

St Johns Primary School, Middleton

Phase 1 Preliminary Risk Assessment

Job Number: LKC 24 1098

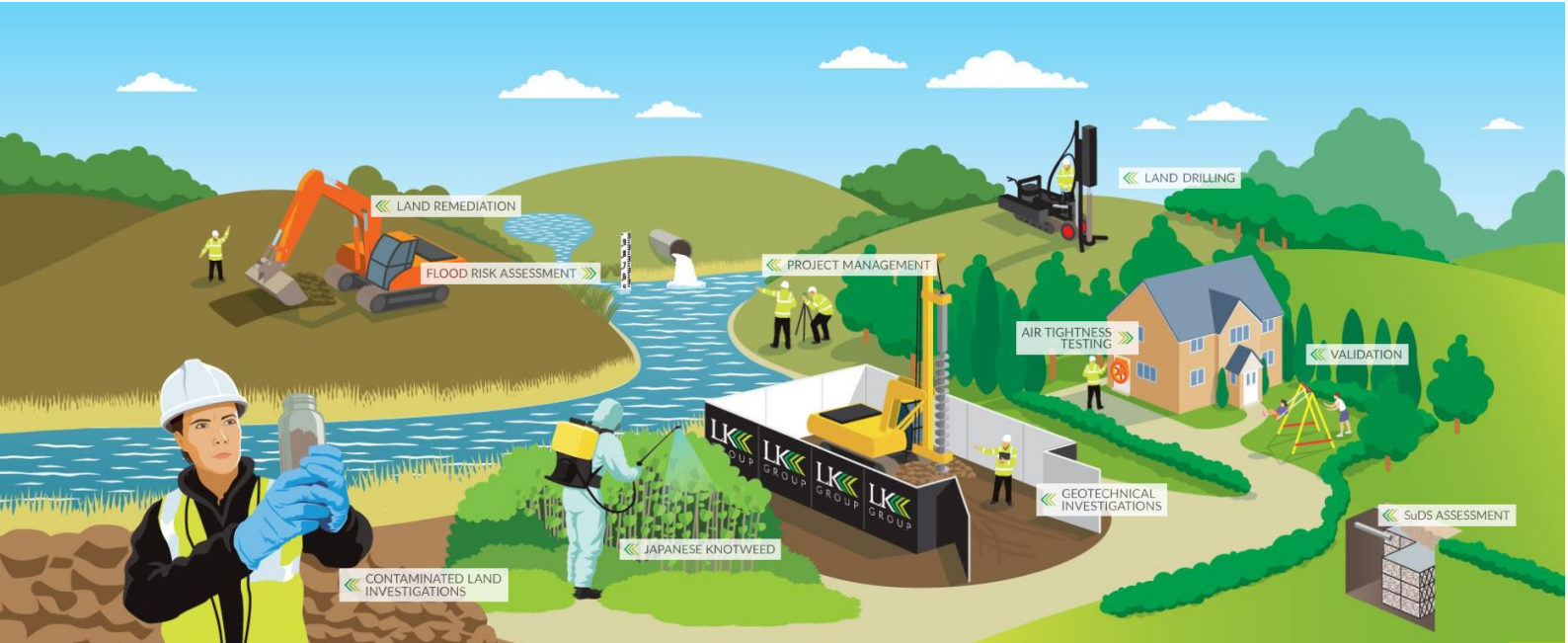
Date: February 2024

Client: Cranmer Education Trust



INCREASING LAND VALUE

LK
GROUP



We advise and partner with our clients to design and deliver cost-effective consultancy, contracting and project management that enhances our environment and our communities.

Ground Investigation | Land Remediation | Project Management

LK

CONSULT

>> Eton Business Park, Eton Hill Rd, Radcliffe, Greater Manchester M26 2ZS
 >> 0161 763 7200 >> info@thelkgroup.com >> www.thelkgroup.com

Company registered in England and Wales No. 06767704

DOCUMENT QUALITY ASSURANCE

Site Address	St Johns C.E Thornham Primary School, Thornham Lane, Middleton, Manchester, M24 2SB
Report Title	Phase 1 Preliminary Risk Assessment
Job Number	LKC 24 1098
Client	Cranmer Education Trust

Revision	0	Date of Issue	29/02/2024
Document Ref:	LKC 24 1098-A1-PRA-St Johns Primary School, Middleton R0		
Status	Final		
Written By	Christopher Kay, Ella Mcleod		
Approved By	Kris Rodway		

Revision		Date of Issue	
Document Ref:			
Status			
Written By			
Approved By			

Revision		Date of Issue	
Document Ref:			
Status			
Written By			
Approved By			

DISCLAIMER

This report has been prepared by LK Consult Ltd (LKC) who have exercised such professional skill, care and diligence as may reasonably be expected of a properly qualified and competent consultant, experienced in preparing reports of a similar scope.

However, to the extent that the report is based or relies upon information contained in records, reports or other materials provided to LKC, which have not been independently produced or verified, LKC gives no warranty, representation, or assurance as to the accuracy or completeness of such information.

This report is prepared solely for the benefit of the client named above. It may not be relied upon by or submitted to a third party for their reliance for the purposes of valuation, mortgage, insurance, and regulatory approval until all invoices have been settled in full.

Those using this information in subsequent assessments or evaluations do so at their own risk.

TABLE OF CONTENTS

1.	INTRODUCTION	1
2.	HISTORICAL REVIEW	2
2.1.	Historical Map Review	2
2.2.	Additional Information	2
3.	ENVIRONMENTAL SETTING	4
4.	SITE RECONNAISSANCE	6
5.	PRELIMINARY CONCEPTUAL MODEL	9
5.1.	Introduction	9
5.2.	Potential Contaminants	9
5.3.	Potential Receptors	10
5.4.	Potential Pathways	10
5.5.	Preliminary Contamination Conceptual Model	11
6.	PRELIMINARY GEOTECHNICAL RISK ASSESSMENT	14
7.	SUMMARY CONCLUSIONS AND RECOMMENDATIONS	15
7.1.	Summary Conclusions	15
7.2.	Recommendations	16

FIGURES

FIGURE 1 – SITE LOCATION AND BOUNDARY PLAN

FIGURE 2 – PROPOSED DEVELOPMENT PLAN

APPENDICES

APPENDIX A – HISTORICAL MAPS

APPENDIX B – ENVIROCHECK REPORT

APPENDIX C – ZETICA UXO UNEXPLODED BOMB RISK MAP

APPENDIX D – RISK EVALUATION

APPENDIX E – REFERENCES

1. Introduction

LK Consult Ltd (LKC) has been commissioned to carry out a Phase 1 Preliminary Risk Assessment (PRA) for St Johns Primary School, Middleton.

In accordance with current guidance (including LCRM¹ 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.

A summary of the site details is presented in Table 1-1. Figure 1 indicates the site location and boundary plan. Figure 2 indicates the proposed development.

Location	North of Thornham Lane, Slattocks, Middleton, Manchester. Centred at National Grid Reference 389070E 408900N.
Area	8,100m ² .
Topography	150-154 metres above ordnance datum (AOD). Eastern part of site relatively level. Centre Western part of site slopes gently down to the south-west.
Current Site Use	Primary school with associated playground areas, soft landscaping, car parking spaces, an astroturf football pitch and a grass sports pitch.
Proposed Development	Two-storey extension to existing school, hardstood playground to the west of the extension and alternations to the existing grass sports pitch and infrastructure.

Table 1-1: Summary of site details.

2. Historical Review

2.1. Historical Map Review

In compiling the site history, LKC consulted Envirocheck historical mapping (Appendix A) and other public domain maps / aerial photography.

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	
St Johns Primary School	E	1851	2024	School situated in the east of site with field boundary in the east. 1no. small outbuilding in the NE no longer present by 1955 mapping. 1no. small outbuilding in the NE no longer present by 1978 mapping, and 'tank' mapped on 1978 mapping. School extended to the west by 2016 mapping and extended further by 2024 mapping.
Undeveloped land	Centre / W	1851	1977	Eastern part of undeveloped land within grounds of school by 1984 mapping. All within grounds of school by 2009 mapping and footpath present along S of site by 2012 aerial photography.
Field boundary	Centre	1984	2006	No longer present by 2009 mapping.

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

Surrounding Area Features	Distance (m)	Direction	Dates Present		Comments
			From	To	
Pond	70	NW	1851	1893	No longer present by 1932 mapping.

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

2.2. Additional Information

The site lies within a Development High Risk Area associated with a coal outcrop, according to the Coal Authority. A Coal Mining Risk Assessment has previously been undertaken for the site by Earth Environmental & Geotechnical Ltd (ref. A3381/20, dated 14th January 2020). The report concludes that the Coal Authority's positioning of the Arley coal seam is incorrect and that with 80m of drift cover that "no remedial measures are required for the proposed development".

A Phase 2 Geo-Environmental Investigation, Risk Assessment & Remediation report has previously been undertaken for the site by LKC (ref. CL-602-LKC 20 1219-02, dated February 2020). The report was completed in support of an extension to the west of the existing school. A brief Phase 1 assessment was undertaken using publicly available information as part of the report, within the boundary of the proposed extension. Pertinent information from the site investigation is summarised in Table 2-3 overleaf.

Date of Investigation	30 th January 2020.
Intrusive Investigation Work Undertaken	2no. window sample boreholes. Follow-on dynamic probing through window sample borehole WS102. 2no. falling head tests undertaken within the window sample boreholes. 2no. hand excavated foundation pits.
Made Ground / Topsoil	Topsoil recorded in WS101 to 0.40m. Made ground recorded to depths of 0.60-0.80m. Depth of made ground not proven in FP101 and FP102. Made ground predominantly comprised tarmacadam, MOT and reworked sand. No visual / olfactory evidence of significant contamination identified.
Superficial	Made ground / topsoil underlain by variable gravelly / silty sand. Bands of gravelly / sandy silty clay below 3.40m. Narrow band of fibrous peat encountered between 2.10-2.20min WS102.
Bedrock	Not encountered.
Groundwater	Perched water encountered in FP101 at 0.60m. Groundwater encountered at 1.30m in WS102.
Building Foundations	Footings encountered at 0.60m and 0.35m.
Human Health	No elevated contaminants identified, and no asbestos detected. No remediation required.
Controlled Waters	No significant sources of likely mobile contamination identified within the soils. No remediation required.
Ground Gas	No significant organic/ putrescible material encountered during site investigation. Thin layer of peat (0.10m thick) only encountered in one location not considered to be a significant source. No remediation required.

Table 2-3: Summary of information from 2020 LKC site investigation.

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 Ground	No BGS recorded artificial ground.
	Superficial Deposits	Glaciofluvial Ice Contact Deposits, Devensian (sand and gravel).
	Bedrock	Pennine Lower Coal Measures (mudstone, siltstone and sandstone).
	BGS Logs (100m)	None.
Hydro-geology ¹	Aquifer Designation	Superficial Bedrock
	Source Protection Zone (SPZ)	Site not within an SPZ.
	Groundwater Abstractions (100m)	None.
Hydrology ¹	Surface Watercourses (100m)	Pond 63m SE.
	Flooding Risk ^{1, 3}	Flood Zone 1.
	Surface Water Abstractions (100m)	None.
	Discharge Consents (onsite)	None.
	Pollution Incidents (onsite)	None.
Minerals & Mining ^{1,4,5}	Coal Mining	Development High Risk Area due to “outcrop” indicated on site. The existing Coal Mining Risk Assessment concludes that the Coal Authority’s positioning of the Arley coal seam is incorrect and that with 80m of drift cover that “no remedial measures are required for the proposed development”.
	Surface Mineral Extractions (250m)	None.
	Non-Coal Mining Area	No hazard.
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	No 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	1no. features: See Table 2-2.

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 onsite only.

Data Sources:

1 Envirocheck Report (Appendix A & B).

2 <http://mapapps2.bgs.ac.uk/geoindex/home.html>

3 <https://flood-map-for-planning.service.gov.uk/location>

4 The Coal Authority Web Mapping Services (WMS)

<http://coal.decc.gov.uk/en/coal/cms/publications/data/map/map.aspx>.

5 Coal Mining Risk Assessment by Earth Environmental & Geotechnical Ltd (ref. A3381/20, dated 14th January 2020)

Categories ^(data sources)		Details
Radon Potential ¹		<1% of homes above Action Level. No protective measures are necessary in the construction of new dwellings or extensions.
Designated Sites (50m) ¹		Adopted Green Belt onsite. Nitrate Vulnerable Zone onsite.
Contemporary Trade Directory (50m) ¹		None.
Fuel Station Entries (50m) ¹		None.
Unexploded Ordnance Risk (UXO) – Zetica Risk Map	Zetica Risk Map ⁶	Bomb Risk: Low. Strategic Targets: None identified within 100m.

Table 3-2 (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 onsite 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 27th February 2024. 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 comprises a primary school with associated car parking spaces, playground areas, soft landscaping and sports field.
- Access to the site is off Thornham Lane.
- The primary school building is located in the south-east of the site. The building is predominantly single-storey, however part of the building is two-storey.
- The original part of the school is located in the south-east, adjacent to Thornham Lane. More recent extensions are located to the north and west of the original building.
- A climbing frame area and small astroturf pitch are located to the west of the school building, and sports field present in the west of site.
- Hardstood ground is present in the area immediately surrounding the primary school building. The remainder of site comprises grassed areas or areas used for gardening.
- The east of the site is relatively flat. The site as a whole, slopes gently down to the west.
- Multiple large potholes present across the width of Thornham Lane from Rochdale Road to the site.
- The access into the school is through a 3.00m wide gate.
- A car parking area is present adjacent to Thornham Lane. No evidence of spills / leakages of fuels identified.
- There were 3 boilers present in the building. Both ground floor boilers were on the northern side of the building. No fuel tanks were identified at the site.
- No evidence of significant contamination identified at the site.

The surrounding area comprises fields to the north, south (beyond Thornham Lane) and west. Thornham House is located to the east and an old outbuilding associated with Thornham House.

Hand dug pits were carried out in 2no. locations and are summarised in Table 4-1.

HD101	HD102
0.00-0.10m– TOPSOIL (Dark brown gravelly sandy silt with frequent rootlets).	0.00-0.20m– TOPSOIL (Dark brown gravelly sandy silt with frequent rootlets).
0.10-0.40m – Light orangish brown gravelly SAND.	0.20-0.40m – Light orangish brown gravelly SAND.

Table 4-1: Hand dug pit logs.

Site photographs are provided in Table 4-2.

	
Photograph 1: View of access lane to site (Thornham Lane) and school car park.	Photograph 2: School building adjacent to Thornham Lane.
	
Photograph 3: View of extension to the west and climbing frame area.	Photograph 4: View of MUGA to the west of the school building.
	
Photograph 5: View of school field in the centre and west of site.	Photograph 6: View of reception area in the north-east of site.

Table 4-2: Site photographs.

Site features are also shown on Plate 4-1.



Plate 4-1: Plan showing relevant site features.

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 LCRM³, 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 school outbuildings, construction of extensions, former field boundary)	Assuming predominantly reworked natural soils with possible demolition rubble, ash and clinker: asbestos, heavy metals, sulphates, PAHs ⁴ . Not expected to be a significant source of gas given anticipated depth and nature of made ground (no deep / organic / putrescible made ground identified in site investigation undertaken by LKC in 2020).
School, associated grounds and car park	Assuming a boiler house has been present: petroleum hydrocarbons (fuel / oils) and heavy metals, sulphates, PAHs ⁵ (waste ash and clinker). Tank identified on 1978 mapping, contents of tank unknown. No evidence of tank on later mapping and during the site reconnaissance. No evidence of hydrocarbon contamination during the site investigation undertaken by LKC in 2020. No significant hydrocarbon contamination source anticipated. Current school buildings: no significant contamination source identified. No spillages / leakages of fuels identified on current school car park: no significant source of contamination anticipated.
Surrounding Area	
Surrounding area	No significant contamination sources identified.
Landfills / offsite potentially infilled features within 250m	No landfills identified and 1no. potentially infilled pond identified. Given size, distance and age of feature, there is not considered to be a source of hazardous gas (principally carbon dioxide and methane).

Table 5-1: Potential contamination sources.

Potential Source	Contaminants
Underlying Geology	
Pennine Lower Coal Measures	Ground Gas (principally carbon dioxide and methane) ⁶ . No shallow coal workings anticipated below the site, no significant source of ground gas.
Superficial	Glaciofluvial Ice Contact Deposits, Devensian (Sand and Gravel). No significant contamination source identified.
Radon Affected Area	<1% of homes above Action Level. No protective measures are necessary in the construction of new dwellings or extensions. No further consideration required.

Table 5-2 (continued): Potential contamination sources.

5.3. Potential Receptors

Potential receptors are detailed in Table 5-2.

Receptors	
Human health	Future site users (including students, visitors, and site workers).
Controlled waters	Secondary A superficial aquifer. Secondary A bedrock aquifer. Pond 63m southeast not considered to be a significant receptor due to distance from site.
Buildings.	
Potable water pipes.	

Table 5-3: Potential receptors.

5.4. Potential Pathways

Potential pathways are detailed in Table 5-3.

Pathways		
Soil	Human Health (east of site - primary school extension-no direct contact or home produce pathways)	Inhalation of vapours outside. Inhalation of vapours inside. Omitted: windblown dust / fibres, ingestion of soil. ingestion of soil-derived indoor dust, ingestion of contaminated home-grown produce, ingestion of soil attached to home-grown produce, dermal contact with soil, dermal contact with soil-derived indoor dust, inhalation of soil-derived outdoor dust, inhalation of soil-derived indoor dust.
Soil	Human health ⁷ (west of site – school fields - residential land use without plant uptake used as a conservative measure at this stage due to nature of development)	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. Windblown dust and fibres to adjacent receptors. Direct contact with receptors (services). Inhalation of vapours outside. Inhalation of vapours inside. Omitted: ingestion of contaminated home-grown produce, ingestion of soil attached to home-grown produce.

Table 5-4: Potential pathways.

Pathways	
Groundwater	Infiltration into the ground, through potentially contaminated material (contamination possibly going into solution).
Groundwater and gas	Migration through potentially permeable strata and preferential pathways. Superficial (sand and gravel) is likely to be relatively 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 5-5 (continued): Potential pathways.

5.5. Preliminary Contamination Conceptual Model

The Preliminary Contamination Conceptual Model is illustrated in Table 5-4.

Generic potential pollutant linkages are described along with an assessment of the risk based upon guidance on probabilities and consequences outlined in CIRIA C552⁸.

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 E.

The probability is based on the site history, site reconnaissance, environmental setting, pathways, and receptors.

Reasonable worst-case consequence has been assumed at this stage.

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 further work will be required.

Where LKC identifies a moderate or higher risk, intrusive investigation work or precautionary remediation is recommended.

Recommendations are discussed further in Section 7.

Due to the minor consequence associated with the phytotoxic effect to flora (i.e., loss of plants in a landscaping scheme), the overall risk for the majority of sites will be very low to low. Where soils contain significant concentrations of heavy metals, in general there will other pollutant linkages (i.e., the risk to human health) that will trigger the requirement for remediation (e.g., a clean environmental cover system). As such the risk to flora associated with phytotoxic contaminants will not be considered further.

