ST CUTHBERT'S RC HIGH SCHOOL, ROCHDALE

PHASE 1: PRELIMINARY RISK ASSESSMENT

Job Number: LKC 20 1981
Date: January 2021
Client: St Cuthbert's RC High School



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LK Consult Document Verification			
Site Address	St Cuthbert's RC High School, Dean Bank Drive, Rochdale, OL16 4RX		
Report Title	Phase 1: Preliminary Risk Assessment		
Job Number	LKC 20 1981	**Document Ref.**	CL-602-LKC 20 1981-01
Date Issued	January 2021	**Report Version**	R0
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Revision Record			
Revision No.	**Date**	**Nature of Revision**	**Approved By**

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1 Introduction

LK Consult Ltd (LKC) has been retained to carry out a Phase 1 Preliminary Risk Assessment (PRA) for St Cuthbert's Roman Catholic (RC) High School, Rochdale.

In accordance with current guidance (including LMRM[1] and the National Planning Policy Framework (NPPF)[2]), the PRA will include a site reconnaissance, site history, geology, hydrogeology, hydrology, mineral search and a landfill search. Information gathered from the desk study and site reconnaissance will be used to develop a contamination conceptual model for the site.

In addition, the information gathered will be used to identify potential geotechnical constraints associated with the redevelopment of the site.

Based on the findings of this report, an appropriate site investigation can be derived, if required.

Site details are provided in Table 1-1. Figure 1 shows the site location and boundary. Figure 2 shows the proposed development plan.

Site Location	The site is located within St Cuthbert's RC High School, located off Dean Bank Drive, Rochdale Centred at approximate National Grid Reference 390860E 410419N.
Approximate Area	400m^2.
Topography	174 metres Above Ordnance Datum (AOD). Site is approximately level.
Current Site Use	Soft landscaping, well-kept grassed area.
Purpose of Report	Pre-planning.
Proposed Development	Extension to an existing building.

Table 1-1: Summary of site details

[1] Land Contamination Risk Management (LCRM) https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm
[2] "National Planning Policy Framework." The Ministry of Housing, Communities and Local Government. February 2019.

2 Historical Review

In compiling the site history, LKC consulted Envirocheck historical mapping (Appendix B).

Table 2-1 summarises features on site.

Table 2-2 summarises potentially contaminative land uses within approximately 50m and potentially infilled features within approximate 250m.

Site Features	Location on Site	Dates Present		Comments
		From	To	
Vacant land	Whole site	1850	1956	
Building	E	1970	2006	Extended to the south of the site by 1975-79 mapping. No longer present by 2020 mapping.
Footpath and stairs	C, E	1970	1974	

Table 2-1: Summary of site features. Dates based on available historical map editions.

Surrounding Area Features	Distance (m)	Direction	Dates Present		Comments
			From	To	
Adjacent school building	1	E	1970	Present	School extended to the W and S by 1975-79 mapping.
Spring	37	W	1890	1910	Potentially infilled by 1930 mapping.
Tramway	40	SW	1851	1910	No longer present by 1930 mapping.
Road	41	SE	1850	Present	
Spring	137	W	1890	1910	Potentially infilled by 1930 mapping.
Spring	145	S	189	1931	Potentially infilled by 1937 mapping.
Well / Spring	215	E	1894	1956	Flowing N-NW. Potentially infilled by 1965-58 mapping.

Table 2-2: Summary of potentially contaminative features within 50m and potentially infilled features with 250m. Dates are based on available historical map editions.

Plate 2-1 shows the features noted in Table 2-1 and 2-2.

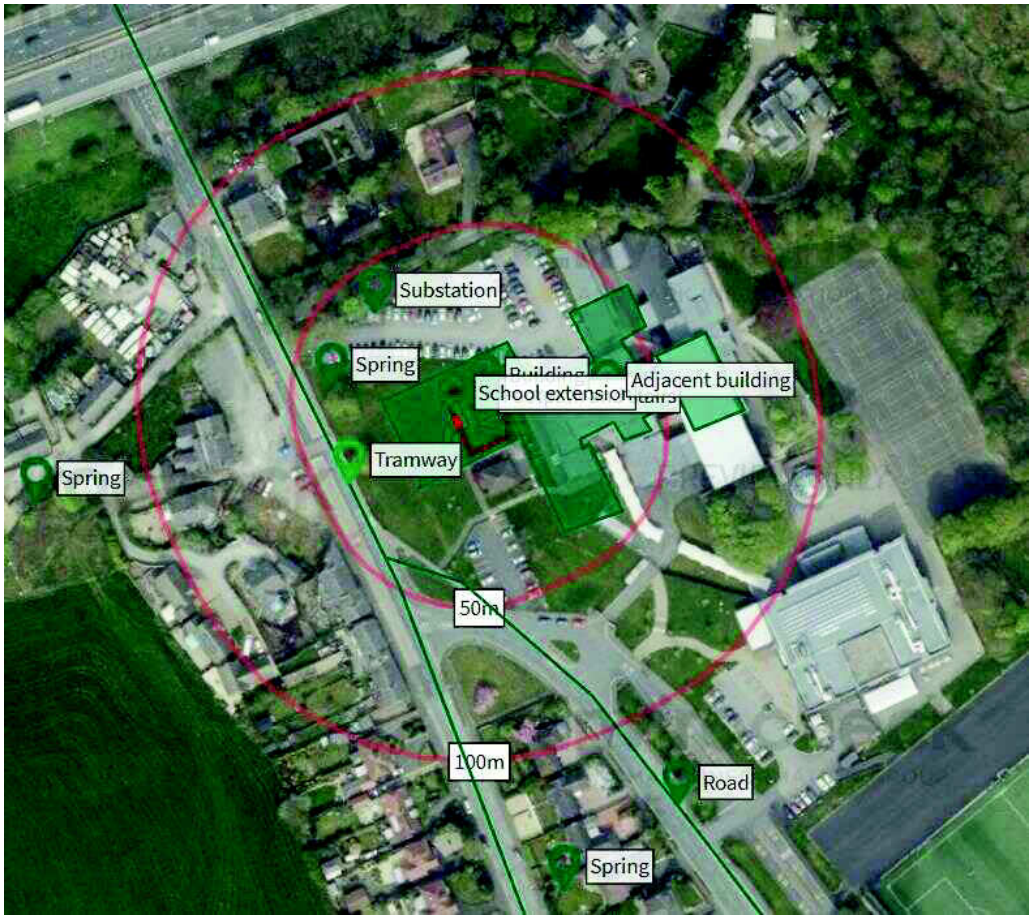


Plate 2-1: Historical features.

3 Environmental Setting

A summary of environmental settings is presented in Table 3-1, based on a review of available environmental data.

Categories(data sources)			Details
Geology[1, 2]	Artificial		- No BGS recorded artificial.
	Superficial		- Hummocky (moundy) Glacial deposits, Devensian (diamicton, till).
	Bedrock		- Pennine Lower Coal Measures Formation (mudstone, siltstone, sandstone).
	BGS Logs (<50m)		- None.
Hydro-geology[1]	Aquifer Designation	- Superficial	- Secondary A Aquifer.
		- Bedrock	- Secondary A Aquifer.
	Source Protection Zone (SPZ)		- Site not within an SPZ.
	Groundwater Abstractions (100m)		- None.
Hydrology[1]	Surface Water Courses (100m)		- None.
	Flooding risk		- Flood Zone 1. - Limited potential for groundwater flooding to occur.
	Surface Water Abstractions (100m)		- None.
	Discharge Consents		- None.
	Pollution Incidents		- None.
Minerals & Mining[1,4,5]	Coal Mining		- Within a Coal Reporting Area. - Not within a Development High Risk Area.
	Surface Mineral Extractions (250m)		- None.
	Cheshire Brine Compensation District		- Not within Compensation District. - Not within Consultation Area.
	Non-Coal Mining Area		- Not within an area of conclusive metalliferous mining.
Ground Stability[1]	Collapsible Ground		- Very low hazard.
	Compressible Ground		- No hazard.
	Ground Dissolution		- No hazard.
	Landslide		- Very low hazard.
	Running Sand		- Very low hazard.
	Shrinking / Swelling Clay		- Low hazard.
Landfill Sites (250m)[1]	Known / Registered		- None.
	Potentially Infilled Land (non-water and water), based on Envirocheck Report		- None.
	Potentially infilled sites, based on LKC historical review		- 6no. features offsite: See Table 2-2.
Radon Potential[1]			- <1% of homes above Action Level. No protective measures are necessary in the construction of new dwellings or extensions.

Table 3-1: Summary of the environmental setting.
Notes: Distance in brackets is the distance from site that features are included. Where no distance given, features relate to on site only.
Data Sources:
1 Envirocheck Report (Appendix A & B)
2 BGS Sheet 85 1:50,000.
3 BGS GeoIndex http://mapapps2.bgs.ac.uk/geoindex/home.html
4 The Coal Authority Web Mapping Services (WMS) / Interactive Map Viewer http://coal.decc.gov.uk/en/coal/cms/publications/data/map/map.aspx
5 Cheshire Brine Subsidence Compensation Board Compensation District & Consultation Areas http://www.cheshirebrine.com/wp-content/uploads/2016/11/NL08134-001-002.pdf

Categories(data sources)		Details
Designated Sites (50m)[1]		- None.
Contemporary Trade Directory (50m)[1]		- None.
Fuel Station Entries (50m)[1]		- None.
Unexploded Ordnance Risk (UXO)	Zetica Risk Map[6]	- Low.

Table 3-1 (continued): Summary of the environmental setting.
Notes: Distance in brackets is the distance from site that features are included. Where no distance given, features relate to on site only.
Data Sources:
1 Envirocheck Report (Appendix A & B).
6 Zetica UXO Unexploded Bomb Risk Map (Appendix C).

4 Site Reconnaissance

A site reconnaissance was carried out on the 18th January 2021. Hand dug trial holes were undertaken in accessible areas to confirm the shallow ground conditions.

Relevant features identified on site are summarised below:

- The site is accessed off Dean Bank Road and comprises a grassed soft landscaping area with a fence line running through the east.
- A walkway was also present to the south of the site surfaced in tarmac of good condition.
- The ground was noted to be boggy and waterlogged, with water infilling hand dug pits undertaken on site.
- Ground markings from a previous survey indicates services on site.
- No vehicular access restrictions were noted.

The surrounding area comprises school buildings and a car park (north).

Relevant photographs are provided in Plate 4-1.

	
Photograph 1: View of site from N.	**Photograph 2:** View of site from SW – adjacent tarmac walkway seen.
	
Photograph 3: View of the north of the site from E, and adjacent car park.	**Photograph 4:** Possible services on site.

Plate 4-1: Site photographs.

Hand dug pits were carried out in 2no. locations and are summarised in Plate 4-2.

HD101	HD102
MG (dark brown sandy SILT) to 0.25mbgl, orange very sandy CLAY (possibly reworked) to 0.30mbgl. Refusal on possible hardcore (MG).	MG (dark brown sandy SILT) to 0.25mbgl, orange very sandy CLAY (possibly reworked) to 0.50mbgl.

Plate 4-2: Hand Dug Pit Logs.

5 Preliminary Conceptual Model

5.1 Introduction

The aim of the conceptual model is to provide a preliminary assessment of the likelihood of a pollutant linkage for each potential combination of contaminant, pathway and receptor. A conceptual model can be used to make an informed decision on the contamination risks associated with the site and whether further site investigation work is required.

The Sections below are therefore divided into potential contaminant, potential pathway and potential receptor as described in LMRM[3], on the premise that, if there is no pollutant linkage, then there will be no risk to the receptor. The final Section provides an assessment of the potential pollutant linkages that may still be present on the site if redevelopment were to occur.

5.2 Potential Contaminants

Potential viable contamination sources are detailed in Table 5-1. These are split into onsite sources, offsite sources and underlying geology.

Potential Source	Contaminants
On Site	
Shallow Made Ground below some or all of site (former buildings)	- Assuming predominantly reworked natural soils with possible demolition rubble, ash and clinker: Asbestos Containing Material (ACM), heavy metals, sulphates, PAHs[4]. - Not expected to be a significant source of gas given anticipated depth and nature of Made Ground.
Surrounding Area	
Car park (adjacent to the north)	- Spillages / leakages: localised petroleum hydrocarbons, oils. Given the well maintained tarmacadam surface, not considered to be a significant source.
Surrounding area	- No significant contamination sources within influencing distance of the site.
Landfills / offsite potentially infilled features within 250m	- Given size, distance and age of features, there is not considered to be a significant source of hazardous gas.
Underlying Geology	
Underlying Pennine Lower Coal Measures	- Ground Gas (principally carbon dioxide and methane).

Table 5-1: Potential contamination sources.

5.3 Potential Receptors

Potential receptors are detailed in Table 5-2.

Receptors	
Human Health	- Future site users (including pupils, teachers, visitors and site workers). - Offsite land users.
Controlled Waters	- Secondary A Aquifer (bedrock and superficial). - No surface water within influencing distance.
Buildings and structures.	
Potable water pipes.	

Table 5-2: Potential receptors.

[3] Land Contamination Risk Management (LCRM) https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm
[4] Defra (2002). "Potential Contaminants for the Assessment of Land". R&D Publication CLR 8.

5.4 Potential Pathways

Potential pathways are detailed in Table 5-3.

Pathways		
Soil	Human Health[5] (residential land use: extension to existing school building with no soft landscaping)	- Inhalation of vapours outside. - Inhalation of vapours inside. - Omitted: ingestion of soil, ingestion of soil-derived indoor dust, dermal contact with soil, dermal contact with soil-derived indoor dust, inhalation of soil-derived outdoor dust, inhalation of soil-derived indoor dust, ingestion of contaminated vegetables and ingestion of soil attached to vegetables.
	- Windblown dust and fibres to adjacent receptors.	
	- Direct contact with receptors (building foundations, services).	
Water	- Surface run-off over impermeable surface. - Site is flat and grassed; therefore, surface run-off will be limited.	
	- Infiltration into the ground, through potentially contaminated material (contamination possibly going into solution). - Site is flat and grassed; therefore, infiltration is likely.	
Water and Gas	- Migration through potentially permeable strata and preferential pathways. - Superficial (Till) likely to be low permeability. - Superficial (hummocky glacial deposits) likely to be variably permeable. - Bedrock (mudstone, siltstone, sandstone) likely to variably permeable. - Preferential pathways: services.	
Gas	- Migration into buildings (e.g. via services) and accumulation of gases in confined spaces (potentially causing explosion if methane is present).	

