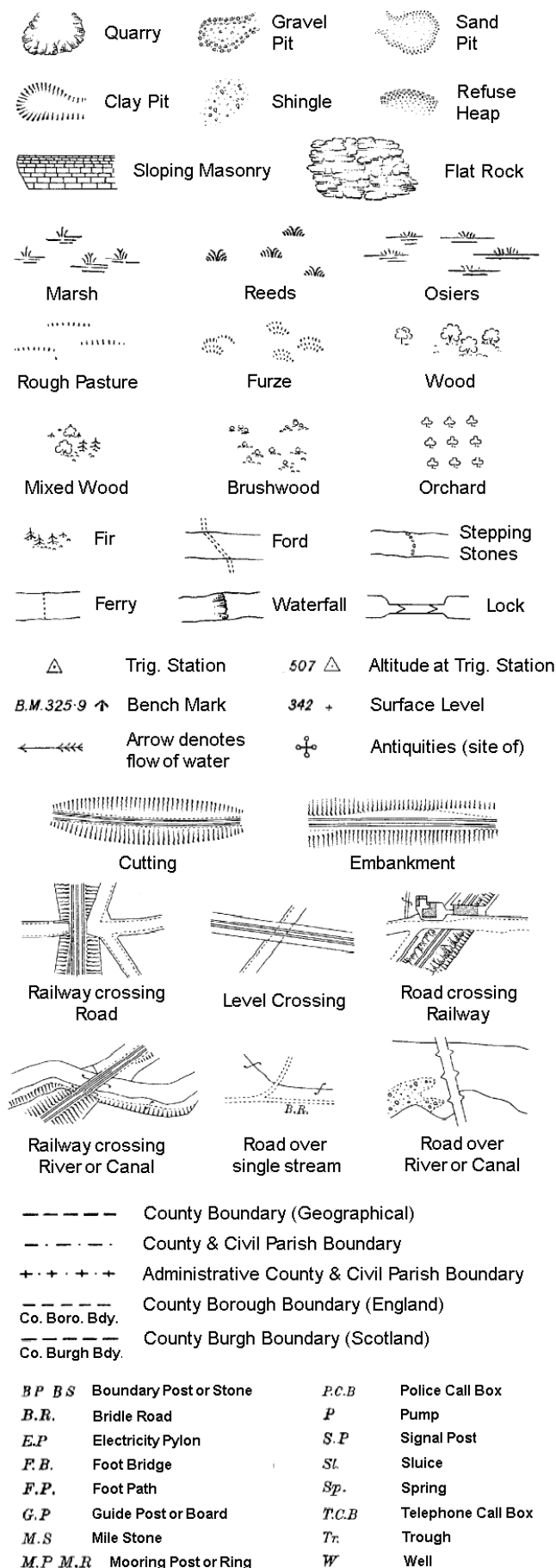
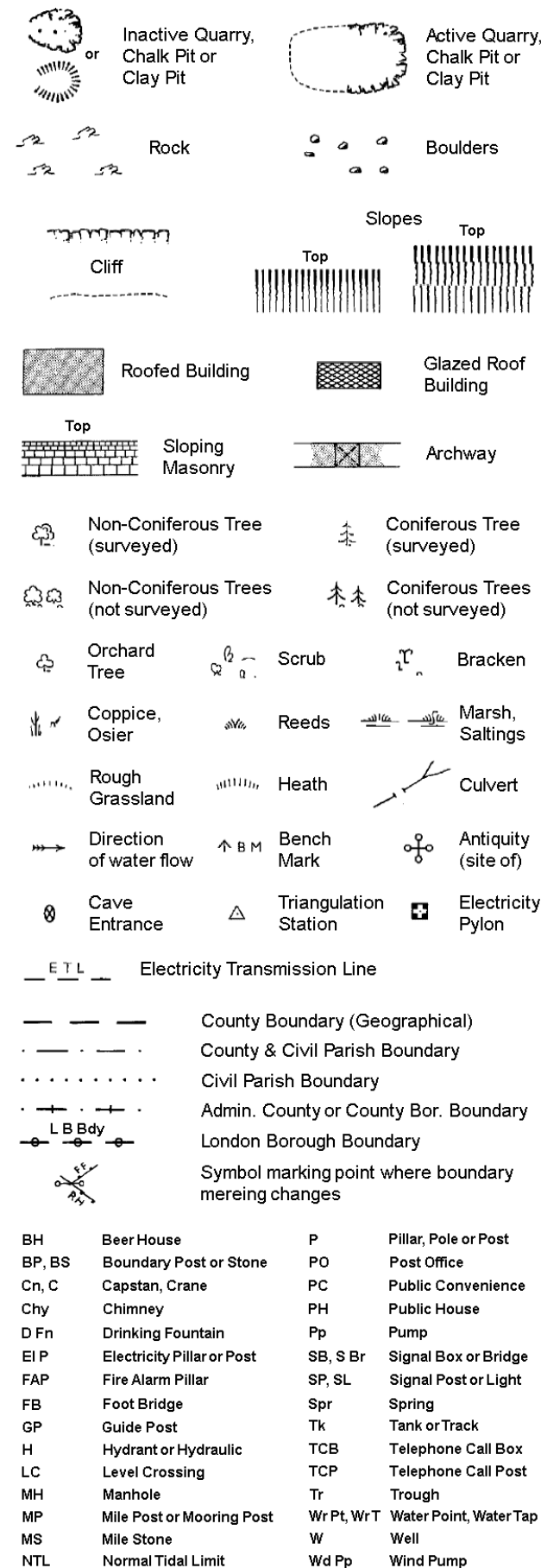


Historical Mapping Legends

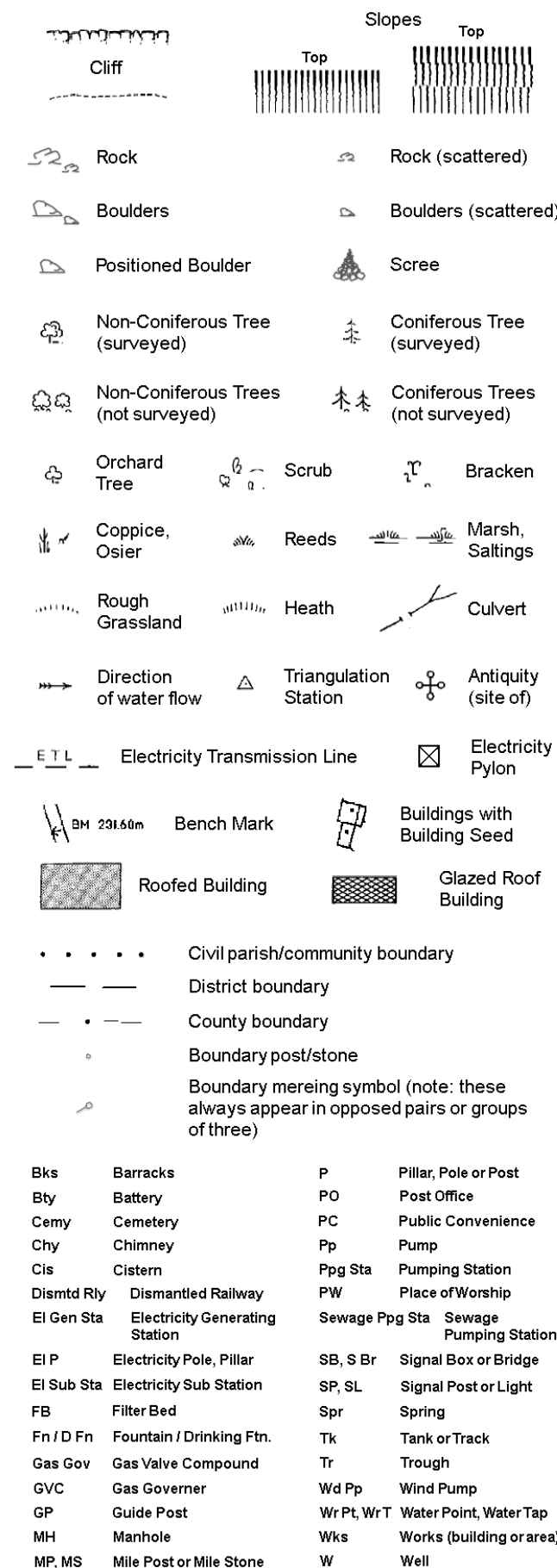
Ordnance Survey County Series and Ordnance Survey Plan 1:2,500



Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250



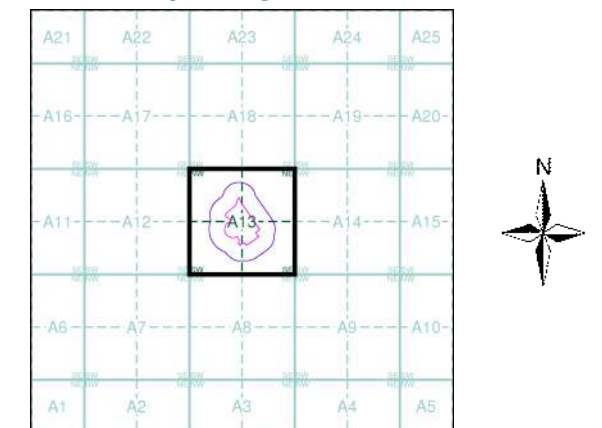
Large-Scale National Grid Data 1:2,500 and 1:1,250



Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Berkshire	1:2,500	1877 - 1879	2
Berkshire	1:2,500	1899	3
Berkshire	1:2,500	1912	4
Berkshire	1:2,500	1932	5
Ordnance Survey Plan	1:2,500	1958 - 1959	6
Ordnance Survey Plan	1:1,250	1958	7
Additional SIMs	1:2,500	1959	8
Ordnance Survey Plan	1:1,250	1969 - 1972	9
Additional SIMs	1:1,250	1972 - 1993	10
Additional SIMs	1:1,250	1990	11
Large-Scale National Grid Data	1:1,250	1993	12
Large-Scale National Grid Data	1:1,250	1994 - 1995	13

Historical Map - Segment A13



Order Details

Order Number: 72923493_1_1
Customer Ref: EB1834
National Grid Reference: 472690, 171750
Slice: A
Site Area (Ha): 3.83
Search Buffer (m): 100

Site Details

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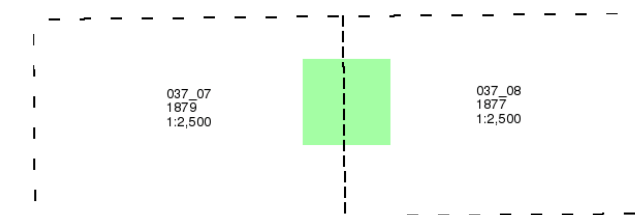
Berkshire

Published 1877 - 1879

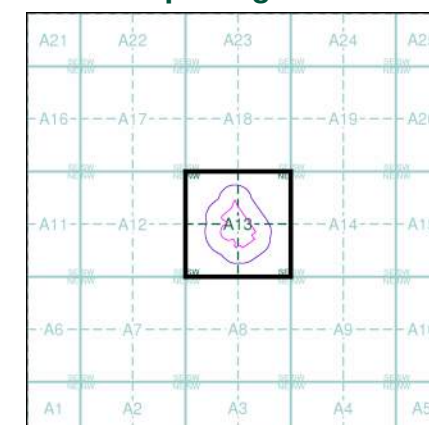
Source map scale - 1:2,500

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

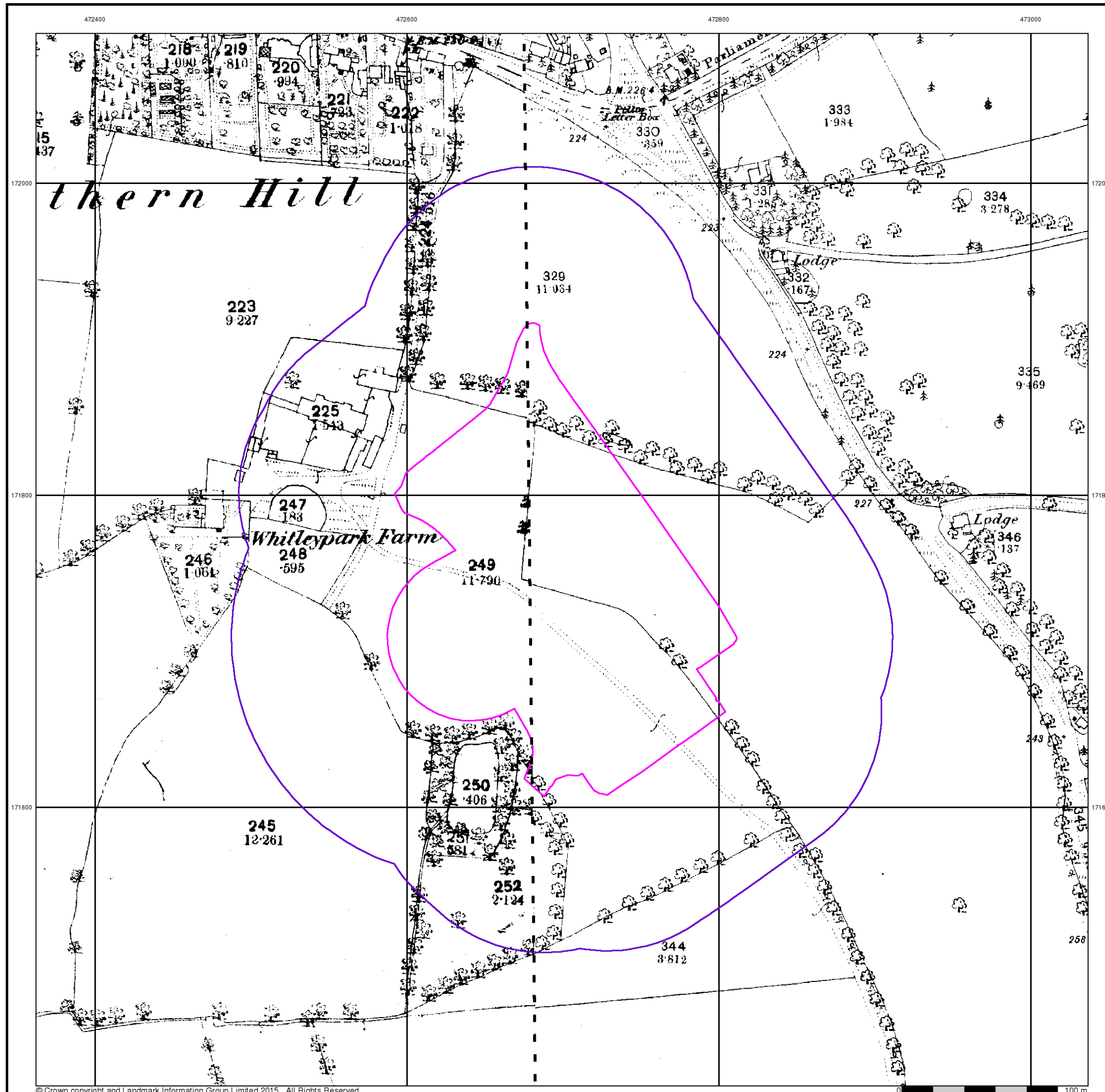
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National Grid Reference: 472690, 171750
Slice: A
Site Area (Ha): 3.83
Search Buffer (m): 100

