



WSP on behalf of Chris Melvin c/o Kam Lei Fong (UK) Ltd

Warwick Mill, Middleton

Coal Mining Risk Assessment

Report no. 11891 R01 (00)

RSK GENERAL NOTES

Project No.: 11891 R01

Title: Coal Mining Risk Assessment: Warwick Mill, Middleton, M24 1AZ

Client: WSP on behalf of Chris Melvin c/o Kam Lei Fong (UK) Ltd

Date: November 2023

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1 INTRODUCTION

RSK Environment Limited (RSK) was commissioned by Michael Hadi Associates to produce a Coal Mining Risk Assessment (CMRA) report for a parcel of land located at Warwick Mill, Middleton, M24 1AZ. This report has been prepared in accordance RSK proposal 11891 TL01 (00) dated 17 October 2023.

The site is proposed for redevelopment for both residential and commercial use. A site location plan is presented as **Figure 1** and an indicative proposed layout plan is included in **Appendix B**.

The Coal Authority, in common with other statutory consultees, utilises a risk-based approach for the advice that they offer on proposed developments in relation to coal mining legacy issues. The site is located within in an area classified by the Coal Authority as a development high-risk area. It is a requirement for proposed developments within high-risk areas to prepare a desk-based CMRA to support planning applications.

A CMRA needs to consider a number of sources of information to determine coal mining issues relevant to a site. It then needs to identify and assess the site-specific coal mining risks and propose an appropriate mitigation strategy relevant for the proposed site end-use. This approach has been followed in the current desk-based assessment.

Guidance from the Coal Authority outlines the assessment stages required for a CMRA, which are included in the following sections of this report:

Stage 1 - Sources of information

- Sections 1 and 2 provide background information
- Section 3 presents available desk-based information

Stage 2 - Assessment of site-specific coal mining risks

- Section 4 presents an assessment of the site-specific coal mining risks

Stage 3 - Mitigation strategy proposed

- Section 5 presents the required mitigation measures to address the identified risks

1.1 Scope of coal mining risk assessment

The scope of this CMRA is to:

- present a review of all available information on the coal mining issues which are relevant to the site including the findings of previous site investigation work (if any) and this phase of desk-based review work
- use that information to identify and assess the risks to the proposed development from coal mining legacy, including the cumulative impact of issues
- identify the required mitigation measures to address the site-specific coal mining risks.

1.2 Limitations

The comments given in this report and the opinions expressed are based on information gained in the desk study, the sources of which are presented within the report for reference. This report is subject to the RSK service constraints given in **Appendix A**.

2 THE SITE

2.1 Site location and description

The site is located at Warwick Mill, Oldham Road, Middleton, M24 1AZ (National Grid reference 387100, 405650) as shown on **Figure 1**. The site boundary and current site layout are shown on **Figure 2**.

The site covers an area of approximately 1.10 hectares comprising two parcels of land that are rectangular in shape. The larger of these parcels is occupied by an unoccupied five-storey building (Warwick Mill) with a basement.

A single storey lodge building with additional garage is located to the northeastern and southwestern part of the parcel. A tarmacked carparking area is located to the west of the building.

The western area of site is comprised of a six-storey office building, known as London House. There is a substation located south of the building.

The land around the site is a mixture of commercial, industrial and residential developments.

A site walkover was conducted as part of this assessment on 2 December 2021, which recorded the following relevant observations:

- No shafts were visible on the surface.
- The site is generally level with a gradual reduction in elevation towards the eastern part of the site.
- Small pits have been excavated within the car park producing spoil of made ground comprised of broken bricks.
- There are several manholes on the site and overhead telephone wires running along the eastern boundary of the site.

2.2 Proposed development

The proposed development is understood to comprise of a residential development. The proposed plan includes the demolition of the existing six-storey office building and replacement with a large residential tower (The Loom). This tower is planned to stand ten-storeys with no basement layer.

There is additional planned work on the existing Warwick Mill building into residential apartments, with the inclusion of a new penthouse storey on the roof with an atrium.

The proposed layout of the site, at the time of preparing this report, has been included in **Appendix B**.

3 COAL MINING DESK STUDY

3.1 Introduction

A review of available information has been undertaken to establish the historical development of the site in relation to coal mining activities and to ascertain the environmental setting relating to geology. The following sources of information have been used within the review:

- The Coal Authority, Consultant Coal Mining Report, reference 51002716868001, dated 25 November 2021 (presented in **Appendix C**)
- British Geological Survey (BGS). Geolindex, BGS Online Accessed at: [GeolIndex - British Geological Survey \(bgs.ac.uk\)](https://www.bgs.ac.uk/geolindex/), (Accessed on 10/11/2023)
- British Geological Survey (BGS). Geological map 1:50,000 scale 2010 Online accessed at <https://largeimages.bgs.ac.uk/iip/mapsportal.html?id=1009338> (Accessed on 15 November 2023)
- British Geological Survey (BGS). Geological map 1:50,000 scale 1971, Online accessed at <https://largeimages.bgs.ac.uk/iip/mapsportal.html?id=1001573> (Accessed on 15 November 2023)
- RSK Environment Limited. Preliminary Risk Assessment (PRA): Warwick Mill, Middleton. Report reference 11653 R01 (00), dated December 2021
- British Geological Survey (BGS). Historical borehole logs Online Accessed at: GeolIndex - British Geological Survey (bgs.ac.uk), (Accessed on 10/11/2023) (presented in **Appendix D**)

3.2 Geology

A review of the available geological maps has been completed, which included the following:

The BGS online Geology of Britain Viewer (**accessed on 10/11/2023**) indicates the site is underlain by bedrock of the Pennine lower Coal Measure (mudstone, siltstone, and sandstone with thick coal seams). Superficial deposits on site are Alluvium (Clay, Silt, Sand and Gravel).

The BGS 1:50,000 geological map series Sheet 85 Bedrock dated 2010 (BGS, 2010) indicates the site to be underlain by the Higher Bent Coal (HBt) and the Lower Bent Coal Measures (LBt), which are indicated to sub-crop beneath the site and dip to the southwest, both within the Lansettian group of the Westphalian series.

A fault is recorded to be present along the western boundary of site from north to south, which is downthrown on the eastern side (extend not shown).

There is no available BGS 1:10,560 geological map for the site.

The British Geological Survey map viewer shows there are no boreholes located within the site boundary.

A selection of these borehole logs in close proximity to the site (located to the north of Park Road, between 100 m and 185 m) have been used to inform shallow ground conditions within the surrounding area.

Deeper boreholes within the vicinity of the site have been taken forward to support the assessment of coal related features within the underlying bedrock. The closest publicly accessible borehole is located 75.00 m north of the site (SD80NE/12), which was terminated at a depth of 71.78m bgl. The upper layers of superficial soils are not included within the log. 'Sand and Gravel' is logged to a depth of 17.06 m bgl underlain by 'clay shale' to a depth of 18.59m bgl. 'Grey rock' is logged from this depth and continues to a depth of 21.94 m bgl. The grey rock, anticipated to be mudstone or siltstone of the Pennine Lower Coal Measures, is underlain by 'shale' described as either grey, blue or white to a maximum depth of 71.78m bgl (base of the borehole). The log does not indicate the presence of coal.

A further three publicly accessible deep BGS boreholes are located some distance (>400m) to the west of the site. Although not wholly representative of site conditions, they do mention coal at depths within the logs and give an indication of coal related features nearby the site. Two of these boreholes (SD80NE/22 and SD80NE/24) do not have associated published logs. Borehole SD80NE/21 is located approximately 440m west of the site and was drilled to a depth of 91.44 m bgl.

The log indicates superficial deposits of 'running sand', gravel and clay to a maximum depth of 37.18 m bgl underlain by a layer described as 'very soft black shale'. This layer was encountered to a depth of 39.31 m bgl (2.13 m thick) and no further details are given. This could be a layer of coal however the description is such that this can only be inferred.

This layer is underlain by 'grey rock' and 'hard shale', assumed to be mudstone and siltstone of the Pennine Lower Coal Measures, to a depth of 54.55 m bgl where a 'black shale' layer is noted. The thickness of this layer is stated to be 2.14 m thick. Another 'Black Shale' layer is noted at 62.94m bgl with a thickness of 1.84 m. At 71.93 m bgl a layer described as 'Grey rock of coal' is noted with a thickness of 0.79 m.

BGS Borehole logs relevant to this assessment are presented in **Appendix D**.

Table 1: Anticipated Geology

Strata	Description	Estimated thickness	Permeability
Made ground	Made ground likely to be present associated with present/historic development	unknown	Unknown
Alluvium	Clay, Silt, Sand and Gravel	Up to 4m	Moderate to High
Glaciofluvial Sheet Deposits, Devensian (GSDD)	Sand and gravel, locally with lenses of silt, clay or organic material	10m to 12m	High
Pennine Lower Coal Measures Formation	Grey mudstone, siltstone and pale grey sandstone	>54m (base unproven)	High

Strata	Description	Estimated thickness	Permeability
Potential coal seams	Black shale and grey rock of coal (as defined on the historic BGS borehole logs)	0.79 – 2.14m (taken from nearby BGS logs and may not be representative of seams below the site)	Unknown
Relevant information sources: BGS Geoindex ☒ BGS borehole logs ☒ Previous SI reports ☐			

3.3 Site History

A review of the historical maps for the site from between 1891 and 2023 was undertaken using historic plans and records. Historical maps reviewed are shown within the environmental database report provided in **Appendix E**.

The history of the site was comprised of predominantly industrial buildings for the manufacturing of furniture until the early 1970's and for cotton till the mid 1970's. After this time the western area of site was demolished and then redeveloped into the 'London House'. Weatherproof works were present till the mid 1970's on the east of site which was then changed into unknown works in the 1980's. The building is no longer present and is thought to have been demolished in 2006.

Historical data has identified two gravel pits and two sand pits located to the east and south areas of site. These operated between the 1930's and 1940's. All pits were replaced with residential developments and fields from the 1930's onwards. A petrol station was also erected adjacent to site in the early 2010's.

The recorded coal mining related activity in the local area started in around 1879, although operations only took place over a short period. The closest colliery (Arkington colliery) is dated as being functional from 1879 – 1897 (NMRS, Gazetteer of British collieries. The seams worked here were the Bent and Black mines.

The Coal Authority Interactive Viewer (accessed on 16/11/2023) records seam level data on the Lower Bent seam that is indicated to be present beneath the site. The seam level data approximately 300 m south-east of site and is at 67.00 m AOD, approximately 23.00 m below ground level (bgl). The recorded Lower Bent and overlying Higher Bent seam are likely to be present at a shallower depth up-dip towards the site.

Warwick Mill was constructed in 1907 and is approximately 90.00 m long by 43.00 m wide. The mill is likely to have been developed after any mining which had ceased as the nearby colliery in approximately 1897.

3.4 Consultants Coal Mining Report

A site-specific Consultants Coal Mining Report prepared by the Coal Authority (reference 51002716868001 dated 25 November 2021) and is presented in **Appendix C**.

The key findings from the mining reports are detailed below.

- No past mining has been recorded beneath the site
- The Higher Bent and Lower Bent coal seams are recorded to outcrop beneath the site, and are of a workable thickness
- Probable unrecorded shallow workings may be present beneath the site
- There are no recorded mine entries beneath the site or within 100m of the site boundary
- The property is not within the boundary of an opencast site from which coal has been removed by opencast methods;
- The property has no recorded spine roadways at shallow depths recorded.
- The Coal Authority has not received a damage notice or claim for the subject property or any property within 50 m since 31 October 1994;
- There is no record of a mine gas emission requiring action by the Coal Authority within the boundary of the property;

3.5 Abandonment plans

An abandoned mines catalogue (AMC) search was requested by RSK on 9th November 2023. RSK received an email from a Mining Consultant and Information Manager at the Coal Authority on 13 November advising at there are no recorded mine entries, underground workings or areas of opencast within the vicinity of the site, so there are no plans the Coal Authority can provide. They went onto say that the site does fall within a broader area that was identified by British Coal as potentially containing unrecorded shallow workings, but by their very definition the Coal Authority do not hold plans for these.

Email correspondence with the Coal Authority are presented in **Appendix F**.

4 ASSESSMENT OF SITE-SPECIFIC COAL MINING RISKS

4.1 Opencast workings

There is no history of opencast workings at Warwick Mill and no further consideration of this issue is required.

4.2 Mine entries

There are no recorded mine entries (shafts or adits) on site or within 100m of the site boundary.

4.3 Coal seams

The Coal Authority records do not indicate that worked coal is present beneath the site at shallow depth (within 30.00 m of ground level), and that the Higher bent and Lower Bent coal seams are reported to be outcrop beneath the site dipping to the south west and are of workable thickness. The potential for unrecorded shallow workings to be present cannot be discounted.

It should be noted the Coal Authority records are not comprehensive and do not cover older mining activities dating from the early to mid-19th century. As such, given the fact Coal seams are shown at shallow depth across the site, there is a potential for unrecorded shallow workings on site.

The presence of commercially viable coal seams (which may contain workings) at shallow depth beneath the site would present a significant ground stability risk for the site. It should be noted that “shallow” workings are defined as anything within 30.00 m of ground surface (according to the Coal Authority document Risk based approach to development management: Guidance for developers, version 4, dated 2017).

There are no records available relating to coal seams east of the fault (i.e., underneath the main section of the site). It is possible that due to the presence of coal seams (Higher and Lower Bent coal seams) sub-cropping below the site that unrecorded workings may be present at shallow depth.

Ground investigation is required to confirm the presence or absence of unrecorded workings within potential un-named coal seams, and the recorded Higher Bent and Lower Bent coal seams.

4.4 Coal mining gases

There are no recorded coal mine workings present beneath the site, however unrecorded workings may be present within shallow un-named coal seams or the Higher and Lower Bent coal seams. The Coal Measures and coal seams are a known source of hazardous ground gases, including carbon dioxide, carbon monoxide, hydrogen sulphide and methane.

The underlying Coal Measures are considered a potential source of hazardous ground gases.

5 MITIGATION STRATEGY

The CMRA completed in the preceding sections has identified that there may be potential risks to the proposed development during construction and re-development into residential apartments and residential tower (The Loom).

Aspects of coal mining discussed in the CMRA, which pose a risk to the proposed development of the site, are covered in turn in this section, with comments provided as to what mitigation measures are considered necessary.

5.1 Mine shafts

There are no recorded mine entries present within the site boundary or within 100 m of the site boundary, as such no investigation is required. Possible unrecorded mine entries may be present, and a protocol shall be put in place during construction detailing how previously unidentified ground conditions, including potential coal mining legacy issues such as unrecorded mine entries will be addressed. This should include actions to be implemented if unexpected ground conditions are recorded, including for example possible unrecorded mine shafts and associated features.

5.2 Worked coal seams

Beneath large areas of the site, there is the potential to encounter coal seams at shallow depth. The thickness of the shallow coal seams has not been confirmed, and whether or not these have been worked. Given the possible presence of workings in shallow seams intrusive investigation work is required to confirm the position of sub crop of the shallow seams and details of the nature of the bedrock and superficial soils present.

The required intrusive investigation should comprise rotary boreholes, targeting the areas of site most likely to have been affected. The rotary drilling work should be focussed on the conjectured shallow coal seams beneath the development.

The findings of the investigation work would be used to determine if any drilling and grouting consolidation treatment works are necessary. If shallow workings are present the general approach would be to undertake treatment on a regular primary borehole grid beneath proposed building areas (including a perimeter area) with more closely spaced boreholes (on a secondary or even tertiary grid) where evidence of intensive workings or high grout takes are recorded.

5.3 Coal mining gases

The underlying Coal Measures are considered a potential source of hazardous ground gases and shallow workings provide preferential migration pathways.

Given these potential conditions and the fact that the proposed development is for residential end-use, it will be necessary to carry out a ground gas risk assessment as part of the site investigation and assessment process. This should include the measurement of ground gas concentrations and flow rates in accordance with CL:AIRE Good Practice for Risk Assessment for Coal Mine Gas Emissions, October 2021.

6 CONCLUSIONS

This document provides a detailed assessment of the coal mining history of the Warwick Mill site for a residential development scheme (apartments and residential tower 'The Loom'). The results of the assessment indicate there are shallow coal seams beneath the site, with the potential for shallow workings and risk from concentrations of hazardous ground gases present. Information available indicates there are no recorded mine entries present on site.

Further assessment, by intrusive investigation, will be required beneath the proposed development to determine the presence or otherwise, of any shallow workings and determine the most appropriate mitigation measures required. Ground gas monitoring will be required to confirm the ground gas regime and the requirement for ground gas protection measures (if appropriate).

In view of the above, we recommend some deeper boreholes are formed during ground investigation works across the Mill to inform wider design and planning requirements. The purpose of these boreholes will be to establish the geological sequence beneath the site to depths circa 30/40m such that we can identify what coal seams may pass beneath the site and their depth and alignment relative to the new development.

Any evidence of potential workings will also be monitored during these works. The results from these ground investigations will then be used to refine our mining risk assessment and establish what (if any) treatment works may be required during the main development phase.

REFERENCES

British Geological Survey, 2017. Onshore GeoIndex, accessed 16 November 2023 (<http://mapapps2.bgs.ac.uk/geoindex/home.html>), various datasets.

British Geological Survey, 2010. Sheet Number 85, Manchester, 1:50,000 scale map, accessed 15 November 2023 (<https://largeimages.bgs.ac.uk/iip/mapsportal.html?id=1009338>)

British Geological Survey, 1971. Sheet Number 85, Manchester, 1:50,000 scale map, accessed 15 November 2023 (<https://largeimages.bgs.ac.uk/iip/mapsportal.html?id=1001573>)

CL:AIRE Good Practice for Risk Assessment for Coal Mine Gas Emissions, October 2021.

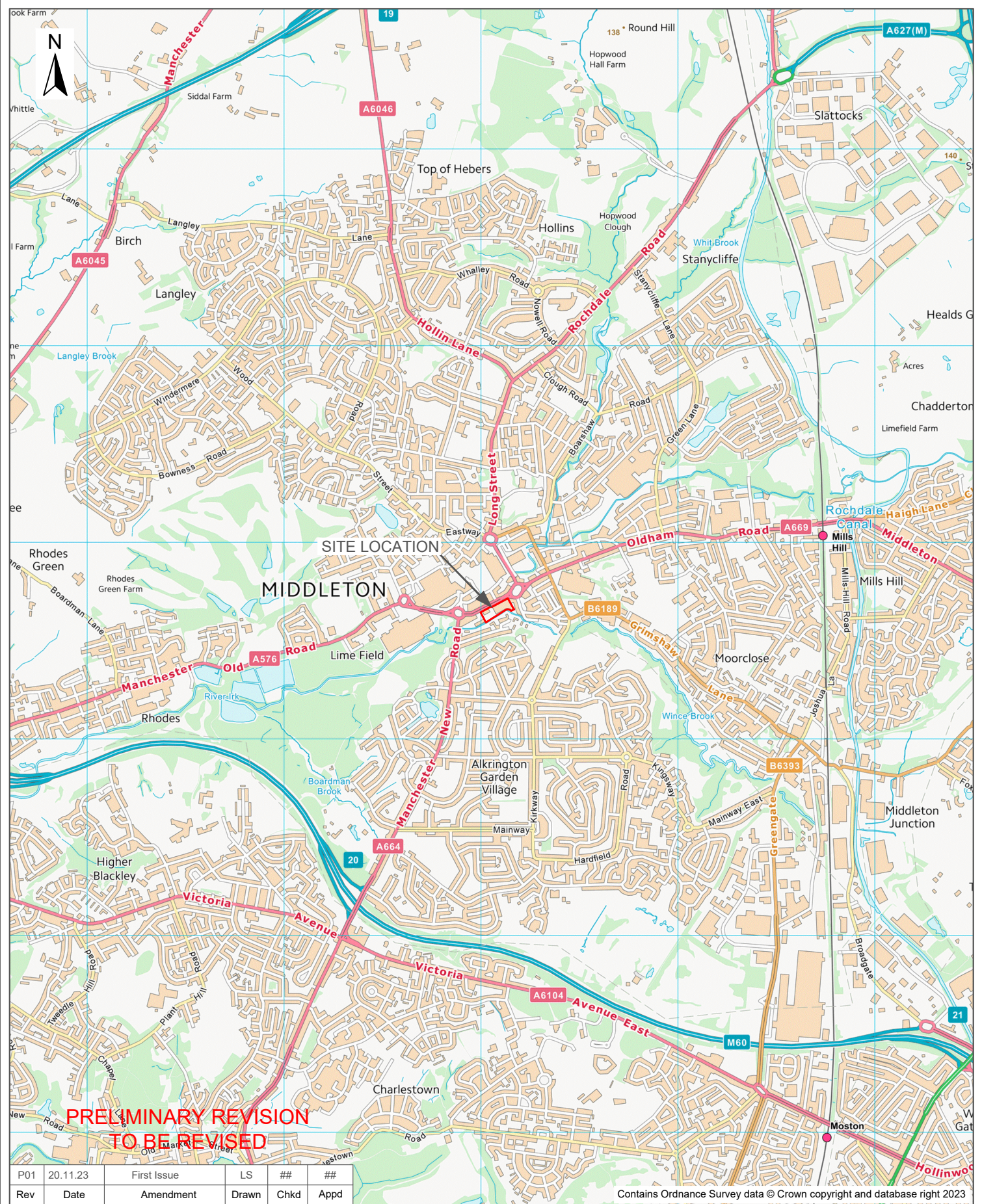
The Coal Authority, 2017. Resources for Developers: Risk Based Approach to Development Management (version 4).

The Coal Authority, 2023. Consultant's Coal Mining Report, reference 51002716868001, dated 25 November 2021.

www.gov.uk, accessed March 2017. Planning applications: coal mining risk assessments (<https://www.gov.uk/guidance/planning-applications-coal-mining-risk-assessments>).

