Borehole At Heaton Moor Golf Club, Stockport Data Type: Point	Annual Volume (m^3): 8000 Max Daily Volume (m^3): 50 Original Application No: - Original Start Date: 18/3/1997 Expiry Date: - Issue No: 102 Version Start Date: 8/4/2009 Version End Date:
Not shown	1979.0	SE	387260 392130	Licence No: 2569013020 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: "borehole At Heaton Moor Golf Club, Stockport" Data Type: Point	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: 7370 Original Start Date: 18/3/1997 Expiry Date: - Issue No: 100 Version Start Date: 18/3/1997 Version End Date:
Not shown	1982.0	SE	387258 392126	Licence No: 2569013020 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: Borehole At Heaton Moor Golf Club, Stockport Data Type: Point	Annual Volume (m^3): 8000 Max Daily Volume (m^3): 50 Original Application No: NPS/WR/013194 Original Start Date: 18/3/1997 Expiry Date: - Issue No: 103 Version Start Date: 27/6/2013 Version End Date:

5.4 Surface Water Abstraction Licences

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

Database searched and no data found.

5.5 Potable Water Abstraction Licences

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

Database searched and no data found.

5.6 Source Protection Zones

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

The following Source Protection Zones records are represented on the SPZ and Potable Water Abstraction Map (5c):

ID	Distance (m)	Direction	Type	Description
1	0.0	On Site	3	Total catchment

5.7 Source Protection Zones within Confined Aquifer

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

No

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

Database searched and no data found.

5.8 Groundwater Vulnerability and Soil Leaching Potential

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

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

5.9 River Quality

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

5.9.1 Biological Quality:

Biological Quality data describes water quality in terms of 83 groups of macroinvertebrates, some of which are pollution sensitive. The results are graded from A ('Very Good') to F ('Bad').

The following Biological Quality records are shown on the Hydrology Map (5d):

ID	Distance (m)	Direction	NGR	River Quality Grade	Biological Quality Grade				
					2005	2006	2007	2008	2009
Not shown	990.0	W	384600 394000	River Name: Chorlton Bk Reach: Qsl At North Reddish To Chorlton Bk. End/Start of Stretch: End of Stretch NGR	D	D	D	D	D
Not shown	1499.0	W	384100 393840	River Name: Cringle Bk Reach: Qsl At Heaton Chapel To Platt Bk. End/Start of Stretch: End of Stretch NGR	E	E	D	D	D
Not shown	1499.0	W	384100 393840	River Name: Chorlton Bk Reach: Qsl At Tan Yard Brow To Cringle Bk. End/Start of Stretch: End of Stretch NGR	E	E	E	E	E
Not shown	1499.0	W	384100 393840	River Name: Chorlton Bk Reach: Cringle Bk. To Mersey End/Start of Stretch: Start of Stretch NGR	D	D	D	D	D

5.9.2 Chemical Quality:

Database searched and no data found.

5.10 Detailed River Network

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

The following Detailed River Network records are represented on the Hydrology Map (5e):

ID	Distance (m)	Direction	Details	
1	13.0	S	River Name: Fallowfield Brook Welsh River Name: - Alternative Name: -	River Type: Culvert Main River Status: Currently Undefined
2	229.0	N	River Name: - Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined
3	231.0	N	River Name: - Welsh River Name: - Alternative Name: -	River Type: Culvert Main River Status: Currently Undefined
4	242.0	N	River Name: Platt Brook Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
5	257.0	N	River Name: Gore Brook Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
6	281.0	S	River Name: Cringle Brook Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
7	288.0	S	River Name: Cringle Brook Welsh River Name: - Alternative Name: -	River Type: Culvert Main River Status: Currently Undefined
8	297.0	N	River Name: Platt Brook Welsh River Name: - Alternative Name: -	River Type: Culvert Main River Status: Currently Undefined
9A	300.0	S	River Name: Cringle Brook Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
10 A	302.0	S	River Name: Cringle Brook Welsh River Name: - Alternative Name: -	River Type: Culvert Main River Status: Currently Undefined
11	314.0	S	River Name: Cringle Brook Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
12	324.0	SE	River Name: Cringle Brook Welsh River Name: - Alternative Name: -	River Type: Culvert Main River Status: Currently Undefined
13	343.0	NW	River Name: Platt Brook Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
14	346.0	W	River Name: Fallowfield Brook Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined
15	394.0	N	River Name: Gore Brook Welsh River Name: - Alternative Name: -	River Type: Culvert Main River Status: Currently Undefined
16	405.0	S	River Name: Cringle Brook Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined
17	410.0	S	River Name: Cringle Brook Welsh River Name: - Alternative Name: -	River Type: Culvert Main River Status: Currently Undefined
18	425.0	S	River Name: Leigh Welsh River Name: - Alternative Name: -	River Type: Culvert Main River Status: Currently Undefined
19	446.0	N	River Name: Gore Brook Welsh River Name: - Alternative Name: -	River Type: Primary River Main River Status: Currently Undefined

5.11 Surface Water Features

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

The following surface water records are not represented on mapping:

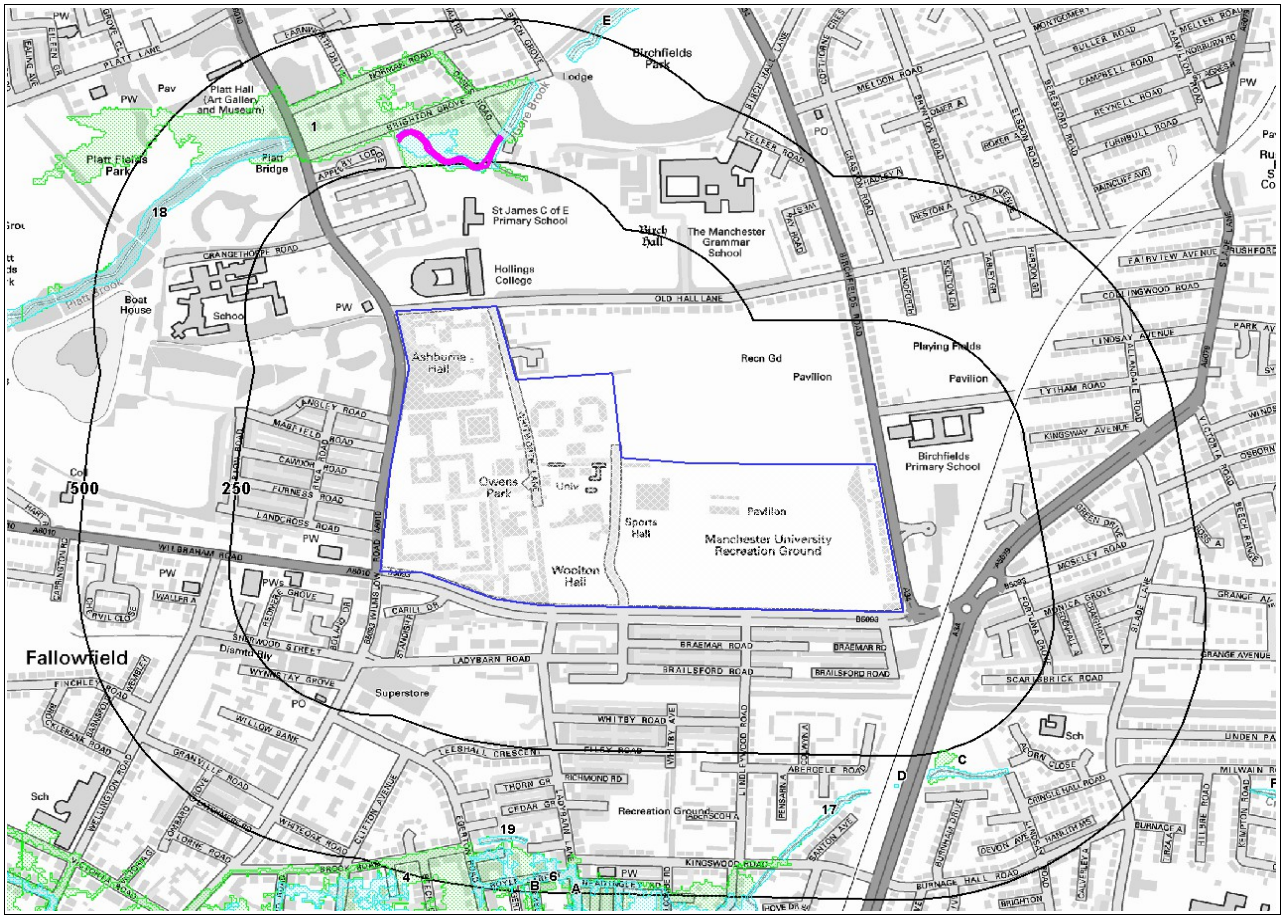
Distance (m)	Direction
25.0	W
229.0	N

6. Environment Agency Flood Map for planning (from rivers and the sea)

NW N NE

W E

SW S SE



Environment Agency Flood Map for planning (from rivers and the sea)

Mapping sourced from Ordnance Survey

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Site Outline

250 / 500 Search Buffers (m)

Zone 2 Floodplain

Zone 3 Floodplain

Flood Storage Area

Area Benefiting from Flood Defences

Flood Defences



6. Flooding

6.1 Zone 2 Flooding

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

Is the site within 250m of an Environment Agency Zone 2 floodplain? Yes

The following floodplain records are represented as green shading on the Flood Map:

ID	Distance (m)	Direction	Update	Type
1	223.0	N	10-Feb-2015	Zone 2 - (Fluvial / Tidal Models)
2C	248.0	S	10-Feb-2015	Zone 2 - (Fluvial / Tidal Models)

6.2 Zone 3 Flooding

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

Is the site within 250m of an Environment Agency Zone 3 floodplain? Yes

The following floodplain records are represented as blue shading on the Flood Map:

ID	Distance (m)	Direction	Update	Type
14	236.0	N	10-Feb-2015	Zone 3 - (Fluvial Models)

6.3 Flood Defences

Are there any Flood Defences within 250m of the study site? Yes

The following flood defence records are represented as lines on the Flood Map:

ID	Distance (m)	Direction	Update
24	239.0	N	31-Oct-2014
25	244.0	N	31-Oct-2014

6.4 Areas benefiting from Flood Defences

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

6.5 Areas benefiting from Flood Storage

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

6.6 Groundwater Flooding Susceptibility Areas

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

Yes

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

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

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

Limited potential

Where limited potential for groundwater flooding to occur is indicated, this means that although given the geological conditions there may be a groundwater flooding hazard, unless other relevant information, e.g. records of previous flooding, suggests groundwater flooding has occurred before in this area, you need take no further action in relation to groundwater flooding hazard.

6.7 Groundwater Flooding Confidence Areas

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

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

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

7. Designated Environmentally Sensitive Sites Map



Designated Environmentally Sensitive Sites Map

Mapping sourced from Ordnance Survey

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- Site Centre
- Site Outline
- 100 / 250 Search Buffers (m)
- AONB
- National Park
- SSSI
- Special Protection Areas
- Nitrate Vulnerable Zones
- Green Belt
- Environmentally Sensitive Areas
- Special Areas of Conservation
- World Heritage Sites
- Nitrate Sensitive Areas
- Ancient Woodland
- National Nature Reserve
- Local Nature Reserves
- RAMSAR Sites



7. Designated Environmentally Sensitive Sites

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

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

1

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

ID	Distance (m)	Direction	LNR Name	Data Source
Not shown	1550.0	E	Highfield Country Park	Natural England

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.



8. Natural Hazards Findings

8.1 Detailed BGS GeoSure Data

BGS GeoSure Data has been searched to 50m. The data is included in tabular format. If you require further information on geology and ground stability, please obtain a GroundSure GeoInsight, available from our website. The following information has been found:

8.1.1 Shrink Swell

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

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

Hazard
Ground conditions predominantly low plasticity. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.

8.1.2 Landslides

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

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

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

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

8.1.3 Soluble Rocks

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

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

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

8.1.4 Compressible Ground

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

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

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

8.1.5 Collapsible Rocks

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

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

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

8.1.6 Running Sand

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

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

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

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



9. Mining

9.1 Coal Mining

Are there any coal mining areas within 75m of the study site? No

Database searched and no data found.

9.2 Shallow Mining

What is the subsidence hazard relating to shallow mining on-site*? Negligible

*Please note this data is searched with a 150m buffer.

9.3 Brine Affected Areas

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

Guidance: No Guidance Required.

Contact Details

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

British Geological Survey Enquiries

Kingsley Dunham Centre
Keyworth, Nottingham NG12 5GG
Tel: 0115 936 3143.
Fax: 0115 936 3276.
Email: enquiries@bgs.ac.uk
Web:www.bgs.ac.uk
BGS Geological Hazards Reports and general geological enquiries

Environment Agency

National Customer Contact Centre, PO Box 544
Rotherham, S60 1BY
Tel: 08708 506 506
Web:**www.environment-agency.gov.uk**
Email:**enquiries@environment-agency.gov.uk**

Public Health England

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Public Health England, Wellington House
133-155 Waterloo Road, London, SE1 8UG
https://www.gov.uk/government/organisations/public-health-england
Email:**enquiries@phe.gov.uk**
Main switchboard**: 020 7654 8000**

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

Ordnance Survey

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SO16 0AS
Tel: 08456 050505

Local Authority
Authority: Manchester City Council
Phone: 0161 234 5000
Web: http://www.manchester.gov.uk/
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Hampshire RG27 8NW
Tel: 01252 845444

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This report has been prepared in accordance with the GroundSure Ltd standard Terms and Conditions of business for work of this nature.

Standard Terms and Conditions

1 Definitions

In these terms and conditions unless the context otherwise requires:

"Beneficiary" means the person or entity for whose benefit the Client has obtained the Services.

"Client" means the party or parties entering into a Contract with GroundSure.

"Commercial" means any building or property which is not Residential.

"Confidential Information" means the contents of this Contract and all information received from the Client as a result of, or in connection with, this Contract other than

(i) information which the Client can prove was rightfully in its possession prior to disclosure by GroundSure and

(ii) any information which is in the public domain (other than by virtue of a breach of this Contract).

"Support Services" means Support Services provided by GroundSure including, without limitation, interpreting third party and in-house environmental data, providing environmental support advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.

"Contract" means the contract between GroundSure and the Client for the provision of the Services, and which shall incorporate these terms and conditions, the Order, and the relevant User Guide.

"Third Party Data Provider" means any third party providing Third Party Content to GroundSure.

"Data Reports" means reports comprising factual data with no accompanying interpretation.

"Fees" has the meaning set out in clause 5.1.

"GroundSure" means GroundSure Limited, a company registered in England and Wales under number 03421028.

"GroundSure Materials" means all materials prepared by GroundSure and provided as part of the Services, including but not limited to Third Party Content, Data Reports, Mapping, and Risk Screening Reports.

"Intellectual Property" means any patent, copyright, design rights, trade or service mark, moral rights, data protection rights, know-how or trade mark in each case whether registered or not and including applications for the same or any other rights of a similar nature anywhere in the world.

"Mapping" means a map, map data or a combination of historical maps of various ages, time periods and scales.

"Order" means an electronic, written or other order form submitted by the Client requesting Services from GroundSure in respect of a specified Site.

"Ordnance Survey" means the Secretary of State for Business, Innovation and Skills, acting through Ordnance Survey, Adanac Drive, Southampton, SO16 0AS, UK.

"Order Website" means the online platform through which Orders may be placed by the Client and accepted by GroundSure.

"Report" means a Risk Screening Report or Data Report for Commercial or Residential property.

"Residential" means any building or property used as or intended to be used as a single dwelling.

"Risk Screening Report" means a risk screening report comprising factual data with an accompanying interpretation by GroundSure.

"Services" means any Report, Mapping and/or Support Services which GroundSure has agreed to provide by accepting an Order pursuant to clause 2.6.

"Site" means the area of land in respect of which the Client has requested GroundSure to provide the Services.

"Third Party Content" means data, database information or other information which is provided to GroundSure by a Third Party Data Provider.

"User Guide" means the user guide, as amended from time to time, available upon request from GroundSure and on the website (www.GroundSure.com) and forming part of this Contract.

2 Scope of Services, terms and conditions, requests for insurance and quotations

2.1 GroundSure agrees to provide the Services in accordance with the Contract.

2.2 GroundSure shall exercise reasonable skill and care in the provision of the Services.

2.3 Subject to clause 7.3 the Client acknowledges that it has not relied on any statement or representation made by or on behalf of GroundSure which is not set out and expressly agreed in writing in the Contract and all such statements and representations are hereby excluded to the fullest extent permitted by law.

2.4 The Client acknowledges that terms and conditions appearing on a Client's order form, printed stationery or other communication, or any terms or conditions implied by custom, practice or course of dealing shall be of no effect, and that this Contract shall prevail over all others in relation to the Order.

2.5 If the Client or Beneficiary requests insurance in conjunction with or as a result of the Services, GroundSure shall use reasonable endeavours to recommend such insurance, but makes no warranty that such insurance shall be available from insurers or that it will be offered on reasonable terms. Any insurance purchased by the Client or Beneficiary shall be subject solely to the terms of the policy issued by insurers and GroundSure will have no liability therefor. In addition you acknowledge and agree that GroundSure does not act as an agent or broker for any insurance providers. The Client should take (and ensure that the Beneficiary takes) independent advice to ensure that the insurance policy requested or offered is suitable for its requirements.

2.6 GroundSure's quotations or proposals are valid for a period of 30 days only unless an alternative period of time is explicitly stipulated by GroundSure. GroundSure reserves the right to withdraw any quotation or proposal at any time before an Order is accepted by GroundSure. GroundSure's acceptance of an Order shall be binding only when made in writing and signed by GroundSure's authorised representative or when accepted through the Order Website.

3 The Client's obligations

3.1The Client shall comply with the terms of this Contract and

(i) procure that the Beneficiary or any third party relying on the Services complies with and acts as if it is bound by the Contract and

(ii) be liable to GroundSure for the acts and omissions of the Beneficiary or any third party relying on the Services as if such acts and omissions were those of the Client.

3.2 The Client shall be solely responsible for ensuring that the Services are appropriate and suitable for its and/or the Beneficiary's needs.

3.3 The Client shall supply to GroundSure as soon as practicable and without charge all requisite information (and the Client warrants that such information is accurate, complete and appropriate), including without limitation any environmental information relating to the Site and shall give such assistance as GroundSure shall reasonably require in the provision of the Services including, without limitation, access to the Site, facilities and equipment.

3.4 Where the Client's approval or decision is required to enable GroundSure to carry out work in order to provide the Services, such approval or decision shall be given or procured in reasonable time and so as not to delay or disrupt the performance of the Services.

3.5 Save as expressly permitted by this Contract the Client shall not, and shall procure that the Beneficiary shall not, re-sell, alter, add to, or amend the GroundSure Materials, or use the GroundSure Materials in a manner for which they were not intended. The Client may make the GroundSure Materials available to a third party who is considering acquiring some or all of, or providing funding in relation to, the Site, but such third party cannot rely on the same unless expressly permitted under clause 4.

3.6 The Client is responsible for maintaining the confidentiality of its user name and password if using the Order Website and the Client acknowledges that GroundSure accepts no liability of any kind for any loss or damage suffered by the Client as a consequence of using the Order Website.

4 Reliance

4.1The Client acknowledges that the Services provided by GroundSure consist of the presentation and analysis of Third Party Content and other content and that information obtained from a Third Party Data Provider cannot be guaranteed or warranted by GroundSure to be reliable.

4.2 In respect of Data Reports, Mapping and Risk Screening Reports, the following classes of person and no other are entitled to rely on their contents;

(i) the Beneficiary,

(ii) the Beneficiary's professional advisers, (iii) any person providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate),

(iv) the first purchaser or first tenant of the Site, and

(v) the professional advisers and lenders of the first purchaser or tenant of the Site.

4.3 In respect of Support Services, only the Client, Beneficiary and parties expressly named in a Report and no other parties are entitled to rely on its contents.

4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise expressly agreed in writing, no other person or entity of any kind is entitled to rely on any Services or Report issued or provided by GroundSure. Any party considering such Reports and Services does so at their own risk.

5 Fees and Disbursements

5.1GroundSure shall charge and the Client shall pay fees at the rate and frequency specified in the written proposal, Order Website or Order acknowledgement form, plus (in the case of Support Services) all proper disbursements incurred by GroundSure. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services (together "Fees").

5.2 The Client shall pay all outstanding Fees to GroundSure in full without deduction, counterclaim or set off within 30 days of the date of GroundSure's invoice or such other period as may be agreed in writing between GroundSure and the Client ("Payment Date"). Interest on late payments will accrue on a daily basis from the Payment Date until the date of payment (whether before or after judgment) at the rate of 8% per annum.

5.3 The Client shall be deemed to have agreed the amount of any invoice unless an objection is made in writing within 28 days of the date of the invoice. As soon as reasonably practicable after being notified of an objection, without prejudice to clause 5.2 a member of GroundSure's management team will contact the Client and the parties shall then use all reasonable endeavours to resolve the dispute within 15 days.

6 Intellectual Property and Confidentiality

6.1 Subject to

(i) full payment of all relevant Fees and

(ii) compliance with this Contract, the Client is granted (and is permitted to sub-licence to the Beneficiary) a royalty-free, worldwide, non-assignable and (save to the extent set out in this Contract) non-transferable licence to make use of the GroundSure Materials.

6.2 All Intellectual Property in the GroundSure Materials are and shall remain owned by GroundSure or GroundSure's licensors (including without limitation the Third Party Data Providers) the Client acknowledges, and shall procure acknowledgement by the Beneficiary of, such ownership. Nothing in this Contract purports to transfer or assign any rights to the Client or the Beneficiary in respect of such Intellectual Property.

6.3 Third Party Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.

6.4 The Client shall, and shall procure that any recipients of the GroundSure Materials shall:

(i) not remove, suppress or modify any trade mark, copyright or other proprietary marking belonging to GroundSure or any third party from the Services;

(ii) use the information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;

(iii) not create any product or report which is derived directly or indirectly from the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);

(iv) not combine the Services with or incorporate such Services into any other information data or service;

(v) not reformat or otherwise change (whether by modification, addition or enhancement), the Services (save that those acting for the Beneficiary in a professional capacity shall not be in breach of this clause 6.4(v) where such reformatting is in the normal course of providing advice based upon the Services);

(vi) where a Report and/or Mapping contains material belonging to Ordnance Survey, acknowledge and agree that such content is protected by Crown Copyright and shall not use such content for any purpose outside of receiving the Services; and

(vii) not copy in whole or in part by any means any map prints or run-on copies containing content belonging to Ordnance Survey (other than that contained within Ordnance Survey's OS Street Map) without first being in possession of a valid Paper Map Copying Licence from Ordnance Survey,

6.5 Notwithstanding clause 6.4, the Client may make reasonable use of the GroundSure Materials in order to advise the Beneficiary in a professional capacity. However, GroundSure shall have no liability in respect of any advice, opinion or report given or provided to Beneficiaries by the Client.

6.6 The Client shall procure that any person to whom the Services are made available shall notify GroundSure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

7.Liability: Particular Attention Should Be Paid To This Clause

7.1 This Clause 7 sets out the entire liability of GroundSure, including any liability for the acts or omissions of its employees, agents, consultants, subcontractors and Third Party Content, in respect of:

(i) any breach of contract, including any deliberate breach of the Contract by GroundSure or its employees, agents or subcontractors;

(ii) any use made of the Reports, Services, Materials or any part of them; and

(iii) any representation, statement or tortious act or omission (including negligence) arising under or in connection with the Contract.

7.2 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from the Contract.

7.3 Nothing in the Contract limits or excludes the liability of the Supplier for death or personal injury resulting from negligence, or for any damage or liability incurred by the Client or Beneficiary as a result of fraud or fraudulent misrepresentation.

7.4 GroundSure shall not be liable for

(i) loss of profits;

(ii) loss of business;

(iii) depletion of goodwill and/or similar losses;

(iv) loss of anticipated savings;

(v) loss of goods;

(vi) loss of contract;

(vii) loss of use;

(viii) loss or corruption of data or information;

(ix) business interruption;

(x) any kind of special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;

(xi) loss or damage that arise as a result of the use of all or part of the GroundSure Materials in breach of the Contract;

(xii) loss or damage arising as a result of any error, omission or inaccuracy in any part of the GroundSure Materials where such error, omission or inaccuracy is caused by any Third Party Content or any reasonable interpretation of Third Party Content;

(xiii) loss or damage to a computer, software, modem, telephone or other property; and

(xiv) loss or damage caused by a delay or loss of use of GroundSure's internet ordering service.

7.5 GroundSure's total liability in relation to or under the Contract shall be limited to £10 million for any claim or claims.

7.6 GroundSure shall procure that the Beneficiary shall be bound by limitations and exclusions of liability in favour of GroundSure which accord with those detailed in clauses 7.4 and 7.5 (subject to clause 7.3) in respect of all claims which the Beneficiary may bring against GroundSure in relation to the Services or other matters arising pursuant to the Contract.

8 GroundSure's right to suspend or terminate

8.1 If GroundSure reasonably believes that the Client or Beneficiary has not provided the information or assistance required to enable the proper provision of the Services, GroundSure shall be entitled to suspend all further performance of the Services until such time as any such deficiency has been made good.

8.2 GroundSure shall be entitled to terminate the Contract immediately on written notice in the event that:

(i) the Client fails to pay any sum due to GroundSure within 30 days of the Payment Date; or

(ii) the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an administration order made against it or if a receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or

(iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or

(iv) the Client or the Beneficiary breaches any term of the Contract (including, but not limited to, the obligations in clause 4) which is incapable of remedy or if remediable, is not remedied within five days of notice of the breach.

9. Client's Right to Terminate and Suspend

9.1 Subject to clause 10.1, the Client may at any time upon written notice terminate or suspend the provision of all or any of the Services.

9.2 In any event, where the Client is a consumer (and not a business) he/she hereby expressly acknowledges and agrees that:

(i) the supply of Services under this Contract (and therefore the performance of this Contract) commences immediately upon GroundSure's acceptance of the Order; and

(ii) the Reports and/or Mapping provided under this Contract are

(a) supplied to the Client's specification(s) and in any event

(b) by their nature cannot be returned.

10 Consequences of Withdrawal, Termination or Suspension

10.1 Upon termination of the Contract:

(i) GroundSure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client and/or Beneficiary any property of the Client and/or Beneficiary in

GroundSure's possession or control; and

(ii) the Client shall pay to GroundSure all and any Fees payable in respect of the performance of the Services up to the date of termination or suspension. In respect of any Support Services provided, the Client shall also pay GroundSure any additional costs incurred in relation to the termination or suspension of the Contract.

11 Anti-Bribery

11.1 The Client warrants that it shall:

(i) comply with all applicable laws, statutes and regulations relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010;

(ii) comply with such of GroundSure's anti-bribery and anti-corruption policies as are notified to the Client from time to time; and

(iii) promptly report to GroundSure any request or demand for any undue financial or other advantage of any kind received by or on behalf of the Client in connection with the performance of this Contract.

11.2 Breach of this Clause 11 shall be deemed a material breach of this Contract.

12 General

12.1 The Mapping contained in the Services is protected by Crown copyright and must not be used for any purpose other than as part of the Services or as specifically provided in the Contract.

12.2 The Client shall be permitted to make one copy only of each Report or Mapping Order. Thereafter the Client shall be entitled to make unlimited copies of the Report or Mapping Order only in accordance with an Ordnance Survey paper map copy license available through GroundSure.

12.3 GroundSure reserves the right to amend or vary this Contract. No amendment or variation to this Contract shall be valid unless signed by an authorised representative of GroundSure.

12.4 No failure on the part of GroundSure to exercise, and no delay in exercising, any right, power or provision under this Contract shall operate as a waiver thereof.

12.5 Save as expressly provided in this Contract, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.

12.6 The Secretary of State for Business, Innovation and Skills ("BIS") or BIS' successor body, as the case may be, acting through Ordnance Survey may enforce a breach of clause 6.4(vi) and clause 6.4(vii) of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.

12.7 GroundSure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:

(i) the Client or Beneficiary's failure to provide facilities, access or information;

(ii) fire, storm, flood, tempest or epidemic;

(iii) Acts of God or the public enemy;

(iv) riot, civil commotion or war;

(v) strikes, labour disputes or industrial action;

(vi) acts or regulations of any governmental or other agency;

(vii) suspension or delay of services at public registries by Third Party Data Providers;

(viii) changes in law; or

(ix) any other reason beyond GroundSure's reasonable control.

In the event that GroundSure is prevented from performing the Services (or any part thereof) in accordance with this clause 12.6 for a period of not less than 30 days then GroundSure shall be entitled to terminate this Contract immediately on written notice to the Client.

12.8 Any notice provided shall be in writing and shall be deemed to be properly given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.

12.9 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email (save to the extent such day is not a working day where it shall be deemed to have been delivered on the next working day) and on the second working day after the day of posting if sent by first class post.

12.10 The Contract constitutes the entire agreement between the parties and shall supersede all previous arrangements between the parties relating to the subject matter hereof.

12.11 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.

12.12 This Contract shall be governed by and construed in accordance with English law and any proceedings arising out of or connected with this Contract shall be subject to the exclusive jurisdiction of the English courts.

12.13 GroundSure is an executive member of the Council of Property Search Organisation (CoPSO) and has signed up to the Search Code administered by the Property Codes Compliance Board (PCCB). All Risk Screening Reports shall be supplied in accordance with the provisions of the Search Code.

12.14 If the Client or Beneficiary has a complaint about the Services, written notice should be given to the Compliance Officer at GroundSure who will respond in a timely manner.

12.15 The Client agrees that it shall, and shall procure that each Beneficiary shall, treat in confidence all Confidential Information and shall not, and shall procure that each Beneficiary shall not (i) disclose any Confidential Information to any third party other than in accordance with the terms of this Contract; and (ii) use Confidential Information for a purpose other than the exercise of its rights and obligations under this Contract. Subject to clause 6.6, nothing shall prevent the Client or any Beneficiary from disclosing Confidential Information to the extent required by law. **© GroundSure Limited June 2013**



GroundSure
ENVIRONMENTAL INSIGHT

Site Details:

Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD

Client Ref: Project_Oak
Report Ref: GS-1936835
Grid Ref: 386019, 394228

Map Name: County Series

Map date: **1851**

Scale: 1:10,560

Printed at: 1:10,560

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

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

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Production date: 02 March 2015

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GroundSure
ENVIRONMENTAL INSIGHT

Site Details:

Owens Park, 293, WILMSLOW
ROAD, MANCHESTER, M14
6HD

Client Ref: Project_Oak
Report Ref: GS-1936835
Grid Ref: 386019, 394228

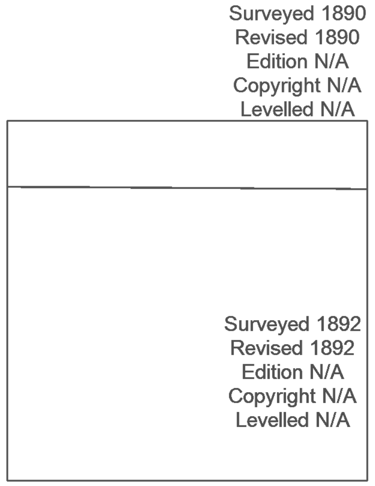
Map Name: County Series

Map date: **1890-1892**

Scale: 1:10,560

Printed at: 1:10,560

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GroundSure
ENVIRONMENTAL INSIGHT

Site Details:

Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD

Client Ref: Project_Oak
Report Ref: GS-1936835
Grid Ref: 386019, 394228

Map Name: County Series

Map date: **1905**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1844
Revised 1905
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1892
Revised 1905
Edition N/A
Copyright N/A
Levelled N/A

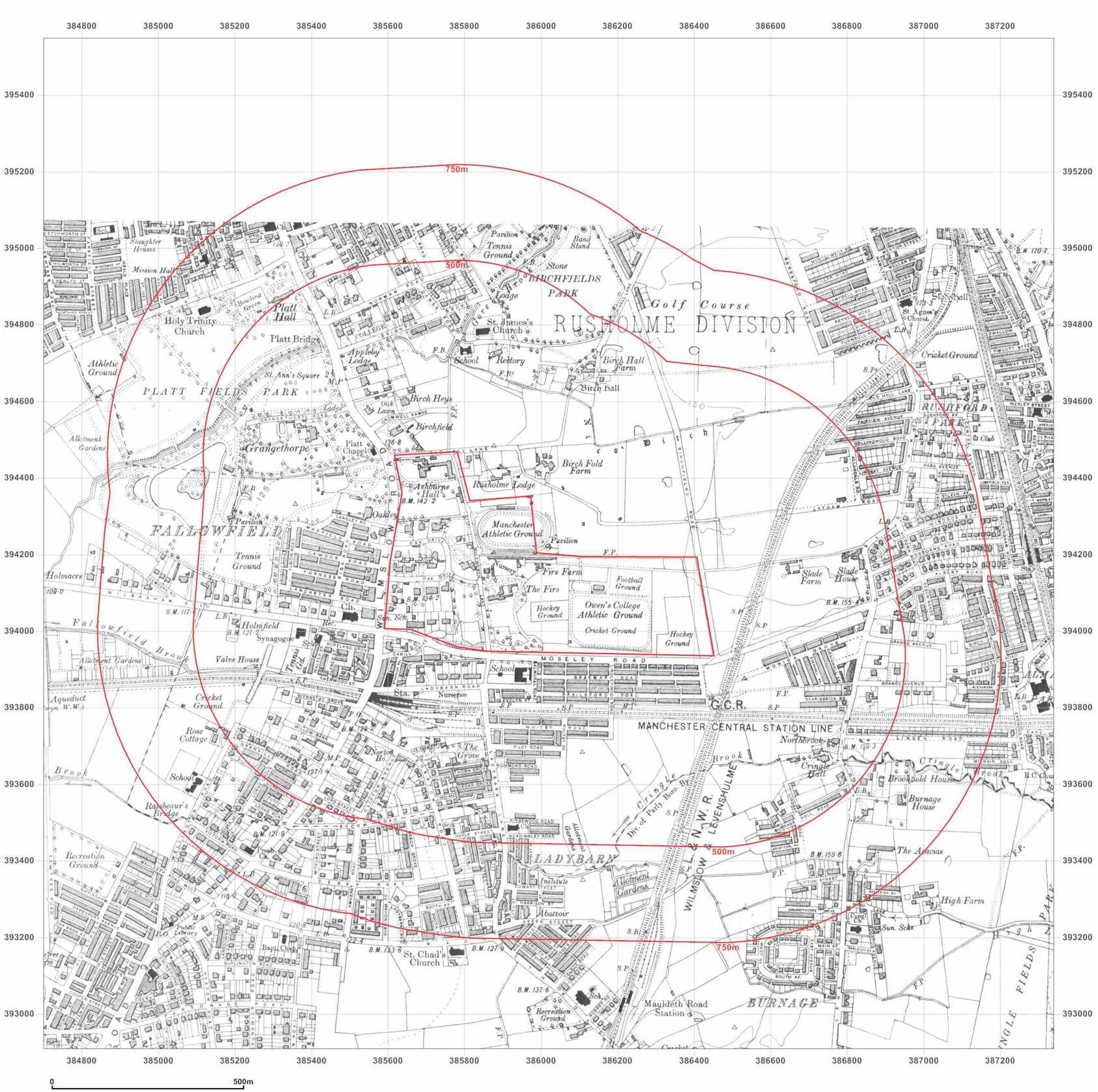
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GroundSure
ENVIRONMENTAL INSIGHT

Site Details:

Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD

Client Ref: Project_Oak
Report Ref: GS-1936835
Grid Ref: 386019, 394228

Map Name: County Series

Map date: **1916**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1844
Revised 1916
Edition N/A
Copyright N/A
Levelled N/A

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GroundSure
ENVIRONMENTAL INSIGHT

Site Details:

Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD

Client Ref: Project_Oak
Report Ref: GS-1936835
Grid Ref: 386019, 394228

Map Name: County Series

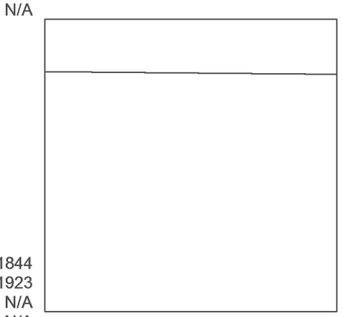
Map date: **1923**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1844
Revised 1923
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1844
Revised 1923
Edition N/A
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GroundSure
ENVIRONMENTAL INSIGHT

Site Details:

Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD

Client Ref: Project_Oak
Report Ref: GS-1936835
Grid Ref: 386019, 394228

Map Name: County Series

Map date: **1934**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1844
Revised 1934
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1844
Revised 1934
Edition N/A
Copyright N/A
Levelled N/A

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GroundSure
ENVIRONMENTAL INSIGHT

Site Details:

Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD

Client Ref: Project_Oak
Report Ref: GS-1936835
Grid Ref: 386019, 394228

Map Name: County Series

Map date: **1938**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1844
Revised 1938
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1844
Revised 1938
Edition N/A
Copyright N/A
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GroundSure
ENVIRONMENTAL INSIGHT

Site Details:

Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD

Client Ref: Project_Oak
Report Ref: GS-1936835
Grid Ref: 386019, 394228

Map Name: Provisional
Map date: **1955-1956**
Scale: 1:10,560
Printed at: 1:10,560

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

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

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

Surveyed 1949
Revised 1949
Edition N/A
Copyright N/A
Levelled N/A

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Production date: 02 March 2015

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GroundSure
ENVIRONMENTAL INSIGHT

Site Details:

Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD

Client Ref: Project_Oak
Report Ref: GS-1936835
Grid Ref: 386019, 394228

Map Name: Provisional

Map date: **1965-1968**

Scale: 1:10,560

Printed at: 1:10,560

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

Surveyed 1966
Revised 1966
Edition N/A
Copyright N/A
Levelled N/A

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

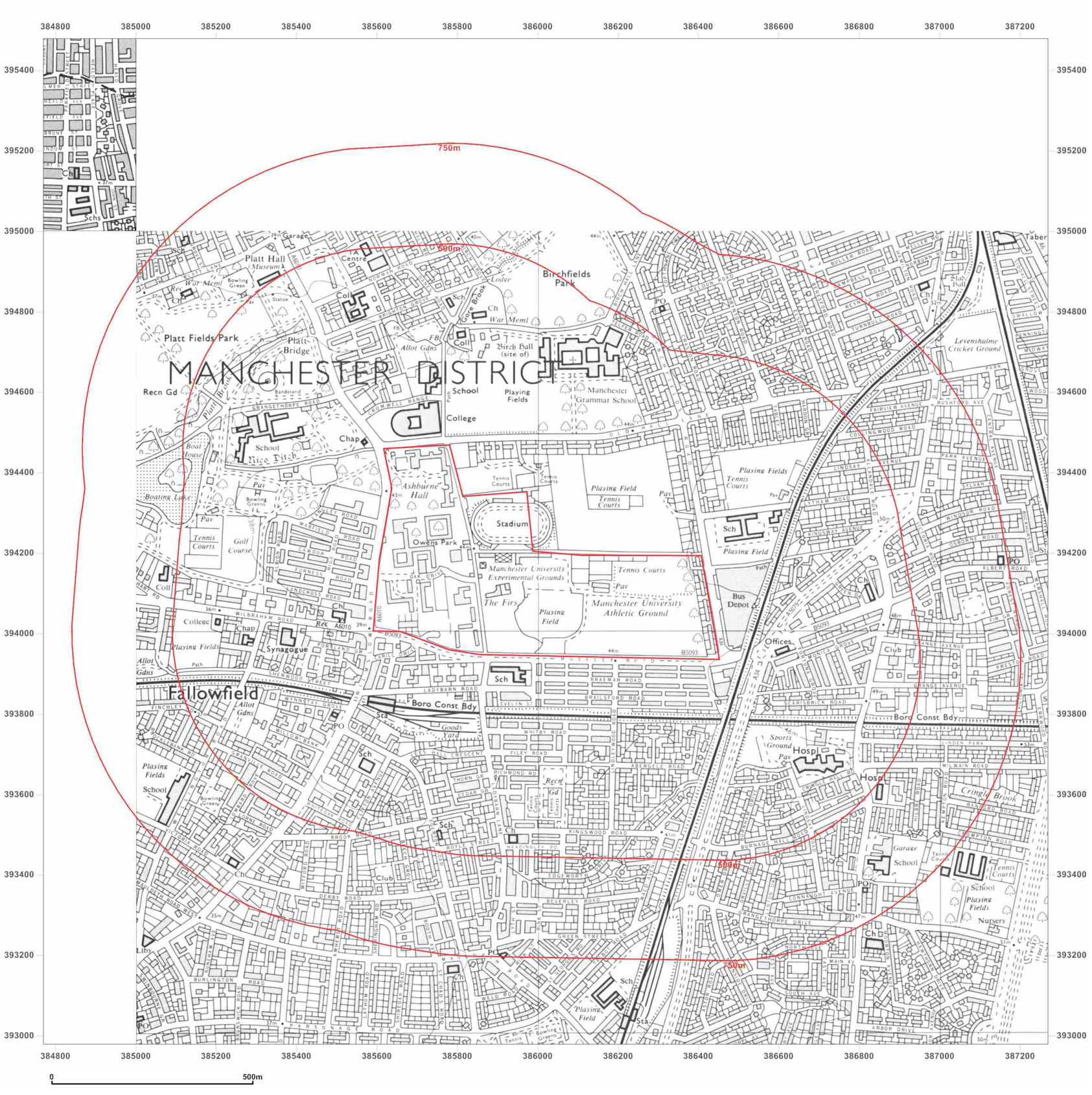
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ENVIRONMENTAL INSIGHT