The risk to buildings associated with elevated sulphate will be considered as part of the geotechnical assessment and will not be included in the contamination risk assessment.

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 guidance⁹) should be adopted by all workers involved with site enabling and construction works. Therefore, this receptor is not considered in the contamination conceptual model.

PL	Contaminants of Concern (source)	Pathway	Receptor	Probability	Consequence	Risk
1	ACM, heavy metals, PAHs (made ground, school)	West of site – school playing fields: Dermal contact. Inhalation of soil, fibres, and dust. Ingestion of soils, dust. Windblown dust.	Future site users. Offsite receptors.	Unlikely	Medium	Low
		No viable pathways in east of site for school extension (dermal contact, inhalation, ingestion).	-	-	-	-
2	Naphthalene (made ground, school)	Inhalation of vapours. Migration via permeable strata and preferential pathways.	Future site users. Offsite receptors.	Unlikely	Medium	Low
3	Hazardous / ground gas: methane, carbon dioxide (no significant source identified)	Migration via permeable strata and preferential pathways. Inhalation of gas. Explosion in confined spaces.	Future site users. Buildings.	Unlikely	Severe	Moderate / Low
4	Heavy metals, PAHs (made ground, school)	Surface run-off. Migration via permeable strata and preferential pathways. Perched waters migration.	Groundwater	Unlikely	Medium	Low
5	Naphthalene (made ground)	Ingestion of tainted water supply.	Future site users. Water pipes.	Unlikely	Medium	Low

Table 5-6: Preliminary Contamination Conceptual Model.

Notes: PL = Pollutant Linkage. Contaminant of Concern (CoC) - See Table 5-1 for contamination sources. See Section 7 for recommendations.

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	Development High Risk Area due to “outcrop” indicated on site. The existing Coal Mining Risk Assessment concludes that the Coal Authority’s positioning of the Arley coal seam is incorrect and that with 80m of drift cover that “no remedial measures are required for the proposed development”.
Slope Stability	No significant slopes identified on site. No further assessment required.
Envirocheck Ground Stability Hazards	No to very 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.
Superficial	Unknown strength of soils for foundation design. Clay and sand anticipated below the site.
Bedrock	Shallow bedrock not anticipated.
Groundwater	Unknown depth and variability of groundwater.
Plasticity	Plasticity of clay deposits, if present, should be confirmed, particularly where trees are present or proposed, to identify the shrink / swell risk.
Sulphate	Unknown sulphate content of the made ground and natural.
Road / Pavement Design	Unknown CBR values for footpath and road design.

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 & Pertinent Features	Primary school with associated playground areas, soft landscaping, car parking spaces, an astroturf football pitch and a grass sports pitch.
Proposed Development	Two-storey extension to existing school, hardstood playground to the west of the extension and alternations to the existing grass sports pitch and infrastructure.
Main Historical Features	Onsite: St Johns primary school, undeveloped and, field boundary. Surrounding Area: pond.
Geology / Hydrogeology	Artificial: No BGS recorded artificial. Superficial: Glaciofluvial Ice Contact deposits (sand and gravel), Secondary A Aquifer. Bedrock: Pennine Lower Coal Measures (siltstone, sandstone and mudstone), Secondary A Aquifer.
Site Reconnaissance	Site comprises a primary school building to the east with a grassed area to the west. Access to the site is through the car park to the south of site through a 3m wide gate.
Landfills / Infilled ground	No recorded landfills. 1no. potentially infilled feature identified.

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	Contaminants	Risk
PL1: West of site – school playing fields - contaminants posing a risk to receptors via dermal contact, ingestion and inhalation (of soil, dust, fibres).	ACM, heavy metals, PAHs	Low
PL1: No viable pathways on east of site for school extension.		-
PL2: Volatile contaminants posing a risk to receptors via the inhalation of vapours.	Naphthalene	Low
PL3: Gas posing a risk to buildings and receptors via the migration of gas into building causing explosion and asphyxiation.	Hazardous /ground gas	Moderate / Low
PL4: Mobile contamination posing a risk to controlled waters via the migration through permeable strata.	PAHs, heavy metals	Low
PL5: Organic contaminants posing a risk to receptors.	Naphthalene	Low

Table 7-2: Summary risk table.

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

Coal Mining	No recorded mining on site although Coal Authority note the site is in a development high risk area associated with an outcrop of the Arley coal seam. The Coal Mining Risk Assessment (by others) indicates Coal Authority's positioning of the Arley coal seam is incorrect and that with 80m of drift cover that "no remedial measures are required for the proposed development".
Made Ground	Unknown depth and constituent of made ground across the site. Initial information indicates relatively shallow made ground.
Superficial	Unknown strength of soils for foundation design.
Groundwater	Unknown depth and variability of groundwater.
Plasticity	Plasticity of clay deposits, if present, should be confirmed.
Sulphate	Unknown sulphate content of the made ground and natural.
Road / Pavement Design	Unknown CBR values for footpath and road design should be calculated.

Table 7-3: Summary of geotechnical constraints.

Based upon the available information, LKC conclude there is a limited contamination risk and a viable geotechnical risk and therefore further assessment is recommended.

7.2. Recommendations

The recommendations are split into Table 7-4 and Table 7-5 based on the proposed development. A school extension with no soft landscaping (no direct contact pathway) is proposed in the east of site and recommendations are provided in Table 7-4. Development to the existing school fields in the west of site is proposed and recommendations are provided in Table 7-5.

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	Phase 2 investigation recommended to include limited contamination testing (for off-site disposal purposes). Phase 2 investigation to be carried out in line with current guidance, including BS10175 ¹⁰ , BS5930 ¹¹ CIRIA C665 ¹² , RB17 ¹³ and BS8485 ¹⁴ . 'Exploratory investigation': 1 sample per 25-50m square centres. Or 'detailed investigation': 1 sample per 10-25m square centres. Plus, targeted investigation locations in areas of concern (contamination and geotechnical). To be agreed with the local authority.
Local Authority Approval	Conditional planning approval is likely to require an agreed detailed scope of work.
Type of Investigation Work	Boreholes.
PL 2, 5	Intrusive investigation work recommended to confirm ground conditions across the site. Limited testing of contaminants of concern based on preliminary conceptual model and field observations (PID tests and visual / olfactory evidence).
PL 1, 3, 4	No further assessment required.
Reporting	Information from the above can be used to carry out a contamination and geotechnical assessment and provide a remediation strategy for the site.

Table 7-4: Recommendations (east of site – school extension).

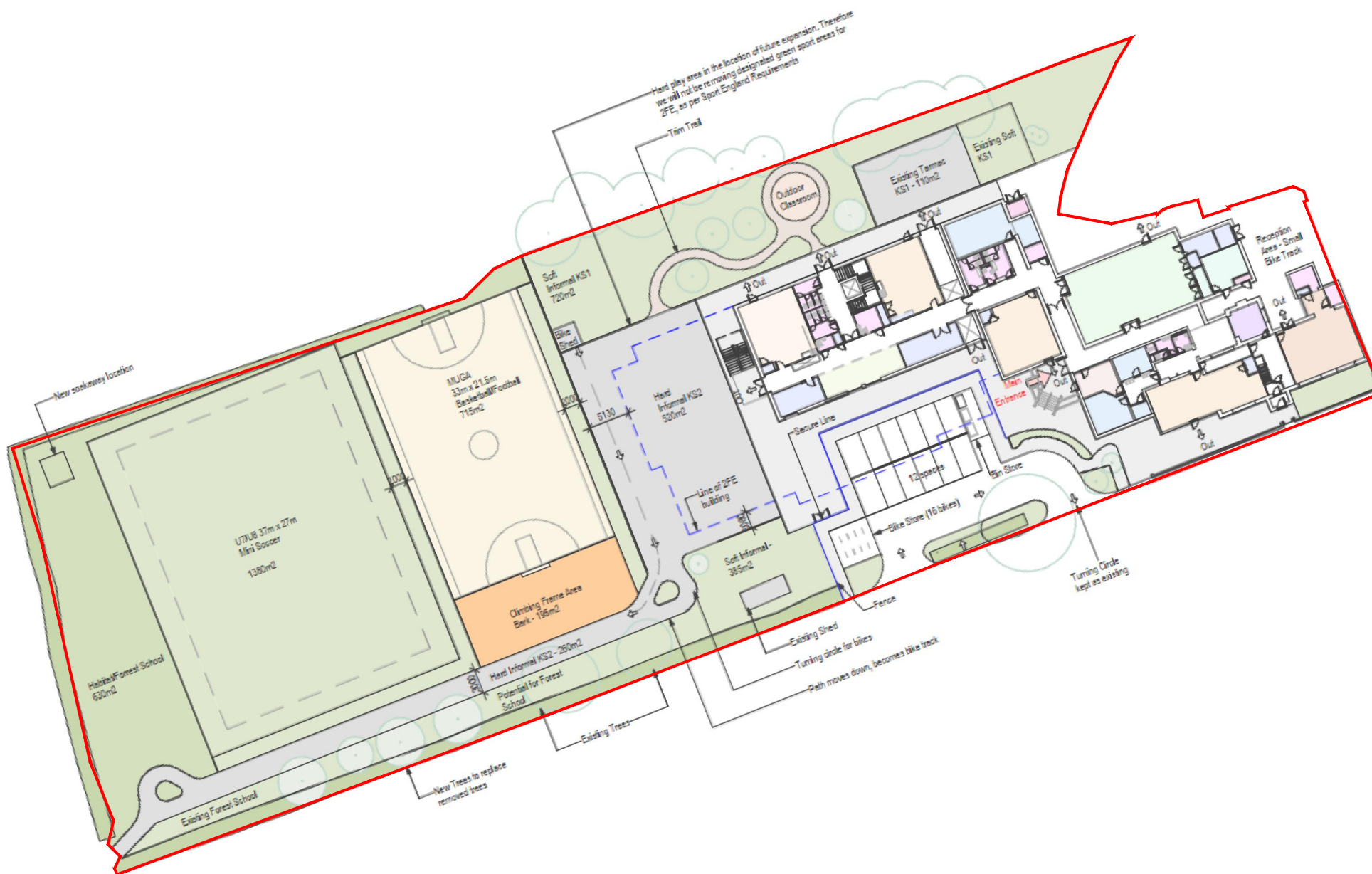
Further Assessment Recommendations	Watching brief during construction work (groundworks).
Local Authority Approval	Conditional planning approval is likely to require an agreed detailed scope of work.
Type of Investigation Work	As only low risks identified, watching brief recommended. Environmental consultant to be consulted if any unexpected contamination identified during groundworks. Further assessment may be required.
Importation of Soils	Any topsoil or subsoil brought on to the site for use in gardens / soft landscaping should be suitably chemically validated prior to its use on site, according to Local Authority guidance.
Unexpected Contamination	If unexpected contamination is identified during groundworks, further assessment will be required.

Table 7-5: Recommendations (west of site – school fields).

Figures



Client: Cranmer Education Trust				Title: Site Location & Boundary Plan			
Site: St Johns Primary School, Middleton				Scale (see scale bar): 1:25,000 & 1:1,250 @ A4			
Job No.: LKC 24 1098	Drawn By: CK	Checked By: EM	Drawn: Feb 2024	Figure: 1	Revision:		



0 30

SCALE (Metres)

	Site Boundary
	Grass
	Habitat
	MUGA
	Bark
	Tarmac
	Pathways
	New Tree
	Existing Tree

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.



Site: St Johns Primary School,
Middleton

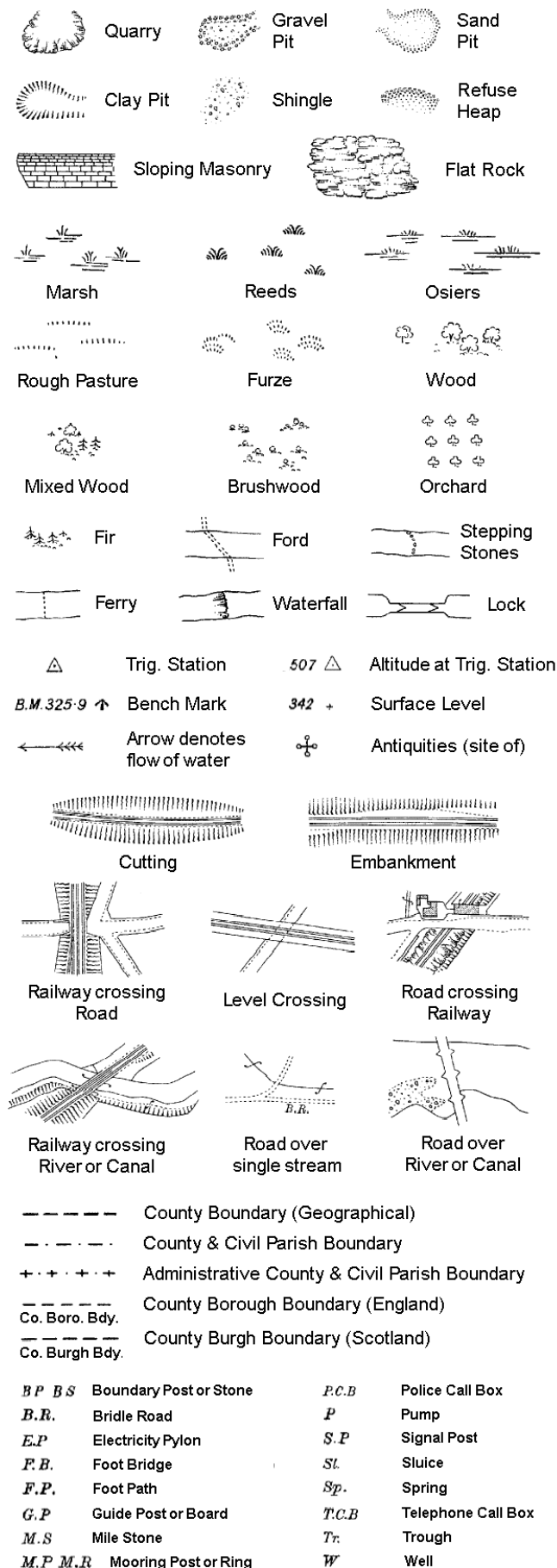
Title: **Proposed Development Plan**

Job No.: LKC 24 1098		Scale (See Scale Bar): See Scale Bar		Figure: 2	Revision:
Drawn By: AC	Checked By: CK	Drawn: Feb 2024			

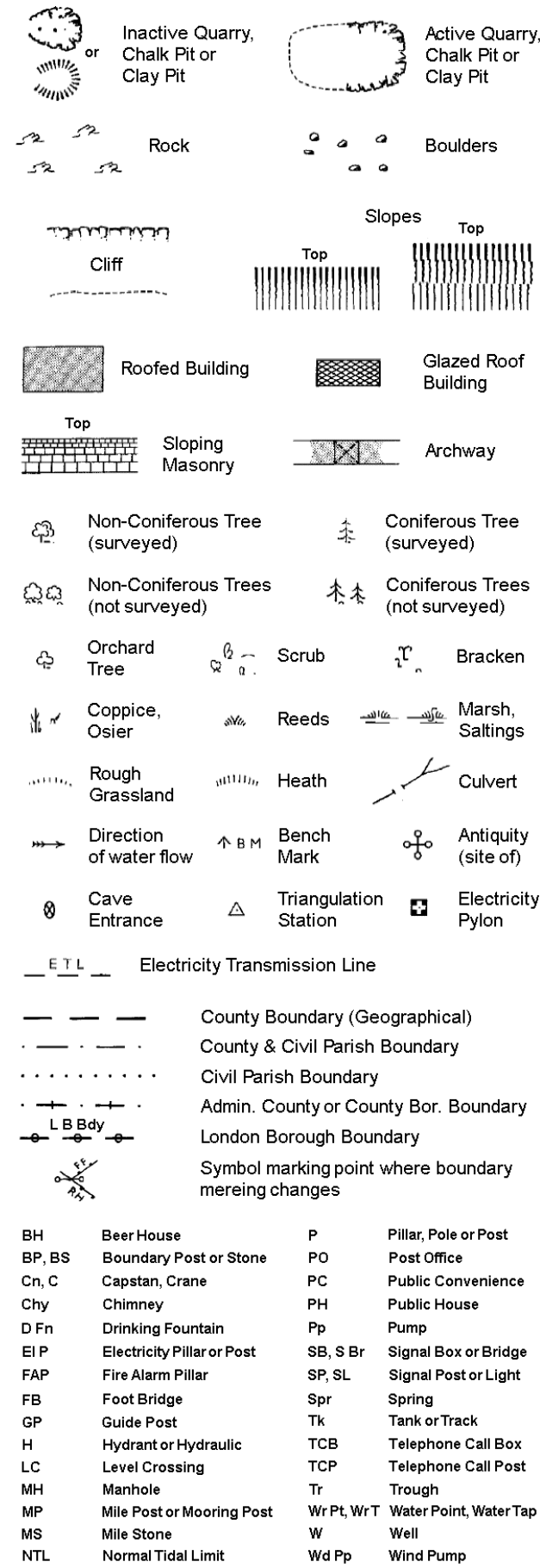
Appendix A – Historical Maps

Historical Mapping Legends

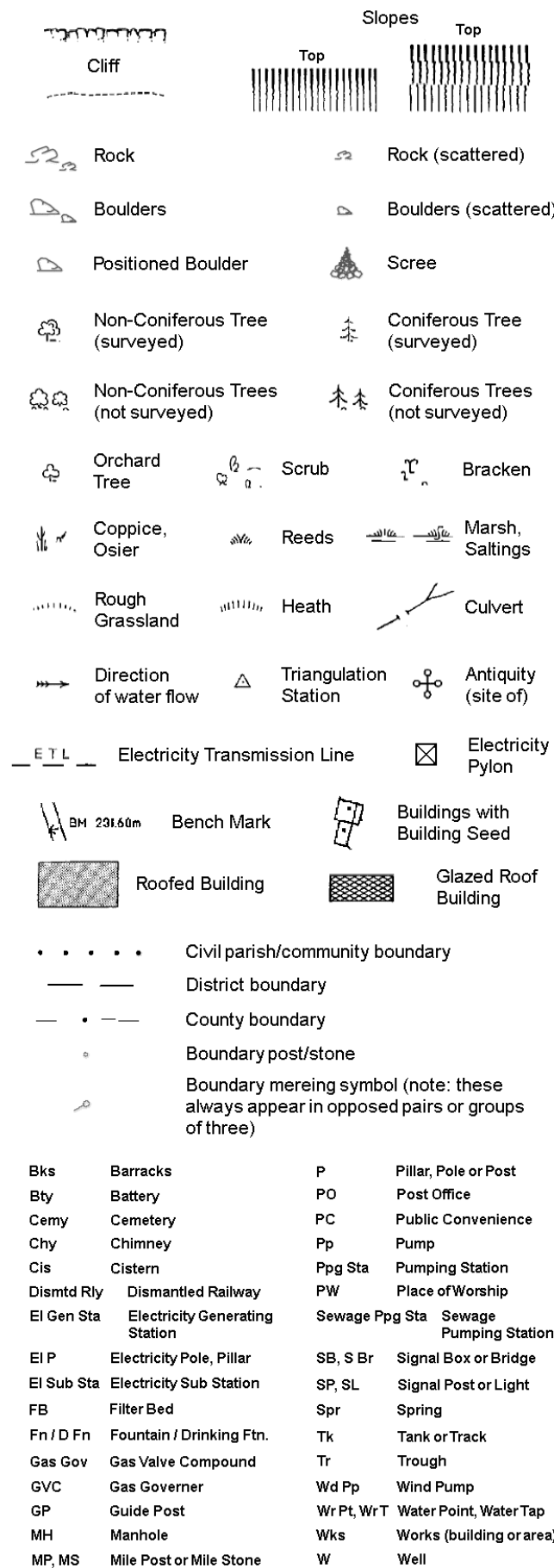
Ordnance Survey County Series and Ordnance Survey Plan 1:2,500