Table 5-3: Potential pathways.

5.5 Preliminary Contamination Conceptual Model

The Preliminary Contamination Conceptual Model is illustrated in Table 5-4 and has identified seven generic potential pollutant linkages.

Each linkage is described along with an assessment of the risk based upon guidance on probabilities and consequences outlined in CIRIA C552[6].

In order to assess the potential risk for each pollutant linkage, an assessment of the magnitude of the potential consequence (severity) of the risk occurring and the magnitude of the probability (likelihood) of the risk occurring has been considered and classified. This is based on the guidance provided in CIRIA C552 and further details including a risk matrix is provided in Appendix D.

Where LKC identified a low to very low risk, targeted or low density intrusive investigation work, a watching brief (during construction work) or no investigation work will be recommended. This will be dependent on the nature of the site and the proposed development.

Where the risk falls into the moderate/low risk, LKC will undertake an assessment to establish what category the pollutant linkage will fall into (i.e. moderate or low risk will be chosen).

[5] EA (2008). "Updated Technical Background to the CLEA Model". Science Report – SC050021/SR3.
[6] CIRIA (2001). "Contaminated Land Risk Assessment: A Guide to Good Practice". C552.

Where LKC identifies a moderate or higher risk, intrusive investigation work or precautionary remedial measures will be recommended.

It should be noted that there may be risk from short term exposure from contaminated soil to site workers. The Preliminary Contamination Conceptual Model deals with long term exposure to key receptors. Acute risks can be easily mitigated by good environmental management of the site during site works. Standard health and safety precautions (as per HSE guidance[7]) should be adopted by all workers involved with site enabling and construction works. Therefore, this receptor is not considered in the contamination conceptual model.

[7] HSE (1991). "Protection of Workers and the General Public During Development of Contaminated Land". London HMSO.

PL	Pathway	Receptor	Contaminants of Concern (CoC)	Probability	Consequence	Risk	Recommendations
1	- No viable pathways (dermal inhalation, ingestion).	- Future site users. - Offsite receptors.	- ACM. - Heavy metals. - PAHs. - Petroleum hydrocarbons.	-	-	-	No viable human health pathways as no soft landscaping. No pollutant linkage therefore no further assessment required.
2	- Inhalation of vapours. - Migration via permeable strata and preferential pathways.	- Future site users. - Offsite receptors.	- Volatile contaminants (TPHCWG, SVOC, VOCs).	Unlikely (given site history no significant source anticipated)	Medium	**Low**	Watching brief during groundworks.
3	- Inhalation of gas. - Migration via permeable strata and preferential pathways. - Explosion in confined spaces. - Exposure to radon.	- Future site users. - Buildings. - Offsite land users.	- Ground / hazardous gas (carbon dioxide, methane).	Unlikely (no significant source anticipated and limited pathway)	Severe	Moderate / **Low** (low risk assumed given anticipated limited made ground)	Unlikely to be significant depth of made ground on site. Cohesive deposits likely to be impermeable and will break pathway. Watching brief for significant depth of made ground / putrescibles during groundworks recommended.
			- Radon	Unlikely (as <1% of homes above action level)	Medium	**Low**	(<1%) No protective measures are necessary in the construction of new dwellings or extensions.
4	- Surface run-off. - Migration via permeable strata and preferential pathways. - Perched waters migration.	- Groundwater (Secondary A Aquifers).	- Mobile contaminants such as metals, PAHs, hydrocarbons, volatile compounds.	Unlikely (no significant mobile contamination anticipated and limited pathway)	Medium	**Low**	Low risk assumed given anticipated limited made ground and contamination. Watching brief during groundworks recommended.
5	- Sulphate attack on concrete.	- Building structure.	- Sulphate.	Low Likelihood (given site history, site conditions and proposed end use)	Mild	**Low**	Low density soil sampling and testing may be prudent for concrete design.
6	- Ingestion of tainted water supply.	- Future site users. - Water pipes.	- Organic contaminants such as petroleum hydrocarbons.	Unlikely (no significant source anticipated and limited pathway)	Medium	**Low**	Shallow depth of made ground anticipated. Any new potable pipe likely to be laid in natural soil. Watching brief during groundworks recommended.
7	- No pathway or direct contact (plant uptake).	- Flora.	- Phytotoxic contaminants such as heavy metals.	-	-	-	No viable flora pathways as no soft landscaping. No pollutant linkage therefore no further assessment required.

Table 5-4: Preliminary Contamination Conceptual Model.
Notes: PL = Pollutant Linkage. Contaminant of Concern (CoC) - See Table 5-1 for contamination sources. Site conditions based on observations during site reconnaissance.

6 Preliminary Geotechnical Risk Assessment

Table 6-1 summarises the possible geotechnical constraints of the site, based on the site history, environmental settings and site reconnaissance. Investigation work will be required to confirm the risks and provide a detailed geotechnical assessment and foundation design.

Coal Mining	Site is not within a Development High Risk Area. No further assessment required.
Slope Stability	Site is relatively flat. No significant slope stability risk anticipated. No further assessment required.
Envirocheck Ground Stability Hazards	No to low hazard identified. No further action required.
Made Ground	Unknown depth and constituent of made ground across the site. Initial information indicates relatively shallow made ground. Possible in-ground structures from previous developments.
Superficial	Unknown strength of soils for foundation design. Clay and hummocky glacial deposits anticipated below the site. Strata may be variable giving differential settlement.
Bedrock	Unknown depth to bedrock.
Groundwater	Unknown depth and variability of groundwater. Waterlogged ground conditions identified during site walkover. Shallow / fluctuating groundwater can affect the strength of the soil, particularly in granular ground. Shallow groundwater can also affect construction works.
Plasticity	Plasticity of clay deposits should be confirmed, particularly where trees are present or proposed, to identify the shrink / swell risk. Clay recorded on site.
Sulphate	Unknown sulphate content of the made ground and natural.

Table 6-1: Summary of geotechnical constraints.

7 Summary Conclusions and Recommendations

7.1 Summary Conclusions

Table 7-1 summarises the site details, historical review, environmental settings and site reconnaissance.

Current Site Use	Soft landscaping, well-kept grassy area.
Proposed Development	Extension to an existing building.
Main Historical Features	Onsite: Previous buildings. Surrounding Area: Tramline, Springs.
Geology / Hydrogeology	Artificial: No BGS recorded artificial. Superficial: Hummocky Glacial Deposits. Secondary A Aquifer. Bedrock: Pennine Lower Coal Measures. Secondary A Aquifer.
Landfills / Infilled ground	No recorded landfills. Infilled features identified.
Site Walkover	Grassed soft landscaped area, service survey done recently indicates possible services on site. Car park adjacent to the north.

Table 7-1: Summary of site details, historical review, environmental settings and site reconnaissance.

A preliminary contamination conceptual model has been produced by LKC, which is summarised in Table 7-2.

Pollutant Linkage		Risk	Recommendations
PL1: Contaminants posing a risk to future site users via dermal contact, ingestion and inhalation (of soil, dust, fibres and vegetables).	ACM, heavy metals, PAHs, Petroleum hydrocarbons	-	No viable human health pathways as no soft landscaping. No pollutant linkage therefore no further assessment required.
PL2: Volatile contaminants posing a risk to future site users via the inhalation of vapours.		**Low**	Watching brief during groundworks.
PL3: Gas posing a risk to buildings and future site users via the migration of gas into building causing explosion and asphyxiation.	Carbon dioxide & methane	Moderate / **Low**	Watching brief for significant depth of made ground and putrescibles during groundworks.
	Radon	**Low**	(<1%) No protective measures are necessary in the construction of new dwellings or extensions.
PL4: Mobile contamination posing a risk to controlled waters via the migration through permeable strata.		**Low**	Watching brief during groundworks.
PL5: Sulphate posing a risk to building via direct contact (sulphate attack).		**Low**	Soil sampling / testing for concrete design would be prudent.
PL6: Organic contaminants posing a risk to water pipes.		**Low**	Watching brief during groundworks.
PL7: Phytotoxic metals posing a risk to flora via root uptake.		-	No further assessment required.

Table 7-2: Summary risk table. Where moderate / low risk had been identified, the assumed risk is shown in bold.

A preliminary geotechnical assessment has been carried out by LKC. Table 7-3 summarises the geotechnical constraints.

Coal Mining	Within a coal reporting area but not within a Development High Risk Area.
Slope Stability	Site is relatively flat. No further assessment required.
Made Ground	Unknown depth and constituent of made ground across the site.
Superficial	Unknown strength of soils for foundation design.
Bedrock	Unknown depth to bedrock below the site.
Groundwater	Unknown depth and variability of groundwater. Waterlogged ground encountered during site walkover.
Plasticity	Plasticity of clay deposits should be confirmed.
Sulphate	Unknown sulphate content of the made ground and natural.

Table 7-3: Summary of geotechnical constraints.

7.2 Recommendations

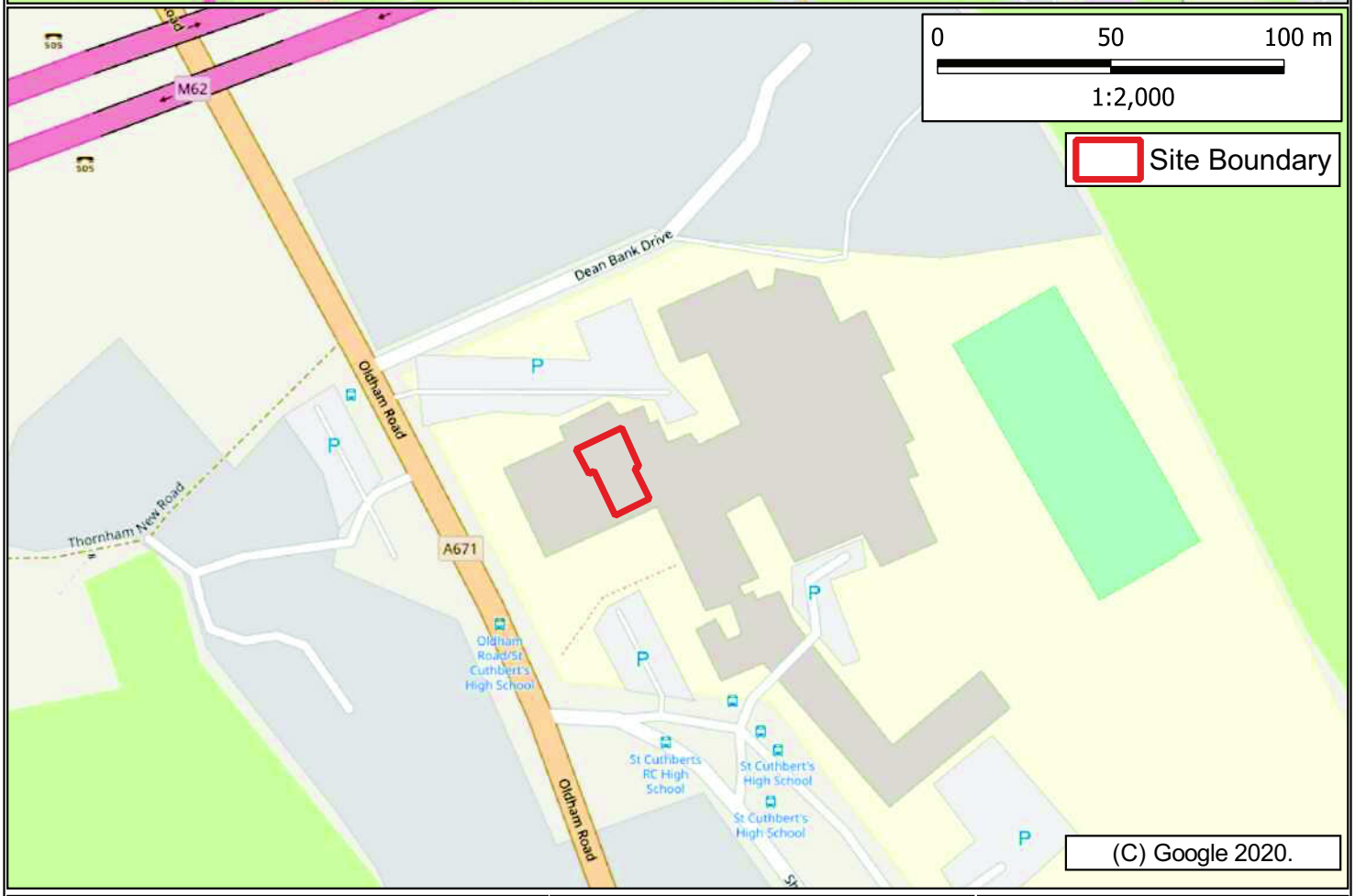
Recommendations are provided in Table 7-4.

Contamination status	There is sufficient information on the potential contaminative status of the site to allow conditional approval of a planning application, based on the proposed end use detailed in the PRA.
Further assessment recommendations	Contamination: Watching brief during construction work (groundworks). Geotechnical: Targeted investigation locations in areas of concern. To be agreed with the local authority.
Contamination: PL 2, 3, 4, 5, 6.	As only low risks identified, watching brief recommended. Environmental consultant to inspect the ground during groundworks and to be consulted if any unexpected contamination identified. Further assessment may be required.
Contamination: PL1, 7	No soft landscaping. No viable human health or flora pathway. No further assessment required.
Geotechnical: Site Investigation	TBC by Client / Designer- for foundation design.