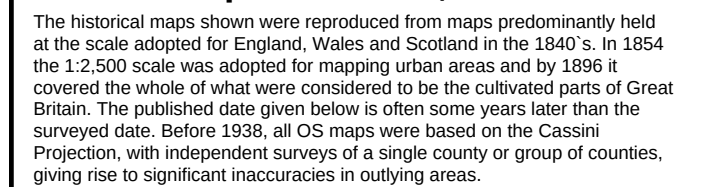
Site Details

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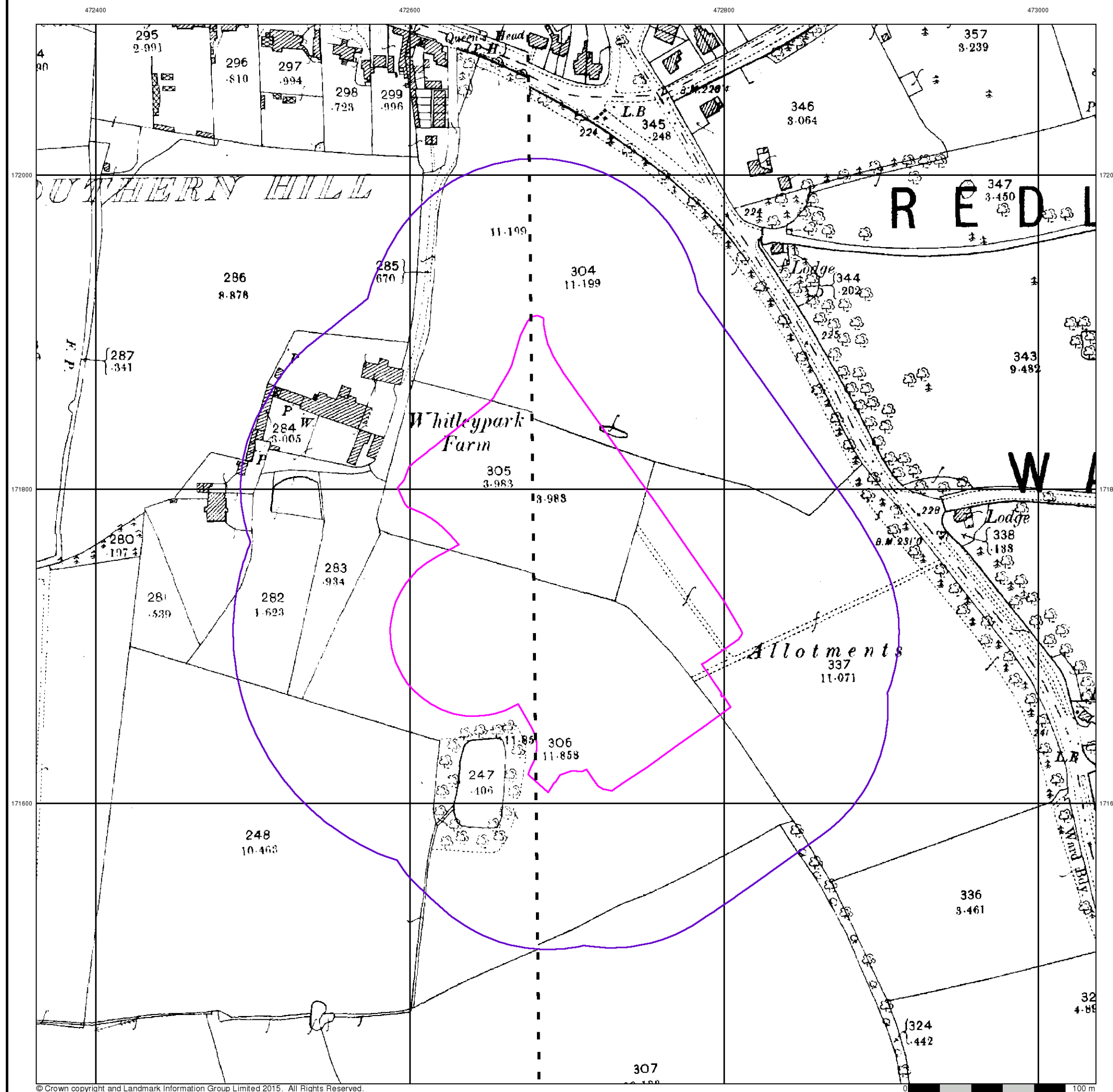




037_07
1999
1:2,500

037_08
1999
1:2,500

St Patricks Hall, Northcourt Avenue, Reading, RG2 7HB





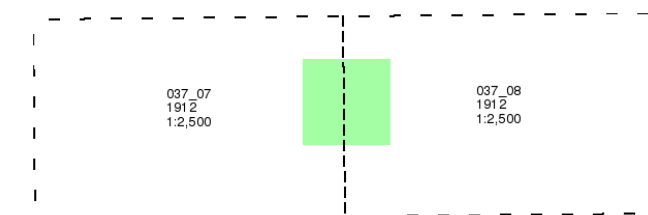
Berkshire

Published 1912

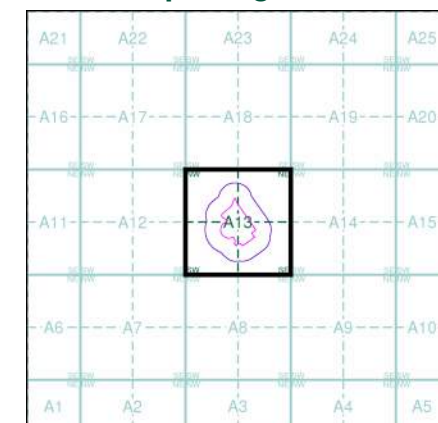
Source map scale - 1:2,500

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

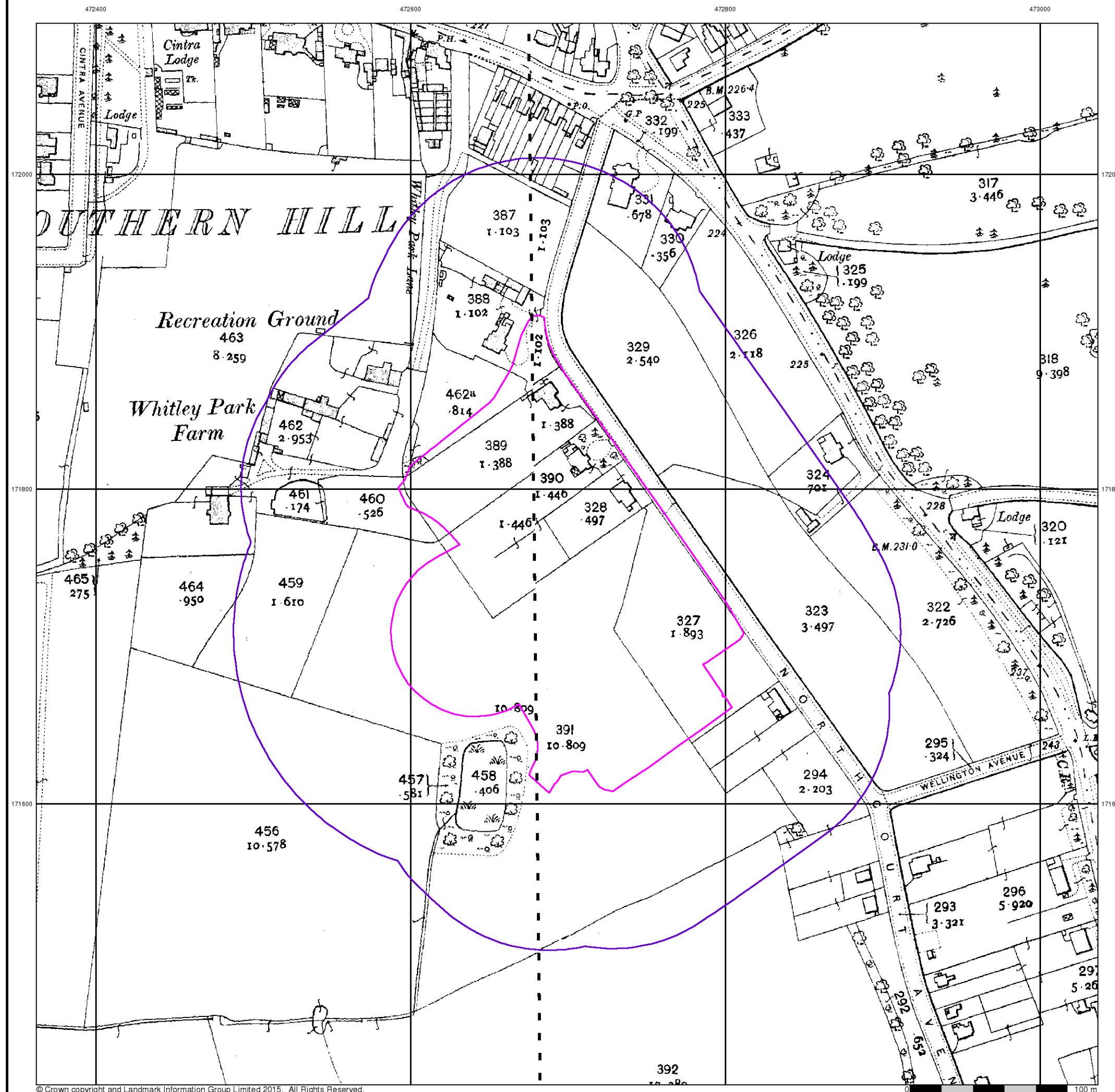
Order Number: 72923493_1_1
Customer Ref: EB1834
National Grid Reference: 472690, 171750
Slice: A
Site Area (Ha): 3.83
Search Buffer (m): 100