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

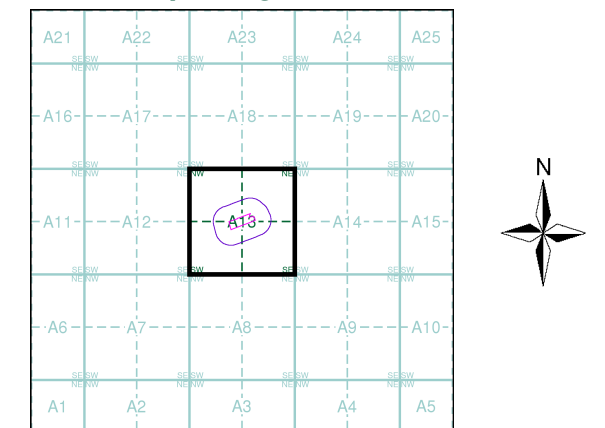


GROUP

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:2,500	1893	2
Lancashire And Furness	1:2,500	1909 - 1910	3
Lancashire And Furness	1:2,500	1929 - 1930	4
Lancashire And Furness	1:2,500	1937 - 1939	5
Ordnance Survey Plan	1:1,250	1954 - 1956	6
Ordnance Survey Plan	1:2,500	1955 - 1956	7
Supply of Unpublished Survey Information	1:1,250	1975 - 1977	8
Ordnance Survey Plan	1:1,250	1978 - 1981	9
Additional SIMs	1:1,250	1978 - 1989	10
Large-Scale National Grid Data	1:1,250	1992	11
Historical Aerial Photography	1:2,500	2000	12

Historical Map - Segment A13



Order Details

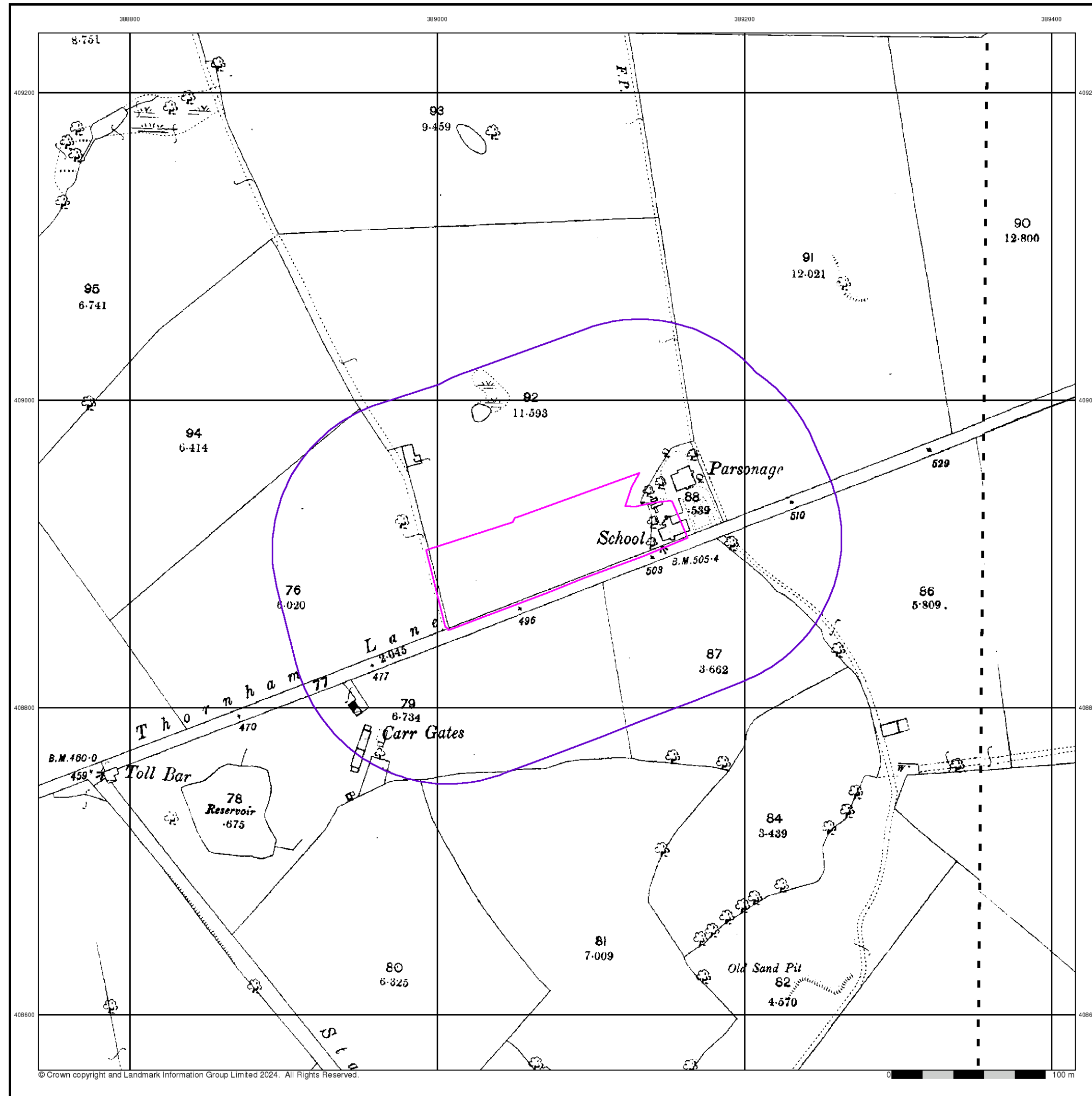
Order Number: 336458044_1_1
Customer Ref: LKC 24 1098
National Grid Reference: 389070, 408900
Slice: A
Site Area (Ha): 0.81
Search Buffer (m): 100

Site Details

St. Johns c of e Thornham School, Thornham Lane, Middleton, Manchester, M24 2SB



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



© Crown copyright and Landmark Information Group Limited 2024. All Rights Reserved.



GROUP

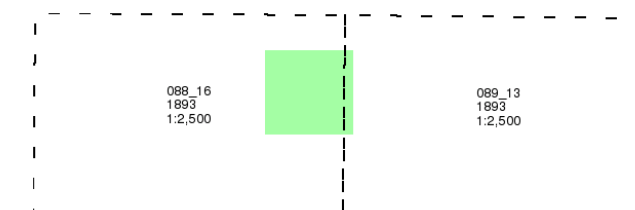
Lancashire And Furness

Published 1893

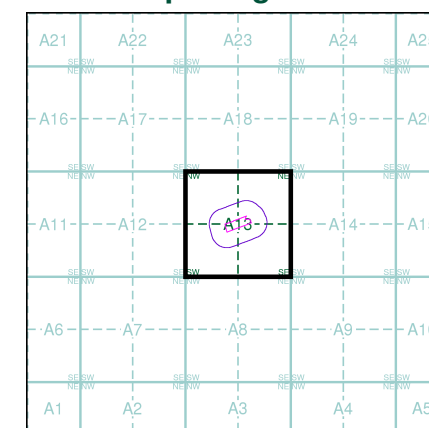
Source map scale - 1:2,500

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

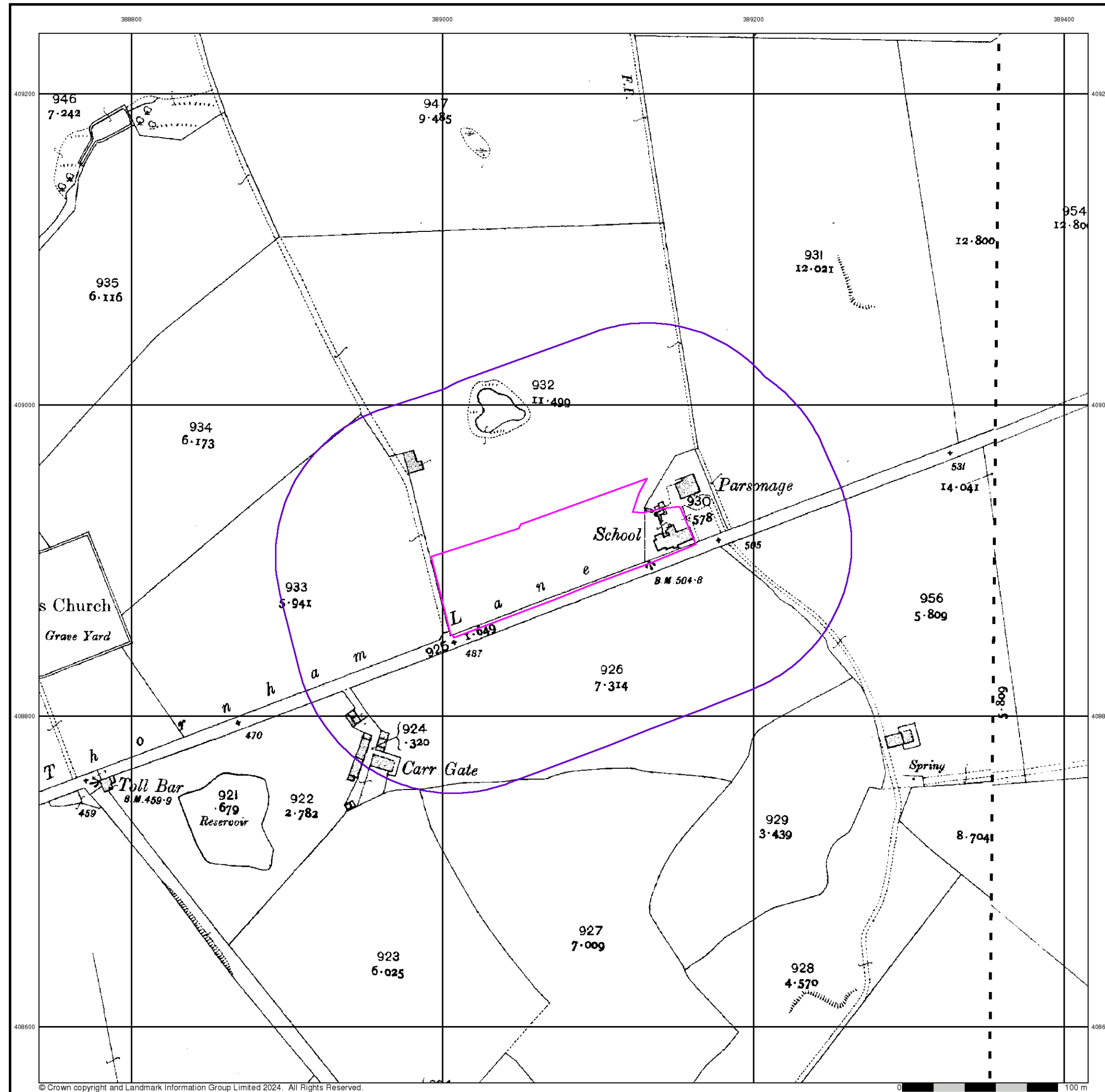
Order Number: 336458044_1_1
Customer Ref: LKC 24 1098
National Grid Reference: 389070, 408900
Slice: A
Site Area (Ha): 0.81
Search Buffer (m): 100

Site Details

St. Johns c of e Thornham School, Thornham Lane, Middleton, Manchester, M24 2SB



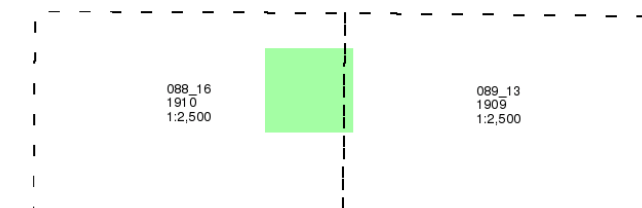
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



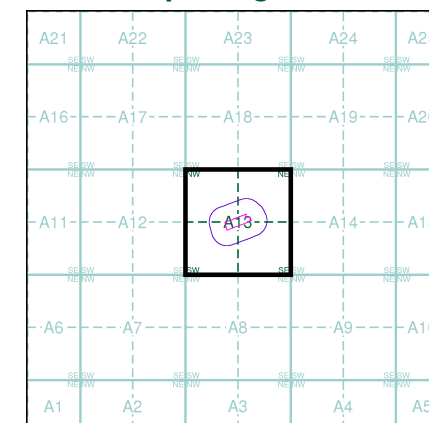
LK
GROUP
Lancashire And Furness
Published 1909 - 1910
Source map scale - 1:2,500

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

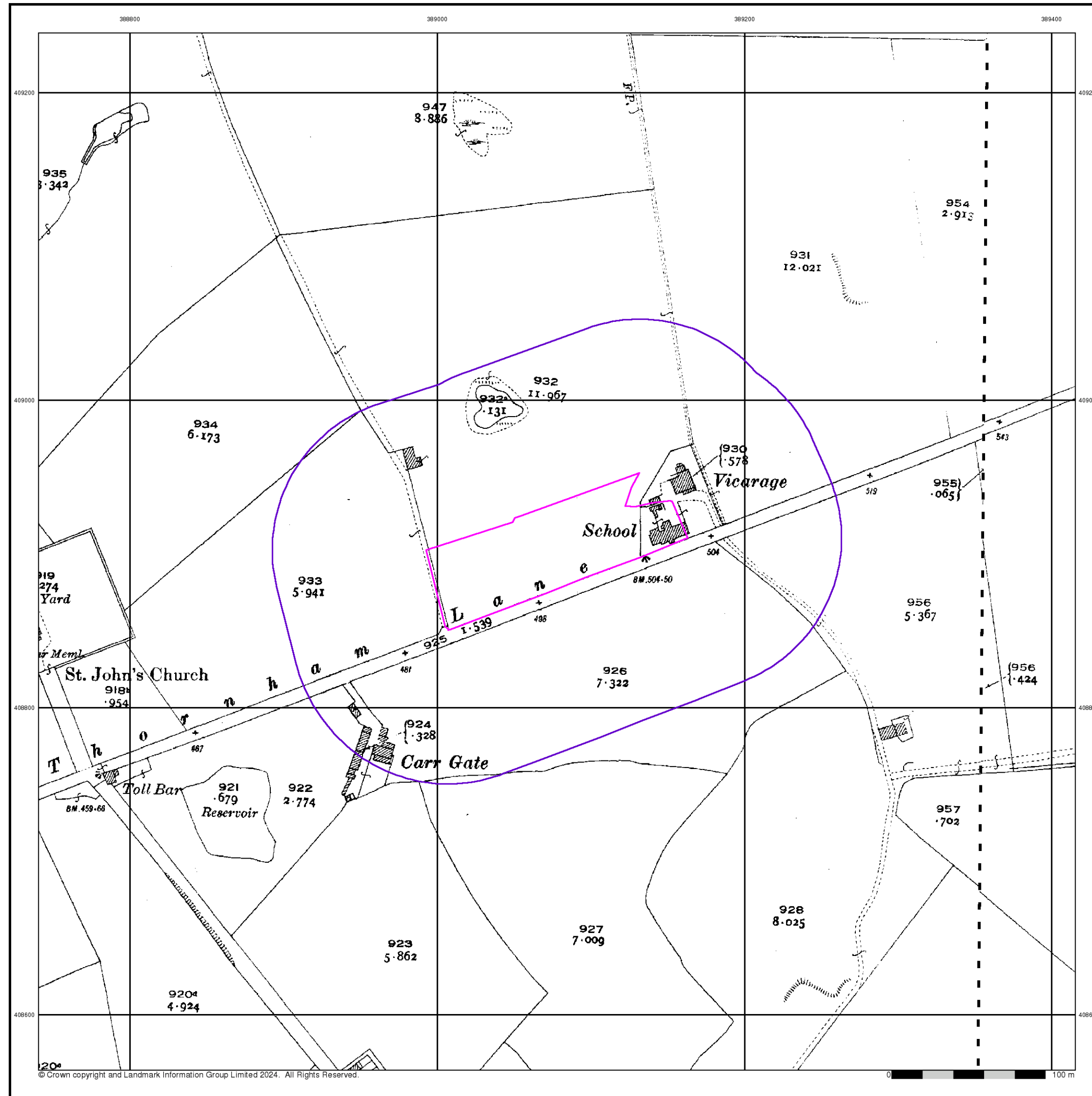
Order Number: 336458044_1_1
Customer Ref: LKC 24 1098
National Grid Reference: 389070, 408900
Slice: A
Site Area (Ha): 0.81
Search Buffer (m): 100

Site Details

St. Johns c of e Thornham School, Thornham Lane, Middleton, Manchester, M24 2SB

Landmark
INFORMATION GROUP

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



© Crown copyright and Landmark Information Group Limited 2024. All Rights Reserved.