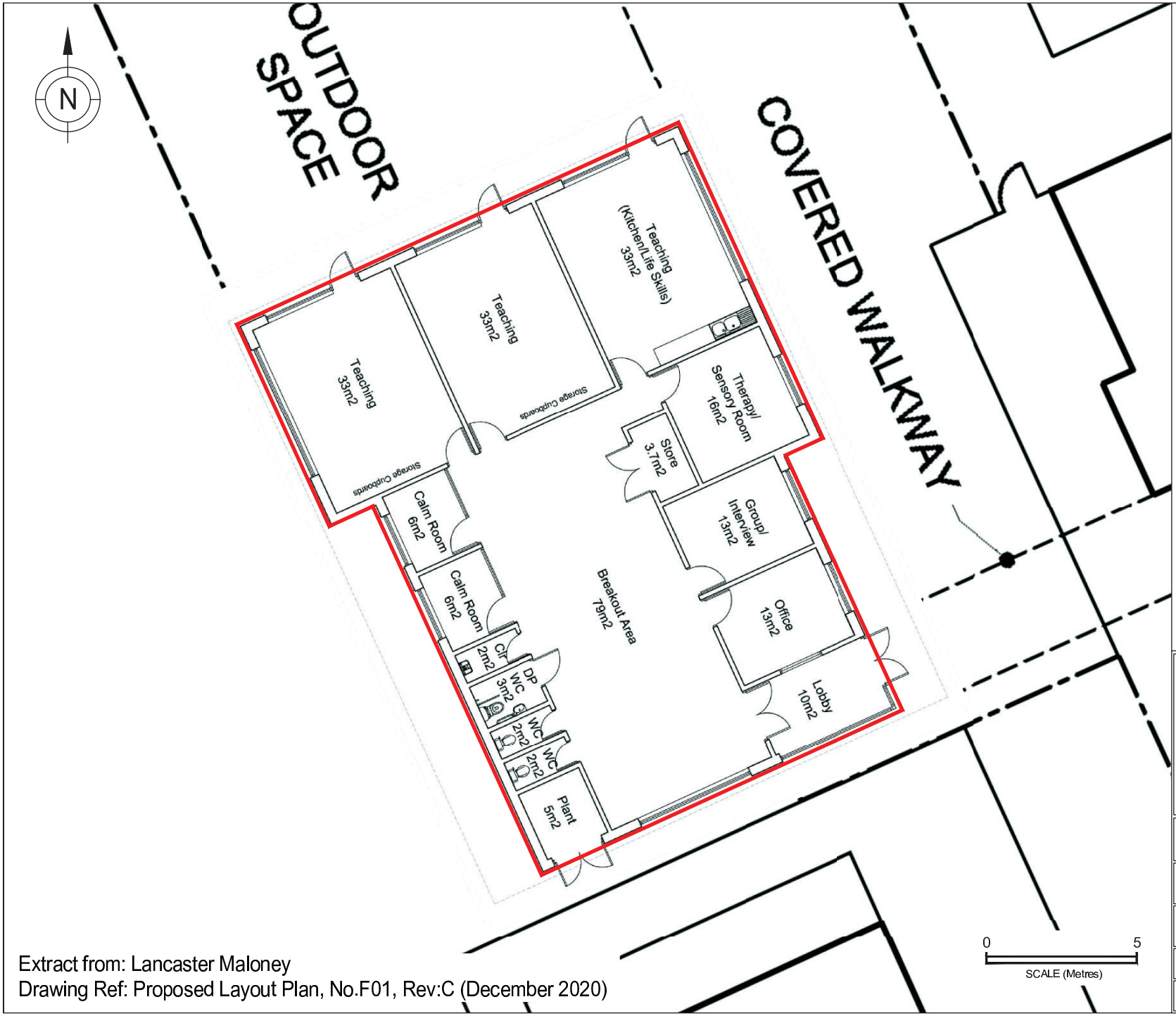
Table 7-4: Recommendations.

Figures





Client: St Cuthbert's RC High School				Title: Site Location & Boundary Plan	LK CONSULT
Site: St Cuthbert's RC High School, Rochdale				Scale (see scale bar): 1:20,000 & 1:2,000 @ A4	Figure: 1
Job No.: LKC 20 1981	Drawn By: NJ	Checked By: EK	Drawn: Jan 2021		Revision:



KEY

Site Boundary

Sampling Locations and features annotated by LK Consult Ltd are approximate and are based upon observed measurements unless otherwise stated. Do not scale from this drawing and work from marked dimensions only. All dimensions and features should be confirmed on site by the Contractor. Where this drawing includes information provided to LK Consult Ltd by others, LK Consult Ltd gives no warranty, representation or assurance as to the accuracy of such information.

LK CONSULT LIMITED

Client: St Cuthbert's RC High School

Site: St Cuthbert's RC High School, Rochdale

Title: Proposed Development Plan

Job No.:	Scale (See Scale Bar):	Figure:	Revision:
LKC 20 1981	1:125 @ A3	2	

Drawn By:	Checked By:	Drawn:
AC	NJ	Jan 2021

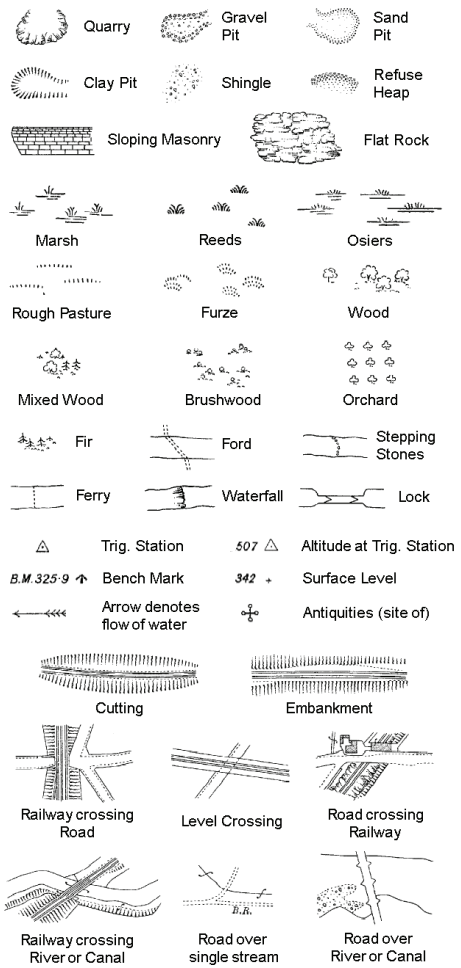
Extract from: Lancaster Maloney
Drawing Ref: Proposed Layout Plan, No.F01, Rev:C (December 2020)

Appendix A

Historical Maps

Historical Mapping Legends

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



County Boundary (Geographical)

County & Civil Parish Boundary

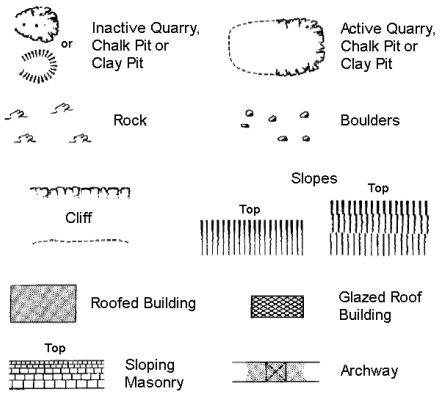
Administrative County & Civil Parish Boundary

Co. Boro. Bdy. County Borough Boundary (England)

Co. Burgh Bdy. County Burgh Boundary (Scotland)

B P B S	Boundary Post or Stone	P.C.B	Police Call Box
B.R.	Bridle Road	P	Pump
E.P	Electricity Pylon	S.P	Signal Post
F.B.	Foot Bridge	St.	Sluice
F.P.	Foot Path	Sp.	Spring
G.P	Guide Post or Board	T.C.B	Telephone Call Box
M.S	Mile Stone	Tr.	Trough
M.P M.R	Mooring Post or Ring	W	Well

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



County Boundary (Geographical)

County & Civil Parish Boundary

Civil Parish Boundary

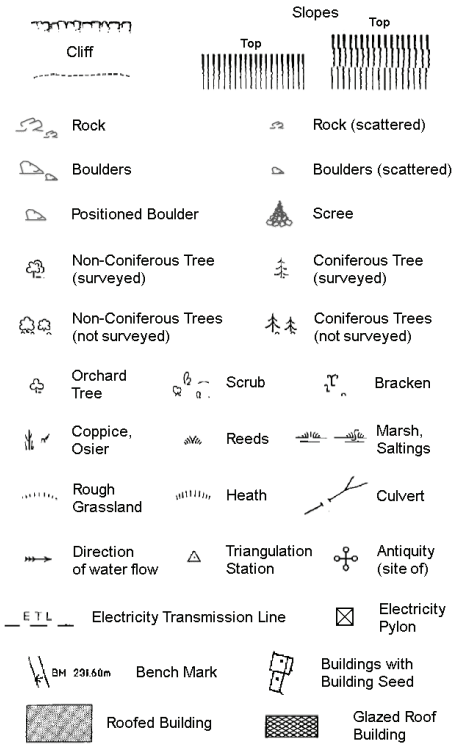
Admin. County or County Bor. Boundary

L B Bdy London Borough Boundary

Symbol marking point where boundary mereing changes

BH	Beer House	P	Pillar, Pole or Post
BP, BS	Boundary Post or Stone	PO	Post Office
Cn, C	Capstan, Crane	PC	Public Convenience
Chy	Chimney	PH	Public House
D Fn	Drinking Fountain	Pp	Pump
El P	Electricity Pillar or Post	SB, S Br	Signal Box or Bridge
FAP	Fire Alarm Pillar	SP, SL	Signal Post or Light
FB	Foot Bridge	Spr	Spring
GP	Guide Post	Tk	Tank or Track
H	Hydrant or Hydraulic	TCB	Telephone Call Box
LC	Level Crossing	TCP	Telephone Call Post
MH	Manhole	Tr	Trough
MP	Mile Post or Mooring Post	Wr Pt, Wr T	Water Point, Water Tap
MS	Mile Stone	W	Well
NTL	Normal Tidal Limit	Wd Pp	Wind Pump

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



Civil parish/community boundary

District boundary

County boundary

Boundary post/stone

Boundary mereing symbol (note: these always appear in opposed pairs or groups of three)

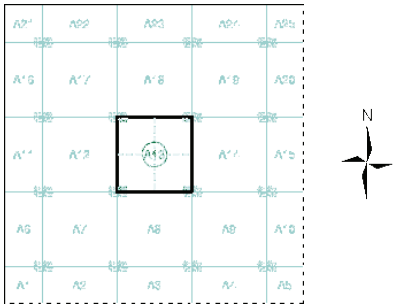
Bks	Barracks	P	Pillar, Pole or Post
Bty	Battery	PO	Post Office
Cemy	Cemetery	PC	Public Convenience
Chy	Chimney	Pp	Pump
Cis	Cistern	Ppg Sta	Pumping Station
Dismtd Rly	Dismantled Railway	PW	Place of Worship
El Gen Sta	Electricity Generating Station	Sewage Ppg Sta	Sewage Pumping Station
El P	Electricity Pole, Pillar	SB, S Br	Signal Box or Bridge
El Sub Sta	Electricity Sub Station	SP, SL	Signal Post or Light
FB	Filter Bed	Spr	Spring
Fn / D Fn	Fountain / Drinking Ftn.	Tk	Tank or Track
Gas Gov	Gas Valve Compound	Tr	Trough
GVC	Gas Governer	Wd Pp	Wind Pump
GP	Guide Post	Wr Pt, Wr T	Water Point, Water Tap
MH	Manhole	Wks	Works (building or area)
MP, MS	Mile Post or Mile Stone	W	Well

LK GROUP

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:2,500	1890	2
Lancashire And Furness	1:2,500	1910	3
Lancashire And Furness	1:2,500	1930	4
Lancashire And Furness	1:2,500	1937	5
Ordnance Survey Plan	1:1,250	1955	6
Ordnance Survey Plan	1:2,500	1956	7
Ordnance Survey Plan	1:1,250	1966 - 1976	8
Ordnance Survey Plan	1:2,500	1970	9
Supply of Unpublished Survey Information	1:1,250	1974	10
Supply of Unpublished Survey Information	1:1,250	1975	11
Ordnance Survey Plan	1:1,250	1977	12
Additional SIMs	1:1,250	1987	13
Large-Scale National Grid Data	1:1,250	1992	14
Large-Scale National Grid Data	1:1,250	1994	15
Large-Scale National Grid Data	1:1,250	1995	16
Large-Scale National Grid Data	1:1,250	1996	17
Historical Aerial Photography	1:2,500	2000	18

Historical Map - Segment A13



Order Details

Order Number: 271462808_1_1
Customer Ref: LKC 20 1981
National Grid Reference: 390850, 410420
Slice: A
Site Area (Ha): 0.04
Search Buffer (m): 100

Site Details

St. Cuthberts R C High School, Shaw Road, ROCHDALE, OL16 4RX

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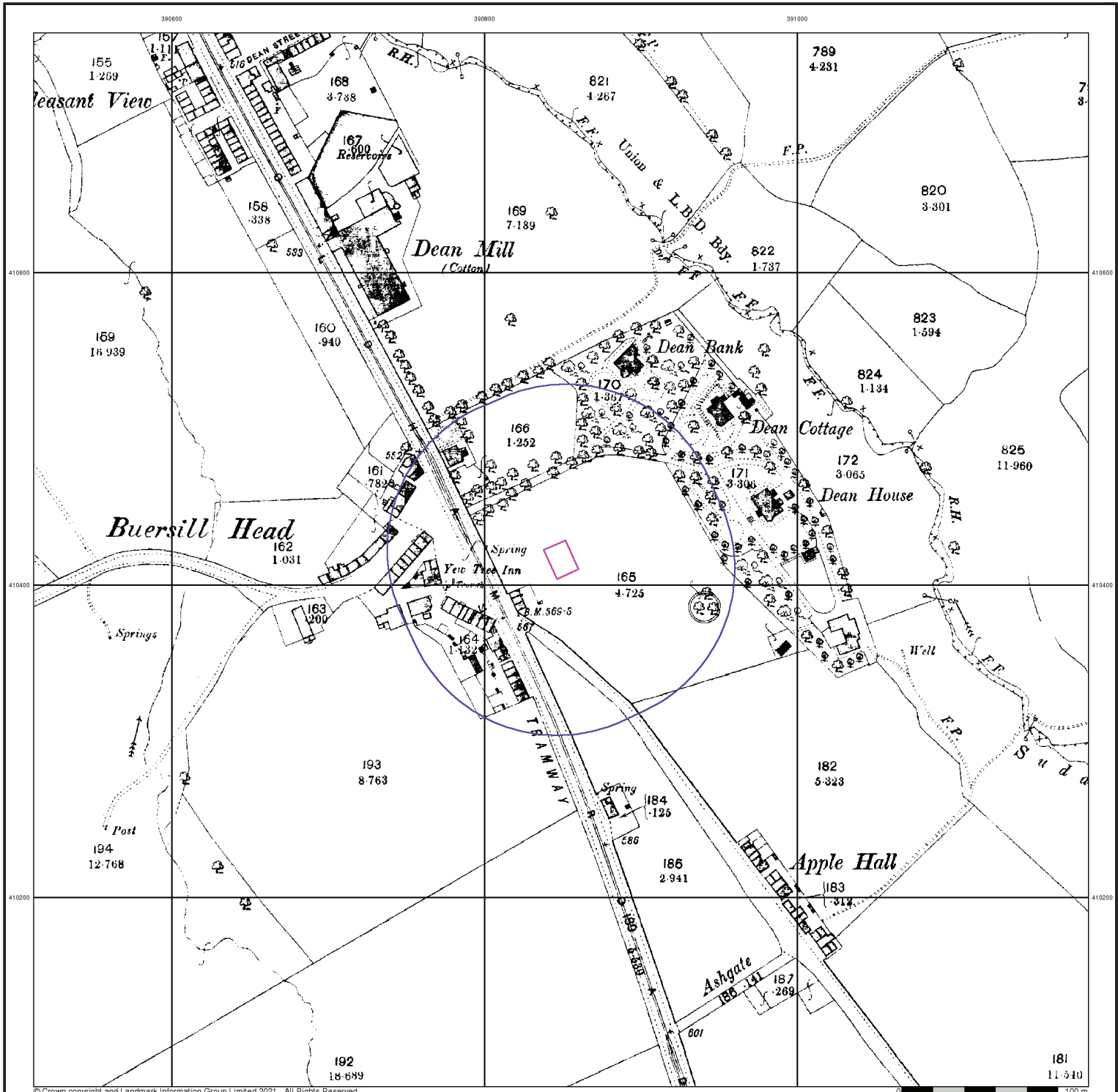

