

VICTORIA PARK PROBATION CENTRE

PHASE 1: PRELIMINARY RISK ASSESSMENT

Job Number: LKC 21 1679
Date: August 2022
Client: Britannia Victoria Ltd



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1 Introduction

LK Consult Ltd (LKC) has been commissioned to carry out a Phase 1 Preliminary Risk Assessment (PRA) for Victoria Park Probation Centre.

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.

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	South of Daisy Bank Road, east of Laindon Road, Manchester, M14 5YJ. Centred at approximate National Grid Reference 386180E 395730N.
Approximate Area	6600m ²
Topography	50 metres Above Ordnance Datum (AOD). Site is approximately level.
Current Site Use	Derelict probation centre and associated grounds, including car park, grassed area and another small derelict building.
Purpose of Report	Planning.
Proposed Development	34 no. Low-rise residential houses with rear gardens, 33no. apartments with a resident garden, allotment area and 53no. parking spaces.

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. Published March 2012, Updated July 2021.

2 Historical 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	
Field Boundary	S	1848	1848	Orientated E-W. Not present on 1891 mapping.
Pond	NW	1848	1891	Not present on 1910 map, potentially infilled.
Road	S	1848	1848	Road to the south of the site only present within 1848 mapping.
Stafford House	N	1891	1956	Not present by 1968 mapping.
Stafford House Gardens	N	1891	1956	Large garden including glass houses, trees and paths associated with Stafford House. Shown in detail on 1891 mapping, likely demolished with Stafford House after 1956 mapping. Not present by 1968 mapping.
Grassed area with trees and footpaths	S	1891	1956	School present by 1968 mapping.
School / Victoria Park Probation and Day Community Centre	S	1968	2022	Labelled as St Joseph's RC Infants School from 1968 to 1995 mapping, associated with Chapel, Convent and High School to the south. Unlabelled from 1999 to 2021 mapping. Labelled as Victoria Park Probation and Community Centre on 2022 aerial photography.
Day Nursery	NW	1972	2022	

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	
Pond	58	S	1891	1893	Not present on 1894 mapping, potentially infilled.
Pond	158	S	1848	1894	Not present on 1908 map. Potentially infilled.
Old Clay Pit	207	S	1891	1893	Not present on 1894 mapping. Potentially infilled.
Old Clay Pit	247	S	1891	1893	Not present on 1894 mapping. Potentially infilled.

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.

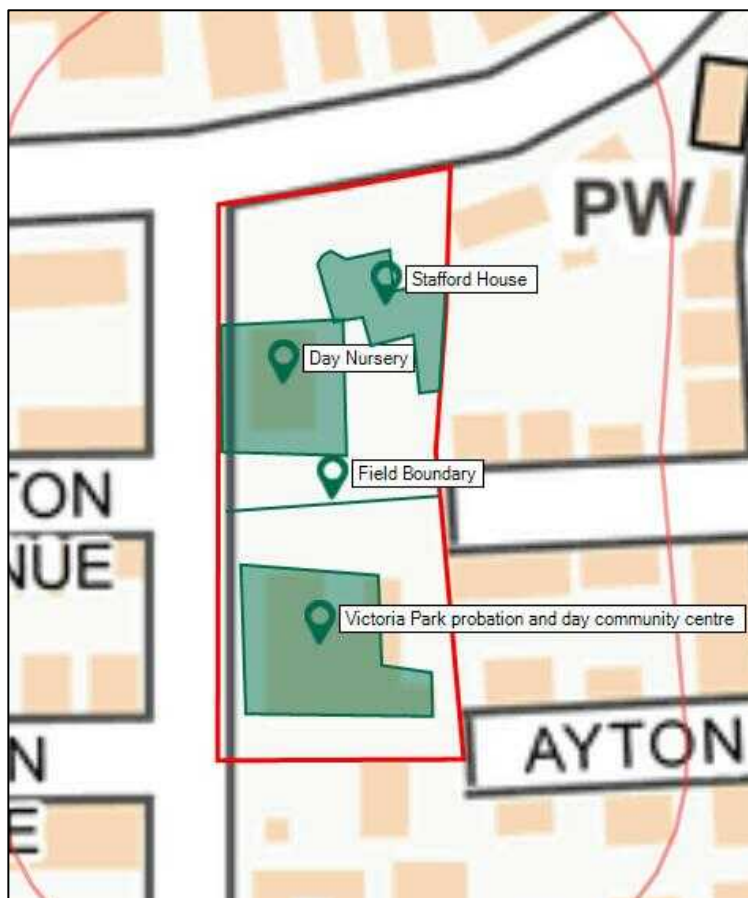


Plate 2-1: Historical features.

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	- Till (diamicton).
	Bedrock	- Chester Formation (Sandstone)
	BGS Logs (<50m)	- None.
Hydro-geology ¹	Aquifer Designation	- Superficial - Bedrock
		- Secondary Undifferentiated Aquifer.
		- Principal Aquifer.
	Source Protection Zone (SPZ)	- Site not within an SPZ.
Hydrology ¹	Groundwater Abstractions (100m)	- None.
	Surface Water Courses (100m)	- None.
	Flooding risk	- Flood Zone 1.
	Surface Water Abstractions (100m)	- None.
	Discharge Consents (onsite)	- None.
Minerals & Mining ^{1,4,5}	Pollution Incidents (onsite)	- None.
	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.
Ground Stability ¹	Non-Coal Mining Area	- No Hazard.
	Collapsible Ground	- Very low hazard.
	Compressible Ground	- No hazard.
	Ground Dissolution	- No hazard.
	Landslide	- Very low hazard.
	Running Sand	- Very low hazard.
Landfill Sites (250m) ¹	Shrinking / Swelling Clay	- Very low hazard.
	Known / Registered	- None.
	Potentially Infilled Land (non-water and water), based on Envirocheck Report	- 6no. features: 0m NW, 173m S, 207m W, 210m W, 211m SW, 232m SW
	Potentially infilled sites, based on LKC historical review	- 5no. features: See Table 2-1 and 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 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>

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		- None.
Contemporary Trade Directory (50m) ¹		- None.
Fuel Station Entries (50m) ¹		- None.
Unexploded Ordnance Risk (UXO) – Zetica Risk Map	Zetica Risk Map ⁵	- Bomb Risk: Moderate. - Strategic Targets: None identified within 100m
	Pre-Desk Study Assessment (PDSA) ⁵	- A detailed desk study, whilst always prudent, is not considered essential in this instance.

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).

5 Zetica UXO Unexploded Bomb Risk Map and PDSA (Appendix C).

4 Site Reconnaissance

A site reconnaissance was carried out on 26th July 2022. Hand dug trial holes were undertaken in accessible areas to confirm the shallow ground conditions.