FIGURES

FIGURE 1: SITE LOCATION PLAN



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Client
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Project Name
Warwick Mill, Middleton

Description
Site Location Plan

Dimension	Size	Scale	Geolocation	Project ID	Drawing no.	Rev	File name
m	A4	1:25,000	387054,405675	11891	11101	P01	11891-MA-111-SS-D-C-11101-P01

FIGURE 2: SITE LAYOUT PLAN



DO NOT SCALE FROM THIS DRAWING



LEGEND

— Site boundary

Notes:
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P01	20.11.23	First Issue	LS	##	##
Rev	Date	Amendment	Drawn	Chkd	Appd



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Client
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Project Name
Warwick Mill, Middleton

Description
Site Layout Plan

Project ID	Drawing no.	Revision
11891	11201	P01

File name
11891-MA-112-SS-D-C-11201-P01

Dimensions	Scale	Size
m	1:1000	A3



PRELIMINARY REVISION
TO BE REVISED

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 WSP on behalf of Chris Melvin c/o Kam Lei Fong (UK) Ltd (the "Client") in accordance with the terms of a contract between RSK and the Client, dated 28 September 2023. The Services were performed by RSK with the reasonable skill and care ordinarily exercised by an 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.
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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 of this report, 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 site of asbestos, invasive plants, electromagnetic fields, lead paint, heavy metals, radon gas, persistent, bioaccumulative or toxic chemicals (including PFAS and related compounds) or other radioactive or hazardous materials, unless specifically identified in the Services.
7. The Services are based upon RSK's observations of existing physical conditions at the Site gained from a visual inspection of the site together with RSK's interpretation of information, including documentation, obtained from third parties and from the Client on the history and usage of the site,

unless specifically identified in the Services or accreditation system (such as UKAS ISO 17020:2012 clause 7.1.6):

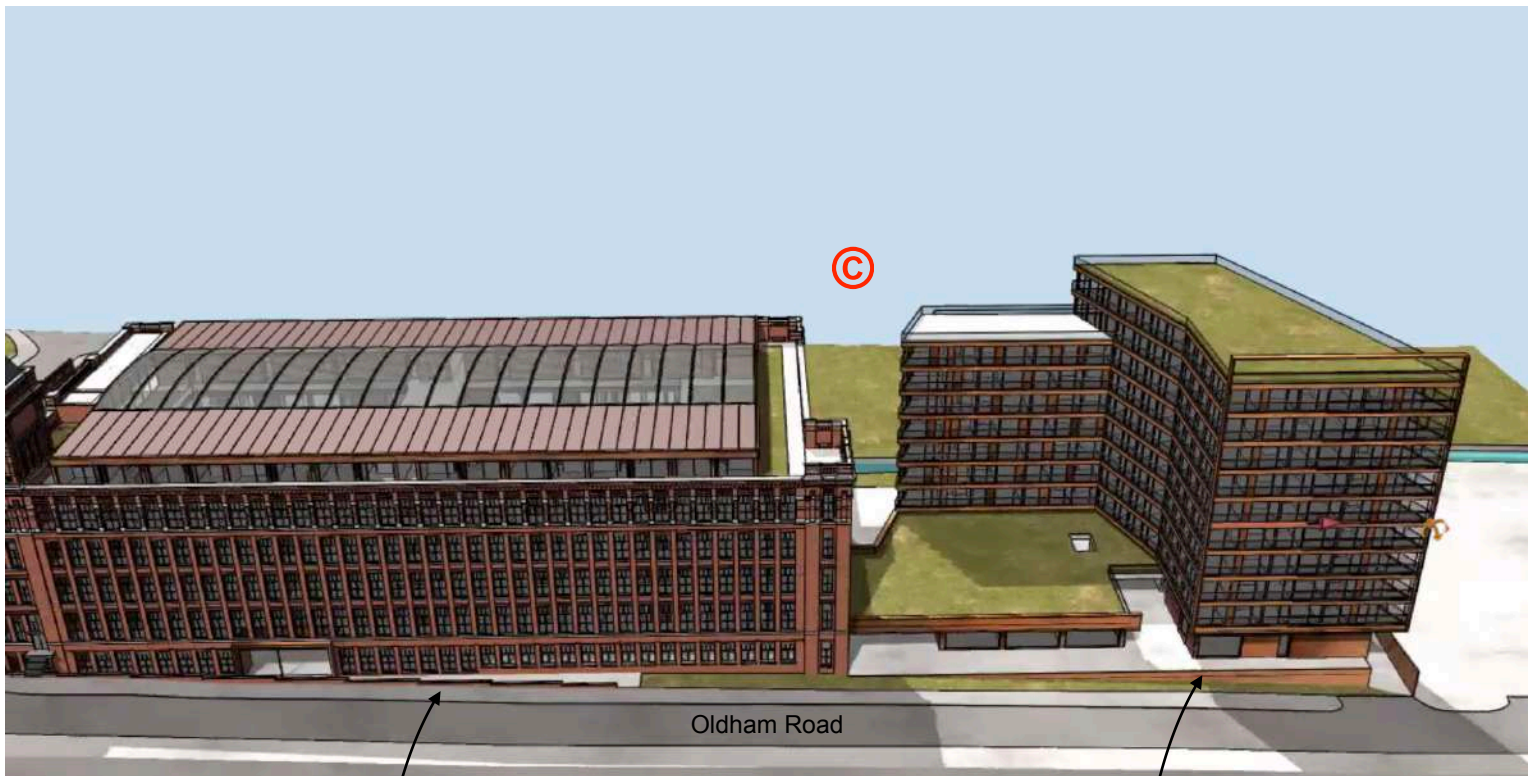
- a. The Services were based on information and/or analysis provided by independent testing and information services or laboratories upon which RSK was reasonably entitled to rely.
- b. The Services were limited by the accuracy of the information, including documentation, reviewed by RSK and the observations possible at the time of the visual inspection.
- c. The Services did not attempt to independently verify the accuracy or completeness of information, documentation or materials received from the client or third parties, including laboratories and information services, during the performance of the Services.

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 intrusive environmental site investigation aspects of the Services are a limited sampling of the site at pre-determined locations based on the known historic / operational configuration of the site. The conclusions given in this report are based on information gathered at the specific test locations and can only be extrapolated to an undefined limited area around those locations. The extent of the limited area depends on the properties of the materials adjacent and local conditions, together with the position of any current structures and underground utilities and facilities, and natural and other activities on site. In addition, chemical analysis was carried out for a limited number of parameters (as stipulated in the scope 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. Features (intrusive and sample locations etc) annotated on site plans are not drawn to scale but are centred over the approximate location. Such features should not be used for setting out and should be considered indicative only.
10. The comments given in this report and the opinions expressed are based on the ground conditions encountered during the site work and on the results of tests made in the field and in the laboratory. However, there may be conditions pertaining to the site that have not been disclosed by the investigation and therefore could not be taken into account. In particular, it should be noted that there may be areas of made ground not detected due to the limited nature of the investigation or the thickness and quality of made ground across the site may be variable. In addition, groundwater levels and ground gas concentrations and flows, may vary from those reported due to seasonal, or other, effects and the limitations stated in the data should be recognised.
11. Asbestos is often observed to be present in soils in discrete areas. Whilst asbestos-containing materials may have been locally encountered during the fieldworks or supporting laboratory analysis, the history of brownfield and demolition sites indicates that asbestos fibres may be present more widely in soils and aggregates, which could be encountered during more extensive ground works.
12. Unless stated otherwise, only preliminary geotechnical recommendations are presented in this report and these should be verified in a Geotechnical Design Report, once proposed construction and structural design proposals are confirmed.

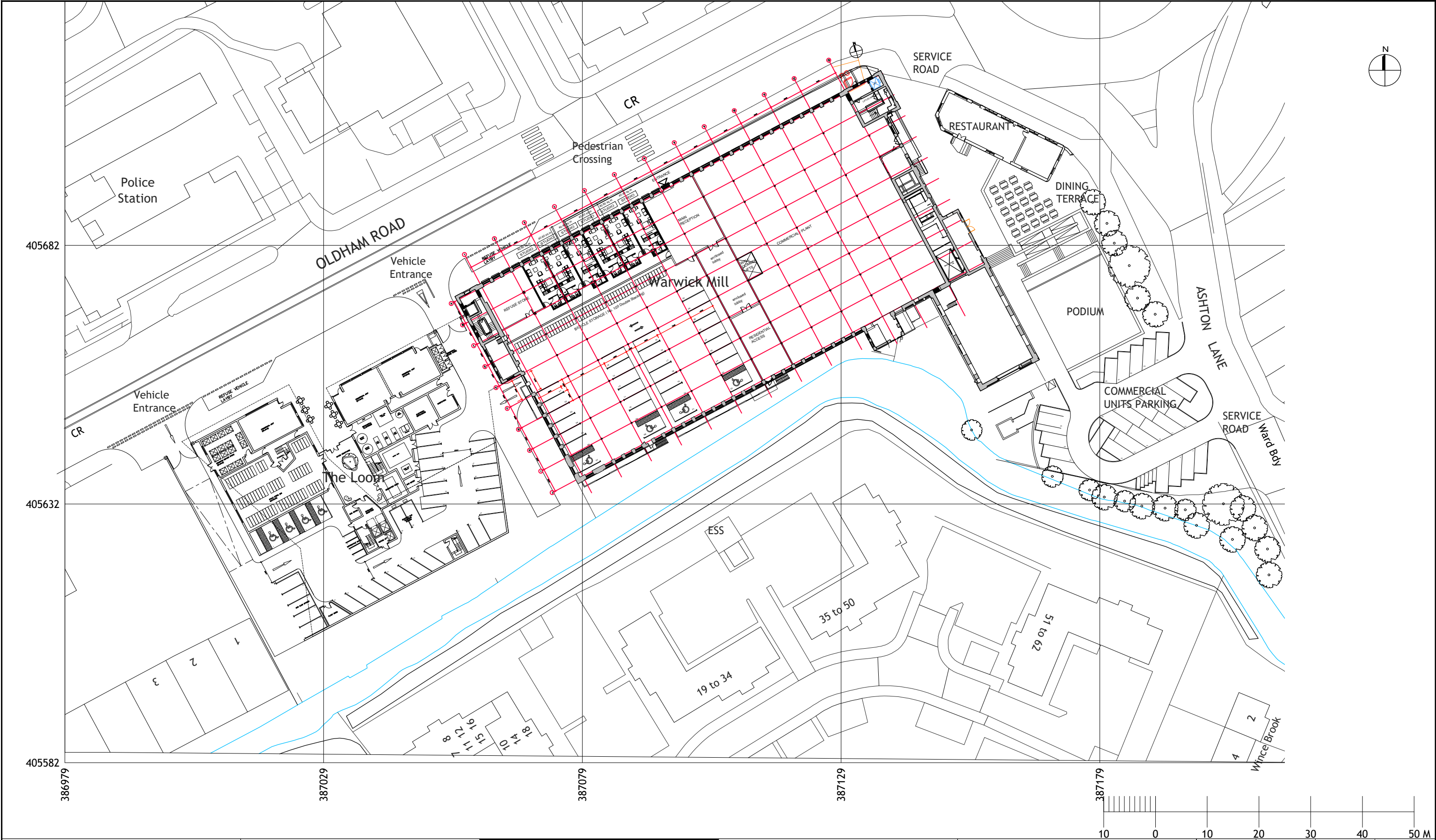
APPENDIX B

PROPOSED DEVELOPMENT PLAN



Warwick Mill

"The Loom" - New residential tower on the site of London House (to be demolished)



			Notes : ■ Dimensions are to be checked on site before fabrication and construction ■ Any discrepancies are to be immediately notified to the architects ■ Structural measurements are to be taken from the structural engineers drawings ■ Do not scale ■ Copyright reserved by GMA	GMA ARCHITECTURE Architects and Designers UK House 82 Heath Road Twickenham TW1 4BA Telephone 020 8891 5959 Fax 020 8607 9933 Email enquiries@gmaarchitecture.co.uk	DRAWING ISSUE STATUS PRELIMINARY	Client	Scale	Date	Drawn	Checked
					Project WARWICK MILL MIDDLETON MANCHESTER	Drawing SITE PLAN	1:500@A2	June 21	SJS	IL
REV	DESCRIPTION	DATE			01	318/01	PL-01	-		

APPENDIX C

THE COAL AUTHORITY CONSULTANTS COAL MINING REPORT



The Coal
Authority

Consultants Coal Mining Report

Warwick Mill
Oldham Road
Middleton
Rochdale
M24 1AZ

Date of enquiry:	25 November 2021
Date enquiry received:	25 November 2021
Issue date:	25 November 2021

Our reference:	51002716868001
Your reference:	P02120135



Consultants

Coal Mining Report

This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

Client name

RSK ENVIRONMENT LIMITED

Enquiry address

Warwick Mill
Oldham Road
Middleton
Rochdale
M24 1AZ

How to contact us

0345 762 6848 (UK)
+44 (0)1623 637 000 (International)

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

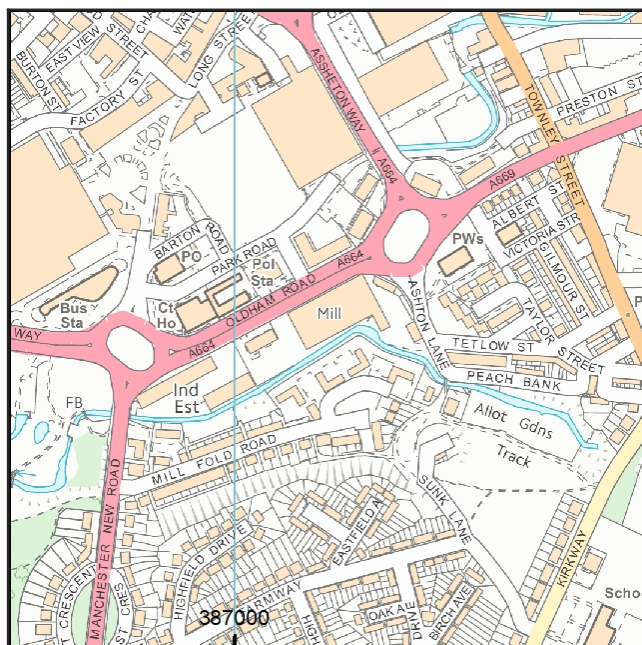
www.groundstability.com

 @coalauthority

 /company/the-coal-authority

 /thecoalauthority

 /thecoalauthority



Approximate position of property



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Ordnance Survey on behalf of
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reserved.

Ordnance Survey Licence number: 100020315

Section 1 – Mining activity and geology

Past underground mining

No past mining recorded.

Probable unrecorded shallow workings

Yes.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

None recorded within 100 metres of the enquiry boundary.

Abandoned mine plan catalogue numbers

The following abandoned mine plan catalogue numbers intersect with some, or all, of the enquiry boundary:

16820		
-------	--	--

Please contact us on 0345 762 6848 to determine the exact abandoned mine plans you require based on your needs.

Outcrops

Seam name	Mineral	Seam workable	Distance to outcrop (m)	Direction to outcrop	Bearing of outcrop
HIGHER BENT	Coal	Yes	Within	N/A	305
LOWER BENT	Coal	Yes	Within	N/A	287
LOWER BENT	Coal	Yes	Within	N/A	288
LOWER BENT	Coal	Yes	Within	N/A	301

Geological faults, fissures and breaklines

Please refer to the 'Summary of findings' map (on separate sheet) for details of any geological faults, fissures or breaklines either within or intersecting the enquiry boundary.

Faults under or close to the property recorded.

Opencast mines

None recorded within 500 metres of the enquiry boundary.

Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

Section 2 – Investigative or remedial activity

Please refer to the 'Summary of findings' map (on separate sheet) for details of any activity within the area of the site boundary.

Site investigations

Distance to site investigation (m)	Direction
7.2	South

See Section 4 for further information.

Remediated sites

None recorded within 50 metres of the enquiry boundary.

Coal mining subsidence

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

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

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

Mine gas

None recorded within 500 metres of the enquiry boundary.

Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

Section 3 – Licensing and future mining activity

Future underground mining

None recorded.

Coal mining licensing

None recorded within 200 metres of the enquiry boundary.

Court orders

None recorded.

Section 46 notices

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

Withdrawal of support notices

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

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

Payments to owners of former copyhold land

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

Section 4 – Further information

The following potential risks have been identified and as part of your risk assessment should be investigated further.

Site investigations

The site is within an area of previous interest. It is close to where the Coal Authority has received information relating to past site investigations.

The site requires further investigation and may influence how you approach your risk assessment.

For further information on specific site or ground investigations in relation to any issues raised in Section 4, please call us on 0345 762 6848 or email us at groundstability@coal.gov.uk.

Section 5 – Data definitions

The datasets used in this report have limitations and assumptions within their results. For more guidance on the data and the results specific to the enquiry boundary, please **call us on 0345 762 6848** or **email us at groundstability@coal.gov.uk**.

Past underground coal mining

Details of all recorded underground mining relative to the enquiry boundary. Only past underground workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination, will be included.

Probable unrecorded shallow workings

Areas where the Coal Authority believes there to be unrecorded coal workings that exist at or close to the surface (less than 30 metres deep).

Spine roadways at shallow depth

Connecting roadways either, working to working, or, surface to working, both in-seam and cross measures that exist at or close to the surface (less than 30 metres deep), either within or within 10 metres of the enquiry boundary.

Mine entries

Details of any shaft or adit either within, or within 100 metres of the enquiry boundary including approximate location, brief treatment details where known, the mineral worked from the mine entry and conveyance details where the mine entry has previously been sold by the Authority or its predecessors British Coal or the National Coal Board.

Abandoned mine plan catalogue numbers

Plan numbers extracted from the abandoned mines catalogue containing details of coal and other mineral abandonment plans deposited via the Mines Inspectorate in accordance with the Coal Mines Regulation Act and Metalliferous Mines Regulation Act 1872. A maximum of 9 plan extents that intersect with the enquiry boundary will be included. This does not infer that the workings and/or mine entries shown on the abandonment plan will be relevant to the site/property boundary.

Outcrops

Details of seam outcrops will be included where the enquiry boundary intersects with a conjectured or actual seam outcrop location (derived by either the British Geological Survey or the Coal Authority) or intersects with a defined 50 metres buffer on the coal (dip) side of the outcrop. An indication of whether the Coal Authority believes the seam to be of sufficient thickness and/or quality to have been worked will also be included.

Geological faults, fissures and breaklines

Geological disturbances or fractures in the bedrock. Surface fault lines (British Geological Survey derived data) and fissures and breaklines (Coal Authority derived data) intersecting with the enquiry boundary will be included. In some circumstances faults, fissures or breaklines have been known to contribute to surface subsidence damage as a consequence of underground coal mining.

Opencast mines

Opencast coal sites from which coal has been removed in the past by opencast (surface) methods and where the enquiry boundary is within 500 metres of either the licence area, site boundary, excavation area (high wall) or coaling area.

Coal Authority managed tips

Locations of disused colliery tip sites owned and managed by the Coal Authority, located within 500 metres of the enquiry boundary.

Site investigations

Details of site investigations within 50 metres of the enquiry boundary where the Coal Authority has received information relating to coal mining risk investigation and/or remediation by third parties.

Remediated sites

Sites where the Coal Authority has undertaken remedial works either within or within 50 metres of the enquiry boundary following report of a hazard relating to coal mining under the Coal Authority's Emergency Surface Hazard Call Out procedures.

Coal mining subsidence

Details of alleged coal mining subsidence claims made since 31 October 1994 either within or within 50 metres of the enquiry boundary. Where the claim relates to the enquiry boundary confirmation of whether the claim was accepted, rejected or whether liability is still being determined will be given. Where the claim has been discharged, whether this was by repair, payment of compensation or a combination of both, the value of the claim, where known, will also be given.

Details of any current 'Stop Notice' deferring remedial works or repairs affecting the property/site, and if so the date of the notice.

Details of any request made to execute preventative works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991. If yes, whether any person withheld consent or failed to comply with any request to execute preventative works.

Mine gas

Reports of alleged mine gas emissions received by the Coal Authority, either within or within 500 metres of the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission.

Mine water treatment schemes

Locations where the Coal Authority has constructed or operates assets that remove pollutants from mine water prior to the treated mine water being discharged into the receiving water body.

These schemes are part of the UK's strategy to meet the requirements of the Water Framework Directive. Schemes fall into 2 basic categories: Remedial – mitigating the impact of existing pollution or Preventative – preventing a future pollution incident.

Mine water treatment schemes generally consist of one or more primary settlement lagoons and one or more reed beds for secondary treatment. A small number are more specialised process treatment plants.

Future underground mining

Details of all planned underground mining relative to the enquiry boundary. Only those future workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination will be included.

Coal mining licensing

Details of all licenses issued by the Coal Authority either within or within 200 metres of the enquiry boundary in relation to the under taking of surface coal mining, underground coal mining or underground coal gasification.

Court orders

Orders in respect of the working of coal under the Mines (Working Facilities and Support) Acts of 1923 and 1966 or any statutory modification or amendment thereof.

Section 46 notices

Notice of proposals relating to underground coal mining operations that have been given under section 46 of the Coal Mining Subsidence Act 1991.

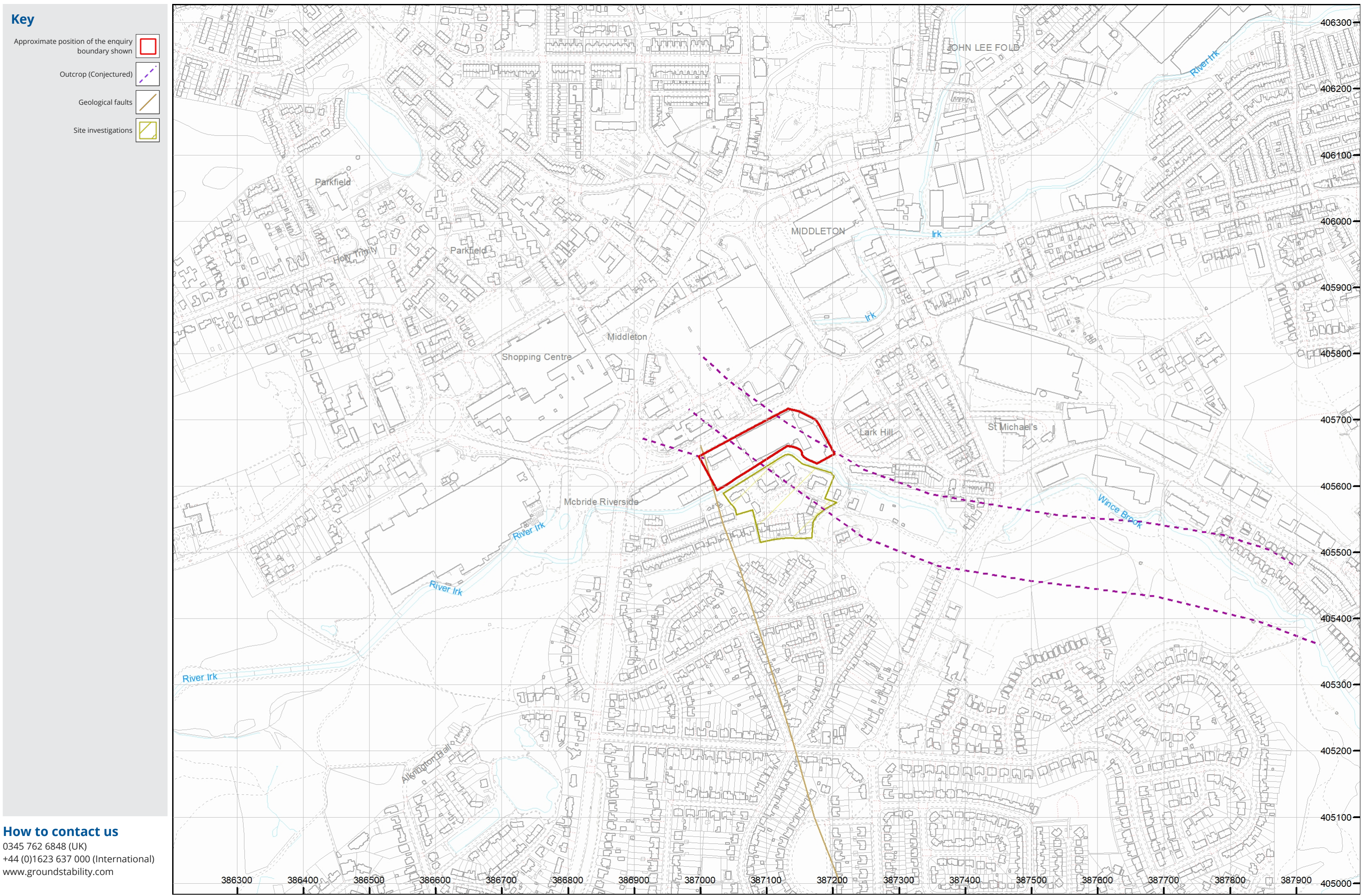
Withdrawal of support notices

Published notices of entitlement to withdraw support and the date of the notice. Details of any revocation notice withdrawing the entitlement to withdraw support given under Section 41 of the Coal Industry Act 1994.

Payment to owners of former copyhold land

Relevant notices which may affect the property and any subsequent notice of retained interests in coal and coal mines, acceptance or rejection notices and whether any compensation has been paid to a claimant.

The map highlights any specific surface or subsurface features within or near to the boundary of the site.