0 100 m

LK GROUP

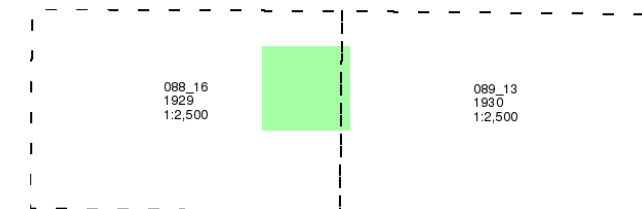
Lancashire And Furness

Published 1929 - 1930

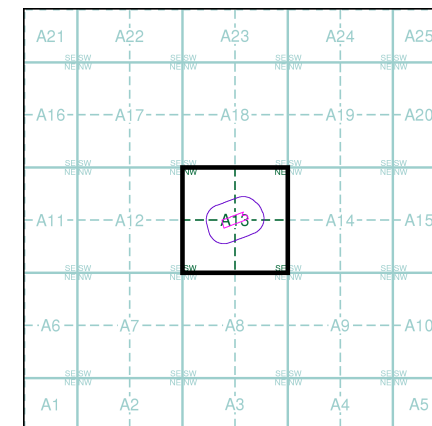
Source map scale - 1:2,500

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

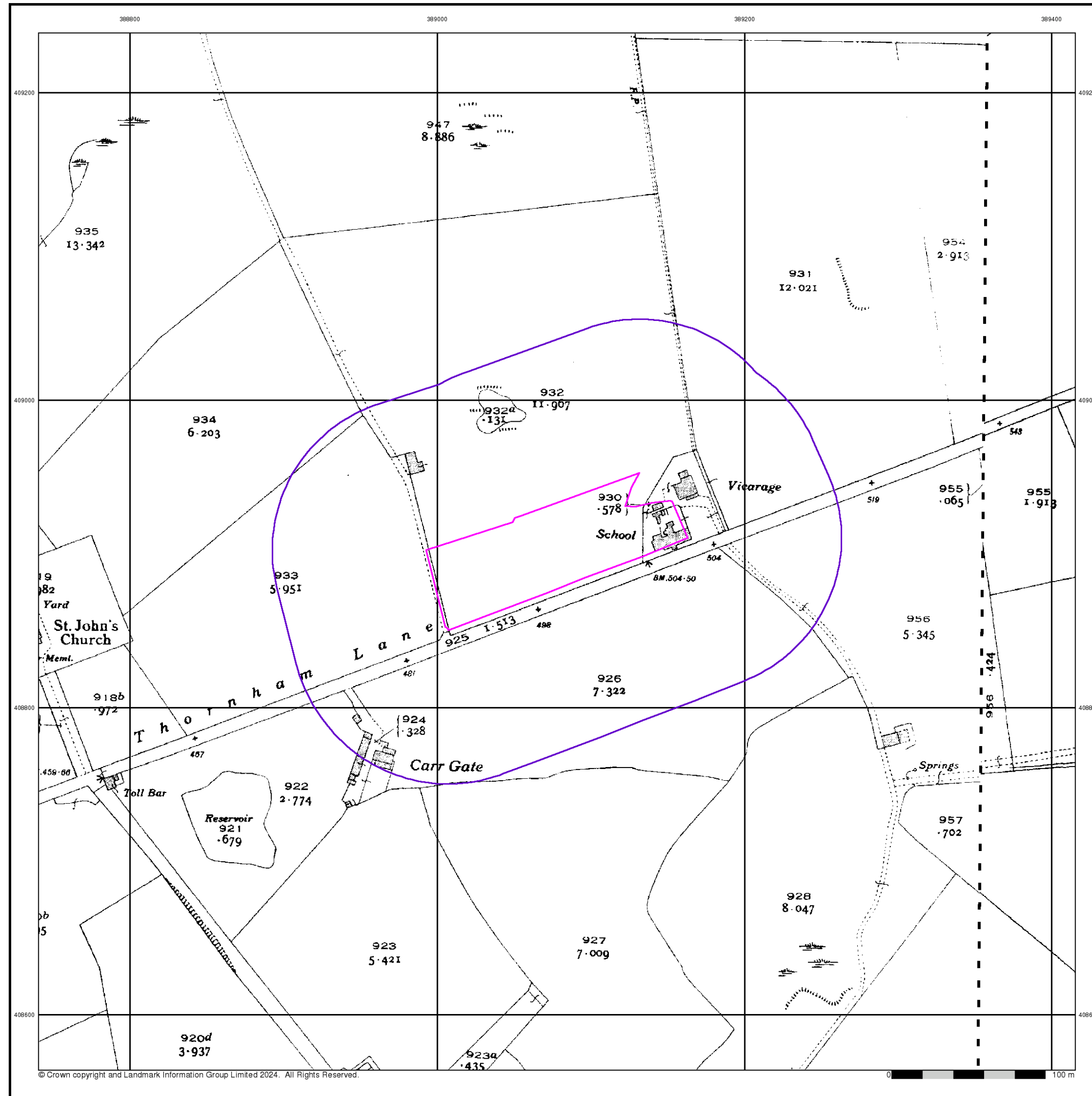
Order Number: 336458044_1_1
Customer Ref: LKC 24 1098
National Grid Reference: 389070, 408900
Slice: A
Site Area (Ha): 0.81
Search Buffer (m): 100

Site Details

St. Johns c of e Thornham School, Thornham Lane, Middleton, Manchester, M24 2SB

Landmark
INFORMATION GROUP

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



© Crown copyright and Landmark Information Group Limited 2024. All Rights Reserved.



GROUP

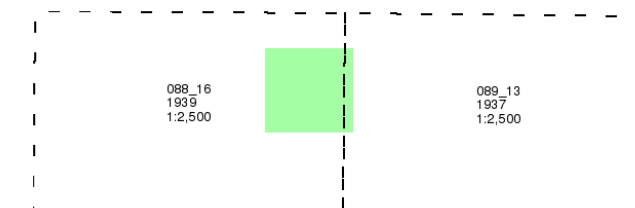
Lancashire And Furness

Published 1937 - 1939

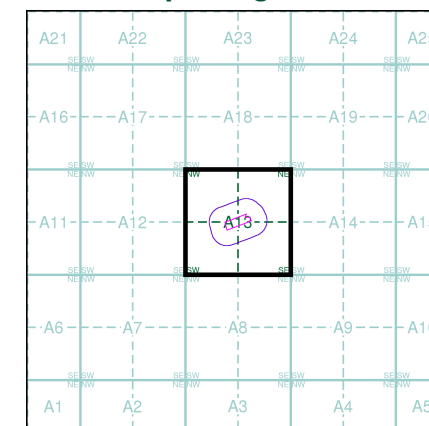
Source map scale - 1:2,500

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

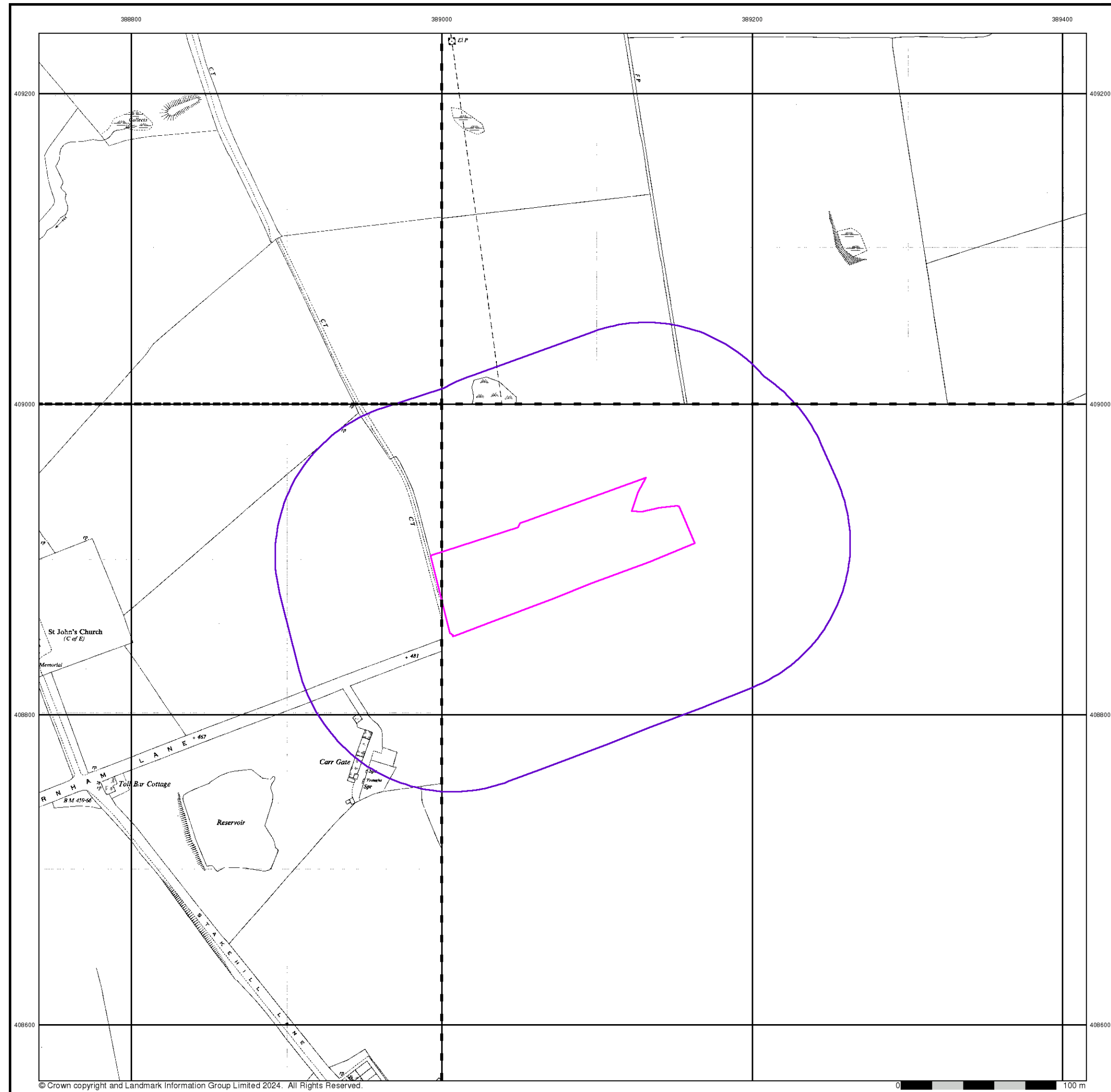
Order Number: 336458044_1_1
Customer Ref: LKC 24 1098
National Grid Reference: 389070, 408900
Slice: A
Site Area (Ha): 0.81
Search Buffer (m): 100

Site Details

St. Johns c of e Thornham School, Thornham Lane, Middleton, Manchester, M24 2SB



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



Ordnance Survey Plan

Published 1954 - 1956

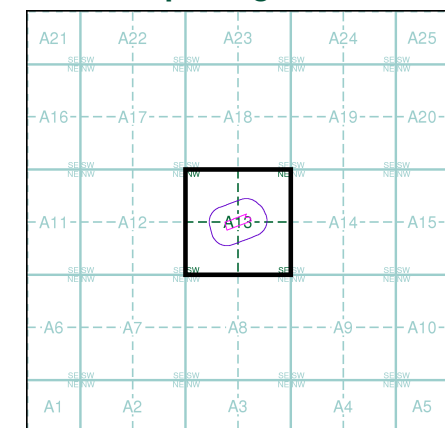
Source map scale - 1:1,250

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)

SD8809SE 1956 1:1,250	SD8909SW 1956 1:1,250
SD8808NE 1954 1:1,250	

Historical Map - Segment A13



Order Details

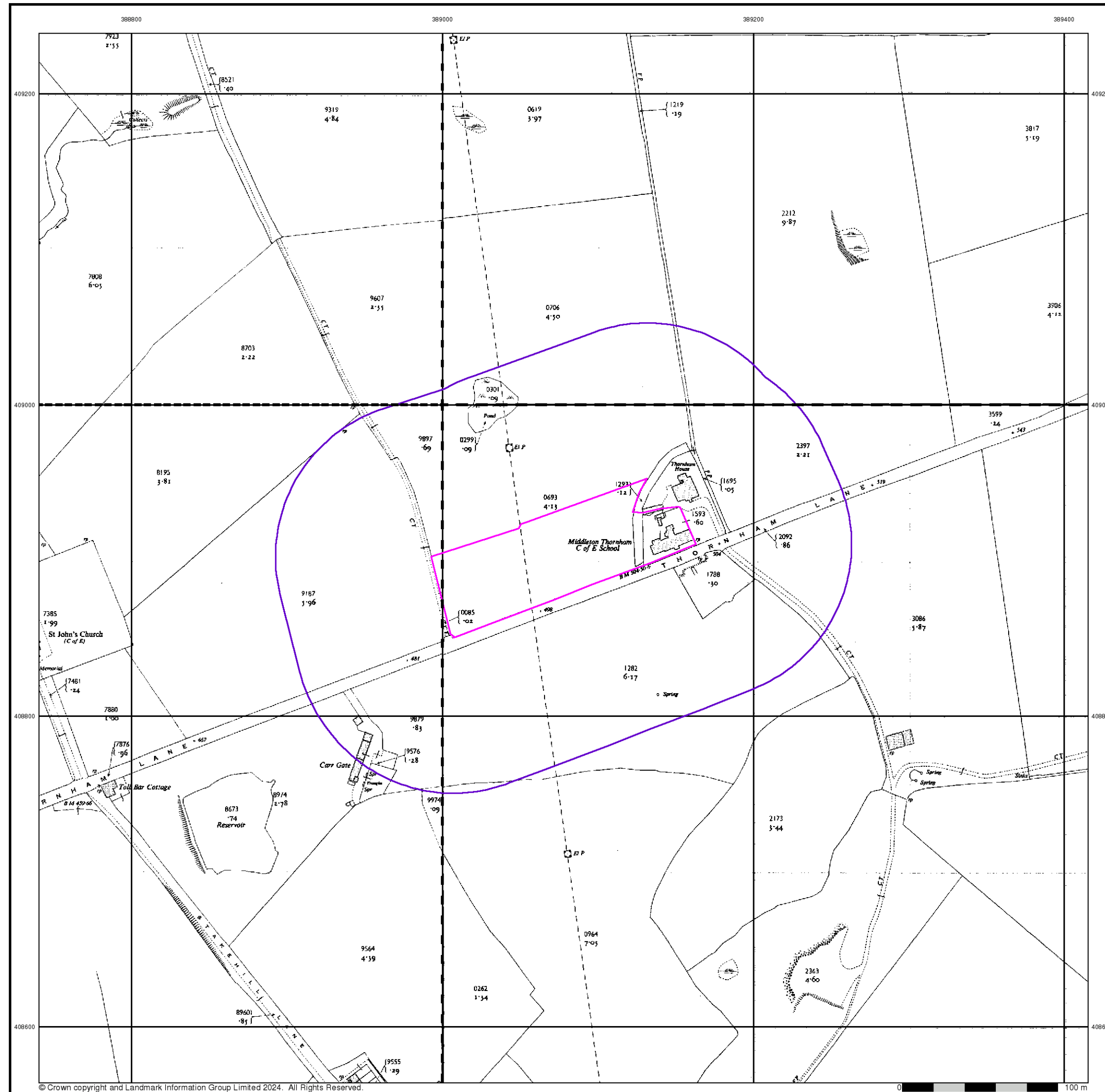
Order Number: 336458044_1_1
Customer Ref: LKC 24 1098
National Grid Reference: 389070, 408900
Slice: A
Site Area (Ha): 0.81
Search Buffer (m): 100

Site Details

St. Johns c of e Thornham School, Thornham Lane, Middleton, Manchester, M24 2SB



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



© Crown copyright and Landmark Information Group Limited 2024. All Rights Reserved.



GROUP

Ordnance Survey Plan

Published 1955 - 1956

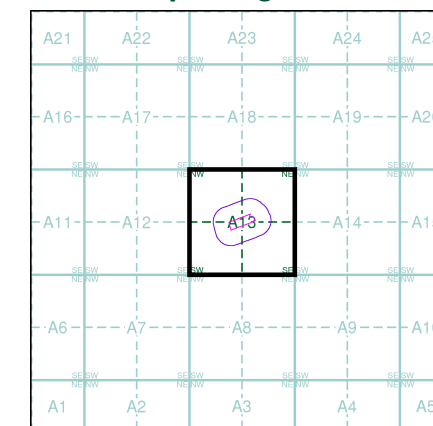
Source map scale - 1:2,500

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)

SD8809 1956 12,500	SD8909 1956 12,500
SD8808 1955 12,500	SD8908 1955 12,500

Historical Map - Segment A13



Order Details

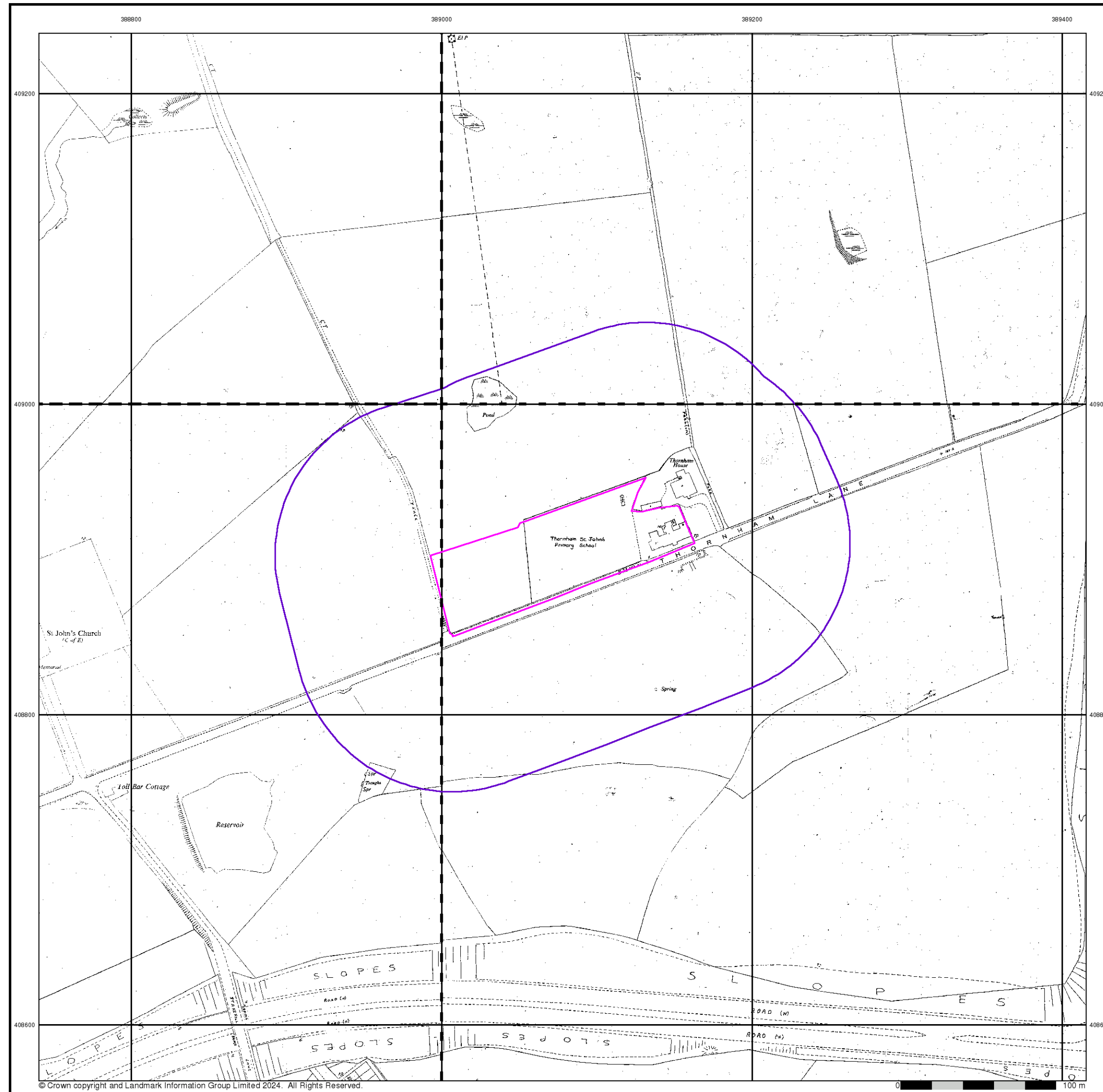
Order Number: 336458044_1_1
Customer Ref: LKC 24 1098
National Grid Reference: 389070, 408900
Slice: A
Site Area (Ha): 0.81
Search Buffer (m): 100

Site Details

St. Johns c of e Thornham School, Thornham Lane, Middleton, Manchester, M24 2SB



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



© Crown copyright and Landmark Information Group Limited 2024. All Rights Reserved.