Site Details:

Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD

Client Ref: Project_Oak
Report Ref: GS-1936835
Grid Ref: 386019, 394228

Map Name: National Grid

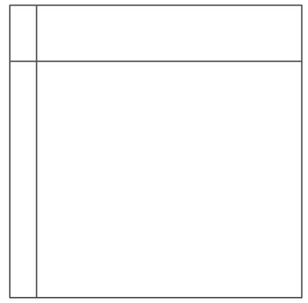
Map date: **1971-1974**

Scale: 1:10,000

Printed at: 1:10,000

N
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Surveyed 1971
Revised 1971
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1974
Revised 1974
Edition N/A
Copyright N/A
Levelled N/A

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ENVIRONMENTAL INSIGHT

Site Details:

Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD

Client Ref: Project_Oak
Report Ref: GS-1936835
Grid Ref: 386019, 394228

Map Name: National Grid

Map date: **1978-1983**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
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Surveyed 1976
Revised 1978
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1976
Revised 1978
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1977
Revised 1978
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1981
Revised 1983
Edition N/A
Copyright N/A
Levelled N/A

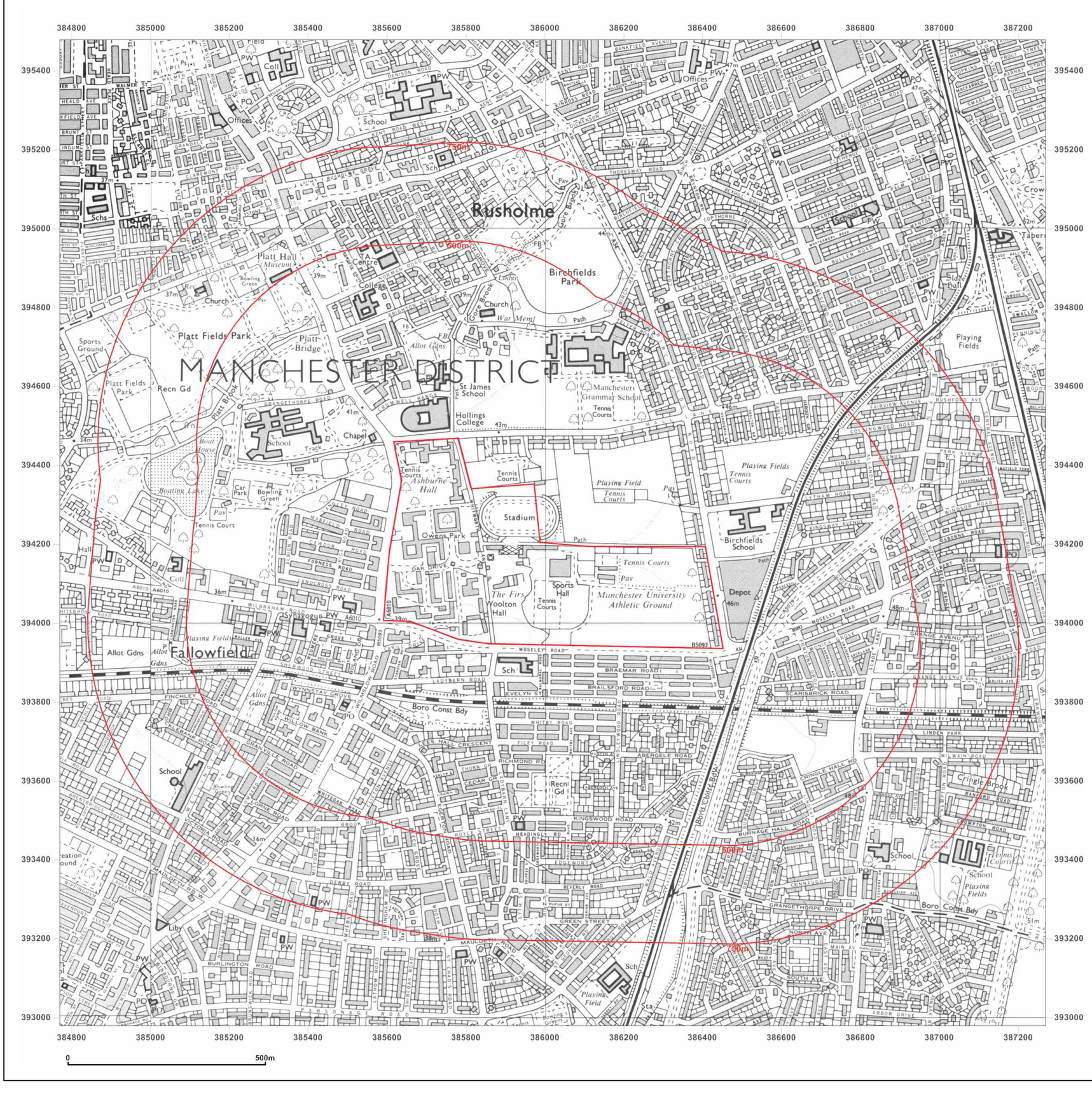
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ENVIRONMENTAL INSIGHT

Site Details:

Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD

Client Ref: Project_Oak
Report Ref: GS-1936835
Grid Ref: 386019, 394228

Map Name: National Grid

Map date: **1985-1989**

Scale: 1:10,000

Printed at: 1:10,000

N
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Surveyed 1983
Revised 1985
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1985
Revised 1985
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1985
Revised 1988
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1986
Revised 1989
Edition N/A
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Site Details:

Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD

Client Ref: Project_Oak
Report Ref: GS-1936835
Grid Ref: 386019, 394228

Map Name: 1:10,000 Raster

Map date: **2002**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
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2002

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Site Details:

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Client Ref: Project_Oak
Report Ref: GS-1936835
Grid Ref: 386019, 394228

Map Name: National Grid

Map date: **2010**

Scale: 1:10,000

Printed at: 1:10,000

N
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2010

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Site Details:

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Client Ref: Project_Oak
Report Ref: GS-1936835
Grid Ref: 386019, 394228

Map Name: National Grid

Map date: **2014**

Scale: 1:10,000

Printed at: 1:10,000

N
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2014

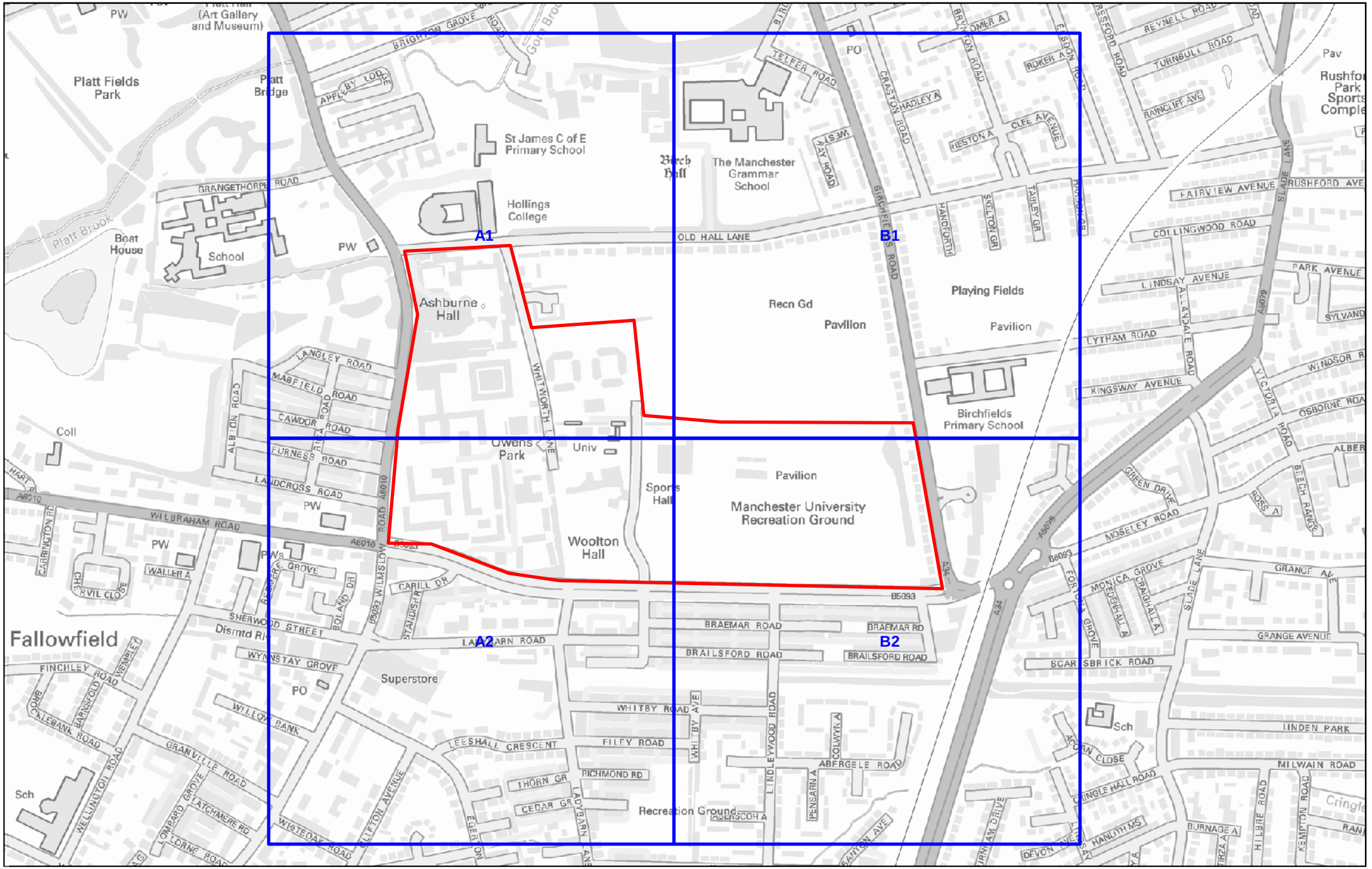
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A1
B1
A2
B2
Platt Fields Park
Platt Bridge
Platt Brook
Boat House
School
PW
Art Gallery and Museum
BRIGHTON GROVE
APPLEBY LODGE
St James C of E Primary School
Hollings College
GRANGETHORPE ROAD
Birch Hall
The Manchester Grammar School
TELFER ROAD
PO
CRASTON ROAD
HADLEY A
WESTAY ROAD
HESTON A
CLEE AVENUE
ROKER A
RESTFORD ROAD
REYNELL ROAD
TURNBULL ROAD
RAINCLIFF AVE
Pav
Rushford Park Sports Comple
SLADE LANE
RUSHFORD AVE
FAIRVIEW AVENUE
COLLINGWOOD ROAD
LINDSAY AVENUE
PARK AVENUE
SYLVAND
OLD HALL LANE
BIRCHFIELDS ROAD
HARDFORTH
SKELTON GR
TABLEY GR
RAMSAY GR
Playing Fields
Pavilion
Recn Gd
Pavilion
Ashburne Hall
LYTHAM ROAD
ALLANDALE ROAD
A6079
WINDSOR R
KINGSWAY AVENUE
VICTORIA ROAD
OSBORNE ROA
Birchfields Primary School
ALBER
LANGLEY ROAD
MABFIELD ROAD
CAWDOR ROAD
FURNESS ROAD
LANDCROSS ROAD
ALBION ROAD
WHITWORTH LANE
Owens Park
Univ
Sports Hall
Pavilion
Manchester University Recreation Ground
Coll
HART
A6010
WILBRAHAM ROAD
PW
WALLER A
CARRINGTON RD
CHEVRIL CLOSE
PWs
B5093
WILMSLOW ROAD
Woolton Hall
CARILL DR
STAUNTON DR
BOLAND DR
GREEN DRIVE
ROSS A
BEECH RANKS
MOSELEY ROAD
MONICA GROVE
CRAIGHALL A
SLADE LANE
GRANGE AV
GRANGE AVENUE
SCARISBRICK ROAD
Fallowfield
SHERWOOD STREET
WYNNSTAY GROVE
PO
Superstore
LANSDOWNE ROAD
BRAEMAR ROAD
BRAEMAR RD
BRAILSFORD ROAD
BRAILSFORD ROAD
FINCHLEY ROAD
WEMBLEY
BARNSFOLD
OKEBANK ROAD
WILLOW BANK
GRANVILLE ROAD
WELLINGTON ROAD
LOMBARD GROVE
LATCHMERE RD
LORNE ROAD
WHITEOAK ROAD
CLIFTON AVENUE
WHITBY ROAD
WHITBY AVE
LEESHALL CRESCENT
FILEY ROAD
THORN GR
RICHMOND RD
CEDAR GR
LADYBARN AVE
EGERTON
Recreation Ground
LINDLEYWOOD ROAD
COLWYN A
ABERGELE ROAD
PENGARN A
ABERSCOH A
A34
Sch
ACORN CLOSE
LINDEN PARK
MILWAIN ROAD
CRINGLE HALL ROAD
HILLBRE ROAD
KEMPTON ROAD
BURNAGE A
HANLITH MS
DEVON AVE
SEATON AVE
Cringle
RAN



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ENVIRONMENTAL INSIGHT

Site Details:

Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD

Client Ref: Project_Oak
Report Ref: GS-1936835_LS_A1
Grid Ref: 385719, 394484

Map Name: County Series

Map date: **1893**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

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

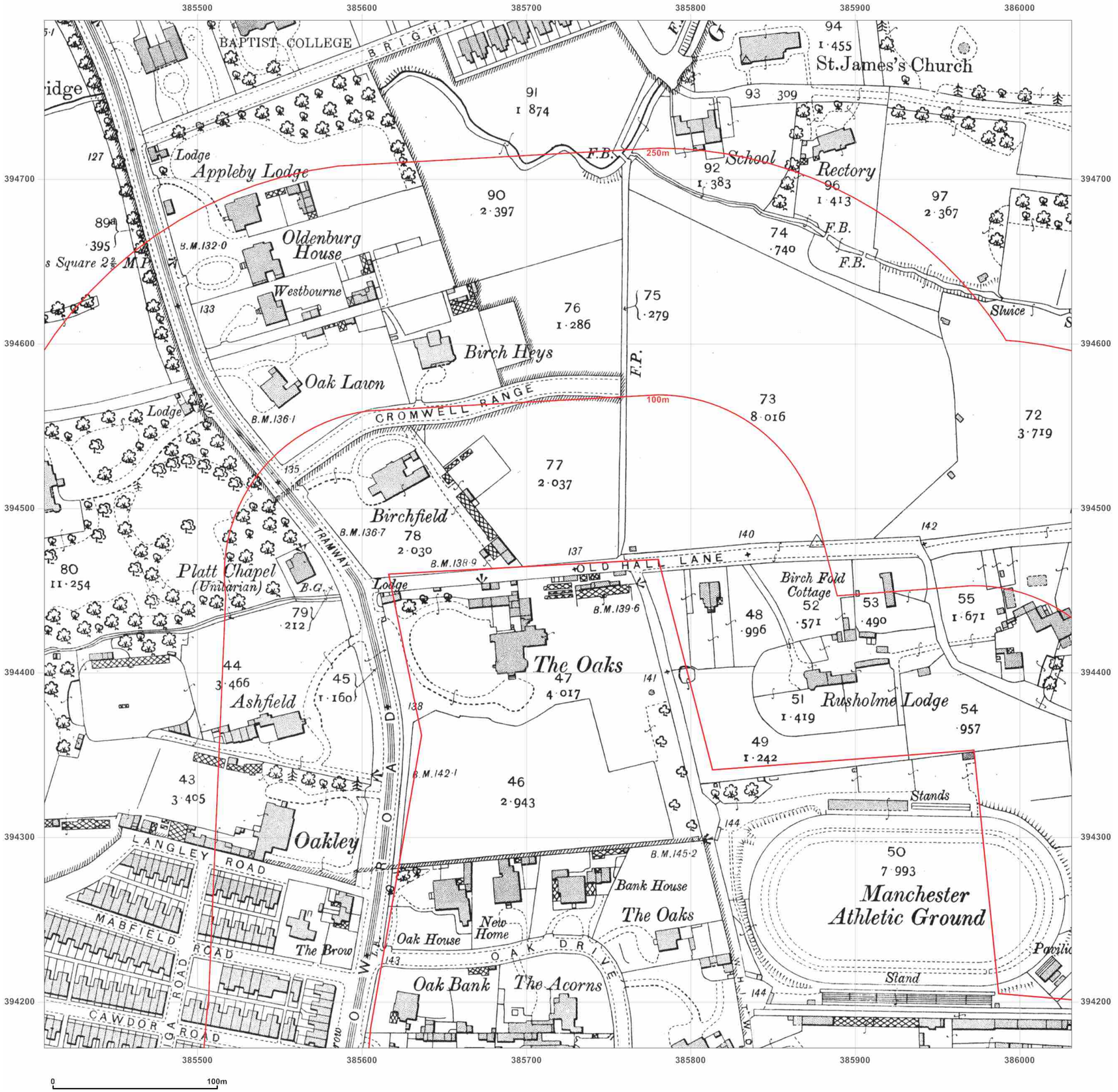
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Site Details:

Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD

Client Ref: Project_Oak
Report Ref: GS-1936835_LS_A1
Grid Ref: 385719, 394484

Map Name: County Series

Map date: **1907**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1907
Revised 1907
Edition N/A
Copyright N/A
Levelled N/A

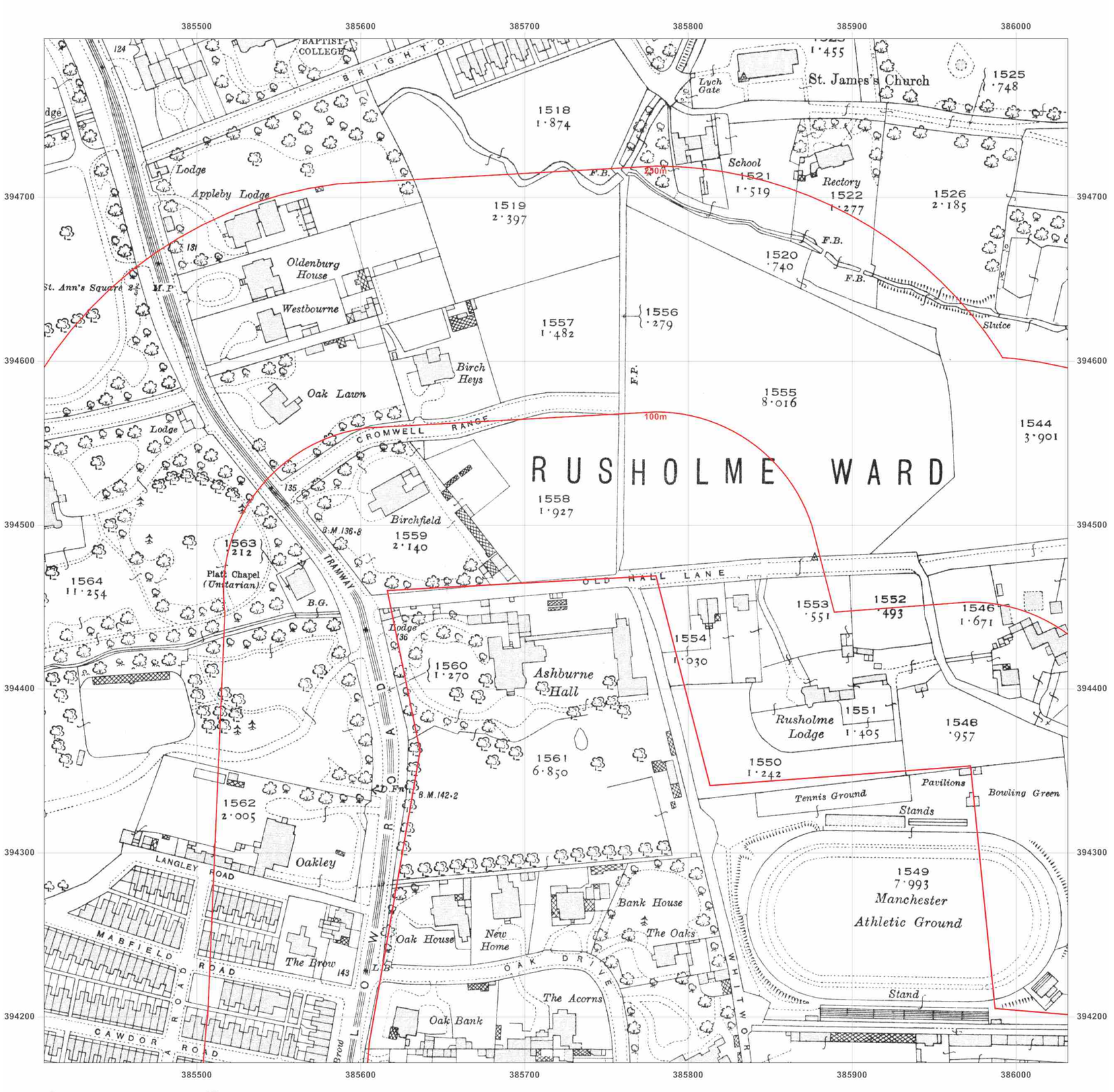
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Client Ref: Project_Oak
Report Ref: GS-1936835_LS_A1
Grid Ref: 385719, 394484

Map Name: County Series

Map date: **1922**

Scale: 1:2,500

Printed at: 1:2,500

N
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S

Surveyed 1922
Revised 1922
Edition N/A
Copyright N/A
Levelled N/A

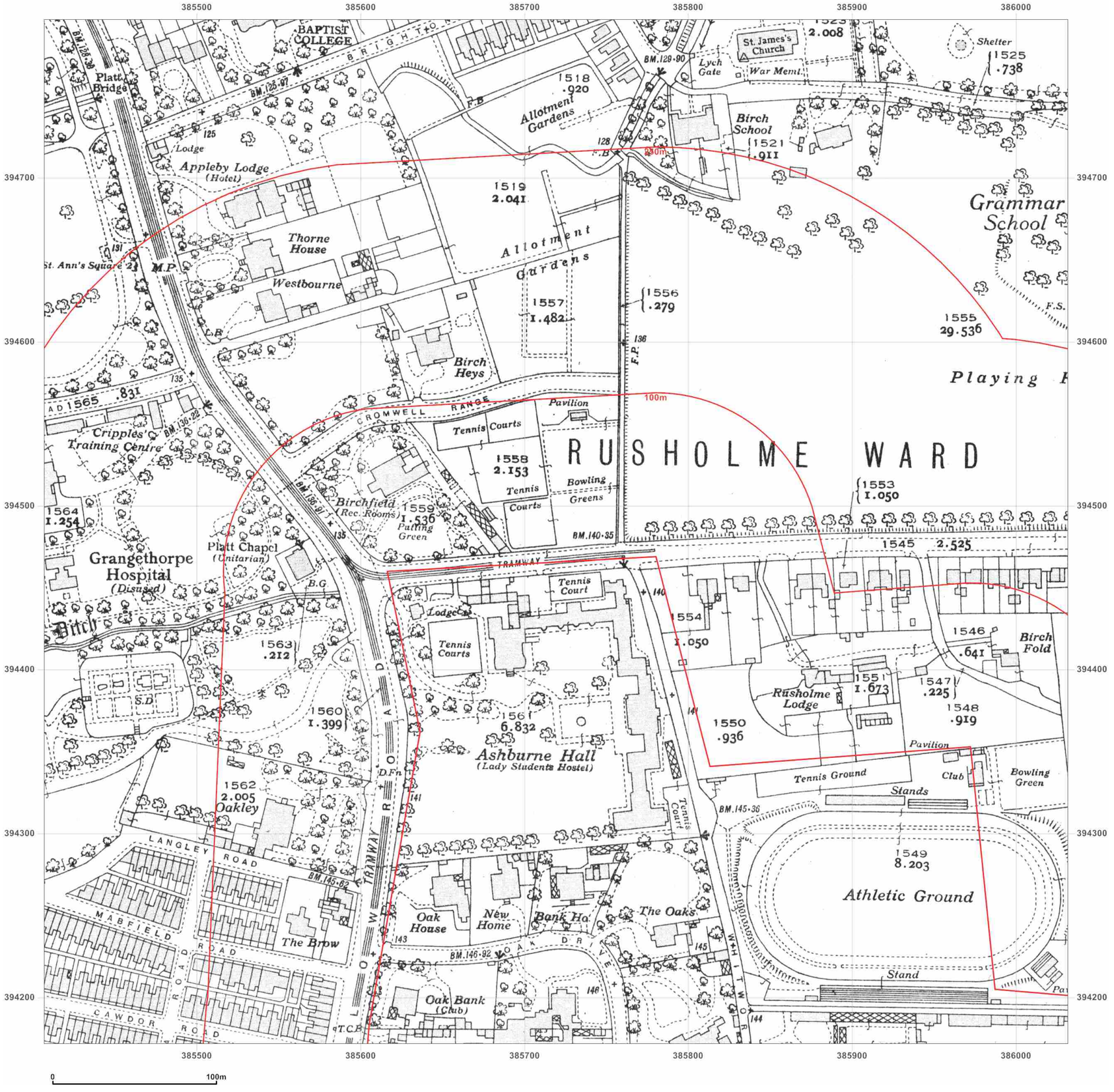
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Client Ref: Project_Oak
Report Ref: GS-1936835_LS_A1
Grid Ref: 385719, 394484

Map Name: County Series

Map date: **1934**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1934
Revised 1934
Edition N/A
Copyright N/A
Levelled N/A

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Client Ref: Project_Oak
Report Ref: GS-1936835_LS_A1
Grid Ref: 385719, 394484

Map Name: National Grid

Map date: **1956-1957**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1956	Surveyed N/A
Revised 1956	Revised N/A
Edition 1957	Edition N/A
Copyright N/A	Copyright N/A
Levelled 1948	Levelled N/A

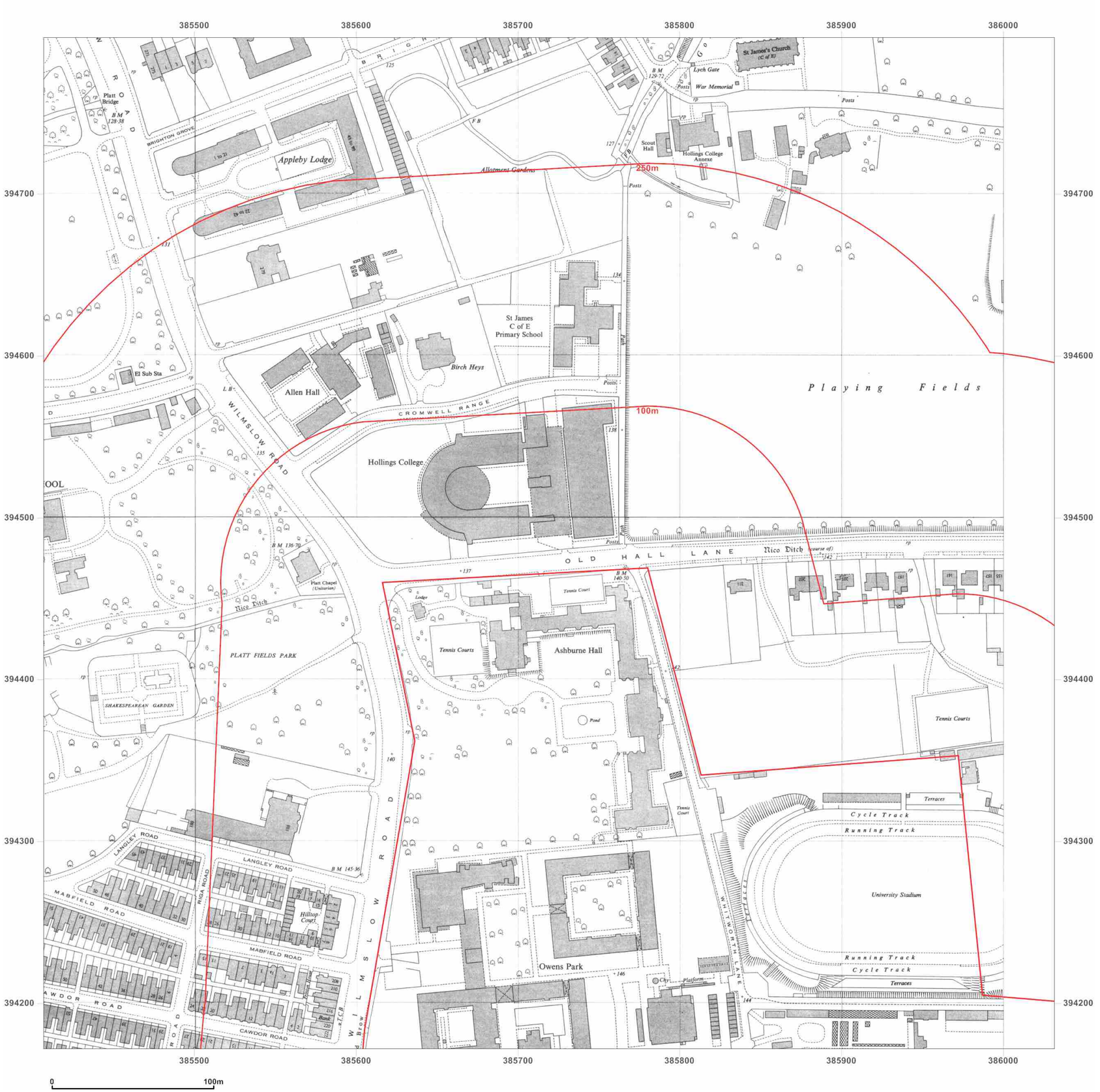
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Site Details:

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Client Ref: Project_Oak
Report Ref: GS-1936835_LS_A1
Grid Ref: 385719, 394484

Map Name: National Grid

Map date: **1966**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1966
Revised 1966
Edition N/A
Copyright 1968
Levelled 1958

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Site Details:

Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD

Client Ref: Project_Oak
Report Ref: GS-1936835_LS_A2
Grid Ref: 385719, 393853

Map Name: County Series

Map date: **1893**

Scale: 1:2,500

Printed at: 1:2,500

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

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ENVIRONMENTAL INSIGHT

Site Details:

Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD

Client Ref: Project_Oak
Report Ref: GS-1936835_LS_A2
Grid Ref: 385719, 393853

Map Name: County Series

Map date: **1907**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1907
Revised 1907
Edition N/A
Copyright N/A
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Site Details:

Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD

Client Ref: Project_Oak
Report Ref: GS-1936835_LS_A2
Grid Ref: 385719, 393853

Map Name: County Series

Map date: **1922**

Scale: 1:2,500

Printed at: 1:2,500

N
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S

Surveyed 1922
Revised 1922
Edition N/A
Copyright N/A
Levelled N/A

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ENVIRONMENTAL INSIGHT

Site Details:

Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD

Client Ref: Project_Oak
Report Ref: GS-1936835_LS_A2
Grid Ref: 385719, 393853

Map Name: County Series

Map date: **1934**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1934
Revised 1934
Edition N/A
Copyright N/A
Levelled N/A

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Site Details:

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Client Ref: Project_Oak
Report Ref: GS-1936835_LS_A2
Grid Ref: 385719, 393853

Map Name: National Grid

Map date: **1956-1957**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1956
Revised 1956
Edition 1957
Copyright N/A
Levelled 1948

Surveyed 1956
Revised 1956
Edition 1957
Copyright N/A
Levelled 1949

Surveyed 1957
Revised 1957
Edition 1958
Copyright N/A
Levelled 1948

Surveyed 1956
Revised 1956
Edition 1958
Copyright N/A
Levelled 1949

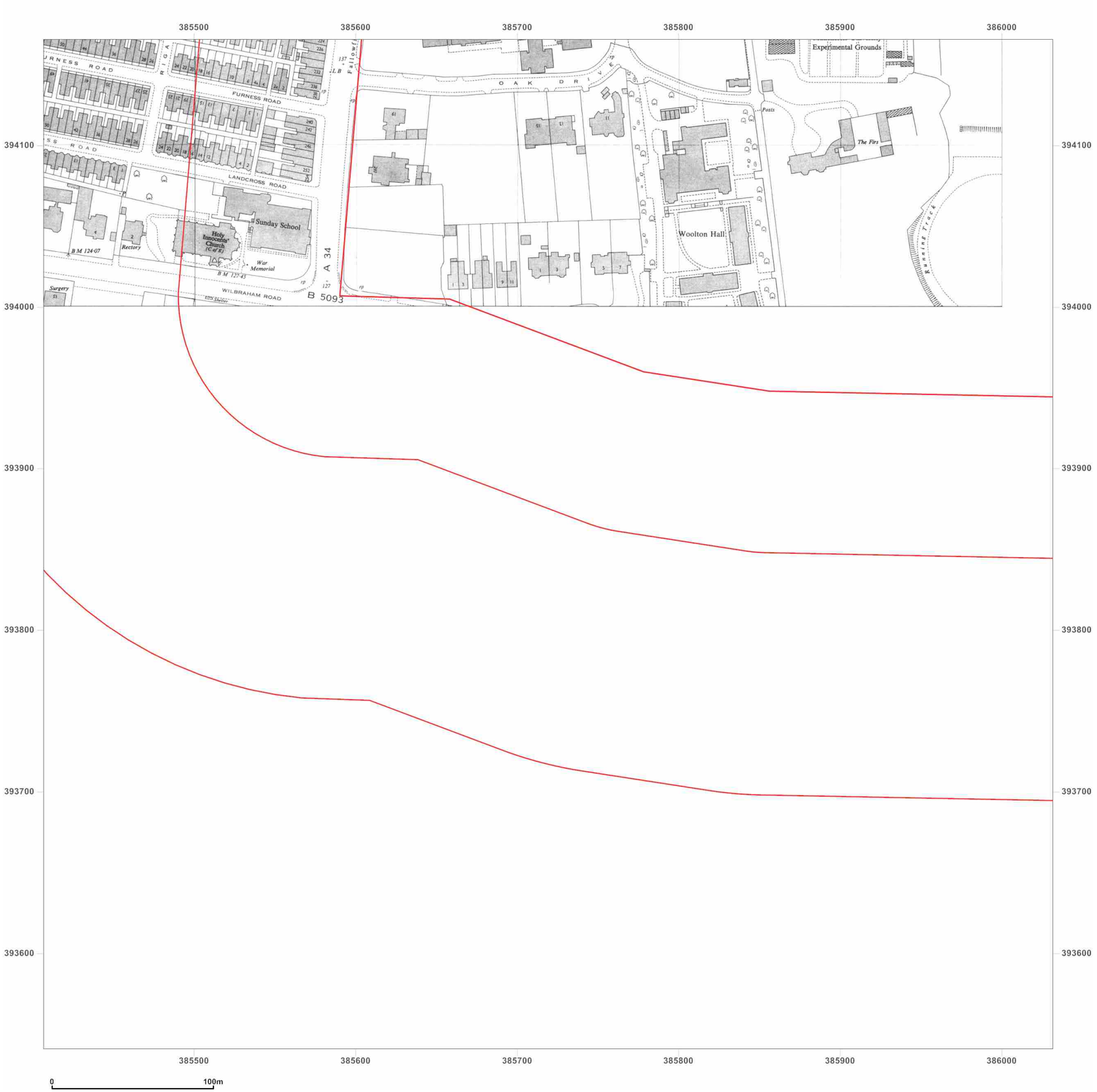
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Site Details:

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Client Ref: Project_Oak
Report Ref: GS-1936835_LS_A2
Grid Ref: 385719, 393853

Map Name: National Grid

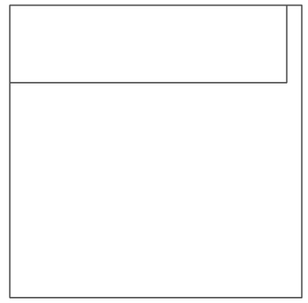
Map date: **1966**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1966
Revised 1966
Edition N/A
Copyright 1968
Levelled 1958



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ENVIRONMENTAL INSIGHT

Site Details:

Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD

Client Ref: Project_Oak
Report Ref: GS-1936835_LS_B1
Grid Ref: 386349, 394484

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

N
W E
S

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

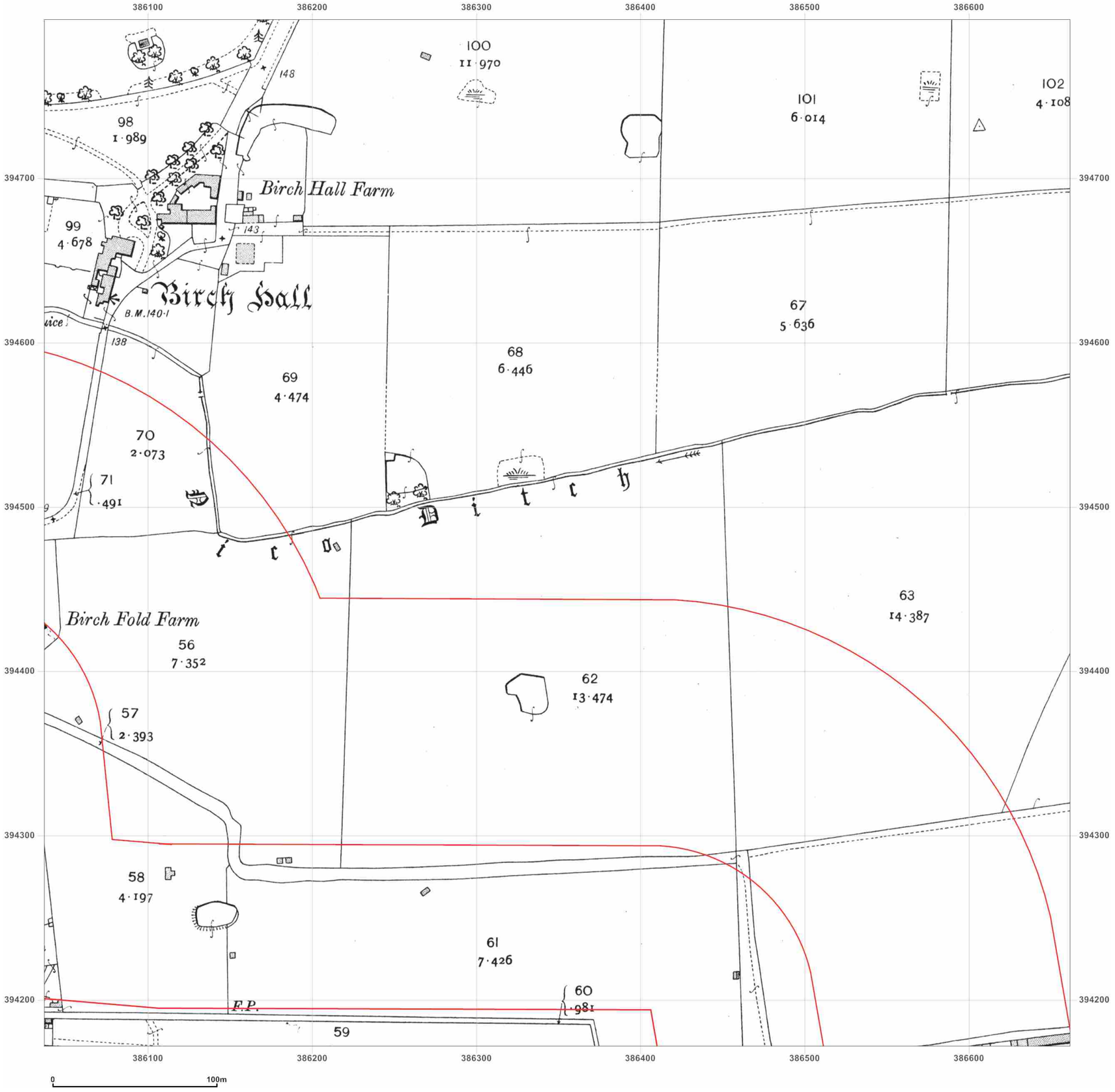
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Site Details:

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Client Ref: Project_Oak
Report Ref: GS-1936835_LS_B1
Grid Ref: 386349, 394484

Map Name: County Series

Map date: **1907**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1907
Revised 1907
Edition N/A
Copyright N/A
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ENVIRONMENTAL INSIGHT

Site Details:

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Client Ref: Project_Oak
Report Ref: GS-1936835_LS_B1
Grid Ref: 386349, 394484

Map Name: County Series

Map date: **1922**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1922
Revised 1922
Edition N/A
Copyright N/A
Levelled N/A

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Site Details:

Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD

Client Ref: Project_Oak
Report Ref: GS-1936835_LS_B1
Grid Ref: 386349, 394484

Map Name: County Series

Map date: **1934**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1934
Revised 1934
Edition N/A
Copyright N/A
Levelled N/A

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ENVIRONMENTAL INSIGHT

Site Details:

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Client Ref: Project_Oak
Report Ref: GS-1936835_LS_B1
Grid Ref: 386349, 394484

Map Name: National Grid

Map date: **1956**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1956
Revised 1956
Edition 1957
Copyright N/A
Levelled 1949

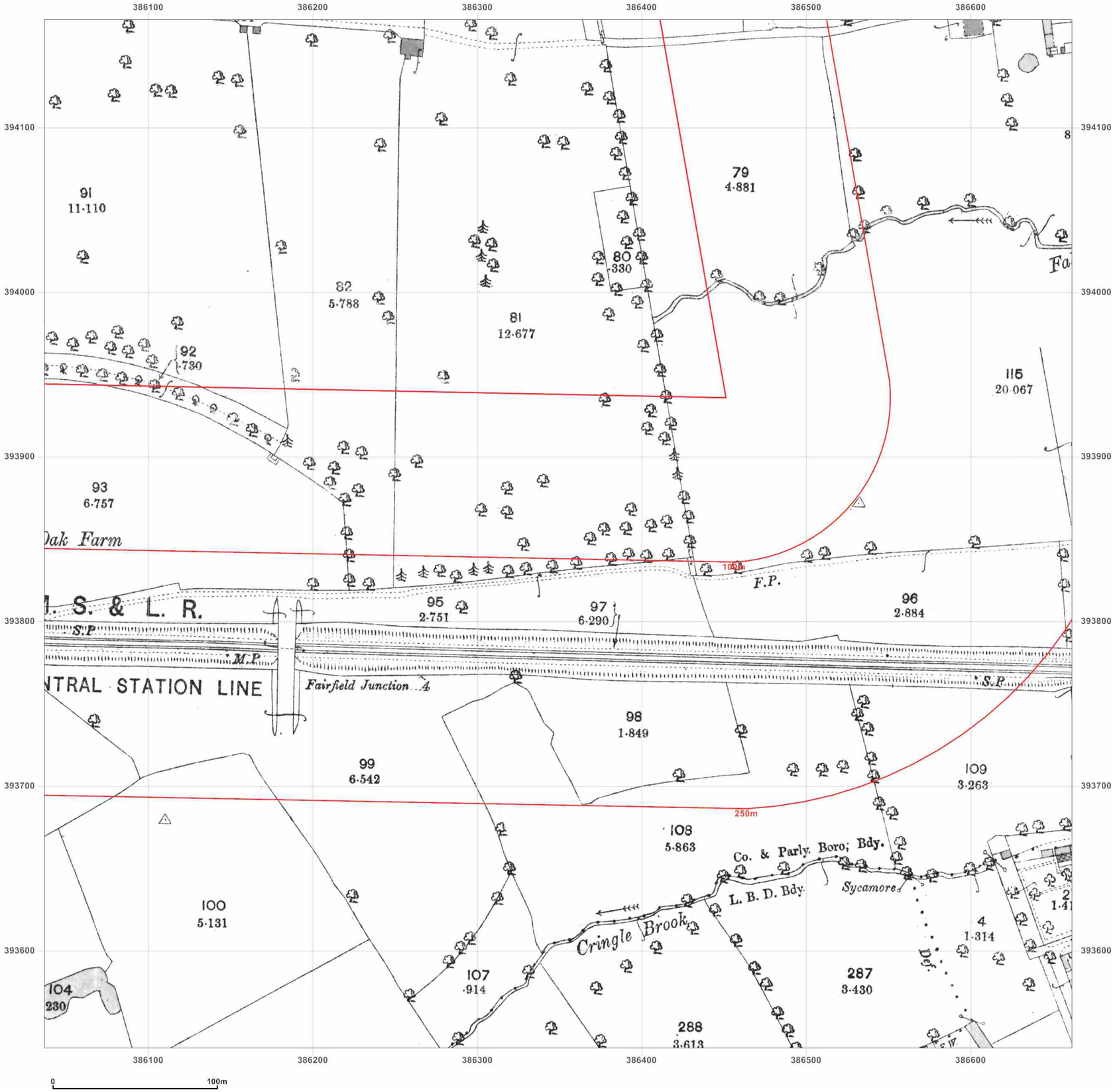
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Production date: 03 March 2015

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ENVIRONMENTAL INSIGHT

Site Details:

Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD

Client Ref: Project_Oak
Report Ref: GS-1936835_LS_B2
Grid Ref: 386349, 393853

Map Name: County Series

Map date: **1893**

Scale: 1:2,500

Printed at: 1:2,500

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

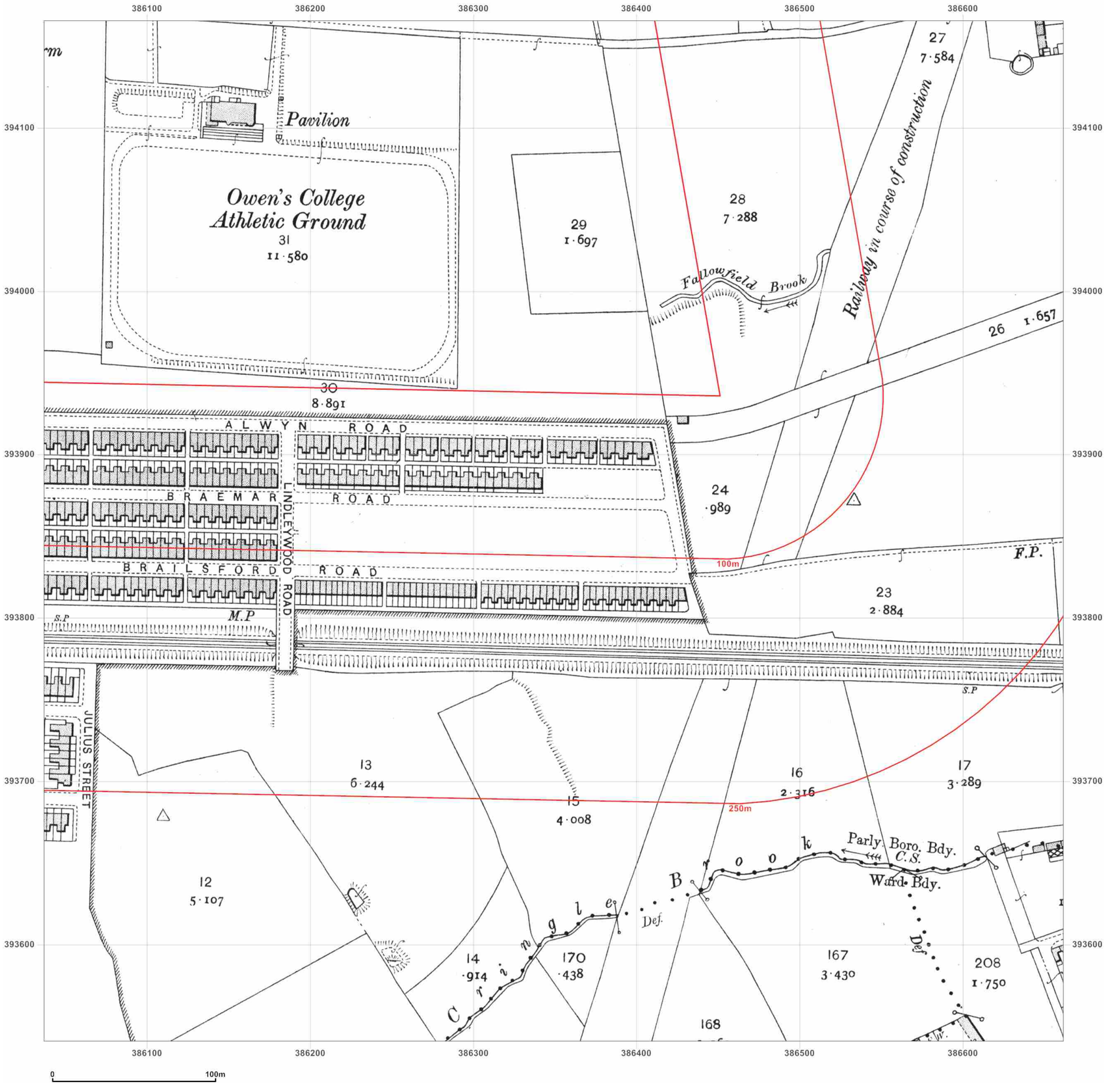
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Site Details:

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Client Ref: Project_Oak
Report Ref: GS-1936835_LS_B2
Grid Ref: 386349, 393853

Map Name: County Series

Map date: **1907**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1907
Revised 1907
Edition N/A
Copyright N/A
Levelled N/A

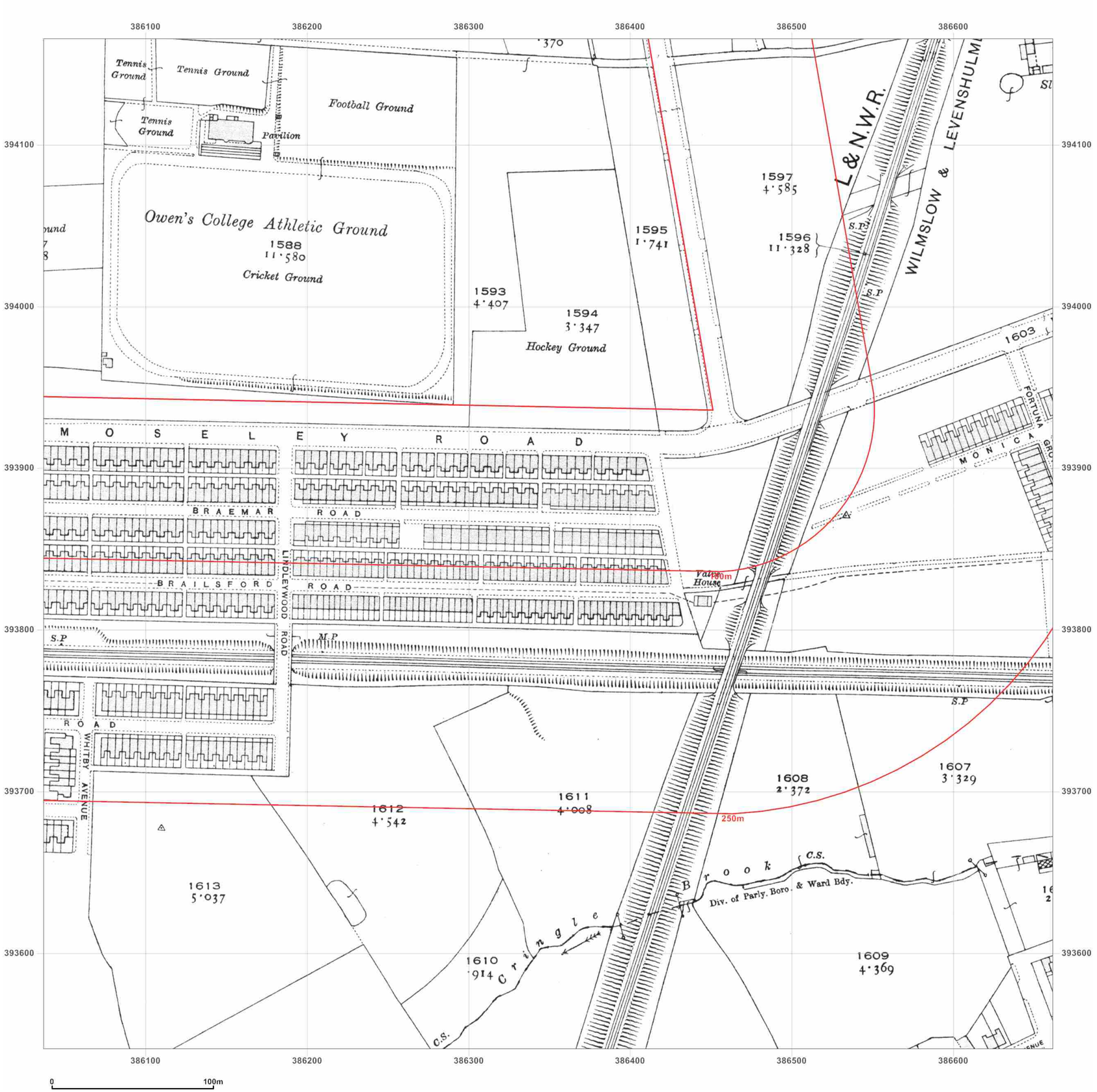
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Site Details:

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Client Ref: Project_Oak
Report Ref: GS-1936835_LS_B2
Grid Ref: 386349, 393853

Map Name: County Series

Map date: **1922**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1922
Revised 1922
Edition N/A
Copyright N/A
Levelled N/A

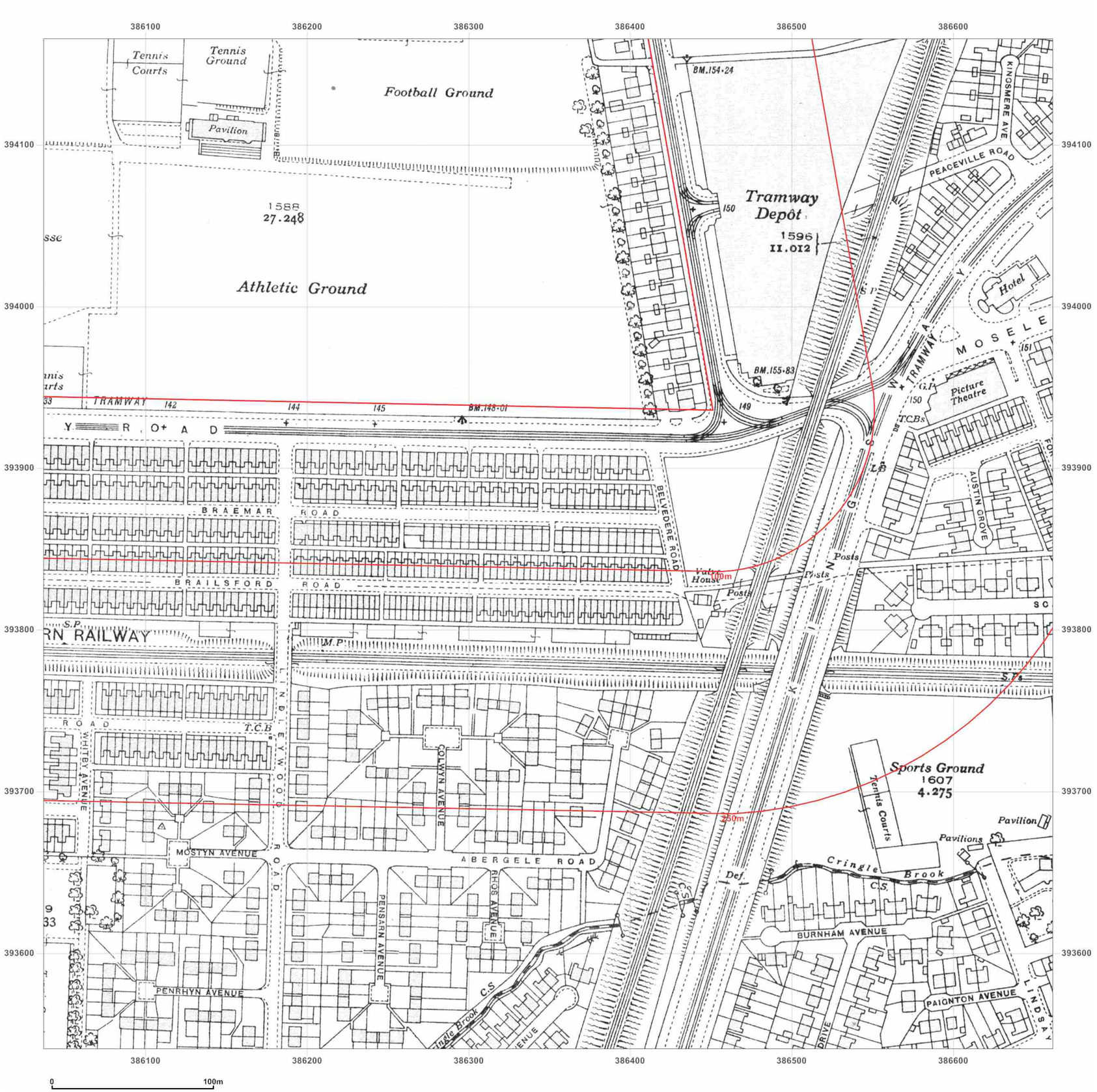
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Site Details:

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Client Ref: Project_Oak
Report Ref: GS-1936835_LS_B2
Grid Ref: 386349, 393853

Map Name: County Series

Map date: **1934**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1934
Revised 1934
Edition N/A
Copyright N/A
Levelled N/A

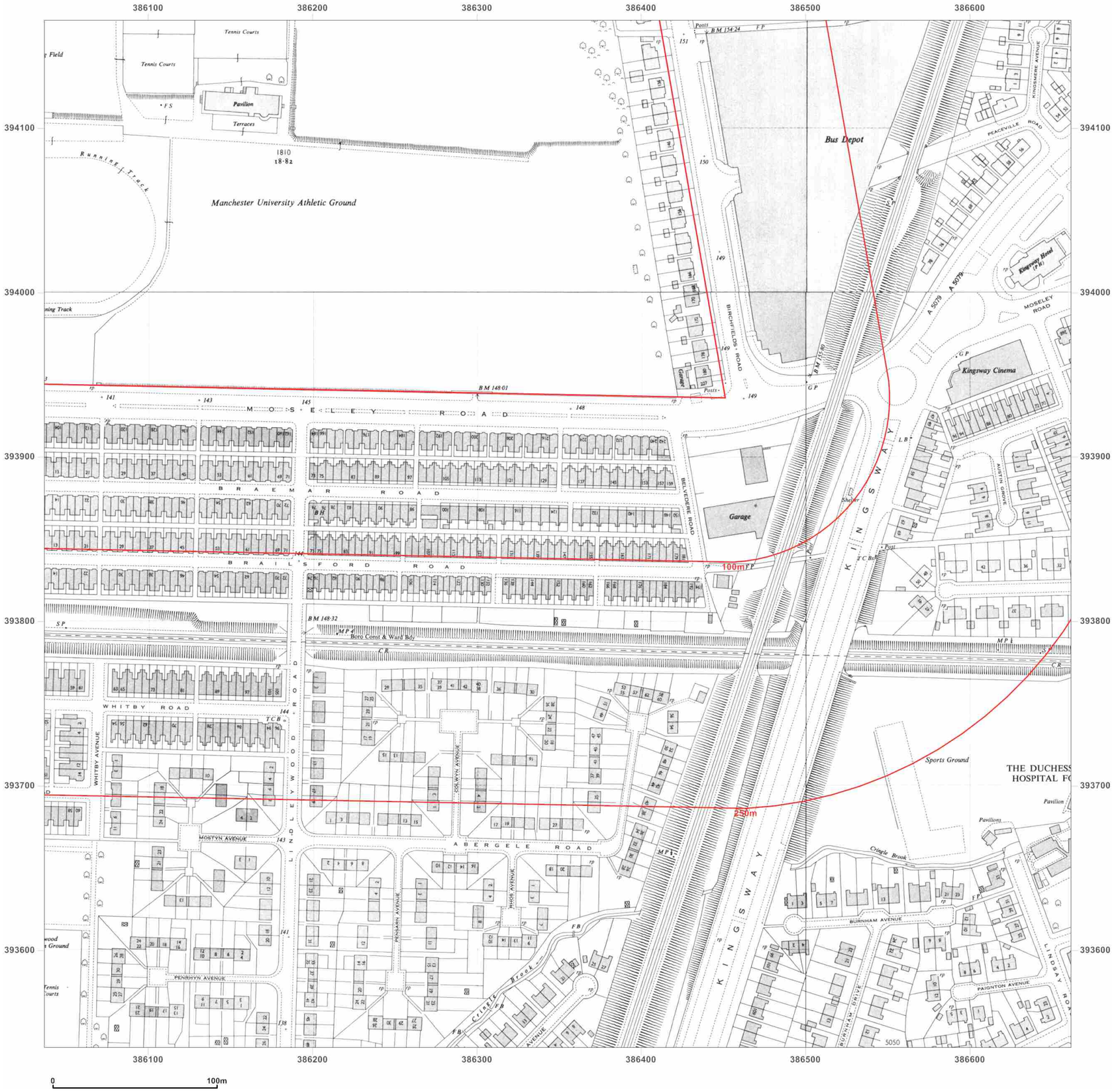
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Client Ref: Project_Oak
Report Ref: GS-1936835_LS_B2
Grid Ref: 386349, 393853

Map Name: National Grid

Map date: **1956**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1956
Revised 1956
Edition 1957
Copyright N/A
Levelled 1949

Surveyed 1956
Revised 1956
Edition 1958
Copyright N/A
Levelled 1949

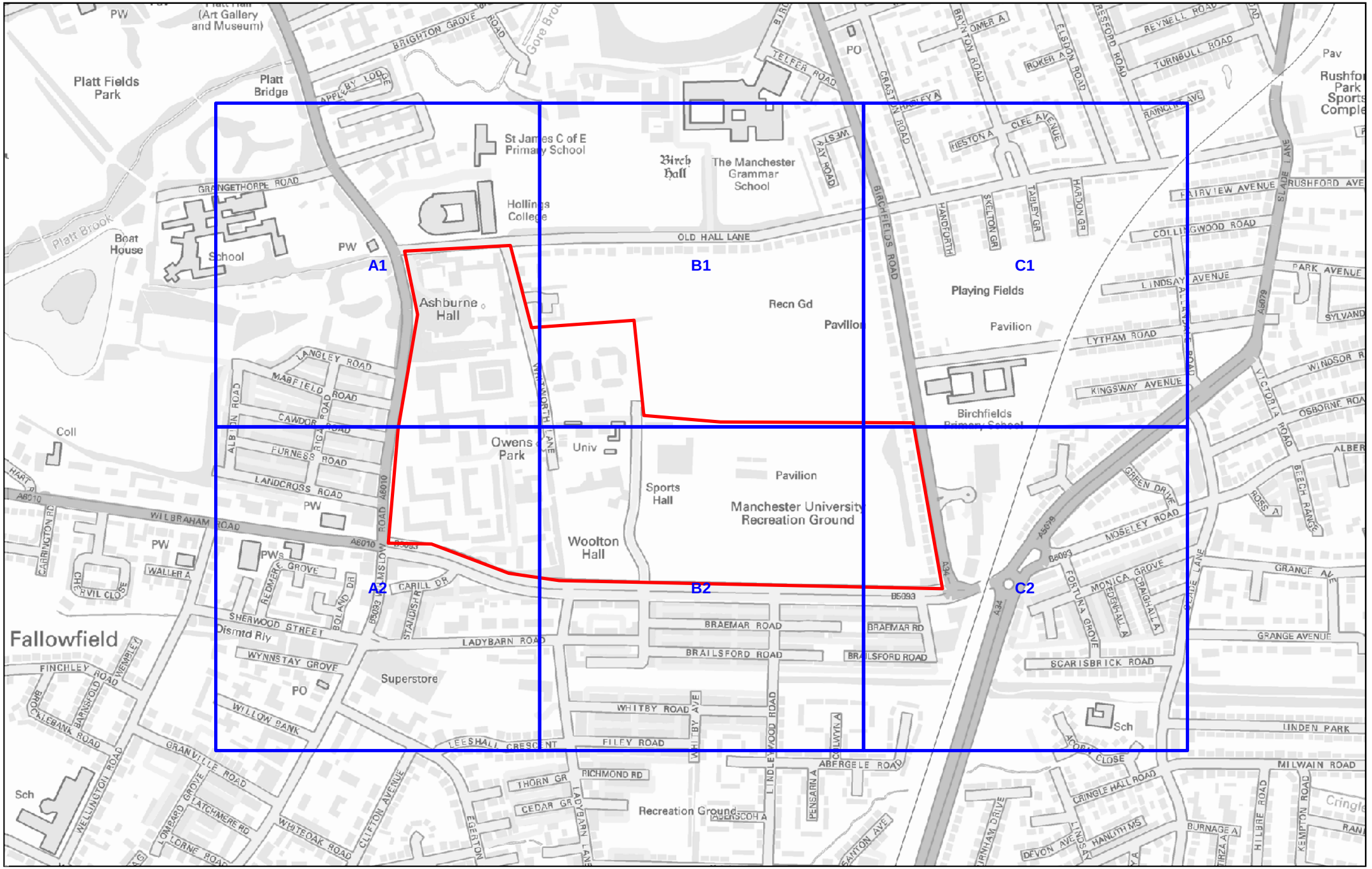
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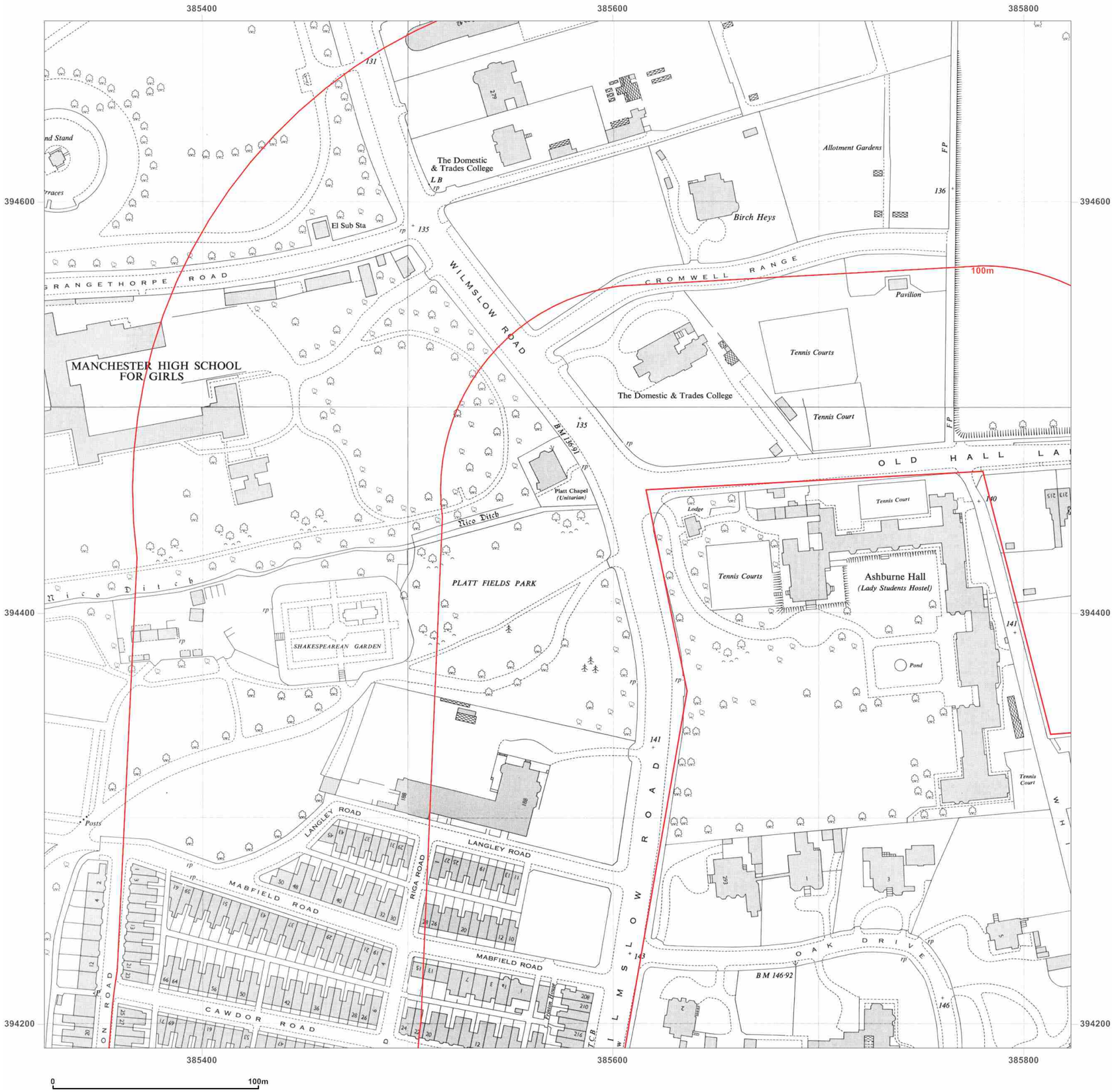
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A1
B1
C1
A2
B2
C2
Platt Fields Park
Platt Bridge
Platt Hall (Art Gallery and Museum)
St James C of E Primary School
Birch Hall
The Manchester Grammar School
Hollings College
Boat House
School
Ashburne Hall
Recn Gd
Pavilion
Playing Fields
Birchfields Primary School
Owens Park
Univ
Sports Hall
Manchester University Recreation Ground
Woolton Hall
Fallowfield
Superstore
Recreation Ground
Sch
PO
PW
Coll
GRANGETHORPE ROAD
OLD HALL LANE
BRIGHTON GROVE ROAD
TELFER ROAD
BIRCHFIELDS ROAD
WILBRAHAM ROAD
A6010
LANGLEY ROAD
MABFIELD ROAD
CAWDOR ROAD
FURNESS ROAD
LANDCROSS ROAD
WALLER AV
SHERWOOD STREET
WYNNSTAY GROVE
WILLOW BANK
LADYBARN ROAD
BRAEMAR ROAD
BRAEMAR RD
BRAILSFORD ROAD
CARILL DR
WHITBY ROAD
FILEY ROAD
LEESHALL CRESCENT
RICHMOND RD
THORN GR
CEDAR GR
ABERGELE ROAD
LINDLEYWOOD ROAD
SCARISBRICK ROAD
GRANVILLE ROAD
WHITEOAK ROAD
CLIFTON AVENUE
FINCHLEY ROAD
WELLINGTON ROAD
LYTHAM ROAD
KINGSWAY AVENUE
COLLINGWOOD ROAD
PARK AVENUE
LINDSAY AVENUE
FAIRVIEW AVENUE
RUSHFORD AVE
SLADE LANE
MOSELEY ROAD
GREEN DRIVE
GRANGE AVENUE
LINDEN PARK
CRINGLE HALL ROAD
MILWAIN ROAD
OSBORNE ROAD
WINDSOR R
ALBER
A34
A5079
B5093



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ENVIRONMENTAL INSIGHT

Site Details:

Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD

Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_A1
Grid Ref: 385573, 394438

Map Name: National Grid

Map date: **1956**

Scale: 1:1,250

Printed at: 1:2,000

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

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

Surveyed 1956
Revised 1956
Edition N/A
Copyright N/A
Levelled 1948

Surveyed 1956
Revised 1956
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Site Details:

Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD

Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_A1
Grid Ref: 385573, 394438

Map Name: National Grid

Map date: **1967**

Scale: 1:1,250

Printed at: 1:2,000

N
W E
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Surveyed 1956
Revised 1966
Edition N/A
Copyright 1967
Levelled 1958

Surveyed 1966
Revised 1966
Edition N/A
Copyright 1967
Levelled 1958

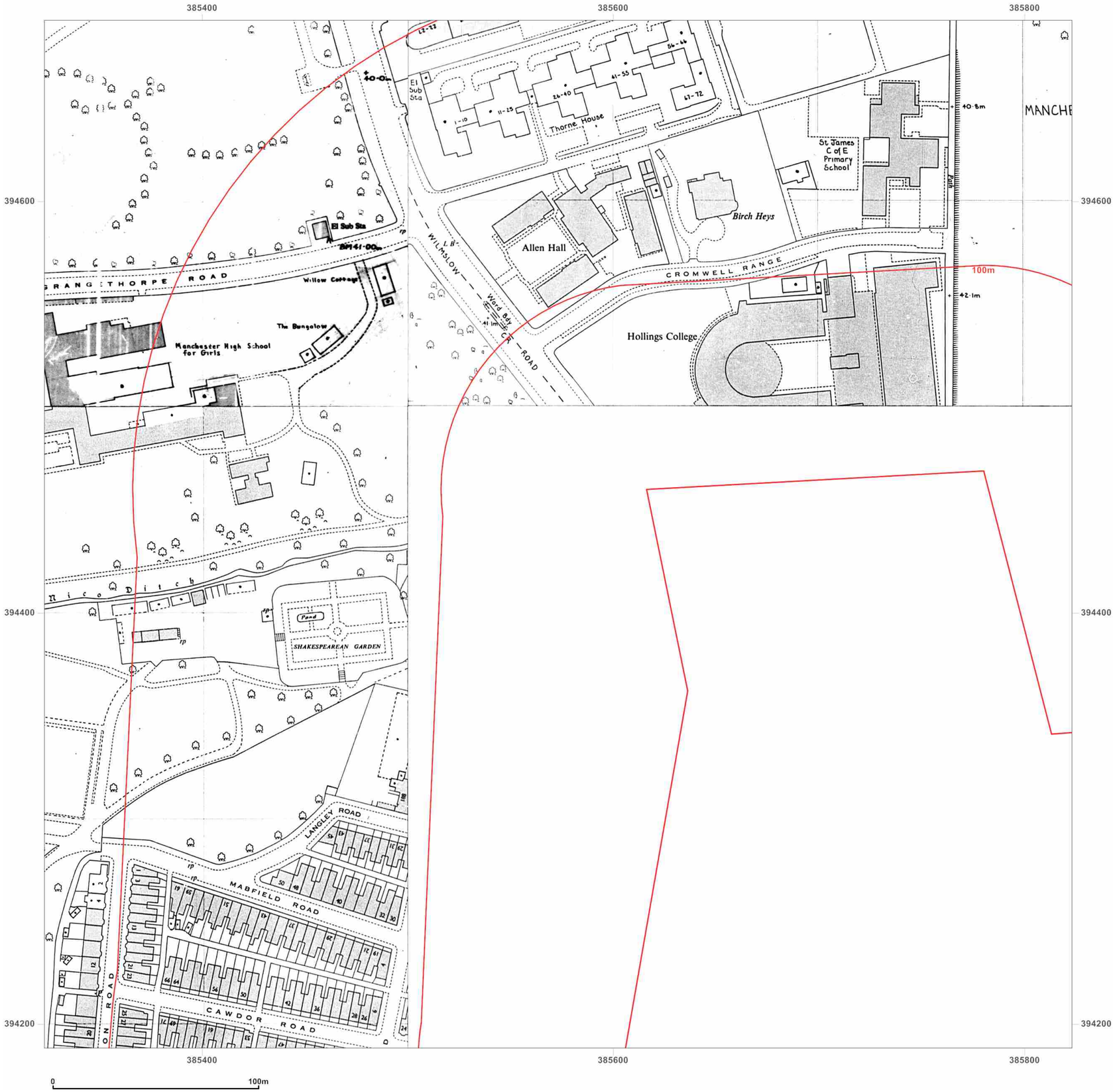
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Site Details:

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Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_A1
Grid Ref: 385573, 394438

Map Name: National Grid

Map date: **1980-1984**

Scale: 1:1,250

Printed at: 1:2,000

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

Surveyed 1958
Revised 1984
Edition N/A
Copyright 1984
Levelled 1958

Surveyed 1958
Revised 1980
Edition N/A
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Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_A1
Grid Ref: 385573, 394438

Map Name: National Grid

Map date: **1983-1988**

Scale: 1:1,250

Printed at: 1:2,000

N
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Revised N/A
Edition N/A
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Levelled 1958

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Revised 1988
Edition N/A
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Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_A1
Grid Ref: 385573, 394438

Map Name: National Grid

Map date: **1992**

Scale: 1:1,250

Printed at: 1:2,000

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Revised N/A
Edition N/A
Copyright 1992
Levelled N/A

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Revised N/A
Edition N/A
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Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_A1
Grid Ref: 385573, 394438

Map Name: National Grid

Map date: **1992-1994**

Scale: 1:1,250

Printed at: 1:2,000

N
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Surveyed 1992
Revised 1992
Edition NA
Copyright NA
Levelled NA

Surveyed 1992
Revised 1992
Edition NA
Copyright NA
Levelled NA

Surveyed 1992
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Edition NA
Copyright NA
Levelled NA

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Revised N/A
Edition N/A
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Site Details:

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Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_A1
Grid Ref: 385573, 394438

Map Name: National Grid

Map date: **1995**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed N/A
Revised N/A
Edition N/A
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Site Details:

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Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_A2
Grid Ref: 385573, 393935

Map Name: National Grid

Map date: **1956-1957**

Scale: 1:1,250

Printed at: 1:2,000

N
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Surveyed 1956
Revised 1956
Edition N/A
Copyright N/A
Levelled 1948

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

Surveyed 1957
Revised 1957
Edition N/A
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Revised 1957
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Site Details:

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Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_A2
Grid Ref: 385573, 393935

Map Name: National Grid

Map date: **1967-1971**

Scale: 1:1,250

Printed at: 1:2,000

N
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Edition N/A
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Site Details:

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Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_A2
Grid Ref: 385573, 393935

Map Name: National Grid

Map date: **1978-1981**

Scale: 1:1,250

Printed at: 1:2,000

N
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Surveyed 1958
Revised 1980
Edition N/A
Copyright 1980
Levelled 1958

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1978
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Surveyed N/A
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Site Details:

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Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_A2
Grid Ref: 385573, 393935

Map Name: National Grid

Map date: **1984-1988**

Scale: 1:1,250

Printed at: 1:2,000

N
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Copyright 1988
Levelled 1958

Surveyed 1958
Revised 1984
Edition N/A
Copyright 1984
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Revised 1988
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Site Details:

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Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_A2
Grid Ref: 385573, 393935

Map Name: National Grid

Map date: **1992**

Scale: 1:1,250

Printed at: 1:2,000

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

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Revised N/A
Edition N/A
Copyright 1992
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Revised N/A
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Site Details:

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Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_A2
Grid Ref: 385573, 393935

Map Name: National Grid

Map date: **1992-1995**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed 1992 Revised 1992 Edition NA Copyright NA Levelled NA	Surveyed N/A Revised N/A Edition N/A Copyright 1994 Levelled N/A
Surveyed N/A Revised N/A Edition N/A Copyright 1995 Levelled N/A	Surveyed N/A Revised N/A Edition N/A Copyright 1994 Levelled N/A