Relevant features identified on site are summarised below:

- Vehicular access to the site is to the west of the site via a barrier off Laindon Road.
- Site comprises two buildings, a hardstood good condition tarmacadam area / carpark in the centre of the site, and a grassed and shrubbed area with several trees in the north of the site.
- The two-storey brick Probation Centre in the south of the site is in good condition with several windows smashed. The area to the south, and the centre's tarmacadamed (good condition) yard is fenced off with metal palisade fencing and inaccessible at the time of the walkover. Anecdotal evidence from the landowner indicates the building has no basement, and suggests the building is currently occupied by squatters.
- The other building on site is a small, one storey building in poor condition due to fire damage. Anecdotal evidence from the landowner suggests it was previously occupied by homeless people.
- Due to safety reasons and the potential for squatters, neither building was accessed at the time of the walkover. No asbestos was noted on the exterior of either building.
- General littering comprising predominantly household waste such as cardboard, plastic bags and food packaging waste was noted across the site however no significant contamination was noted.
- The vegetated area in the north of the site was noted to be slightly hummocky. A broken gate (approximated 1.5m wide) is noted in the northeast of the site which could provide an alternate access route to this area of the site. A small homeless camp was noted in this area to the east.
- Site is generally flat, with a raised area to the northeast of the site.

The surrounding area comprises residential land use, with Laindon Road and Daisy Bank Road bordering the site to the west and north, respectively.

Hand dug pits were carried out in 3no. locations and are summarised in Plate 4-1.

HD101	HD102	HD103
GL-0.15m TOPSOIL (dark brown slightly gravelly sandy SILT with occasional rootlets and rare coal fragments). Hand tool refusal at 0.15mbgl on made ground (concrete).	GL-0.55m MADE GROUND (dark brown slightly gravelly sandy SILT with occasional rootlets, coal fragments and rare brick). 0.55-0.70m Firm consistency brown and grey slightly gravelly CLAY with occasional coal fragments.	GL-0.30m MADE GROUND (dark brown slightly gravelly sandy SILT with occasional rootlets, coal fragments and rare brick). 0.30-0.60m Firm consistency brown and grey slightly gravelly CLAY with occasional coal fragments.

Plate 4-1: Hand Dug Pit Logs.

Relevant photographs are provided in Plate 4-2.

	
Photograph 1: View of site entrance at W, looking E.	Photograph 2: View of E of Probation Centre, from SW, looking N.
	
Photograph 3: View of S of Probation Centre, from SW of site, looking E.	Photograph 4: View of fire damaged building, from centre of site, looking NW.
	
Photograph 5: View of NW of site and rear of fire damaged building from N, looking S.	Photograph 6: View along N face of building from E, looking W.

Plate 4-2: Site photographs.



Photograph 7: View of NE of site from N, looking S.



Photograph 8: View of possible alternative entrance in NE of site.



Photograph 9: View of yard of Probation Centre from centre of site, looking S



Photograph 10: View of Probation Centre from centre of site, looking S.

Plate 4-2 (continued): Site photographs.

Relevant features are also shown on Plate 4-3.



Plate 4-3: Plan showing relevant site walkover 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	- Assuming predominantly reworked natural soils with possible demolition rubble, ash and clinker: Asbestos, heavy metals, sulphates, PAHs⁴. - Not expected to be a significant source of gas given anticipated depth and nature of Made Ground.
Deep Made Ground below NW of site (infilled pond)	- Demolition rubble, ash and clinker: Asbestos, heavy metals, sulphates, PAHs⁵. - If organic / putrescible material: Hazardous gas (principally carbon dioxide and methane). Unlikely to be a significant source of ground gas due to age of infilling (110 years ago).
Demolished buildings	- Asbestos Containing Material (ACM).
Fire damaged buildings	- Ash: possible source of PAHs.
Car Park	- Potential source of fuels, lubricants and anti-freeze.
Commercial / public building	- Assuming a boiler house is / has been present: Petroleum hydrocarbons (fuel / oils) and heavy metals, sulphates, PAHs⁶ (waste ash and clinker). - Demolished buildings: ACM.
Surrounding Area	
Surrounding area	- No significant contamination sources within influencing distance of the site.
Offsite potentially infilled features within 250m	- Given size, distance and age of features, there is not considered to be a source of hazardous gas (principally carbon dioxide and methane).
Underlying Geology	
Superficial / Bedrock	- Glacial Till over Chester Formation (Sandstone). - No significant contamination sources identified.

Table 5-1: Potential contamination sources.

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 Defra (2002). "Potential Contaminants for the Assessment of Land". R&D Publication CLR 8.

⁶ Defra (2002). "Potential Contaminants for the Assessment of Land". R&D Publication CLR 8.

5.3 Potential Receptors

Potential receptors are detailed in Table 5-2.

Receptors	
Human Health	- Future site users (including residents, visitors and site workers). - Offsite land users.
Controlled Waters	- Principal Aquifer, Secondary Undifferentiated Aquifer. - No surface water within influencing distance.
Buildings.	
Potable water pipes.	

Table 5-2: Potential receptors.

5.4 Potential Pathways

Potential pathways are detailed in Table 5-3.

Pathways		
Soil	Human Health ⁷ (residential land use: houses with private gardens)	- Ingestion of soil. - Ingestion of soil-derived indoor dust. - Ingestion of contaminated vegetables. - Ingestion of soil attached to vegetables. - Dermal contact with soil. - Dermal contact with soil-derived indoor dust. - Inhalation of soil-derived outdoor dust. - Inhalation of soil-derived indoor dust. - Inhalation of vapours outside. - Inhalation of vapours inside.
	Human Health ⁸ (residential land use: apartments with car parking, shared landscaping, private garden and allotments)	- 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. - Inhalation of vapours outside. - Inhalation of vapours inside. - Ingestion of contaminated vegetables and ingestion of soil attached to vegetables.
	- Windblown dust and fibres to adjacent receptors.	
	- Direct contact with receptors (services).	
Water	- Surface run-off over impermeable surface.	
	- Infiltration into the ground, through potentially contaminated material (contamination possibly going into solution). - Site is predominantly hardstood; therefore, infiltration is likely to be limited and isolated to the grassed area to the north.	
Water and Gas	- Migration through potentially permeable strata and preferential pathways. - Superficial (Till) likely to be low permeability. - Bedrock (sandstone) likely to be relatively 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.

⁷ EA (2008). "Updated Technical Background to the CLEA Model". Science Report – SC050021/SR3.

⁸ EA (2008). "Updated Technical Background to the CLEA Model". Science Report – SC050021/SR3.

5.5 Preliminary Contamination Conceptual Model

The Preliminary Contamination Conceptual Model is illustrated in Table 5-4 and has identified five 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 C552⁹.

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).

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

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 guidance¹⁰) should be adopted by all workers involved with site enabling and construction works. Therefore, this receptor is not considered in the contamination conceptual model.

⁹ CIRIA (2001). "Contaminated Land Risk Assessment: A Guide to Good Practice". C552.