Supply of Unpublished Survey Information

Published 1975 - 1977

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)

SD8809SE 1975 1:1,250	SD8909SW 1975 1:1,250
SD8808NE 1977 1:1,250	SD8908NW 1976 1:1,250

Historical Map - Segment A13

Order Details

Order Number:	336458044_1_1
Customer Ref:	LKC 24 1098
National Grid Reference:	389070, 408900
Slice:	A
Site Area (Ha):	0.81
Search Buffer (m):	100

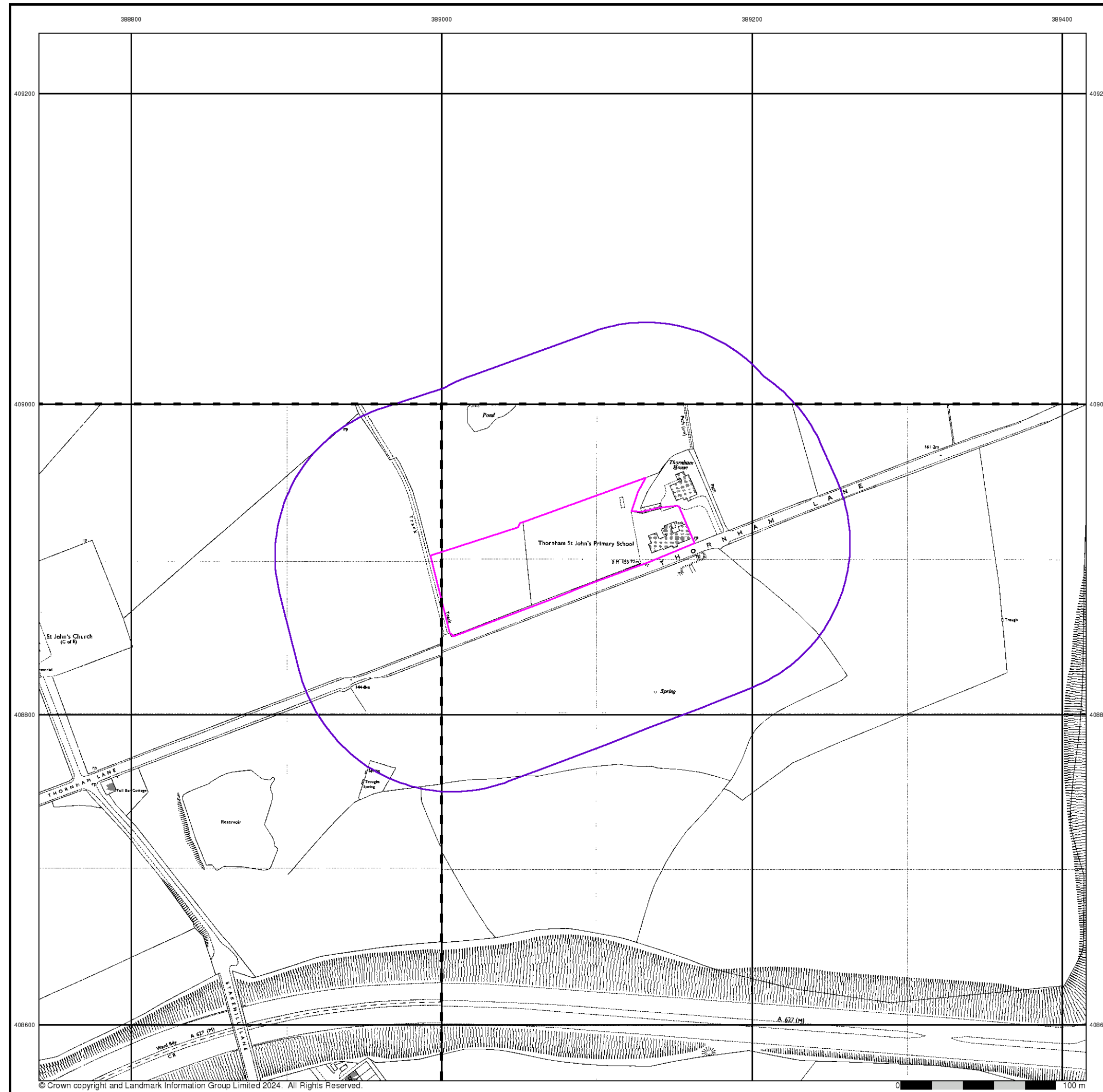
Site Details

St. Johns c of e Thornham School, Thornham Lane, Middleton, Manchester, M24 2SB

INFORMATION GROUP

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

A Landmark Information Group Service v50.0 22-Feb-2024 Page 8 of 12



© Crown copyright and Landmark Information Group Limited 2024. All Rights Reserved.



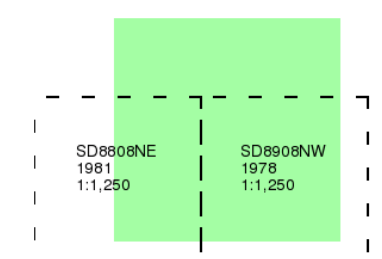
Ordnance Survey Plan

Published 1978 - 1981

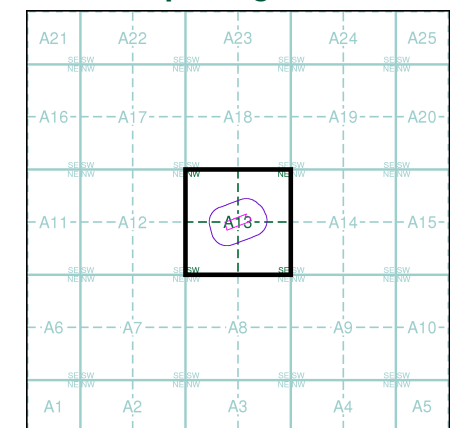
Source map scale - 1:1,250

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)



Historical Map - Segment A13



Order Details

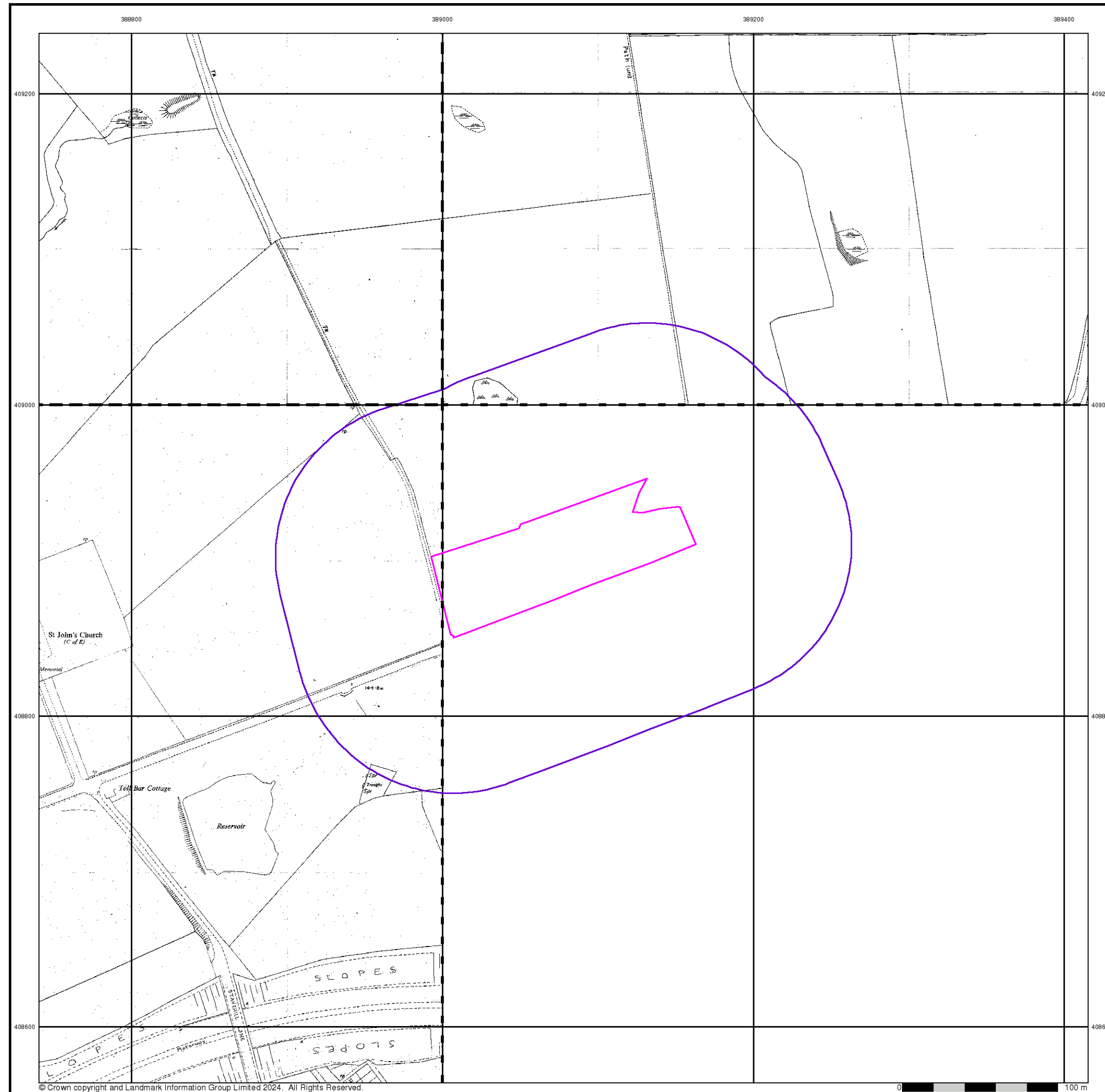
Order Number: 336458044_1_1
Customer Ref: LKC 24 1098
National Grid Reference: 389070, 408900
Slice: A
Site Area (Ha): 0.81
Search Buffer (m): 100

Site Details

St. Johns c of e Thornham School, Thornham Lane, Middleton, Manchester, M24 2SB



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



GROUP

Additional SIMs

Published 1978 - 1989

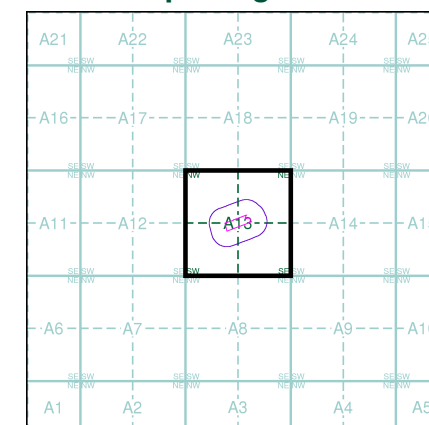
Source map scale - 1:1,250

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)

SD8809SE 1989 1:1,250	SD8909SW 1984 1:1,250
SD8808NE 1978 1:1,250	

Historical Map - Segment A13



Order Details

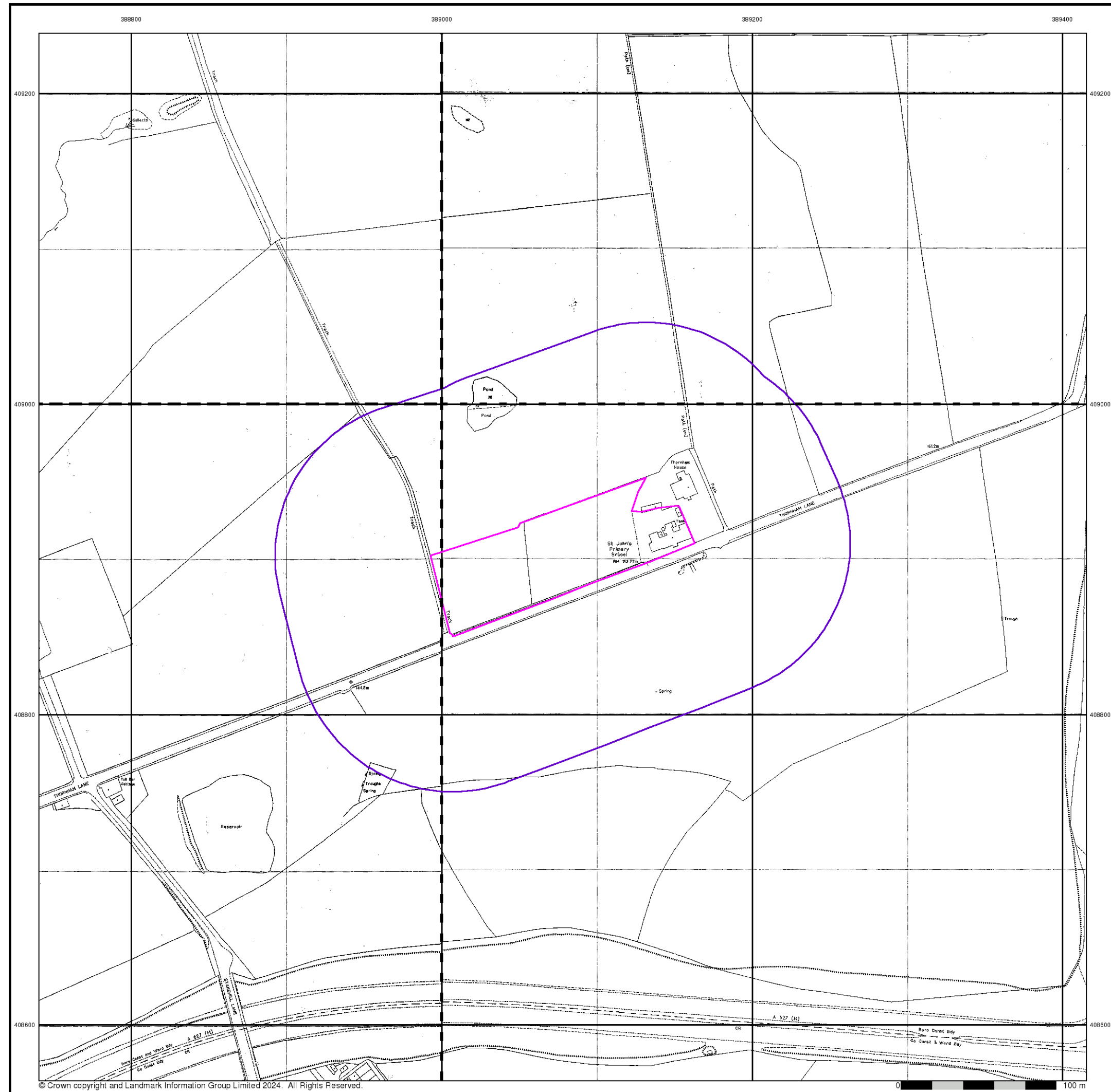
Order Number: 336458044_1_1
Customer Ref: LKC 24 1098
National Grid Reference: 389070, 408900
Slice: A
Site Area (Ha): 0.81
Search Buffer (m): 100

Site Details

St. Johns c of e Thornham School, Thornham Lane, Middleton, Manchester, M24 2SB

Landmark
INFORMATION GROUP

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



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)

SD8809SE 1992 1:1,250	SD8909SW 1992 1:1,250
SD8808NE 1992 1:1,250	SD8908NW 1992 1:1,250

Historical Map - Segment A13

Order Details

Order Number:

336458044_1_1

Customer Ref:

LKC 24 1098

National Grid Reference:

389070, 408900

Slice:

A

Site Area (Ha):

0.81

Search Buffer (m):

100

Site Details

St. Johns c of e Thornham School, Thornham Lane, Middleton, Manchester, M24 2SB

Landmark

INFORMATION GROUP

Tel:

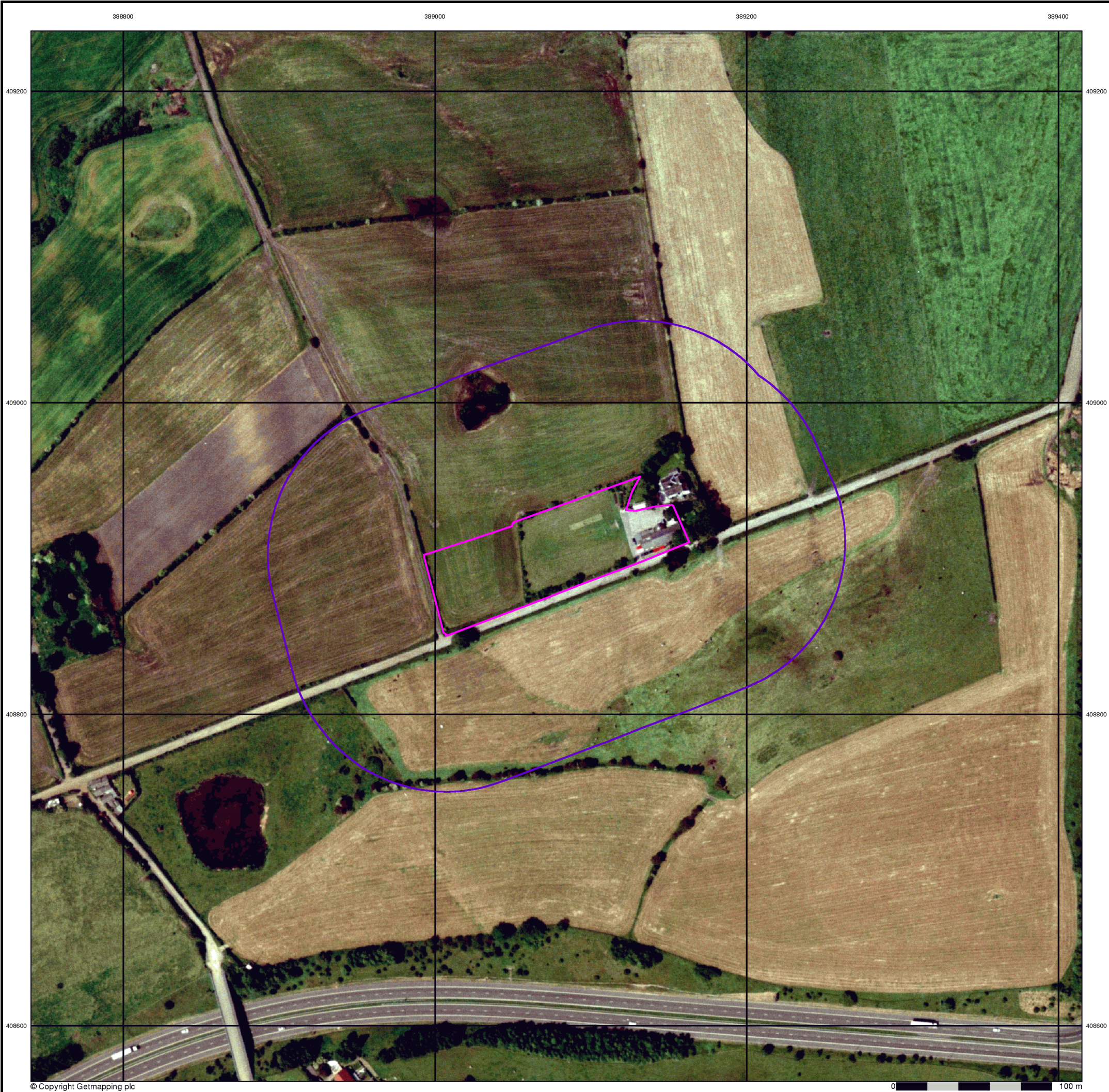
0844 844 9952

Fax:

0844 844 9951

Web:

www.envirocheck.co.uk



© Copyright Getmapping plc

0 100 m



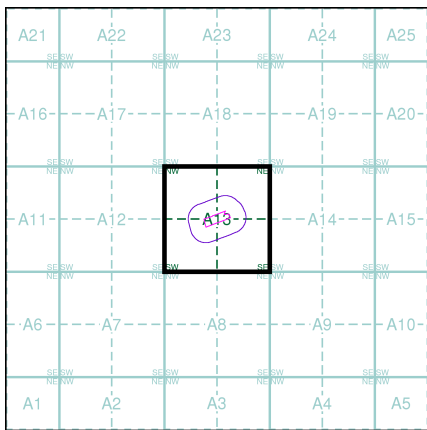
GROUP

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: 336458044_1_1
Customer Ref: LKC 24 1098
National Grid Reference: 389070, 408900
Slice: A
Site Area (Ha): 0.81
Search Buffer (m): 100

Site Details

St. Johns c of e Thornham School, Thornham Lane, Middleton, Manchester, M24 2SB



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

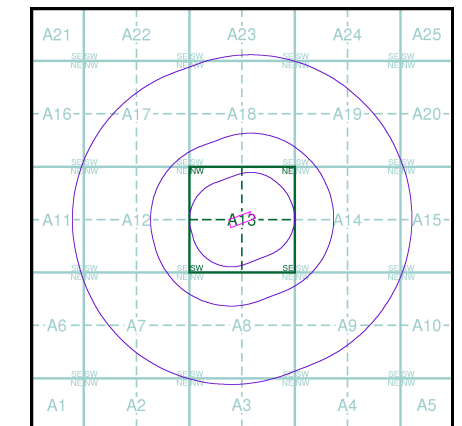


GROUP

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:10,560	1848 - 1851	3
Yorkshire	1:10,560	1854	4
Lancashire And Furness	1:10,560	1894 - 1895	5
Lancashire And Furness	1:10,560	1910	6
Lancashire And Furness	1:10,560	1922 - 1932	7
Lancashire And Furness	1:10,560	1932	8
Lancashire And Furness	1:10,560	1938	9
Ordnance Survey Plan	1:10,000	1956	10
Ordnance Survey Plan	1:10,000	1965 - 1968	11
Ordnance Survey Plan	1:10,000	1975 - 1979	12
Manchester	1:25,000	1975	13
Ordnance Survey Plan	1:10,000	1983 - 1988	14
Ordnance Survey Plan	1:10,000	1990 - 1993	15
10K Raster Mapping	1:10,000	1999	16
10K Raster Mapping	1:10,000	2006	17
VectorMap Local	1:10,000	2023	18

Historical Map - Slice A



Order Details

Order Number: 336458044_1_1
Customer Ref: LKC 24 1098
National Grid Reference: 389070, 408900
Slice: A
Site Area (Ha): 0.81
Search Buffer (m): 1000

Site Details

St. Johns c of e Thornham School, Thornham Lane, Middleton, Manchester, M24 2SB



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 Dismantled Railroad Railroad Under Construction

Shore Embankment River or Ditch with Embankment Direction and velocity of current 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

SD80_Manchester

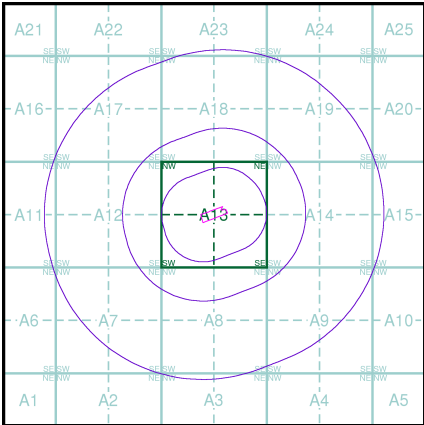
No.	Description
223	Factory (Bleach)



Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:10,560	1848 - 1851	3
Yorkshire	1:10,560	1854	4
Lancashire And Furness	1:10,560	1894 - 1895	5
Lancashire And Furness	1:10,560	1910	6
Lancashire And Furness	1:10,560	1922 - 1932	7
Lancashire And Furness	1:10,560	1932	8
Lancashire And Furness	1:10,560	1938	9
Ordnance Survey Plan	1:10,000	1956	10
Ordnance Survey Plan	1:10,000	1965 - 1968	11
Ordnance Survey Plan	1:10,000	1975 - 1979	12
Manchester	1:25,000	1975	13
Ordnance Survey Plan	1:10,000	1983 - 1988	14
Ordnance Survey Plan	1:10,000	1990 - 1993	15
10K Raster Mapping	1:10,000	1999	16
10K Raster Mapping	1:10,000	2006	17
VectorMap Local	1:10,000	2023	18

Russian Map - Slice A



Order Details

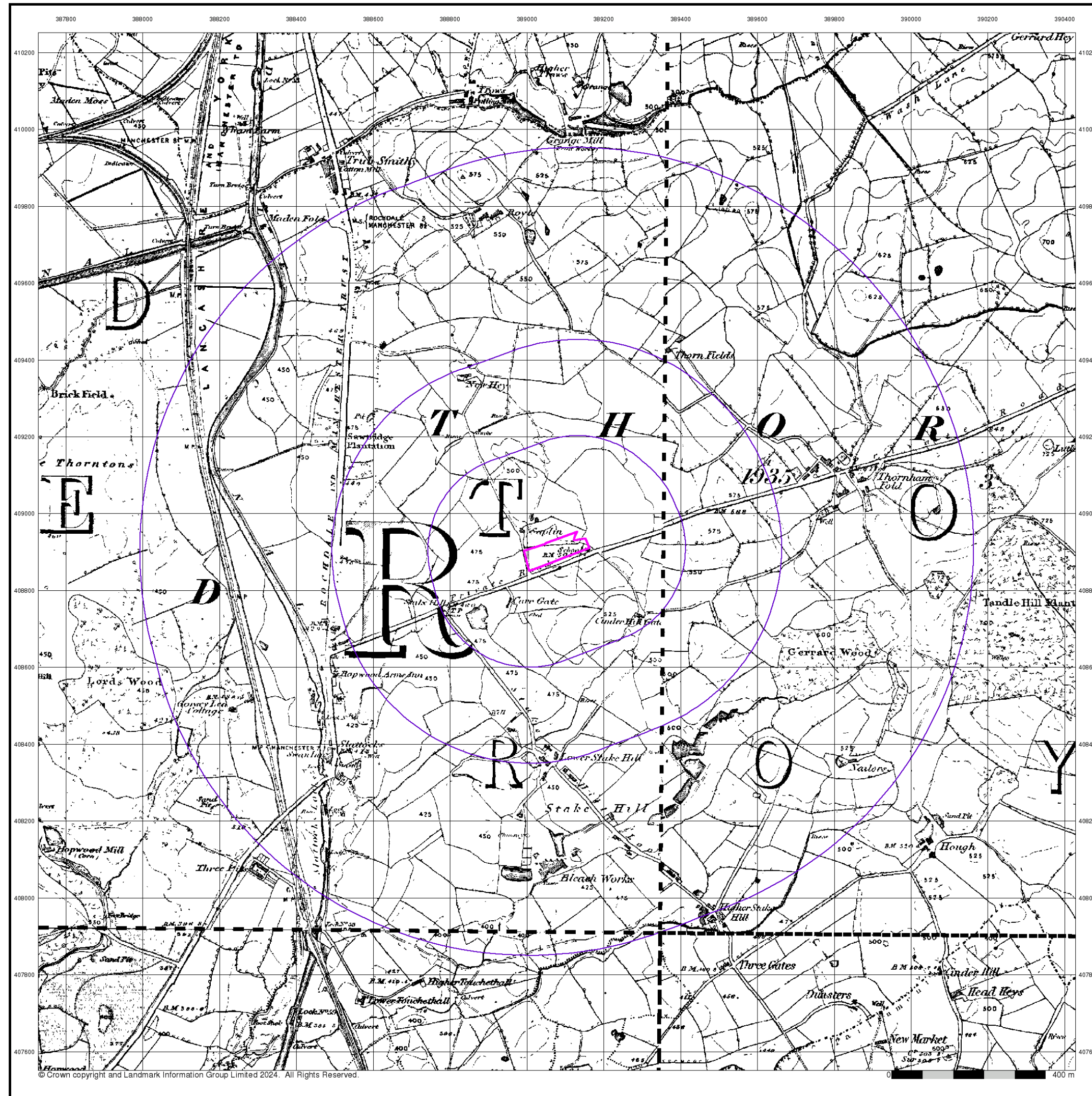
Order Number: 336458044_1_1
Customer Ref: LKC 24 1098
National Grid Reference: 389070, 408900
Slice: A
Site Area (Ha): 0.81
Search Buffer (m): 1000

Site Details

St. Johns c of e Thornham School, Thornham Lane, Middleton, Manchester, M24 2SB



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



© Crown copyright and Landmark Information Group Limited 2024. All Rights Reserved.

LK GROUP

Lancashire And Furness

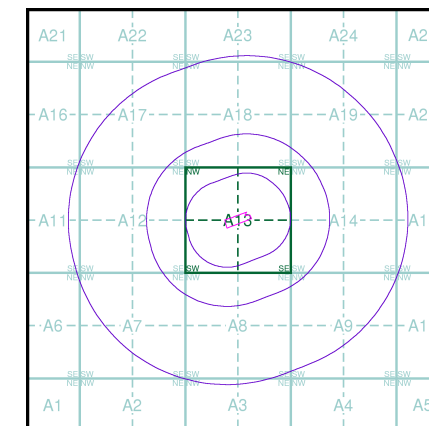
Published 1848 - 1851
Source map scale - 1:10,560

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)

08800 1851 1:10,560	08900 1851 1:10,560
09600 1848 1:10,560	09700 1848 1:10,560

Historical Map - Slice A



Order Details

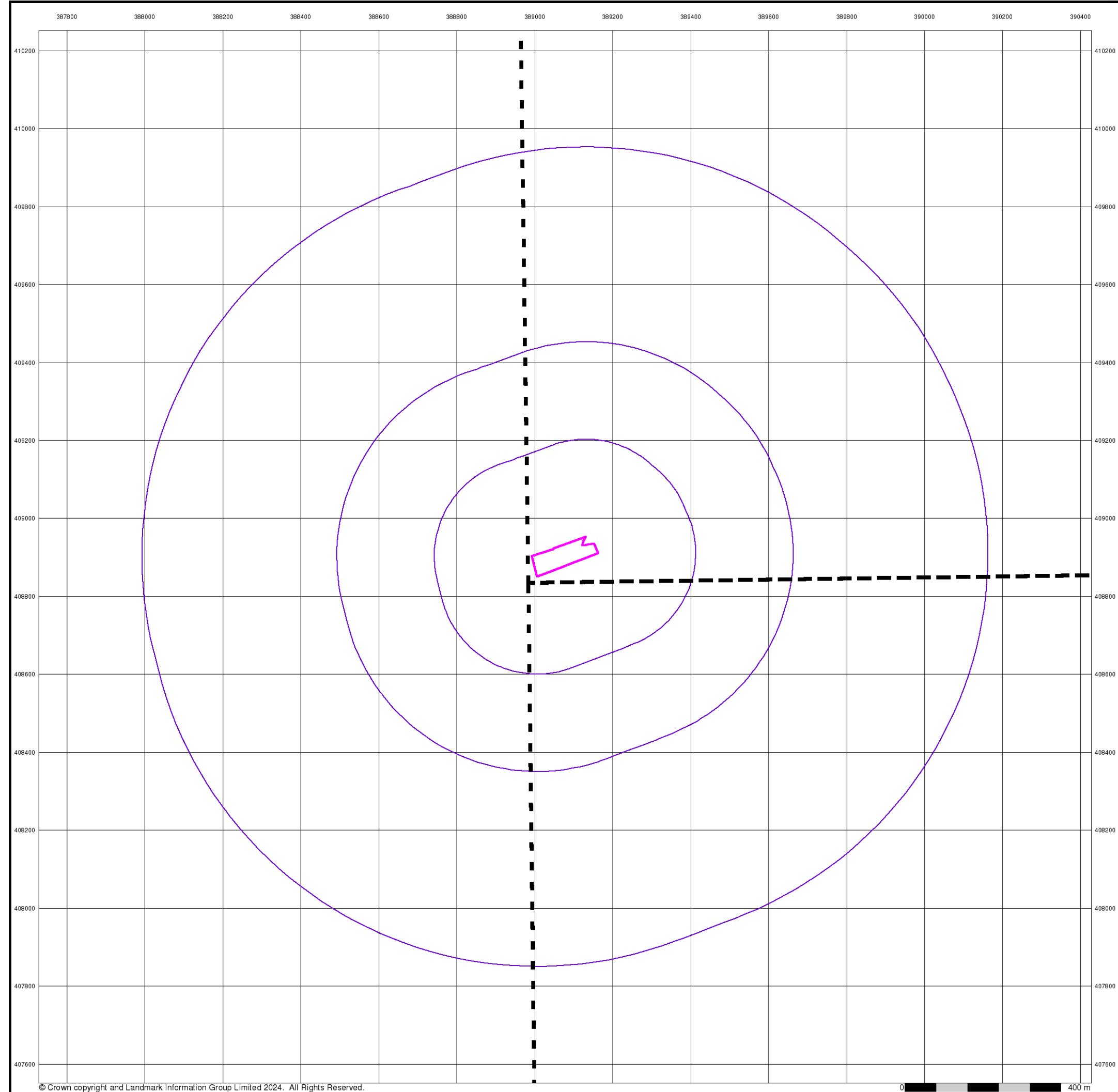
Order Number: 336458044_1_1
Customer Ref: LKC 24 1098
National Grid Reference: 389070, 408900
Slice: A
Site Area (Ha): 0.81
Search Buffer (m): 1000

Site Details

St. Johns c of e Thornham School, Thornham Lane, Middleton, Manchester, M24 2SB

Landmark
INFORMATION GROUP

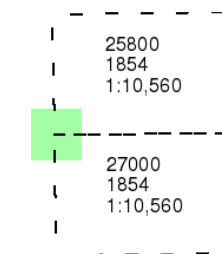
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



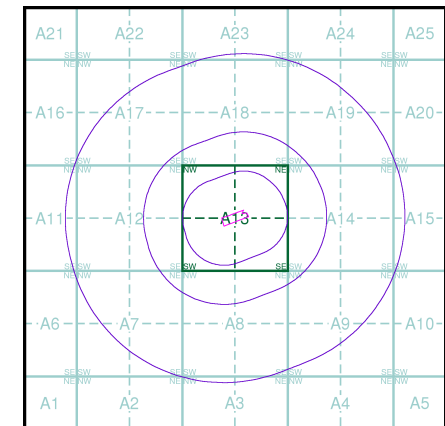
Published 1854
Source map scale - 1:10,560

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

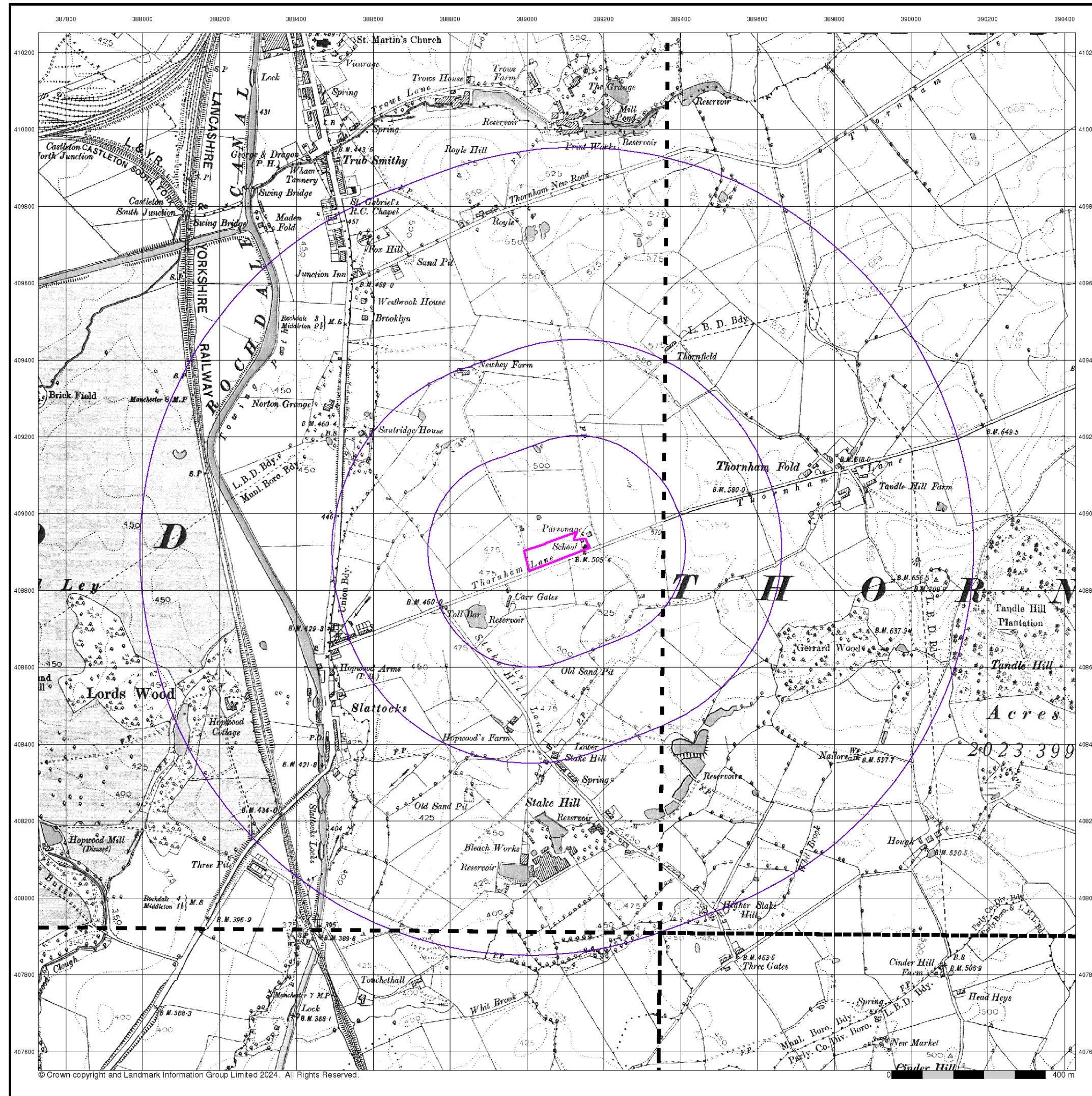
Order Number: 336458044_1_1
Customer Ref: LKC 24 1098
National Grid Reference: 389070, 408900
Slice: A
Site Area (Ha): 0.81
Search Buffer (m): 1000

Site Details

St. Johns c of e Thornham School, Thornham Lane, Middleton, Manchester, M24 2SB



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



© Crown copyright and Landmark Information Group Limited 2024. All Rights Reserved.