Site Details

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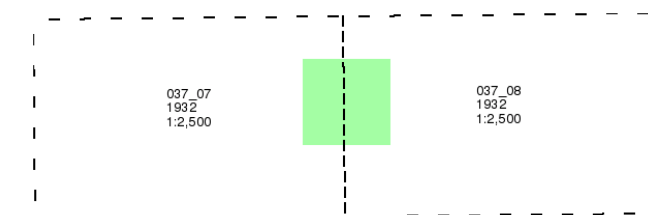
Berkshire

Published 1932

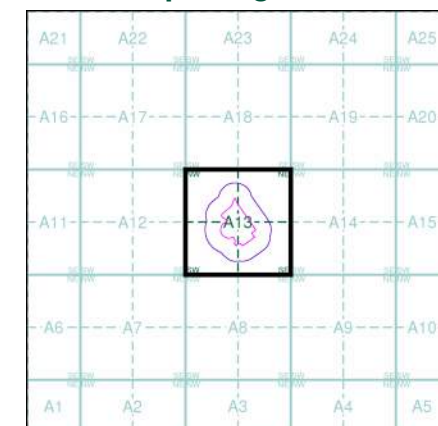
Source map scale - 1:2,500

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

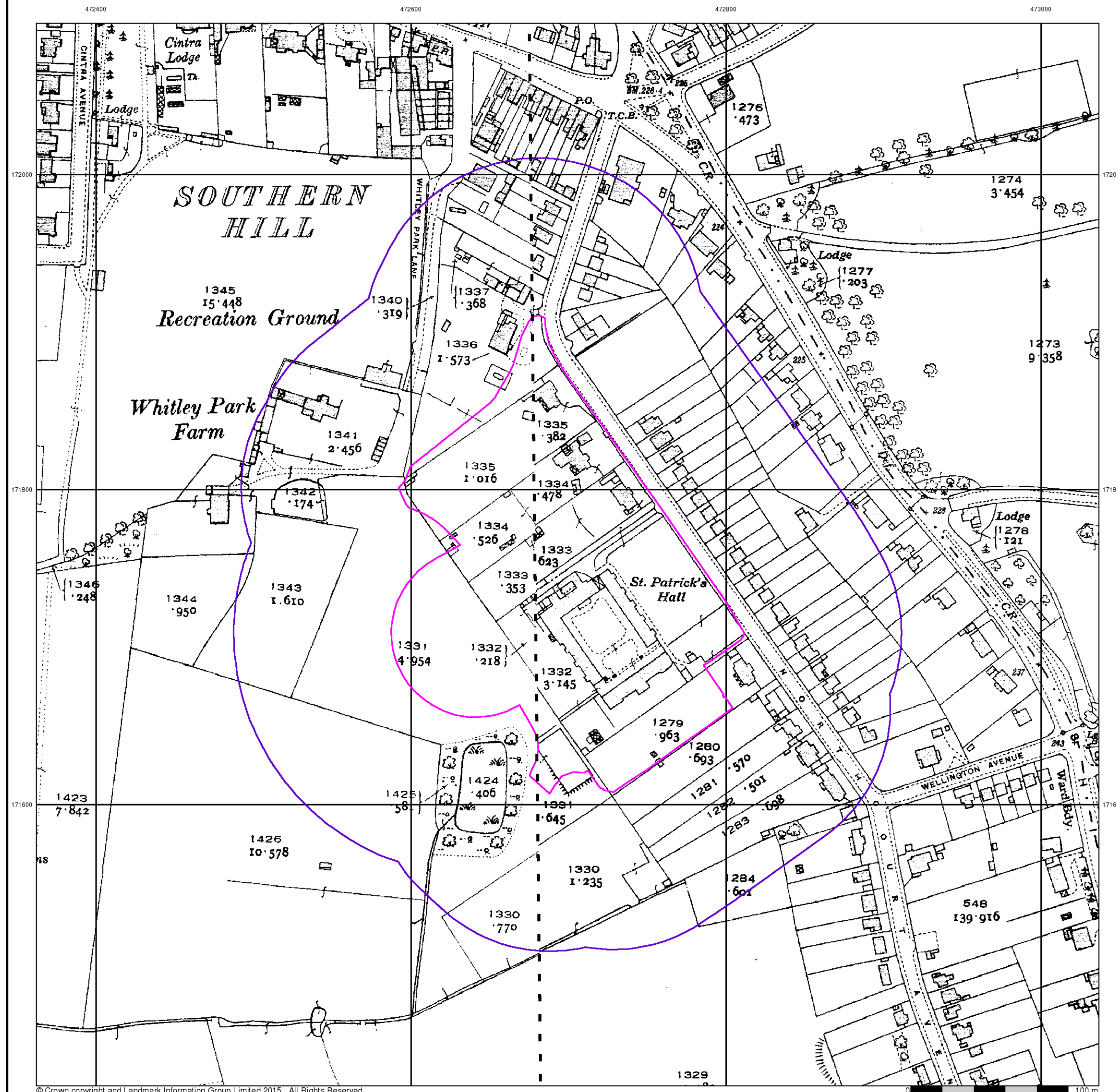
Order Number: 72923493_1_1
Customer Ref: EB1834
National Grid Reference: 472690, 171750
Slice: A
Site Area (Ha): 3.83
Search Buffer (m): 100

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Ordnance Survey Plan

Published 1958 - 1959

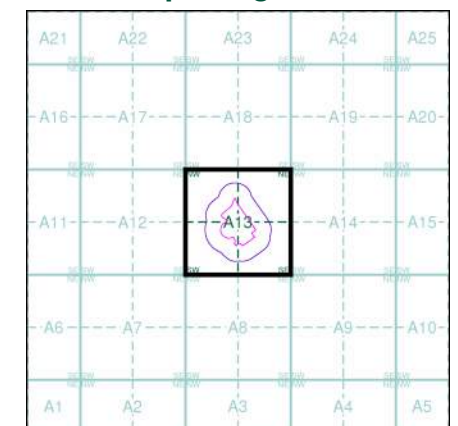
Source map scale - 1:2,500

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)