¹⁰ 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	- Dermal contact. - Inhalation of soil, fibres and dust. - Ingestion of soils, dust, vegetables, soil attached to vegetables. - Windblown dust.	- Future site users. - Offsite receptors.	- Heavy metals. - PAHs. - Asbestos	Likely (given site history, site conditions and proposed end use)	Medium	Moderate	Intrusive investigation required. Soil analysis of CoC.
			- Petroleum hydrocarbons	Low Likelihood (limited source associated with possible former boiler)	Medium	Moderate / Low (low risk due to limited pathway)	Targeted intrusive investigation required. Soil analysis of CoC, subject to ground conditions encountered.
2	- Inhalation of vapours. - Migration via permeable strata and preferential pathways.	- Future site users. - Offsite receptors.	- Volatile contaminants (naphthalene, TPHCWG).	Low likelihood (given site history, site conditions and proposed end use)	Medium	Moderate / Low (moderate risk due to ash associated with burning, possible former boiler)	Targeted intrusive investigation required, to include PID testing.
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).	Low likelihood (given possible on site gas source and limited pathway)	Severe	Moderate	Intrusive investigation to confirm ground conditions. If significant depth of putrescible / organic material identified within former onsite infilled pond, gas monitoring or precautionary protection measures required.
4	- Surface run-off. - Migration via permeable strata and preferential pathways. - Perched waters migration.	- Groundwater (Principal Aquifer, Secondary Undifferentiated Aquifer).	- Mobile contaminants such as metals, PAHs, hydrocarbons.	Low Likelihood (only minimal mobile contamination anticipated with limited pathway)	Medium	Moderate / Low (low assumed as only minor aquifer within superficial deposits and anticipated cohesive clay will offer protection to Principal Aquifer in bedrock)	Low density intrusive investigation required. Groundwater sampling, subject to ground conditions encountered. Analysis of CoC.
5	- Ingestion of tainted water supply.	- Future site users. - Water pipes.	- Organic contaminants such as petroleum hydrocarbons, naphthalene.	Low Likelihood (although some contamination may be present, significant contamination not expected at pipeline depth)	Medium	Moderate / Low (low risk assumed as significant depth of made ground not anticipated)	Low density intrusive investigation required. Soil analysis of CoC, subject to ground conditions encountered.

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. Possible in-ground structures from previous developments.
Field boundaries	Possible former hedges / trees / ditch resulting in increased likelihood of roots, organic material, shallow made ground.
Superficial	Unknown strength of soils for foundation design. Clay anticipated below the site.
Bedrock	Unknown depth to bedrock.
Groundwater	Unknown depth and variability of groundwater.
Plasticity	Plasticity of clay deposits should be confirmed, particularly where trees are present or proposed, to identify the shrink / swell risk. Clay anticipated on site.
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	Derelict probation centre and associated grounds, including car park, grassed area and another small derelict building.
Proposed Development	34 no. Low-rise residential houses with rear gardens, 33no. apartments with a resident garden, allotment area and 53no. parking spaces.
Main Historical Features	Onsite: Field Boundary, Pond, Road, Stafford House, Stafford House Gardens, Grassed area with trees and footpath, Victoria Park Probation Centre, Day Nursery. Surrounding Area: Ponds, Old Clay Pits.
Geology / Hydrogeology	Artificial: No BGS recorded artificial. Superficial: Till (Diamicton). Secondary Undifferentiated Aquifer Bedrock: Cheshire Formation (Sandstone). Principal Aquifer.
Landfills / Infilled ground	Potentially infilled ground identified. No landfills within 250m.
Site walkover	Site comprises two buildings, a hardstood tarmac area in the centre, a car park and a grassed and shrubbed area with several trees in the north of the site. One of the buildings was fire damaged in poor condition. Fly-tipping present across the site. The site is relatively flat with hummocks present in the northern grassed area.

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	Moderate	Intrusive investigation required. Soil analysis of CoC.
	Petroleum Hydrocarbons	Moderate / Low	Targeted intrusive investigation required. Soil analysis of CoC, subject to ground conditions encountered.
PL2: Volatile contaminants posing a risk to future site users via the inhalation of vapours.		Moderate / Low	Targeted intrusive investigation required, to include PID testing.
PL3: Gas (carbon dioxide and methane) posing a risk to buildings and future site users via the migration of gas into building causing explosion and asphyxiation.		Moderate	Intrusive investigation to confirm ground conditions. If significant depth of putrescible / organic material identified within former onsite infilled pond, gas monitoring or precautionary protection measures required.
PL4: Mobile contamination posing a risk to controlled waters via the migration through permeable strata.		Moderate / Low	Low density intrusive investigation required. Groundwater sampling, subject to ground conditions encountered. Analysis of CoC.
PL5: Organic contaminants posing a risk to water pipes.		Moderate / Low	Low density intrusive investigation required. Soil analysis of CoC, subject to ground conditions encountered.

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	Site is not within a Development High Risk Area. No further assessment required.
Slope Stability	No further assessment required.
Made Ground	Unknown depth and constituent of made ground across the site.
Superficial	Unknown strength of soils for foundation design. Clay anticipated below the site.
Bedrock	Unknown depth to bedrock.
Groundwater	Unknown depth and variability of groundwater.
Plasticity	Clay anticipated below the site. Plasticity of clay deposits 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.

7.2 Recommendations

Recommendations are provided in Table 7-4.

Further assessment recommendations	Phase 2 intrusive investigation required. Phase 2 investigation to be carried out in line with current guidance, including BS10175 ¹¹ , BS5930 ¹² CIRIA C665 ¹³ , RB17 ¹⁴ and BS8485 ¹⁵ . Either '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.
Type of investigation work	Boreholes and / or trial pits.
PL 1, 2, 5	Intrusive investigation work recommended to confirm ground conditions across the site. Testing of contaminants of concern based on preliminary conceptual model and field observations (PID tests and visual / olfactory evidence).
PL 3	Intrusive investigation to confirm ground conditions. If significant depth of putrescible / organic material identified within onsite former infilled pond, gas monitoring or precautionary gas protection measures required. Gas monitoring: monitoring wells to be installed in boreholes, monitoring frequency and period subject to anticipated risk. Precautionary measures: subject to risk assessment and Local Authority agreement.
PL 4	Groundwater sampling, subject to ground conditions encountered. Groundwater samples to be collected from monitoring wells and tested for contaminants of concern based on preliminary conceptual model and ground conditions encountered.
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.

¹¹ British Standard (2017). "Investigation of Potentially Contaminated Sites – Code of Practice". BS10175:2017.

¹² British Standard (2015). "Code of Practice for Ground Investigations". BS5930:2015.

¹³ CIRIA (2007). "Assessing Risks Posed by Hazardous Ground Gases to Buildings". CIRIA C665.

¹⁴ CL:AIRE Research Bulletin RB17 (November 2012) "A Pragmatic Approach to Ground Gas Risk Assessment".