LK GROUP

Lancashire And Furness

Published 1894 - 1895

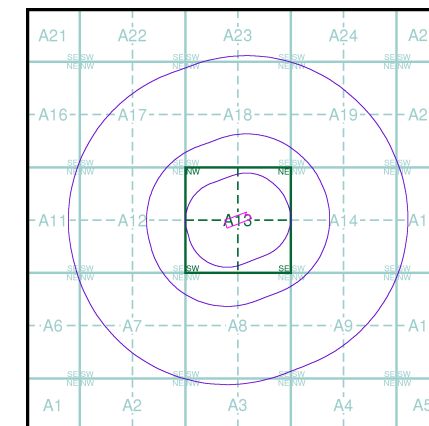
Source map scale - 1:10,560

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)

088SE 1894 1:10,560	089SW 1894 1:10,560
096NE 1894 1:10,560	097NW 1895 1:10,560

Historical Map - Slice A



Order Details

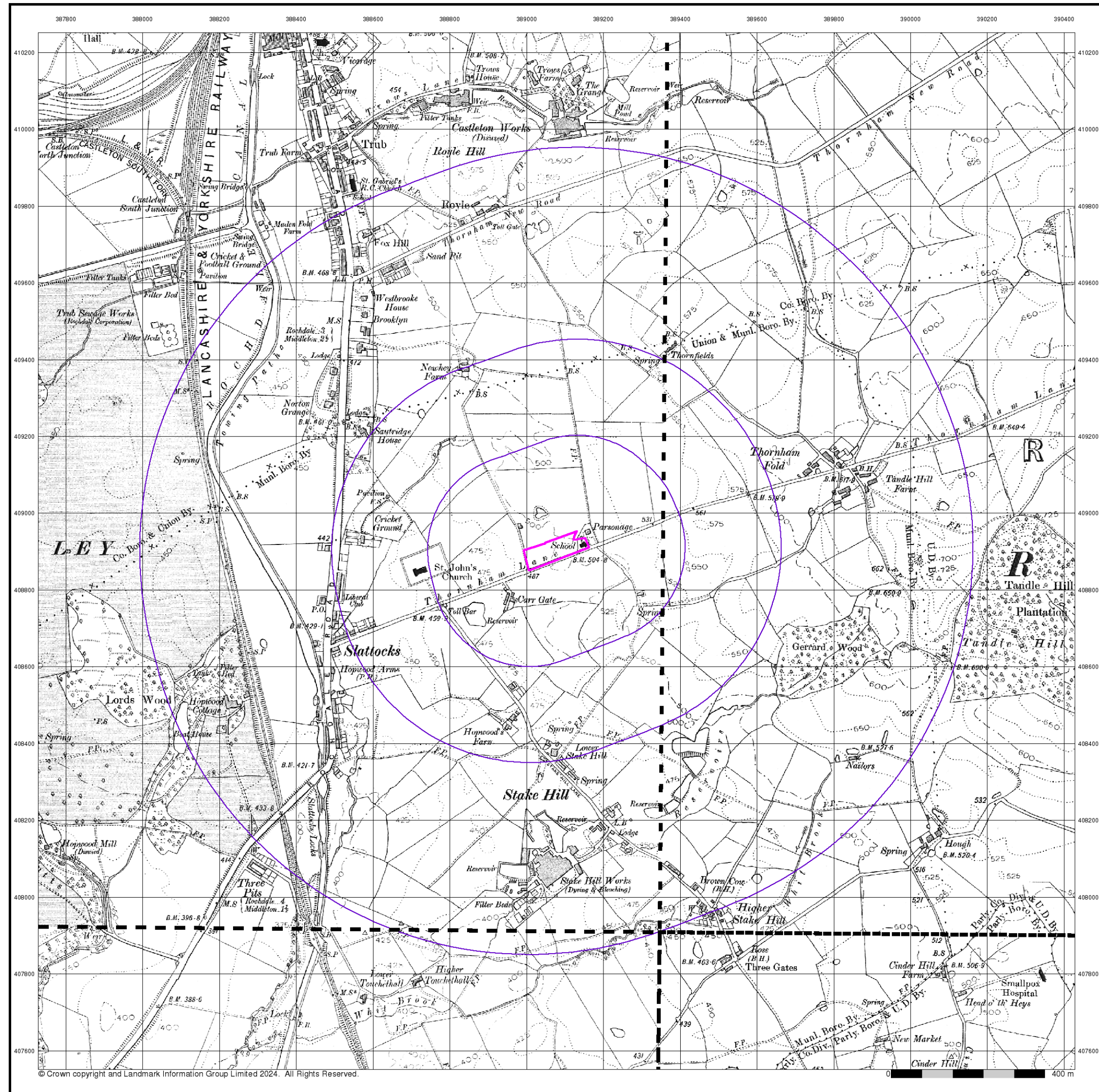
Order Number: 336458044_1_1
Customer Ref: LKC 24 1098
National Grid Reference: 389070, 408900
Slice: A
Site Area (Ha): 0.81
Search Buffer (m): 1000

Site Details

St. Johns c of e Thornham School, Thornham Lane, Middleton, Manchester, M24 2SB

Landmark
INFORMATION GROUP

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





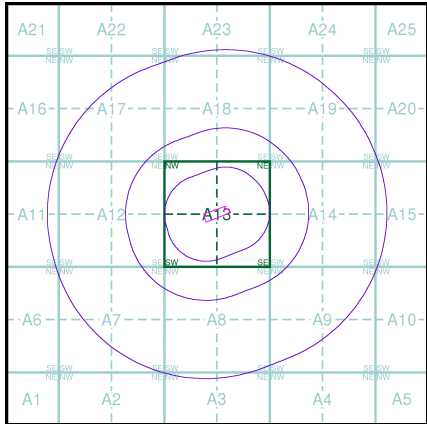
GROUP
Lancashire And Furness
Published 1910
Source map scale - 1:10,560

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)

088SE 1910 1:10,560	089SW 1910 1:10,560
096NE 1910 1:10,560	097NW 1910 1:10,560

Historical Map - Slice A



Order Details

Order Number: 336458044_1_1
Customer Ref: LKC 24 1098
National Grid Reference: 389070, 408900
Slice: A
Site Area (Ha): 0.81
Search Buffer (m): 1000

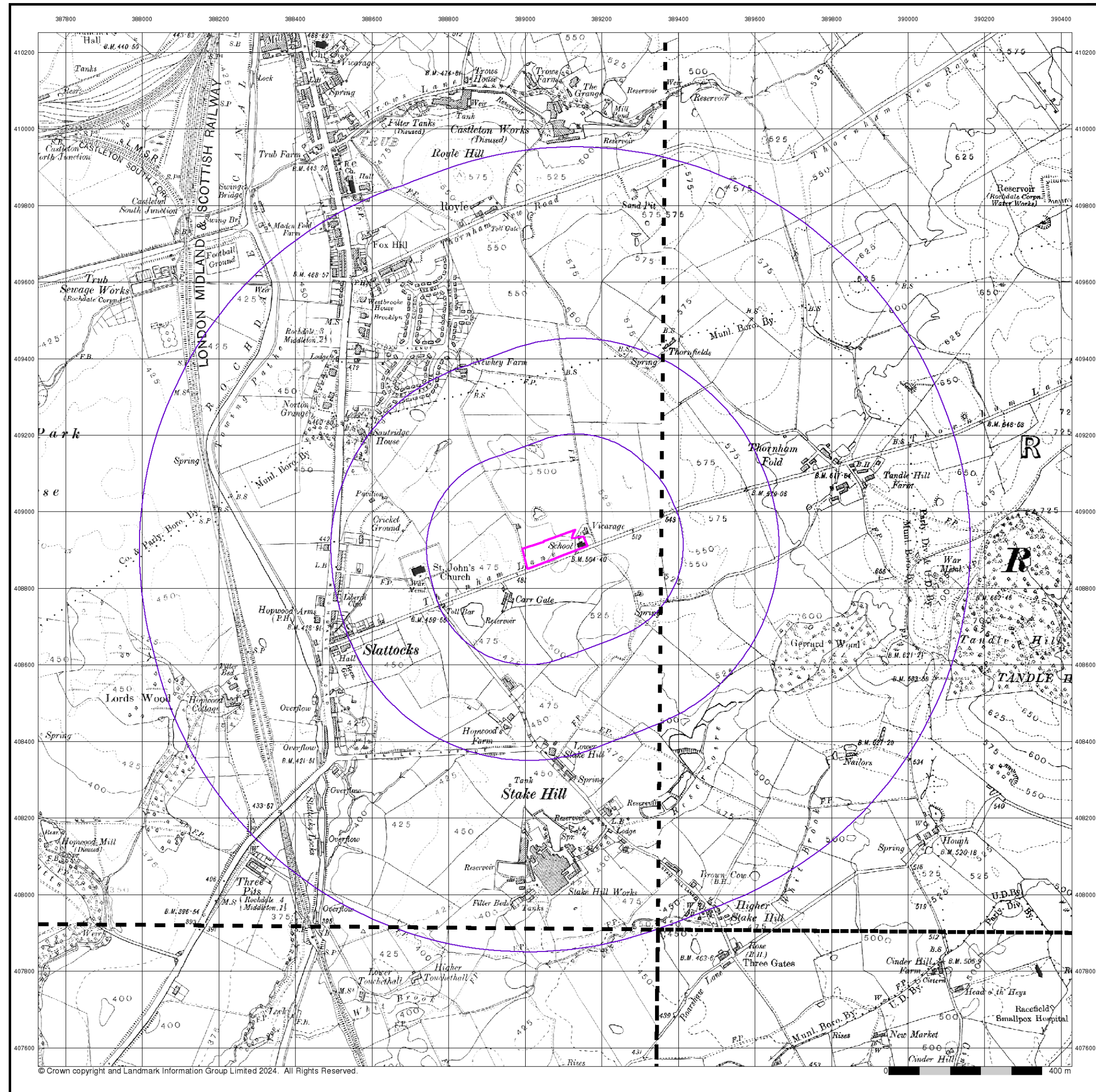
Site Details

St. Johns c of e Thornham School, Thornham Lane, Middleton, Manchester, M24 2SB



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

A Landmark Information Group Service v50.0 22-Feb-2024 Page 6 of 18



LK GROUP

Lancashire And Furness

Published 1922 - 1932

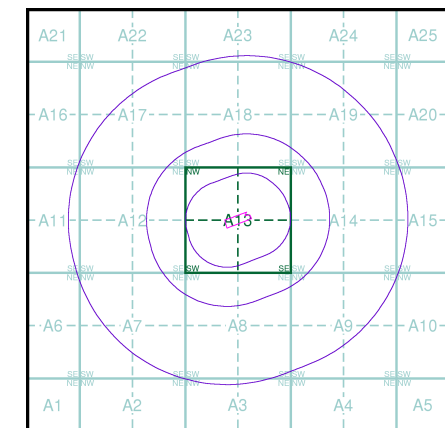
Source map scale - 1:10,560

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)

088SE 1932 1:10,560	089SW 1931 1:10,560
096NE 1923 1:10,560	097NW 1922 1:10,560

Historical Map - Slice A



Order Details

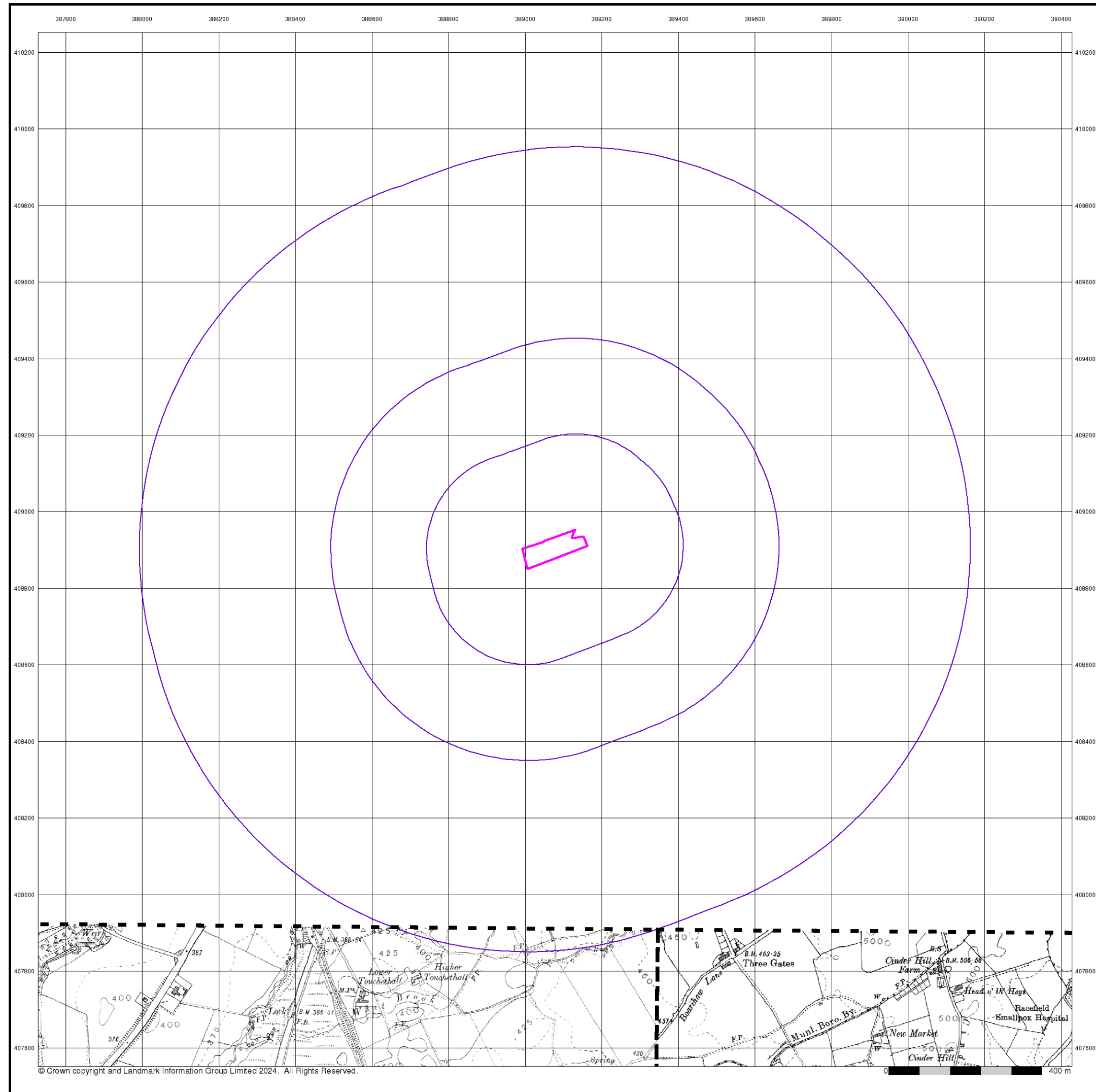
Order Number: 336458044_1_1
Customer Ref: LKC 24 1098
National Grid Reference: 389070, 408900
Slice: A
Site Area (Ha): 0.81
Search Buffer (m): 1000

Site Details

St. Johns c of e Thornham School, Thornham Lane, Middleton, Manchester, M24 2SB

Landmark
INFORMATION GROUP

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

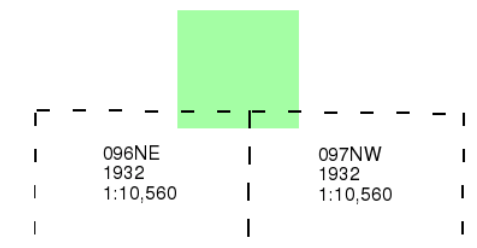


Published 1932

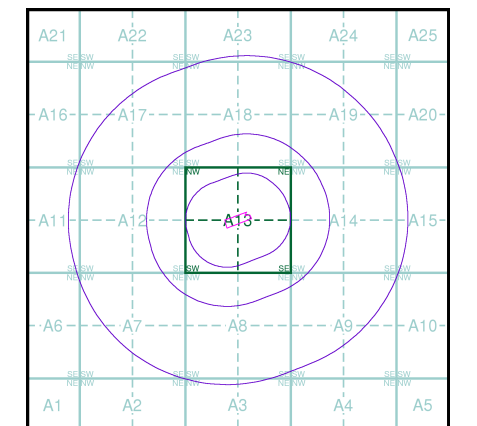
Source map scale - 1:10,560

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

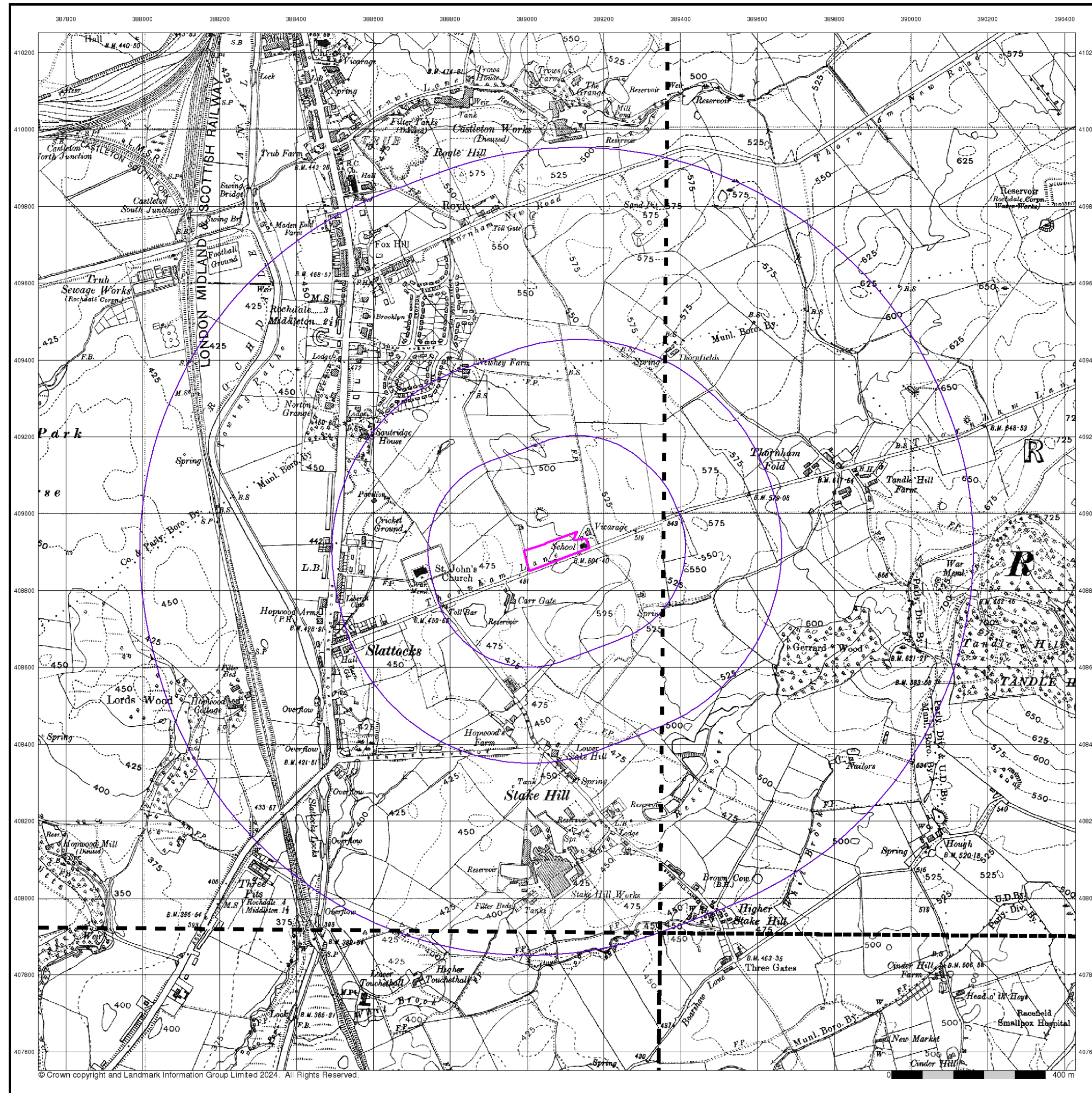


Order Details

Order Number: 336458044_1_1
Customer Ref: LKC 24 1098
National Grid Reference: 389070, 408900
Slice: A
Site Area (Ha): 0.81
Search Buffer (m): 1000

Site Details

St. Johns c of e Thornham School, Thornham Lane, Middleton, Manchester, M24 2SB



© Crown copyright and Landmark Information Group Limited 2024. All Rights Reserved.