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LK GROUP

Lancashire And Furness

Published 1890

Source map scale - 1:2,500

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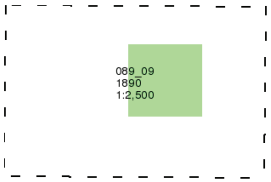
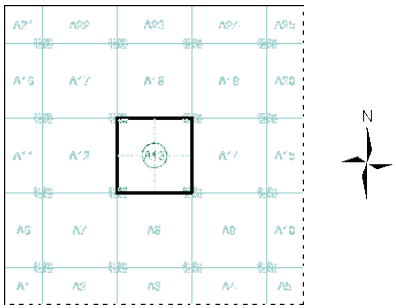
Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number:	271462808_1_1
Customer Ref:	LKC 20 1981
National Grid Reference:	390850, 410420
Slice:	A
Site Area (Ha):	0.04
Search Buffer (m):	100

Site Details

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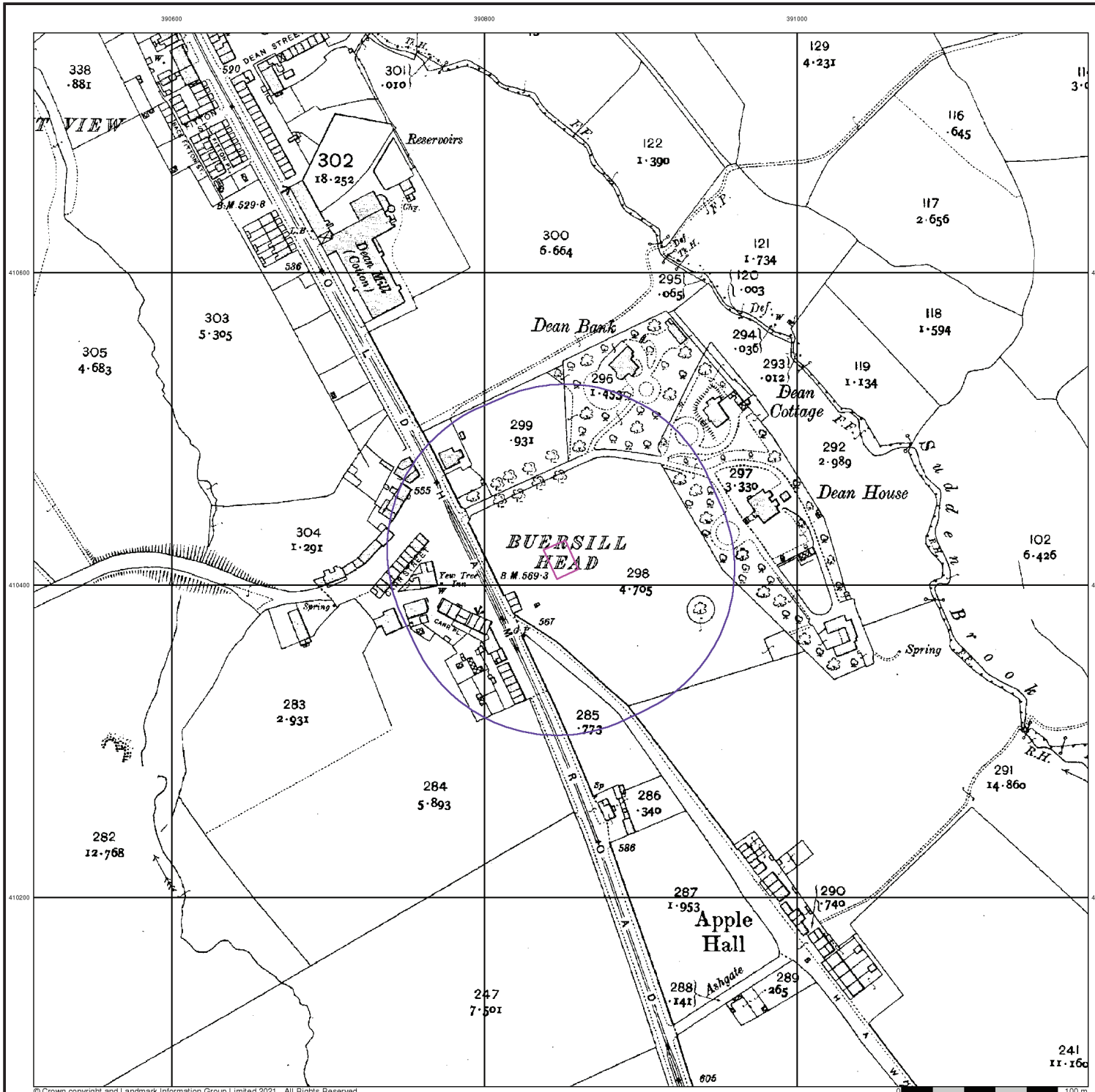

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LKC GROUP

Lancashire And Furness

Published 1910

Source map scale - 1:2,500

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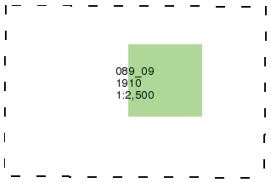
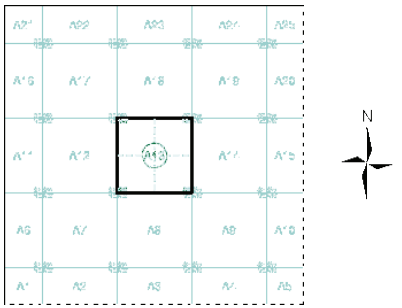
Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number:	271462808_1_1
Customer Ref:	LKC 20 1981
National Grid Reference:	390850, 410420
Slice:	A
Site Area (Ha):	0.04
Search Buffer (m):	100

Site Details

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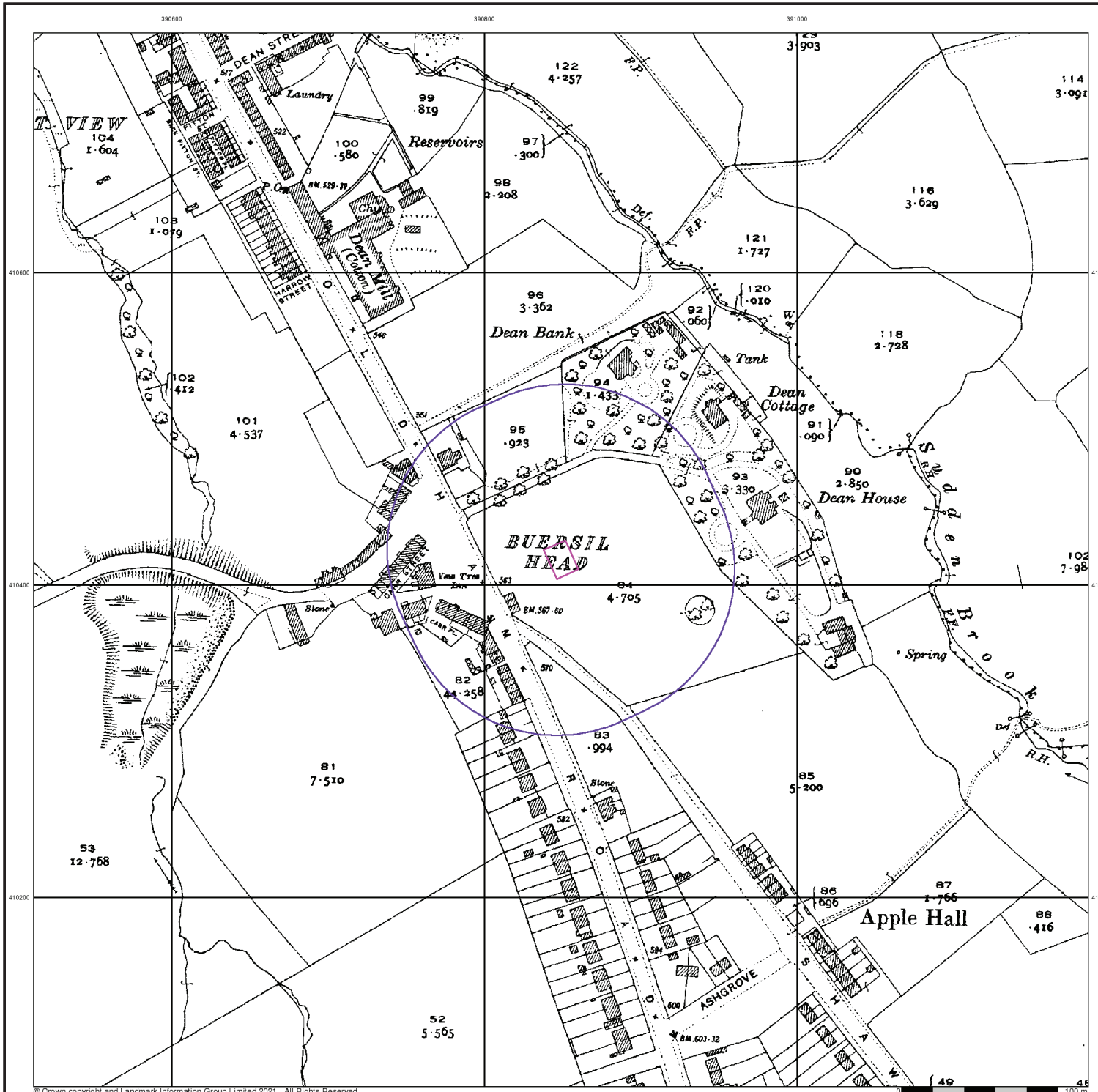

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Lancashire And Furness

Published 1930

Source map scale - 1:2,500

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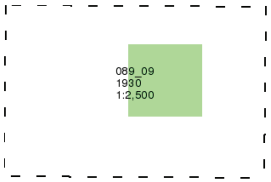
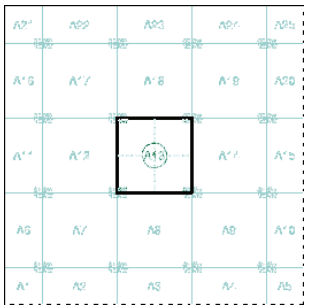
Map Name(s) and Date(s)



Historical Map - Segment A13

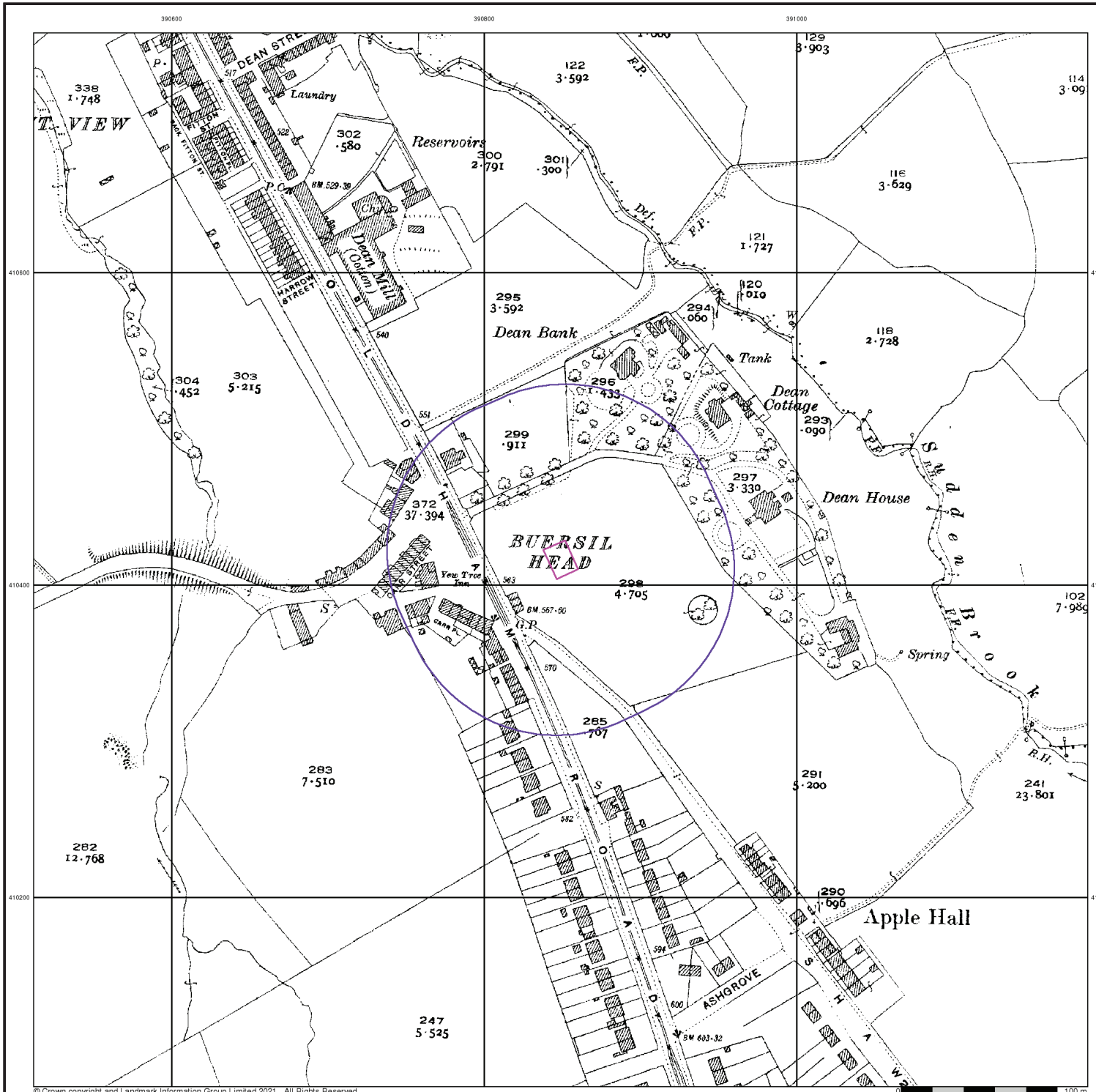


Order Details

Order Number:	271462808_1_1
Customer Ref:	LKC 20 1981
National Grid Reference:	390850, 410420
Slice:	A
Site Area (Ha):	0.04
Search Buffer (m):	100