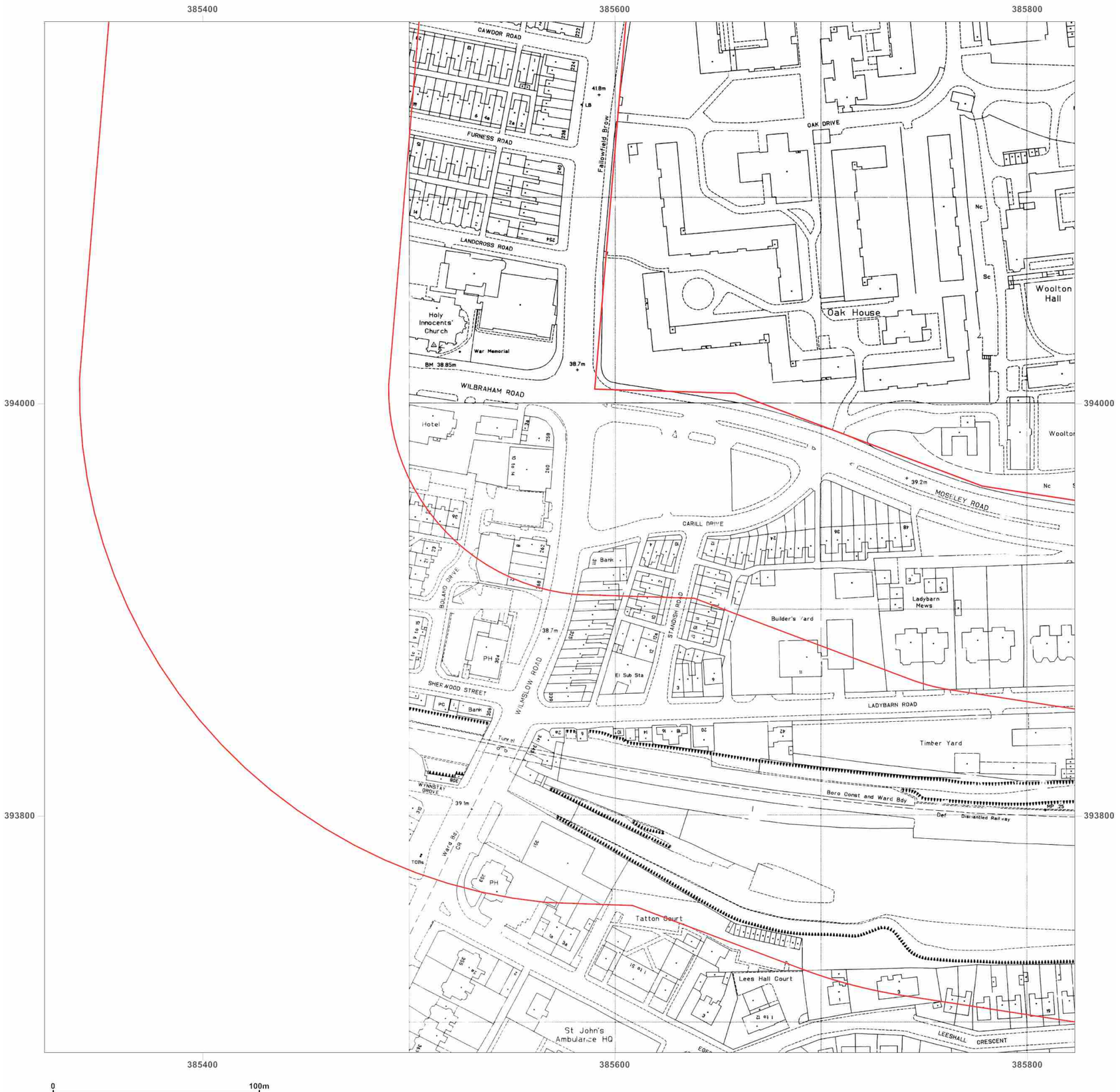
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Site Details:

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Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_A2
Grid Ref: 385573, 393935

Map Name: National Grid

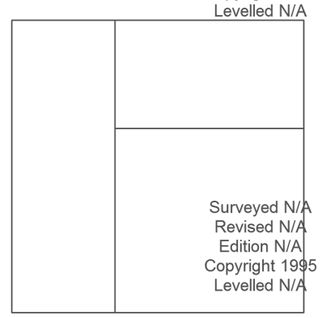
Map date: **1995**

Scale: 1:1,250

Printed at: 1:2,000

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Edition N/A
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Site Details:

Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD

Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_B1
Grid Ref: 386076, 394438

Map Name: National Grid

Map date: **1956**

Scale: 1:1,250

Printed at: 1:2,000

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

Surveyed 1956
Revised 1956
Edition N/A
Copyright N/A
Levelled 1948

Surveyed 1956
Revised 1956
Edition N/A
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Site Details:

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Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_B1
Grid Ref: 386076, 394438

Map Name: National Grid

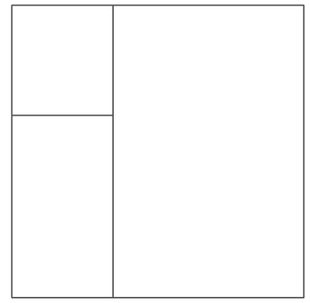
Map date: **1967**

Scale: 1:1,250

Printed at: 1:2,000

N
W E
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GroundSure
ENVIRONMENTAL INSIGHT

Site Details:

Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD

Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_B1
Grid Ref: 386076, 394438

Map Name: National Grid

Map date: **1984-1988**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed 1958
Revised 1984
Edition N/A
Copyright 1984
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Revised 1984
Edition N/A
Copyright 1984
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ENVIRONMENTAL INSIGHT

Site Details:

Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD

Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_B1
Grid Ref: 386076, 394438

Map Name: National Grid

Map date: **1992**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed N/A
Revised N/A
Edition N/A
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ENVIRONMENTAL INSIGHT

Site Details:

Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD

Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_B1
Grid Ref: 386076, 394438

Map Name: National Grid

Map date: **1992-1995**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed 1992
Revised 1992
Edition NA
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Surveyed 1992
Revised 1992
Edition NA
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Surveyed N/A
Revised N/A
Edition N/A
Copyright 1994
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1995
Levelled N/A

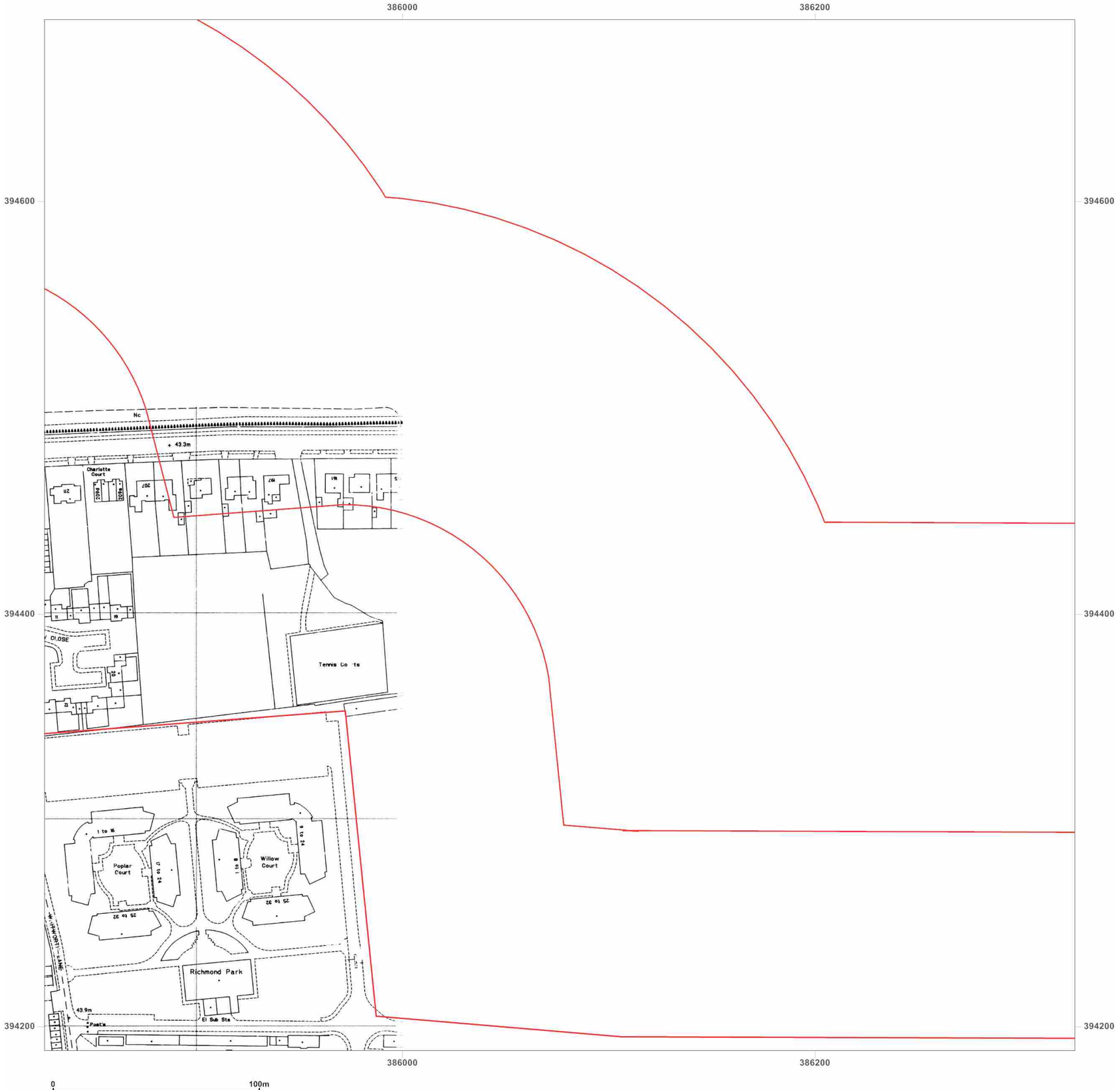
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Site Details:

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Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_B1
Grid Ref: 386076, 394438

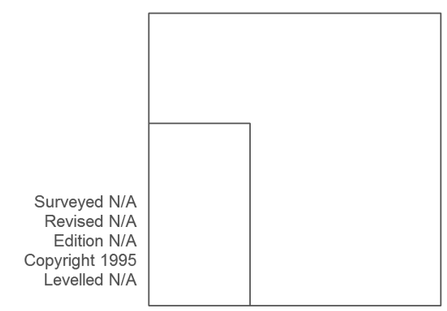
Map Name: National Grid

Map date: **1995**

Scale: 1:1,250

Printed at: 1:2,000

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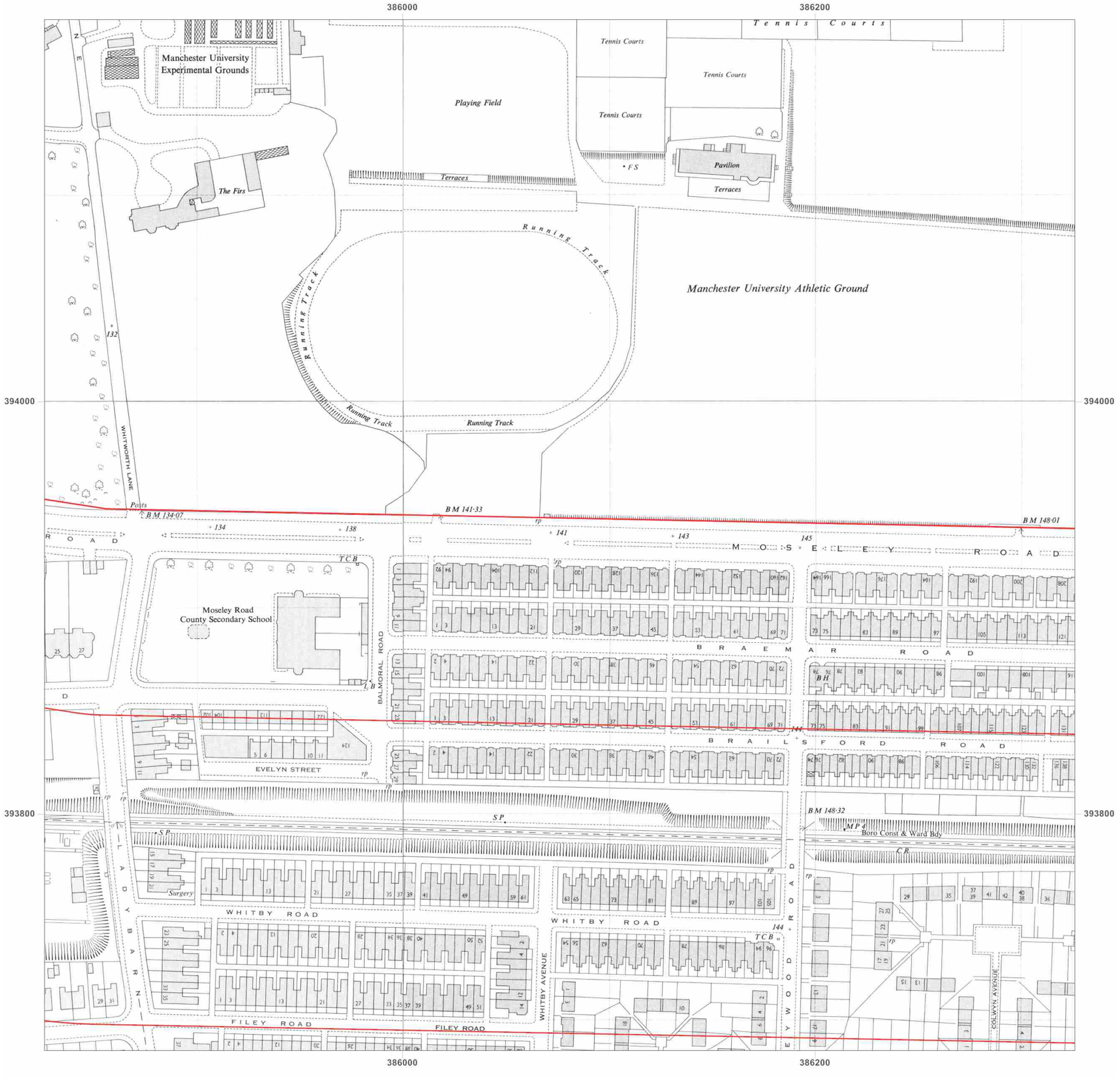
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Site Details:

Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD

Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_B2
Grid Ref: 386076, 393935

Map Name: National Grid

Map date: **1956-1957**

Scale: 1:1,250

Printed at: 1:2,000

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Edition N/A
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Revised 1956
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Copyright N/A
Levelled 1949

Surveyed 1957
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Site Details:

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Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_B2
Grid Ref: 386076, 393935

Map Name: National Grid

Map date: **1967-1971**

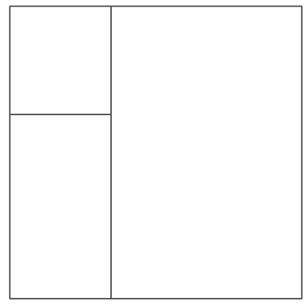
Scale: 1:1,250

Printed at: 1:2,000

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Surveyed 1957
Revised 1970
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Copyright 1971
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Site Details:

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Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_B2
Grid Ref: 386076, 393935

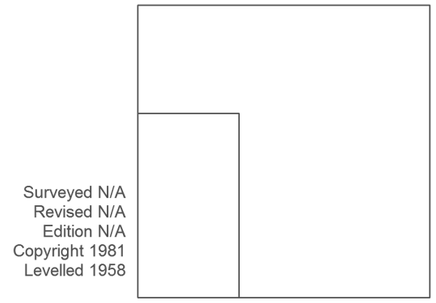
Map Name: National Grid

Map date: **1981**

Scale: 1:1,250

Printed at: 1:2,000

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Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_B2
Grid Ref: 386076, 393935

Map Name: National Grid

Map date: **1988**

Scale: 1:1,250

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Site Details:

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Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_B2
Grid Ref: 386076, 393935

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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Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_B2
Grid Ref: 386076, 393935

Map Name: National Grid

Map date: **1992-1995**

Scale: 1:1,250

Printed at: 1:2,000

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Site Details:

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Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_B2
Grid Ref: 386076, 393935

Map Name: National Grid

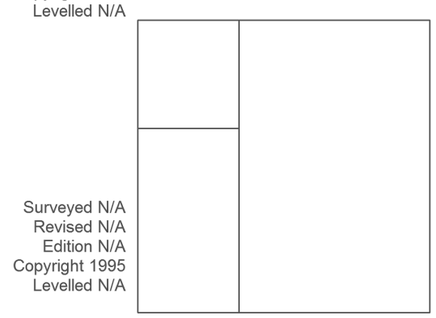
Map date: **1995**

Scale: 1:1,250

Printed at: 1:2,000

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ENVIRONMENTAL INSIGHT

Site Details:

Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD

Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_C1
Grid Ref: 386579, 394438

Map Name: National Grid

Map date: **1956**

Scale: 1:1,250

Printed at: 1:2,000

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Site Details:

Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD

Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_C1
Grid Ref: 386579, 394438

Map Name: National Grid

Map date: **1984-1988**

Scale: 1:1,250

Printed at: 1:2,000

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Site Details:

Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD

Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_C1
Grid Ref: 386579, 394438

Map Name: National Grid

Map date: **1992**

Scale: 1:1,250

Printed at: 1:2,000

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Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_C1
Grid Ref: 386579, 394438

Map Name: National Grid

Map date: **1992-1995**

Scale: 1:1,250

Printed at: 1:2,000

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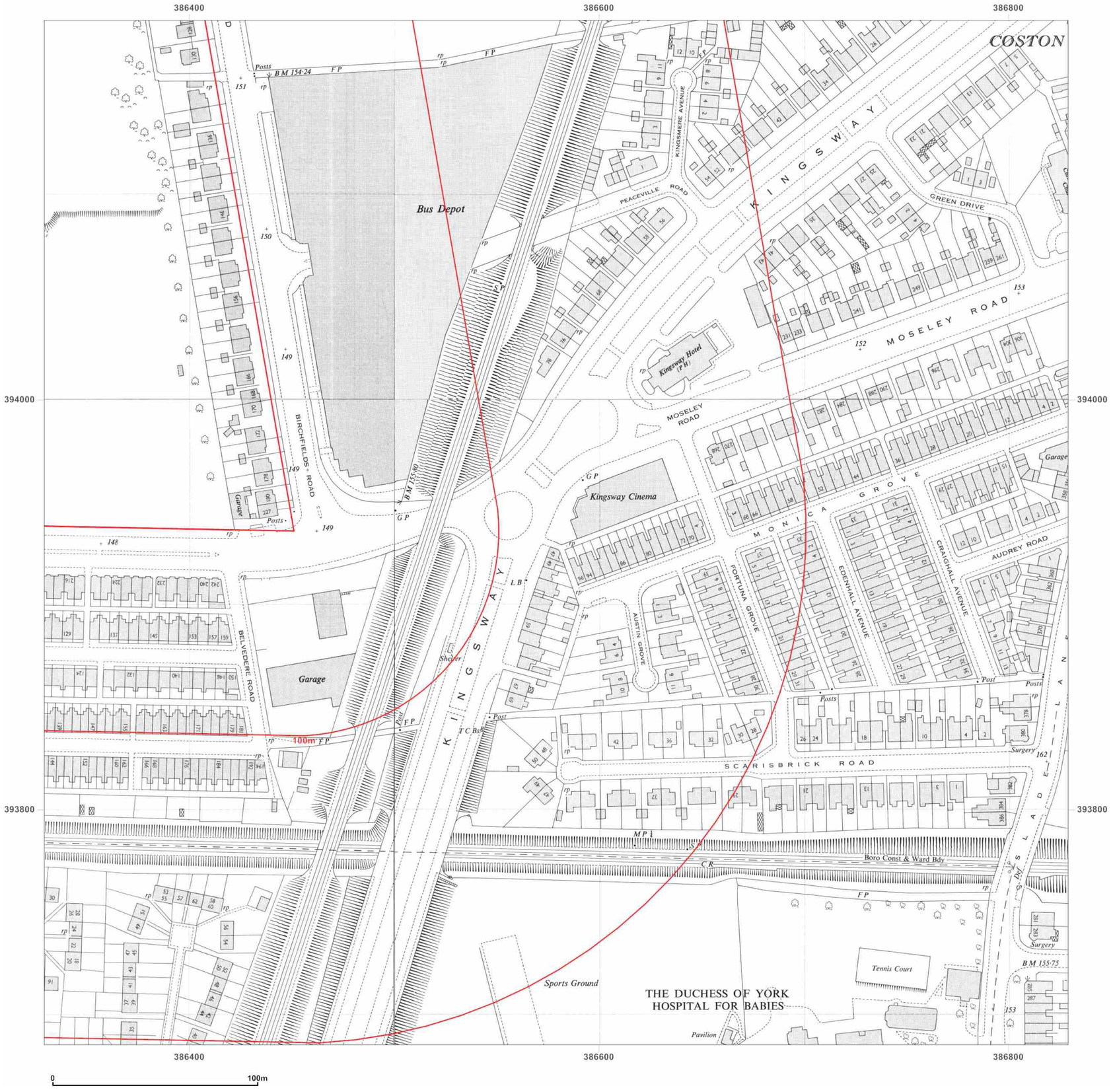
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Site Details:

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Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_C2
Grid Ref: 386579, 393935

Map Name: National Grid

Map date: **1956-1957**

Scale: 1:1,250

Printed at: 1:2,000

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Edition N/A
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Levelled 1949

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Site Details:

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Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_C2
Grid Ref: 386579, 393935

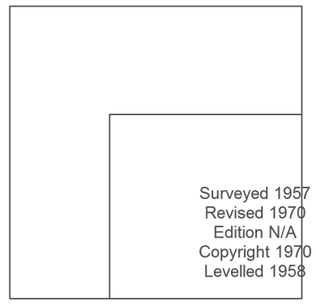
Map Name: National Grid

Map date: **1970**

Scale: 1:1,250

Printed at: 1:2,000

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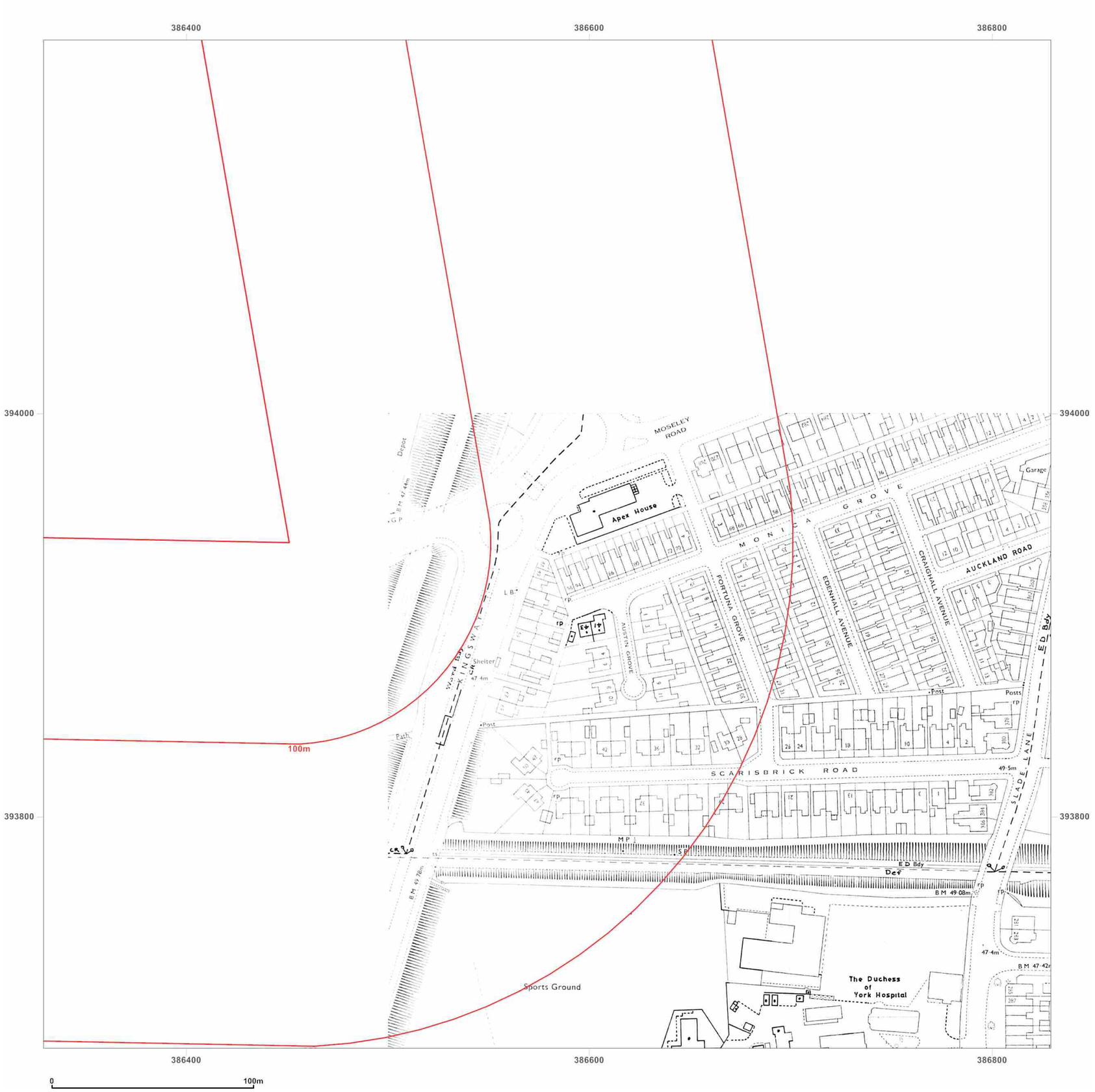
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Site Details:

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Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_C2
Grid Ref: 386579, 393935

Map Name: National Grid

Map date: **1984**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed N/A
Revised N/A
Edition N/A
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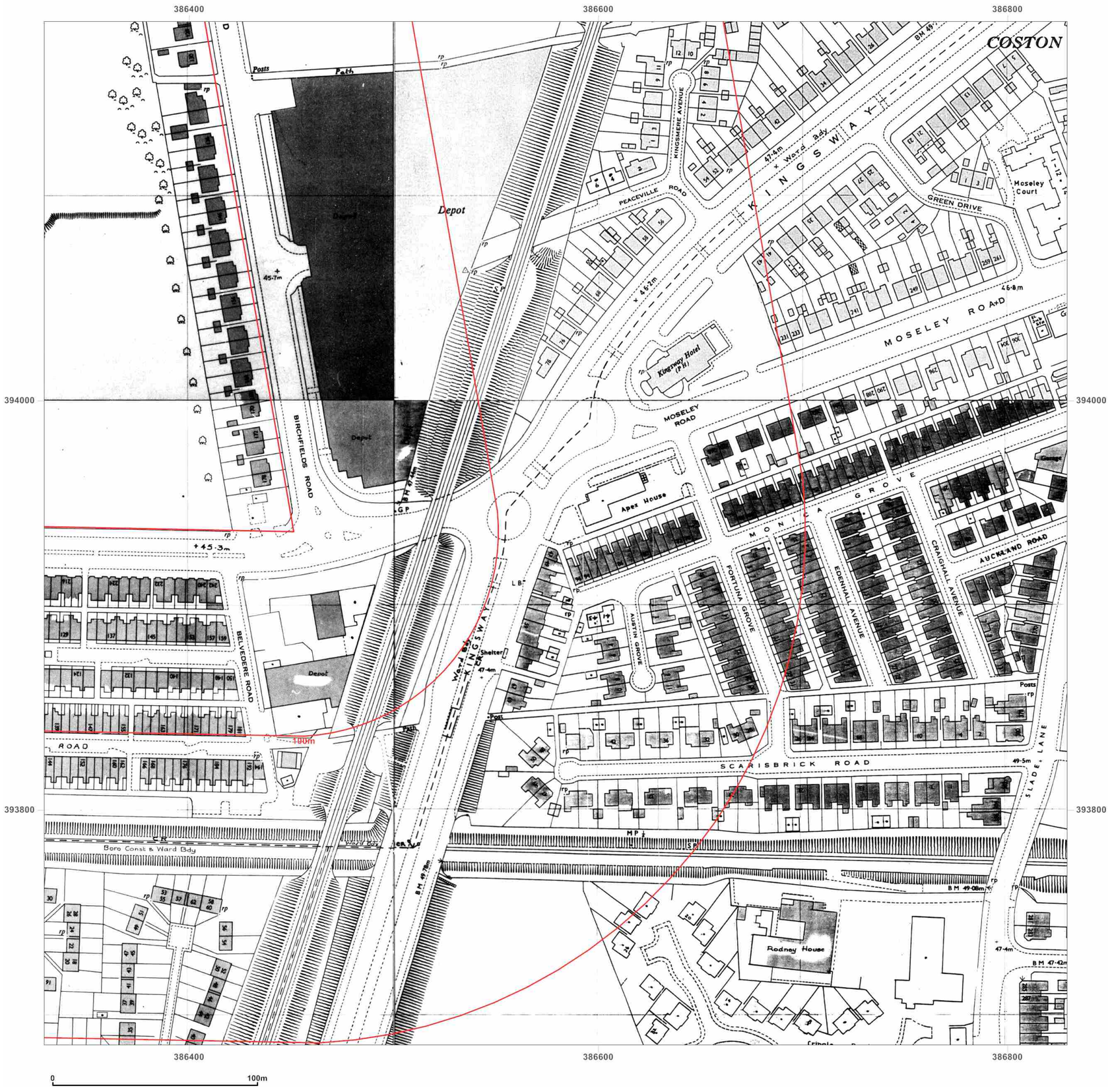
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Site Details:

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Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_C2
Grid Ref: 386579, 393935

Map Name: National Grid

Map date: **1984-1989**

Scale: 1:1,250

Printed at: 1:2,000

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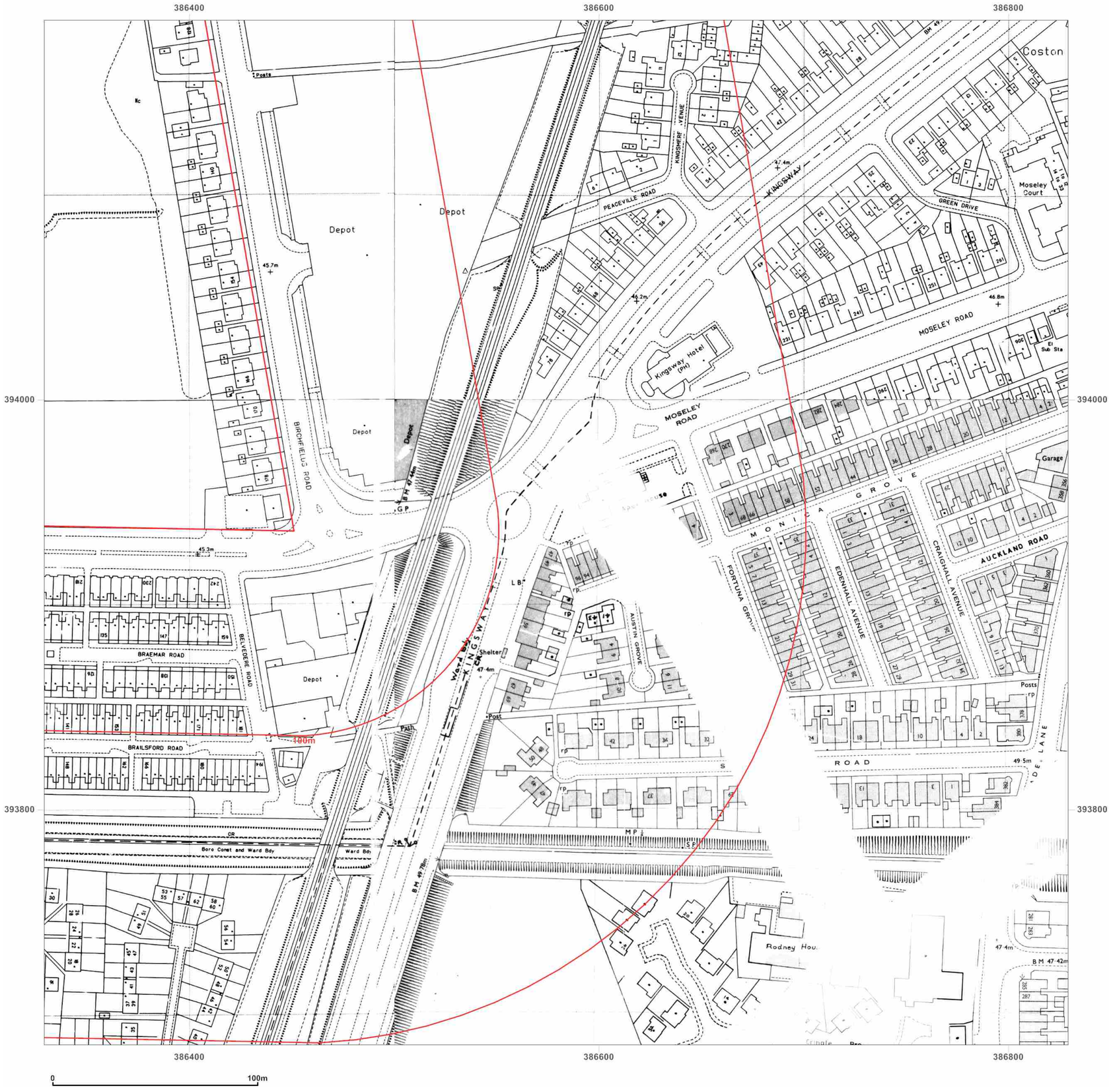
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ENVIRONMENTAL INSIGHT

Site Details:

Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD

Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_C2
Grid Ref: 386579, 393935

Map Name: National Grid

Map date: **1989-1992**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed N/A
Revised N/A
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Site Details:

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Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_C2
Grid Ref: 386579, 393935

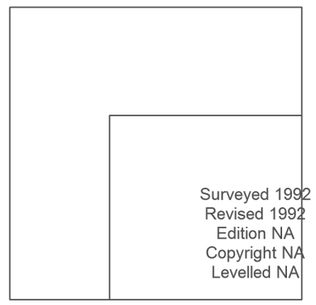
Map Name: National Grid

Map date: **1992**

Scale: 1:1,250

Printed at: 1:2,000

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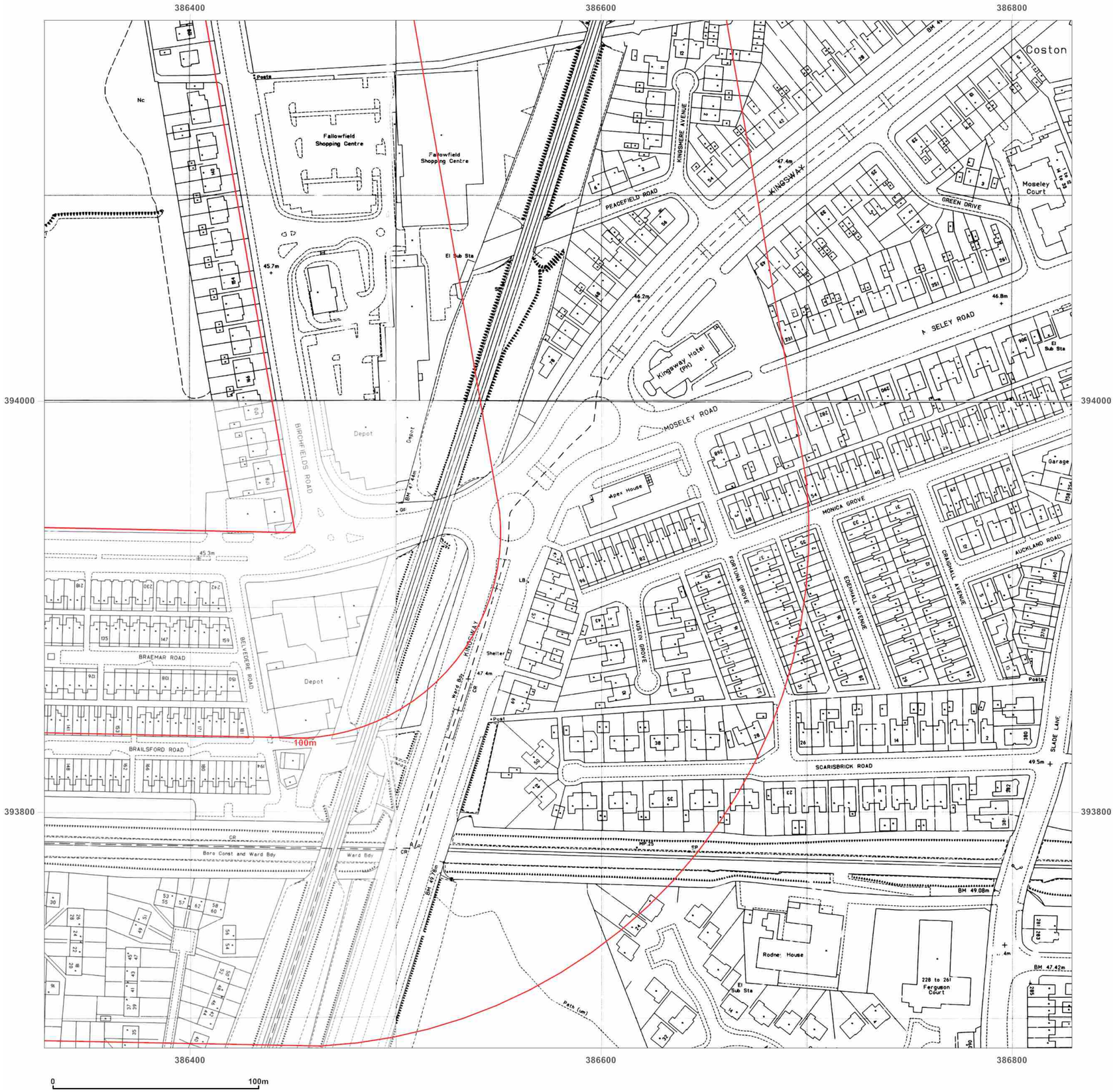
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Client Ref: Project_Oak
Report Ref: GS-1936835_1250scale_C2
Grid Ref: 386579, 393935

Map Name: National Grid

Map date: **1992-1995**

Scale: 1:1,250

Printed at: 1:2,000

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Produced by
GroundSure Environmental Insight
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

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Production date: 02 March 2015

To view map legend click here *Legend*

GroundSure HS2 and Crossrail



Address: Owens Park, 293, WILMSLOW ROAD, MANCHESTER, M14 6HD

Date: 2 Mar 2015

GroundSure Reference: GS-1936832

Your Reference: Project_Oak

Grid Reference: 385796,394171

HS2: The property is located approximately 0m from the proposed High Speed 2 (HS2) Network railway line. Please see page 2 for further information.

Crossrail: The property is not located within 5km of the Crossrail Network







SearchCode™

COPSO EXECUTIVE MEMBER

HS2 Location Map (within 1km)



HS2 Location Map Legend

Enabled by Ordnance Survey

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Search Centre

500
1000
Search Buffers (m)

Track Type

Surface Running Track

Tunnel

Bridge/ Viaduct

Green Tunnel

Estimated Train Speed

<50mph

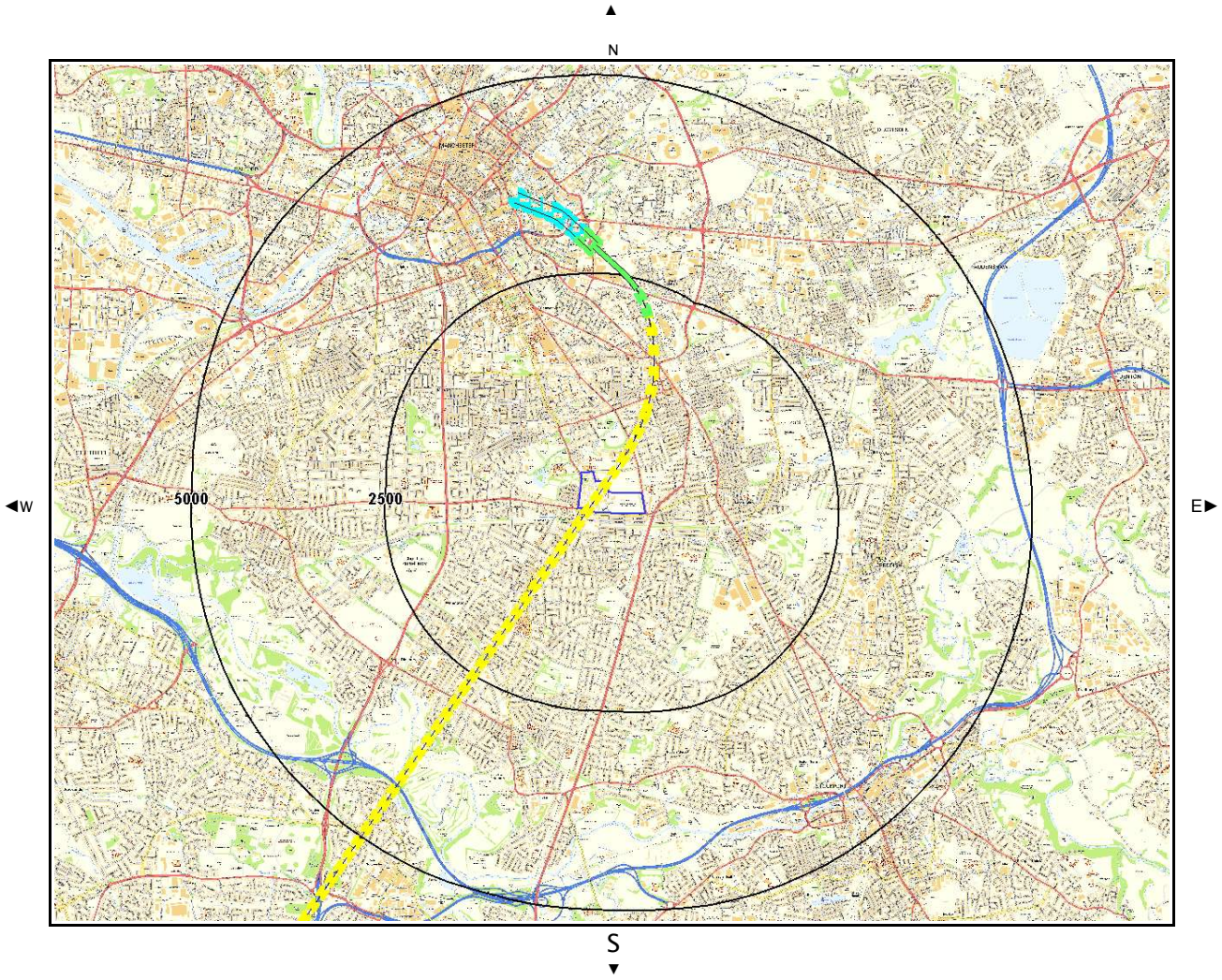
>50<100mph

>100<150 mph

>150<200 mph

>200<250 mph

HS2 Location Map (within 5km)



HS2 Location Map Legend

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Search Centre

2500
5000
Search Buffers (m)

Track Type

Surface Running Track

Tunnel

Bridge/ Viaduct

Green Tunnel

Estimated Train Speed

<50mph

>50<100mph

>100<150 mph

>150<200 mph

>200<250 mph

Detailed Data

Nearest centre point of track on HS2 Route.