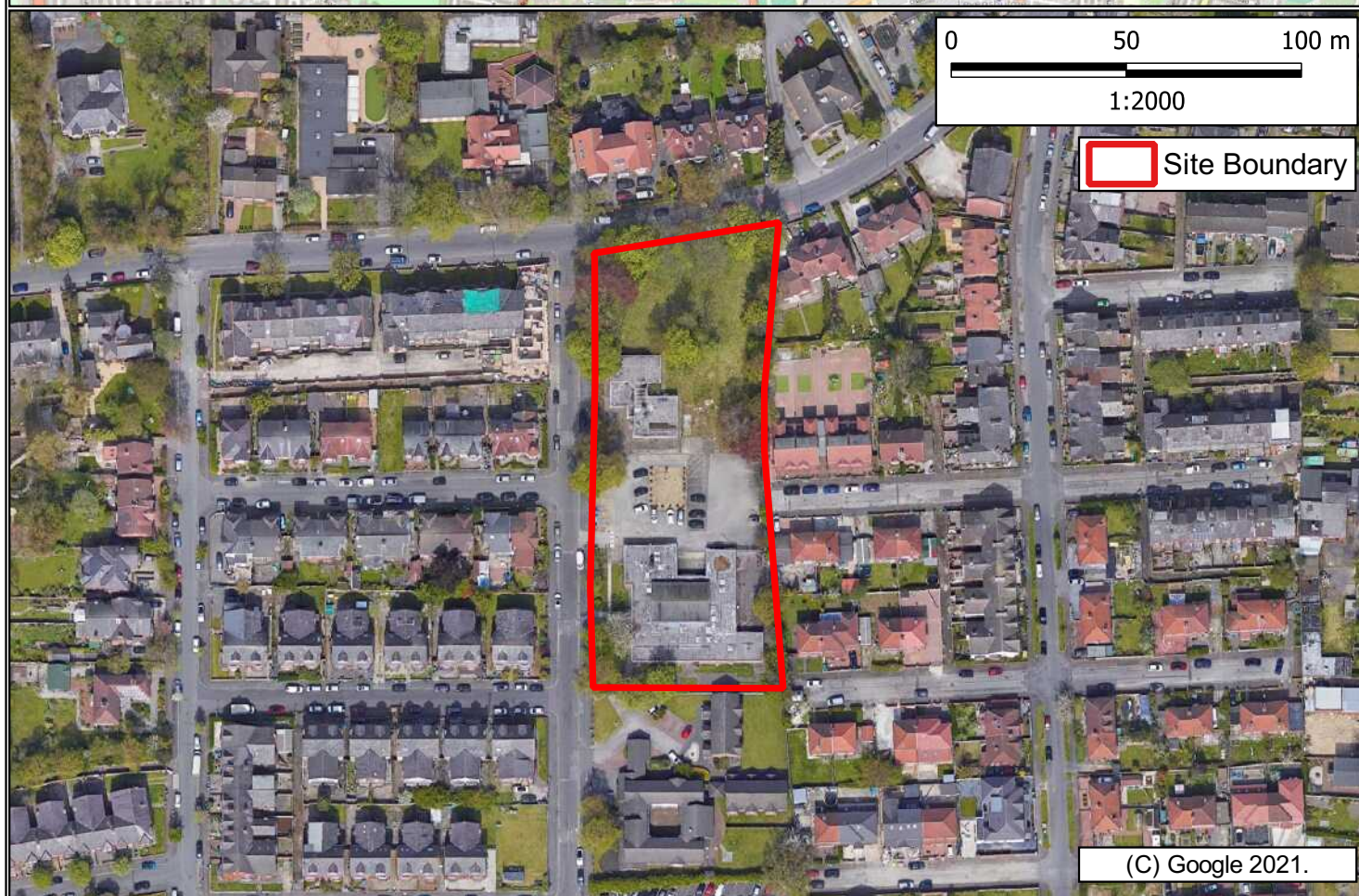
¹⁵ BSI (2015). "Code of Practice for the Design of Protective Measures for Methane and Carbon Dioxide Ground Gases for New Buildings". BS8485:2015.

Further Considerations are summarised in Table 7-5.

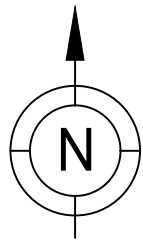
Asbestos	Even though no asbestos was identified externally on the existing buildings, given the age, there may be areas inside that have Asbestos Containing Materials (ACMs). Therefore, we would advise that a Pre-Demolition and Major Refurbishment Asbestos Survey is undertaken prior to demolition by a professional contractor.
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Table 7-5: Further considerations.

Figures



Client: Britannia Victoria Ltd				Title: Site Location & Boundary Plan		
Site: Victoria Park Probation Centre				Scale (see scale bar): 1:25,000 & 1:2,000 @ A4		
Job No.: LKC 21 1679	Drawn By: CC	Checked By: MT	Drawn: June 2022	Figure: 1	Revision:	



Extract from: Ollier Smurthwaite Architects
Drawing Ref: Proposed Site Plan, No.A662_SK_10 (July 2021)

KEY



ACCOMMODATION SCHEDULE

22no. 1 Bed Apartments (400sqft ave.)	8,800sqft
11no. 2 Bed Masonettes (800sqft ave.)	8,800sqft
14no. 3 Bed Townhouses (900sqft ave.)	12,600sqft
20no. 4 Bed Townhouses (1,100sqft ave.)	22,000sqft
NIA	52,200sqft
Circulation	2,450sqft
GIA	54,650sqft

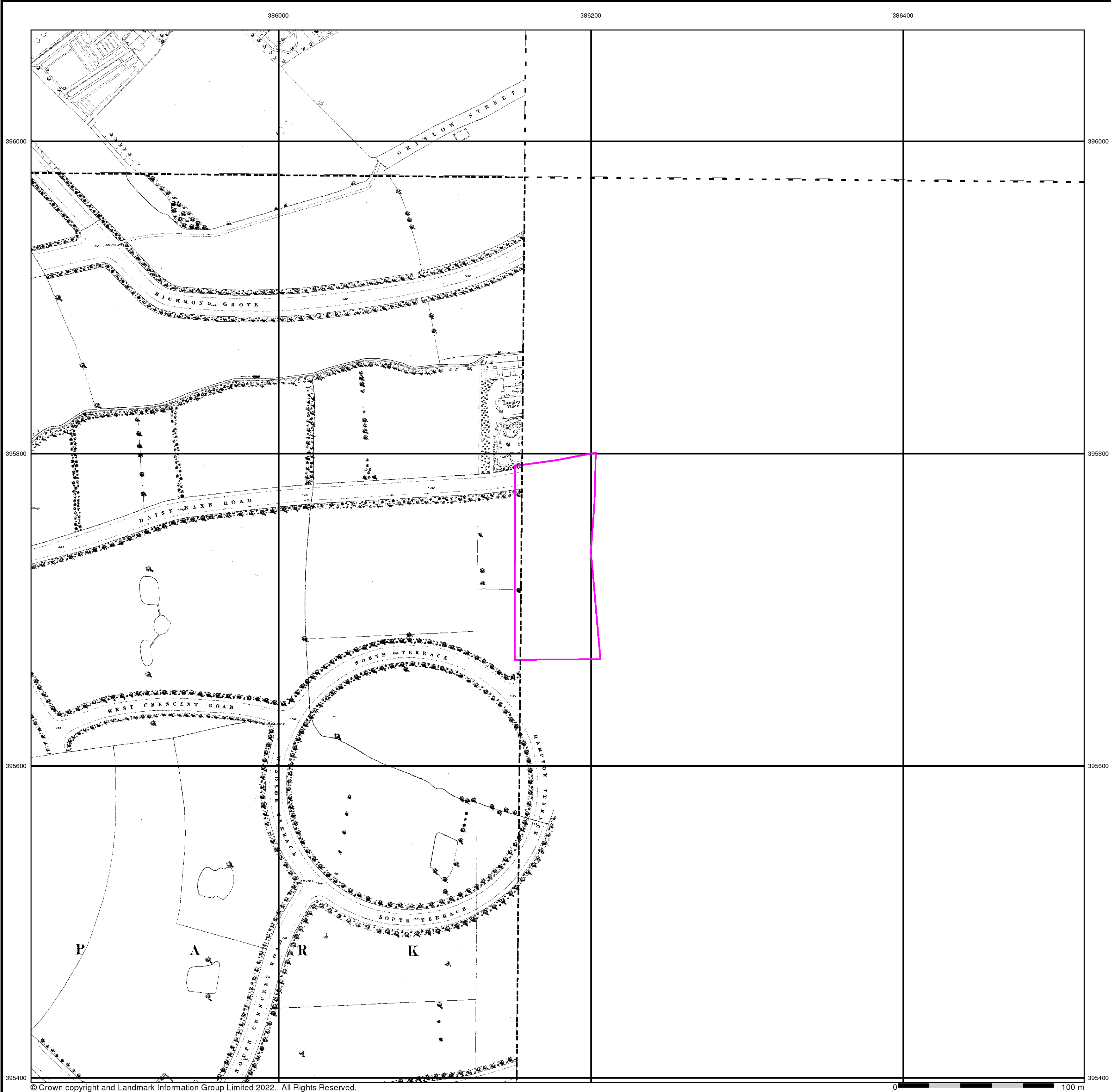
Sampling Locations and features annotated by LK Consult Ltd are approximate and are based upon observed measurements unless otherwise stated. Do not scale from this drawing and work from marked dimensions only. All dimensions and features should be confirmed on site by the Contractor. Where this drawing 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.