Site Details

St. Cuthberts R C High School, Shaw Road, ROCHDALE, OL16 4RX



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LKC GROUP

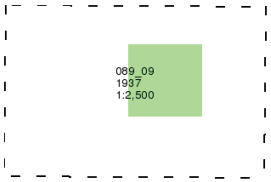
Lancashire And Furness

Published 1937

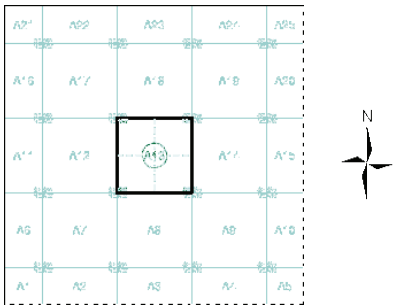
Source map scale - 1:2,500

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:	271462808_1_1
Customer Ref:	LKC 20 1981
National Grid Reference:	390850, 410420
Slice:	A
Site Area (Ha):	0.04
Search Buffer (m):	100

Site Details

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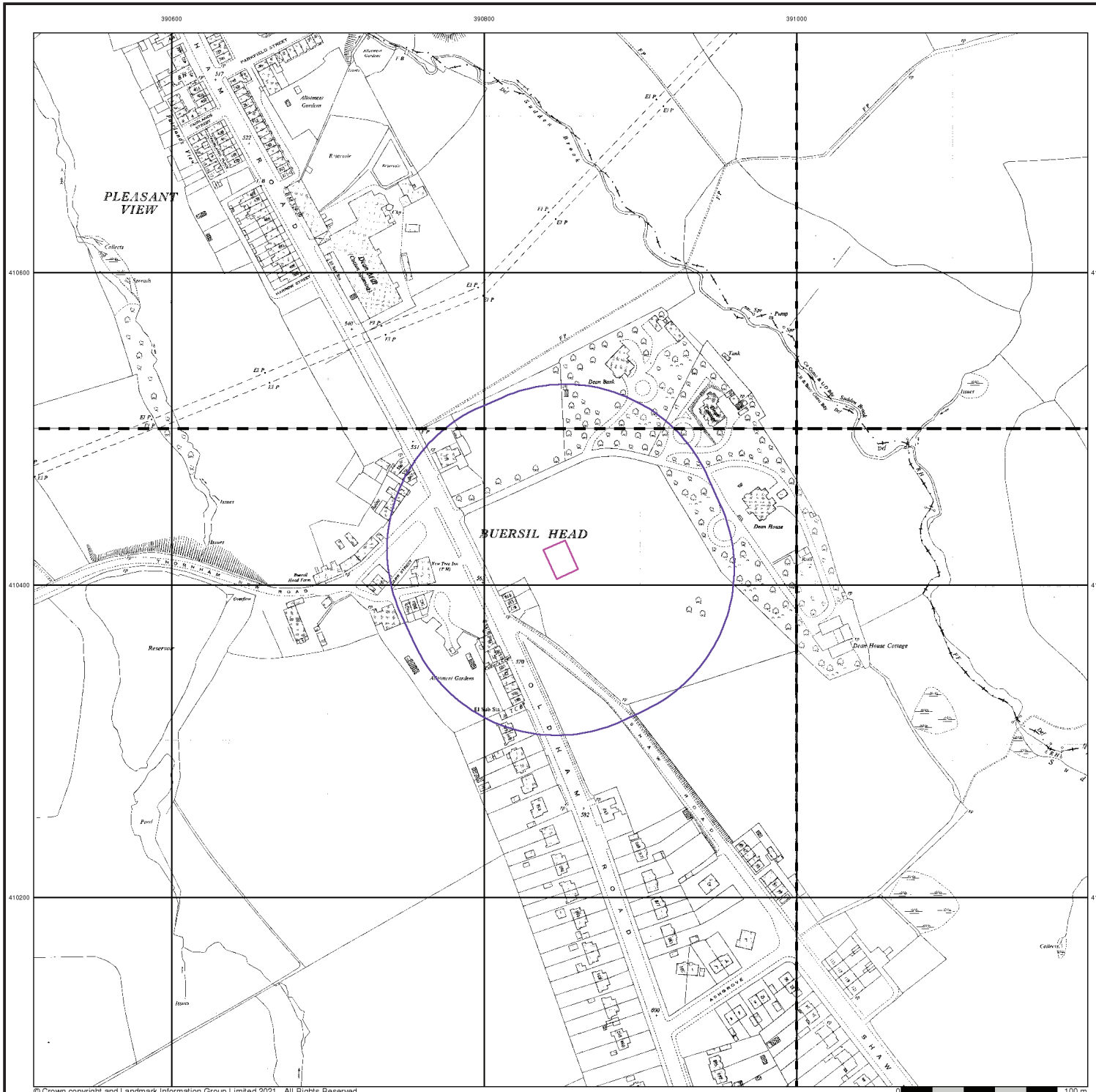

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LKC GROUP

Ordnance Survey Plan

Published 1955

Source map scale - 1:1,250

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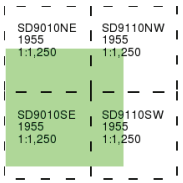
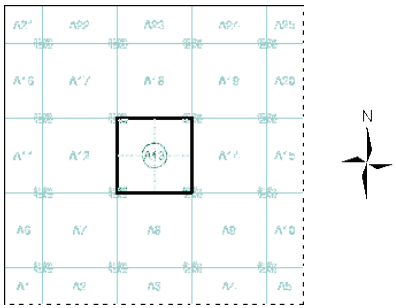
Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number:	271462808_1_1
Customer Ref:	LKC 20 1981
National Grid Reference:	390850, 410420
Slice:	A
Site Area (Ha):	0.04
Search Buffer (m):	100

Site Details

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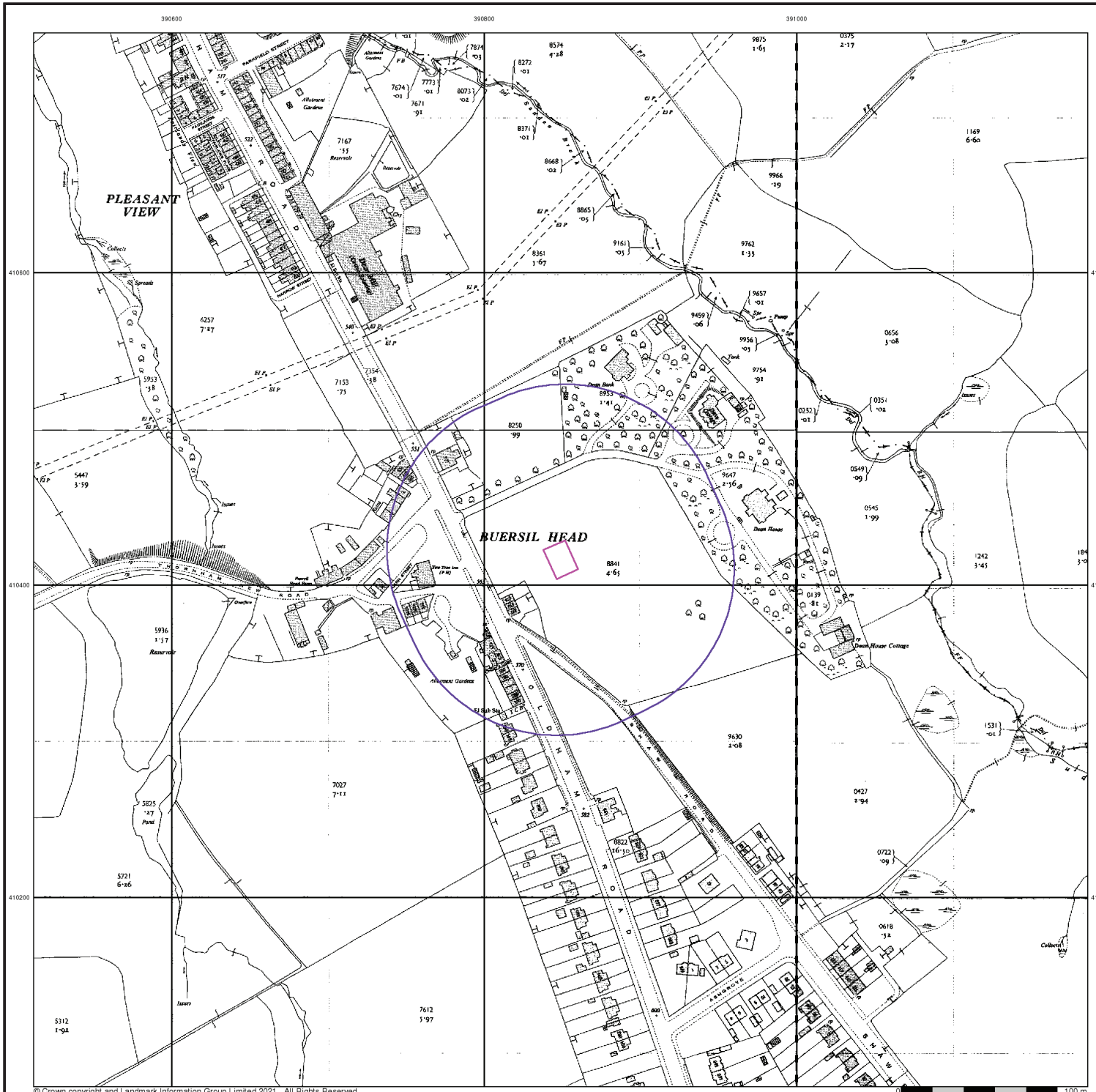

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LKC GROUP

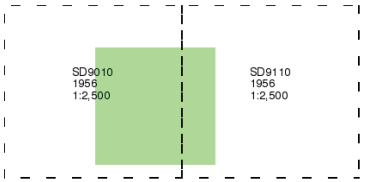
Ordnance Survey Plan

Published 1956

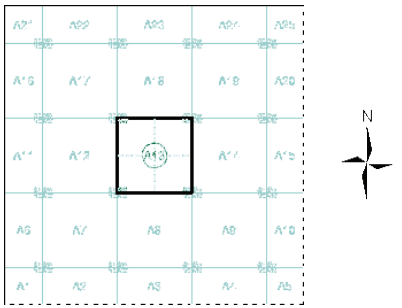
Source map scale - 1:2,500

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:	271462808_1_1
Customer Ref:	LKC 20 1981
National Grid Reference:	390850, 410420
Slice:	A
Site Area (Ha):	0.04
Search Buffer (m):	100

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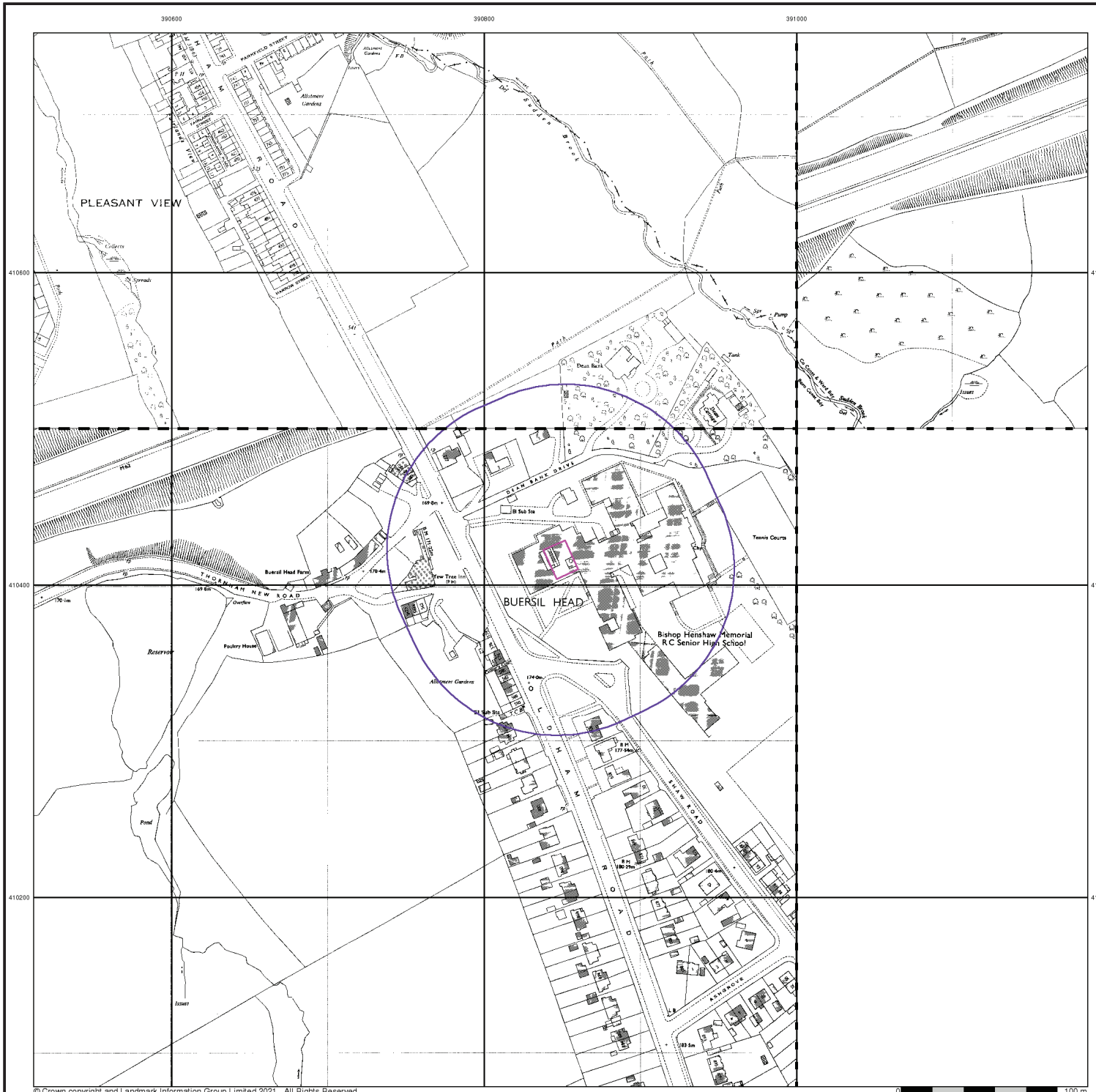