APPENDIX D

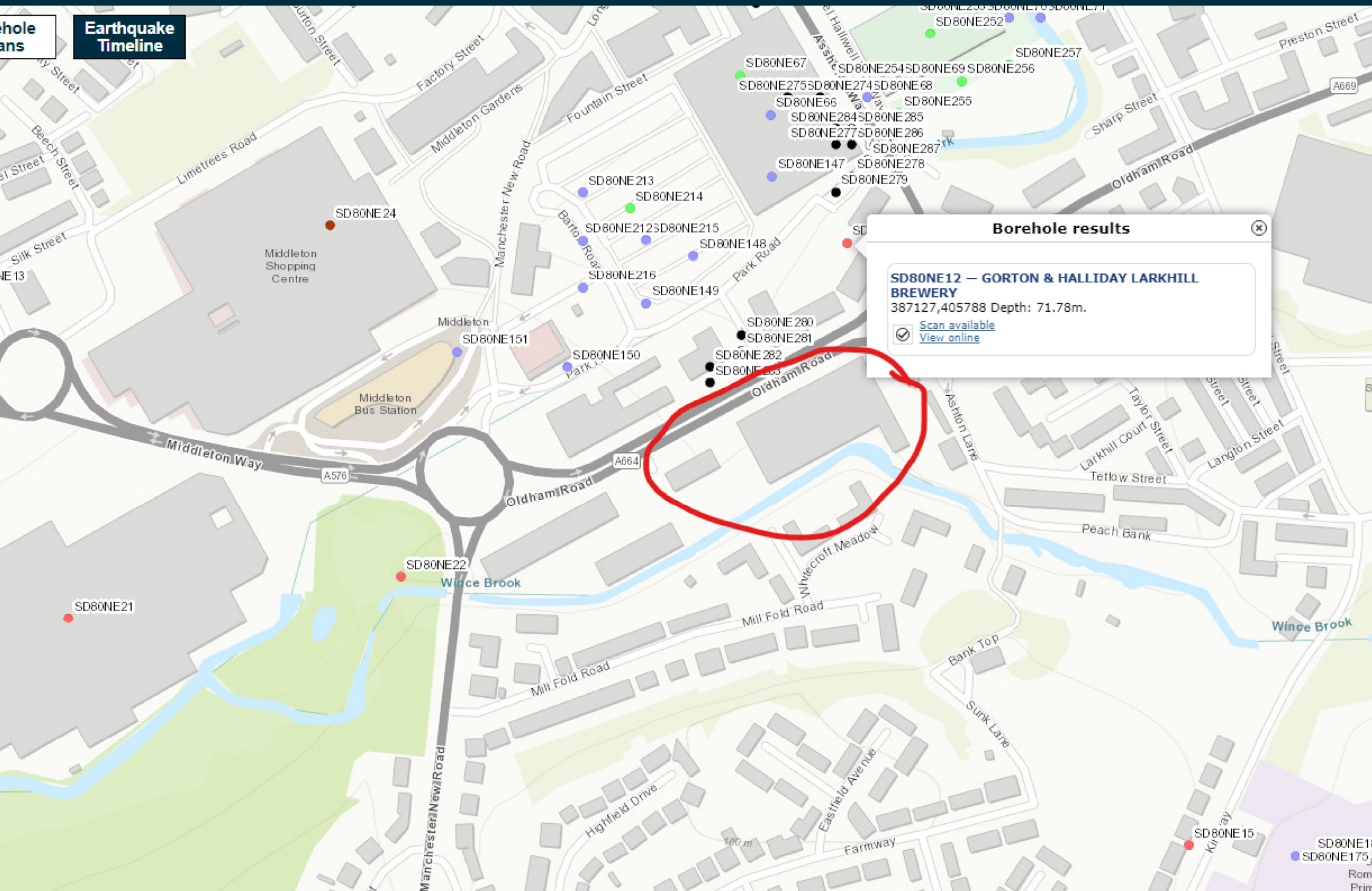
HISTORIC BGS LOGS

Geology of Britain viewer (classic)

[Try the 3D version of the Geology of Britain viewer](#)

Whole ans

Earthquake Timeline





(B10066) Wt. 5086—B111—2,000 6/25 Op. 100 O.A.

SECTION OF Borehole

at Gorton & Halliday
Shakill Brewery, Middleton

Maps: One-inch 95 Six-inch 96NE County Lancashire

Height above O.D. 62.5 Latitude Longitude

Communicated by James H. Matthews Ltd. Date of Sinking 1899

Made by Dip of Strata

	Thickness.		Depth from Surface.		T/m	D/m
Sand & gravel	56	-	56	-		17.06
Clay & shale	5	-	61	-		18.59
Sandy shale & grey rock	7	-	68	-		20.72
" " & flint	4	-	72	-		21.94
Shale & rock	18	-	90	-		27.43
Shale	16	6	106	6		32.46
Shale & rock bands	13	6	119	-		36.27
Grey rock	12	6	131	6		40.08
Blue rock	3	6	135	-		41.14
Grey rock	16	-	151	-		46.02
Beds of rock & shale	68	-	219	-		66.75
Beds of white rock	16	6	235	6		71.78



SD80NE12

SECTION OF BOREHOLE AT

Now R. Hope & Co.

Park Lane.

~~GORTON AND HALLIDAY'S~~

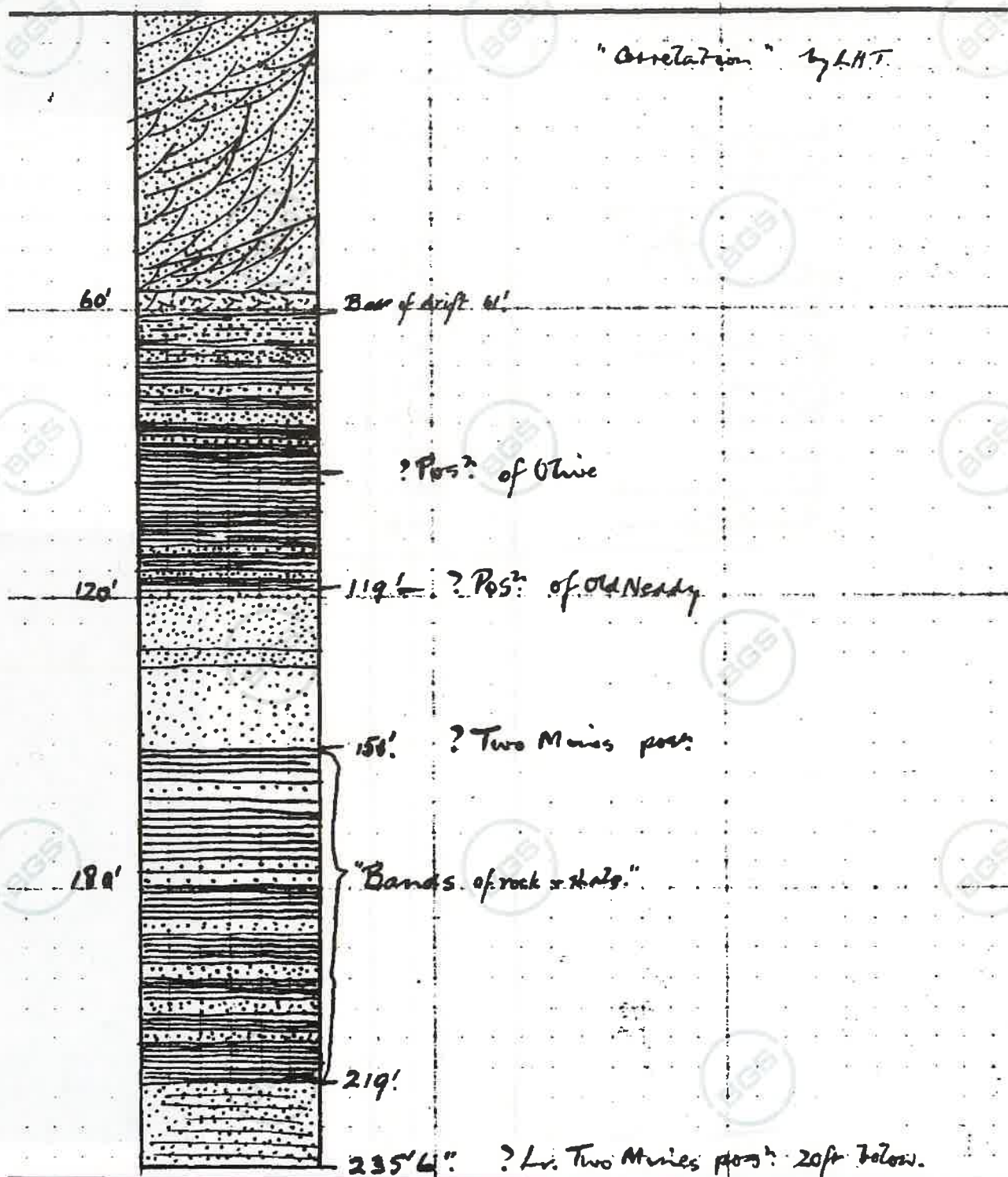
14

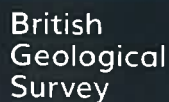
~~LARKHILL BREWERY.~~

T96NEE

MIDDLETON.

"Correlation" by L.H.T.





BGS ID: 26967 : BGS Reference: SD80NE12
British National Grid (27700) : 387127,405788

How R. Hope & Co.
in Portland, off Rd

SD 8705 0573

50 g

(B10040) WL 5000-B111-2000 4/25 Co. 100. O.A.

in Pankhore, of Kulu Rd.

Middleton. Draw 7.

Draw up.

SECTION OF Reel 2

Costa & Halliday

14

Thasill Brewery, Middleton

Maps: One-inch 95

95

Six-inch

06NE*

County

handed:

Height above O.D.

522

Latitude

Longitude

Communicated by _____

Messrs Wm. Habbings Ltd.

Date of Sinking 1877

Made by

Dip of Strata

SD 80/42

	Thickness.	Depth from Surface.
Sand & gravel	56 -	56 -
Clay & shale	5 -	61 -
Sandy shale & grey rock	7 -	68 -
" " " " " "	4 -	72 -
Shale & rock	18 -	90 -
Shale	16 6	106 6
Shale & rock bands	13 6	119 -
Grey rock	12 6	131 6
Blue rock	3 6	135 -
Grey rock	16 -	151 -
Bands of rock & shale	68 -	219 -
Beds of white rock	16 6	235 6



RECORD of WELL BORING

Survey 21/8
1" N.S.
1" O.S.

at (house or farm) Irkdale Works
Town, Village, &c. Middleton County Lancs Six-inch map 96 NE

Exact site (unless a tracing from a map is supplied, give distance and direction from parish church, cross-roads, or other object shown on maps).
Popular Edition (Sheet _____ of one-inch map. Square _____)

Surface level of ground 6240 ft. above Ordnance Datum. Well or Bore commenced at _____ ft. below surface level of ground.

Sunk _____ ft., diameter _____ ft. Bored _____ ft.; diameter of boring: at top _____ in., at bottom _____ in.

Details of lining tubes (internal diameters preferred) _____

Water struck at depths of (feet) _____

Rest-level of water below top of well or bore _____ ft. Pumping level _____ ft. Time of recovery _____ hours.

Suction at _____ ft. depth. Yield: (i) on test _____ galls. per _____, (ii) normal _____ galls. per _____

Quality (attach copy of analysis if available) _____

Made by A.C. Potter for Mr. Irkdale Bleach Co. Date of boring 1914

Information from Le Grand

(For Survey use only). GEOLOGICAL CLASSIFICATION.	NATURE OF STRATA. (and any additional remarks)	THICKNESS.		DEPTH.		T/m	olm
		Feet.	Inches.	Feet.	Inches.		
	light red quicksand	26	6				
	very fine running sand	12		38	6		11.73
	running sand & gravel	3	6	42			12.80
	gravel	22		64			19.50
	grey sand	2		66			20.11
	gravel	11		77			23.46
	flagstone rock	6	6	83	6		25.45
	blue clay & gravel	3	6	87			26.51
	clay and boulders	15		102			31.08
	clay	3		105			32.00
	very soft black shale	17		122			37.18
	black shale & grey rock	7		129			39.31
	grey rock	2	6	131	6		40.08
	hard shale	11	6	143			43.58
	hard shale mixed with pebbles	18		161			49.07
	grey rock	14		175			53.87
	black shale	4		179			54.55
	soft shale	7		186			56.69
	hard blue shale	11		197			60.04
	shale	7		204			62.17
	black shale	2	6	206	6		62.94
	shale	6		212	6		64.77
	grey rock with shale	8		220	6		67.20
	grey rock & coal	15	6	236			71.93
	grey rock	19		255			77.72
	blue shale	19	6	274	6		83.66
	fine clay	5		279	6		85.17
	blue shale	20	6	300			91.44



WATER RESOURCES BOARD WELL RECORD		W.R.B. REF. No. <u>SD80/44</u>
SHEET 1		R.A. LICENCE No.
1. WELL IDENTITY		NATIONAL GRID REFERENCE <u>SD 8662 0553</u>
Well at <u>Widale Beach Wke</u>		I.G.S. REF. No. <u>96NE8 SD80NE/21</u>
Town <u>Middleton</u>		RIVER AUTHORITY
County <u>Lancs</u>		HYDROMETRIC AREA
Owner of well <u>Widale Beach Co</u>		SUB-CATCHMENT
Well made by <u>A.C. Potts</u>		Date of sinking <u>1914</u>
Information from <u>samples of old records</u>		Date received <u>referred 11.6.72</u>
2. WELL DESCRIPTION		
Level of ground surface m. If well top is not at above* m. above sea level (O.D.) <u>240</u> ft. ground level how far below ft.		
Shaft m. deep; Diameter at top m.; at bottom m. ft. ft.		
Bore m. deep; Diameter at top m.; at bottom m. <u>300</u> ft. ft.		
Details of headings		
DETAILS OF PERMANENT LINING TUBES		
Length m.; Diam. m.; Plain m.; Slotted m.; Top m. above* surface ft. ft. ft. ft. ft. below surface		
Length m.; Diam. m.; Plain m.; Slotted m.; Top m. above* surface ft. ft. ft. ft. ft. below surface		
Length m.; Diam. m.; Plain m.; Slotted m.; Top m. above* surface ft. ft. ft. ft. ft. below surface		
Details of well screen		
DETAILS OF REST WATER LEVELS DURING CONSTRUCTION		
Water struck at depths of below well top		
Rest level of water m. above* O.D.* m. deep. Date ft. below well top when bore ft.		
Rest level of water m. above* O.D.* m. deep. Date ft. below well top when bore ft.		
Rest level of water on completion of bore m. above* O.D.* m. deep. Date ft. below well top when bore ft.		
Method of drilling		
Brief details of well development e.g. acid treatment etc.		

* delete as applicable

(46452-1) 1

[illegible]

DR DLn 46452/2(2)/360 2,500 11/66 TXL



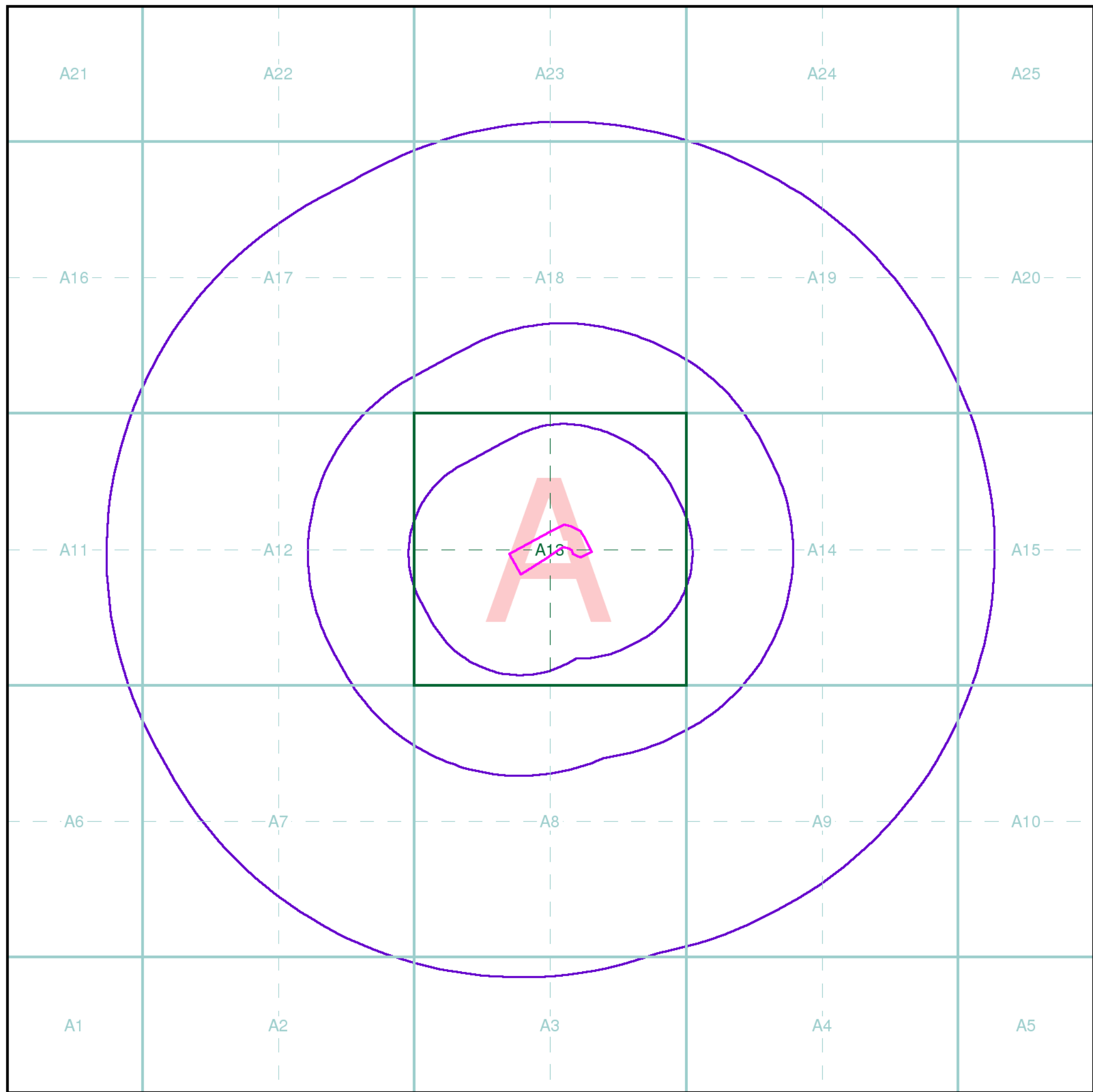
WATER RESOURCES BOARD WELL RECORD		W.R.B. REF NO. SD80/44
SHEET 2		R.A. LICENCE No.
4. HYDROGEOLOGY		
Topography AT WELL SITE		
Local depression ☐ , Flat surface ☐ , Hill top ☐ , Hillside ☐ , valley bottom ☐ , Terrace ☐		
MAJOR AQUIFER		Lithology
Depth to top of aquifer	m. ft.	Thickness penetrated m. ft.
Top of aquifer	m. ft.	Total thickness of aquifer m. ft.
Coefficient of storage		Transmissibility $\frac{m^2/day}{galls/day/ft.}$
MINOR AQUIFER (a)		Lithology
Depth to top of aquifer	m. ft.	Thickness penetrated m. ft.
Top of aquifer	m. ft.	Total thickness of aquifer m. ft.
Coefficient of storage		Transmissibility $\frac{m^2/day}{galls/day/ft.}$
MINOR AQUIFER (b)		Lithology
Depth to top of aquifer	m. ft.	Thickness penetrated m. ft.
Top of aquifer	m. ft.	Total thickness of aquifer m. ft.
ADDITIONAL NOTES:		

* delete as applicable

(46452-2)1

APPENDIX E

HISTORIC MAPS



Index Map

For ease of identification, your site and buffer have been split into Slices, Segments and Quadrants. These are illustrated on the Index Map opposite and explained further below.

Slice

Each slice represents a 1:10,000 plot area (2.7km x 2.7km) for your site and buffer. A large site and buffer may be made up of several slices (represented by a red outline), that are referenced by letters of the alphabet, starting from the bottom left corner of the slice "grid". This grid does not relate to National Grid lines but is designed to give best fit over the site and buffer.

Segment

A segment represents a 1:2,500 plot area. Segments that have plot files associated with them are shown in dark green, others in light blue. These are numbered from the bottom left hand corner within each slice.

Quadrant

A quadrant is a quarter of a segment. These are labelled as NW, NE, SW, SE and are referenced in the datasheet to allow features to be quickly located on plots. Therefore a feature that has a quadrant reference of A7NW will be in Slice A, Segment 7 and the NW Quadrant.

A selection of organisations who provide data within this report:



Envirocheck reports are compiled from 136 different sources of data.