SU7372	1958	12,500
SU7271	1959	12,500
SU7371	1959	12,500

Historical Map - Segment A13



Order Details

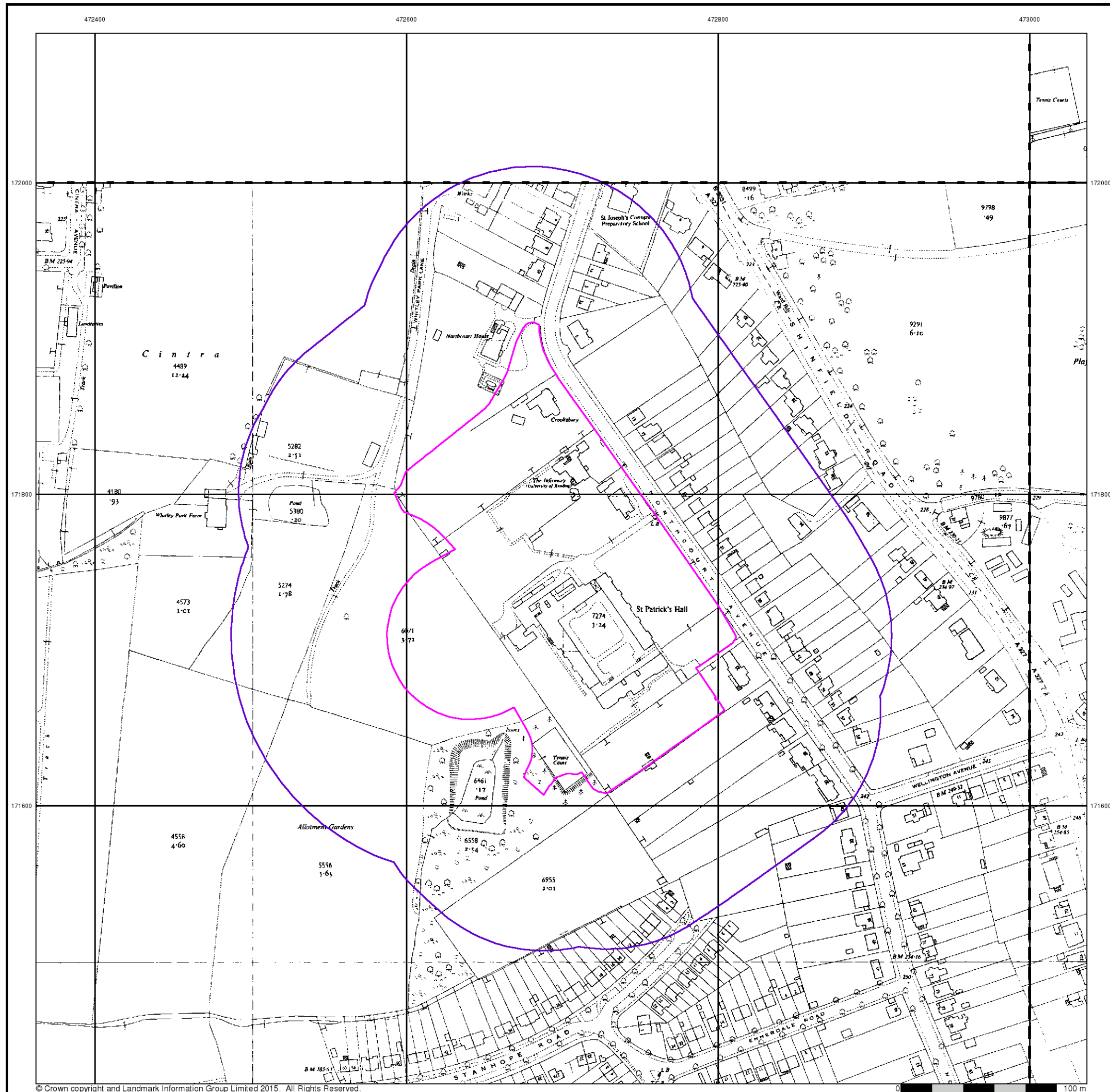
Order Number: 72923493_1_1
Customer Ref: EB1834
National Grid Reference: 472690, 171750
Slice: A
Site Area (Ha): 3.83
Search Buffer (m): 100

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Ordnance Survey Plan

Published 1958

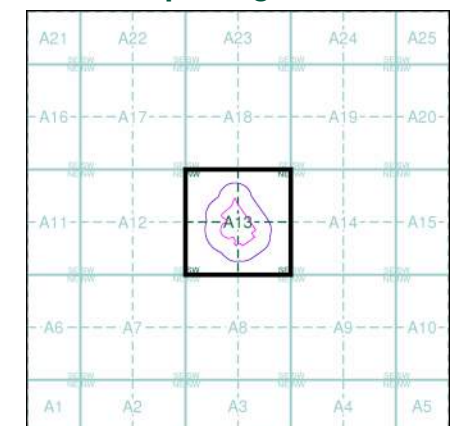
Source map scale - 1:1,250

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)

U7272SW	U7272SE	U7372SW
1958	1958	1958
1:1,250	1:1,250	1:1,250
U7271NW	U7271NE	U7371NW
1958	1958	1958
1:1,250	1:1,250	1:1,250
U7271SW	U7271SE	U7371SW
1958	1958	1958
1:1,250	1:1,250	1:1,250

Historical Map - Segment A13



Order Details

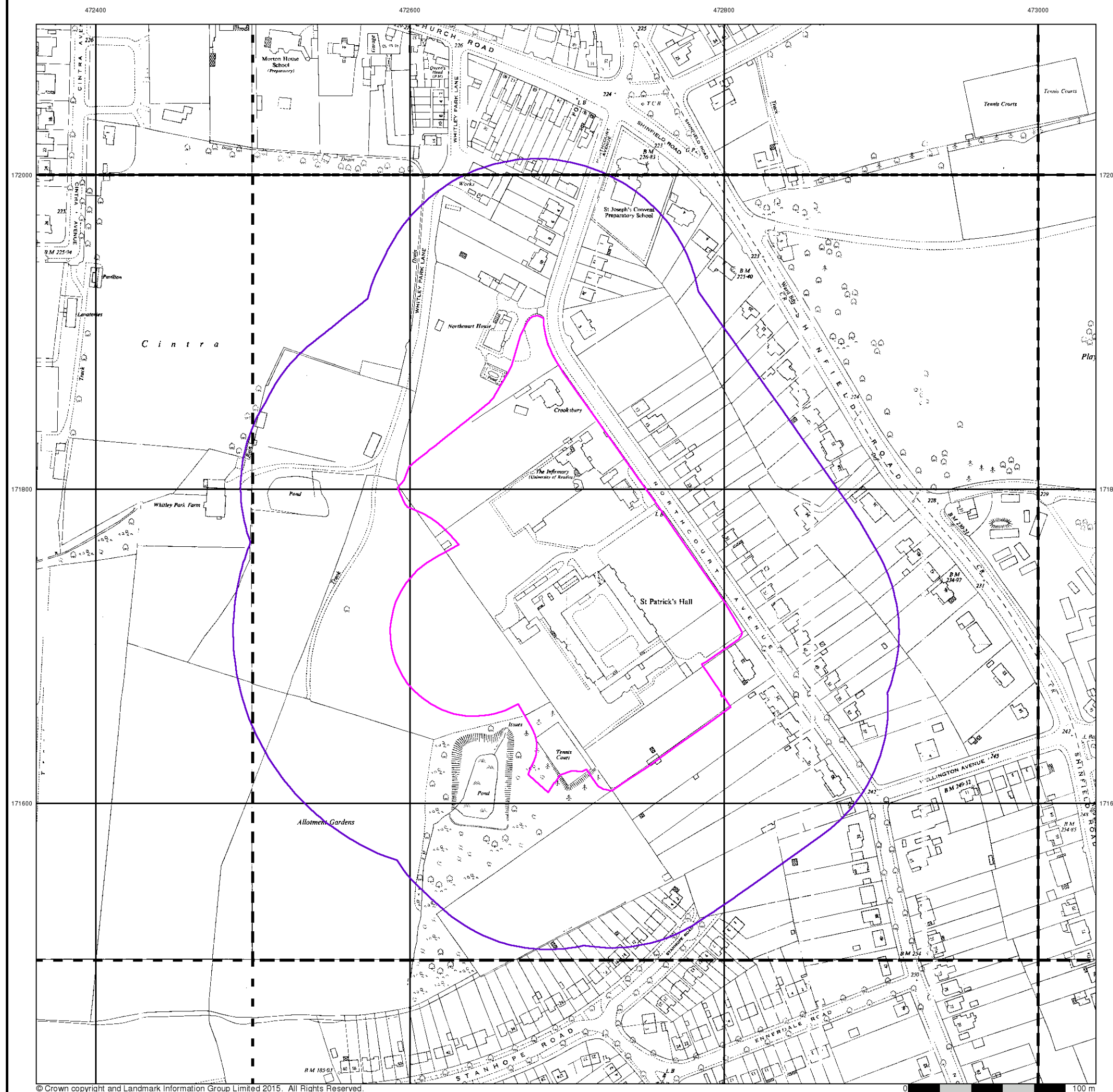
Order Number: 72923493_1_1
Customer Ref: EB1834
National Grid Reference: 472690, 171750
Slice: A
Site Area (Ha): 3.83
Search Buffer (m): 100