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LKC GROUP

Ordnance Survey Plan

Published 1966 - 1976

Source map scale - 1:1,250

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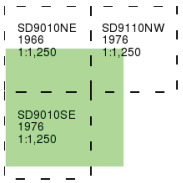
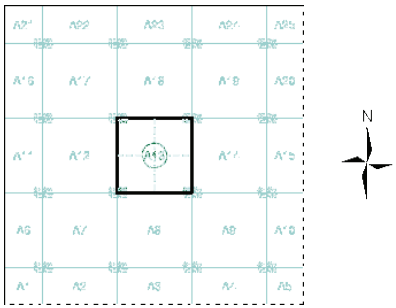
Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number:	271462808_1_1
Customer Ref:	LKC 20 1981
National Grid Reference:	390850, 410420
Slice:	A
Site Area (Ha):	0.04
Search Buffer (m):	100

Site Details

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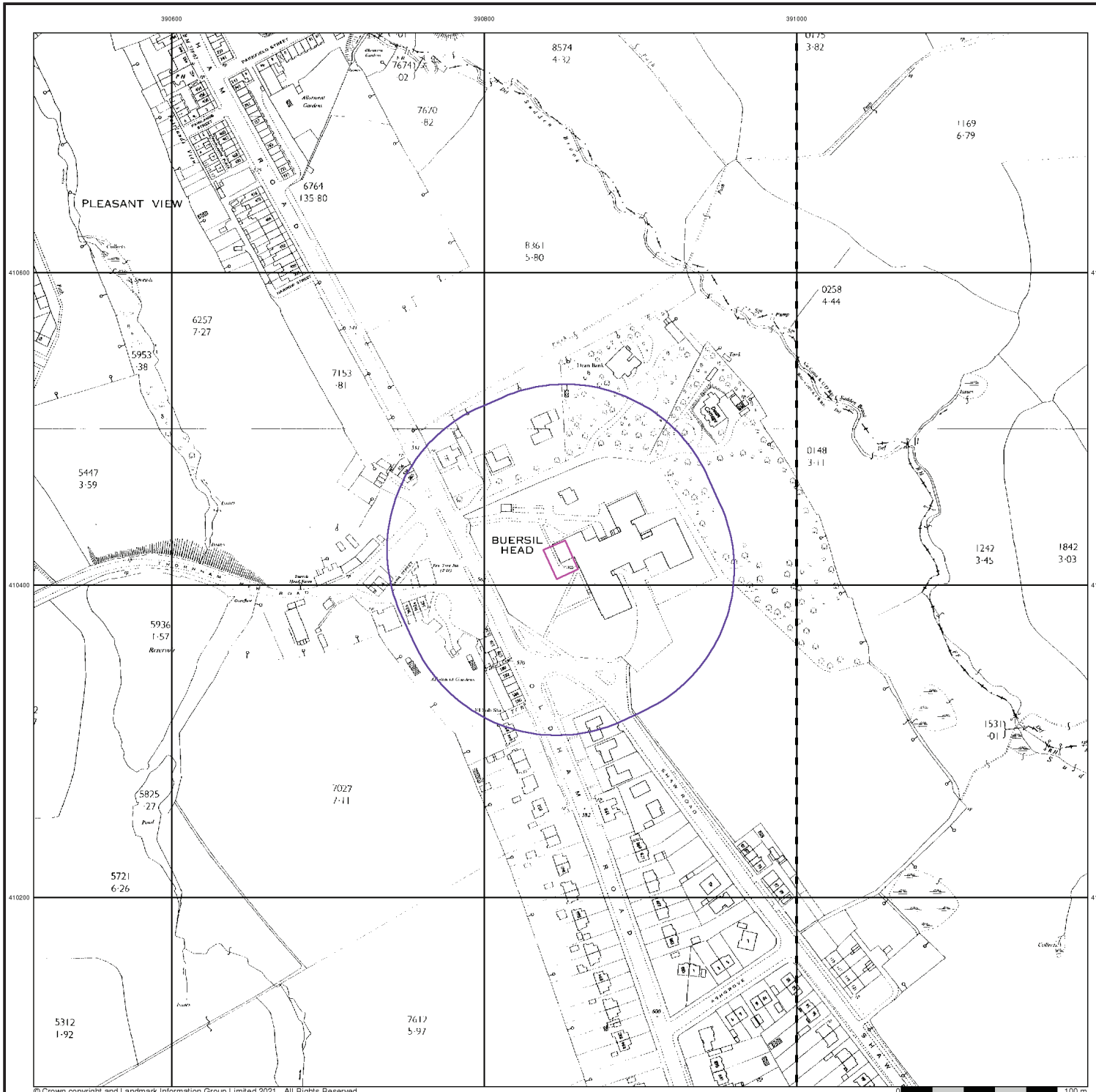

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LKC GROUP

Ordnance Survey Plan

Published 1970

Source map scale - 1:2,500

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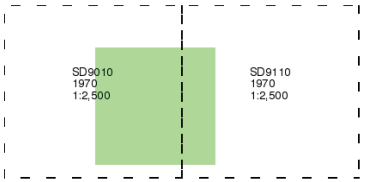
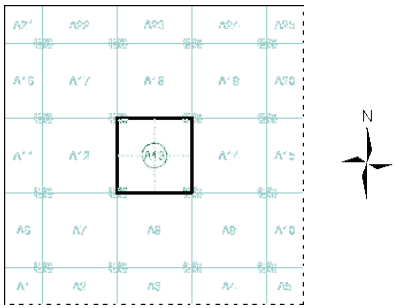
Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number:	271462808_1_1
Customer Ref:	LKC 20 1981
National Grid Reference:	390850, 410420
Slice:	A
Site Area (Ha):	0.04
Search Buffer (m):	100

Site Details

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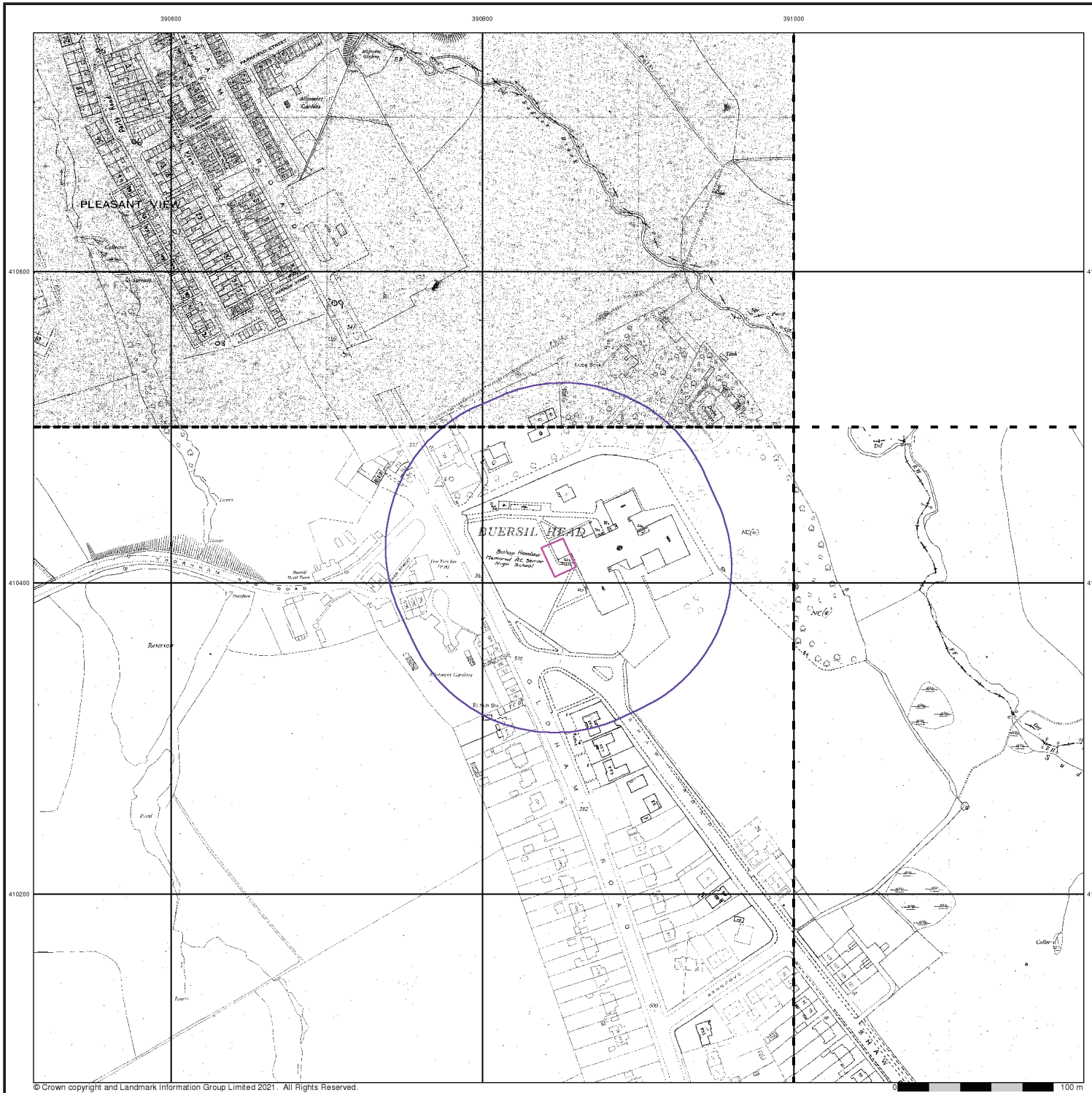

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LK GROUP

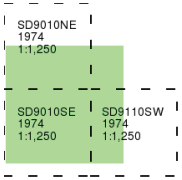
Supply of Unpublished Survey Information

Published 1974

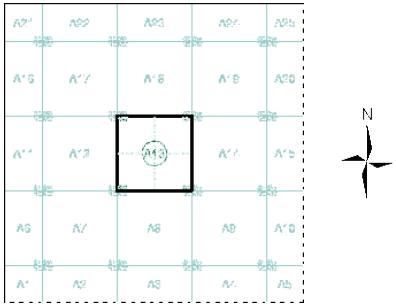
Source map scale - 1:1,250

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)



Historical Map - Segment A13



Order Details

Order Number:	271462808_1_1
Customer Ref:	LKC 20 1981
National Grid Reference:	390850, 410420
Slice:	A
Site Area (Ha):	0.04
Search Buffer (m):	100

Site Details

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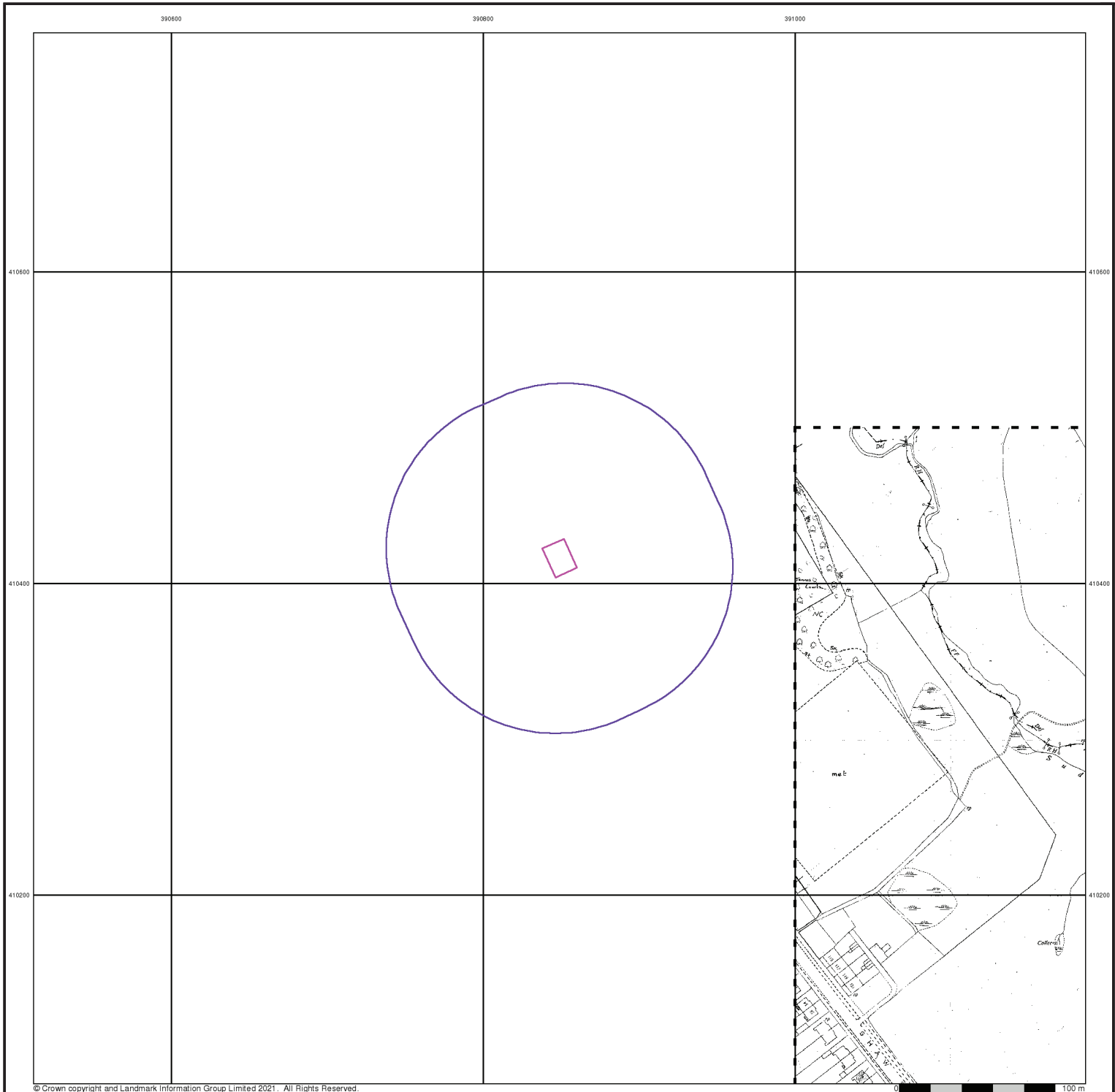