Client: Britannia Victoria Ltd			
Site: Victoria Park Probation Centre			
Title: Proposed Development Plan			
Job No.: LKC 21 1679	Scale (See Scale Bar): See Scale Bar	Figure: 2	Revision:
Drawn By: AC	Checked By: CK	Drawn: Jul 2022	

Appendix A

Historical Maps



Published 1850 - 1851
Source map scale - 1:1,056

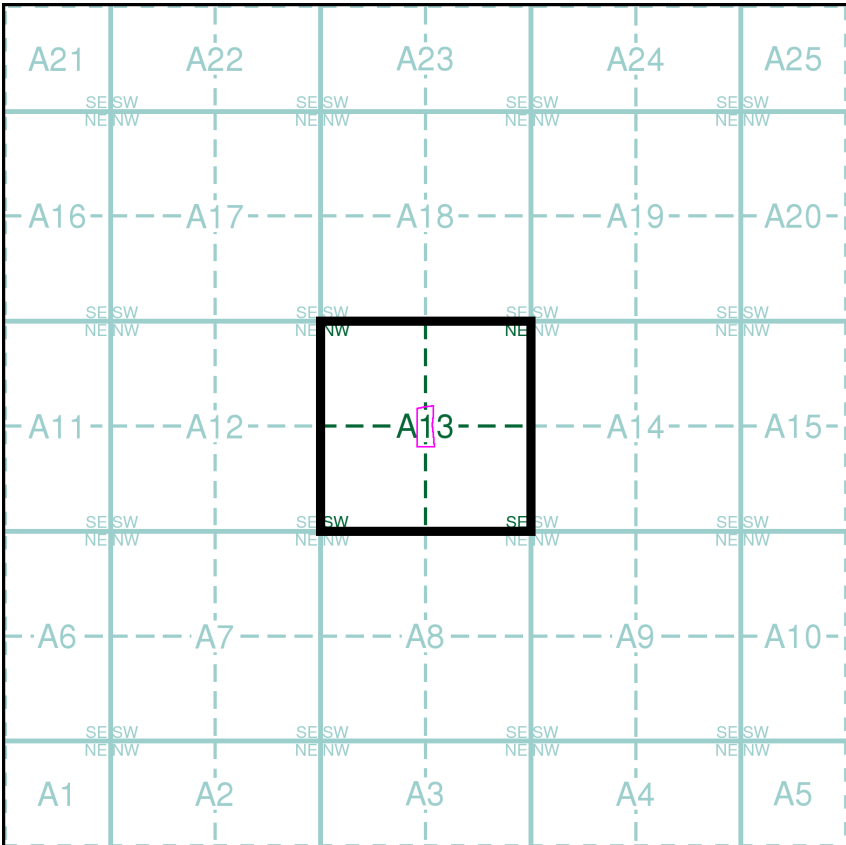
The 1:1056 scale of Ordnance Survey mapping was adopted from Ireland in 1848 and was used to survey towns with a population of over 4000, plus county towns of lesser population, in those counties mapped at the six-inch scale in 1841-55. The scale was the largest scale at which London was mapped by the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

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

Map Name(s) and Date(s)