Distance (m)	Direction	Track Type	Maximum Speed (mph)
0	On Site	Tunnel	143mph

Nearest centre point of overground track on HS2 Route.

Distance (m)	Direction	Track Type	Maximum Speed (mph)
2370	N	Surface Running Track	93mph

Route data published by High Speed Two Limited (HS2 Ltd). Further details of track types and maximum operating speeds for Phase 2 of the line can be found on the Government's HS2 website within the 'Route Section Plans'.

General Information

This report details the proposed location of the London to West Midlands phase of the network (Phase 1), and the 'initial preferred route' route for the West Midlands to Leeds/Manchester link (Phase 2). A final decision on the preferred route for Phase 2 is due by December 2014, and this route is subject to change following consultation.

The new trains will be up to 400m long and able to carry up to 1100 passengers. Up to 18 trains per hour will be able to use each line, and will be capable of reaching speeds up to 400 km per hour (approximately 248mph). However, the maximum operating speed is likely to be 360 km per hour (224mph).

Information for Householders:

Compensation Schemes for householders affected by the HS2 route were proposed within the Government consultation launched on 25th October 2012 and include the following:

Properties required for demolition - Sale and Rent Back

Allows owners of properties due for demolition to sell them to the Government but to remain in residence as tenants until the property is needed for construction.

Properties within up to 120m of the route - Advanced and Voluntary Purchase

Eligible property owners within either the Safeguarded Area or the Voluntary Purchase Zone will be able to ask the Government to buy their property at its unblighted open market value. Properties within the Safeguarded Area will receive additional compensation (typically 10% of the unblighted value of the property, plus fees associated with relocation, including legal fees). The Safeguarded Area is generally within 60m of the line of the route, though may be more in some areas.

The Voluntary Purchase Zone is generally set at 120m from the line of the route. However, the Zone does not apply in urban areas, anywhere within the M25, or when the HS2 route is within deep bored tunnels.

Properties in as yet undefined proximity to the line - 'Part 1' Compensation

After the railway has been open for one year, property owners in and around the line of the route can seek compensation for the physical impacts of the railway on their property e.g. Increased noise, vibration or light pollution.

Properties in as yet undefined proximity to the line – Long Term Hardship Scheme

Allows those outside the Voluntary Purchase Zone who have a strong personal reason to sell, but, because of HS2, cannot do so other than at a significant loss, to have their property purchased by the Government.

Properties above tunnels used for the route – Tunnel Guarantees

A series of measures, including before and after surveys and settlement deeds, that underlines the Government's commitment to protecting properties above and within 30m of tunnels. This involves pre-construction surveys of all properties potentially affected and the production of Settlement Deeds to provide clear legally binding assurances to property owners that HS2 Ltd will be responsible for resolving any issues caused by tunnelling. Freeholders will also receive payment for 'subsoil rights' for land used by these underground tunnels. This is likely to be around £50 to represent the perceived value of the subsoil, and £250 as a contribution towards any professional fees for any advice claimants may wish to seek.

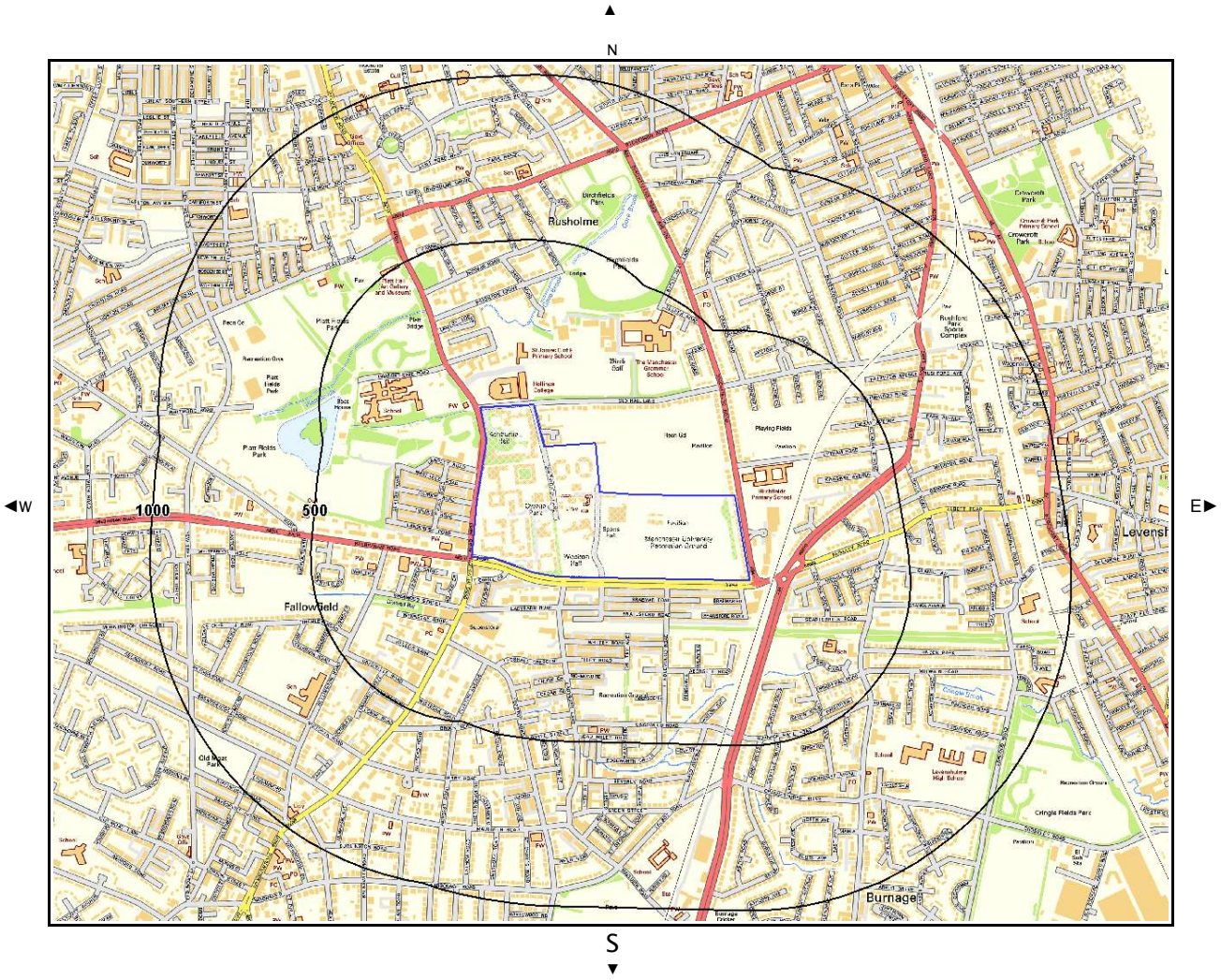
Further information on the compensation schemes can be found on the HS2 website.

Development Timescale

The table below gives an approximate timescale for developments within the HS2 project.

Autumn 2012	Engagement programme on Phase 2 preferred route, to discuss local views and concerns
Spring 2013	Consultation on draft Environmental Statement for Phase 1 including design refinements
End of 2013	Introduction of a hybrid bill to provide necessary powers to construct and operate Phase 1 of the railway
Early 2014	Consultation on preferred route for Phase 2
Late 2014	Government's announcement of the chosen route for Phase 2
2015	Target date for Royal Assent for the Hybrid Bill, containing legal powers to construct HS2
2017-2025	Phase 1 construction period (starts and ends at different times and at different points along the route)
2024-2026	Commissioning and testing
2026	Phase 1 line opens to passengers
2032-2033	Phase 2 line opens to passengers

Crossrail Location Map (within 1km)



Crossrail Location 1km map

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Site

500 Search

1000 Buffers (m)

CROSSRAIL

Proposed Tunnel

Complete Tunnel

Surface Alignment

Work Site

Tunnel Boring Machine

Crossrail Station

Crossrail Detailed Data

Nearest Crossrail Construction Site

This property is not within 5km of the proposed Crossrail route.

Nearest Crossrail Worksite (within 1km)

Database searched and no data found.

Nearest Crossrail Stations (within 5km)

Database searched and no data found.

Crossrail Information

Crossrail is Europe's largest infrastructure project, comprising of over 100km of new railway stretching from Reading and Heathrow in the west, across Shenfield and Abbey Wood in the east. The project will include 21km of new twin-bore rail tunnels and ten new stations. Up to 24 trains per hour will operate in the central section between Paddington and Whitechapel during peak periods, carrying up to 1,500 passengers per train. It will bring an additional 1.5 million people within 45 minutes commuting distance within London's key business districts. Around 200 million passengers will travel on Crossrail each year and the route will provide a 10% increase to rail capacity in London once open in 2018.

Information for Householders:

Crossrail Information Paper D12 - Ground Settlement - explains the arrangements for assessing, monitoring and mitigating the effects of ground settlement arising from Crossrail construction on individual buildings ("the settlement policy").

The Information Paper includes information on the Crossrail Settlement Deed, including the Deed itself and the qualifying criteria. This is available as a download on the Crossrail website.

WHERE DOES THE CROSSRAIL SETTLEMENT POLICY APPLY?

The Crossrail Settlement Policy applies to all buildings that may be affected by Crossrail tunnelling. But the policy does not apply to new buildings which:

- were granted planning permission after 1 March 2008; or
- are not substantially complete ten months before Crossrail plan to start work that will affect the buildings.

WHO CAN HAVE A SETTLEMENT DEED?

If the settlement policy applies to a property that you own, you can also ask us for a Settlement Deed. This is a formal legal undertaking but you don't have to enter into a deed to benefit from the settlement policy.

You can have a Settlement Deed if:

- your building is 30 metres or less from Crossrail tunnels or other excavations;
- you let Crossrail know you want a deed at least ten months before they start work that may cause settlement beneath your building; and
- you sign and return a copy of the deed to Crossrail within 21 days.

The procedure for entering into a settlement deed, which also contains a copy of the application form, is available for download from the Crossrail website, or by application to the Crossrail Helpdesk at: helpdesk@crossrail.co.uk. Please read the Information Paper, qualifying criteria and procedure carefully before making any application. It is not necessary to enter into the deed to benefit from the settlement policy. If you would like any further assistance regarding this report then please contact GroundSure on (T) 08444 159 000, email: info@groundsure.com

The route data has been digitised from publicly available maps by GroundSure.

The route and distances shown have been digitised from Consolidated Plans in the public domain, published November 2007. This route does not represent the final as-built alignment as tunnelling on the route is still in progress. There is potential for some minor deviation due to geotechnical, engineering or other adverse conditions which would in turn affect the final track alignment.

Contacts

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

Ordnance Survey
Adanac Drive, Southampton
SO16 0AS
Tel: 08456 050505

HS2 Ltd

Email:HS2enquiries@hs2.org.uk
HS2 Limited
2nd Floor, Eland House, Bressenden Place,
London, SW1E 5DU
General enquiries: 020 7944 4908

Crossrail Helpdesk

Crossrail Limited
25 Canada Square
Canary Wharf
London E14 5LQ
Tel: 0345 602 3813 (24 hours, 7 days a week)
Email: helpdesk@crossrail.co.uk.

CoPSO
The Old Rectory, Church Lane, Thornby, Northants
NN6 8SN

Tel: 0871 4237191
(www.copso.org.uk)

This report is produced by GroundSure Ltd, whose correspondence address is GroundSure Ltd, Sovereign House, Church Street, Brighton, BN1 1UJ (Tel: 08444 159 000, Fax: 01273 763569, Email: info@groundsure.com). GroundSure's registered address is GroundSure Ltd, c/o Top Right Group Limited, The Prow, 1 Wilder Walk, London W1B 5AP. United Kingdom. Registration Number: 3421028. VAT Number 486 4004 42.

Limitations of this report

Please note that this report is based upon third party data, which is subject to change without notice. This report only details the proposed route of the HS2 line from London to Birmingham, and the preferred proposed route from Birmingham to Leeds and Manchester, and does not include other infrastructure associated with route, e.g. Construction sites, roads and road realignments, bridges etc. This report does not confirm if the value of any property will be impacted by the proposed route. The report is point based and should not be used for large estates e.g. farms. It does not imply that properties more than 5km from the route may not be affected by noise, dust or other factors associated with construction and / or an operational railway. This report does not constitute an endorsement or criticism of the proposed rail link and is presented for information purposes only.

Acknowledgements

This report has been prepared in accordance with the GroundSure Ltd standard Terms and Conditions of business for work of this nature.

Search Code

IMPORTANT CONSUMER PROTECTION INFORMATION

This search has been produced by GroundSure Ltd, Sovereign House, Church Street, Brighton, BN1 1UJ. Tel: 08444 159 000. Email: info@4C.groundsure.com `which is registered with the Property Codes Compliance Board (PCCB) as a subscriber to the Search Code. The PCCB independently monitors how registered search firms maintain compliance with the Code.
The Search Code:

·provides protection for homebuyers, sellers, estate agents, conveyancers and mortgage lenders who rely on the information included in property search reports undertaken by subscribers on residential and commercial property within the United Kingdom

·sets out minimum standards which firms compiling and selling search reports have to meet

·promotes the best practice and quality standards within the industry for the benefit of consumers and property professionals

·enables consumers and property professionals to have confidence in firms which subscribe to the code, their products and services.

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

The Code's core principles

Firms which subscribe to the Search Code will:

·display the Search Code logo prominently on their search reports

·act with integrity and carry out work with due skill, care and diligence

·at all times maintain adequate and appropriate insurance to protect consumers

·conduct business in an honest, fair and professional manner

·handle complaints speedily and fairly

·ensure that products and services comply with industry registration rules and standards and relevant laws

·monitor their compliance with the Code

COMPLAINTS

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

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

TPOs Contact Details:

The Property Ombudsman scheme
Milford House
43-55 Milford Street
Salisbury
Wiltshire SP1 2BP
Tel: 01722 333306
Fax: 01722 332296
Email: admin@tpos.co.uk
You can get more information about the PCCB from www.propertycodes.org.uk.

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

COMPLAINTS PROCEDURE

If you want to make a complaint, we will:

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

Complaints should be sent to: Operations Director, GroundSure Ltd, Sovereign House, Church Street, Brighton, BN1 1UJ. Tel: 08444 159 000. Email: info@4C.groundsure.com `
If you are not satisfied with our final response, or if we exceed the response timescales, you may refer the complaint to The Property Ombudsman scheme (TPOs): Tel: 01722 333306, E-mail: admin@tpos.co.uk.
We will co-operate fully with the Ombudsman during an investigation and comply with his final decision.

Standard Terms and Conditions

1 Definitions

In these terms and conditions unless the context otherwise requires:

"Beneficiary" means the person or entity for whose benefit the Client has obtained the Services.

"Client" means the party or parties entering into a Contract with GroundSure.

"Commercial" means any building or property which is not Residential.

"Confidential Information" means the contents of this Contract and all information received from the Client as a result of, or in connection with, this Contract other than

(i) information which the Client can prove was rightfully in its possession prior to disclosure by GroundSure and

(ii) any information which is in the public domain (other than by virtue of a breach of this Contract).

"Support Services" means Support Services provided by GroundSure including, without limitation, interpreting third party and in-house environmental data, providing environmental support advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.

"Contract" means the contract between GroundSure and the Client for the provision of the Services, and which shall incorporate these terms and conditions, the Order, and the relevant User Guide.

"Third Party Data Provider" means any third party providing Third Party Content to GroundSure.

"Data Reports" means reports comprising factual data with no accompanying interpretation.

"Fees" has the meaning set out in clause 5.1.

"GroundSure" means GroundSure Limited, a company registered in England and Wales under number 03421028.

"GroundSure Materials" means all materials prepared by GroundSure and provided as part of the Services, including but not limited to Third Party Content, Data Reports, Mapping, and Risk Screening Reports.

"Intellectual Property" means any patent, copyright, design rights, trade or service mark, moral rights, data protection rights, know-how or trade mark in each case whether registered or not and including applications for the same or any other rights of a similar nature anywhere in the world.

"Mapping" means a map, map data or a combination of historical maps of various ages, time periods and scales.

"Order" means an electronic, written or other order form submitted by the Client requesting Services from GroundSure in respect of a specified Site.

"Ordnance Survey" means the Secretary of State for Business, Innovation and Skills, acting through Ordnance Survey, Adanac Drive, Southampton, SO16 0AS, UK.

"Order Website" means the online platform through which Orders may be placed by the Client and accepted by GroundSure.

"Report" means a Risk Screening Report or Data Report for Commercial or Residential property.

"Residential" means any building or property used as or intended to be used as a single dwelling.

"Risk Screening Report" means a risk screening report comprising factual data with an accompanying interpretation by GroundSure.

"Services" means any Report, Mapping and/or Support Services which GroundSure has agreed to provide by accepting an Order pursuant to clause 2.6.

"Site" means the area of land in respect of which the Client has requested GroundSure to provide the Services.

"Third Party Content" means data, database information or other information which is provided to GroundSure by a Third Party Data Provider.

"User Guide" means the user guide, as amended from time to time, available upon request from GroundSure and on the website (www.groundsure.com) and forming part of this Contract.

2 Scope of Services, terms and conditions, requests for insurance and quotations

2.1 GroundSure agrees to provide the Services in accordance with the Contract.

2.2 GroundSure shall exercise reasonable skill and care in the provision of the Services.

2.3 Subject to clause 7.3 the Client acknowledges that it has not relied on any statement or representation made by or on behalf of GroundSure which is not set out and expressly agreed in writing in the Contract and all such statements and representations are hereby excluded to the fullest extent permitted by law.

2.4 The Client acknowledges that terms and conditions appearing on a Client's order form, printed stationery or other communication, or any terms or conditions implied by custom, practice or course of dealing shall be of no effect, and that this Contract shall prevail over all others in relation to the Order.

2.5 If the Client or Beneficiary requests insurance in conjunction with or as a result of the Services, GroundSure shall use reasonable endeavours to recommend such insurance, but makes no warranty that such insurance shall be available from insurers or that it will be offered on reasonable terms. Any insurance purchased by the Client or Beneficiary shall be subject solely to the terms of the policy issued by insurers and GroundSure will have no liability therefor. In addition you acknowledge and agree that GroundSure does not act as an agent or broker for any insurance providers. The Client should take (and ensure that the Beneficiary takes) independent advice to ensure that the insurance policy requested or offered is suitable for its requirements.

2.6 GroundSure's quotations or proposals are valid for a period of 30 days only unless an alternative period of time is explicitly stipulated by Groundsure. GroundSure reserves the right to withdraw any quotation or proposal at any time before an Order is accepted by GroundSure. GroundSure's acceptance of an Order shall be binding only when made in writing and signed by GroundSure's authorised representative or when accepted through the Order Website.

3 The Client's obligations

3.1The Client shall comply with the terms of this Contract and

(i) procure that the Beneficiary or any third party relying on the Services complies with and acts as if it is bound by the Contract and

(ii) be liable to GroundSure for the acts and omissions of the Beneficiary or any third party relying on the Services as if such acts and omissions were those of the Client.

3.2 The Client shall be solely responsible for ensuring that the Services are appropriate and suitable for its and/or the Beneficiary's needs.

3.3 The Client shall supply to GroundSure as soon as practicable and without charge all requisite information (and the Client warrants that such information is accurate, complete and appropriate), including without limitation any environmental information relating to the Site and shall give such assistance as GroundSure shall reasonably require in the provision of the Services including, without limitation, access to the Site, facilities and equipment.

3.4 Where the Client's approval or decision is required to enable GroundSure to carry out work in order to provide the Services, such approval or decision shall be given or procured in reasonable time and so as not to delay or disrupt the performance of the Services.

3.5 Save as expressly permitted by this Contract the Client shall not, and shall procure that the Beneficiary shall not, re-sell, alter, add to, or amend the GroundSure Materials, or use the GroundSure Materials in a manner for which they were not intended. The Client may make the GroundSure Materials available to a third party who is considering acquiring some or all of, or providing funding in relation to, the Site, but such third party cannot rely on the same unless expressly permitted under clause 4.

3.6 The Client is responsible for maintaining the confidentiality of its user name and password if using the Order Website and the Client acknowledges that GroundSure accepts no liability of any kind for any loss or damage suffered by the Client as a consequence of using the Order Website.

4 Reliance

4.1The Client acknowledges that the Services provided by GroundSure consist of the presentation and analysis of Third Party Content and other content and that information obtained from a Third Party Data Provider cannot be guaranteed or warranted by GroundSure to be reliable.

4.2 In respect of Data Reports, Mapping and Risk Screening Reports, the following classes of person and no other are entitled to rely on their contents;

(i) the Beneficiary,

(ii) the Beneficiary's professional advisers, (iii) any person providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate),

(iv) the first purchaser or first tenant of the Site, and

(v) the professional advisers and lenders of the first purchaser or tenant of the Site.

4.3 In respect of Support Services, only the Client, Beneficiary and parties expressly named in a Report and no other parties are entitled to rely on its contents.

4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise expressly agreed in writing, no other person or entity of any kind is entitled to rely on any Services or Report issued or provided by GroundSure. Any party considering such Reports and Services does so at their own risk.

5 Fees and Disbursements

5.1GroundSure shall charge and the Client shall pay fees at the rate and frequency specified in the written proposal, Order Website or Order acknowledgement form, plus (in the case of Support Services) all proper disbursements incurred by GroundSure. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services (together "Fees").

5.2 The Client shall pay all outstanding Fees to GroundSure in full without deduction, counterclaim or set off within 30 days of the date of GroundSure's invoice or such other period as may be agreed in writing between GroundSure and the Client ("Payment Date"). Interest on late payments will accrue on a daily basis from the Payment Date until the date of payment (whether before or after judgment) at the rate of 8% per annum.

5.3 The Client shall be deemed to have agreed the amount of any invoice unless an objection is made in writing within 28 days of the date of the invoice. As soon as reasonably practicable after being notified of an objection, without prejudice to clause 5.2 a member of GroundSure's management team will contact the Client and the parties shall then use all reasonable endeavours to resolve the dispute within 15 days.

6 Intellectual Property and Confidentiality

6.1 Subject to

(i) full payment of all relevant Fees and

(ii) compliance with this Contract, the Client is granted (and is permitted to sub-licence to the Beneficiary) a royalty-free, worldwide, non-assignable and (save to the extent set out in this Contract) non-transferable licence to make use of the GroundSure Materials.

6.2 All Intellectual Property in the GroundSure Materials are and shall remain owned by GroundSure or GroundSure's licensors (including without limitation the Third Party Data Providers) the Client acknowledges, and shall procure acknowledgement by the Beneficiary of, such ownership. Nothing in this Contract purports to transfer or assign any rights to the Client or the Beneficiary in respect of such Intellectual Property.

6.3 Third Party Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.

6.4 The Client shall, and shall procure that any recipients of the GroundSure Materials shall:

(i) not remove, suppress or modify any trade mark, copyright or other proprietary marking belonging to GroundSure or any third party from the Services;

(ii) use the information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;

(iii) not create any product or report which is derived directly or indirectly from the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);

(iv) not combine the Services with or incorporate such Services into any other information data or service;

(v) not reformat or otherwise change (whether by modification, addition or enhancement), the Services (save that those acting for the Beneficiary in a professional capacity shall not be in breach of this clause 6.4(v) where such reformatting is in the normal course of providing advice based upon the Services);

(vi) where a Report and/or Mapping contains material belonging to Ordnance Survey, acknowledge and agree that such content is protected by Crown Copyright and shall not use such content for any purpose outside of receiving the Services; and

(vii) not copy in whole or in part by any means any map prints or run-on copies containing content belonging to Ordnance Survey (other than that contained within Ordnance Survey's OS Street Map) without first being in possession of a valid Paper Map Copying Licence from Ordnance Survey,

6.5 Notwithstanding clause 6.4, the Client may make reasonable use of the GroundSure Materials in order to advise the Beneficiary in a professional capacity. However, GroundSure shall have no liability in respect of any advice, opinion or report given or provided to Beneficiaries by the Client.

6.6 The Client shall procure that any person to whom the Services are made available shall notify GroundSure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

7.Liability: Particular Attention Should Be Paid To This Clause

7.1 This Clause 7 sets out the entire liability of GroundSure, including any liability for the acts or omissions of its employees, agents, consultants, subcontractors and Third Party Content, in respect of:

(i) any breach of contract, including any deliberate breach of the Contract by GroundSure or its employees, agents or subcontractors;

(ii) any use made of the Reports, Services, Materials or any part of them; and

(iii) any representation, statement or tortious act or omission (including negligence) arising under or in connection with the Contract.

7.2 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from the Contract.

7.3 Nothing in the Contract limits or excludes the liability of the Supplier for death or personal injury resulting from negligence, or for any damage or liability incurred by the Client or Beneficiary as a result of fraud or fraudulent misrepresentation.

7.4 GroundSure shall not be liable for

(i) loss of profits;

(ii) loss of business;

(iii) depletion of goodwill and/or similar losses;

(iv) loss of anticipated savings;

(v) loss of goods;

(vi) loss of contract;

(vii) loss of use;

(viii) loss or corruption of data or information;

(ix) business interruption;

(x) any kind of special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;

(xi) loss or damage that arise as a result of the use of all or part of the GroundSure Materials in breach of the Contract;

(xii) loss or damage arising as a result of any error, omission or inaccuracy in any part of the GroundSure Materials where such error, omission or inaccuracy is caused by any Third Party Content or any reasonable interpretation of Third Party Content;

(xiii) loss or damage to a computer, software, modem, telephone or other property; and

(xiv) loss or damage caused by a delay or loss of use of GroundSure's internet ordering service.

7.5 GroundSure's total liability in relation to or under the Contract shall be limited to £10 million for any claim or claims.

7.6 GroundSure shall procure that the Beneficiary shall be bound by limitations and exclusions of liability in favour of GroundSure which accord with those detailed in clauses 7.4 and 7.5 (subject to clause 7.3) in respect of all claims which the Beneficiary may bring against GroundSure in relation to the Services or other matters arising pursuant to the Contract.

8 GroundSure's right to suspend or terminate

8.1 If GroundSure reasonably believes that the Client or Beneficiary has not provided the information or assistance required to enable the proper provision of the Services,

GroundSure shall be entitled to suspend all further performance of the Services until such time as any such deficiency has been made good.

8.2 GroundSure shall be entitled to terminate the Contract immediately on written notice in the event that:

(i) the Client fails to pay any sum due to GroundSure within 30 days of the Payment Date; or

(ii) the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an administration order made against it or if a receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or

(iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or

(iv) the Client or the Beneficiary breaches any term of the Contract (including, but not limited to, the obligations in clause 4) which is incapable of remedy or if remediable, is not remedied within five days of notice of the breach.

9. Client's Right to Terminate and Suspend

9.1 Subject to clause 10.1, the Client may at any time upon written notice terminate or suspend the provision of all or any of the Services.

9.2 In any event, where the Client is a consumer (and not a business) he/she hereby expressly acknowledges and agrees that:

(i) the supply of Services under this Contract (and therefore the performance of this Contract) commences immediately upon GroundSure's acceptance of the Order; and

(ii) the Reports and/or Mapping provided under this Contract are

(a) supplied to the Client's specification(s) and in any event

(b) by their nature cannot be returned.

10 Consequences of Withdrawal, Termination or Suspension

10.1 Upon termination of the Contract:

(i) GroundSure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client and/or Beneficiary any property of the Client and/or Beneficiary in GroundSure's possession or control; and

(ii) the Client shall pay to GroundSure all and any Fees payable in respect of the performance of the Services up to the date of termination or suspension. In respect of any Support Services provided, the Client shall also pay GroundSure any additional costs incurred in relation to the termination or suspension of the Contract. 11 Anti-Bribery

11.1 The Client warrants that it shall:

(i) comply with all applicable laws, statutes and regulations relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010;

(ii) comply with such of GroundSure's anti-bribery and anti-corruption policies as are notified to the Client from time to time; and

(iii) promptly report to GroundSure any request or demand for any undue financial or other advantage of any kind received by or on behalf of the Client in connection with the performance of this Contract.

11.2 Breach of this Clause 11 shall be deemed a material breach of this Contract.

12 General

12.1 The Mapping contained in the Services is protected by Crown copyright and must not be used for any purpose other than as part of the Services or as specifically provided in the Contract.

12.2 The Client shall be permitted to make one copy only of each Report or Mapping Order. Thereafter the Client shall be entitled to make unlimited copies of the Report or Mapping Order only in accordance with an Ordnance Survey paper map copy license available through GroundSure.

12.3 GroundSure reserves the right to amend or vary this Contract. No amendment or variation to this Contract shall be valid unless signed by an authorised representative of GroundSure.

12.4 No failure on the part of GroundSure to exercise, and no delay in exercising, any right, power or provision under this Contract shall operate as a waiver thereof.

12.5 Save as expressly provided in this Contract, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.

12.6 The Secretary of State for Business, Innovation and Skills ("BIS") or BIS' successor body, as the case may be, acting through Ordnance Survey may enforce a breach of clause 6.4(vi) and clause 6.4(vii) of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.

12.7 GroundSure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:

(i) the Client or Beneficiary's failure to provide facilities, access or information;

(ii) fire, storm, flood, tempest or epidemic;

(iii) Acts of God or the public enemy;

(iv) riot, civil commotion or war;

(v) strikes, labour disputes or industrial action;

(vi) acts or regulations of any governmental or other agency;

(vii) suspension or delay of services at public registries by Third Party Data Providers;

(viii) changes in law; or

(ix) any other reason beyond GroundSure's reasonable control.

In the event that GroundSure is prevented from performing the Services (or any part thereof) in accordance with this clause 12.6 for a period of not less than 30 days then GroundSure shall be entitled to terminate this Contract immediately on written notice to the Client.

12.8 Any notice provided shall be in writing and shall be deemed to be properly given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.

12.9 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email (save to the extent such day is not a working day where it shall be deemed to have been delivered on the next working day) and on the second working day after the day of posting if sent by first class post.

12.10 The Contract constitutes the entire agreement between the parties and shall supersede all previous arrangements between the parties relating to the subject matter hereof.

12.11 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.

12.12 This Contract shall be governed by and construed in accordance with English law and any proceedings arising out of or connected with this Contract shall be subject to the exclusive jurisdiction of the English courts.

12.13 GroundSure is an executive member of the Council of Property Search Organisation (CoPSO) and has signed up to the Search Code administered by the Property Codes Compliance Board (PCCB). All Risk Screening Reports shall be supplied in accordance with the provisions of the Search Code.

12.14 If the Client or Beneficiary has a complaint about the Services, written notice should be given to the Compliance Officer at GroundSure who will respond in a timely manner.

12.15 The Client agrees that it shall, and shall procure that each Beneficiary shall, treat in confidence all Confidential Information and shall not, and shall procure that each Beneficiary shall not (i) disclose any Confidential Information to any third party other than in accordance with the terms of this Contract; and (ii) use Confidential Information for a purpose other than the exercise of its rights and obligations under this Contract. Subject to clause 6.6, nothing shall prevent the Client or any Beneficiary from disclosing Confidential Information to the extent required by law.

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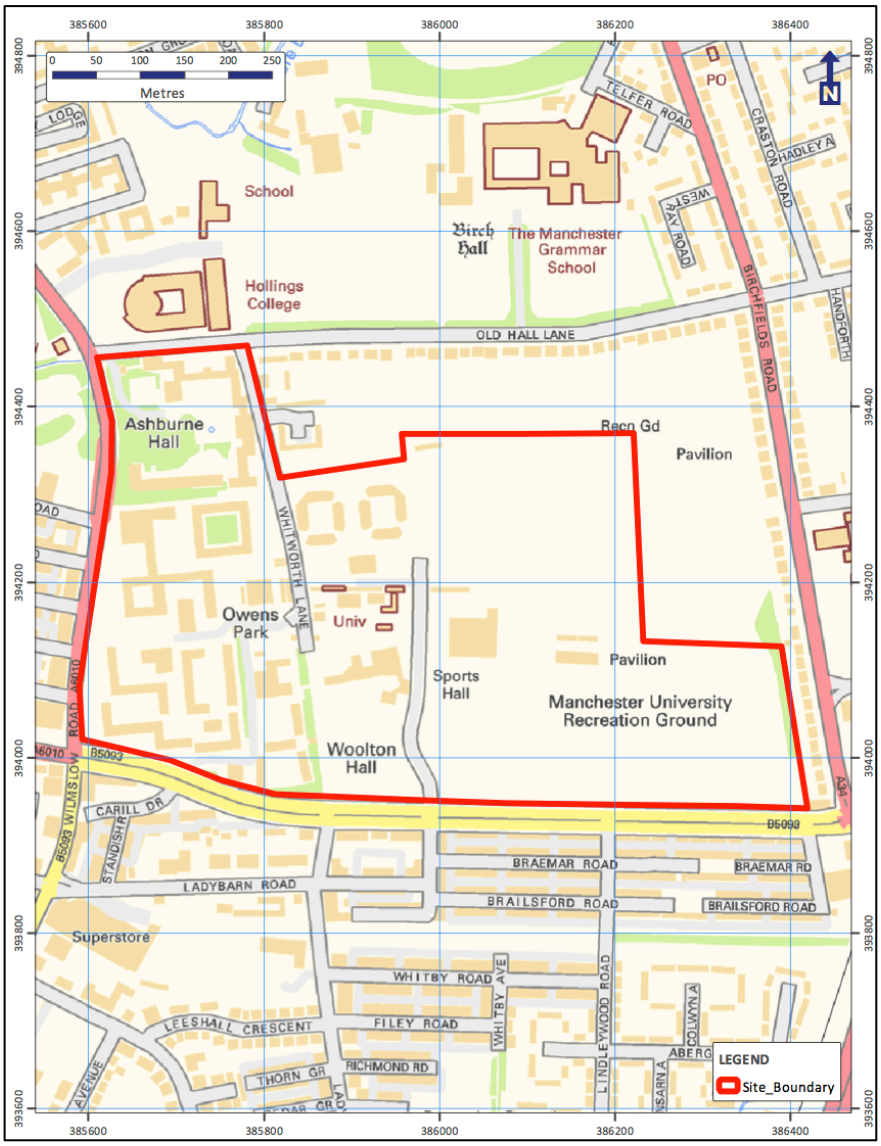
APPENDIX F PRELIMINARY UNEXPLODED ORDNANCE (UXO) RISK ASSESSMENT

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United Kingdom

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Preliminary Unexploded Ordnance (UXO) Risk Assessment

Meeting the requirements of CIRIA C681 "Unexploded Ordnance (UXO) – A guide for the Construction Industry" Risk Management Framework



6 Alpha Project Number: P4332

Client: RSK

Site: University of Manchester Fallowfield Campus, Wilmslow Road, M14 6HD

Originator: Gary Hubbard (6th March 2015)

Released By: Lisa Askham (9th March 2015)

Delivered By

alpha ASSOCIATES
special risks consultancy

Unexploded Ordnance Probability Assessment

Study Site

The Study Site is described as "University of Manchester Fallowfield Campus, Wilmslow Road, M14 6HD", and it is centred on National Grid Reference 385960, 394160.

Threat Potential

UXO PROBABILITY ASSESSMENT = 3 RATING, INDICATING A

MEDIUM PROBABILITY OF UXO ENCOUNTER

The rating scale can be seen on *Figure 2* (Probability of UXO Encounter). In accordance with current guidelines (CIRIA C681 Chapter 5), the highest risk rating has been determined at this specific site for UXO risk consideration and has been used for the final assessment and recommendations.

Summary

During WWII, the Study Site was situated within the *Manchester County Borough,* which was the subject of 26 HE bomb strikes per 1,000 acres; a relatively low level of bombing.

Luftwaffe aerial reconnaissance photography associated with *Manchester* has not designated any facility located close to the Site as a primary bombing target. However, a tramway depot, a goods yard and a railway station located in the vicinity were likely to have been considered secondary bombing targets.

Air Raid Precaution (ARP) records show 2 HE bombs struck the Site. Additionally, 2 HE bomb strikes were recorded within 20m of the Site's boundary.

A heavy anti aircraft (HAA) gun site was located within the Site's boundary, which may have been considered a bombing target and therefore may be a potential source for UXO contamination.

Given that the Site was occupied by a HAA gun site (a potential source of UXO contamination) and 2 HE bomb strikes were recorded within the Site, would suggest that further action is warranted to address the potential for UXO encounter.

Recommendations

In accordance with CIRIA C681 Chapter 5 on managing UXO risks, 6 Alpha recommends that the next stage in the risk management framework is:

DETAILED UXO THREAT & RISK ASSESSMENT

We would be pleased to provide this service, please contact 6 Alpha Associates for further details.

Using This Report

This Preliminary Assessment is designed to inform environmental and construction professionals of the potential threat of military related explosives and/or ordnance on, or in, the vicinity of the Study Site.

This assessment is designed to be employed as a site-screening tool to meet with the requirement of Phase One of the CIRIA UXO Risk Management Framework; there are two broad prospective outcomes; either the threat level requires a detailed threat & risk assessment; or no further action is required. In the former instance we can provide a report within 14 working days (or more quickly upon application).

Two figures accompany the report, the *Second World War* (WWII) High Explosive (HE) Bomb Density and the final Probability of UXO Encounter. The purpose of this approach is to demonstrate that whilst bomb density statistics give an indication for WWII bombing, they should not be relied upon exclusively to generate a holistic assessment.

For further information, please contact 6 Alpha:

Website: http://www.6alpha.com

Telephone: +44 (0)2033 713 900

Email: enquiry@6alpha.com

Data Findings

Threat Source (Within 1,000m)		Detail	
		Identified	Comments
	Airfields/Military Facilities	✓	*Alexandra Park Aerodrome* was located 1,000m to the southwest.
	Ordnance Manufacture/Storage	✗	None recorded within 1,000m.
	WWII Decoy Bombing Sites	✗	None recorded within 1,000m.
	WWII Defensive Features	✓	HAA gun site (located on-Site) and a Z battery (located 620m to the north).
	WWII *Luftwaffe* Designated Bombing Targets	✗	None recorded within 1,000m.
	Secondary Bombing Targets	✓	A tramway depot (located 60m to the east), a goods yard and railway station (located 160m and 175m to the south).
	WWII Bomb Strikes Within Site Boundary	✓	ARP HE bomb strike records noted 2 HE bomb strikes within the Site.
	WWII Bomb Strikes Near Site Boundary	✓	2 HE bomb strikes were recorded within 20m of the Site's boundary.
	WWII Bomb Damage	✗	Bomb damage has not been recorded on-Site.
	Abandoned Bomb Register	✗	None recorded within 1,000m.
	WWII Bombing Density	✓	The Study Site was located within the *Manchester County Borough*, which recorded 26 HE bomb strikes per 1,000 acres.