Client Details

Ms J Saddington, RSK Environment Ltd, Four Ways House, 57 Hilton Street, Manchester, M1 2EJ

Order Details

Order Number: 288188991_1_1
Customer Ref: 11635
National Grid Reference: 387100, 405660
Site Area (Ha): 1.1
Search Buffer (m): 1000

Site Details

Warwick Mill, Oldham Road, Middleton, MANCHESTER, M24 1AZ

Full Terms and Conditions can be found on the following link:
<http://www.landmarkinfo.co.uk/Terms/Show/515>



Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

Historical Mapping Legends

Ordnance Survey County Series 1:10,560

	Gravel Pit		Sand Pit		Other Pits
	Quarry		Shingle		Orchard
	Osiers		Reeds		Marsh
	Mixed Wood		Deciduous		Brushwood
	Fir		Furze		Rough Pasture
	Arrow denotes flow of water		Trigonometrical Station		
	Site of Antiquities		Bench Mark		
	Pump, Guide Post, Signal Post		Well, Spring, Boundary Post		
	285 Surface Level				
	Sketched Contour		Instrumental Contour		
	Main Roads		Minor Roads		
	Sunken Road		Raised Road		
	Road over Railway		Railway over River		
	Railway over Road		Level Crossing		
	Road over River or Canal		Road over Stream		
	Road over Stream				
	County Boundary (Geographical)				
	County & Civil Parish Boundary				
	Administrative County & Civil Parish Boundary				
	County Borough Boundary (England)				
	County Burgh Boundary (Scotland)				
	Rural District Boundary				
	Civil Parish Boundary				

Ordnance Survey Plan 1:10,000

	Chalk Pit, Clay Pit or Quarry		Gravel Pit
	Sand Pit		Disused Pit or Quarry
	Refuse or Slag Heap		Lake, Loch or Pond
	Dunes		Boulders
	Coniferous Trees		Non-Coniferous Trees
	Orchard		Scrub
	Bracken		Heath
	Marsh		Reeds
	Building		Glasshouse
	Sloping Masonry		Pylon
	Cutting		Embankment
	Road Under		Road Over
	Level Crossing		Foot Bridge
	Standard Gauge Multiple Track		Standard Gauge Single Track
	Siding, Tramway or Mineral Line		Narrow Gauge
	Geographical County		Administrative County, County Borough or County of City
	Municipal Borough, Urban or Rural District, Burgh or District Council		Borough, Burgh or County Constituency
	Civil Parish		
	BP, BS		Ch
	CH		F E Sta
	FB		Fn
	GP		MP
	MS		Pol Sta
	PO		PC
	PH		SB
	Spr		TCB
	TCP		W

1:10,000 Raster Mapping

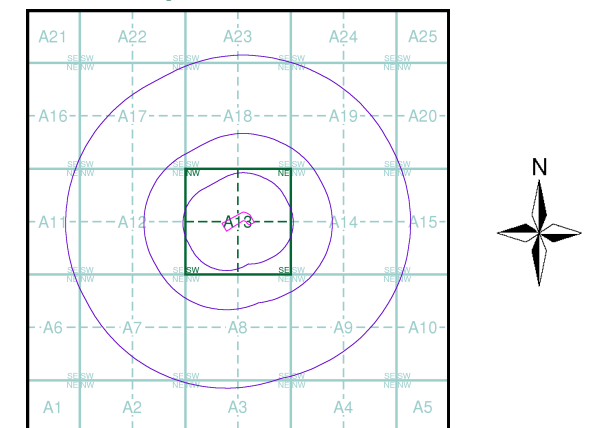
	Gravel Pit		Refuse tip or slag heap
	Rock		Rock (scattered)
	Boulders		Boulders (scattered)
	Shingle		Mud
	Sand		Sand Pit
	Slopes		Top of cliff
	General detail		Underground detail
	Overhead detail		Narrow gauge railway
	Multi-track railway		Single track railway
	County boundary (England only)		Civil, parish or community boundary
	District, Unitary, Metropolitan, London Borough boundary		Constituency boundary
	Area of wooded vegetation		Non-coniferous trees
	Non-coniferous trees (scattered)		Coniferous trees
	Coniferous trees (scattered)		Positioned tree
	Orchard		Coppice or Osiers
	Rough Grassland		Heath
	Scrub		Marsh, Salt Marsh or Reeds
	Water feature		Flow arrows
	Mean high water (springs)		Mean low water (springs)
	Telephone line (where shown)		Electricity transmission line (with poles)
	Bench mark (where shown)		Triangulation station
	Point feature (e.g. Guide Post or Mile Stone)		Pylon, flare stack or lighting tower
	Site of (antiquity)		Glasshouse
	General Building		Important Building



Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:10,560	1848	3
Lancashire And Furness	1:10,560	1894	4
Lancashire And Furness	1:10,560	1910	5
Lancashire And Furness	1:10,560	1923	6
Lancashire And Furness	1:10,560	1932 - 1933	7
Lancashire And Furness	1:10,560	1938	8
Ordnance Survey Plan	1:10,000	1956	9
Ordnance Survey Plan	1:10,000	1965 - 1966	10
Manchester	1:25,000	1975	11
Ordnance Survey Plan	1:10,000	1977 - 1978	12
Ordnance Survey Plan	1:10,000	1982 - 1984	13
Ordnance Survey Plan	1:10,000	1990	14
10K Raster Mapping	1:10,000	1999	15
10K Raster Mapping	1:10,000	2006	16
VectorMap Local	1:10,000	2021	17

Historical Map - Slice A



Order Details

Order Number: 288188991_1_1
Customer Ref: 11635
National Grid Reference: 387100, 405650
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 1000

Site Details

Warwick Mill, Oldham Road, Middleton, MANCHESTER, M24 1AZ

Landmark
INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

Russian Military Mapping Legends

1:5,000 and 1:10,000 mapping

a. Not drawn to scale b. Drawn to scale

Government and Administrative Buildings

Military and Industrial Buildings

Military and Communication Areas

Subway Entrance

Fireproof Building

Prominent Fireproof Building

Non-fireproof Building

Non-fireproof Building (non-dwelling)

Factory, mill, and flour mill, with chimneys

Factory, mill, and flour mill, without chimneys

Power Station, drawn to scale

Hydroelectric Power Station

Radio Station, drawn to scale

Telephone Station, drawn to scale

Abandoned Open-pit Mine or Quarry

Open-pit Salt Mine

Pit

Oil Deposit or Well

Oil Seepage

Tailings Pile

Fuel Storage Tanks

Natural Gas Tank

Bench Mark

Drill Hole

Burial Mound

Triangulation Point on Burial Mound

Single-track Railroad

Double-track Railroad and Station Building

Coniferous Forest

Deciduous Forest

Mixed Forest

Lawns

Citrus Orchard

Wet Ground

Scattered Vegetation

243.8 Values for prominent elevations
186.0 Numbers for spot elevations, depth soundings, contour lines, etc.
0.2 Velocity of the current, width of river bed, depth of river
180/12 Fractional terms: length and capacity of bridges; depth of fords and condition of the river bottom; height of forest and the diameter of trees

Russian Alphabet (For reference and phonetic interpretation of map text)

А а (A)	З з (Z)	П п (P)	Ч ч (CH)
Б б (B)	И и (I)	Р р (R)	Ш ш (SH)
В в (V)	Й й (Y)	С с (S)	Щ щ (SHCH)
Г г (G)	К к (K)	Т т (T)	Ъ (-)
Д д (D)	Л л (L)	У у (U)	Ы (Y)
Е е (E)	М м (M)	Ф ф (F)	Ь (')
Ё ё (YO)	Н н (N)	Х х (KH)	Э э (E)
Ж ж (ZH)	О о (O)	Ц ц (TS)	Ю ю (YU or IU)
			Я я (YA or IA)

1:25,000 mapping

a. Not drawn to scale b. Drawn to scale

Government and Administrative Buildings

Military and Industrial Buildings

Military and Communication Areas

Subway Entrance

Partly Demolished Buildings

Demolished Buildings

Built-Up Area with Fireproof Buildings Predominant

Built-Up Area with Non-Fireproof Buildings Predominant

Individual Fireproof Building

Prominent Industrial Building

Individual Dwelling, Fireproof

Ruins of an Individual Dwelling

Factory or Mill Chimney

Factory or Mill with Chimney

Factory or Mill without Chimney

Mine or Open Pit Mine

Operating Shaft or Mine

Non-Operating Shaft or Mine

Salt Mine

Tailings Pile

Pit

Stone Quarry

Gas Pump or Service Station

Fuel Storage or Natural Gas Tank

Oil or Natural Gas Derrick

Small Hydroelectric Power Station

Power Station

Transformer Station

Cemetery

Burial Mound (height in metres)

Triangulation Point on Burial Mound

Triangulation Point

Bench Mark

Bench Mark (monumented)

Telegraph Office

Telephone Station

Radio Station

Radio Tower

Airfield or Seaplane Base

Landing Strip

Telegraph/Telephone Lines

Main Highway

Highway under Construction

Improved Dirt Road (former truck road)

Double-track Railroad with First Class Station

Railroad Under Construction

Shore Embankment

River or Ditch with Embankment

Water Gauge

Water Level Mark

Well

Water Reservoir or Rain Water Pit

Spring

Isobath with value

Heavy (Index) Contour Line

Contour Line and Value

Half Contour Line

Spot Elevation Value

Coniferous

Deciduous

Mixed

Scrub

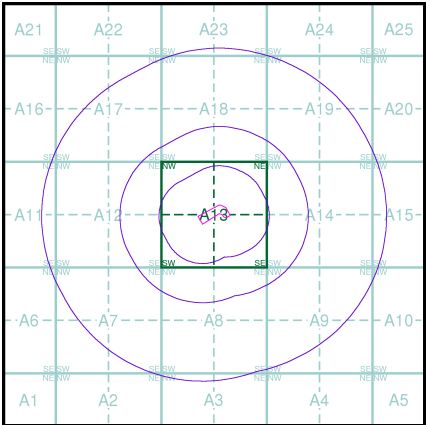
Key to Numbers on Mapping



Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:10,560	1848	3
Lancashire And Furness	1:10,560	1894	4
Lancashire And Furness	1:10,560	1910	5
Lancashire And Furness	1:10,560	1923	6
Lancashire And Furness	1:10,560	1932 - 1933	7
Lancashire And Furness	1:10,560	1938	8
Ordnance Survey Plan	1:10,000	1956	9
Ordnance Survey Plan	1:10,000	1965 - 1966	10
Manchester	1:25,000	1975	11
Ordnance Survey Plan	1:10,000	1977 - 1978	12
Ordnance Survey Plan	1:10,000	1982 - 1984	13
Ordnance Survey Plan	1:10,000	1990	14
10K Raster Mapping	1:10,000	1999	15
10K Raster Mapping	1:10,000	2006	16
VectorMap Local	1:10,000	2021	17

Russian Map - Slice A



Order Details

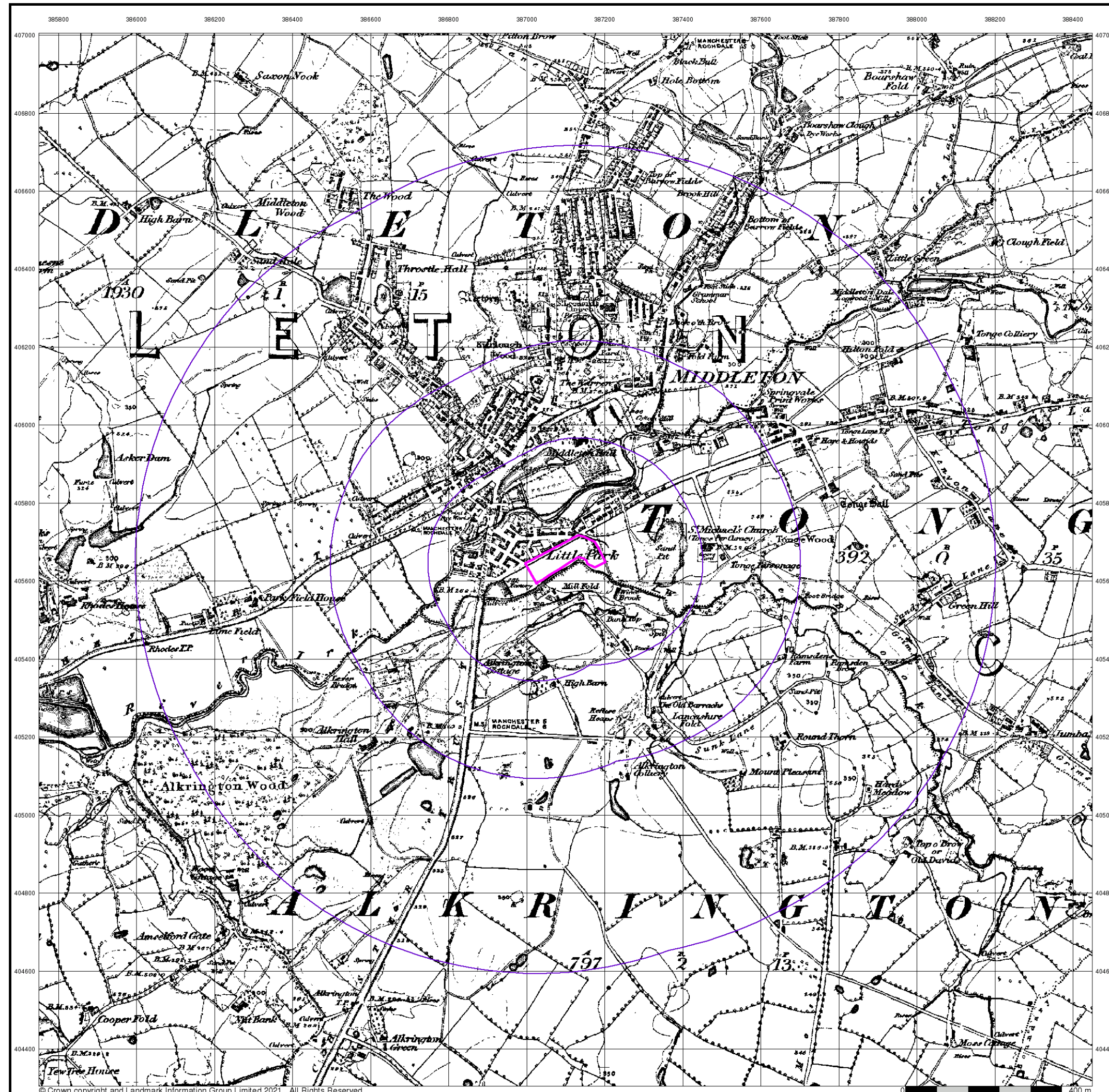
Order Number: 288188991_1_1
Customer Ref: 11635
National Grid Reference: 387100, 405650
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 1000

Site Details

Warwick Mill, Oldham Road, Middleton, MANCHESTER, M24 1AZ



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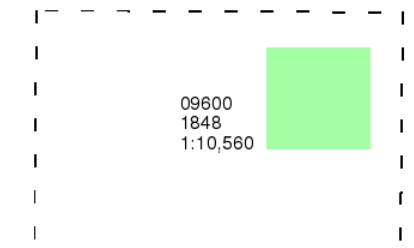
Lancashire And Furness

Published 1848

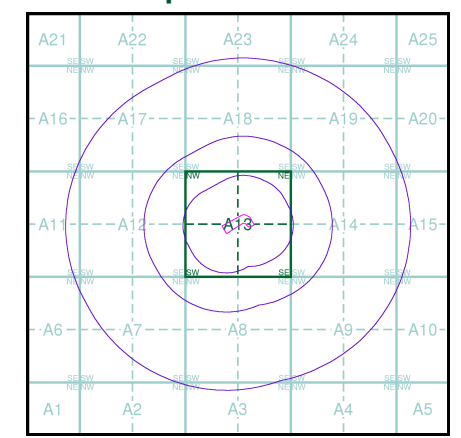
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number: 288188991_1_1
Customer Ref: 11635
National Grid Reference: 387100, 405650
Slice: A
Site Area (Ha): 1.1
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Lancashire And Furness

Published 1894

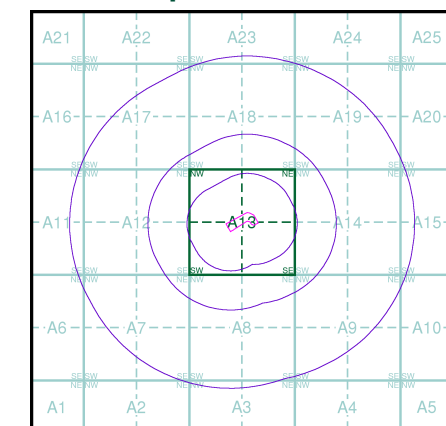
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

096NE
1894
1:10,560
096SE
1894
1:10,560

Historical Map - Slice A



Order Details

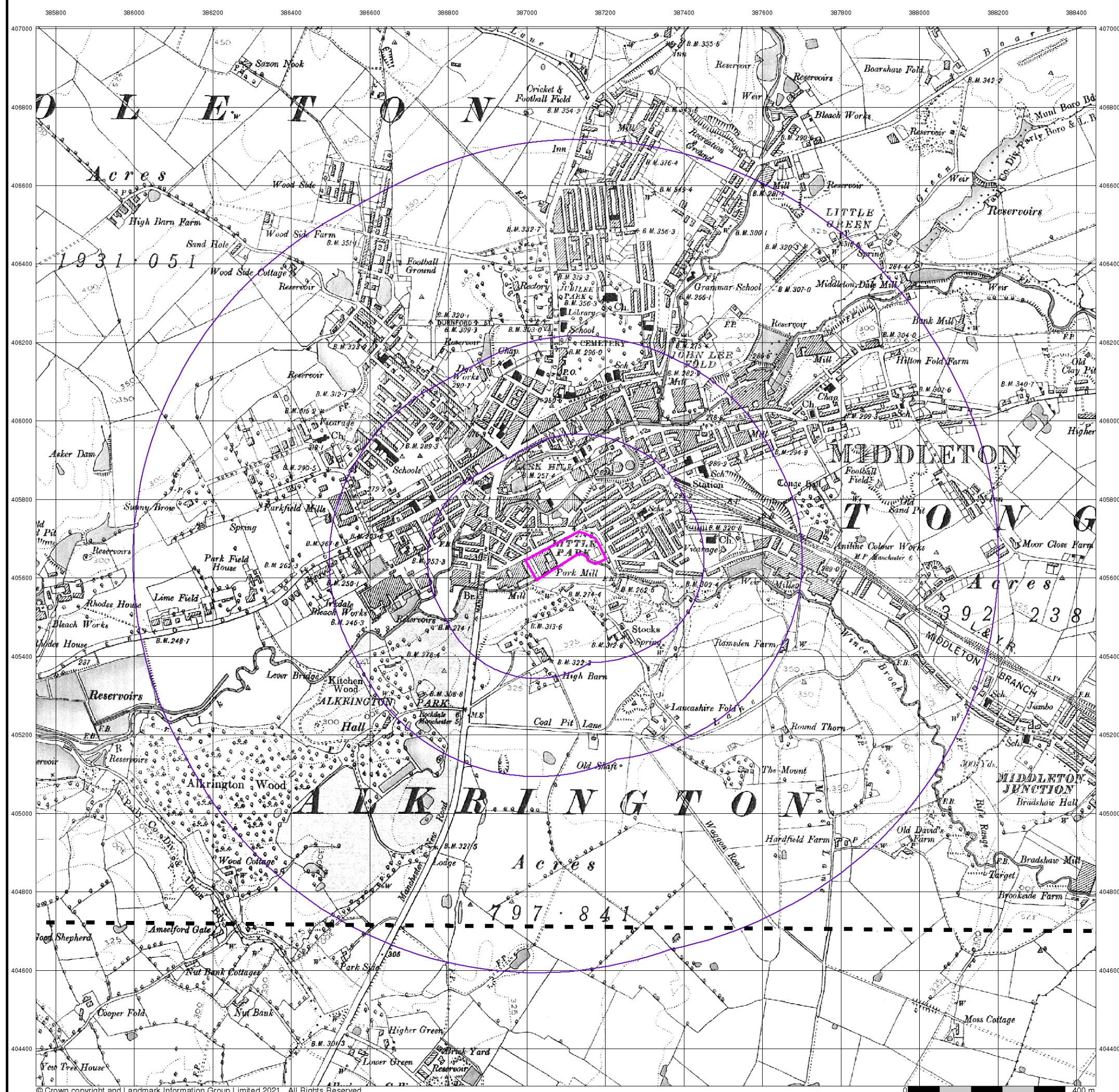
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Customer Ref: 11635
National Grid Reference: 387100, 405650
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 1000

Site Details

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Lancashire And Furness

Published 1910

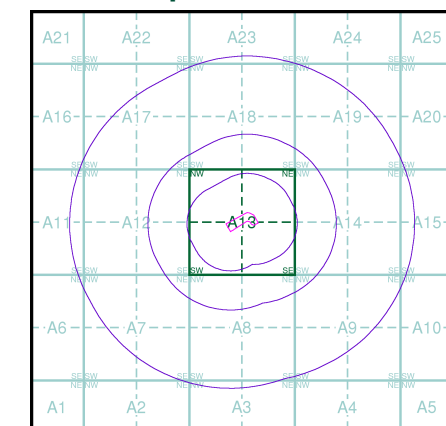
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

096NE
1910
1:10,560
096SE
1910
1:10,560

Historical Map - Slice A



Order Details

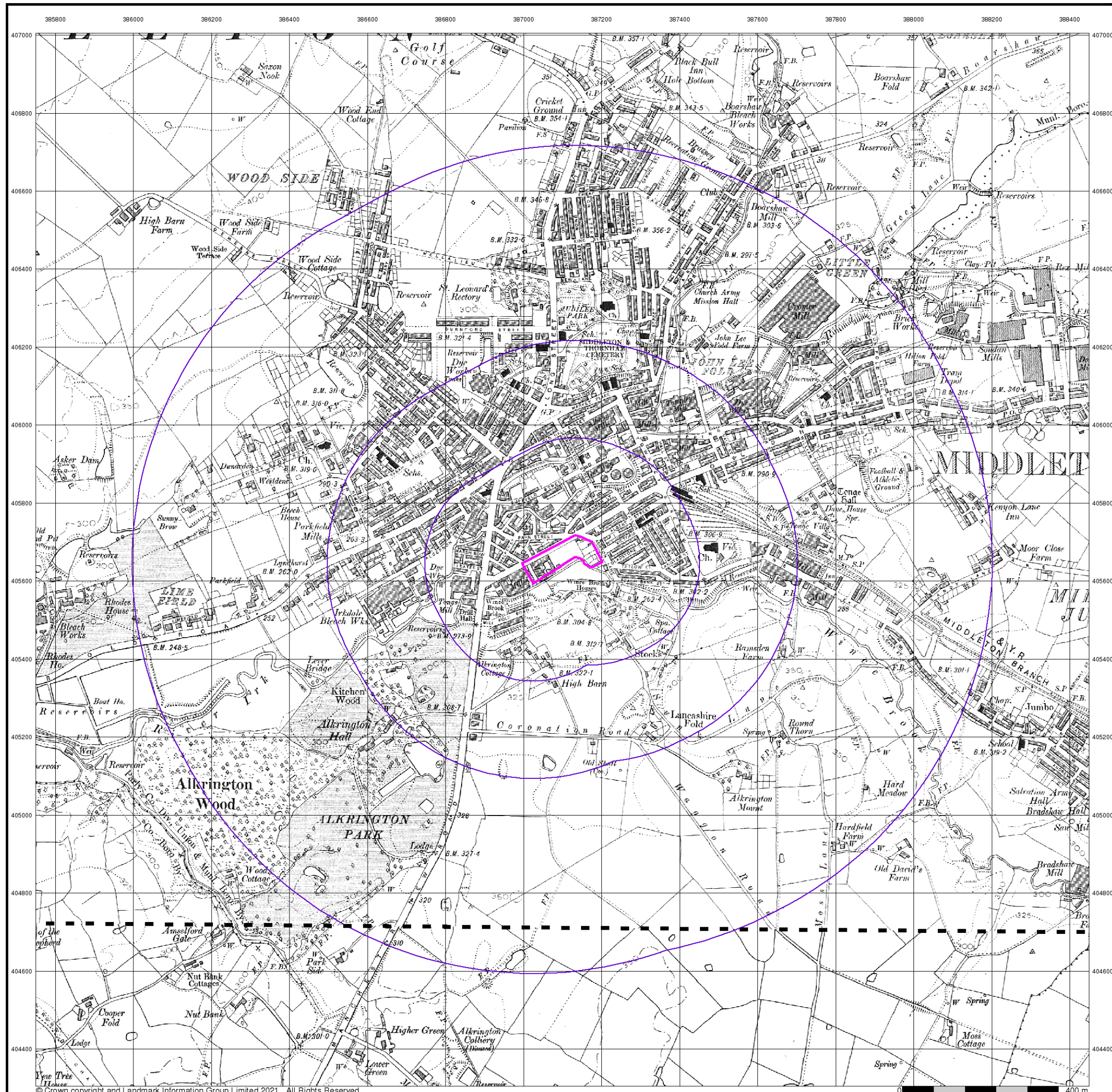
Order Number: 288188991_1_1
Customer Ref: 11635
National Grid Reference: 387100, 405650
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 1000

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Lancashire And Furness

Published 1923

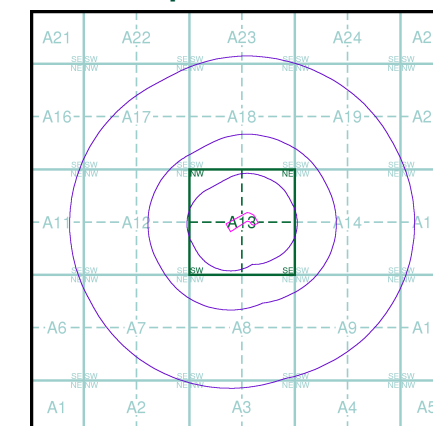
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

096NE
1923
1:10,560
096SE
1923
1:10,560

Historical Map - Slice A



Order Details

Order Number: 288188991_1_1
Customer Ref: 11635
National Grid Reference: 387100, 405650
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 1000

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Lancashire And Furness

Published 1932 - 1933

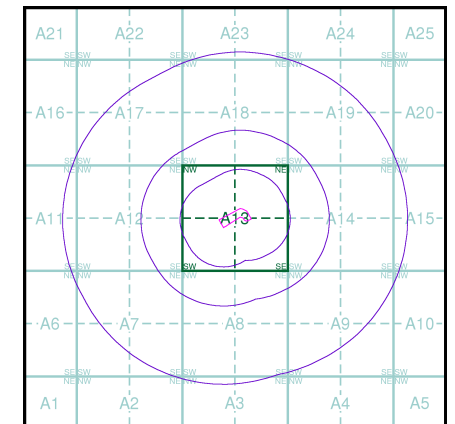
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