Site Details

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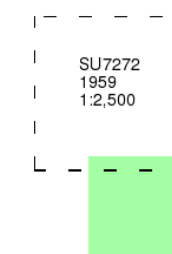
Additional SIMs

Published 1959

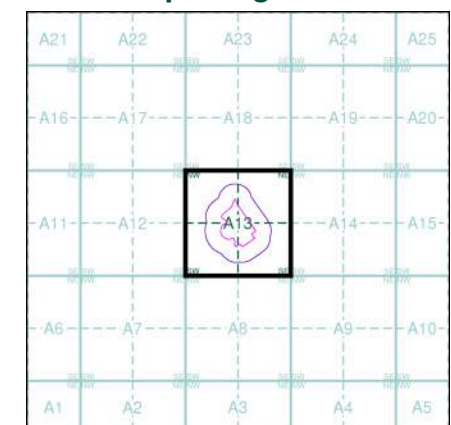
Source map scale - 1:2,500

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)



Historical Map - Segment A13



Order Details

Order Number: 72923493_1_1
Customer Ref: EB1834
National Grid Reference: 472690, 171750
Slice: A
Site Area (Ha): 3.83
Search Buffer (m): 100

Site Details

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Ordnance Survey Plan

Published 1969 - 1972

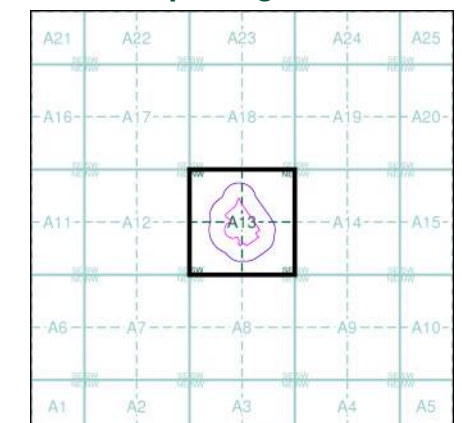
Source map scale - 1:1,250

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)

U7272SW	U7272SE	U7372SW
1972	1972	1971
1:1,250	1:1,250	1:1,250
U7271NW	U7271NE	U7371NW
1969	1969	1969
1:1,250	1:1,250	1:1,250
U7271SW	U7271SE	
1969	1969	
1:1,250	1:1,250	

Historical Map - Segment A13



Order Details

Order Number: 72923493_1_1
Customer Ref: EB1834
National Grid Reference: 472690, 171750
Slice: A
Site Area (Ha): 3.83
Search Buffer (m): 100

Site Details

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Additional SIMs

Published 1972 - 1993

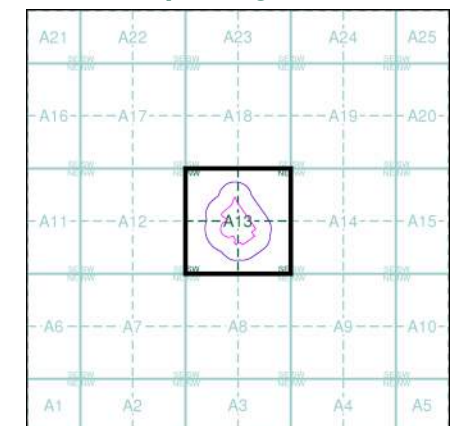
Source map scale - 1:1,250

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)

SU7272SW	SU7272SE	SU7372SW
1990	1972	1991
1:1,250	1:1,250	1:1,250
	SU7371NW	
	1987	
	1:1,250	
SU7271SW	SU7271SE	SU7371SW
1989	1989	1993
1:1,250	1:1,250	1:1,250

Historical Map - Segment A13



Order Details

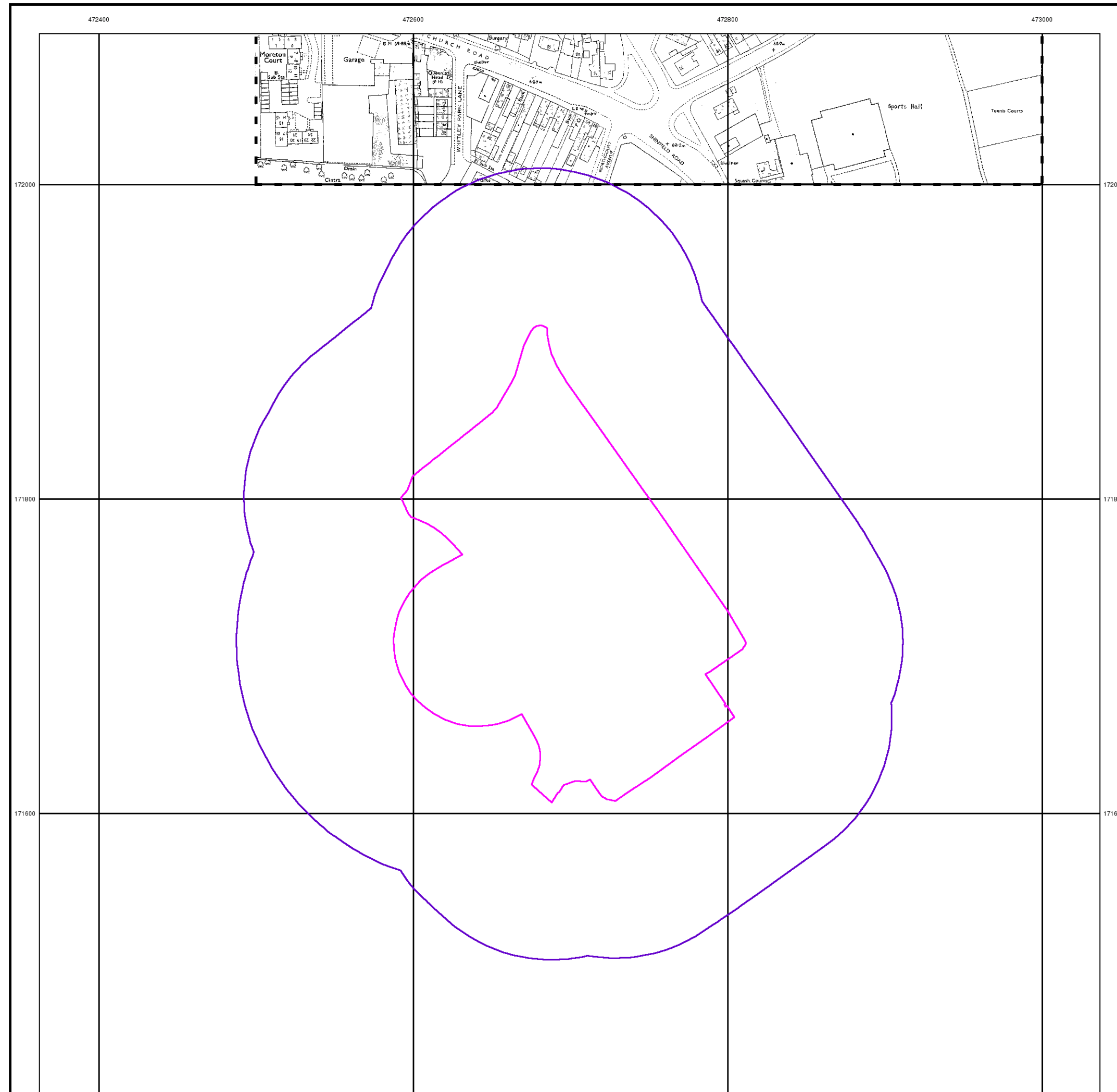
Order Number: 72923493_1_1
Customer Ref: EB1834
National Grid Reference: 472690, 171750
Slice: A
Site Area (Ha): 3.83
Search Buffer (m): 100