Important Notes

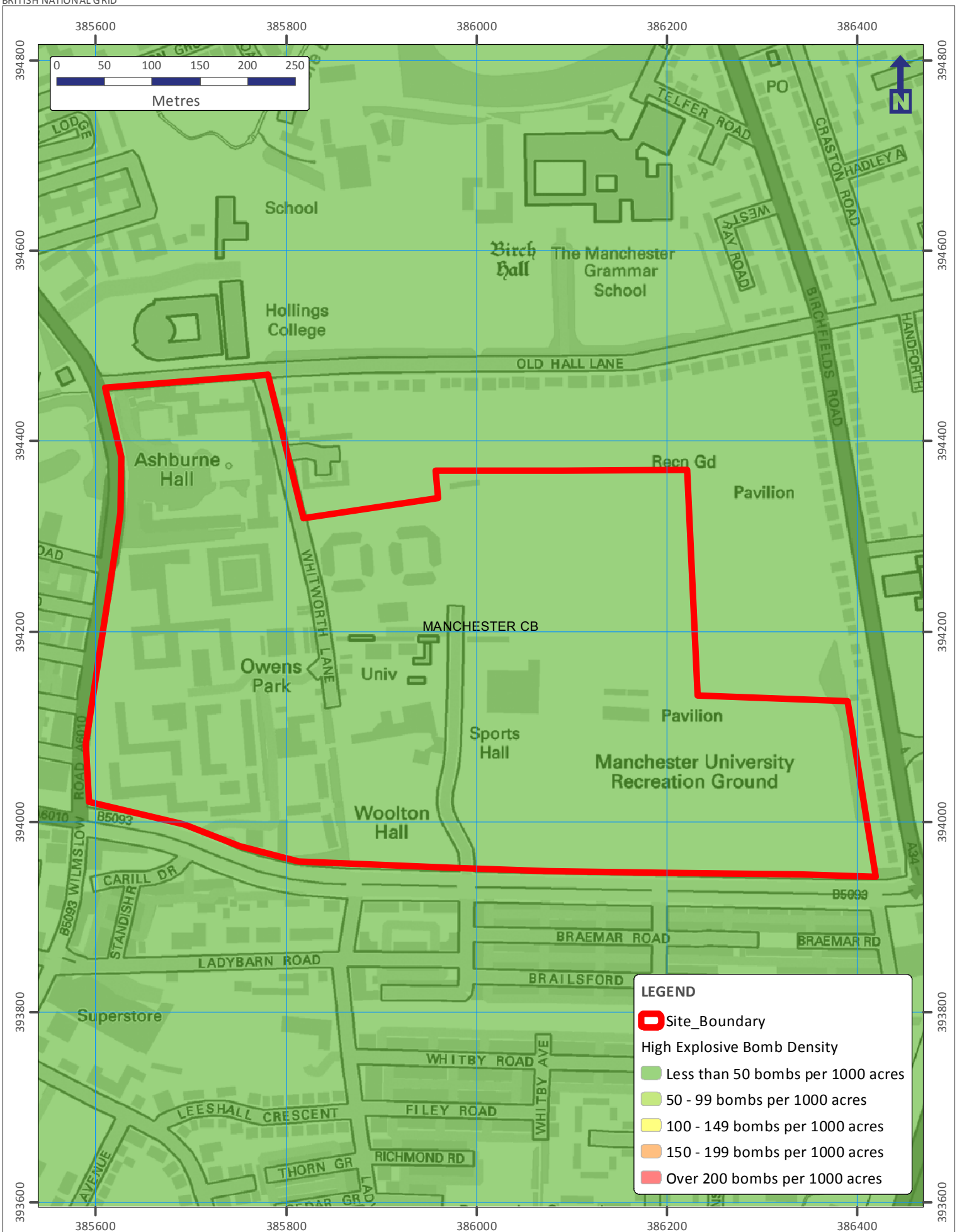
1. The term 'Preliminary UXO Risk Assessment' has been used to describe this report, to fall inline with the CIRIA C681 guidelines. Whilst the term 'Risk' can be justifiably used at this stage, the reader should note that the 'Consequence' function of 'Risk' is not considered. Should it be required, this would be addressed in the 'Detailed UXO Threat & Risk Assessment' (Stages 2 and 3).
2. This report is accurate and up to date at the time of writing.
3. The assessment levels have been generated from historical data and third party sources. Where possible 6 Alpha have sought to verify the accuracy of such data, but cannot be held accountable for inherent errors that may be in third party data sets (e.g. National Archive or library sources).
4. 6 Alpha have exercised all reasonable care, skill and due diligence in producing this service.
5. Whilst every effort has been used to identify all potential UXO/explosive threats, there were a number of private facilities, which may not have released privately recorded information concerning UXO/explosive threats into the public domain. It is therefore possible that some of the aforementioned sites may not be included within the database.

UNIVERSITY OF MANCHESTER FALLOWFIELD CAMPUS, M14 6HD

WWII High Explosive Bomb Density

BRITISH NATIONAL GRID

BOMB SEARCH
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P4332	1	DR	CF	05 March 2015	

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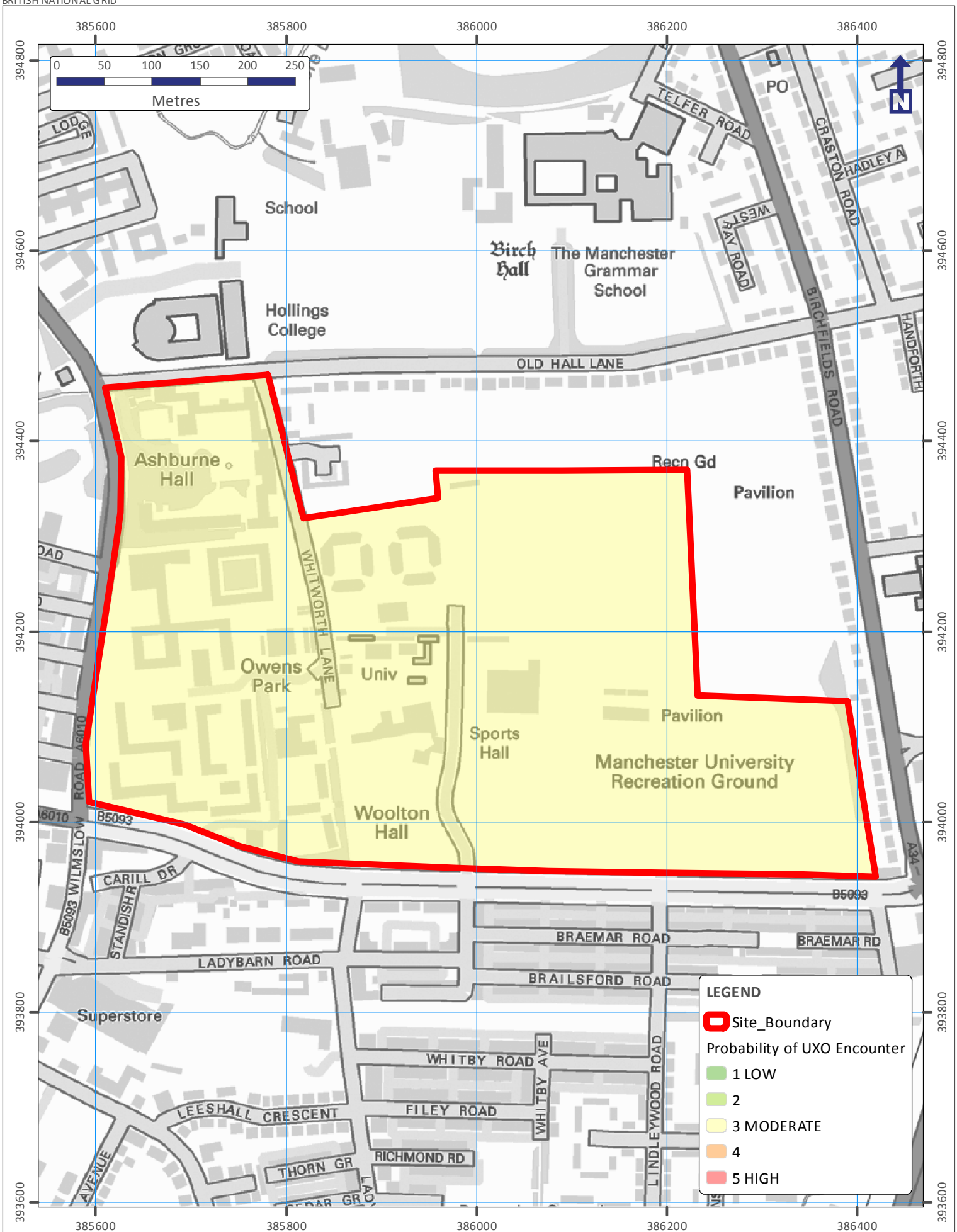
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UNIVERSITY OF MANCHESTER FALLOWFIELD CAMPUS, M14 6HD

Probability of UXO Encounter

BRITISH NATIONAL GRID

BOMB SEARCH
WWW.6ALPHA.COM



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APPENDIX B

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SALFORD ARCHAEOLOGY
University of Salford

University of Manchester

Issue: v1

12/05/2023

Fallowfield Campus, Manchester

Archaeological Desk-based Assessment

Salford Environmental Consultancy

Built / Historic / Natural

REGISTERED ORGANISATION CIfA

QMS ISO 14001: 2015 45001: 2018

QMS ISO 9001: 2015

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1. Summary

The University of Manchester is devising proposals for the redevelopment of land at University of Manchester Fallowfield Campus, Manchester (centred on NGR 385730, 394125). In order to support the planning applications for the scheme the University of Manchester have commissioned Salford Archaeology to carry out an archaeological desk-based assessment for the proposed development site. This was intended to establish, as far as possible, the nature and significance of the sub-surface archaeological resource in order to enable informed recommendations to be made for the designs of the proposed schemes and the future of any surviving remains.

During the medieval period, Fallowfield was a hamlet between the townships of Withington and Rusholme, within the manor of Withington. Fallowfield likely remained largely agricultural during this period, though it was surrounded by several medieval estates. The settlement at Fallowfield expanded during the post-medieval period. By the late 18th century, a small farmstead or cottage had been erected within the west of the site, surrounded by enclosed fields. In addition, a township or parish boundary of unknown date passed along the west site

Fallowfield remained a semi-rural village comprised largely of halls and farmsteads throughout the first half of the 19th century. In total, two additional buildings had been established within the site by the late 1820s, though all three buildings had been cleared by the mid-19th century. By the late 19th century, Fallowfield had been transformed into an affluent suburb of Manchester. Grand estates were constructed throughout the area, comprising large Victorian villas that had been built to accommodate middle-class residents. The Victorian villas were accompanied by ornamental gardens and ancillary buildings such as stables, coach houses, sheds, and orangeries/hot houses.

The site remained largely unchanged throughout the 19th and 20th century. Double depth houses had been constructed within the south of the Site by 1933. ‘The Hollies’ and ‘The Acorns’ villas were converted into a convent high school for girls. The villas were eventually demolished by the latter half of the 20th century in preparation for the construction of the University of Manchester Fallowfield Campus.

There is little evidence to suggest that prehistoric, Roman or medieval remains survive within the development area, especially given the later development of the site. The potential for the site to contain buried archaeological remains is considered to be high. Remains may include post-medieval field boundaries, 18th-century farmsteads or cottages, a township or parish boundary of unknown date and orangeries/hot houses. Any such remains that do exist within the site are likely to be of low (local) significance, and without a programme of mitigation, the scheme could damage or destroy the remains. The site also has high potential to contain remains associated with Victorian garden features, Victorian villas, a tramway and 20th-century buildings, however, these would be of limited archaeological interest and may be considered negligible.

The exact scope and extent of any further investigation of the proposed development area will be determined by the Greater Manchester Archaeological Advisory Service (GMAAS), in their capacity as archaeological advisor to Manchester City Council. Following consultation with GMAAS, it may be anticipated that an intrusive archaeological evaluation will be required.

Should significant archaeological remains be encountered during the archaeological evaluation, further excavation may be required to offset the harm of the development to the buried archaeological resource, in line with the guidance provided by the National Planning Policy Framework. The scope and extent of any such further investigation will be determined by the Greater Manchester Archaeological Advisory Service (GMAAS), in their capacity as archaeological advisor to Manchester City Council.

2. Introduction

The University of Manchester have prepared a planning application for the demolition and redevelopment of the current University of Manchester Fallowfield Campus to create a new 3,300 bed student residence with potential for supporting amenity uses and landscaping. The desk-based study aimed to identify as far as possible the nature, extent and significance of the sub-surface archaeological resource within the site so as to enable informed recommendations to be made for the future treatment of any surviving remains.

2.1 Site location

The proposed development area (centred on NGR 385730, 394125; referred to herein as the Site) currently comprises of a residential campus for the University of Manchester, 3km south of the main university site. The Site is bounded by Ashburn Hall to the north, Whitworth Lane to the east, Moseley Road to the south and Wilmslow Road (A6010) to the west (Fig 1; Plate 1).



Plate 1 Site Boundary superimposed onto Satellite image of the Site

2.2 Topography and geology

Topographically, the Manchester conurbation as a region lies within an undulating lowland basin, which is bounded by the Pennine uplands to the east and to the north. The region as a whole comprises of the Mersey River valley, whilst the rivers Irwell, Medlock and Irk represent the principal watercourses in Manchester. The Site lies 3km south of Manchester City Centre,

with Platt Brook running *c.* 1.3km west of the Site. The Site lies at a height of 39.2m above Ordnance Datum (aOD) along Moseley Road and rises to 44.5m aOD in the north.

The Site is located on a band of solid geology comprising the sandstone of the Chester Formation, formed between 250 and 247.1 million years ago during the Triassic Period. The solid geology is overlain in the northern half of the Site by a superficial deposit of Devensian Till, Diamicton, which formed between 116 and 11.8 thousand years ago during the Quaternary period. There were no superficial deposits within the southern half of the Site (British Geological Society, 2021).

2.3 Designations

The Site does not contain any heritage assets that are afforded statutory protection, such as Listed Buildings, Scheduled Monuments, or any Registered Parks and Gardens and does not lie within a Conservation Area.

The Site is located within 750m of 24 listed buildings, and one Scheduled Monument (Table 1). The proposed development will not have a physical impact on these designated heritage assets, and so they are not considered further in this report.

Site	Designation	List Entry	Location (NGR)
188, Ladybarn Lane	Grade II Listed Building	1219314	SJ 85869 93282
180 Ladybarn Lane	Grade II Listed Building	1197943	SJ 85887 93306
174-178 Ladybarn Lane	Grade II Listed Building	1291533	SJ 85892 93329
132 Ladybarn Lane	Grade II Listed Building	1282989	SJ 85896 93453
Ladybarn Cottage	Grade II Listed Building	1219295	SJ 85899 93463
96 and 98 Ladybarn Lane	Grade II Listed Building	1219280	SJ 85849 93572
Rose Cottages	Grade II Listed Building	1197942	SJ 85797 93570
Norton Place	Grade II Listed Building	1270510	SJ 85518 93702
Synagogue	Grade II Listed Building	1254890	SJ 85379 93992
Church of the Holy Innocents and St James	Grade II Listed Building	1270568	SJ 85509 94043

Fallowfield War Memorial	Grade II Listed Building	1433240	SJ 85525 94025
Queen of Hearts Public House	Grade II Listed Building	1254889	SJ 85554 94048
The Firs and Attached Annex	Grade II Listed Building	1270605	SJ 85889 94090
Lodge of the Firs, with attached gateway	Grade II Listed Building	1254834	SJ 85854 94136
Ashburne Hall	Grade II Listed Building	1401670	SJ 85737 94382
Behrens Hall	Grade II Listed Building	1246273	SJ 85693 94420
Unitarian Chapel (Platt Chapel)	Grade II Listed Building	1270509	SJ 85571 94468
Hollings Building at Manchester Metropolitan University	Grade II Listed Building	1119722	SJ 85650 94516
Appleby Lodge	Grade II Listed Building	1096151	SJ 85550 94692
Former Church of St James	Grade II Listed Building	1200848	SJ 85853 94786
Platt Hall	Grade II* Listed Building	1246947	SJ 85335 94879
6 Moon Grove	Grade II Listed Building	1220030	SJ 85547 94990
5 and 7 Moon Grove	Grade II Listed Building	1197927	SJ 85575 95021
4 Moon Grove	Grade II Listed Building	1219999	SJ 85532 95014
Section of an early medieval boundary ditch known as Nico Ditch	Scheduled Monument	1015132	SJ 85527 94439

Table 1 Designations located within 750m of the Site

3. Method statement

3.1 Introduction

The assessment considers the potential impact of the proposed development upon any buried archaeological remains within the Site and comprises a desk-based study. The production of the assessment followed the Chartered Institute for Archaeologists (CIfA) standard and guidance for undertaking archaeological desk-based assessments (*Standard and Guidance for Historic Environment Desk-based Assessment*, 2017).

3.2 Research sources

The desk-based assessment made use of the following sources:

- Published and unpublished cartographic, documentary and photographic sources;
- The Greater Manchester Historic Environment Record, maintained by the Greater Manchester Archaeological Advisory Service;
- Manchester Local Archives and the Greater Manchester Record Office in Manchester Central Library;
- The National Heritage List for England;
- Salford Archaeology's extensive library of archaeological work carried out in the vicinity of the Site.

The aim of the research was to provide the relevant historical and archaeological background relating to the development of the Site. The available sequence of historical mapping was the principal source of information, as this provides evidence for the development of the Site since the late eighteenth century.

3.3 Site Inspection

The aim of the site inspection was to relate the findings of the desk-based study to the existing land use of the application area, in order to identify any evidence for surviving below-ground remains.

3.4 The document

The following presents the historical and archaeological evidence for the Site. Chapter 5 discusses the previous archaeological investigations that have taken place within the Site. A gazetteer (Chapter 6) is presented of heritage assets and sites of potential archaeological interest identified within the Site and this information, along with a map regression (Figs 3-6), is used to assess the significance of the remains (Chapter 7) and impact of the proposed development (Chapter 8). A mitigation strategy is outlined in Chapter 9, based on the assessment presented in the previous chapters.

3.5 Significance assessment methodology

An accepted methodology for assessing archaeological significance is the Secretary of State's criteria for the scheduling of ancient monuments, outlined in Annex 1 of 'Scheduled Monuments: identifying, protecting, conserving and investigating nationally important

archaeological sites under the Ancient Monuments and Archaeological Areas Act 1979' (DCMS, 2013). These criteria have all been utilised in this assessment and are listed below:

- Archaeological interest
- Historical interest
- Period
- Rarity
- Documentation
- Group value
- Survival/condition
- Fragility/vulnerability
- Diversity
- Potential

The significance assessment also uses the approach to assessing heritage value contained within '*Guidance on Heritage Impact Assessments for Cultural World Heritage Properties*' issued by the International Council on Monuments and Sites (ICOMOS) in January 2011 (ICOMOS, 2011). This document states that an archaeological asset's significance can be assessed as very high, high, medium, low, negligible or unknown.

3.6 Impact assessment methodology

The impact assessment assesses the potential impact of the proposed development upon the significance of the archaeological resource within the Site. Mitigation is then recommended to reduce the level of impact on the significance of the identified assets.

4. Planning and legislative background

This assessment accords with National, Regional and Local Planning Policies which relate to the historic environment. National planning policies relevant to heritage asset management are contained within the National Planning Policy Framework (NPPF 2021).

4.1 National Planning Policy Framework (NPPF)

The significance of the archaeological resource identified within this report has been assessed as recommended in the revised *National Planning Policy Framework* (Ministry of Housing, Communities & Local Government, 2021). The NPPF sets out the Government's planning policies and outlines the presumption in favour of sustainable development, which is defined by three principles: economic, social and environmental. Of the core planning principles underpinning decision making, conserving heritage assets 'in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of existing and future generations' is one. Section 16 deals specifically with this historic environment (paragraphs 189-208), and states that local planning authorities should consider:

- the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;
- the wider social, cultural, economic and environmental benefits that conservation of the historic environment can bring;
- the desirability of new development making a positive contribution to local character and distinctiveness; and
- opportunities to draw on the contribution made by the historic environment to the character of a place.

Paragraph 194 states that "local planning authorities, when determining applications, should require the applicant to describe the significance of any affected heritage assets, including any contribution made by their setting. 'The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes, or has the potential to include, heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation".

Paragraph 203 states that the effect of a proposal on non-designated heritage assets (designated assets are covered in paragraphs 199-202) should be taken into account in determining a planning application.

Paragraph 205 states that local planning authorities should require developers to record and advance understanding of any heritage assets to be lost, in a manner appropriate to their importance and impact, and to make this evidence publicly accessible.

4.2 Local Development Framework

The NPPF outlines the need for local planning policies to create local plans and frameworks to implement the NPPF at a local level. Manchester City Council adopted a Core Strategy in 2012, which is scheduled until 2027 (Manchester City Council, 2012) . The heritage strategy is outlined in *Objective 6: Environment* and summarises the approach the local authority will take in determining planning applications which may affect the historic environment (Manchester City Council, 2012, p. 164).

Policy EN3 states:

'Throughout the City, the Council will encourage development that complements and takes advantage of the distinct historic and heritage features of its districts and neighbourhoods, including those of the City Centre.

New developments must be designed so as to support the Council in preserving or, where possible, enhancing the historic environment, the character, setting and accessibility of areas and buildings of acknowledged importance, including scheduled ancient monuments, listed buildings, registered parks and gardens, conservation areas and archaeological remains. Proposals which enable the re-use of heritage assets will be encouraged where they are considered consistent with the significance of the heritage asset.'

Manchester City Council is advised on archaeological matters by the Greater Manchester Archaeological Advisory Service (GMAAS).

5. Historical background

The following section provides a framework to the present study, working chronologically through the periods listed below (Table 2).

British archaeological periods		
Period	**Sub-period**	**Date range**
Prehistoric	Palaeolithic	Pre-10,000 BC
	Mesolithic	10,000 – 3500 BC
	Neolithic	3500 – 2300 BC
	Bronze Age	2300 BC – 700 BC
	Iron Age	700 BC – AD 43
Historic	Romano-British	AD 43 – AD 410
	Early Medieval	AD 410 – AD 1066
	Late Medieval	AD 1066 – AD 1540
	Post-medieval	AD 1540 – *c* 1750
	Industrial Period	*c* AD1750 – 1914
Modern	Modern	Post-1914

Table 2 Summary of British archaeological periods and date ranges

5.1 Prehistoric period

The current understanding of human activity in the Manchester region during the prehistoric period is poor, although it is reasonable to suggest that several areas in the city centre, such as Castlefield, the area that now contains Manchester Cathedral, Chetham's School and Ardwick, may have been conducive for late prehistoric settlement on account of the natural topography and the abundance of natural water sources (i.e. rivers) (Gregory, 2007).

There is currently no evidence of prehistoric activity within the Site, however, Neolithic stone axes have been found in Fallowfield. One stone axe was found within an allotment, *c.*600m west of the Site (HER 1238.1.0). The axe consisted of a polished flint axe that was 4 ¾ inches long, with flattened sides and evidence of re-sharpening. Any evidence of prehistoric remains within the study area are, at best, likely to comprise stray artefacts deposited within later, disturbed contexts such as the flint axe. The survival of any *in-situ* prehistoric archaeological deposits is very unlikely.

5.1.1 Archaeological potential

There is no known evidence for prehistoric activity within the Site boundary and the potential for any such remains to survive from this period is considered to be low.

5.2 Romano-British period

Archaeological evidence for Romano-British activity in Manchester is focused on the Roman fort of *Mamucium,* which was established on a sandstone bluff within Castlefield (Gregory,

2007). Archaeological excavation has shown that in the late 1st century, the fort comprised a turf rampart and timber gates, covering an area of *c.* 1.2ha, and was of a size compatible with holding a 480-man infantry unit. The fort was rebuilt to similar dimensions in stone *c.* AD 200 (*ibid*).

During the 2nd century, the fort was developed in association with a substantial extramural settlement, or *vicus* (Grealey, 1974, p. 11). Civilians occupied the extramural settlement, attracted by the security and commercial benefits of the nearby fort. Based on archaeological excavations and the distribution of Roman finds, the limits of this civilian settlement appear to have extended south-eastwards along Chester Road, terminating somewhere in the vicinity of Great Jackson Street, northwards from the fort to approximately Quay Street, westwards along Liverpool Road for *c.* 100m from the north-west corner of the fort, eastwards across Deansgate to the area now occupied by the Beetham Tower. The Site lies approximately 3.9km south-east of the settlement.

Roads from the fort linked Manchester with Buxton to the south-east, Chester to the south, Wigan to the north-west, Ribchester to the north, and Castleshaw and York to the north-east. The settlement was well connected in terms of trade and consequently lasted until the late third century AD. The projected course of the Roman road from Manchester to Buxton (HER 28.3.0) follows the course of the modern A6 road, lying *c.*1.5km to the east of the Site. The current route of the A56 follows the alignment of the Roman road from Manchester to Chester, running through Stretford west of the Site (Farrer & Brownbill, 1911, pp. 329-35).

5.2.1 Archaeological potential

There is no known evidence for Romano-British activity within the boundary of the Site, and the potential for any such remains to survive from this period is considered to be low.

5.3 Early medieval period

There is very little archaeological evidence in the region as a whole that represents the period between the end of the Roman occupation and the Norman Conquest of 1066. The area around Manchester came under the control of several kingdoms during this period. In AD 620, Edwin occupied Manchester, and it may have been at this time that settlement in the town was established around the cathedral (Farrer & Brownbill, 1911). It is believed that from the Saxon times, a small community existed on both banks of the River Irwell close to the point where it is joined by the River Irk.

In AD 919, the Anglo-Saxon king Edward the Elder established a fortified base, or burh, at Manchester, which was then part of Viking Northumbria. It has been suggested that the burh lay within the area around the cathedral, which had become a focus for settlement by the late 11th century. The site occupied presently by Chetham's School, *c.* 4.7km north-west from the Site, is thought to have been the site of a castle founded by Manchester's Norman barons. This early settlement at the confluence of the Rivers Irwell and Irk seems to have been bounded on the landward side by Hanging Ditch, whose curving line ran between the two rivers, taking a line that was followed subsequently by Toad Lane, the forerunner of Todd Street and Corporation Street.

During the early medieval period, substantial and defensible boundary features were established to mark various territories. Up to 50 examples have been identified with a wide

distribution across England. Examples include Offa's Dyke, which marked a military or territorial boundary between Mercia and Wales for centuries (HER 1401.1.0). Evidence from contemporary documentary sources, excavation and survey suggests that most of the boundaries were constructed in the early medieval period between the 5th and 8th centuries AD. One such boundary has been identified in Manchester, known as Nico Ditch.

The nearest remains associated with the Anglo-Saxon settlement at Manchester comprises Nico Ditch (HER 1401.1.0). One of the only surviving sections of Nico Ditch lies 160m north-west of the Site and is designated as a scheduled monument (List entry: 1015132). The scheduled section of the ditch is currently identifiable in Platt Park as a linear earthwork, which lies within an area of low-lying ground between two mosslands to the east and west of the site of the Anglo-Saxon town of Manchester. The section of ditch survives as a 135m long section of a linear earthwork comprising a bank and ditch. Other parts of the ditch have been traced as upstanding earthworks and field boundaries for 5km, between Hough Moss in the west and Ashton Moss on the east side of the city. The ditch was most likely constructed during the administration of the Anglo-Saxon Kingdoms between 600AD and the 10th Century. Its name has been recorded in various forms in the past including 'mykelldiche' and 'magnum fossatum' in AD 1190-1212. These names point to an Anglo-Saxon origin and mean the 'great ditch'.

5.3.1 Archaeological potential

No early medieval remains are known within the Site, although the presence of the nearby Nico Ditch indicates that the Site may have witnessed some early medieval activity. The potential for buried archaeological remains associated with the early medieval period is considered to be low.

5.4 Late medieval period

Following the Norman Conquest, William I assigned most of the land between the Ribble and Mersey rivers to Roger of Poitou, who retained the manor of Salford demesne (Tupling, 1962), but divided his other newly acquired land into several fiefdoms (Kidd, 1996). The largest of these was the landholding centred on Manchester, created by the grant of extensive lands in the hundreds of Salford, Leyland and West Derby to Albert Grelley (Tupling, 1962, p. 116).

By the 13th century, the Grelley family had established a manor house at the confluence of the rivers Irwell and Irk and the medieval town grew up around it (Hartwell, et al., 2004, p. 256). It was from this hall that they governed both the manor and the extensive barony. In 1222 Manchester was granted an annual fair, and in 1301 Thomas Grelley was granted the Great Charter of Manchester by Edward I, and thus it became a free borough (*ibid*). A survey of the medieval layout of the city was undertaken in the 1980s by GMAU, which led to the designation of a zone defined as the Area of Medieval Manchester (Morris, 1983). The survey demonstrated that in addition to the manorial and ecclesiastical heart of the town, streets radiated out from the centre, with Deansgate being one of the main thoroughfares. The Site lies *c.* 4.7km to the south-west of Manchester's medieval core.

5.4.1 The manor of Withington

Placename evidence suggests that Withington may have Anglo-Saxon origins deriving from the words *wilig*, Anglian for willow tree and *tun*, Old English for settlement (http://kepn.nottingham.ac.uk/map/place/Lancashire/Withington). The Site historically lay

within the manor of Withington, in which its first documentary appearance revealed that it was held by the Lord of Manchester. The manor included Withington proper, together with several adjacent hamlets and townships, such as Didsbury, Burnage, Levenshulme, Moss Side, Chortlon-cum-Hardy and Rusholme. The manor house of Withington was established at Hough (Farrer & Brownbill, 1911, pp. 303-09).

Fallowfield appeared to have no legal existence and was known as a hamlet, potentially lying between the townships of Withington and Rusholme (Williamson, 1888, p. 86). The earliest reference to Fallowfield appears in 1300, during the reign of Edward I, when William, son of Henry, granted Jordan, son of William of Fallowfield, a portion of his lands. A second piece of land was conveyed to Jordan de Fallowfield and is described as:

"part of one plough land, called Greenclough field lying between the land of Henry de Trafford on one side and William son of Henry de Mamcestre on the other side, of which said plough land, one end reaches to the king's highway leading to Ince, and the other end reaches to Le Somer Werked-defeld, and also half an acre of meadow land situated in Le Brode medowe, bounded on both sides by the land of Henry de Trafford, one end 12 of which extends to the bank or boundary of the wood called Le Birchenewode, and the other end extends to Clayfeld." (Williamson, 1888, p. 11).

The Birch Deed of 1301 mentions that Thomas, son of John de Fallowfield (Falufeld), in 1317 granted to Nicholas, son of Sir Henry de Trafford, land and wood called Ditchflat in Fallowfield in the vill of Withington. In 1348, Robert de Fallowfield claimed a messuage and two acres in Withington against Sir John de Strickland and Alice his wife. Documentary sources that recorded a dispute in 1530 suggest that by this time Fallowfield had become a township (Farrer & Brownbill, 1911, pp. 288-93).

Rusholme first appears in documentary evidence in 1235 as 'Russum', originating from the Old English *rysc* meaning '(place at) the rushes' (Mills, 2011). The town name can be traced throughout historical records, appearing as Russham in 1420, Rysshulme in 1551 and Risholme in 1568. Rusholme was a district within the manor of Withington which became the surname of a local family. The area comprised several estates, including Platt, Birch, Slade and Holt. Fallowfield, which was encircled by the four manor houses, was believed to be fertile cultivated farmland. The custom of using the name Withington to include such a wide area makes it difficult in many cases to be sure exactly the locality of the lands and the charters. During the reign of Henry III, in the 13th century, Henry de Rusholme owned a large part of the township. With no heirs to pursue his legacy, the township reverted to the Lord of Withington (HER 17235.1.0) (Farrer & Brownbill, 1911).The nearest manor house to the Site was Birch Hall (HER 1396.1.0), which lies *c.*430m to the north-east of the Site, within the township of Rusholme. Birch estate was descended from *c.*1260-1740 within the Birch family. The estate was granted to Matthew de Birches around the year 1260. Birch Hall likely had much earlier origins. The earliest deed of 1190 was when the estate was passed to Mather de Birches. It was clear by the inventory of rooms taken in 1260 that the hall was of considerable size. Originally the building was constructed with timber and plaster but was later modernised. Allegedly a moat was said to have surrounded it (Williamson, 1888, p. 65). Birch even established a mill on his own lands, as early as 1322.

Platt (Old) Hall (HER 1237.1.0) lay *c.*650m to the north-west of the Site. The name 'Platt' is ancient and has Anglo-Saxon origins, meaning 'a sheep fold' in Anglo-Saxon (Williamson,

1888, p. 49). Around the time of Henry II (1133-1189), Matthew, son of William granted to the Hospitallers the land of Platt. William, son of Richard de More, gave a moiety of Platt, in marriage with his daughter Cecily, to Henry, son of Gilbert. Richard son of Adam de Farnworth assumed the name Platt and retained the name and land until 1625 (Farrer & Brownbill, 1911, pp. 303-09).

Holt Hall (HER 1399.1.0) which was situated *c.*720m north of the Site, stood within the grounds of Birchfields Park. The land and hall were granted to Hugh de Haslam in 1260. Although it is believed that the hall is older than 1260. By the 15th century, the hall belonged to the Bamfords, whose daughter married into the Birch family. Since then, the name Holt has descended with Birch.

In the 14th century, Henry de Rusholme had granted Geoffrey, son of Luke de Manchester, various parcels of land in Rusholme, including "6 acres next to Hugh de Haslum's land and stretching from Gooselache to the old ditch" (Farrer & Brownbill, 1911). By 1334, Chorlton-on-Medlock was established as a township, held by the baron of Manchester and Rusholme, held by Henry de Rusholme. It is likely that the ditch referred to in this record is Nico Ditch. A description of the boundaries of the Platt estate, within Rusholme, refers to Nico Ditch as 'Great Ditch' (Royle, 1914, p. 12), indicating the use of Nico Ditch as a boundary marker throughout the medieval period.

Archaeological evidence of activity during the late medieval period is scarce in the area and the Site likely remained rural land within the hamlet of Fallowfield.

5.4.2 Archaeological potential

The potential for buried archaeological remains is considered to be low.

5.5 Post-medieval period

By 1539, John Leland was able to describe Manchester as the 'finest and busiest town in the whole of Lancashire, with the best buildings and the greatest population' (Chandler, 1993, p. 263), at a time when the textile industries in South Lancashire were beginning to flourish. Manchester emerged as a centre for the textile finishing processes, as woollen cloth was brought in from outlying areas for bleaching and dyeing. Most importantly, however, Manchester expanded its role as a market centre for textiles produced in the towns and hamlets of the surrounding district (Frangopulo, 1964, p. 26).

From the early 17th century, fustians produced in a network of towns with Manchester at their hub were being exported regularly to western and southern Europe, and the town became the principal commercial centre for the region (Hartwell, 2001, pp. 8-9). A flourishing business community developed, which was dominated by a few wealthy merchant manufacturers and fustian-dealing families, notably the Chethams, the Booths, the Wrigleys, and the Byroms.

In his tour of the country in the 1720s, Daniel Defoe (Defoe, 1727) noted that Manchester had 'extended in a surprising manner, being almost double to what it was a few years ago', reflecting the further expansion of the textile trade (Hadfield & Biddle, 1970). By the 1790s, Manchester's thriving export market was beginning to displace London as a centre of overseas trade in cotton cloth, reflecting great improvements to the transport network across the North West.

Fallowfield, as a whole, remained a rural district in the post-medieval period. The Platt estate remained within the Platt family until 1625, when it was sold to Ralph Worsley. The most notable member of the Worsley family was Major General Charles Worsley. He was a sincere Puritan who took an active part in parliament and was engaged in the government of Lancashire during the Civil War. Old Platt Hall (HER 1237.1.0), which lay *c.*670m north-west of the Site, was demolished and replaced by a new hall (HER 1237.1.1). Platt Chapel (HER 8658.1.0) lay within the Platt estate, known as Platt Fields, and was a private chapel for the Birch family. The original chapel which lay *c*. 200m north-west of the Site was built in the 16th century. The present building was constructed in 1790-91. Modern alterations in the 1940s and 1950s involved the excavation of the graveyard. In total, two vaults were uncovered, one of Thomas Robinson and the other of John Carrill Worsley and his family. This vault is thought to be one of the only surviving relicts of the original chapel.

Meanwhile, the Birch estate continued in the hands of the Birch family. Several of the family are said to have distinguished themselves during the French Wars of the 15th century. One of the most notable members was Colonel Thomas Birch, another sincere puritan who took an active part in the Civil War of Lancashire. He became governor of Liverpool on the recapture of the town in 1644 and presented in Parliament from 1649-58. However, he retired upon the Restoration (Farrer & Brownbill, 1911, pp. 303-09). The grounds of Birch Hall (HER 1396.2.0) lay *c.*445m north-east of the Site and were of post-medieval date. The detached area, possibly an orchard with a pond to the north-east of the Hall was developed as Birch Hall Farm by 1895. The site is now occupied by the Manchester Grammar School, and the adjacent fields are now open space known as Birchfields Park.

Birch Fold (HER 9751.1.0), a house that was situated *c.*200m north-east of the Site was owned by Wilbraham Egerton. The cottage was said to be the oldest house in Rusholme when it was demolished in 1912. In some documentary sources such as William Royle's 'History of Rusholme' in 1914, note that there were people who remember the house having a moat, and where Oliver Cromwell is said to have slept.

5.5.1 Archaeological potential

The potential for post-medieval activity within the Site is considered be to be low. Any remains would likely have been destroyed by the development of the Site in the later industrial period.

5.6 Onset of the industrial revolution

Significant quantities of cotton began to be imported into south Lancashire from the early 17th century, firstly in linen/cotton fustians. By around 1750, pure cotton fabrics were being produced, and cotton had overtaken wool in importance. Textiles were generally manufactured in domestic-based workshops or weavers' cottages as part of the putting-out system, whereby merchants employed textile workers and supplied them with raw materials.

By the 1780s, the national demand for textiles, particularly cotton, began to rise, resulting in a dramatic increase in mill building that transformed Manchester into a centre of factory-based cotton manufacturing industry of international repute (Baines, 1835). The growth of Manchester was enhanced by the development of waterborne transport. The first key development was the founding of the Mersey & Irwell Navigation Company in 1721, which aimed to provide a navigable route from the Mersey estuary to the Salford and Manchester by improving the course of the River Irwell and the River Mersey. The navigation opened in 1734,

opening up trade from the growing port of Liverpool to Manchester and Salford (George & Brummond, 2002, p. 22).

Settlement activity (HER 9773.1.0) began to develop and expand in the Fallowfield area during the early industrial period. Cottages within the area included several late 18th-century buildings such as a row of four terraces at Fallowfield Settlement (HER 9773.1.0; *c.*140m south of the Site), Rose Cottages (HER 8449.1.0; *c.*390m south of the Site) and the houses at 96 and 98 Ladybarn Lane (HER 8450.1.0). In addition, two early 19th-century dwellings were erected at 132 Ladybarn Lane (HER 8452.1.0) and Ladybarn Cottage (HER 8451.1.0) south of the Site.

Fallowfield remained a semi-rural district until the 19th century when it became Manchester suburb with wealthy, middle-class housing developments being built within the area. The Industrial Revolution had created a class of increasingly wealthy business owners who moved out of the city centre to escape the smoke and unpleasant landscape and Fallowfield appears to be an example of this. The landscape consisted of large Victorian Villas accompanied by ornate gardens. An example of a large notable house within Fallowfield includes Behren's House, formerly The Oaks (HER8489.1.0) which is situated *c.* 120m north of the Site. The house was originally owned by Robert Odgen from 1835-38. The house was deep rectangular in plan and of Classical style. When the Behrens's family died, the house was presented to the University of Manchester as a gift in 1906-8. It now forms part of the university halls.

Similarly, Ashburne Hall, which lies *c.*90m north of the Site, was also a university building. However, this was a purpose-built women's hall of residence by Sir Percy Scott Worthington (HER16062.1.0). It opened originally in Victoria Park in 1900, but then moved to Fallowfield in 1906, when Edward Behrens and his wife left their house, The Oaks, to the university. The property remains an early example of a purpose-built hall of residence and the first women's hall of residence in England.

The arrival of the railway to Manchester suburbs made it possible for people to commute into the city centre, and also encouraged key landowners to sell off land to meet requirements from the city. The sudden development of the district influenced the construction of roads that connected Fallowfield to other areas such as Chorlton. Lord Egerton, the prime landowner, played a large role in the gradual industrialisation of Fallowfield (Williamson, 1888).

The Fallowfield railway station was established along Wilmslow Road and opened in 1891, by the Manchester, Sheffield and Lincolnshire Railway (HER9747.1.0). It was on the Fallowfield Loop railway line, a suburban railway that circled the south of Manchester and terminated at the former Manchester Central railway station. The station was expanded slightly in 1907.

5.7 Development of the Site

The development of the Site can be traced reasonably well from the sequence of available historic mapping. One of the earliest maps to capture Fallowfield was Yates' 1786 map (Plate 2). The map is too small a scale to provide any specific details but shows that a network of lanes had been established throughout the area, potentially to connect the surrounding halls with the landscape. Ribbon development had taken place along many of the lanes, which is often characteristic of the post-medieval period. The manors are labelled on the map, Birch Hall north of the Site, Platt (Old) Hall to the west and Slade Hall furthest north. Lady barn cottages are visible on Yates's map south-east of the Site.

Yates's map shows that the main road through Rusholme (known as Wilmslow Road by at least the late 19th century) bordered the west Site boundary, whilst Whitworth Lane had been partly laid to the east of the Site. Much of the Site remained undeveloped, although a small cottage or farmstead seems to have been erected within the Site to the east of Wilmslow Road. Settlement at Fallowfield seems to have been concentrated to the south of the Site, along a lane that extended eastwards from Wilmslow Road.