096NE
1932
1:10,560
096SE
1933
1:10,560

Historical Map - Slice A



Order Details

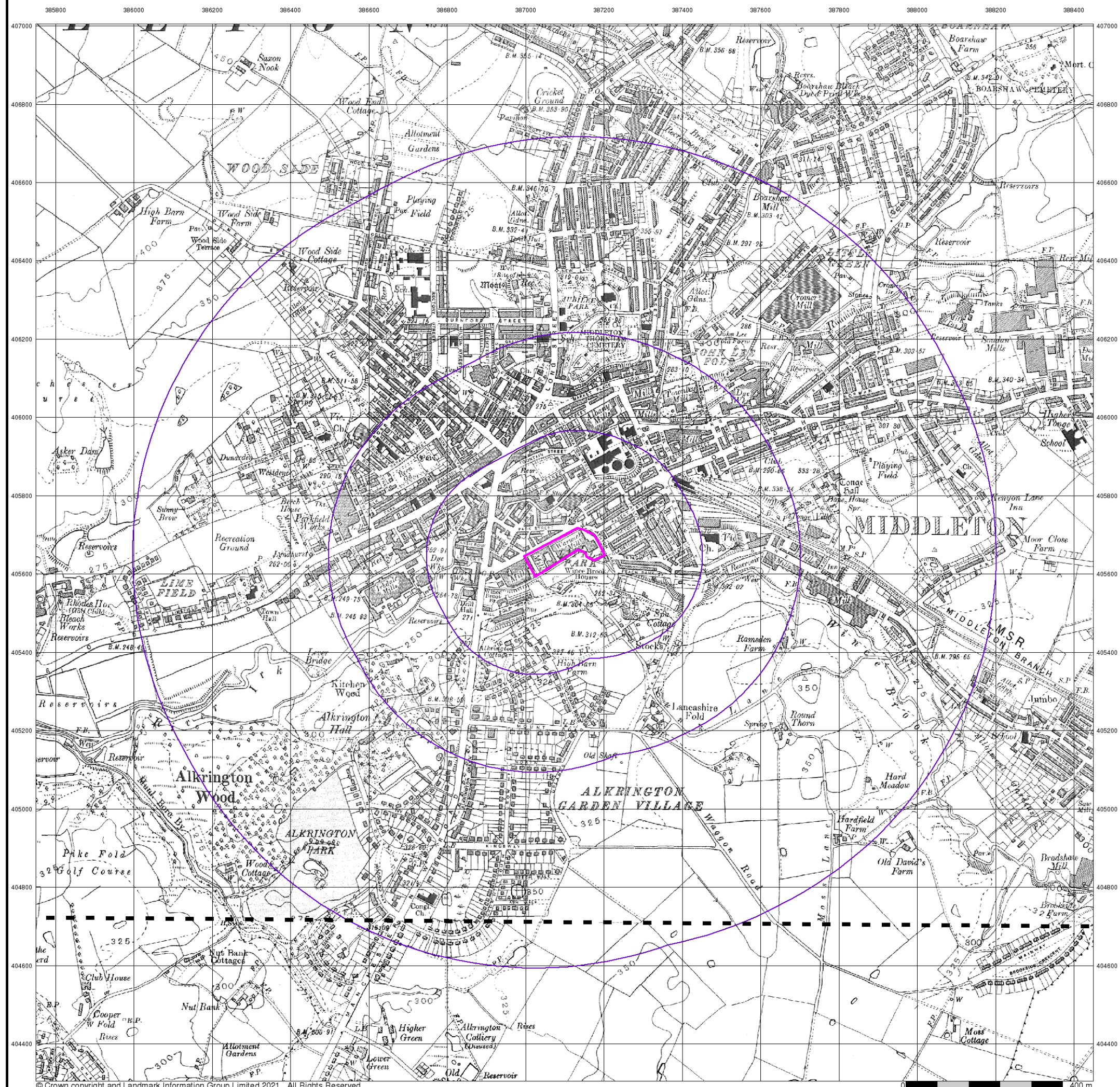
Order Number: 288188991_1_1
Customer Ref: 11635
National Grid Reference: 387100, 405650
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 1000

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096NE
1938
1:10,560

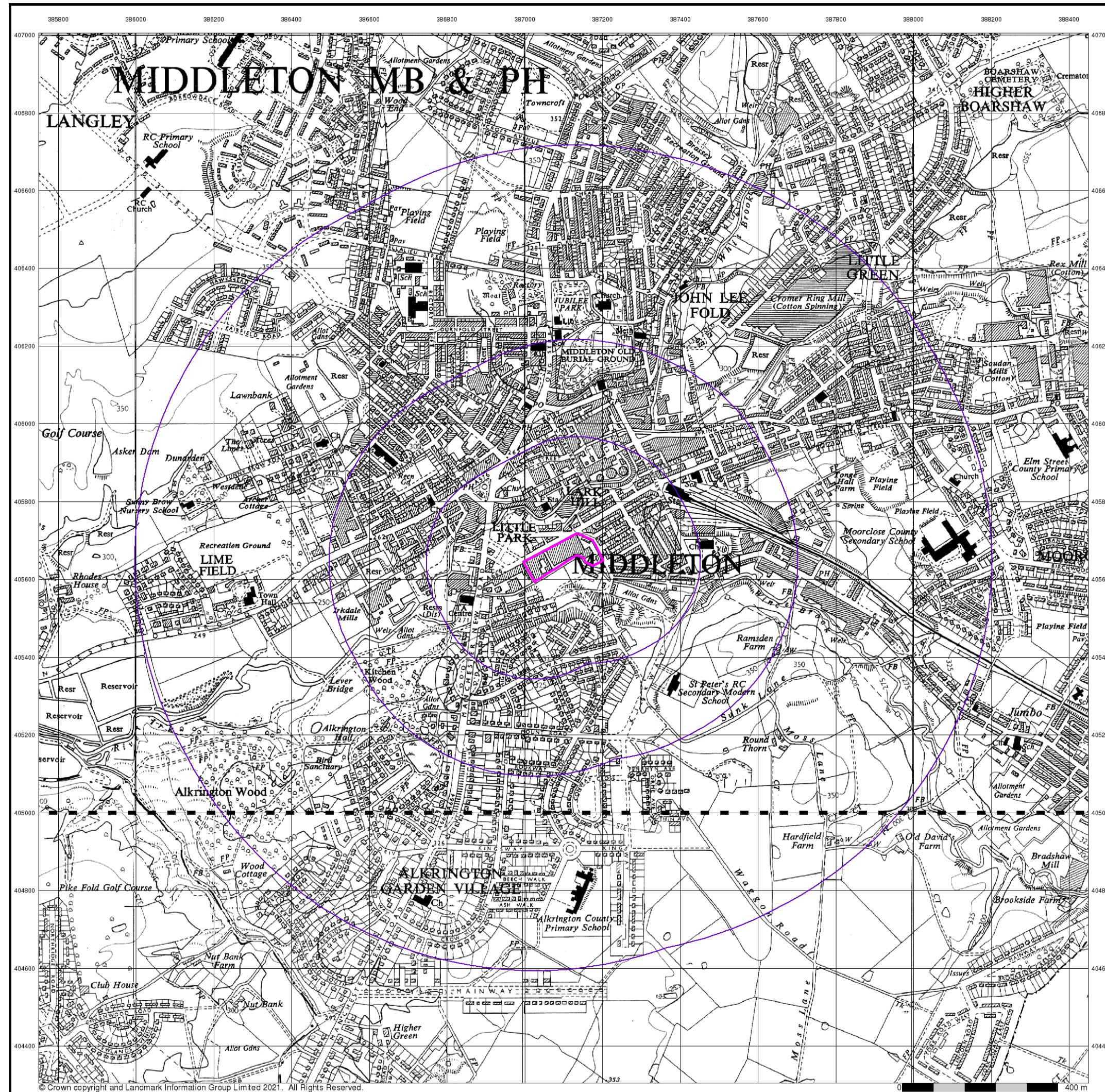
096SE
1938
1:10,560



Order Number: 288188991_1_1
Customer Ref: 11635
National Grid Reference: 387100, 405650
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 1000

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Ordnance Survey Plan

Published 1956

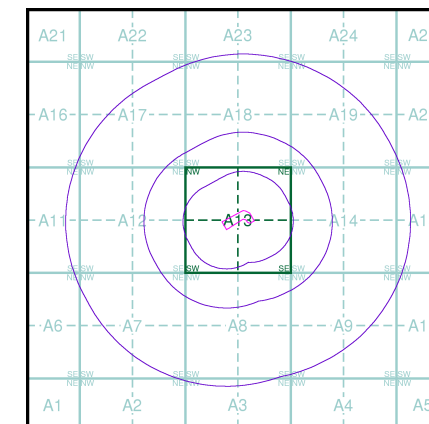
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

SD80NE	1956
1:10,560	
SD80SE	1956
1:10,560	

Historical Map - Slice A



Order Details

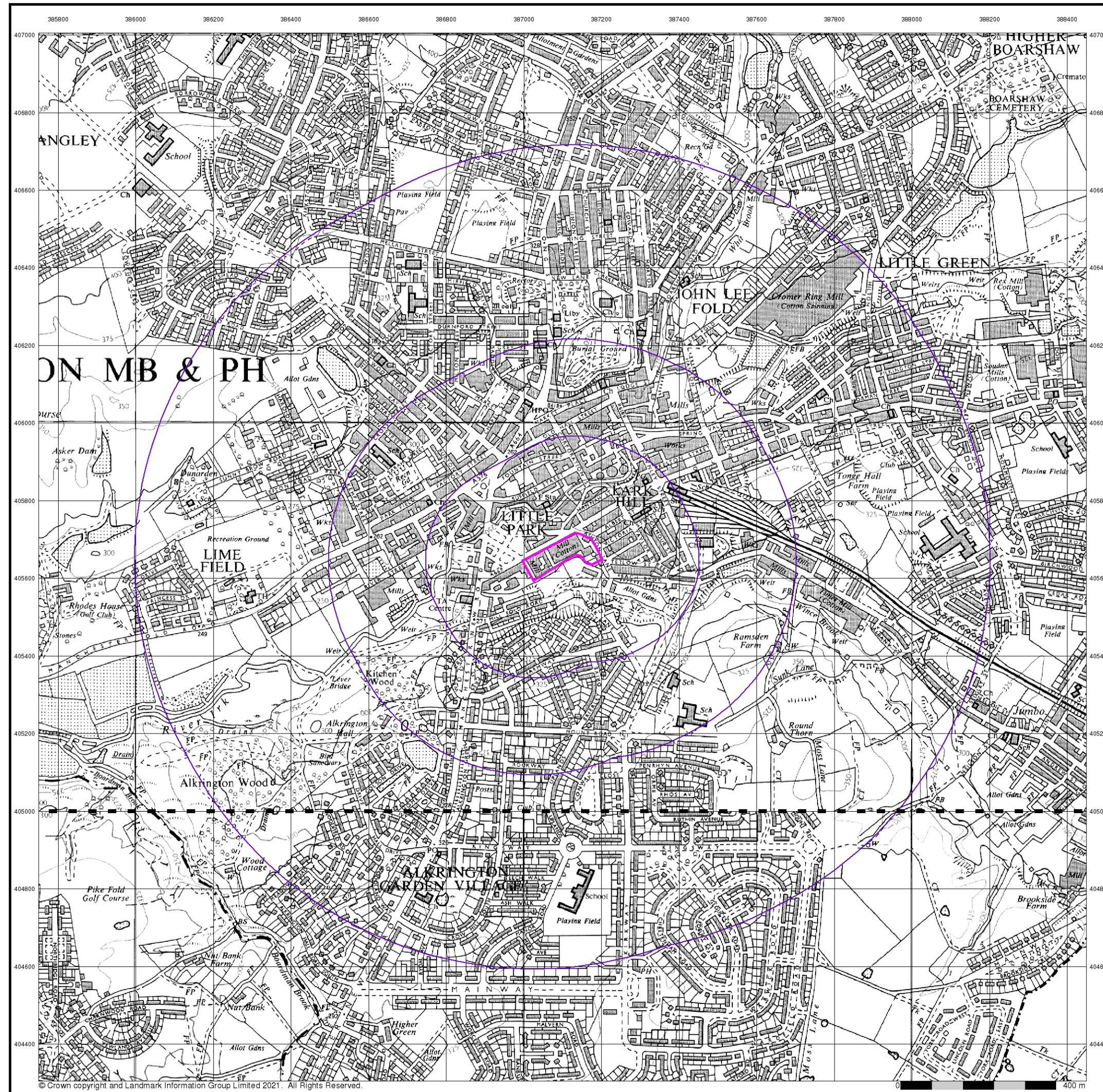
Order Number: 288188991_1_1
Customer Ref: 11635
National Grid Reference: 387100, 405650
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 1000

Site Details

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Ordnance Survey Plan

Published 1965 - 1966

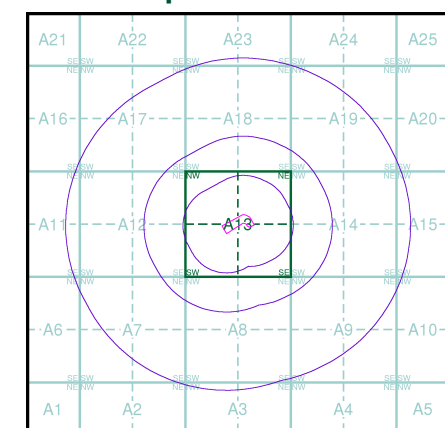
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

SD80NE	1965
SD80SE	1966

Historical Map - Slice A



Order Details

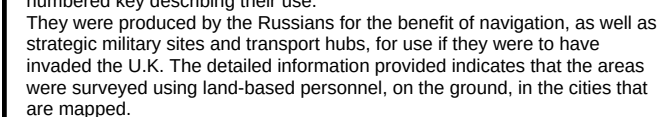
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Customer Ref: 11635
National Grid Reference: 387100, 405650
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 1000

Site Details

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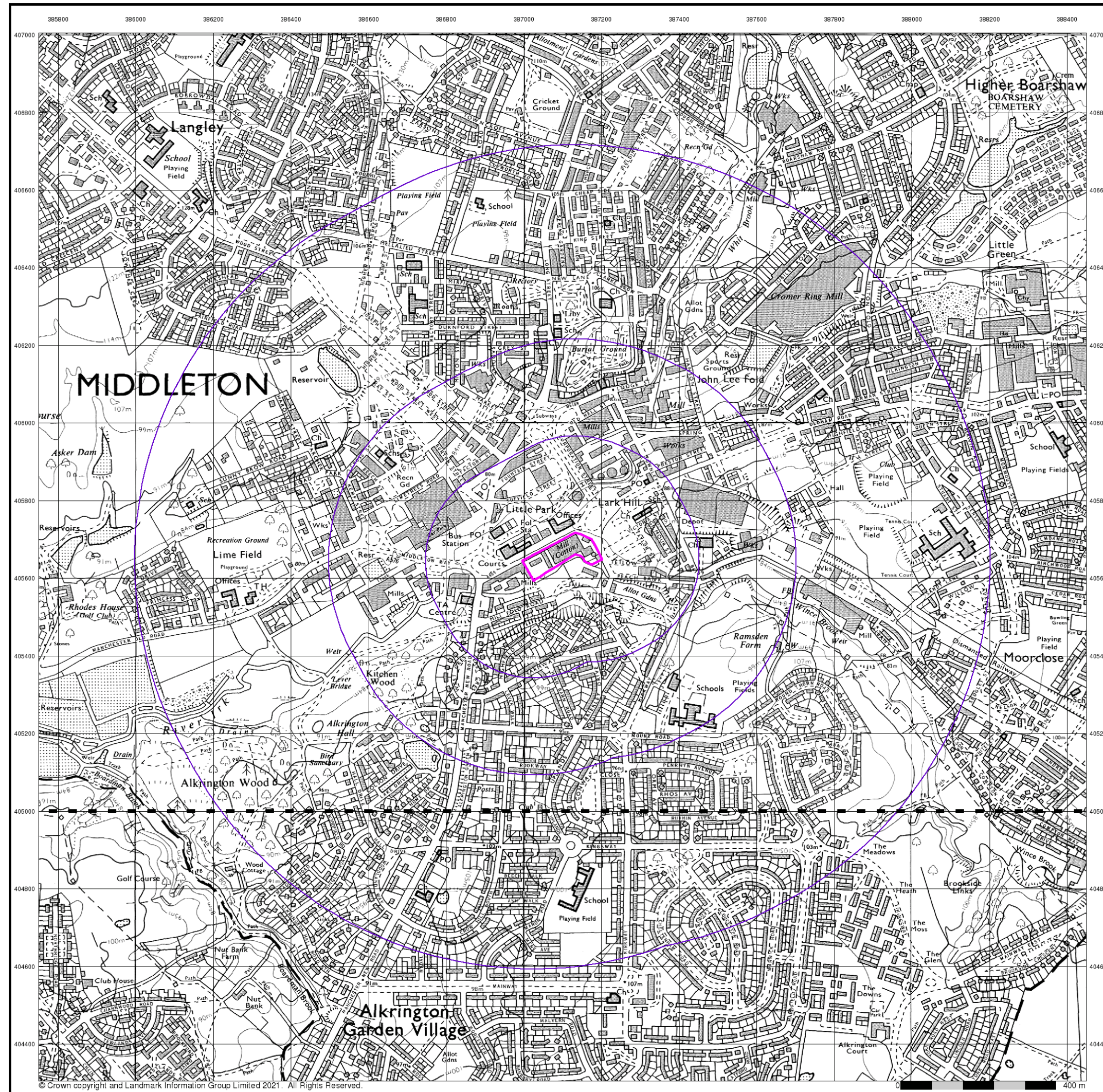


SD80
1975
1:25,000



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Ordnance Survey Plan

Published 1977 - 1978

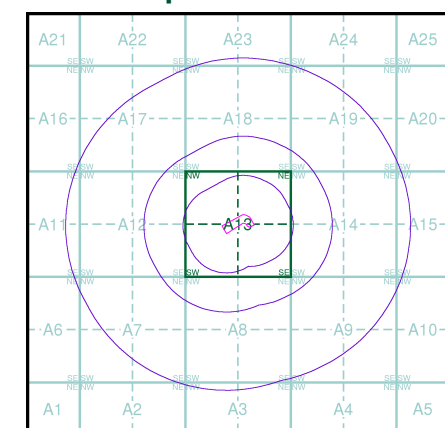
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

SD80NE	1977
1:10,000	
SD80SE	1978
1:10,000	

Historical Map - Slice A



Order Details

Order Number:	288188991_1_1
Customer Ref:	11635
National Grid Reference:	387100, 405650
Slice:	A
Site Area (Ha):	1.1
Search Buffer (m):	1000

Site Details

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Ordnance Survey Plan

Published 1982 - 1984

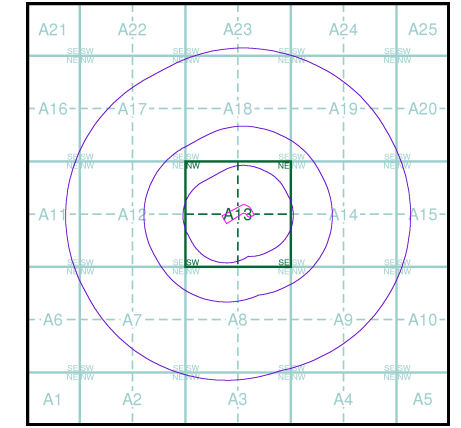
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

SD80NE	1984
1:10,000	
SD80SE	1982
1:10,000	

Historical Map - Slice A



Order Details

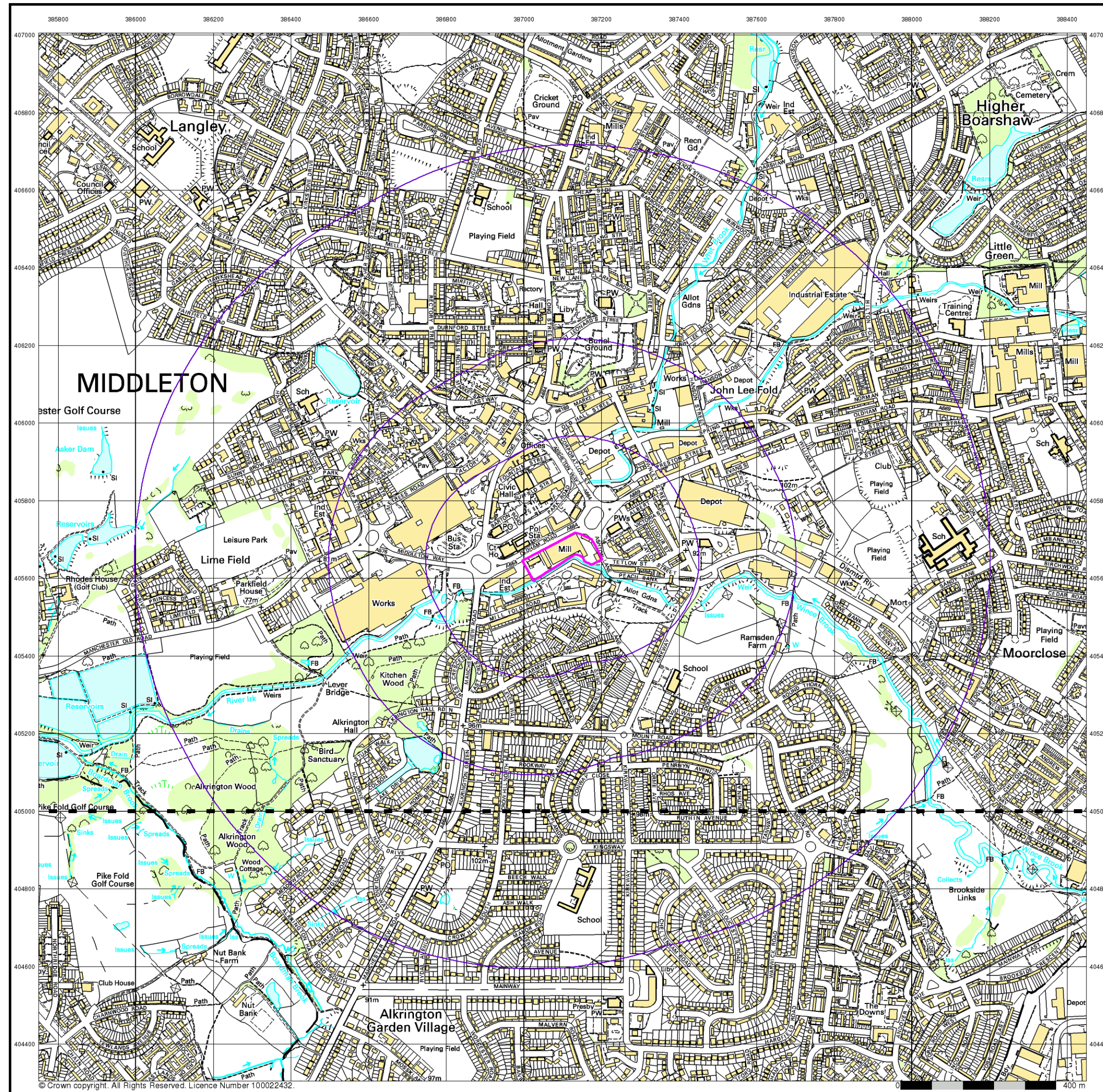
Order Number:	288188991_1_1
Customer Ref:	11635
National Grid Reference:	387100, 405650
Slice:	A
Site Area (Ha):	1.1
Search Buffer (m):	1000

Site Details

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10k Raster Mapping

Published 1999

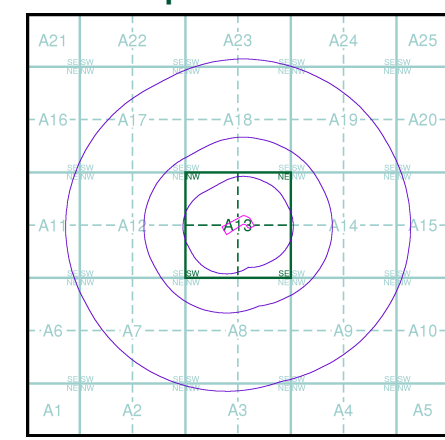
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