000_00_045	
1851	
1:1,056	
000_00_047	000_00_247
1850	1850
1:1,056	1:1,056

Historical Town Plan - Segment A13

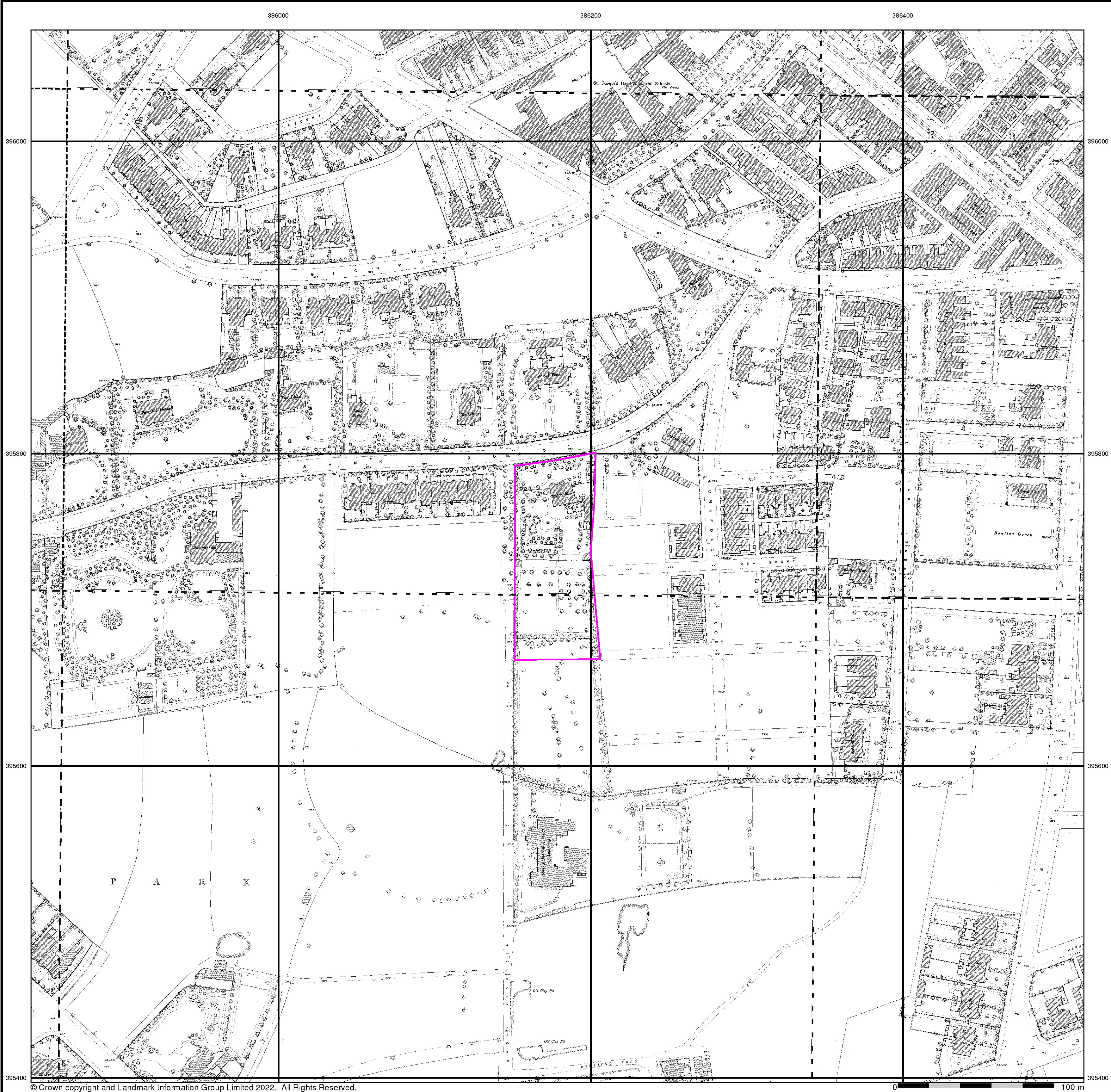


Order Details

Order Number: 298702326_1_1
Customer Ref: LKC 21 1679
National Grid Reference: 386180, 395730
Slice: A
Site Area (Ha): 0.66
Search Buffer (m): 0

Site Details

Site at 386170, 395690



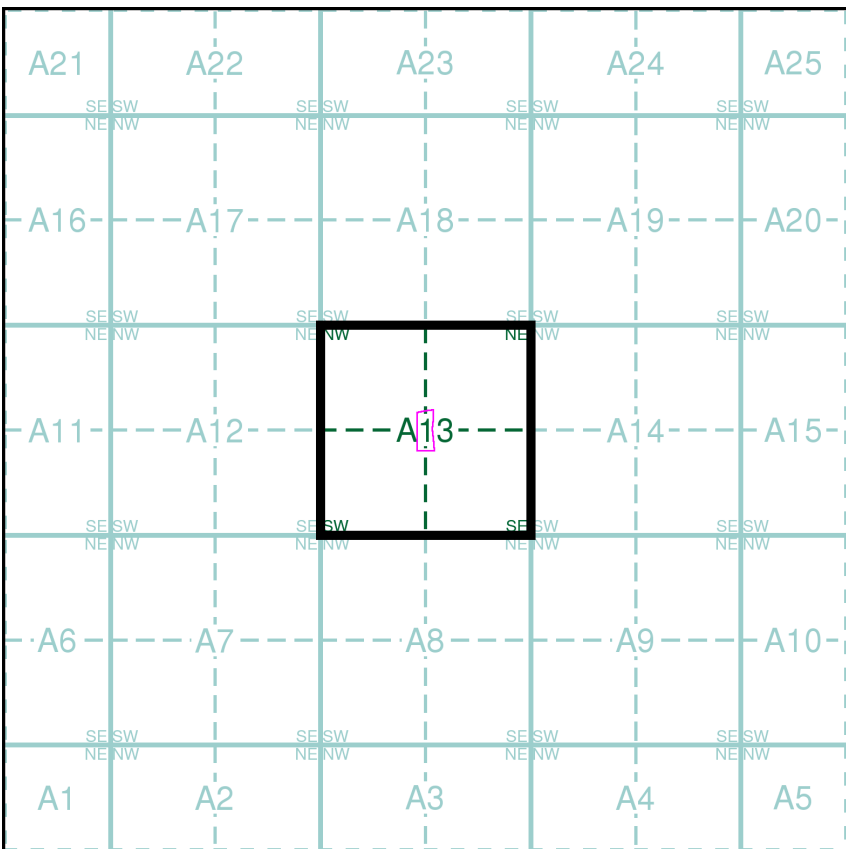
The 1:500 scale Ordnance Survey mapping was introduced in 1855 as a replacement for the 1:528 scale and to complement the 1:2500 scale that had been implemented in 1853. By 1895, the 1:500 scale covered most towns over a population of about 4000 at the time of survey, although very few towns were mapped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

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

Map Name(s) and Date(s)

104_15_008	104_15_009	104_15_010
1891	1891	1891
1:500	1:500	1:500
104_15_013	104_15_014	104_15_015
1891	1891	1891
1:500	1:500	1:500
104_15_018	104_15_019	104_15_020
1891	1891	1891
1:500	1:500	1:500

Historical Town Plan - Segment A13



Order Details

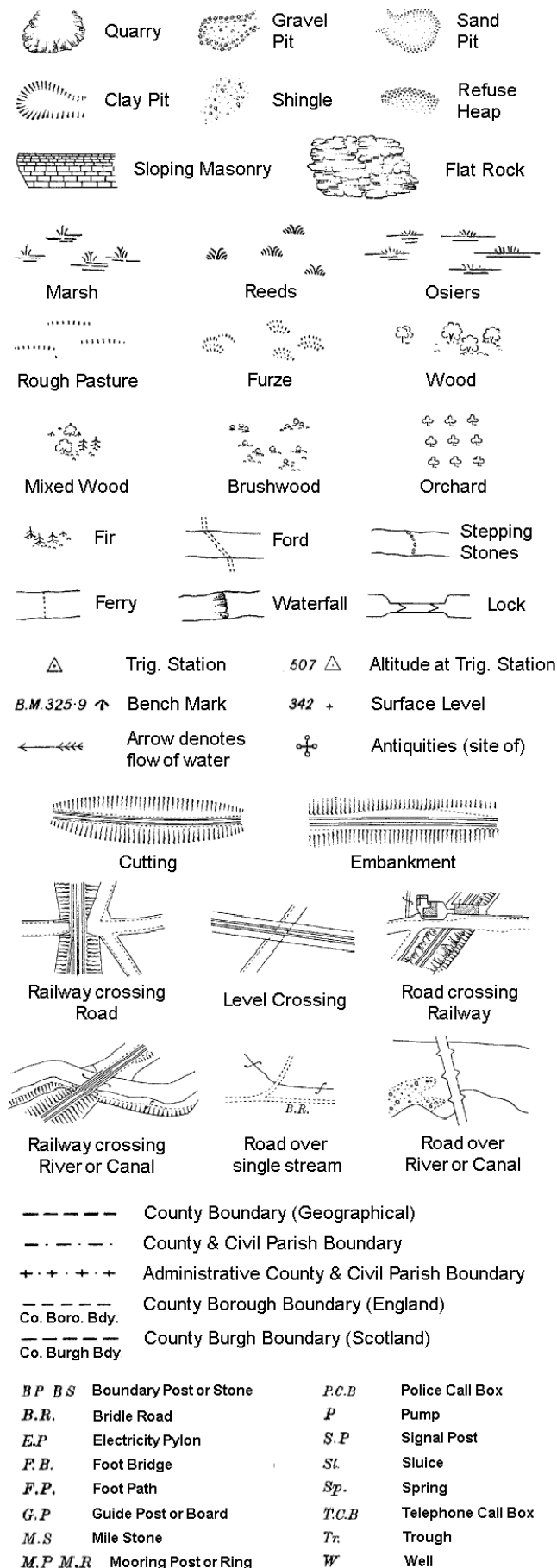
Order Number: 298702326_1_1
Customer Ref: LKC 21 1679
National Grid Reference: 386180, 395730
Slice: A
Site Area (Ha): 0.66
Search Buffer (m): 0