Plate 2 Extract from Yates' map, published in 1786, marking the approximate site location

Johnson's map of Manchester 1818-9 (Plate 3) is the next available map that captures the Site. The map shows that two buildings had been established within the Site, one of which was probably the same as that depicted on Yates's earlier map (Plate 2). The buildings appear to have been annotated as 'The Oaks'. A row of trees lined the west side of Withington Lane in the east edge of the Site. An angled boundary ran through the southern part of the Site, which seems to have marked the township boundary between Withington and Rusholme. The boundary shows that much of the Site lay within Rusholme, whilst a small section of the Site was within Withington. The remainder of the Site was undeveloped.

Hennet and Bingley's map of 1828-9 (Plate 4) captures the same two buildings that were shown on Johnson's map (Plate 3), but also shows that an additional building may have been established in the east of the Site.

Other recognisable dwellings labelled on Johnson's map within the immediate environs of the Site include Birch Hall to the north-east, Ashfield House and Mabfield house to the west and

Cabbage Hall to the south. Birch Fold lies north-east of the Site, which was owned by Wilbraham Egerton and is considered to be the oldest house in Rusholme (HER 9751.1.0).

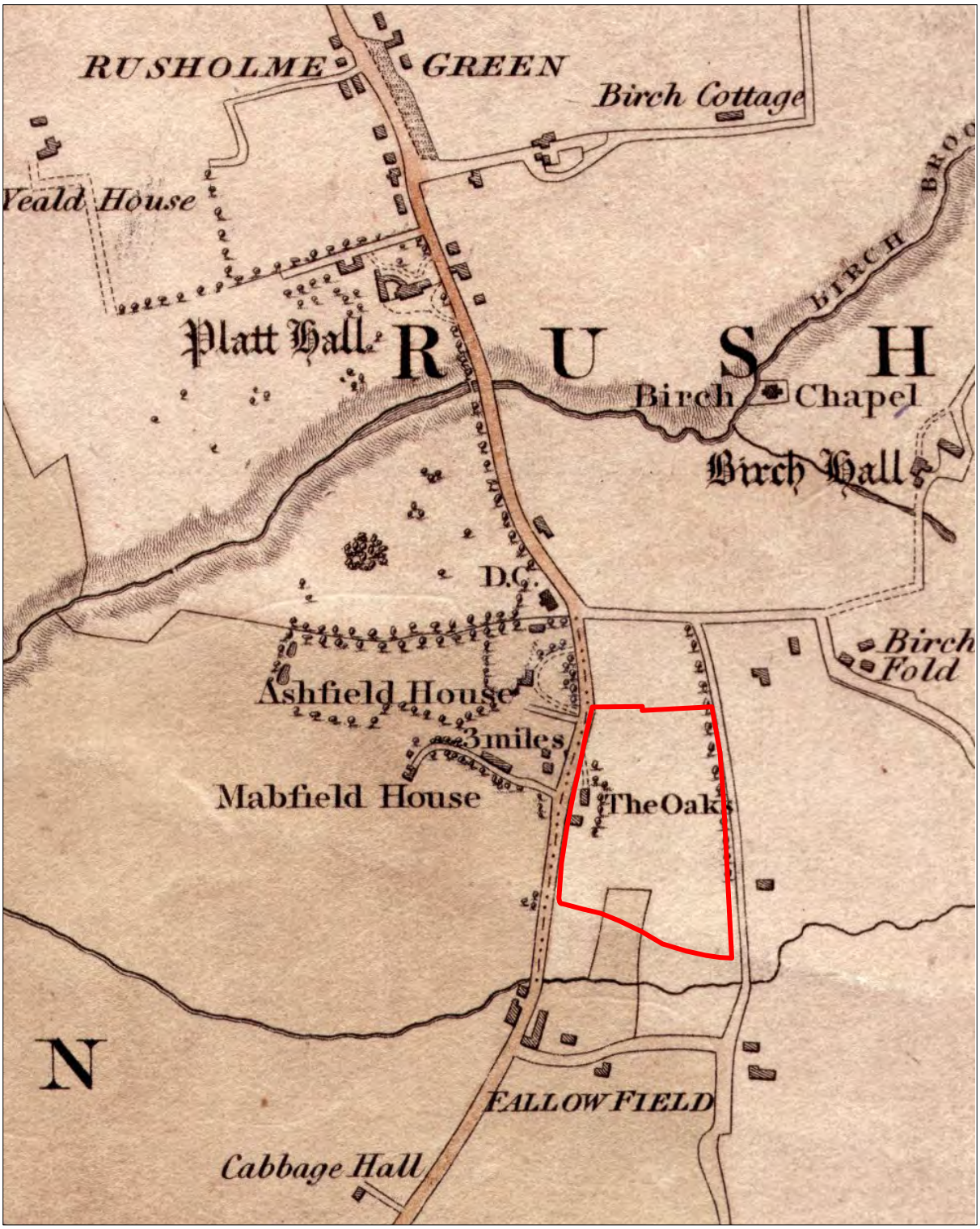


Plate 3 Extract from Johnson's 1818-9 map of Manchester, showing the approximate Site boundary



Plate 4 Hennet and Bingley's map of the County Palatine of Lancaster in 1828 and 1829, showing the approximate Site boundary

The next available map that captures the Site is the Ordnance Survey map of 1848 (Plate 5), which is the first accurate plan that details the Site. The map shows the boundaries of the Site lie within a broadly rectangular plot of land, enclosed on either side by Wilmslow Road to the west and Whitworth Lane to the east. The cottage or farmsteads that appeared on Yates's map through to Hennet and Bingleys's map (Plate 2, Plate 3 & Plate 4) appear to have been demolished. There are no longer any visible buildings within the Site and the landscape overall consists of a patchwork of fields, presumably defined by hedgerows. A footpath or track ran broadly east to west through the centre of the Site. Fallowfield Brook lay a short distance to the south of the Site. A township or parish boundary runs south along the western Site boundary, then east along the southern boundary, where it traces the shape of a rectangle within the Site. The boundary replicates that shown on Johnson's map (Plate 3).

Slater's trade directory of 1850 reveals that Wilmslow Road was accompanied by several cottages and even some farms. Properties within the immediate surroundings of the Site such as 'The Firs', to the east were listed within the directory (Slater, 1850, p. 579). An 'Oak Villa' was also listed, which could be referring to a Victorian Villa, that can be seen on later Ordnance Survey maps within the Site (Plate 6). However, the Ordnance Survey map of 1848 also labels an 'Oak Villa' as one of the larger estates immediately west of the Site. Therefore, it is unclear which 'Oak Villa' the directory is referring to. The Site appears to be vacant during this period.

A newspaper from 1875 (*Yorkshire Post and Leeds Intelligencer, 20th March 1875)* advertised a house for let within Oak Drive, Fallowfield. The house is described as 'semi-detached with three sitting rooms, six bedrooms, a coach house, stables and a small green house'. This is one of the earliest pieces of evidence alluding to further development within the Site, and the description of the house illustrates an affluent accommodation.

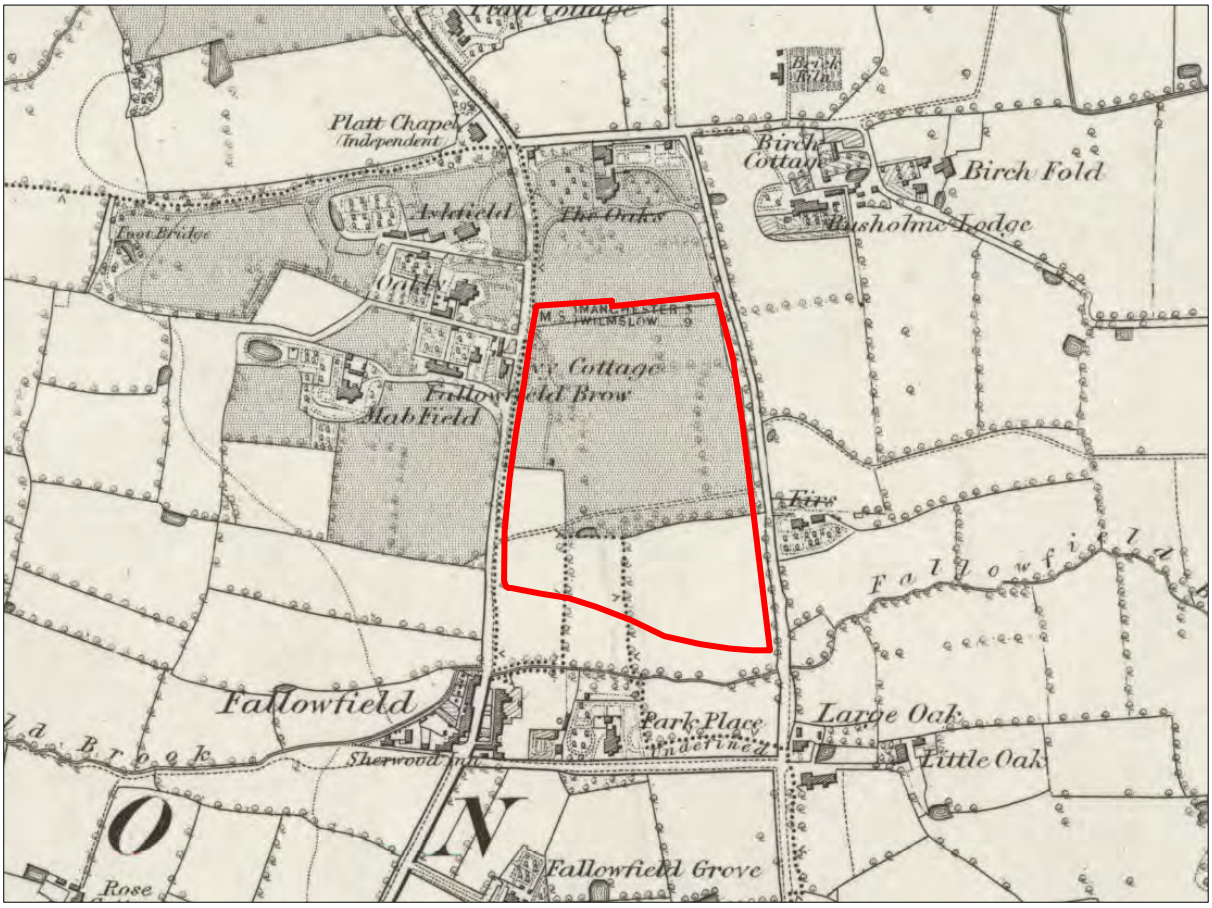


Plate 5 Extract from the Ordnance Survey map of 1848, showing the approximate Site boundary

The Ordnance Survey map of 1891 is the next map that shows detailed development within the Site (Fig 3; Plate 6). A winding road runs throughout the Site, labelled as Oak Drive. It branches off from Wilmslow Road in the north-west of the Site and bends south, where it splits to the west back onto Wilmslow Road and east where it joins onto Whitworth Lane. Carill Drive falls partially within the south of the Site. Oak Drive allows access to several large Victorian villas. In total, 11 detached villas lie along Oak Drive, as well as six semi-detached villas. Carill Drive allows access to four semi-detached villas, in the south of the Site, and two further detached villas face onto Wilmslow Road. All of the villas are accompanied by ornamental gardens, as well as a variety of ancillary buildings. These ancillary buildings include out buildings, sheds, stables, and coach houses. The houses are of considerable size, indicating wealthy residents and also show evidence of paving lights as well as external staircases, which is an indication that they were cellared. Several of the houses also contained orangeries or potential hot houses. Glass houses were either heated by the sun or could have functioned as hot houses, which had heating systems.

The census returns of 1891 (See Appendix 1: Census Returns) reveals that the villas were occupied by either merchants or manufacturers, for example the Magnus family occupied 'New Home' villa. Hermann Magnus was a known cotton manufacturer who lived within the house. His daughter Emma Magnus became a well-known artist who offered painting classes within her home studio (*Manchester City News, 15th October 1904)*. Every house listed on Oak Drive had at least three domestic servants within the households. These servants included personal

cooks, housemaids, waitresses and governesses. A male and his wife were listed within a coach house associated with 'Oak Mount' villa, in the north of the garden. His occupation was listed as a 'coachman', highlighting that the servants were living on site. An additional family were living within 'The Hollies' villa's stables, north-west of the house within the enclosed garden. The number of domestic servants is another clear indication of wealth within the Site and Fallowfield area.

The four villas along Carill Drive were also listed within the census returns of 1891 and Slater's trade directory of 1895. These houses were occupied by a Baptist minister at No. 1, a cotton and silk manufacturer at No. 3, a solicitor at No. 5 and a chemical merchant living at No. 7 (Slater, 1895, p. 815).

'The Hollies' villa, in 1903 was listed in a local newspaper as a Convent High School for young girls, which illustrates that the villa changed its purpose by the early 20th century (*Manchester City News, 5th December 1903).*

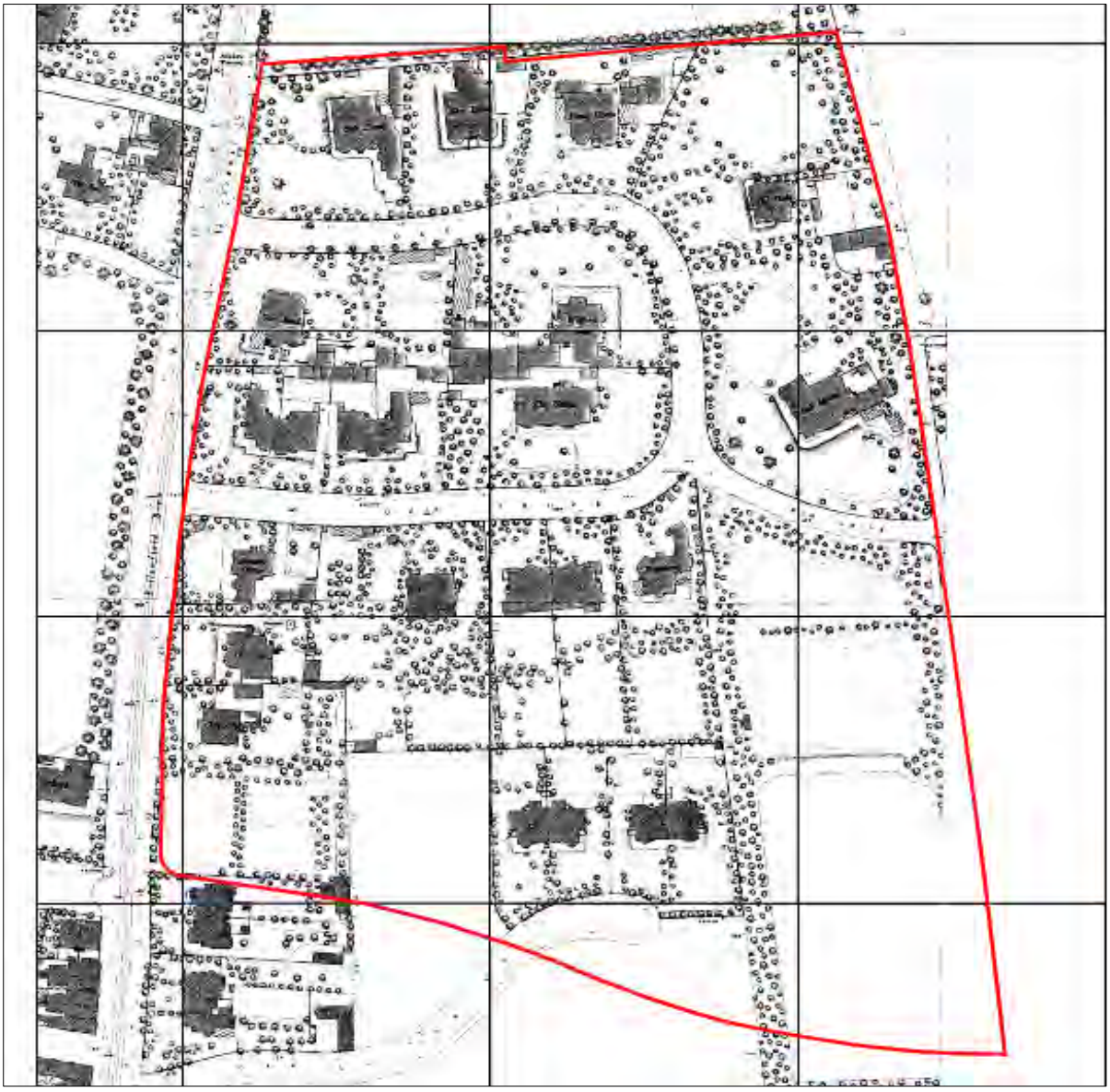


Plate 6 Extract from the Ordnance Survey Town Plan of 1891, showing the Site boundary

Little change can be seen on the Ordnance Survey map of 1907 (Fig 4; Plate 7), apart from some alterations to ancillary buildings. However, evidence of the gradual industrialisation of Fallowfield is evidence within the immediate surroundings, for example several rows of workers houses had been built west of the Site.



Plate 7 Extract from the Ordnance Survey County Series map of 1907, showing the Site boundary

A photograph taken in 1908 shows Oak Drive, with 'The Oaks' villa behind the wall. The photograph shows what appears to have been a short-lived tram route that ran along Oak Drive (Plate 8). Although the route and extent of the line is unclear.



Plate 8 A photograph of Oak Drive, 1908. Image courtesy of Manchester Image Collection

In the early 20th century, a local newspaper mentions a crime relating to 'Oak House' (*Manchester Evening News, 3rd August 1929)*. A burglary had taken place and jewellery had been stolen, including a pearl necklace and a diamond engagement ring, the overall value being £2000. This is further evidence showing the type of class of people living within the Site.

The Manchester Courier (*Manchester Courier, 28th June 1915)* advertised two properties for sale through Messrs W. Davies and Sons. One of the lots for sale was 'Oak Hill' and the second was named 'Sunny Oak'. Both were semi-detached and were situated on Wilmslow Road and Oak Drive respectively.

The Ordnance Survey map of 1933 shows that overall, the houses within the northern half of the Site remained the same (Fig 5; Plate 9). On a vacant parcel of land within the south of the Site, six semi-detached double-depth houses were constructed with outbuildings and gardens. They faced onto Moseley Road, a new road that ran along the southern boundary of the Site.



Plate 9 Extract from the Ordnance Survey County Series map of 1933, showing the Site boundary

An aerial photograph, showing the western half of the Site, taken in 1949, clearly highlights the villas with Oak Drive snaking through the north and centre of the Site, allowing easy access to the villas (Plate 10). In the south of the Site, the curved road of Carill Drive can be seen allowing access to semi-detached houses adjacent to the double-depth houses on Moseley Road. A couple of smaller buildings can be seen within a parcel of land in the very south-west of the Site, although the purpose of these buildings is unknown.



Plate 10 An aerial photograph taken in 1949, partially showing the Site

The Ordnance Survey map of 1957 (Fig 6; Plate 12) shows that much of the Site remained the same. However, it is evident that 'The Acorns' villa had been incorporated into 'The Hollies' convent and became known as the 'Faithful Companions of Jesus Convent Grammar School'. A photograph from 1959 shows the east elevation of the convent (Plate 11).



Plate 11 Photograph of the Hollies convent, taken in 1959, courtesy of Manchester Image Collection



Plate 12 Extract from the Ordnance Survey National Grid map of 1957, showing the Site boundary

A newspaper from 1958 (*Manchester Evening News, 12th November 1958)* explains a situation where a man was found dead and needed identifying. He was found in a bed in Barcombe Hotel, Oak Drive, which is an indication that the 'Barcombe' villa had been converted into a hotel by this period.

By 1985, the houses had been demolished and the land converted into the Fallowfield Campus for the University of Manchester.

5.8 Previous archaeological works

There have been three previous archaeological works within 750m of the Site boundary, which included two building recordings (EGM4314, EGM4315) and an excavation (EGM782).

The excavation was undertaken in Platt fields, *c.*155m north-west of the Site. The Nico-Ditch was excavated by the University of Manchester Archaeological Unit in 1997 and revealed six phases of activity within the scheduled monument. The profile that was investigated in Platt Fields is the best preserved of all the sections that had been excavated by that period. The origin of Nico Ditch's purpose is still debated, however University of Manchester Archaeological Unit, 1997 believed that the evidence leaned towards the ditch being a territorial marker (University of Manchester Archaeological Unit, 1997).

5.9 Summary of archaeological potential

No prehistoric activity is known to have taken place within the Site. Similarly, no Roman or medieval activity is known to have taken place within the Site.

The Site likely remained agricultural during the post-medieval period, though a building had been erected within the Site by the late 18th century. In addition, a township boundary of unknown date and origin runs through the south of the Site. The potential for remains from this period are considered to be medium.

An additional two buildings had been erected within the Site by the early 19th century. However, by the Ordnance Survey map of 1848, they had been demolished and the Site remained enclosed fields until the late 19th-century when several large Victorian villas had been constructed with accompanying ornamental gardens and ancillary buildings. The Site remained an affluent area.

By the mid-20th century, two of the villas known as 'The Acorns' and 'The Hollies' were converted into a Grammar School.

The former Victorian villas were progressively cleared throughout the 1960s and 70s and redeveloped by the University of Manchester into Owens Park, currently known as Fallowfield Campus.

The Site has potential to contain buried remains dating from the post-medieval to industrial periods. Remains may include a township or parish boundary, post-medieval field boundaries, post-medieval farmsteads or cottages, late 19th-century Victorian Villas and orangeries/hot houses.

6. Site Inspection

A Site visit was undertaken on 10th May 2023. The aim of the Site inspection was to relate the findings of the desk-based study to the existing land use of the application area, in order to identify any evidence for surviving below-ground remains.

The Site currently comprises several buildings associated with the University of Manchester Fallowfield Campus. Most of these buildings were erected during the 1970s and 80s and provide student accommodation. There was no visible evidence that the buildings within the Site had basements. Green spaces and car parking facilities surround the buildings (Plate 13,Plate 14,Plate 15 & Plate 16). None of the extant buildings within the Site pre-date the late 20th century and no additional archaeological features were identified during the Site inspection.



Plate 13 Photograph of Owen's Park, within the Site, facing west



Plate 14 Photograph of the Site, showing accommodation and landscaping, facing south



Plate 15 Photograph of the Site, showing accommodation and landscaping, facing east



Plate 16 Photograph of the Site, showing accommodation and landscaping, facing north

The only remnant of the former Victorian landscape is a hard-standing footpath that partially follows the route of Oak Drive, where it split and extended towards Wilmslow Road and Whitworth Lane (Plate 17 & Plate 18).



Plate 17 Photograph of the Site, showing the old route of Oak Drive, facing south



Plate 18 Photograph of the Site, showing the old route of Oak Drive, facing south

A date stone had been built into a modern brick wall in front of Spencer House (Plate 19). The inscription reads 'Birch School, MDCCCXLI (1844)'. Despite the date stone being within the campus, there is no evidence of a school within the Site during the early 19th century. The stone may refer to Birch School / St James' School (11760.1.0) built in 1841 on Birch Hall Lane, *c.*580m north-east of the Site (Buckley, 1910).



Plate 19 Photograph of the date stone for Birch School, facing east

Due to the intense redevelopment of the Site in the late 20th century, no potential archaeological remains are visible.

7. Gazetteer

The following gazetteer entries (GE) summarise the sites of potential archaeological interest within the Study Area and elements of the historic landscape. The identification of these heritage assets is drawn primarily from the historic map regression analysis, Historic England, and the HER data. The locations of the gazetteer entries are shown on Figures 7-8 within Appendix 1: Figures.

Gazetteer Entry 01

Site Name	Nico-ditch
Designation	Scheduled Monument
HER Number	1404.1.0
Site Type	Medieval boundary
Period	Early Medieval
NGR	381708, 394517
Source	HER, Historic England
Description	The Nico Ditch is a linear boundary of Anglo-Saxon period. The section of the bank and ditch in Platt Fields survives well and is one of very few sections that remains identifiable, and it lies *c.*170m north of the Site. The ditch effectively forms a barrier to traffic between the river Irwell and river Medlock and therefore may have formed part of the boundary of the Kingdom of Rheged in the 6th century or may have been a limit of the Kingdom of Mercia in the later 8th century. Its name is firmly Anglo-Saxon in origin, this means it was constructed during the administration of the Anglo-Saxon kingdoms between AD600 and the 10th century.
Assessment	Nico-ditch is a scheduled monument and therefore protected. It also does not lie directly within the Site and therefore will not be affected by the proposed development scheme.

Gazetteer Entry 02

Site Name	Post-medieval to late 18th-century field boundaries (site of)
Designation	No designation
HER Number	-
Site Type	Field boundaries
Period	Post-medieval
NGR	385738, 394135; 385768, 394196; 385664, 394135; 385727, 394218
Source	Johnson's map of 1818-9, OS mapping
Description	The Site remained rural and largely undeveloped in the post-medieval period to late 18th century. It contained enclosed fields within the south of the Site, which presumably were marked with hedgerows.
Assessment	Most of the post-medieval landscape is likely to have been removed by the later 20th-century development of the Site but cannot be completely discounted and may survive in discrete areas of the Site.

Gazetteer Entry 03

Site Name	Post-medieval farmsteads or cottages (site of)

Designation	No designation
HER Number	-
Site Type	farmstead or cottage
Period	Late 18th century
NGR	385630, 394192
Source	Yates's map, Johnson's map, Hennet and Bingley's map
Description	A farmstead or cottage appears to have been within the west of the Site on Yate's map. Johnson's map of 1818 shows the same building and also shows that an additional property had been established within the Site, which were labelled 'The Oaks'. It also shows a footpath that led from one of the buildings to the main road west of the Site. Hennet and Bingley's map of 1828-9 showed that a third building had been erected in the north-east edge of the Site. By the Ordnance Survey map of 1848, the buildings had been demolished.
Assessment	The farmstead or cottage could still survive within the Site, and therefore be affected by the proposed development scheme. However, development from the later 19th century/20th century may have damaged the surviving archaeology.

Gazetteer Entry 04

Site Name	Township / Parish boundary (site of)
Designation	No designation
HER Number	-
Site Type	Parish boundary (site of)
Period	19th century
NGR	385605, 394163
Source	OS mapping
Description	A township or parish boundary runs south along the western Site boundary, then east along the southern boundary, where it traces the shape of a rectangular within the Site.
Assessment	Most of the post-medieval to 19th century rural landscape is likely to have been removed by the later 20th-century development of the Site but cannot be completely discounted. Township or parish boundaries could be marked with physical features and therefore, it may survive within the Site.

Gazetteer Entry 05

Site Name	Garden features associated with the Victorian villas (site of)
Designation	No designation
HER Number	-
Site Type	soils (site of)
Period	19th century
NGR	385730, 394125 (centred point)
Source	OS mapping
Description	The Site was occupied by several Victorian villas in the 19th century, which all were accompanied by large ornate gardens. The gardens remained unchanged until the late 20th century, when the Fallowfield Campus was

	developed on the previous gardens.
Assessment	Most of the post-medieval to 19th century rural landscape is likely to have been removed by the later 20th-century development of the Site but cannot be completely discounted and may survive in discrete areas of the Site.

Gazetteer Entry 06

Site Name	Victorian villas (site of)
Designation	No designation
HER Number	-
Site Type	Domestic houses
Period	19th century
NGR	385734, 394270; 385730, 394182; 385683, 394093; 385734, 394015
Source	OS Mapping; Census returns, trade directories, periodical newspapers
Description	Several large Victorian villas occupied the Site in the 19th century. These villas were occupied by several manufacturers and merchants, as well as a solicitor and a Baptist minister in the late 19th century. Evidence of external stairs and paving lights indicate that the villas were cellared. The villas were accompanied by a range of ancillary buildings including coach houses, sheds, green houses, orangeries and stables. The houses were demolished in preparation of the university campus development in the late 20th century.
Assessment	Remains of the buildings may survive within the Site, especially if they contained cellars and therefore could be affected by the proposed development scheme.

Gazetteer Entry 07

Site Name	Orangeries/hot houses (site of)
Designation	No designation
HER Number	-
Site Type	Orangeries/hot houses
Period	19th century
NGR	385664, 394279; 385742, 394280; 385820, 394172; 385685, 394220; 385625, 394190; 385674, 394172; 385646, 394128
Source	OS mapping
Description	Several of the Victorian villas contained large extensions which were likely to be orangeries. Some contained glass buildings within the gardens, which could be an indication of hot houses. Glass houses could either be heated by the sun or functioned as hot houses, which had heating systems.
Assessment	Remains of the orangeries/hot houses could survive within the Site, and therefore could be affected by the proposed development scheme.

Gazetteer Entry 08

Site Name	20th century double-depth houses (site of)
Designation	No designation
HER Number	-
Site Type	Domestic dwellings

Period	20th century
NGR	385678, 394017
Source	OS mapping
Description	In total, six double-depth houses were built in the south of the Site in the early 20th century. Each house contained rectangular gardens and were accessed by Moseley Road, two of the houses contained small green houses. They were demolished in the later 20th century in preparation for the Fallowfield UoM campus.
Assessment	Remains of the houses could survive within the Site, and therefore could be affected by the proposed development scheme.

Gazetteer Entry 09

Site Name	Tram line, Oak Drive (site of)
Designation	No designation
HER Number	-
Site Type	Tram line
Period	20th century
NGR	385713, 394237
Source	Manchester Local Image Collection
Description	A photograph taken in 1908 shows Oak Drive, with 'The Oaks' villa behind the wall. The photograph shows what appears to have been a short-lived tram route that ran along Oak Drive. Although the route and extent of the line is unclear.
Assessment	Remains of the tram line may survive within the Site, and therefore could be affected by the proposed development scheme.

Gazetteer Entry 10

Site Name	20th-century buildings (site of)
Designation	No designation
HER Number	-
Site Type	Buildings
Period	20th century
NGR	385623, 394016
Source	OS Mapping, AP
Description	A group of six small buildings built within the south-west of the Site by the OS map of 1933. The buildings are also visible on the aerial photograph (Plate 10) in 1949. The function of the buildings is unknown, and they were demolished in preparation of Fallowfield Campus.
Assessment	Remains of the buildings may survive within the Site, and therefore could be affected by the proposed development scheme.

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8. Significance

8.1 Policy context for heritage assets

The archaeological resource of an area can encompass a range of assets, including below-ground remains, earthworks, and standing buildings and other structures. Some of these remains may have statutory protection, such as Scheduled Monuments or listed buildings. Others do not but may nevertheless be of archaeological significance. Under both national and local planning policy, as outlined below, both statutory and non-statutory remains are to be considered within the planning process.

The NPPF sets out the Government's planning policy and framework for England, and how these are expected to be implemented. The NPPF places particular emphasis on assessing the development proposals in line with an up-to-date local plan. Consequently, Manchester's Core Strategy (adopted July 2012) was consulted as the key Development Plan Document in the Local Development Framework (LDF), with particular reference to Policy EN3: Heritage. In determining applications, local planning authorities must be able to understand the significance of any heritage assets affected by a proposed development in order to assess its impact. This enables the conservation of heritage assets in a manner suitable to their significance so that they can be enjoyed for their contribution to the quality of life of this and future generations, or else they can be recorded and advance understanding of the significance of any heritage assets to be lost in a manner proportionate to their importance and the impact, and to make this evidence publicly accessible.

8.2 Designated heritage assets

The Site is situated within 750m of 25 designated heritage assets, however, the proposed development will not have a physical impact on these designated heritage assets, and so they are not considered further in this report (see Section 2.3).

8.3 Significance of the archaeological resource

8.3.1 Historical and archaeological interest

Historical and Archaeological interest

The Site lay 160m to the south of Nico Ditch (GE01), an early medieval territorial boundary. The Site lay within Fallowfield, a hamlet within the manor of Withington in the medieval and post-medieval period. The Site mostly lay within the township of Rusholme; however, the southern part of the Site lay within the township of Withington. A township boundary (GE04) ran through the Site and likely marked the boundary between the two districts. The township boundary adds to the archaeological interest in the Site.

Fallowfield remained semi-rural and did not become a Manchester suburb until the last half of the 19th century. The Site remained an area for wealthy residents to escape the unpleasant surroundings of Manchester city centre until the late 20th century. It was then sold to the University of Manchester and became the site of the Fallowfield Campus.

Agricultural land that has seen little development such as the northern half of the Site could contain remnants of a pre-industrial landscape. Any field boundaries (GE02) would be of historical and archaeological interest as few remains of the former landscape survive within

Manchester today. Other pre-18th-century remains such as the farmstead/cottages (GE03) also add to the archaeological interest of the Site.

8.3.2 Baseline significance conditions

Period

No prehistoric, Roman or medieval activity is known to have taken place within the Site, and the potential for such remains is considered to be low due to later 20th century development. There is limited potential to contain post-medieval field boundaries (GE02).

The most likely remains to be encountered within the Site would date to the post-medieval and industrial periods which could include 18th-century buildings (GE03), the township boundary (GE04), garden features (GE05), Victorian villas (GE06) and orangeries/hot houses (GE07). Sites reflecting Manchester's industrial heritage may be considered significant due to period.

Rarity

Buried remains pre-dating the 19th century would be considered significant due to rarity, as few remains survive within the area due to extensive development during the industrial period. Former field boundaries (GE02) and the township boundary (GE04) have the potential to hold pre-industrial remains.

Remains associated with the Victorian Villas (GE06), double-depth houses (GE08), landscaped gardens, tramway (GE09) and 20th-century buildings (GE10) are not considered to be rare as there are many surviving examples within Manchester.

Documentation

The historical development of the Site can be traced reasonably well from cartographic and other primary sources. Further documentary research would undoubtedly furnish additional evidence, although this is unlikely to alter the outline and conclusions presented in this assessment.

Group value

The Site lies within an area of Manchester that was developed in the later industrial period onwards. The buildings erected within the Site consisted of Victorian villas, but they would not be considered of group value.

Survival / condition

The survival, extent and condition of any below-ground archaeological remains within the Site is presently unknown. The Victorian villas were possibly cellared. The current buildings relating to the university campus may have damaged any surviving remains. Areas with little development indicate a greater chance of survival.

Fragility / vulnerability

Any buried archaeological remains, should they be present and survive *in situ*, are vulnerable to damage or destruction during any earth-moving works associated with the restoration scheme.

Diversity

The remains within the Site are mostly associated with the development of Manchester during the industrial period, and therefore may not be considered significant due to diversity.

Potential

No evidence of prehistoric, Romano-British or medieval remains have been identified within the Site or its immediate environs, and the potential for prehistoric, Romano-British or medieval remains is considered to be low. The Site has limited potential to contain a township or parish boundary along the western and southern boundary. The survival of the township or parish boundary within the Site may have some potential to address the research agendas outlined in the current *Archaeological Research Framework for North West England: researchframeworks.org/nwrf/early-medieval-agenda/:* Table 3*):*

Early Medieval	
EM18	How can the archaeological investigation of parish boundaries inform our understanding of Early Medieval land use?

Table 3 Early Medieval Research Agendas

The Site contained a post-medieval farmstead or cottage, which may have the potential to address the research agendas outlined in the current *Archaeological Research Framework for North West England (researchframeworks.org/nwrf/sample-page/post-medieval/:* Table 4*):*

Post-medieval Period	
PM15	How well recorded and understood are farming landscapes and field patterns, distributions of buildings and building types?

Table 4 Industrial Period Research Agendas

The Site also contains the remains of Victorian landscaped gardens and field boundaries, which could hold pre-industrial remains. The survival of the soils may have some potential to address the research agenda outlined in the current *Archaeological Research Framework for North West England: researchframeworks.org/nwrf/industrial/:* Table 5*):*

Industrial Period	
IND05	How well understood is change and development of the agrarian landscape in response to industrialisation and enclosure?
IND15	How well recorded and understood are farming landscapes an]d field patterns?
IND21	How did industrial period towns affect the pre-existing historic landscape?

Table 5 Industrial Period Research Agendas

The Site also contain Victorian villas from the early 19th century, which included several ancillary buildings such as coach houses, sheds, stables. The survival of the Victorian villas may have some potential to address the research agendas outlined in the current *Archaeological Research Framework for North West England: researchframeworks.org/nwrf/industrial/:* Table 6*):*

Industrial Period	
IND09	How does the nature of rural settlement change during this period?

IND12	How did large houses and estates decline, especially during the early 20th century?
IND20	How can we measure the boom in Victorian estate improvements?
IND26	How can we take forward our understanding of the impact of industrialisation on the middle class, particularly their housing and its location?

Table 6 Industrial Period Research Agendas

Within the Site were orangeries/ hot houses attached or built within the gardens of the Victorian villas. Green houses were either heated by the sun or functioned as hot houses, which had heating systems. The survival of hot houses within the Site may have some potential to address the research agendas outlined in the current *Archaeological Research Framework for North West England: researchframeworks.org/nwrf/industrial/:* Table 7):

Industrial Period	
IND52	What Industrial and Modern period types need further study?
IND55	What is the evidence for the development of power production?
IND61	What are the gaps in our understanding of power production sites in the North West?

Table 7 Industrial Period Research Agendas

The Site has the potential to address the research agendas listed above.

8.4 Summary of significance

It can be concluded from the information gained from the desk-based research that the Site is of archaeological interest and has potential to contain buried remains dating to the industrial or pre-18th century.

Using the above criteria and the ICOMOS guide for assessing value of heritage assets (the Site most likely contains non-statutory archaeological remains of low (local) significance.

The Site has potential to contain 18th-century farmsteads or cottages (GE03), a township or parish boundary (GE04) of unknown date and orangeries/hot houses (GE07) that would be of low (local) significance (see Fig. 9).

The Site has high potential to contain Victorian garden features (GE05), Victorian villas (GE06), double-depth houses (GE08), a tramway (GE09) and 20th-century buildings that would be of limited archaeological interest and may be considered negligible.

9. Impact assessment

9.1 Development Proposals

University of Manchester have prepared a planning application for the demolition and redevelopment of existing UoM Fallowfield campus to create a new 3,300 bed student residence with potential for supporting amenity uses and landscaping/open space provision. The delivery of the proposals will involve ground-breaking works that have the potential to affect any surviving archaeological remains within the Site.

9.2 Impact upon archaeological resource within the Site

Delivery of the development proposals will necessitate some ground-breaking and landscaping works across the Site, with potential to impact on buried archaeological remains.

This assessment has demonstrated that the Site has the potential to retain buried remains of 18th-century buildings, a township or parish boundary and orangeries/hot houses. Any such remains that do exist within the Site are likely to be of low (local) significance and, without a programme of mitigation, the scheme could damage or destroy these remains. Areas of archaeological potential are shown in Figure 9.

10. Recommendations

10.1 Heritage Assets

The NPPF makes clear that where the loss of the whole or a material part of a non-designated heritage asset's significance is justified by a development, the developer should be required to record that asset and advance understanding of its significance, and to make this evidence publicly accessible.

10.2 Further Investigation

The exact scope and extent of any such further investigation of the Site will be determined by the Greater Manchester Archaeological Advisory Service (GMAAS), in their capacity as archaeological advisor to Manchester City Council. Following consultation with GMAAS, it may be anticipated that an intrusive archaeological evaluation will be required.

Should significant archaeological remains be encountered during the archaeological evaluation, further excavation may be required to offset the harm of the development to the buried archaeological resource, in line with the guidance provided by the National Planning Policy Framework. The scope and extent of any such further investigation will be determined by the Greater Manchester Archaeological Advisory Service (GMAAS), in their capacity as archaeological advisor to Manchester City Council.