SD80NE	1999	1:10,000
SD80SE	1999	1:10,000

Historical Map - Slice A



Order Details	
Order Number:	288188991_1_1
Customer Ref:	11635
National Grid Reference:	387100, 405650
Slice:	A
Site Area (Ha):	1.1
Search Buffer (m):	1000

Site Details
Warwick Mill, Oldham Road, Middleton, MANCHESTER, M24 1AZ



10k Raster Mapping

Published 2006

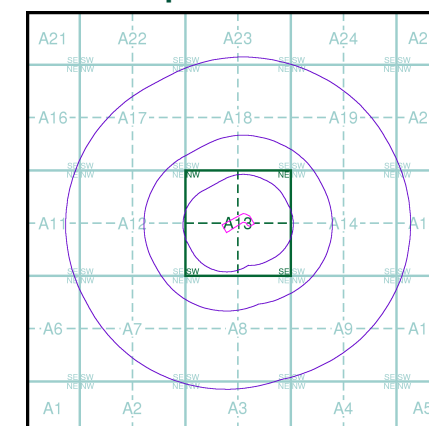
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

SD80NE
2006
1:10,000
SD80SE
2006
1:10,000

Historical Map - Slice A



Order Details

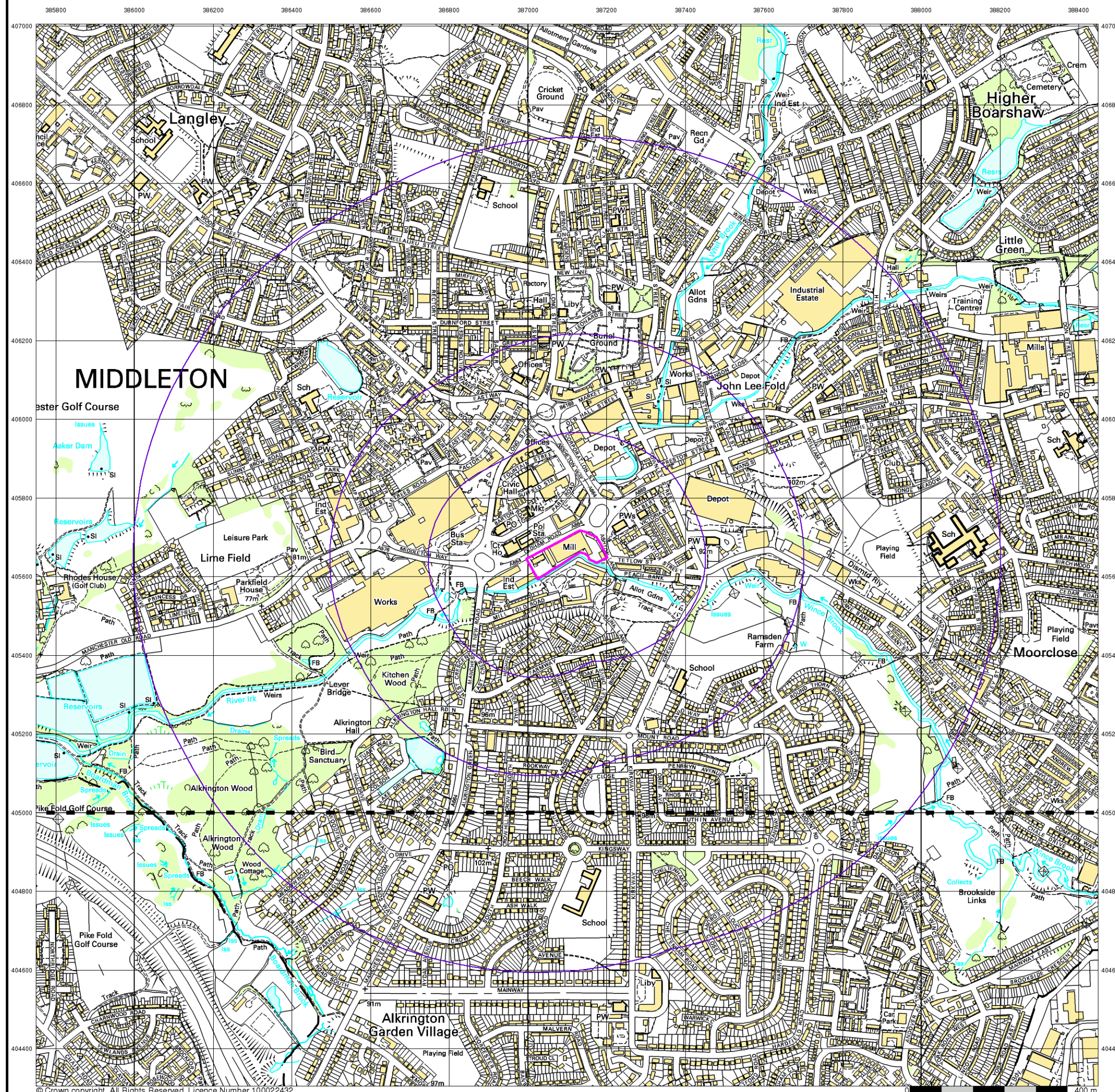
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Customer Ref: 11635
National Grid Reference: 387100, 405650
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 1000

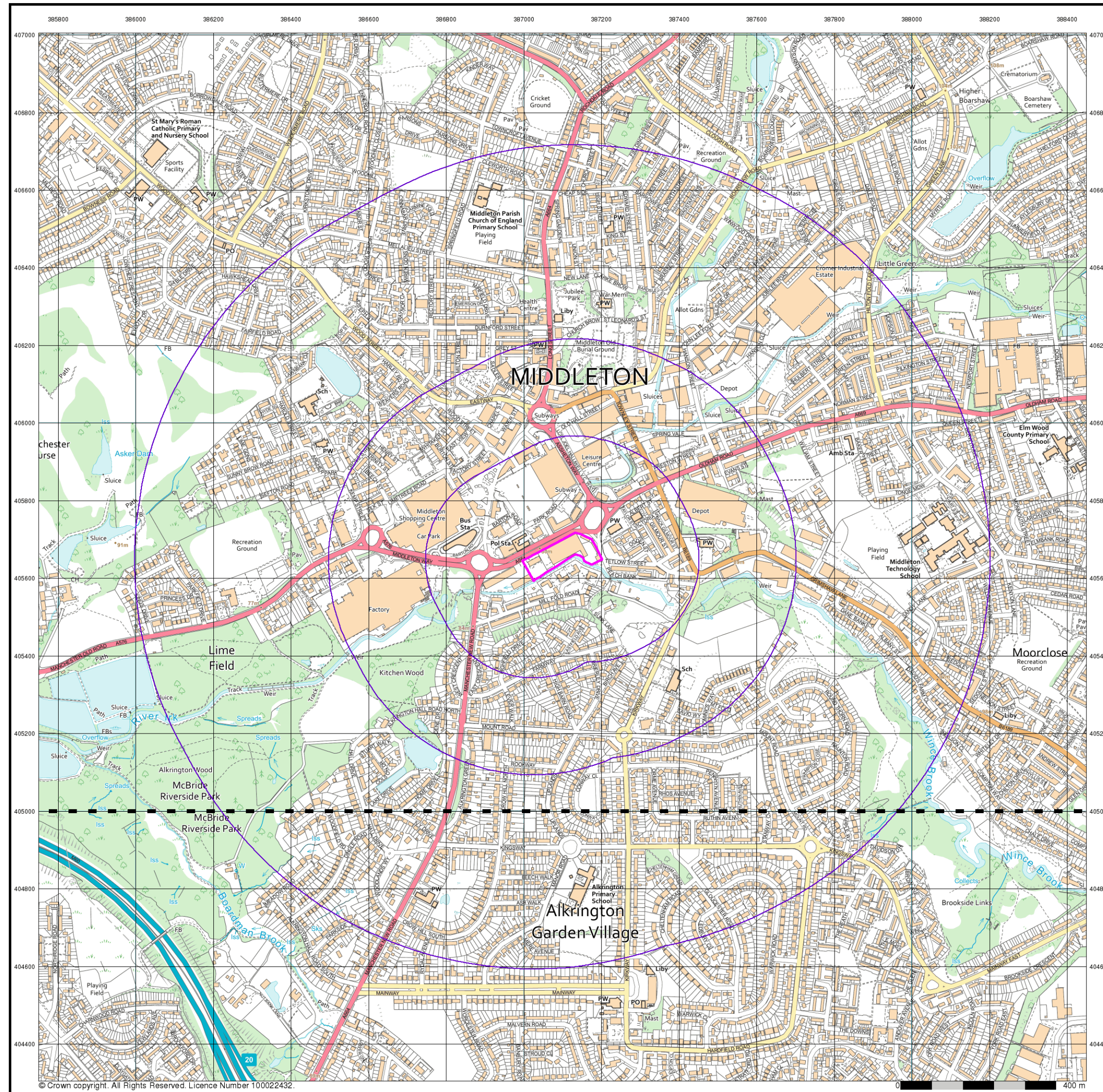
Site Details

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Landmark
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VectorMap Local

Published 2021

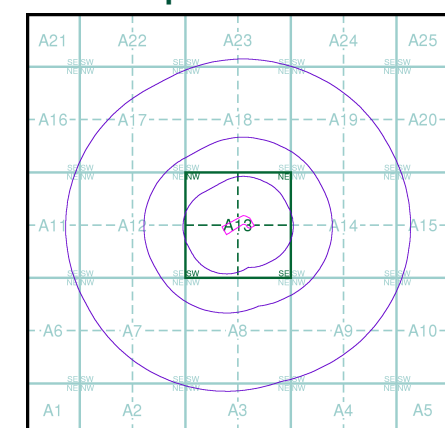
Source map scale - 1:10,000

VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap Local is derived from large-scale information surveyed at 1:1250 scale (covering major towns and cities), 1:2500 scale (smaller towns, villages and developed rural areas), and 1:10 000 scale (mountain, moorland and river estuary areas).

Map Name(s) and Date(s)

SD80NE	2021
Variable	
SD80SE	2021
Variable	

Historical Map - Slice A



Order Details

Order Number: 288188991_1_1
Customer Ref: 11635
National Grid Reference: 387100, 405650
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 1000

Site Details

Warwick Mill, Oldham Road, Middleton, MANCHESTER, M24 1AZ



Tel: 0844 844 9952
Fax: 0844 844 9951
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Historical Mapping Legends

Ordnance Survey County Series and Ordnance Survey Plan 1:2,500



Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250



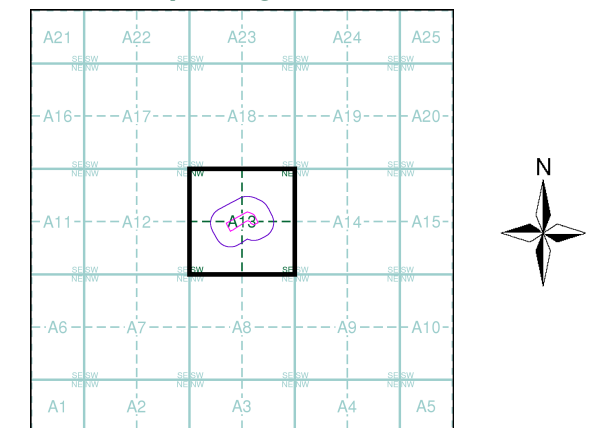
Large-Scale National Grid Data 1:2,500 and 1:1,250



Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:2,500	1893	2
Lancashire And Furness	1:2,500	1909	3
Lancashire And Furness	1:2,500	1932	4
Ordnance Survey Plan	1:1,250	1954 - 1955	5
Ordnance Survey Plan	1:2,500	1955	6
Ordnance Survey Plan	1:1,250	1961 - 1978	7
Ordnance Survey Plan	1:2,500	1968	8
Supply of Unpublished Survey Information	1:1,250	1973 - 1975	9
Supply of Unpublished Survey Information	1:1,250	1975	10
Supply of Unpublished Survey Information	1:1,250	1975 - 1976	11
Additional SIMs	1:1,250	1983 - 1984	12
Additional SIMs	1:1,250	1990 - 1992	13
Large-Scale National Grid Data	1:1,250	1992	14
Large-Scale National Grid Data	1:1,250	1996	15
Historical Aerial Photography	1:2,500	2000	16

Historical Map - Segment A13



Order Details

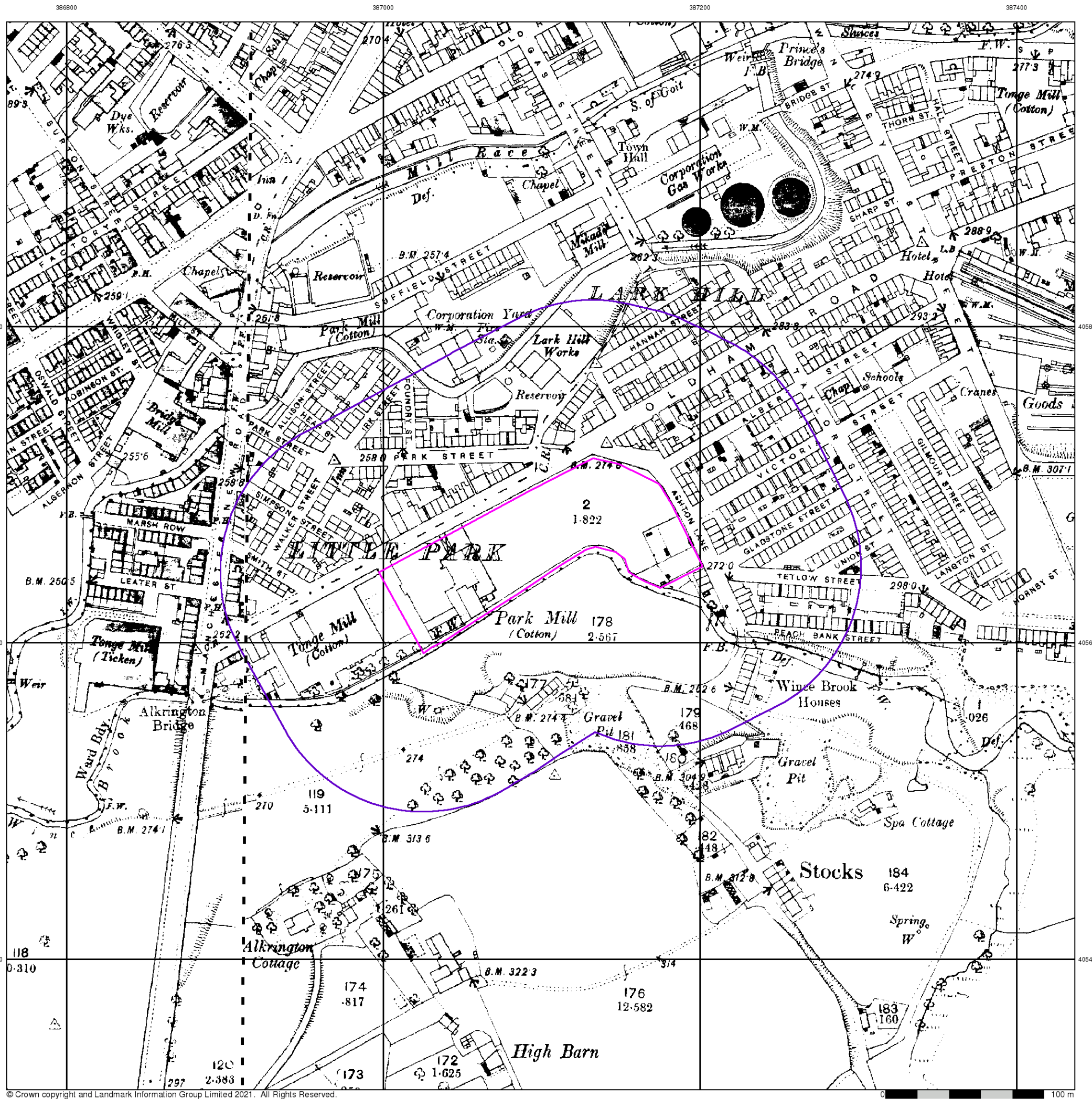
Order Number: 288188991_1_1
Customer Ref: 11635
National Grid Reference: 387100, 405650
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 100

Site Details

Warwick Mill, Oldham Road, Middleton, MANCHESTER, M24 1AZ



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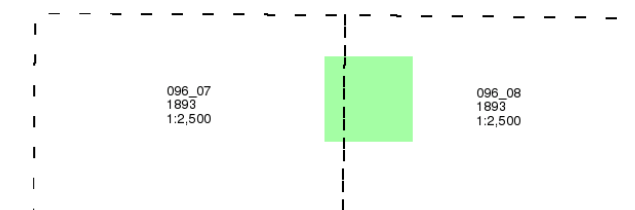
Lancashire And Furness

Published 1893

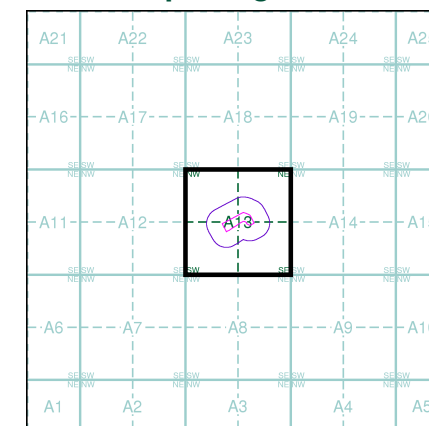
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number: 288188991_1_1
Customer Ref: 11635
National Grid Reference: 387100, 405650
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 100

Site Details

Warwick Mill, Oldham Road, Middleton, MANCHESTER, M24 1AZ

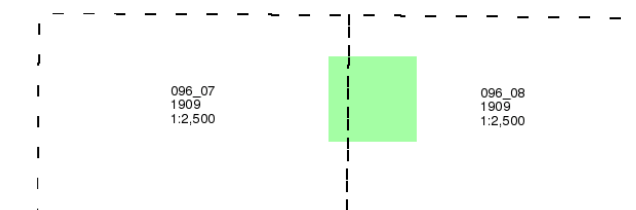
Landmark
INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

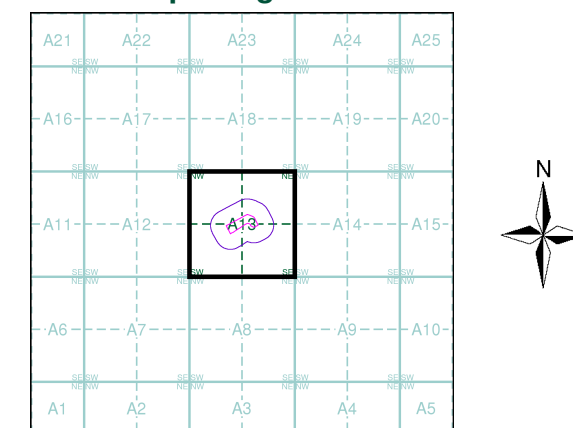


The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

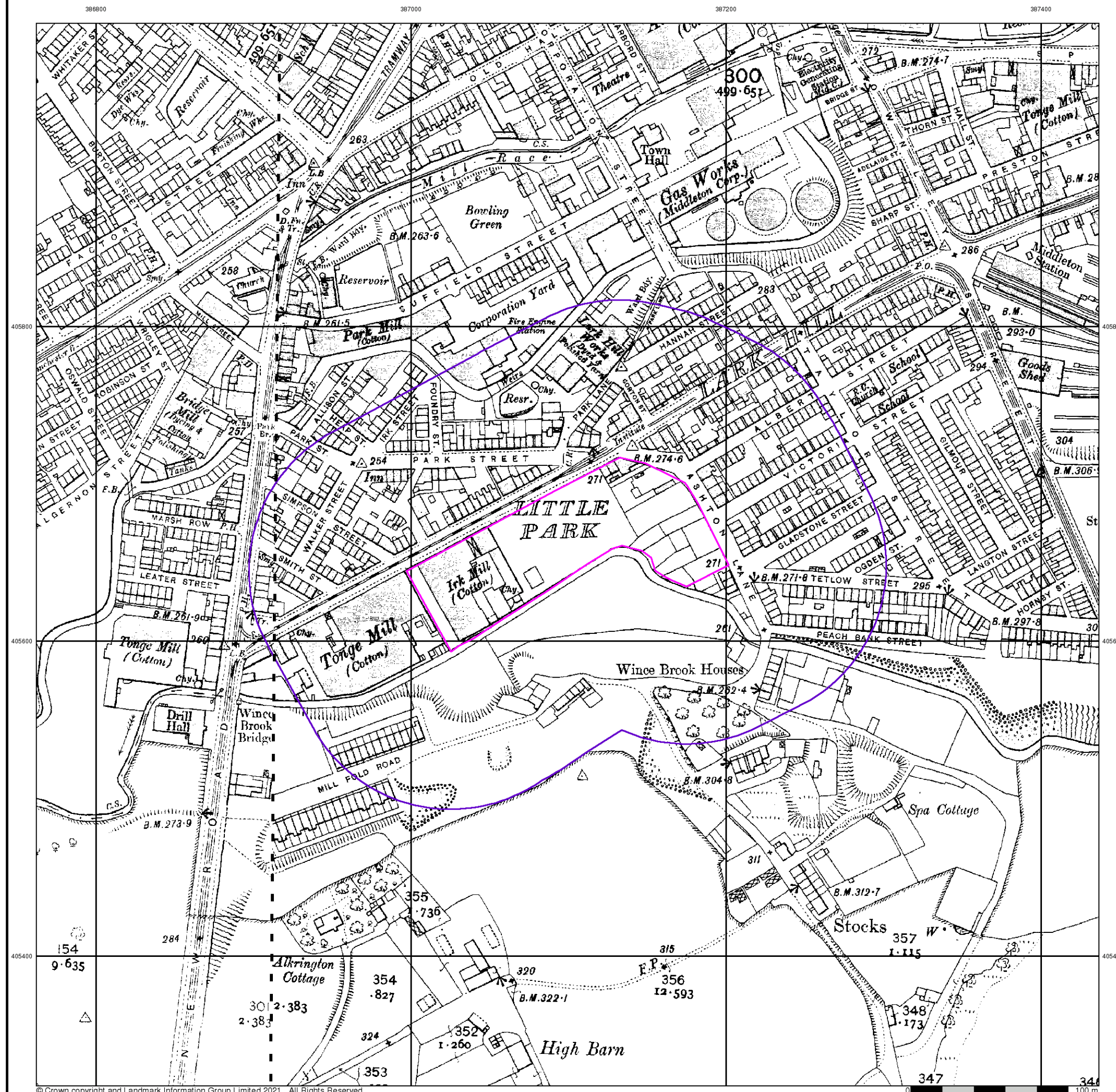
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Customer Ref: 11635
National Grid Reference: 387100, 405650
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 100