Site Details

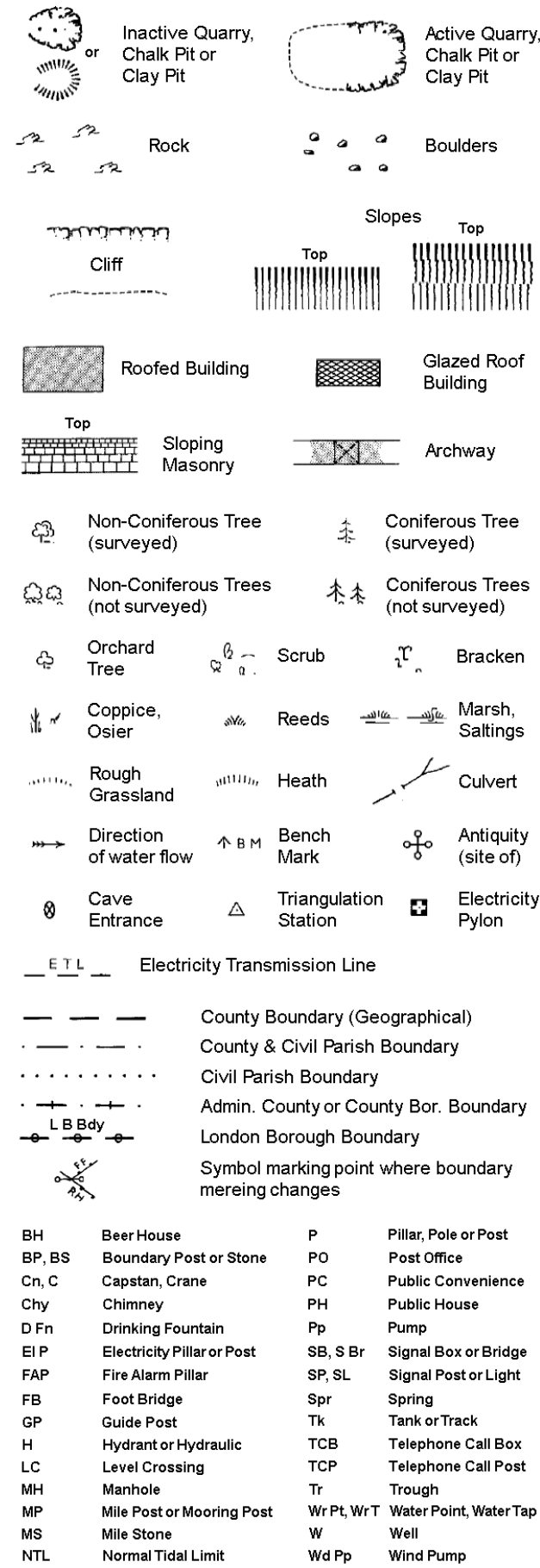
Site at 386170, 395690

Historical Mapping Legends

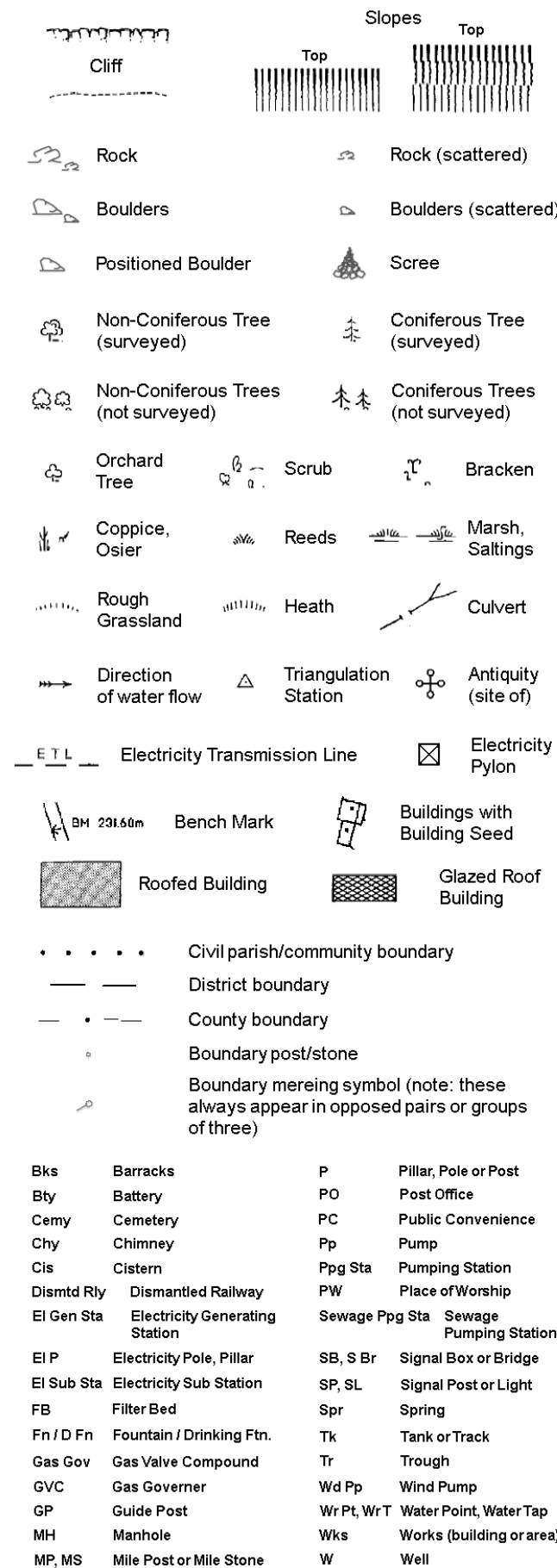
Ordnance Survey County Series and Ordnance Survey Plan 1:2,500