Sources

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Johnson's Map of Manchester, 1818-9

Hennet and Bingley's map of the County Palatine of Lancashire in 1828-9

Ordnance Survey map of 1848, courtesy of National Library of Scotland

Ordnance Survey Town Plan Map of 1891

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Ordnance Survey National Grid Map of 1957

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Census Returns for Oak Drive, Manchester, Lancashire, 1891. Record Set: 1901 England, Wales & Scotland Census. Archive reference: RG12. Piece Number: 3170. Folio: 68. Page 34

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Appendix 1: Census Returns

Address	Household Name(s)	No. of residents	Occupations of residents	Birthplace of residents
Bank House, Oak Drive	Gill, Hearse, Owen, Hill	5	Cotton manufacturer, cook (domestic svt), Housemaid (domestic svt), Under housemaid (domestic svt).	Withington, Manchester, Burtle, Amlwch, Huntingdonshire
Barcombe Cottage, Oak Drive	Brockbank, Jones, Hughes, Hodge	6	Metal merchant, cook (domestic svt), housemaid (domestic svt), Nurse (domestic svt)	Manchester, Bolton, Bala, Sowerby
Coach houses, Oak Drive	Astley	2	Coachman (domestic svt)	Pilkington, Hanley
New Home, Oak Drive	Magnus, Stockley, Hughes, Hulse	9	Cotton merchant, commercial cotton clerk, scholar, cook (domestic servant), housemaid (domestic svt), waitress (domestic svt)	Derbyshire, Manchester, Macclesfield
Oak Bank, Oak Drive	Hilton, Foord, Brown, Jones, Roberts	6	Retired silk merchant, cook (domestic svt), waitress (domestic svt), housemaid (domestic svt)	Failsworth, Harpurhey, Rusholme, Pagwell, Shrewsbury, Caernarvonshire

Oak Fields, Oak Drive	Von Bargen, Delany, Mullen, James, Johnson	9	Merchant in Manchester manufacture, scholar, cook (domestic svt), nurse (domestic svt), waitress (domestic svt), housemaid (domestic svt).	Schleswig, Manchester, Queen's, Londonderry, Aberystwyth, Lincolnshire
Oak Fields, Oak Drive	Barratt, Bear, Gregory, Brown, Jones	11	Corn merchant, scholar, nurse (domestic svt), waitress (domestic svt), cook (domestic svt)	Harpurhey, Ardwick, Levenshulme, Rusholme, Heaton Norris, Matlock, The Point, Bildworth
Oak Mount, Oak Drive	Hertz, Becker, Schmierlen, Gregory, Bell, Tomlinson	9	Merchant widow, serving maid (domestic svt), housemaid (domestic svt), cook (domestic svt), waitress (domestic svt)	Manchester, Glasgow, Germany, Shrewsbury, Windermere, Burton on Trent
Sunny Dales, Oak Drive	Eckhoff, Tidswell, Wald, Reynolds, Wylen	9	Shipping merchant in Manchester manufacturers, scholar, governess (domestic svt), cook (domestic svt), waitress (domestic svt), housemaid (domestic svt)	Germany, Manchester, Stockport, Bristol
The Hollies, Oak Drive	Steinthal, Mackie, Watkins, Price, Hodges, Sutton	12	General merchant cotton goods, commercial clerk cotton,	Manchester, Germany, Bradford, Fallowfield, Kirkcudbright,

			student of architecture, cook (domestic svt), housemaid (domestic svt), ladys maid (domestic svt), kitchen maid (domestic svt)	Somerset, Arley, Ashby, Withington
The Hollies Stables, Oak Drive	Long	3	Coachman (domestic svt)	Chinley, Strafford, Rusholme
The Oaks, Oak Drive	Fulda, Cashen, Bradshaw, Vickery	6	General merchant cotton goods, scholar, cook (domestic svt), housemaid (domestic svt), nurse (domestic svt)	Germany, Manchester, Isle of Man, Chorley, Bristol

Table 8 Census Returns for Oak Drive, 1891

Address	Household Name(s)	No. of residents	Occupations of residents	Birthplace of residents
1 Carill Drive	McLaren, Doig, Craven	6	Baptist minister, bookkeeper, cook (domestic svt), housemaid (domestic svt)	Scotland, Manchester, Adderley
3 Carill Drive	Drey, Mackay, Boulter, Jones	9	Cotton & silk manufacturer, cook (domestic svt), children's maid (domestic svt), housemaid (domestic svt).	Manchester, Ireland, Rushbury
5 Carill Drive	Totham, Davies, James	5	Solicitor, cook (domestic svt), waitress (domestic svt),	Thornton in Lonsdale, Barmouth, Cardiganshire

			housemaid (domestic svt)	
7 Carill Drive	Shott, Williams, Davis, Birch, Furniss	10	Chemical merchant, cook (domestic svt), waitress (domestic svt), nurse (domestic svt), nurse housemaid (domestic svt)	Germany, Russia, Manchester, Pwllheli, Worthen, Ashford

Table 9 Census Returns for Carill Drive, 1891

Appendix 2: Figures

Figure 1: Site location map

Figure 2: Site boundary superimposed on modern mapping

Figure 3: Site boundary superimposed on the Ordnance Survey 1:500 Town Plan of 1891

Figure 4: Site boundary superimposed on the Ordnance Survey 1:2500 County Series Map of 1907

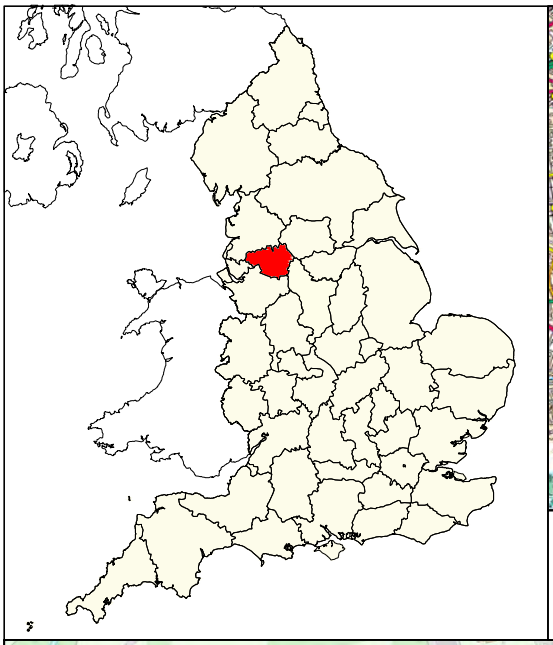
Figure 5: Site boundary superimposed on the Ordnance Survey 1:2500 County Series Map of 1933

Figure 6: Site boundary superimposed on the Ordnance Survey 1:2500 National Grid Map of 1957

Figure 7: Location of Gazetteer Entries

Figure 8: Location of Gazetteer Entries

Figure 9: Areas of Archaeological Potential



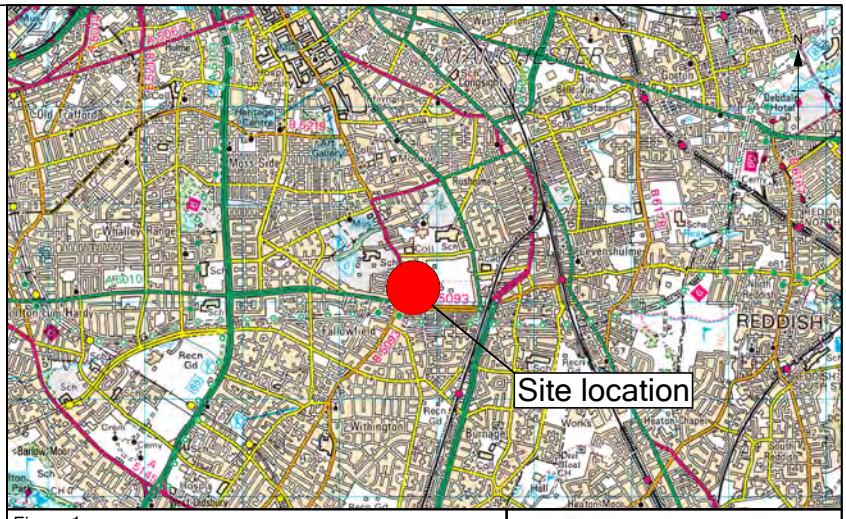
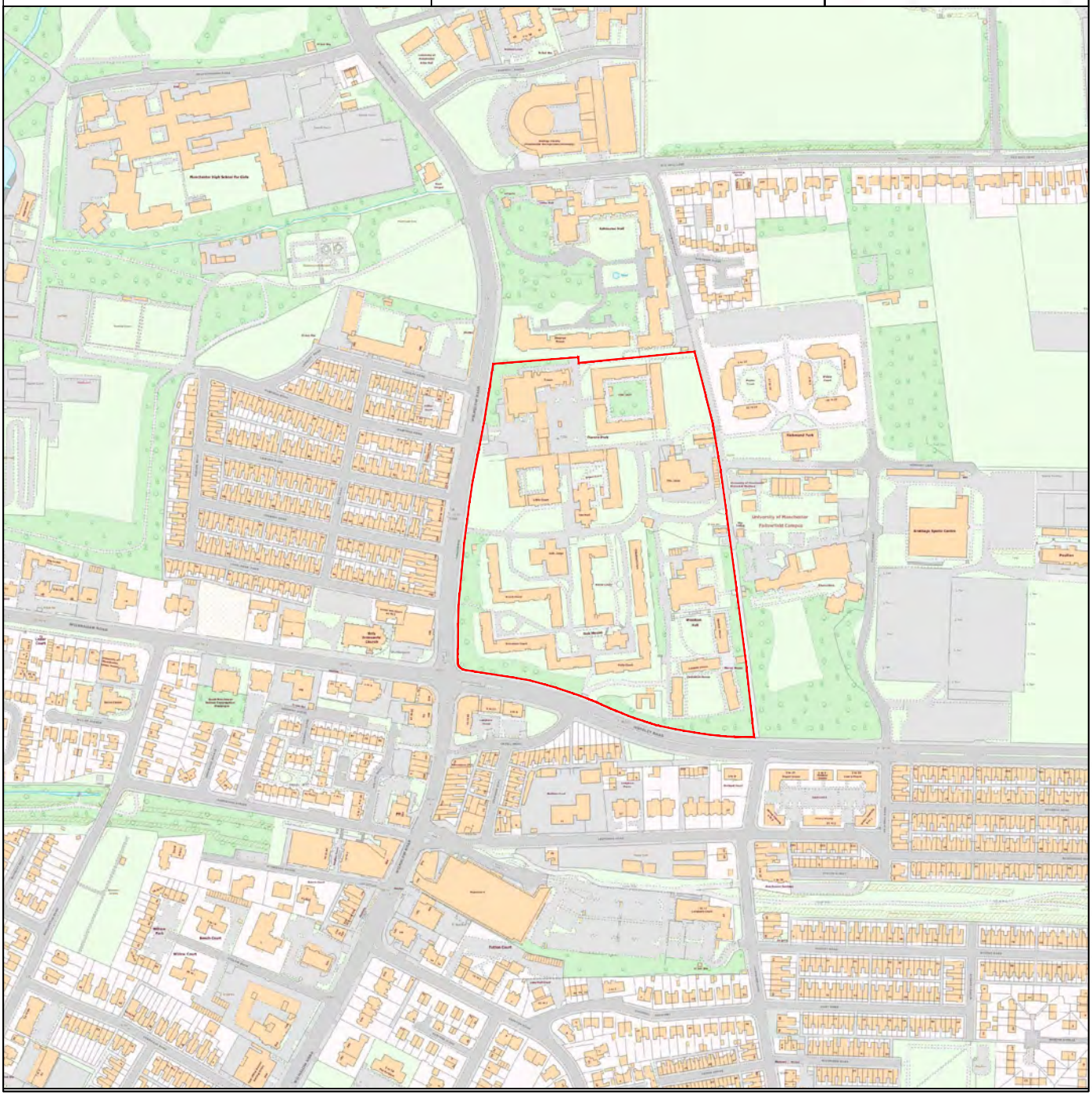


Figure 1:

Site Location

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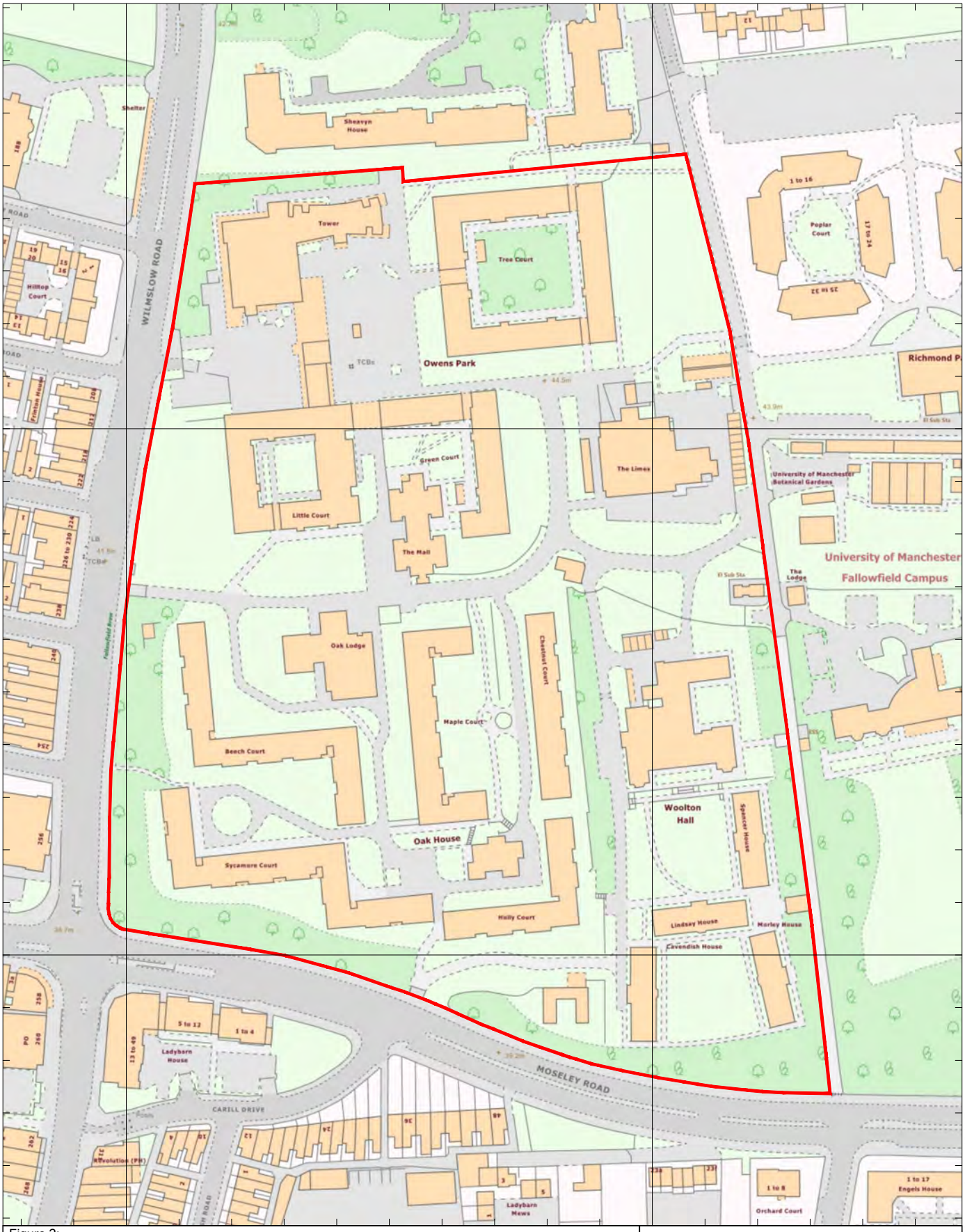


Figure 2:

Site Boundary Superimposed onto Modern Mapping

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N

Key:

Site Boundary

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0 100 m

Scale at A4 1:2000

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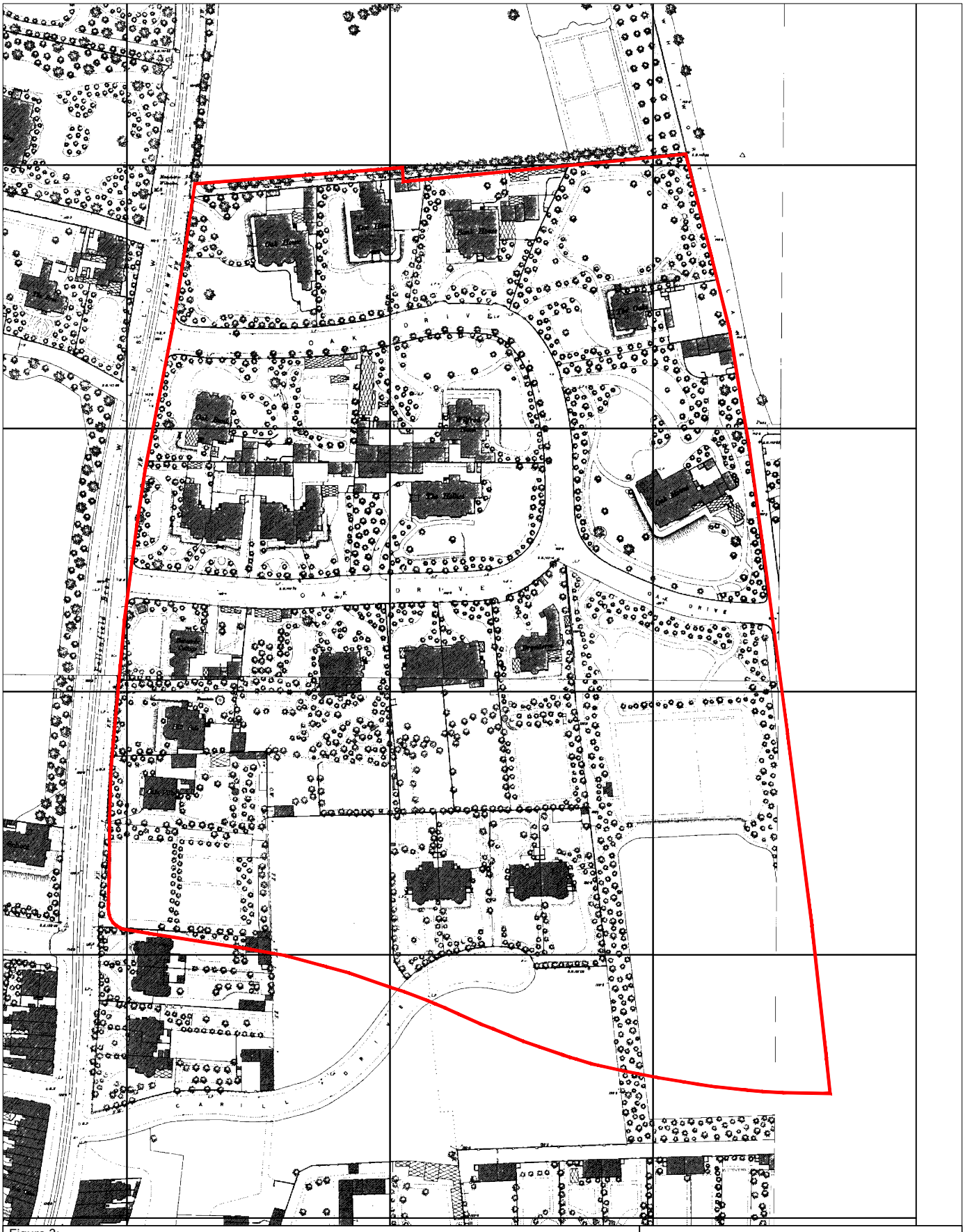


Figure 3:

Site Boundary Superimposed onto the 1:500 Town Plan of 1891

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N

Key:

Site Boundary

SALFORD ARCHAEOLOGY

0 100 m

Scale at A4 1:2000

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Figure 4:

Site Boundary Superimposed onto the 1:2500 County Series Map of 1907

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N

Key:

Site Boundary

SALFORD ARCHAEOLOGY

0 100 m

Scale at A4 1:2000

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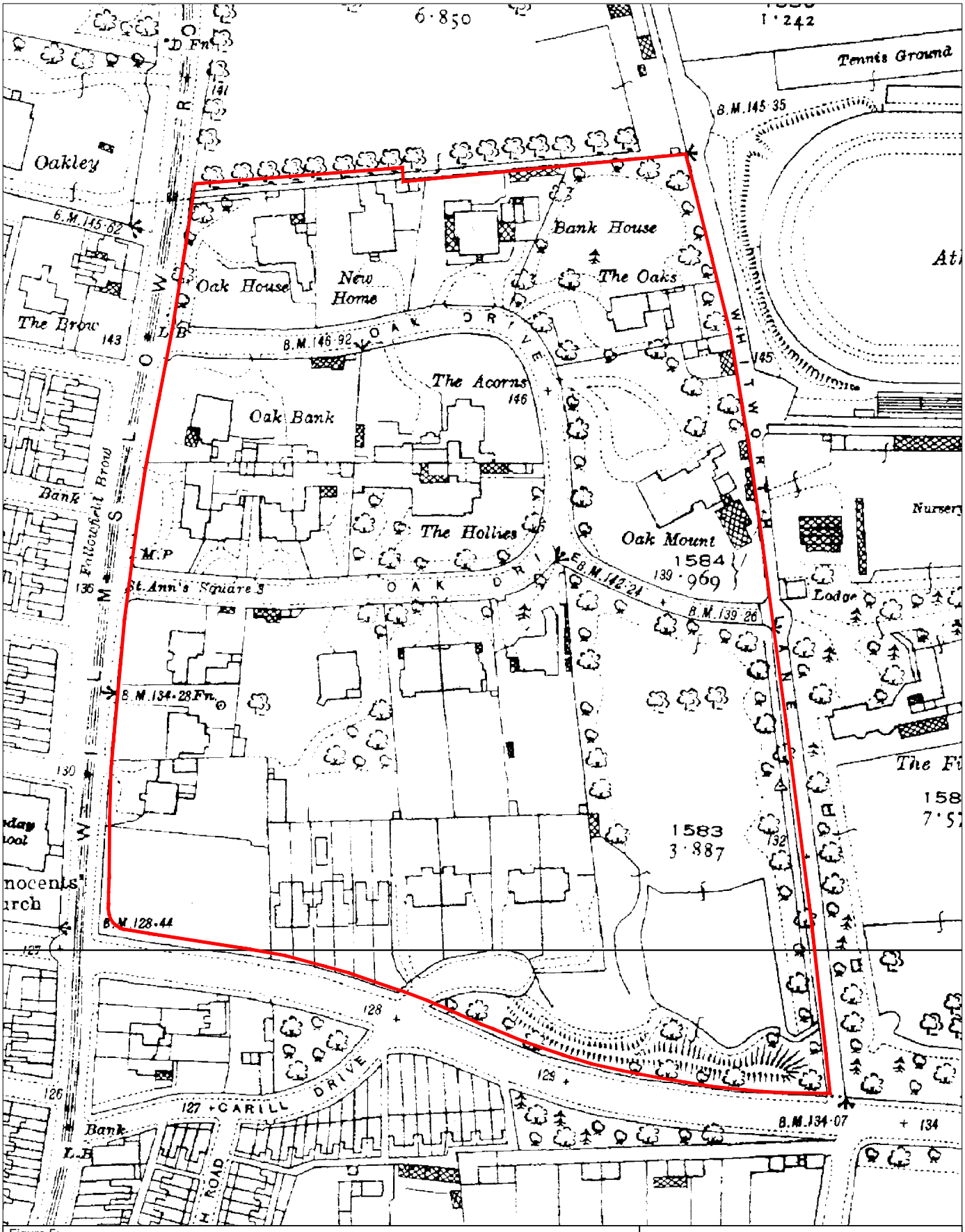


Figure 5:

Site Boundary Superimposed onto the 1:2500 County Series Map of 1933

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N

Key:

Site Boundary

SALFORD ARCHAEOLOGY

0 100 m

Scale at A4 1:2000

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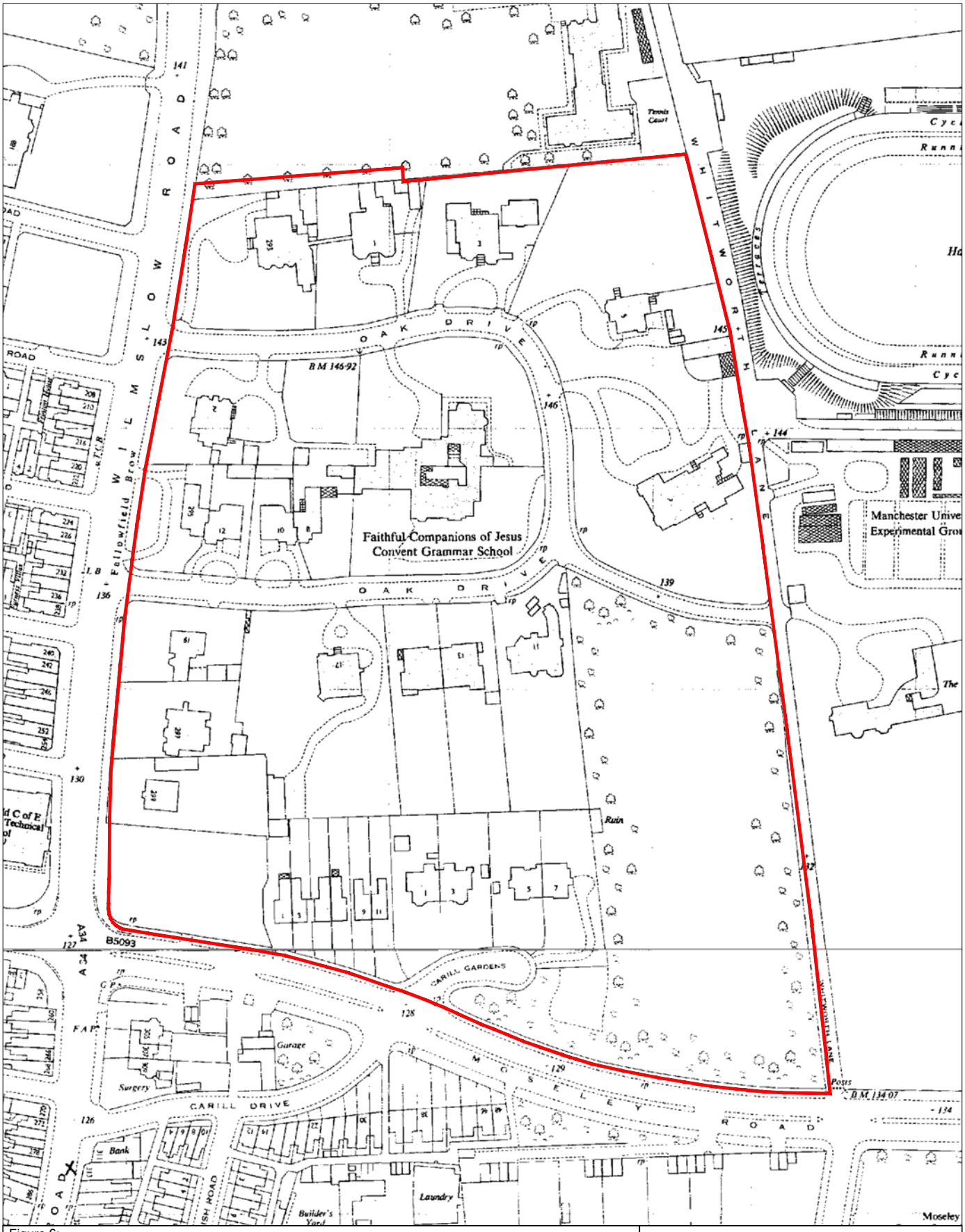


Figure 6:

Site Boundary Superimposed onto the 1:2500 National Grid Map of 1957

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N

Key:

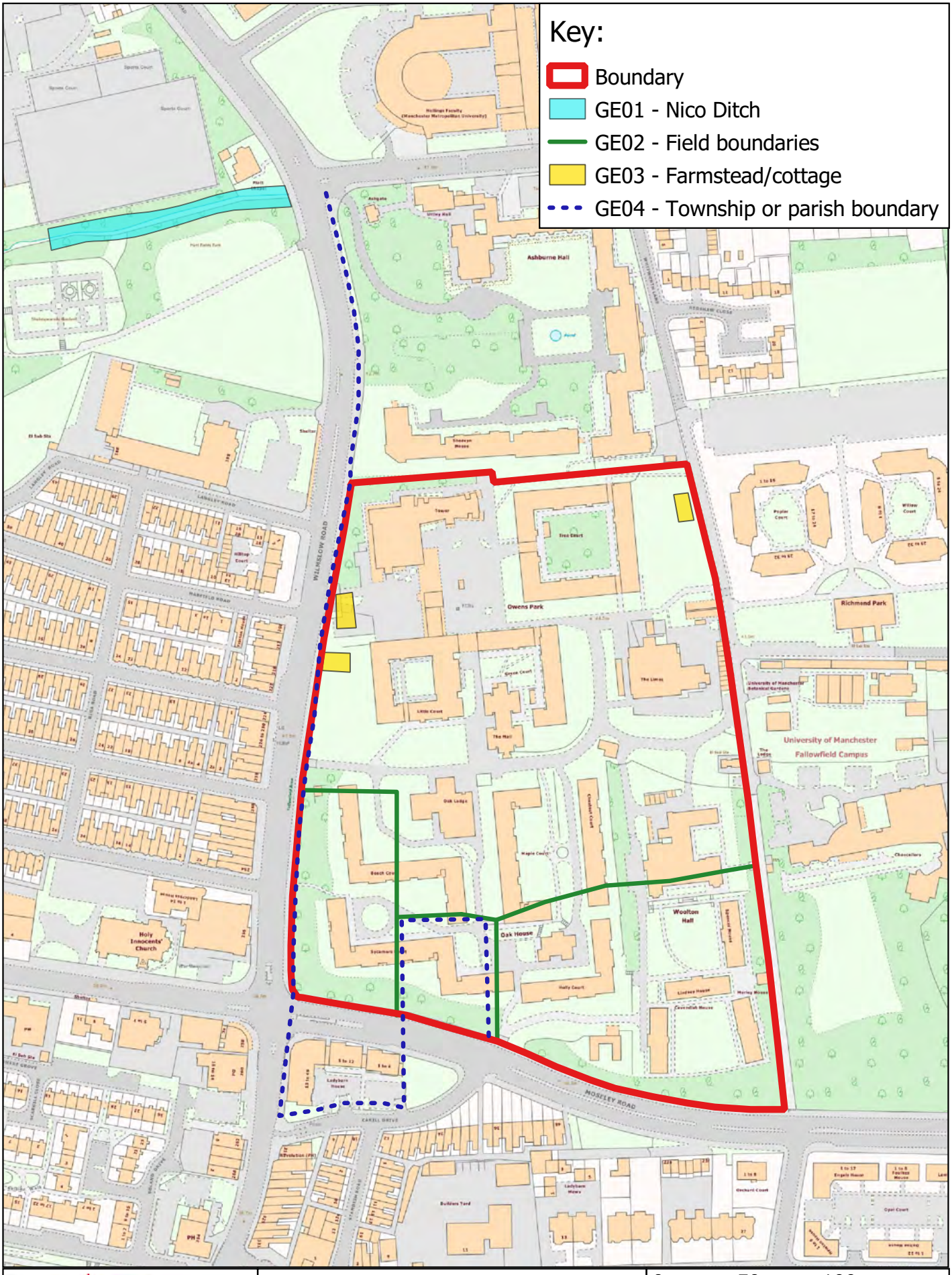
Site Boundary

SALFORD ARCHAEOLOGY

0 100 m

Scale at A4 1:2000

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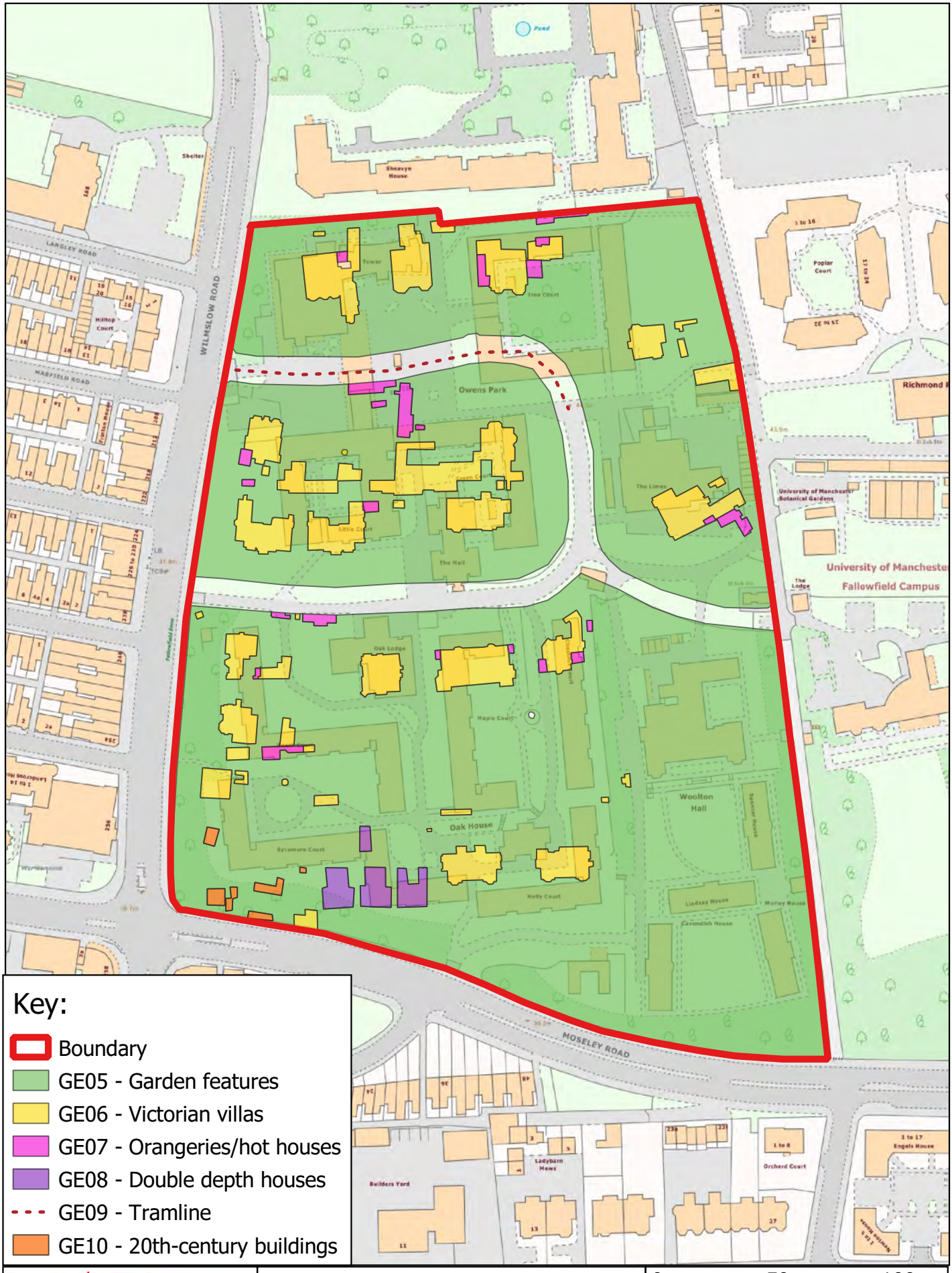
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Figure 7: Location of Gazetteer Entries

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Figure 8: Location of Gazetteer Entries

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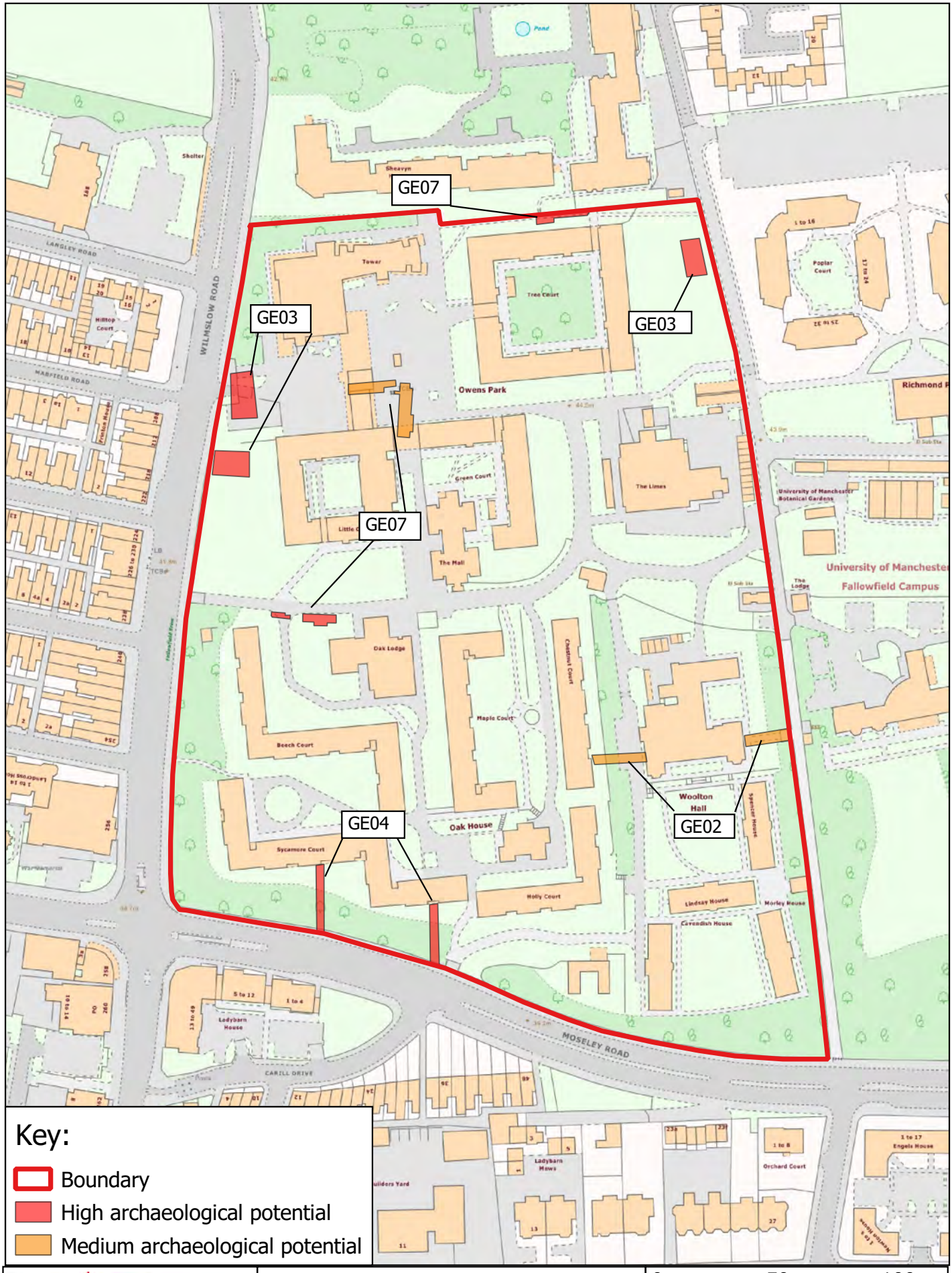


Figure 9: Areas of Archaeological Potential

0 50 100 m

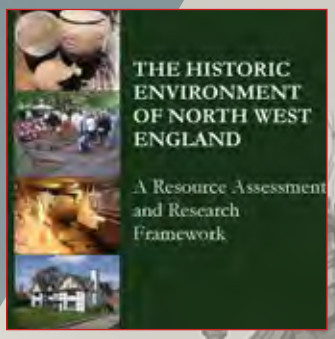
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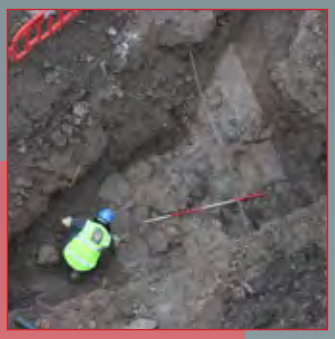
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DESK-BASED ASSESSMENTS



WATCHING BRIEF & EVALUATION



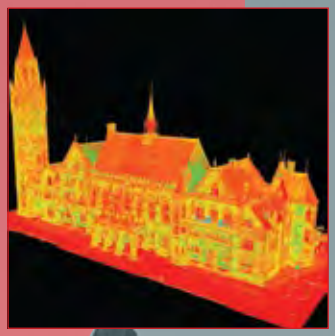
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BUILDING SURVEY



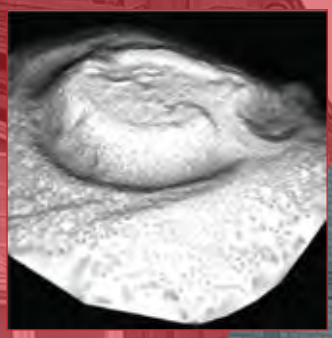
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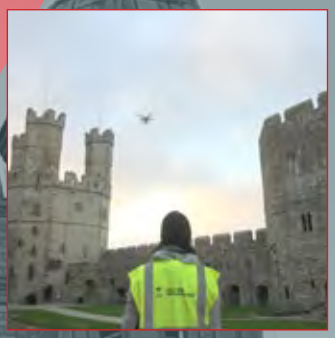
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LANDSCAPE SURVEYS



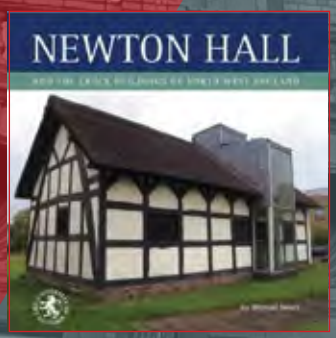
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