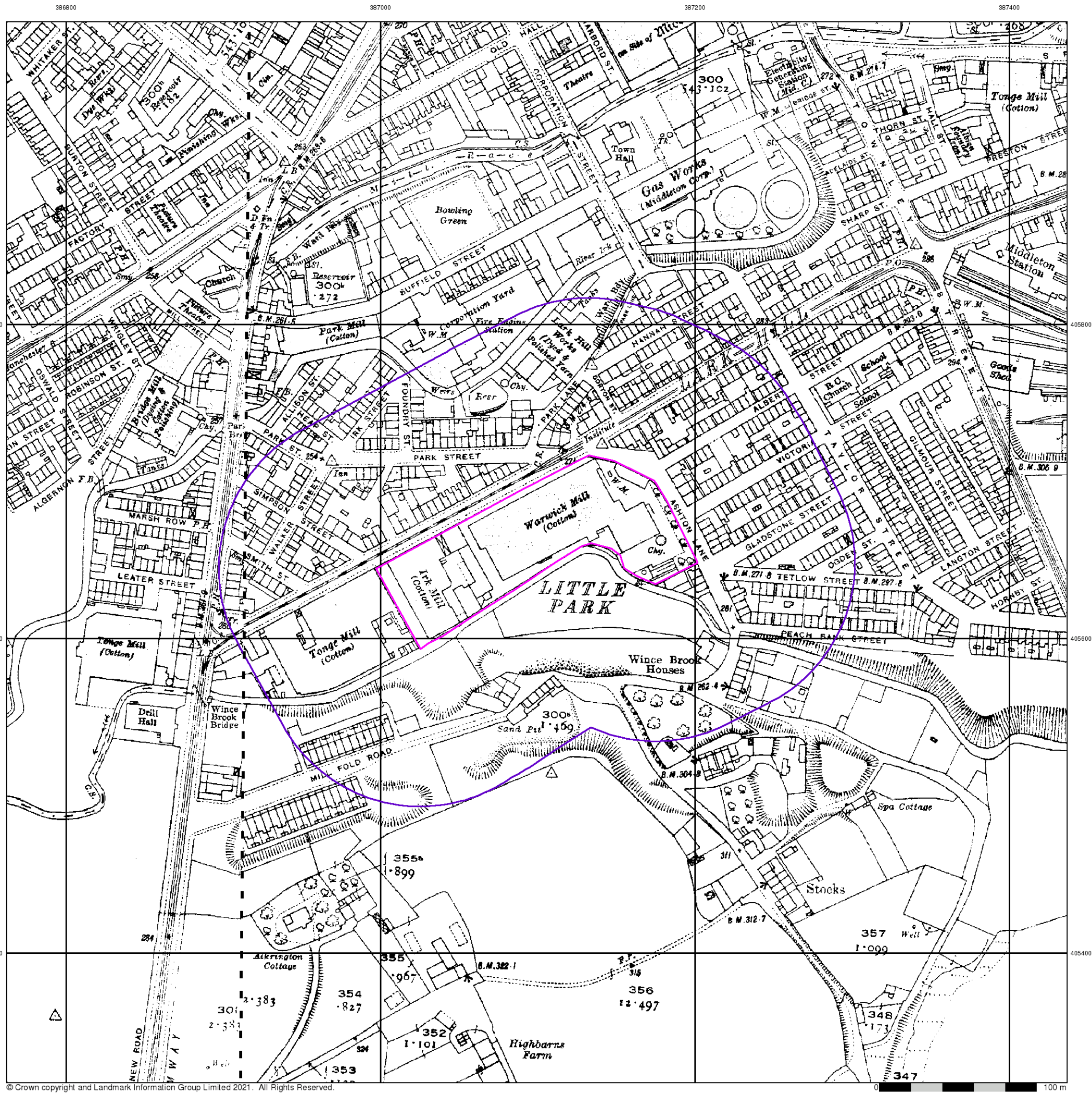
Site Details

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Landmark
INFORMATION GROUP

Tel: 0844 844 9952
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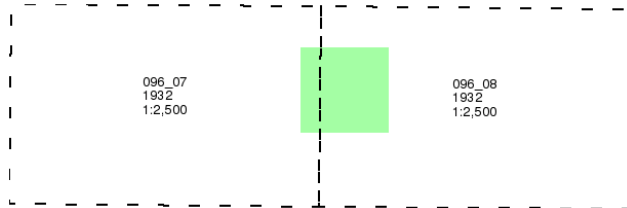
Lancashire And Furness

Published 1932

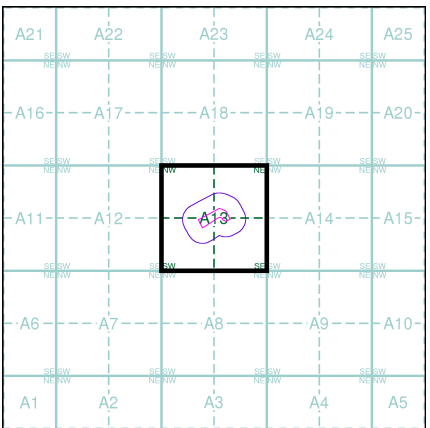
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number: 288188991_1_1
Customer Ref: 11635
National Grid Reference: 387100, 405650
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 100

Site Details

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Ordnance Survey Plan

Published 1954 - 1955

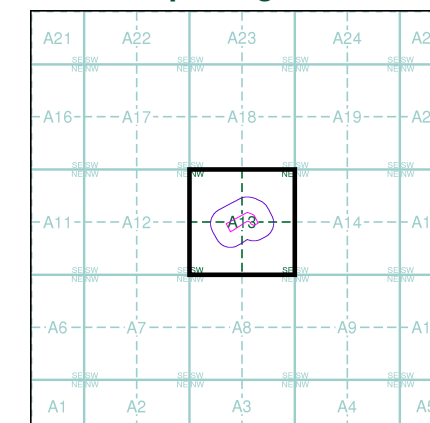
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

SD8605NE 1955 1:1,250	SD8705NW 1954 1:1,250
SD8605SE 1955 1:1,250	SD8705SW 1954 1:1,250

Historical Map - Segment A13



Order Details

Order Number: 288188991_1_1
Customer Ref: 11635
National Grid Reference: 387100, 405650
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 100

Site Details

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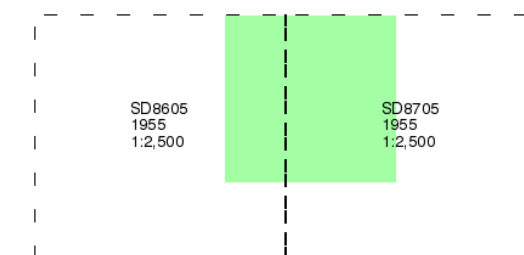
Ordnance Survey Plan

Published 1955

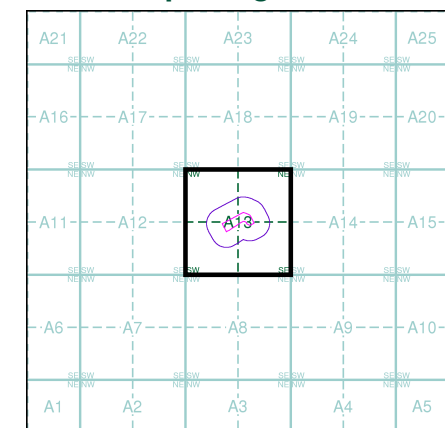
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number: 288188991_1_1
Customer Ref: 11635
National Grid Reference: 387100, 405650
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 100

Site Details

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Ordnance Survey Plan

Published 1961 - 1978

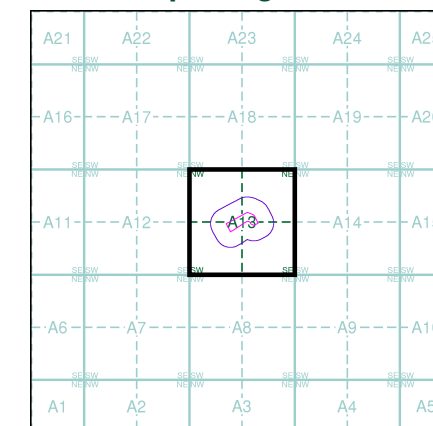
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

SD8605NE 1978 1:1,250	SD8705NW 1978 1:1,250
SD8605SE 1972 1:1,250	SD8705SW 1961 1:1,250

Historical Map - Segment A13



Order Details

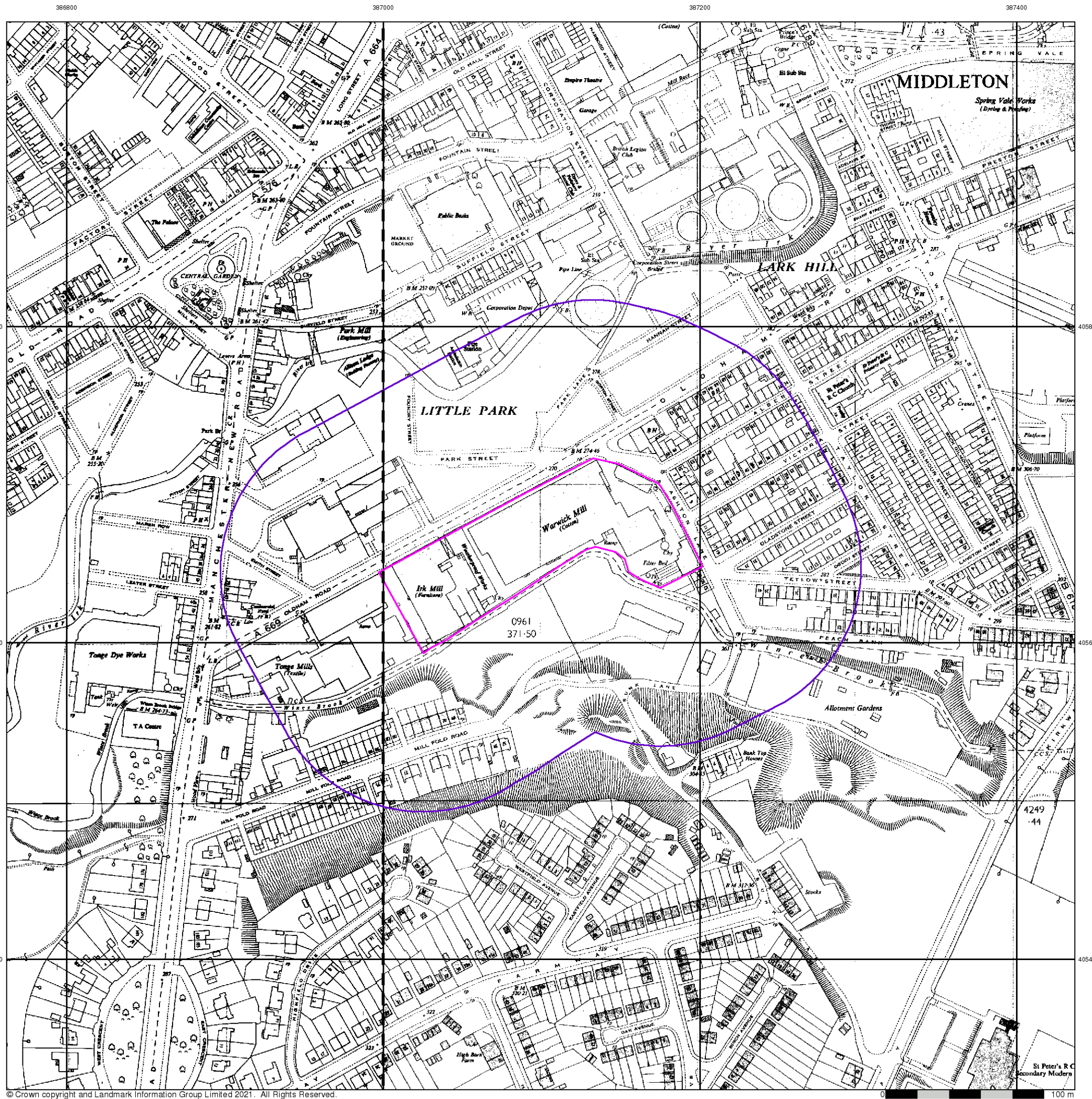
Order Number: 288188991_1_1
Customer Ref: 11635
National Grid Reference: 387100, 405650
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 100

Site Details

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INFORMATION GROUP

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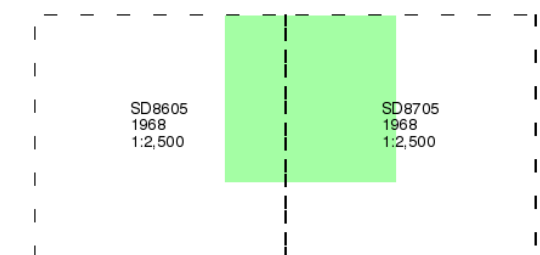
Ordnance Survey Plan

Published 1968

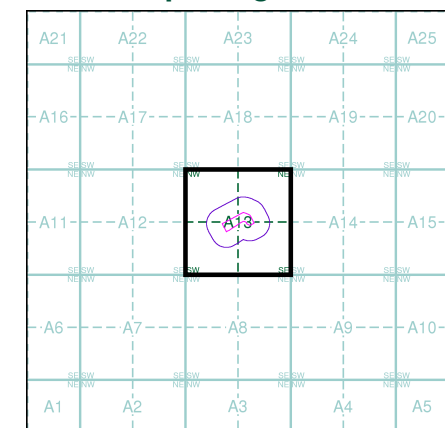
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

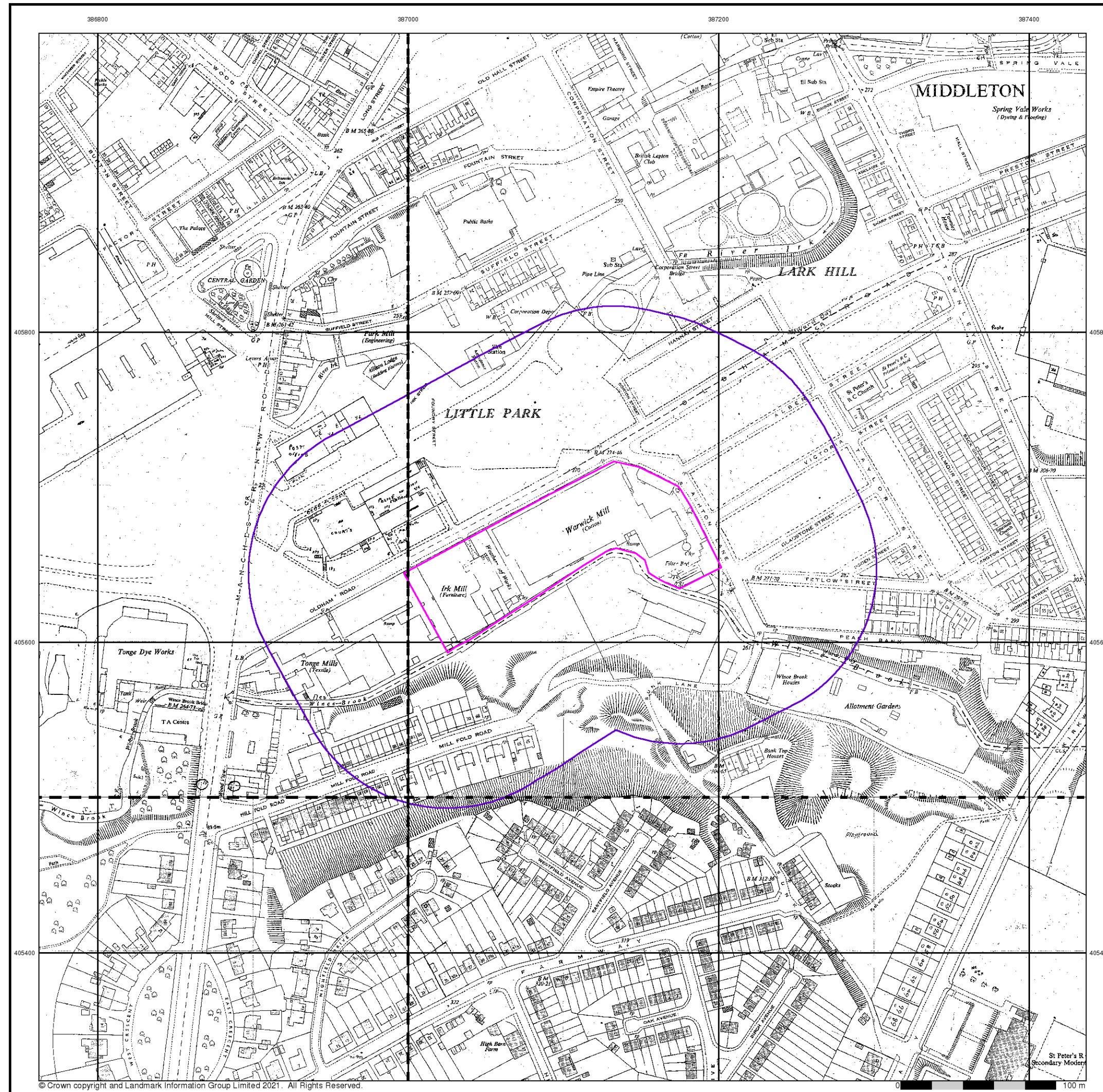
Order Number: 288188991_1_1
Customer Ref: 11635
National Grid Reference: 387100, 405650
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 100

Site Details

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Supply of Unpublished Survey Information

Published 1973 - 1975

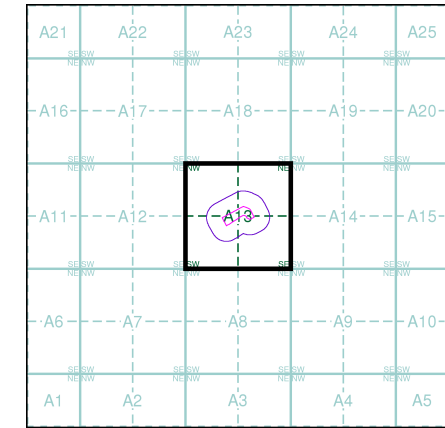
Source map scale - 1:1,250

SUSI maps (Supply of Unpublished Survey Information) were produced between 1972 and 1977, mainly for internal use at Ordnance Survey. These were more of a 'work-in-progress' plan as they showed updates of individual areas on a map. These maps were unpublished, and they do not represent a single moment in time. They were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

SD8605NE	SD8705NW
1974	1973
1:1,250	1:1,250
SD8605SE	SD8705SW
1975	1974
1:1,250	1:1,250

Historical Map - Segment A13



Order Details

Order Number: 288188991_1_1
Customer Ref: 11635
National Grid Reference: 387100, 405650
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 100

Site Details

Warwick Mill, Oldham Road, Middleton, MANCHESTER, M24 1AZ



Tel: 0844 844 9952
Fax: 0844 844 9951
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Supply of Unpublished Survey Information

Published 1975

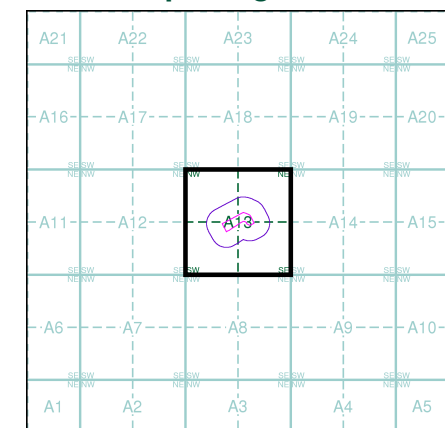
Source map scale - 1:1,250

SUSI maps (Supply of Unpublished Survey Information) were produced between 1972 and 1977, mainly for internal use at Ordnance Survey. These were more of a 'work-in-progress' plan as they showed updates of individual areas on a map. These maps were unpublished, and they do not represent a single moment in time. They were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

SD8605NE 1975 1:1,250	SD8705NW 1975 1:1,250
SD8705SW 1975 1:1,250	

Historical Map - Segment A13



Order Details

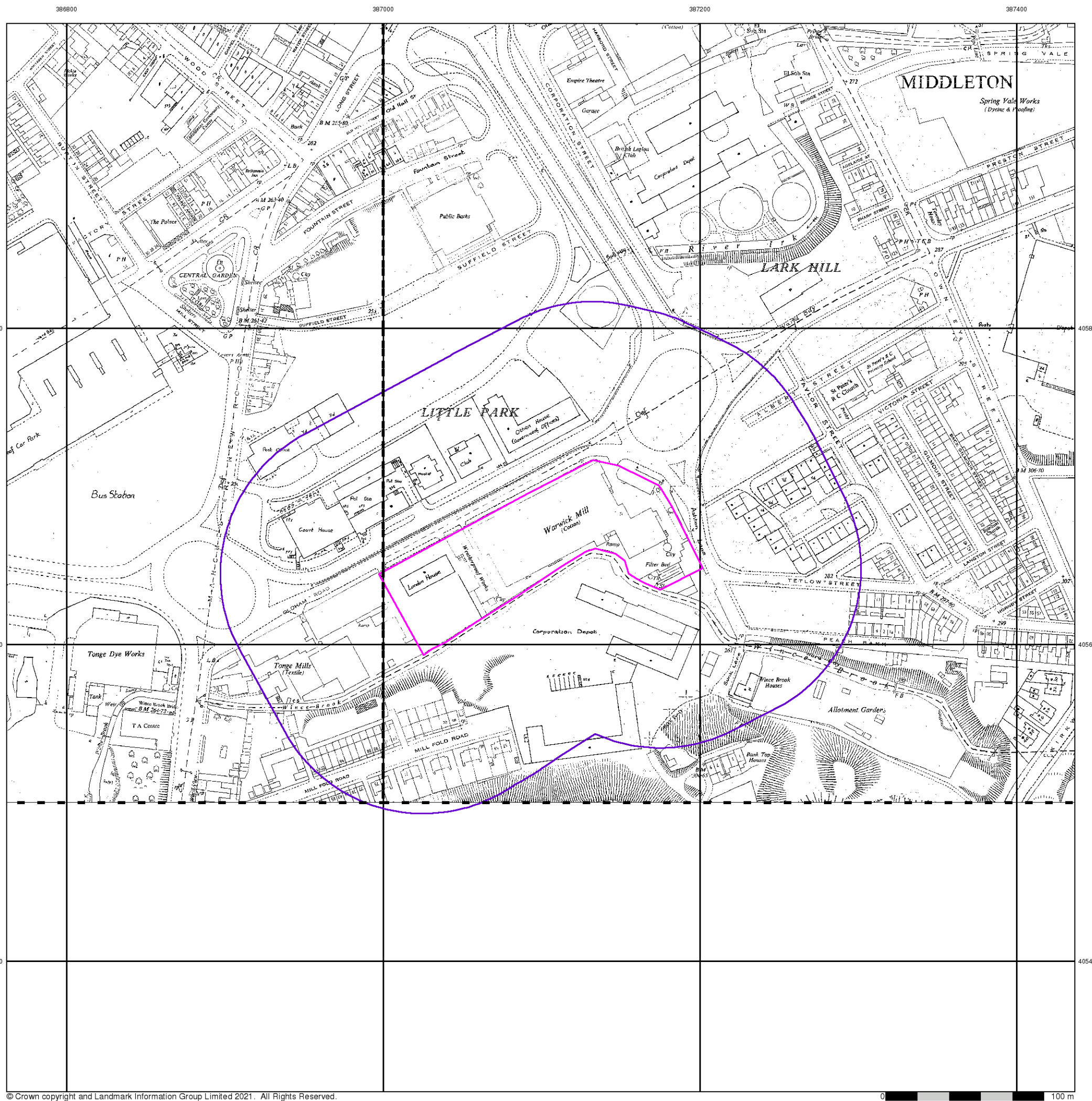
Order Number: 288188991_1_1
Customer Ref: 11635
National Grid Reference: 387100, 405650
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 100

Site Details

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Supply of Unpublished Survey Information

Published 1975 - 1976

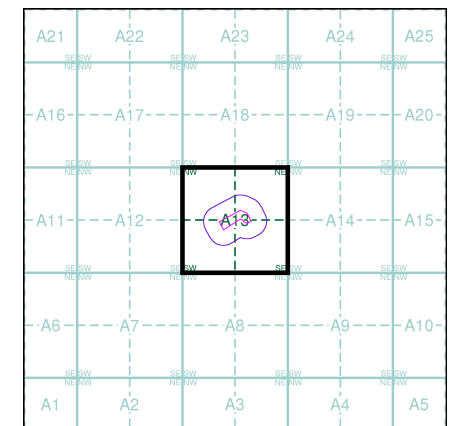
Source map scale - 1:1,250

SUSI maps (Supply of Unpublished Survey Information) were produced between 1972 and 1977, mainly for internal use at Ordnance Survey. These were more of a 'work-in-progress' plan as they showed updates of individual areas on a map. These maps were unpublished, and they do not represent a single moment in time. They were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

SD8605NE 1975 1:1,250	SD8705NW 1976 1:1,250
-----------------------------	-----------------------------

Historical Map - Segment A13



Order Details

Order Number: 288188991_1_1
Customer Ref: 11635
National Grid Reference: 387100, 405650
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 100