LK GROUP

Lancashire And Furness

Published 1938

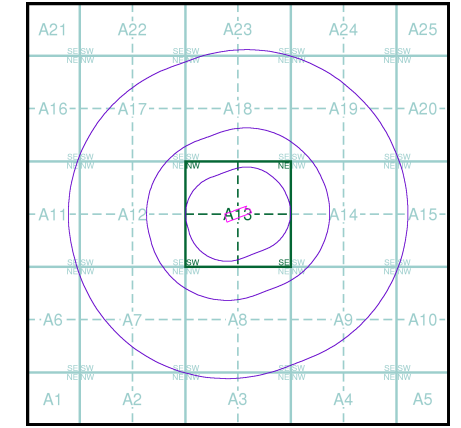
Source map scale - 1:10,560

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)

088SE 1938 1:10,560	089SW 1938 1:10,560
096NE 1938 1:10,560	097NW 1938 1:10,560

Historical Map - Slice A



Order Details

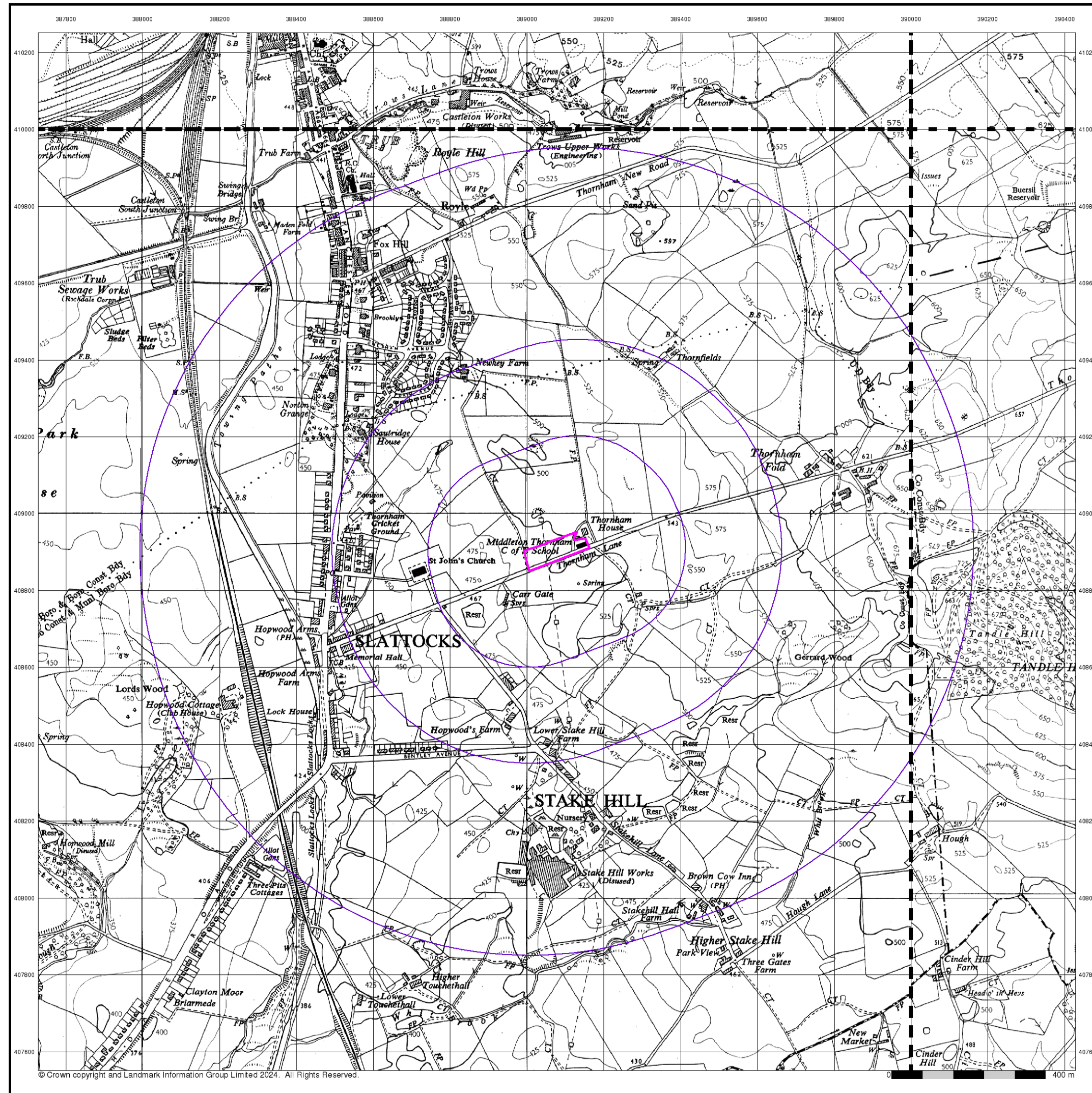
Order Number: 336458044_1_1
Customer Ref: LKC 24 1098
National Grid Reference: 389070, 408900
Slice: A
Site Area (Ha): 0.81
Search Buffer (m): 1000

Site Details

St. Johns c of e Thornham School, Thornham Lane, Middleton, Manchester, M24 2SB



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



© Crown copyright and Landmark Information Group Limited 2024. All Rights Reserved.



Ordnance Survey Plan

Published 1956

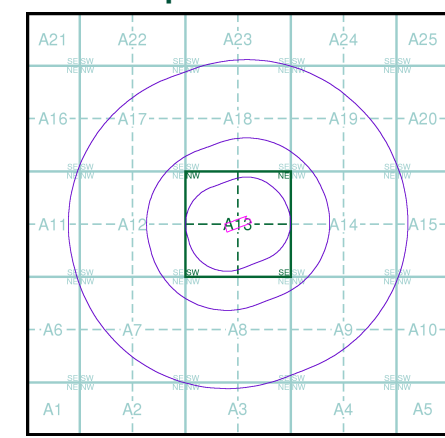
Source map scale - 1:10,000

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)

SD81SE	SD91SW
1956	1956
1:10,560	1:10,560
SD80NE	SD90NW
1956	1956
1:10,560	1:10,560

Historical Map - Slice A



Order Details

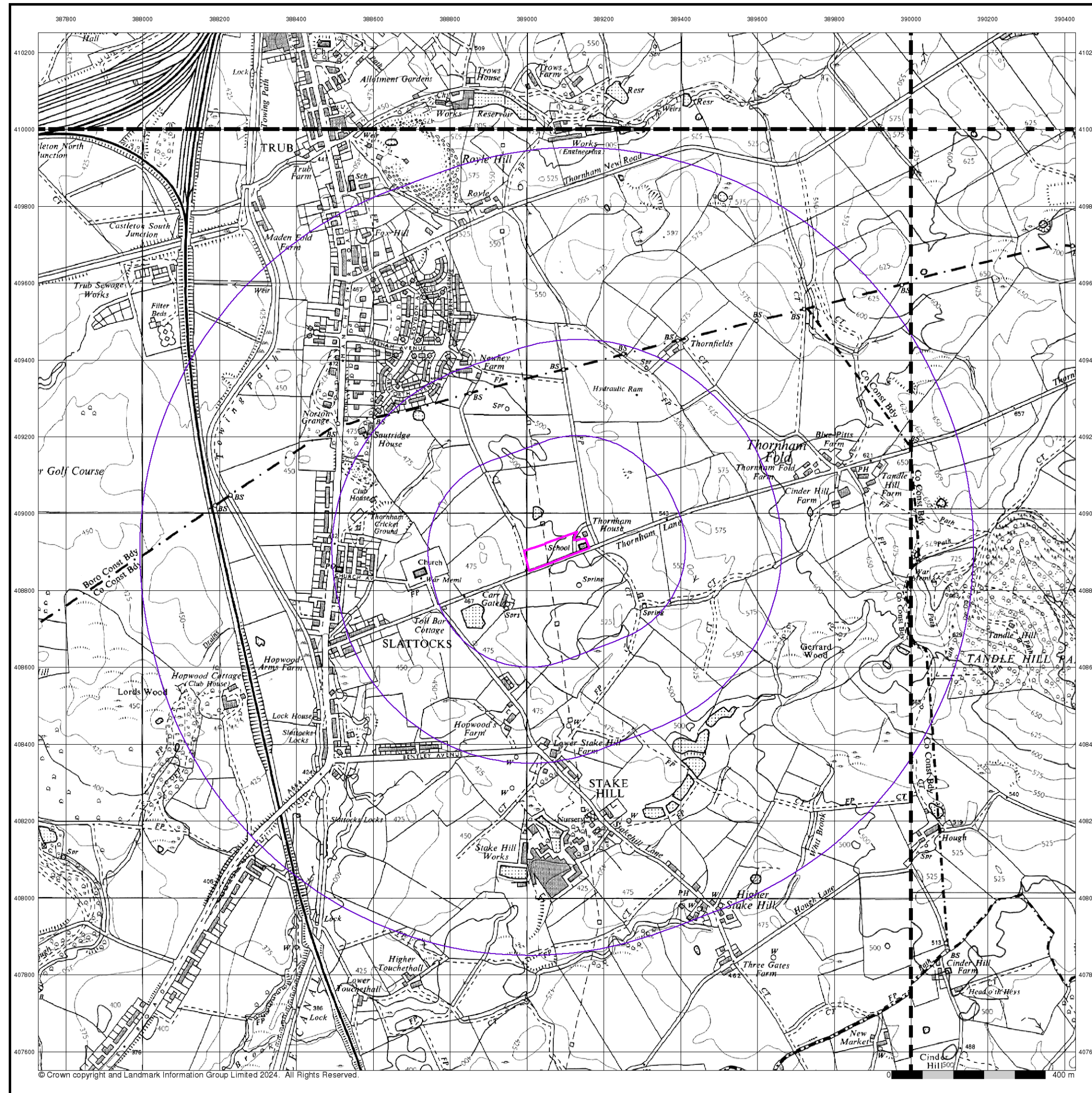
Order Number: 336458044_1_1
Customer Ref: LKC 24 1098
National Grid Reference: 389070, 408900
Slice: A
Site Area (Ha): 0.81
Search Buffer (m): 1000

Site Details

St. Johns c of e Thornham School, Thornham Lane, Middleton, Manchester, M24 2SB



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



© Crown copyright and Landmark Information Group Limited 2024. All Rights Reserved.



Ordnance Survey Plan

Published 1965 - 1968

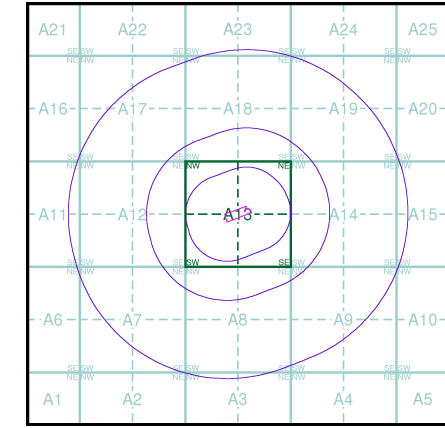
Source map scale - 1:10,000

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)

SD81SE	SD91SW
1968	1967
1:10,560	1:10,560
SD80NE	SD90NW
1965	1966
1:10,560	1:10,560

Historical Map - Slice A



Order Details

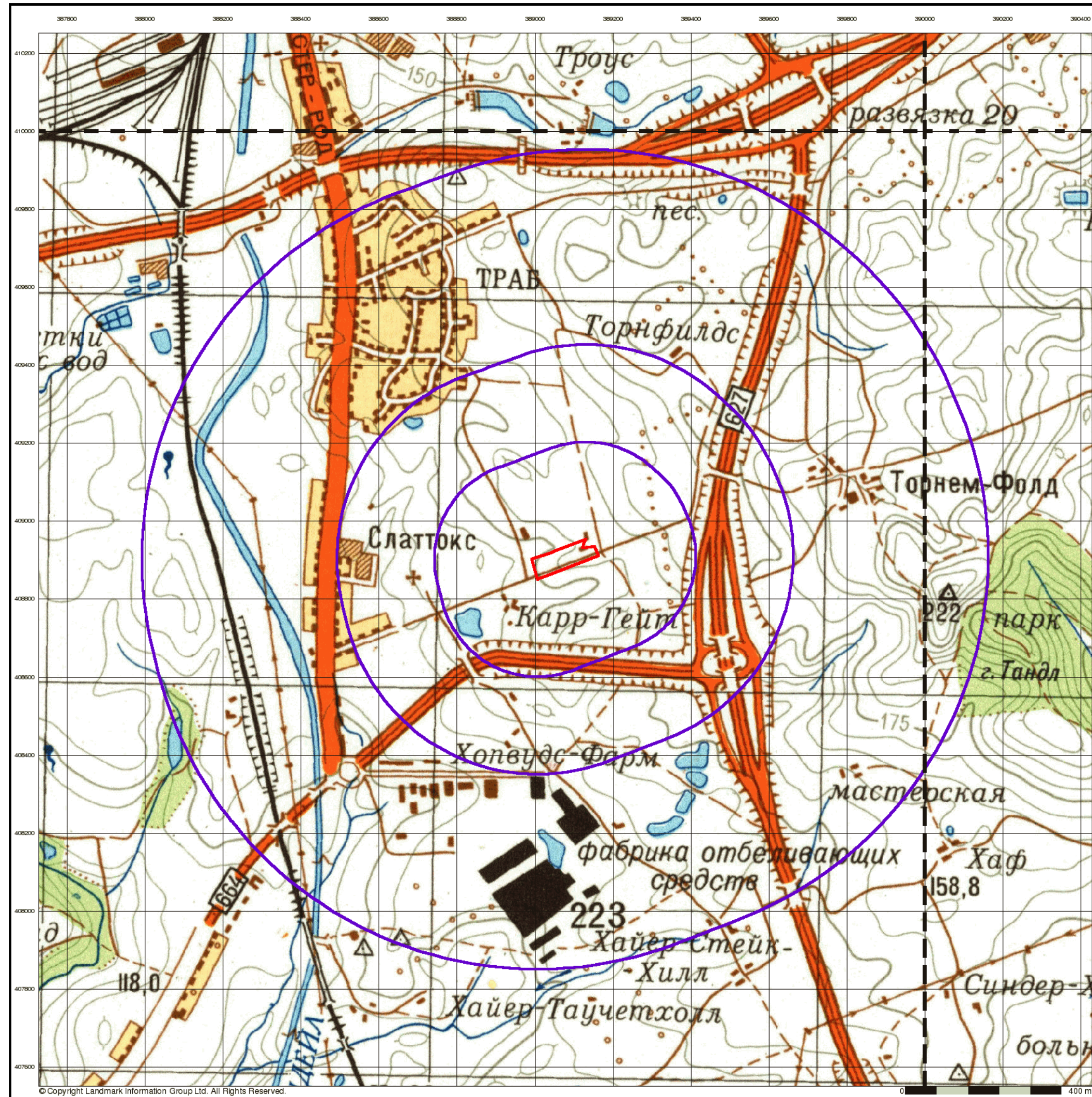
Order Number: 336458044_1_1
Customer Ref: LKC 24 1098
National Grid Reference: 389070, 408900
Slice: A
Site Area (Ha): 0.81
Search Buffer (m): 1000

Site Details

St. Johns c of e Thornham School, Thornham Lane, Middleton, Manchester, M24 2SB



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



© Copyright Landmark Information Group Ltd. All Rights Reserved.

Published 1975

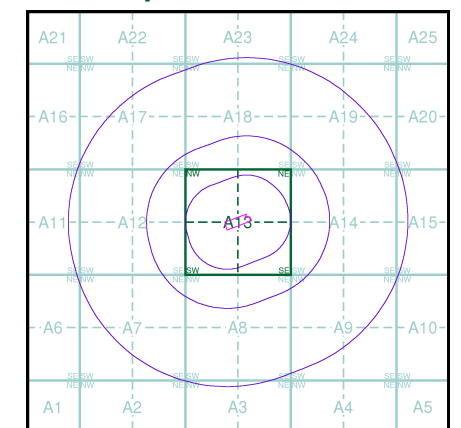
Source map scale - 1:25,000

These maps were produced by the Russian military during the Cold War between 1950 and 1997, and cover 103 towns and cities throughout the U.K. The maps are produced at 1:25,000, 1:10,000 and 1:5,000 scale, and show detailed land use, with colour-coded areas for development, green areas, and non-developed areas. Buildings are coloured black and important building uses (such as hospitals, post offices, factories etc.) are numbered, with a numbered key describing their use. They were produced by the Russians for the benefit of navigation, as well as strategic military sites and transport hubs, for use if they were to have invaded the U.K. The detailed information provided indicates that the areas were surveyed using land-based personnel, on the ground, in the cities that are mapped.

Map Name(s) and Date(s)

SD81 1975 1:25,000	SD91 1975 1:25,000
SD80 1975 1:25,000	SD90 1975 1:25,000

Russian Map - Slice A



Order Details

Order Number: 336458044_1_1
Customer Ref: LKC 24 1098
National Grid Reference: 389070, 408900
Slice: A
Site Area (Ha): 0.81
Search Buffer (m): 1000

Site Details

St. Johns c of e Thornham School, Thornham Lane, Middleton, Manchester, M24 2SB