Site Details

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Additional SIMs

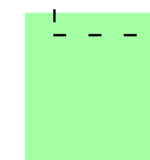
Published 1990

Source map scale - 1:1,250

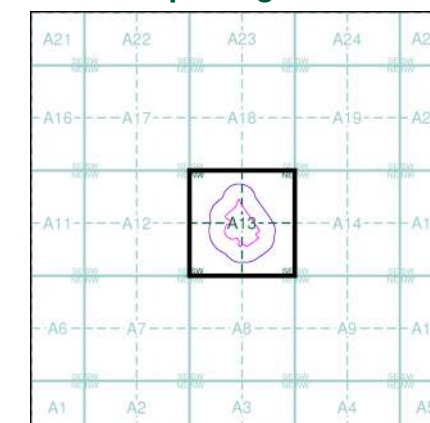
The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps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

Map Name(s) and Date(s)

SU7272SE
1990
1:1,250



Historical Map - Segment A13



Order Details

Order Number: 72923493_1_1
Customer Ref: EB1834
National Grid Reference: 472690, 171750
Slice: A
Site Area (Ha): 3.83
Search Buffer (m): 100

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Large-Scale National Grid Data

Published 1993

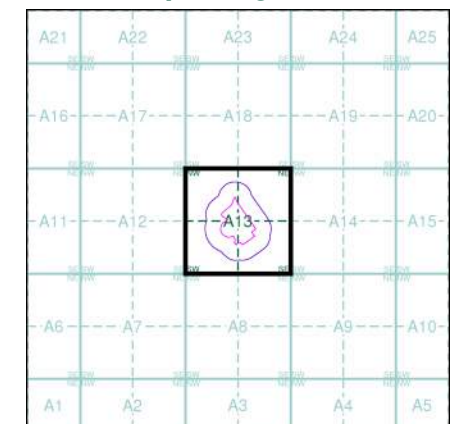
Source map scale - 1:1,250

'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)

SU7272SW	SU7272SE	SU7372SW
1993	1993	1993
1:1,250	1:1,250	1:1,250
SU7271NW	SU7271NE	SU7371NW
1993	1993	1993
1:1,250	1:1,250	1:1,250
SU7271SW	SU7271SE	SU7371SW
1993	1993	1993
1:1,250	1:1,250	1:1,250

Historical Map - Segment A13



Order Details

Order Number: 72923493_1_1
Customer Ref: EB1834
National Grid Reference: 472690, 171750
Slice: A
Site Area (Ha): 3.83
Search Buffer (m): 100

Site Details

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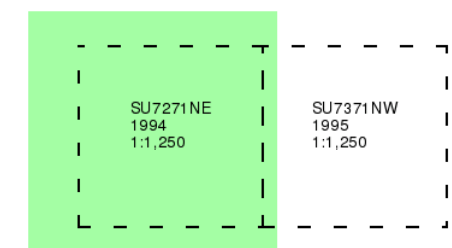
Large-Scale National Grid Data

Published 1994 - 1995

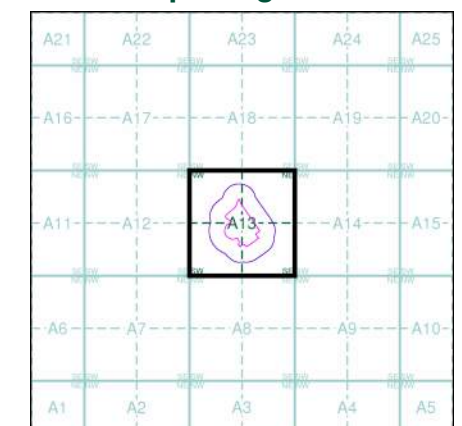
Source map scale - 1:1,250

'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: 72923493_1_1
Customer Ref: EB1834
National Grid Reference: 472690, 171750
Slice: A
Site Area (Ha): 3.83
Search Buffer (m): 100

Site Details

St Patricks Hall, Northcourt Avenue, Reading, RG2 7HB

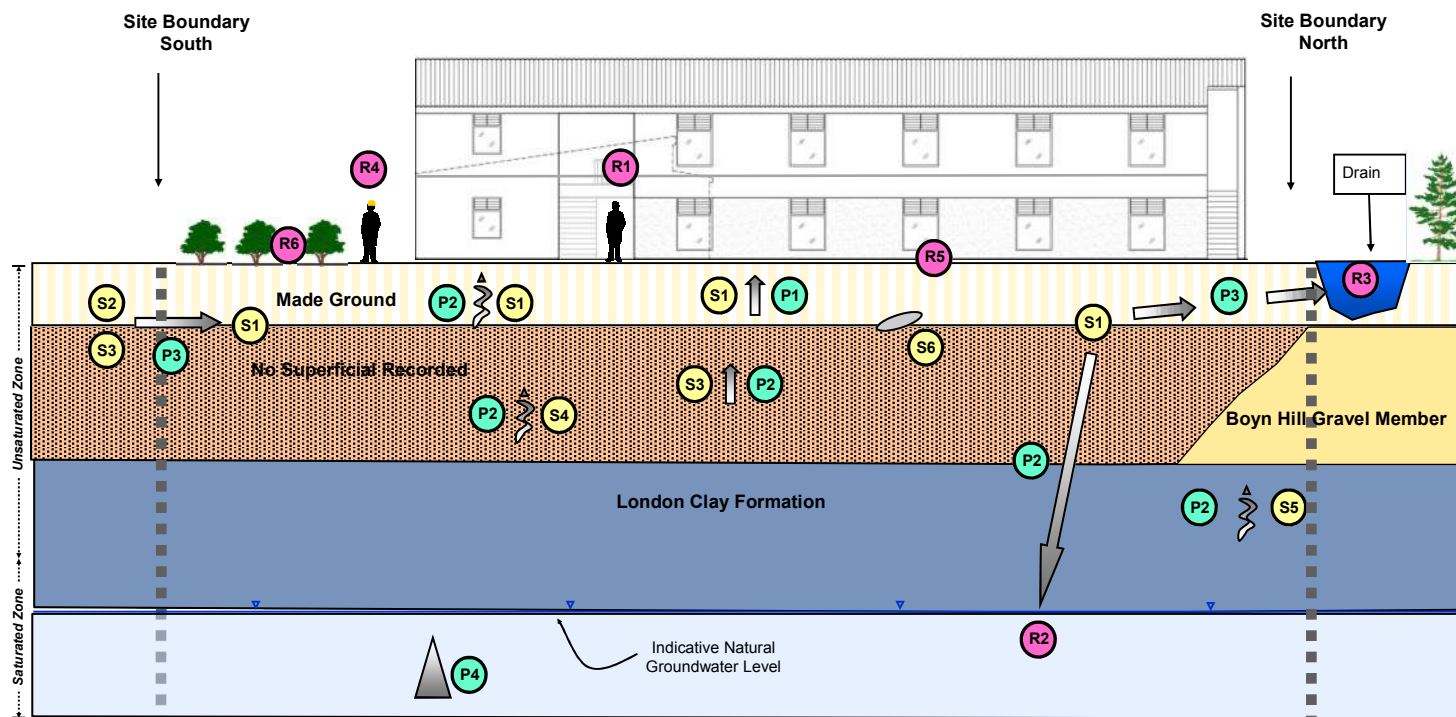


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Appendix A3 – Diagrammatic Conceptual Model

St Patricks Hall, Reading



Sources	
S1	Made-ground (On site)
S2	Made-ground (Off site)
S3	Natural soils (On & off site)
S4	Ground gas sources
S5	Radon geology
S6	Unexploded ordnance
Pathways	
P1	Direct contact, ingestion and or inhalation
P2	Vertical migration
P3	Horizontal migration
P4	Collapse
Receptors	
R1	End users
R2	Groundwater
R3	Surface water
R4	Construction workers
R5	Construction materials
R6	Local ecology



Quayside
40-58 Hotwell Road
Bristol
BS8 4UQ
T. 0117 302 7560

Project
St Patricks Hall, Reading

Drawing Title
Diagrammatic Conceptual Model

Job Reference
EB1834

Date
02.10.2015

Author
GL

Checked
DM

Client
University Partnerships Programme

Scale
Not to scale

Appendix A4 – Qualitative Risk Assessment Rationale

The site-specific qualitative risk assessment of environmental harm, as detailed in Section 3.0 of this reporting, is summarised in Table A4.1 hereafter; the principle being to establish connecting links between a hazardous source to a potential receptor via an exposure pathway.