Site Details

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Additional SIMs

Published 1983 - 1984

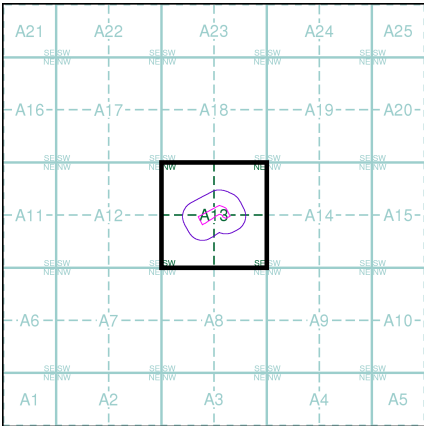
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

SD8605NE	SD8705NW
1983	1984
1:1,250	1:1,250
	SD8705SW
	1984
	1:1,250

Historical Map - Segment A13



Order Details

Order Number: 288188991_1_1
Customer Ref: 11635
National Grid Reference: 387100, 405650
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 100

Site Details

Warwick Mill, Oldham Road, Middleton, MANCHESTER, M24 1AZ



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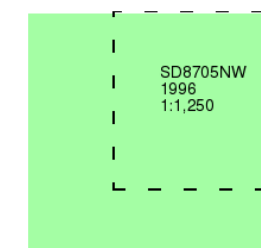
Large-Scale National Grid Data

Published 1996

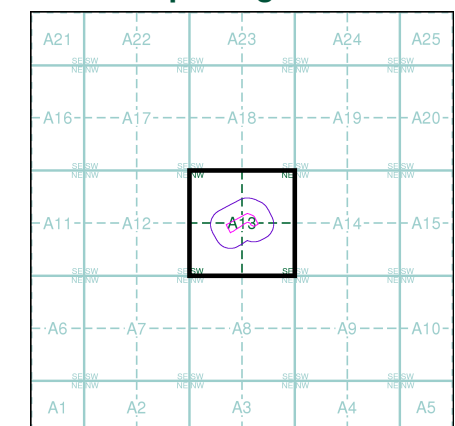
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number: 288188991_1_1
Customer Ref: 11635
National Grid Reference: 387100, 405650
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 100

Site Details

Warwick Mill, Oldham Road, Middleton, MANCHESTER, M24 1AZ



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386800

387000

387200

387400

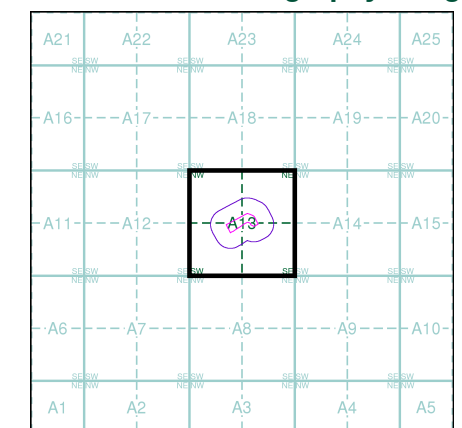


Historical Aerial Photography

Published 2000

This aerial photography was produced by Getmapping, these vertical aerial photographs provide a seamless, full colour survey of the whole of Great Britain

Historical Aerial Photography - Segment A13



Order Details

Order Number: 288188991_1_1
Customer Ref: 11635
National Grid Reference: 387100, 405650
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 100

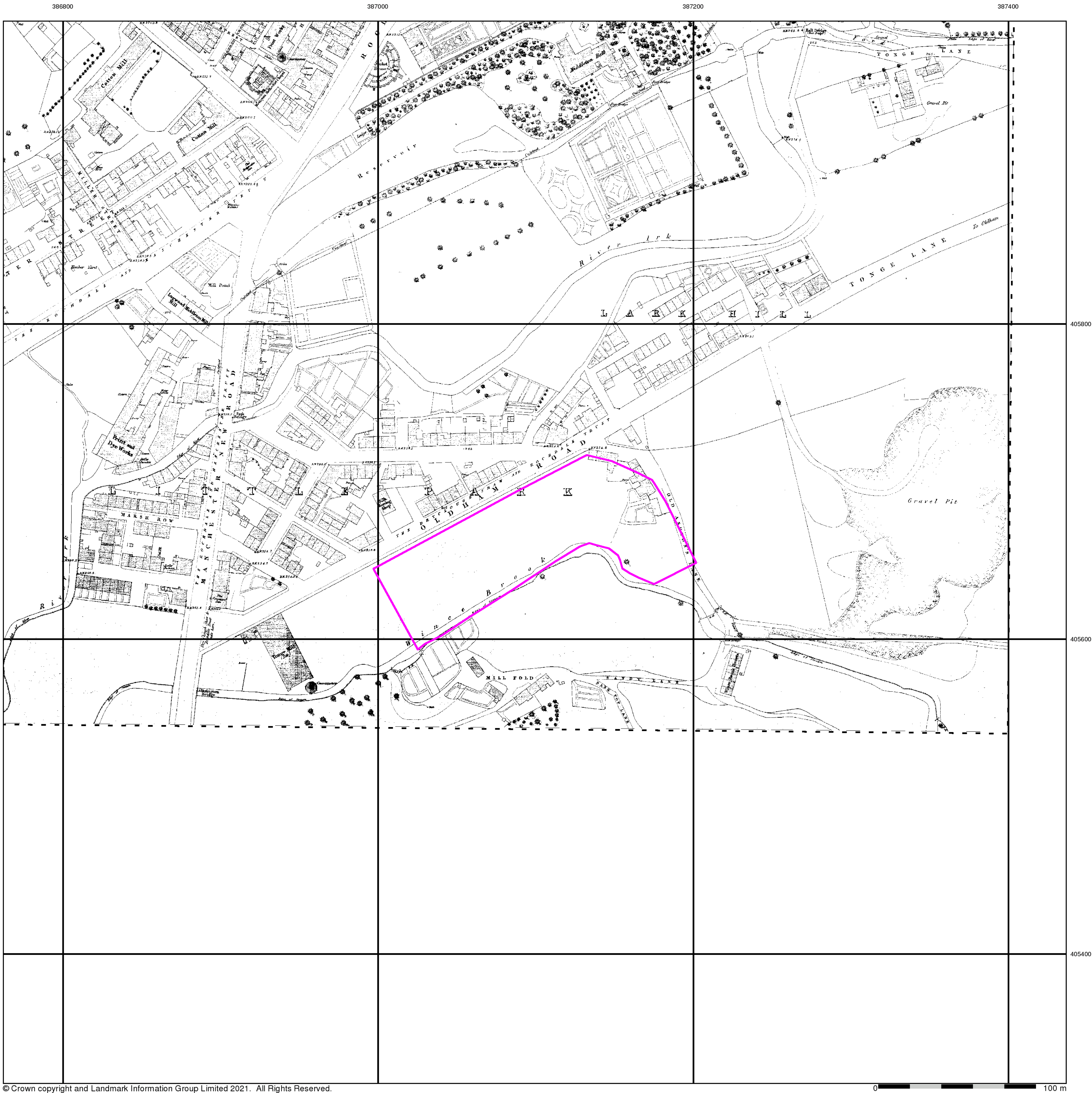
Site Details

Warwick Mill, Oldham Road, Middleton, MANCHESTER, M24 1AZ

Landmark
INFORMATION GROUP

Tel: 0844 844 9952
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Web: www.envirocheck.co.uk





Lancashire And Furness

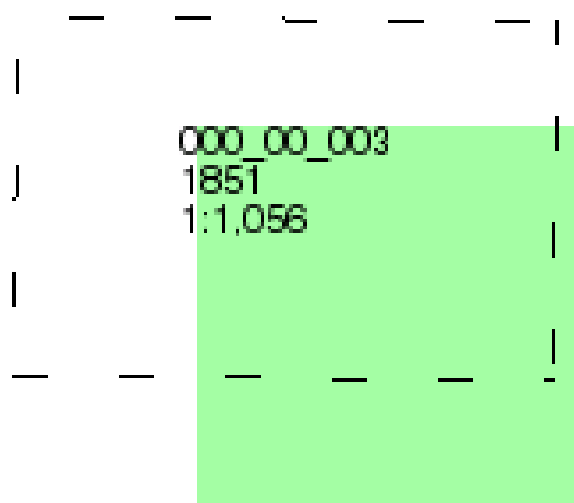
Published 1851

Source map scale - 1:1,056

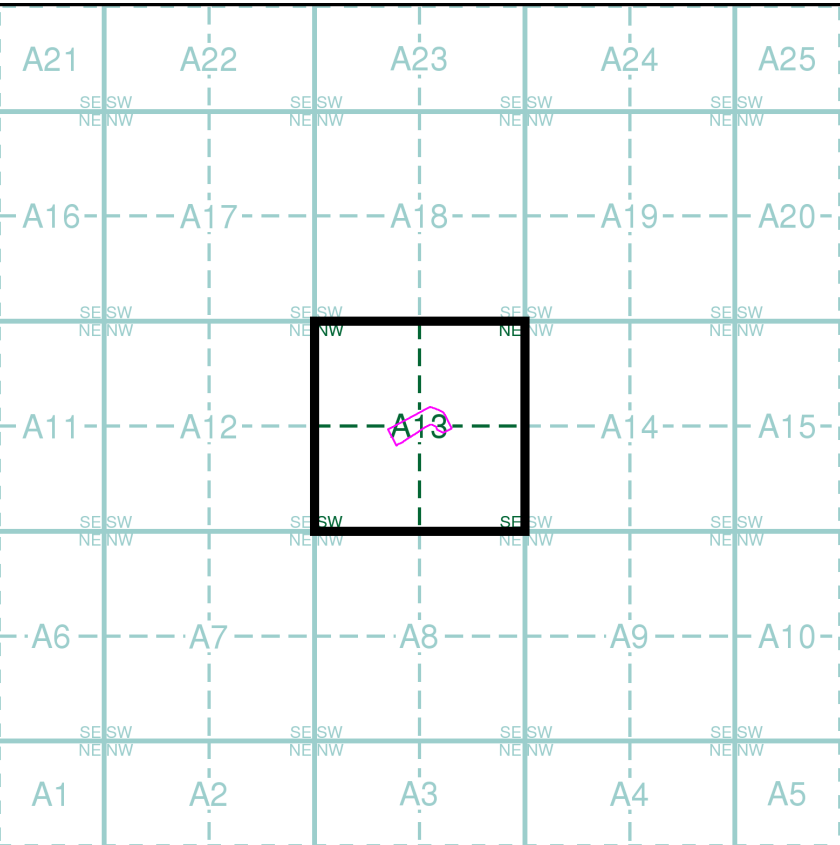
The 1:1056 scale of Ordnance Survey mapping was adopted from Ireland in 1848 and was used to survey towns with a population of over 4000, plus county towns of lesser population, in those counties mapped at the six-inch scale in 1841-55. The scale was the largest scale at which London was mapped by the Ordnance Survey and a 'skeleton' survey of the capital, showing little more than streets, street names, frontages and altitudes, was undertaken between 1848 and 1850. The majority of the 1:1056 surveys were later replaced by 1:500 surveys; although almost all the remainder were revised at this scale, sometimes more than once before 1895. The type of detail shown on the 1:1056 scale is broadly similar to that on 1:500; the apparent omission of minor details such as sewer access points and street lights may be as much a reflection of the generally earlier date of these plans, as of the specification of the map.

Please note: Due to the partial coverage of Historical Town Plans, it is possible that not all segments within an order will contain mapping. Only the segments that have Town Plan coverage will be generated.

Map Name(s) and Date(s)



Historical Town Plan - Segment A13



Order Details

Order Number: 288188991_1_1
Customer Ref: 11635
National Grid Reference: 387100, 405650
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 0

Site Details

Warwick Mill, Oldham Road, Middleton, MANCHESTER, M24 1AZ



Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



Lancashire And Furness

Published 1891

Source map scale - 1:500

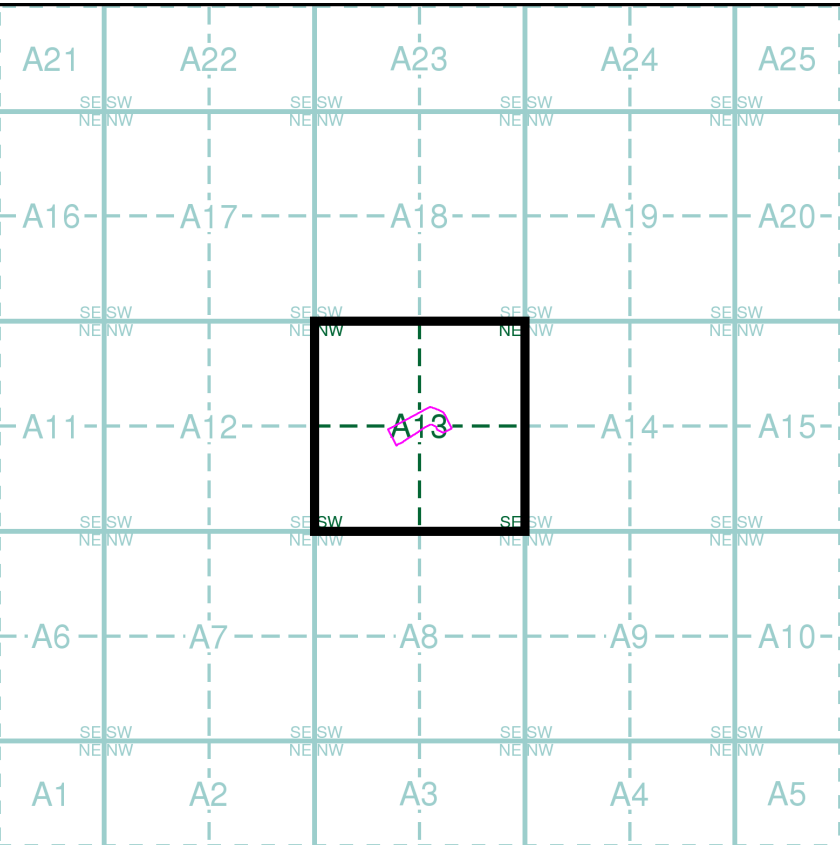
The 1:500 scale Ordnance Survey mapping was introduced in 1855 as a replacement for the 1:528 scale and to complement the 1:2500 scale that had been implemented in 1853. By 1895, the 1:500 scale covered most towns over a population of about 4000 at the time of survey, although very few towns were mapped more than once at this scale, and none have been since 1910. The 1:500 scale gives particular emphasis to such features as lamp posts, man holes, arched passages and minor building projections. Also often featured are divisions between tenements, interior ground floor layouts of public buildings, and on earlier plans, the functions of the various parts of larger industrial premises are also indicated. Content of the plans does vary however, from one town to the next in terms of, for example, the completeness of railway tracks and the coverage of public buildings.

Please note: Due to the partial coverage of Historical Town Plans, it is possible that not all segments within an order will contain mapping. Only the segments that have Town Plan coverage will be generated.

Map Name(s) and Date(s)

096_07_010 1891 1:500	096_08_006 1891 1:500	096_08_007 1891 1:500
096_07_015 1891 1:500	096_08_011 1891 1:500	

Historical Town Plan - Segment A13



Order Details

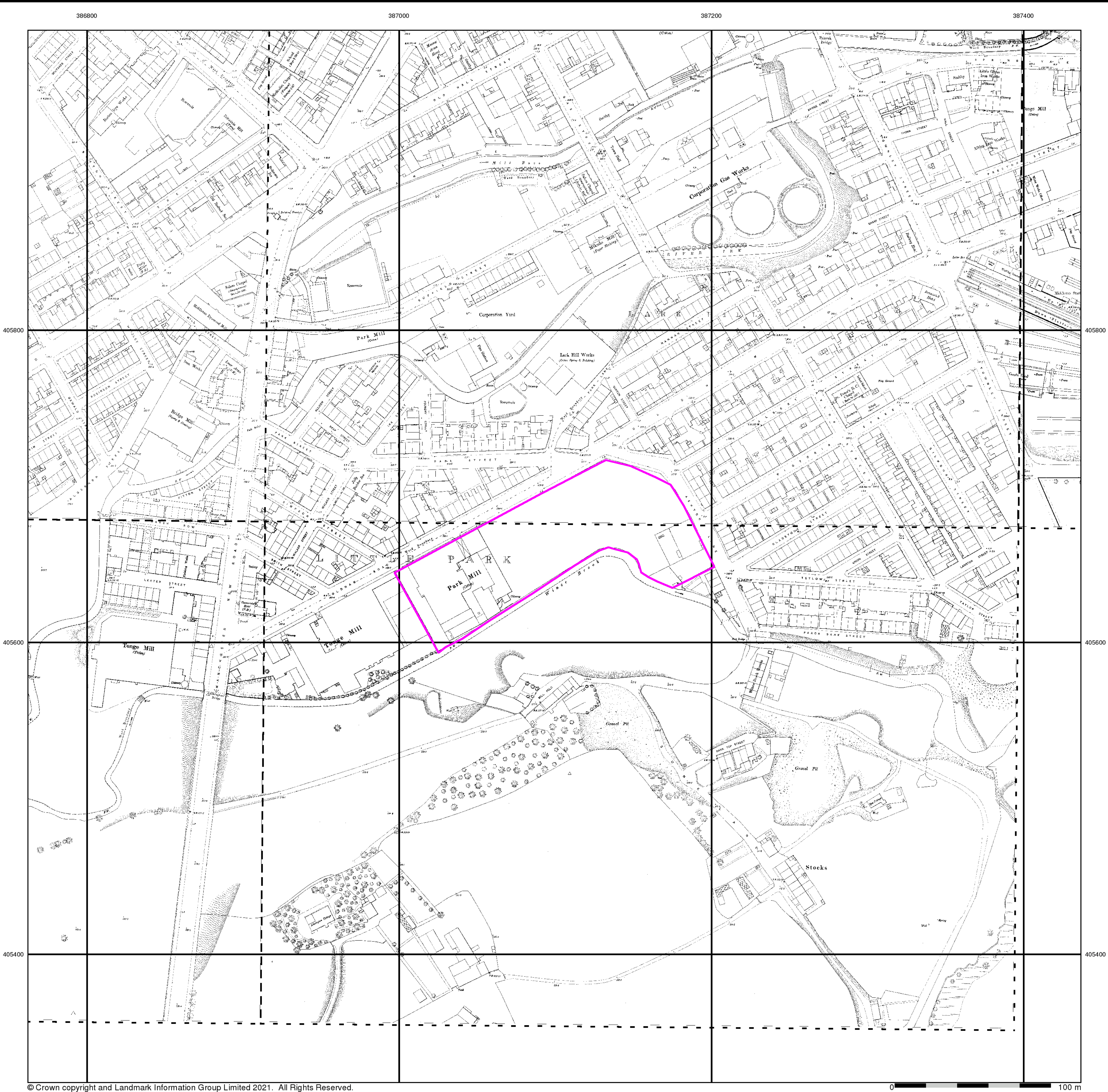
Order Number: 288188991_1_1
Customer Ref: 11635
National Grid Reference: 387100, 405650
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 0

Site Details

Warwick Mill, Oldham Road, Middleton, MANCHESTER, M24 1AZ



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Fax: 0844 844 9951
Web: www.envirocheck.co.uk



APPENDIX F

CORRESPONDENCE WITH COAL AUTHORITY

From: Alex Smiles
Sent: 28 November 2023 14:43
To: Emma Hobbs
Subject: FW: AMC SEARCH Warwick Mill, REF 71009771061

Alex Smiles

RSK Geosciences (Manchester)
Mobile: +44 (0)7793 365857

From: Mark Newman <MarkNewman@coal.gov.uk>
Sent: Monday, November 13, 2023 10:15 AM
To: Alex Smiles <ASmiles@rsk.co.uk>
Cc: Joyce Saddington <JSaddington@rsk.co.uk>
Subject: RE: AMC SEARCH Warwick Mill, REF 71009771061

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Hi Alex,

Thanks for your AMC search request. There are no recorded mine entries, underground workings or areas of opencast within the vicinity of your site, so there are no plans we can provide you with. Your site does fall within a broader area that was identified by British Coal as potentially containing unrecorded shallow workings, but by their very definition we do not hold plans for these.

As there are no plans we can provide, I will ask customer services to refund your search fee.

Thanks,
Mark

 **The Coal Authority**
Mark Newman
BSc (hons), MSc, FGS
Mining Consultant and Information Manager
T : (01623) 637 048
E : marknewman@coal.gov.uk
W : <https://gov.uk/the-coal-authority>

From: Alex Smiles <ASmiles@rsk.co.uk>
Sent: 09 November 2023 13:51
To: Information Managers <InformationManagers@coal.gov.uk>
Cc: Joyce Saddington <JSaddington@rsk.co.uk>
Subject: AMC SEARCH Warwick Mill, REF 71009771061

Hi Zoey

Thanks for coming back on this, see attached search proforma. In terms of payment, we don't have an account so will have to arrange BACs payment for this search and any subsequent plans. I have cc'd my colleague Joyce into this, can you please give her a call on 07342 949560 to arrange payment.

Let me know if you need anything further to complete the search

Regs

Alex

Alex Smiles

RSK Geosciences (Manchester)
Mobile: +44 (0)7793 365857 ·

From: Information Managers <InformationManagers@coal.gov.uk>
Sent: Thursday, November 9, 2023 8:53 AM
To: Alex Smiles <ASmiles@rsk.co.uk>
Cc: Information Managers <InformationManagers@coal.gov.uk>
Subject: RE: [External] 11891 : Warwick Mill, Coal Mining Records Search

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Good morning Alex,

Thank you for your email.

We can perform a search of the mining records for plans relevant to your site and for this we charge a minimum initial fee of £80.00 + VAT. Dependent on the size of the site and the complexity of the plans found this charge may be increased. Once we have completed the search we can then provide a quote for the plans found.

We can quote for the plans to be emailed through a file sharing application at £35.00 + VAT per plan.

Please advise if you wish to proceed and how you would like to pay for the search. We can accept debit/credit card or a Coal Authority credit account number beginning 613.

Should you wish to go ahead, please could you complete the attached sheet for our surveyors and return it with any original mining report you have previously obtained, a site boundary plan, and/or a shapefile if you have one.

Kind Regards,

Zoey Purdy

 The Coal Authority

Zoey Purdy
Customer Service Advisor

E : groundstability@coal.gov.uk
W : gov.uk/coalauthority

Please do not hesitate to contact the customer strategy and services. if you require further assistance our office contact number is (In the UK Tel: 0345 762 6848 Option 1) & for calling (Outside the UK Tel: 01623 637 000)

From: Alex Smiles <ASmiles@rsk.co.uk>
Sent: 08 November 2023 17:01
To: Information Managers <InformationManagers@coal.gov.uk>
Cc: Oliver Quinn <OQuinn@rsk.co.uk>; Joyce Saddington <JSaddington@rsk.co.uk>
Subject: [External] 11891 : Warwick Mill, Coal Mining Records Search

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Hi

We are looking to complete a Coal Mining Risk Assessment (CMRA) for a proposed residential development site at Warwick Mill; Warwick Mill, Oldham Road, Middleton, M24 1AZ

A Site Boundary Plan and a Coal Consultants Mining Report are attached for reference, related to the site.

As part of the CMRA, we would like to request a search of available mine abandonment and mine shaft records that you may hold for the site. Are you able to provide a quotation to complete this search so we can arrange prompt payment.

If you require any further information, please do not hesitate to get in touch.

Best regards

Alex

Alex Smiles
BSc(hons) CEnv MIEMA FGS

Associate Director – Team Leader, Manchester, Geosciences and Geo-engineering



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Switchboard: +44 (0)161 236 2757 · Mobile: +44 (0)7793 365857 · email: ASmiles@rsk.co.uk

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Registered number: 115530

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Before printing think about your responsibility and commitment to the ENVIRONMENT!

Kind regards,
Harry Prew

Geo-Environmental Consultant



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