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GROUP

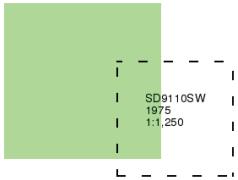
Supply of Unpublished Survey Information

Published 1975

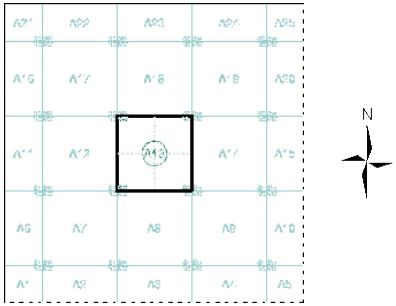
Source map scale - 1:1,250

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)



Historical Map - Segment A13



Order Details

Order Number:	271462808_1_1
Customer Ref:	LKC 20 1981
National Grid Reference:	390850, 410420
Slice:	A
Site Area (Ha):	0.04
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Site Details

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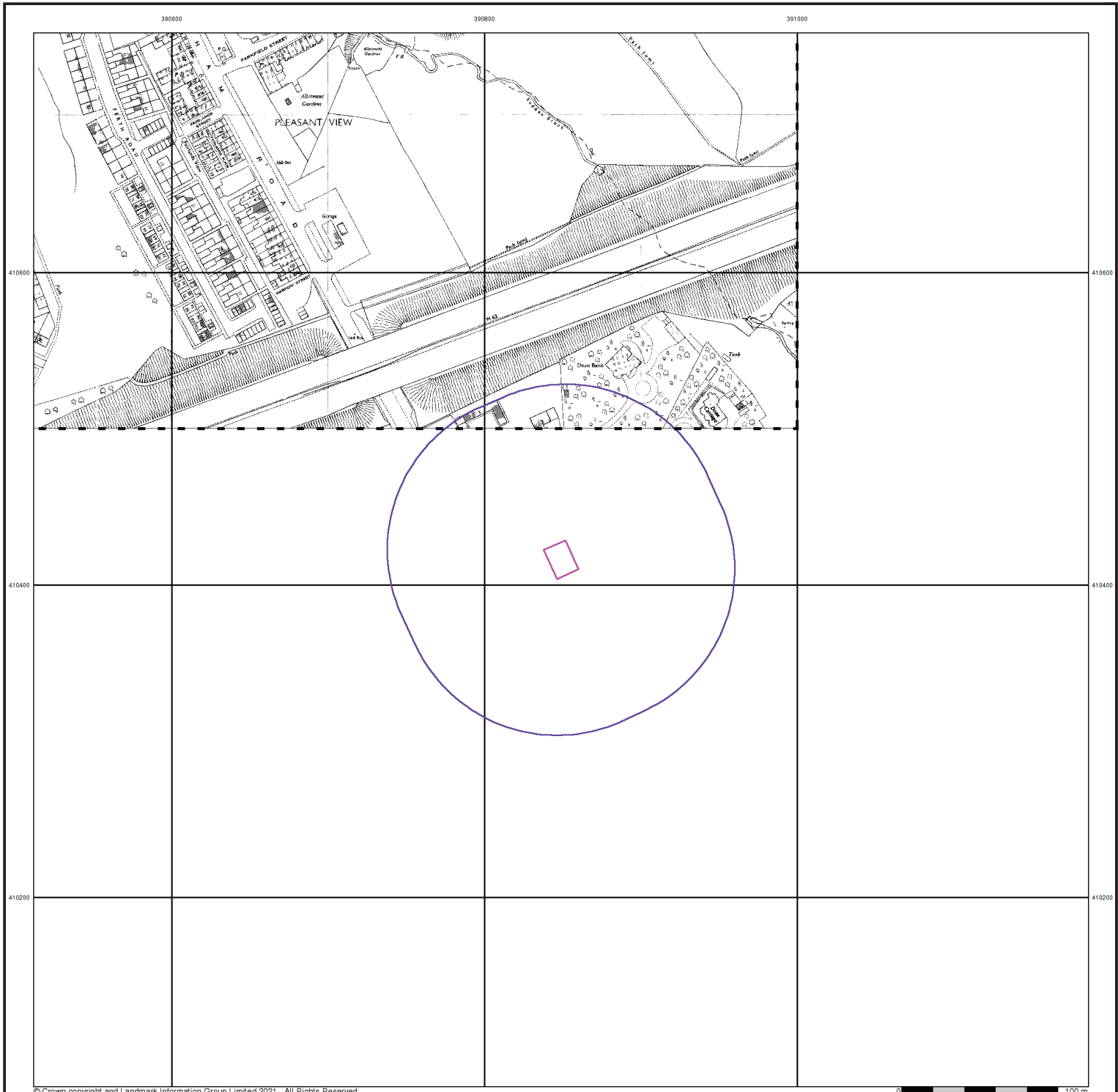

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0 100 m

LKC GROUP

Ordnance Survey Plan

Published 1977

Source map scale - 1:1,250

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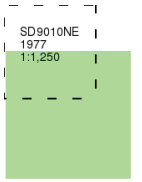
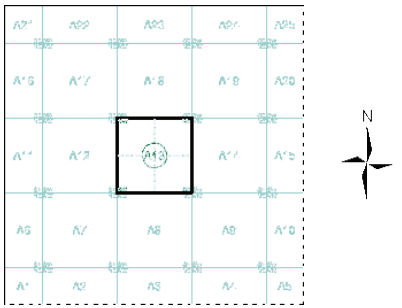
Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number:	271462808_1_1
Customer Ref:	LKC 20 1981
National Grid Reference:	390850, 410420
Slice:	A
Site Area (Ha):	0.04
Search Buffer (m):	100

Site Details

St. Cuthberts R C High School, Shaw Road, ROCHDALE, OL16 4RX

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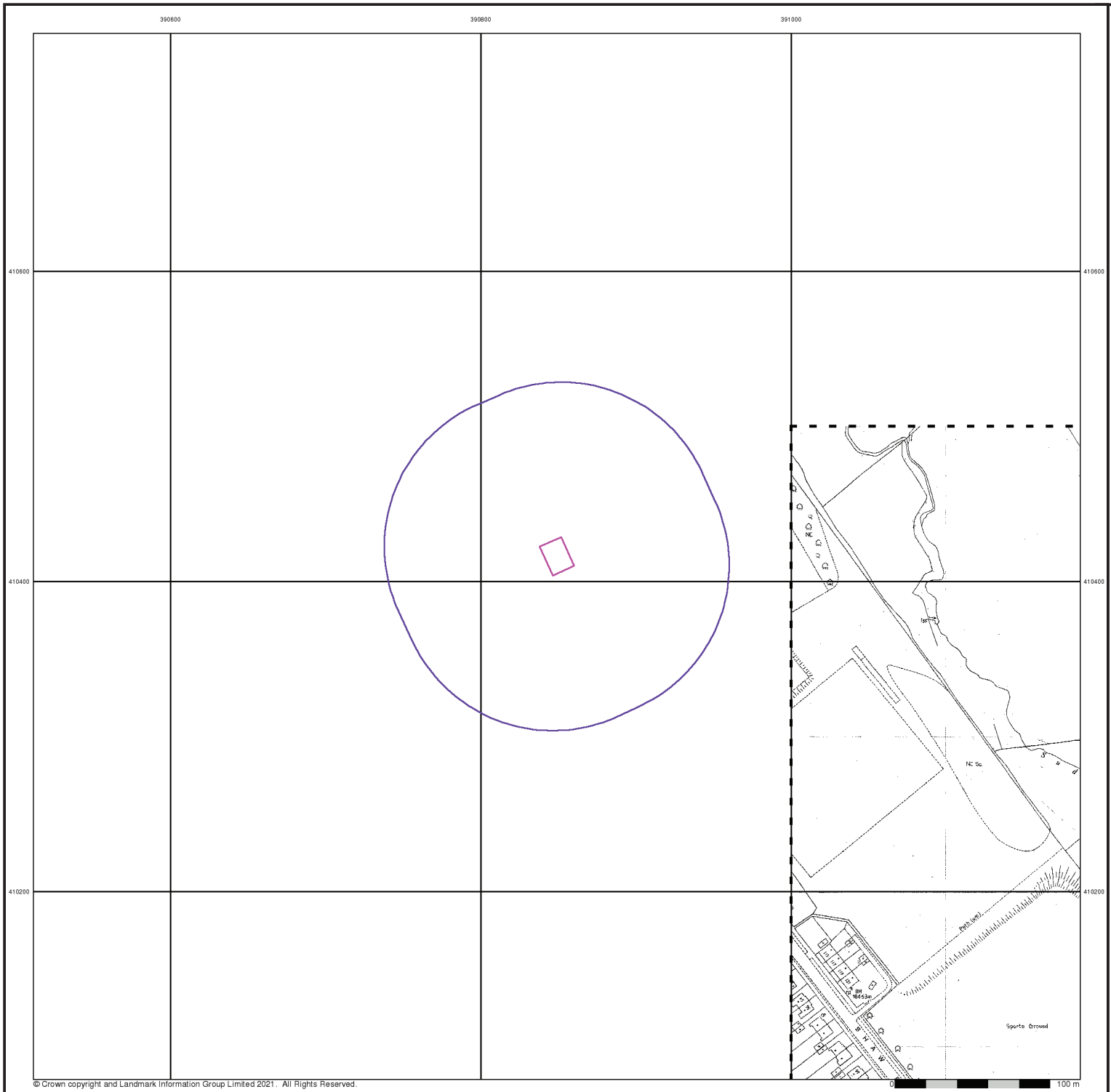

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LKC GROUP

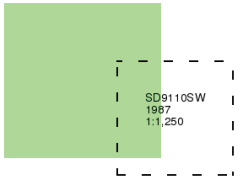
Additional SIMs

Published 1987

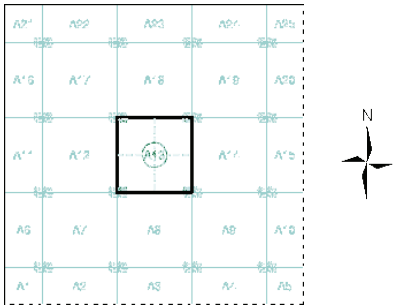
Source map scale - 1:1,250

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)



Historical Map - Segment A13



Order Details

Order Number:	271462808_1_1
Customer Ref:	LKC 20 1981
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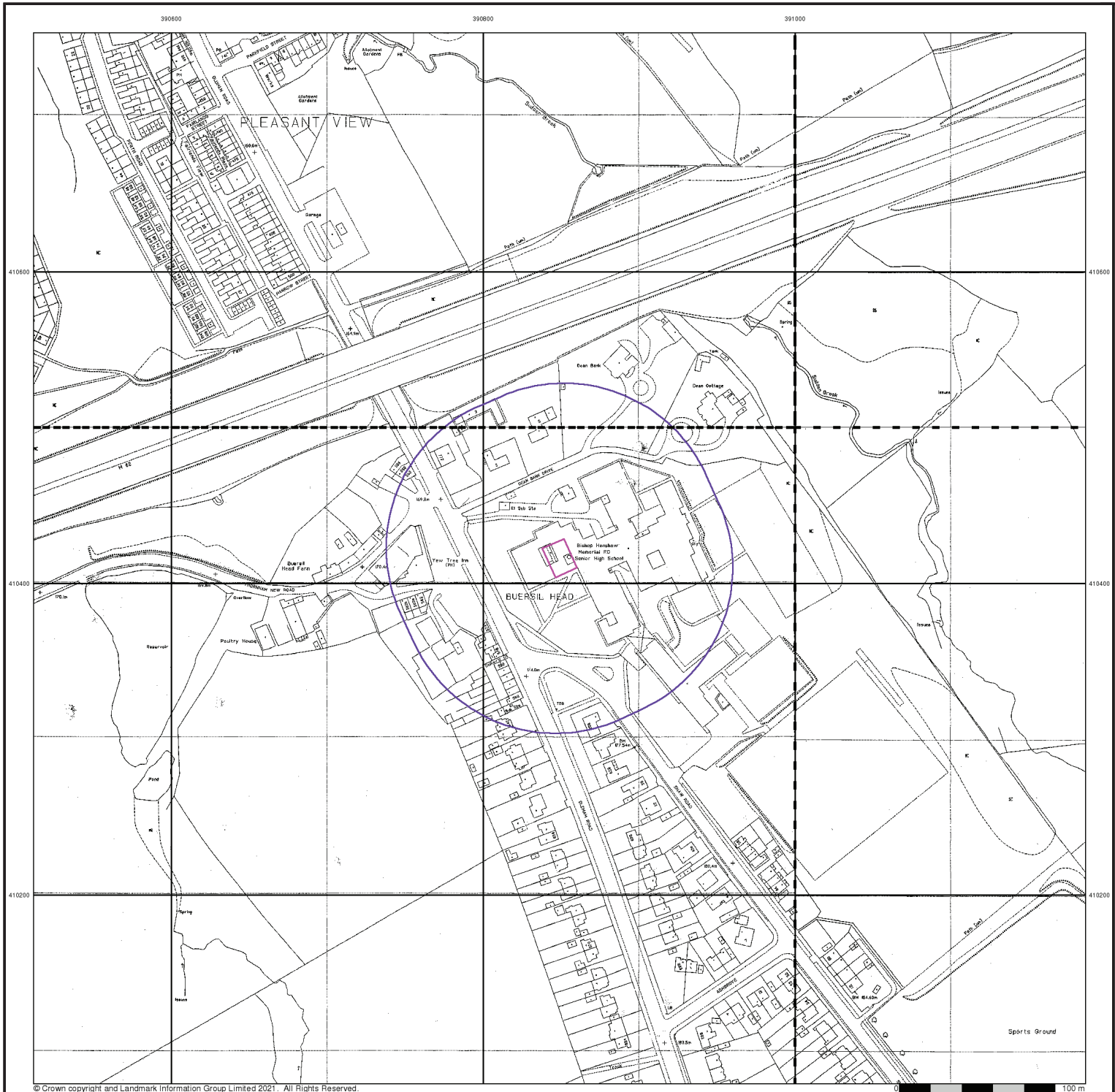