The qualitative risk assessment corresponds with the **total** site area.

Risk assessment is the process of collating known information on a hazard or set of hazards in order to estimate actual or potential risk to receptors. The receptor may be humans, a water resource, a sensitive local ecosystem or future construction materials. Receptors can be connected to the hazardous source by one or several exposure pathways such as direct contact for example. Risks are generally managed by isolating the receptor or intercepting the exposure pathway or by isolating or removing the hazard.

Without the three essential components of a source, pathway and receptor there can be no risk. Therefore the presence of hazard on a site does not necessarily mean there is a risk.

By considering where a viable pathway exists which connects a source with a receptor the risk assessment in Section 3.0 and Table A4.1 identifies where pollutant linkage exists. If there is no pollutant linkage there is no risk and only where a pollutant linkage is established does the risk assessment consider the level of risk.

The risk assessment considers the likelihood of a particular event taking place (accounting for the presence of the hazard and receptor and the integrity of the exposure pathway) in conjunction with the severity of the potential consequence (accounting for the potential severity of the hazard and the sensitivity of the receptor).

In the risk assessment the consequence of the hazard has been classified as severe or medium or mild or minor and the probability (likelihood) of the circumstances actually occurring classified as high likelihood or likely or low likelihood or unlikely.

The consequences and probabilities are subsequently cross-correlated to give a qualitative estimation of the risk using Department of the Environment risk classifications as detailed in the table below and as referenced in CIRIA C552.

		Consequence			
		Severe	Medium	Mild	Minor
Probability (Likelihood)	High Likelihood	Very High Risk	High Risk	Moderate Risk	Negligible Risk
	Likely	High Risk	Moderate Risk	Moderate/Low Risk	Negligible Risk
	Low Likelihood	High/Moderate Risk	Moderate/Low Risk	Low Risk	Negligible Risk
	Unlikely	Moderate/Low Risk	Low Risk	Negligible Risk	Negligible Risk

In accordance with DoE guidance, the following categorisation of **consequence** has been developed.

Classification	Definition	Examples
Severe	Short-term (acute) risk to human health likely to result in "significant harm" as defined by the Environment Protection Act 1990, Part IIA. Short-term risk of pollution of sensitive water resource. Catastrophic damage to buildings/property. A short-term risk to a particular ecosystem or organisation forming part of such ecosystem.	High concentrations of cyanide on the surface of an informal recreation area. Major spillage of contaminants from site into controlled water. Explosion, causing building collapse (can also equate to a short-term human health risk if buildings are occupied).
Medium	Chronic damage to Human Health. Pollution of sensitive water resources. A significant change in a particular ecosystem or organism forming part of such ecosystem.	Concentration of a contaminant from site exceeds the generic or site-specific assessment criteria. Leaching of contaminants from a site to a Principal or Secondary A aquifer. Death of a species within a designated nature reserve. Lesser toxic and asphyxiate effects
Mild	Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services. Damage to sensitive buildings/structures/services or the environment.	Pollution of non-classified groundwater (incl. Secondary B aquifers). Damage to building rendering it unsafe to occupy (e.g. foundation damage resulting in instability).
Minor	Harm, although not necessarily significant harm, which may result in a financial loss or expenditure to resolve. Non-permanent health effects to human health (easily prevented by means such as personal protective clothing, etc.). Easily repairable effects of damage to buildings, structures and services.	The presence of contaminants at such concentrations that protective equipment is required during site works. The loss of plants in a landscaping scheme. Discoloration of concrete.

In accordance with DoE guidance, the following categorisation of **probability** has been developed.

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

In accordance with DoE guidance, the following categorisation of **risk** has been developed.

Classification	Definition
Very High Risk	There is a <i>high probability</i> that <i>severe harm</i> could arise to a designated receptor from an identified hazard at the site without appropriate further action.
High Risk	<i>Harm is likely to arise</i> to a designated receptor from an identified hazard at the site without appropriate further action.
Moderate Risk	<i>It is possible</i> that without appropriate further action <i>harm could arise</i> to a designated receptor. It is relatively <i>unlikely</i> that any such harm would be <i>severe</i> , and if any harm were to occur it is <i>more likely</i> that such harm would be <i>relatively mild</i> .
Low Risk	<i>It is possible</i> that <i>harm could arise</i> to a designated receptor from an identified hazard. It is <i>likely</i> that, at worst, if any harm was realised any effects would be <i>mild</i> .
Negligible Risk	The presence of an identified hazard does not give rise to the potential to cause harm to a designated receptor.

The term 'risk' in this instance refers to the risk that the source, pathway, receptor linkage for a given source of contamination is complete. It does not refer to immediate risk to individuals or features present on the site from potential contaminants and is intended to be used as a tool to assess the necessity of further investigation.

Appendix A4.1 – Table and Summary of Potential Risks, Sheet 1

Conceptual Site Model			Qualitative Risk Assessment		
Source	Pathway(s)	Receptor(s)	Consequence (Potential Severity)	Likelihood of Occurrence	Risk*
S1: Made ground soils on site	P2: Vertical migration	R2: Controlled waters (Groundwater)	Mild	Likely	Moderate/Low
	P3: Horizontal migration	R3: Controlled waters (Surface Waters)	Mild	Likely	Moderate/Low
	P1: Direct contact, ingestion, inhalation (dust and vapours)	R1: End user of site	Medium	Likely	Moderate
	P1: Direct contact, ingestion, inhalation (dust and vapours)	R4: Construction workers	Minor	Likely	Negligible
	P1 & P3: Direct contact, ingestion, inhalation (dust and vapours) and horizontal migration	R5: Construction materials	Mild	Likely	Moderate/Low
	P1 & P3: Direct contact, ingestion, inhalation (dust and vapours) and horizontal migration	R6: Local ecology	Minor	Likely	Negligible
S2: Made ground soils off site	P3 & P1: Horizontal migration and direct contact, ingestion, inhalation (dust and vapours)	R1: End user of site	Medium	Likely	Moderate
	P3 & P1: Horizontal migration and direct contact, ingestion, inhalation (dust and vapours)	R4: Construction workers	Minor	Unlikely	Negligible

Appendix A4.1 – Table and Summary of Potential Risks, Sheet 2

Conceptual Site Model			Qualitative Risk Assessment		
Source	Pathway	Receptor	Consequence (Potential Severity)	Likelihood of Occurrence	Risk*
S4: Ground gases	P2 & P3: Vertical and horizontal migration	R1: End user of site	Severe	Low Likelihood	Moderate/High
S6: Unexploded ordnance	P1: Direct contact	R1: End user of site	Severe	Unlikely	Moderate / Low
	P1: Direct contact	R4: Construction workers	Severe	Unlikely	Moderate / Low

**Risk refers to the potential risk that the Source, Pathway, Receptor linkage is complete and is used to determine if any further investigation is required. It does not indicate immediate emergency risk to any individual or feature present on the site unless specifically noted.*

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