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LK GROUP

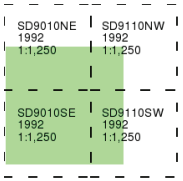
Large-Scale National Grid Data

Published 1992

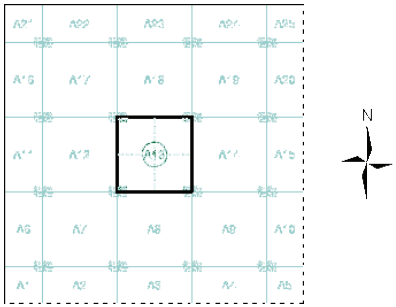
Source map scale - 1:1,250

'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:	271462808_1_1
Customer Ref:	LKC 20 1981
National Grid Reference:	390850, 410420
Slice:	A
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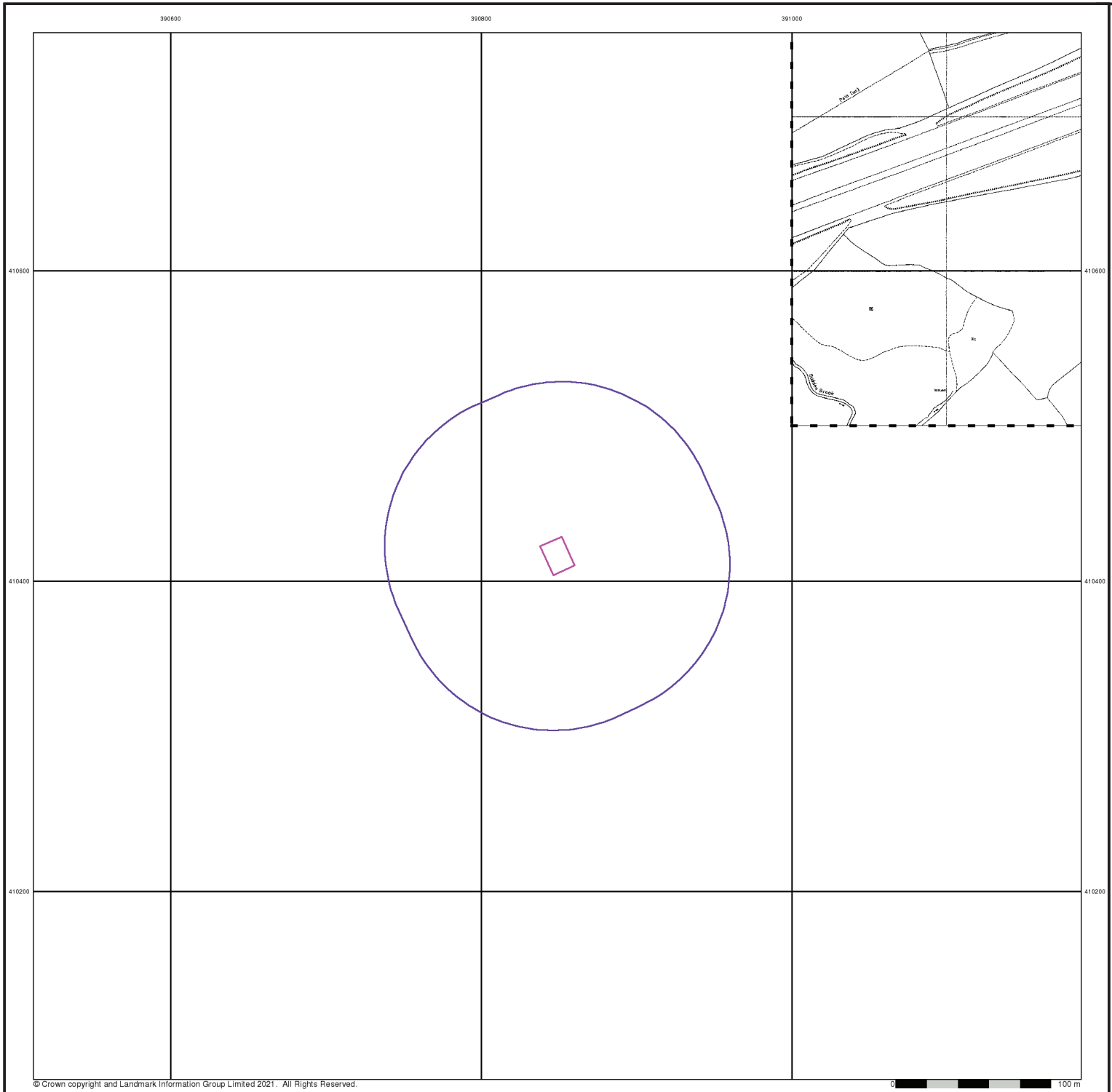

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LKC GROUP

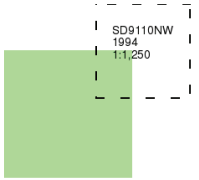
Large-Scale National Grid Data

Published 1994

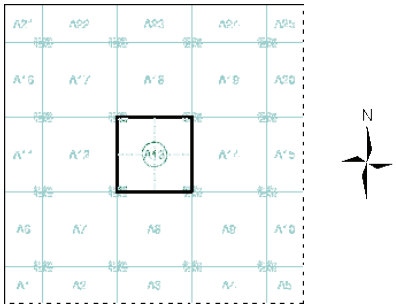
Source map scale - 1:1,250

'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

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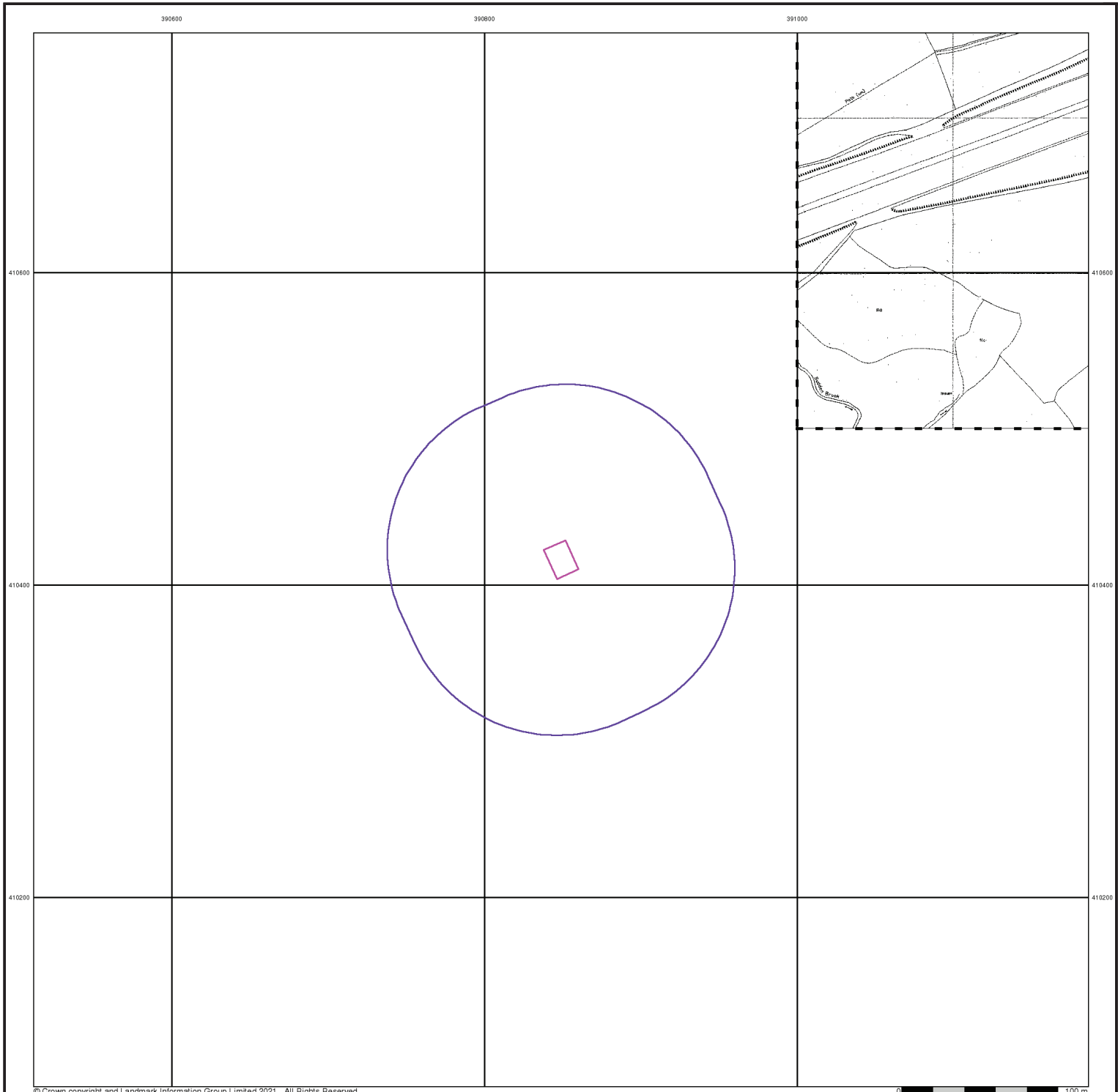

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LKC GROUP

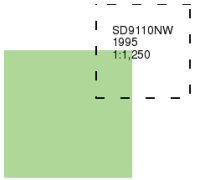
Large-Scale National Grid Data

Published 1995

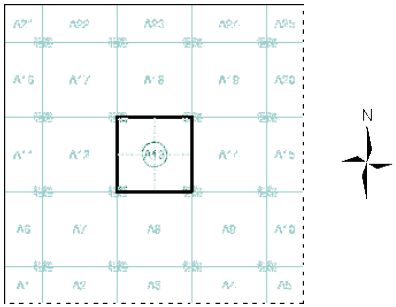
Source map scale - 1:1,250

'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

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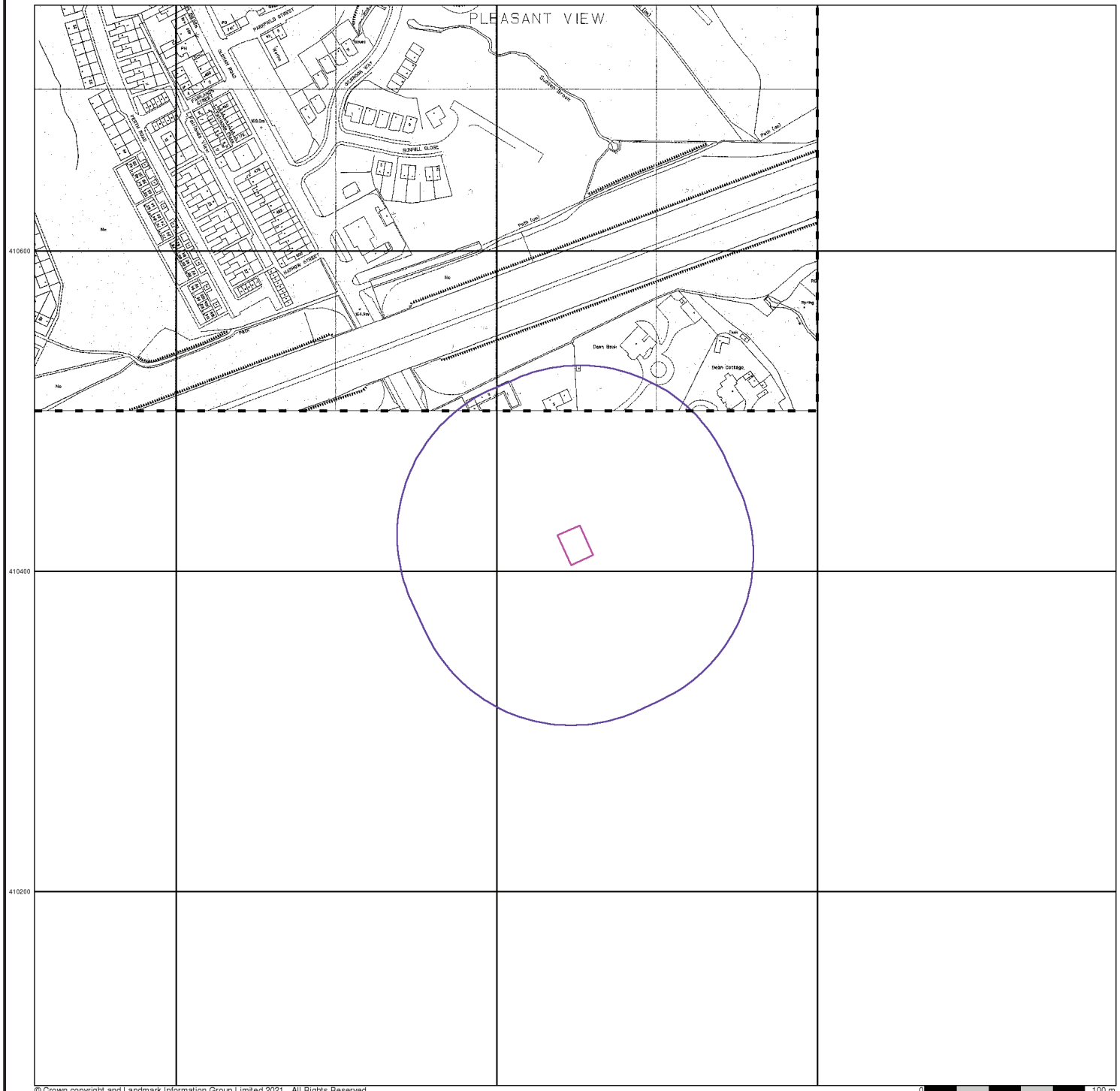

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LKC GROUP

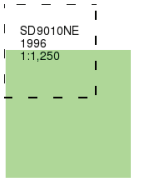
Large-Scale National Grid Data

Published 1996

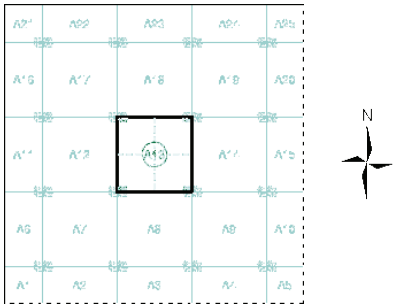
Source map scale - 1:1,250

'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



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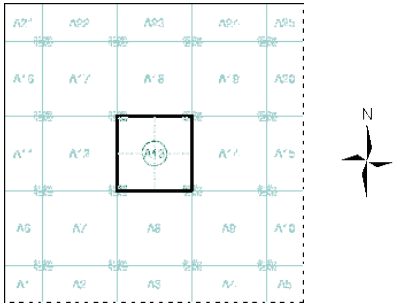
Historical Aerial Photography

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



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