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



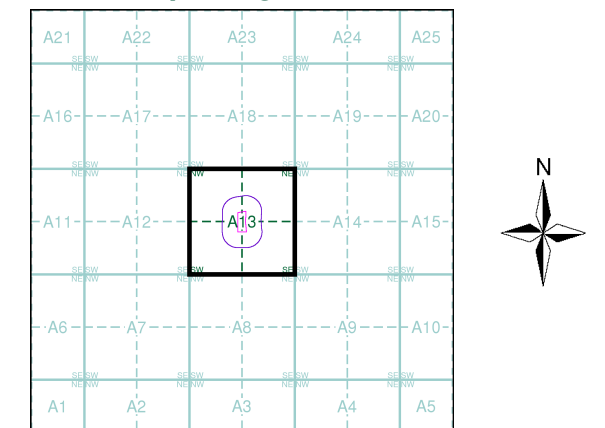
Large-Scale National Grid Data 1:2,500 and 1:1,250



Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:2,500	1893	2
Lancashire And Furness	1:2,500	1908	3
Lancashire And Furness	1:2,500	1933	4
Ordnance Survey Plan	1:1,250	1950 - 1951	5
Ordnance Survey Plan	1:2,500	1951 - 1952	6
Additional SIMs	1:1,250	1951 - 1992	7
Ordnance Survey Plan	1:2,500	1963 - 1964	8
Ordnance Survey Plan	1:1,250	1965 - 1983	9
Supply of Unpublished Survey Information	1:1,250	1975	10
Additional SIMs	1:1,250	1979 - 1992	11
Additional SIMs	1:1,250	1983 - 1992	12
Large-Scale National Grid Data	1:1,250	1992	13
Large-Scale National Grid Data	1:1,250	1993 - 1995	14
Large-Scale National Grid Data	1:1,250	1996	15
Large-Scale National Grid Data	1:1,250	1996	16
Historical Aerial Photography	1:2,500	2000	17

Historical Map - Segment A13



Order Details

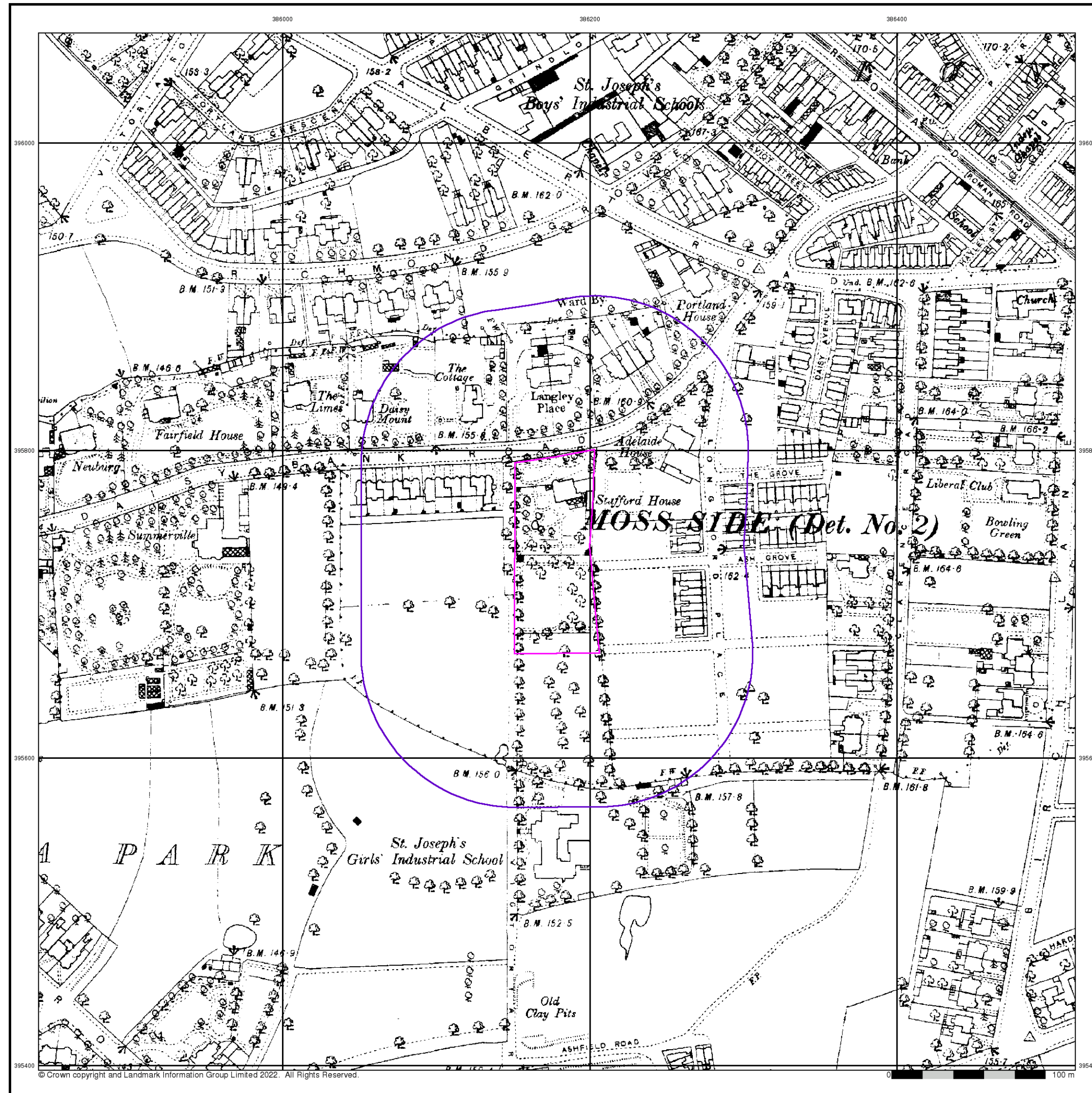
Order Number: 298702326_1_1
Customer Ref: LKC 21 1679
National Grid Reference: 386180, 395730
Slice: A
Site Area (Ha): 0.66
Search Buffer (m): 100

Site Details

Site at 386170, 395690



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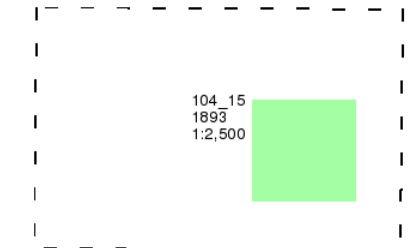
Lancashire And Furness

Published 1893

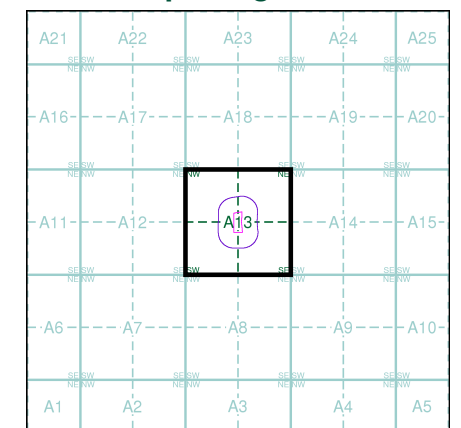
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number: 298702326_1_1
Customer Ref: LKC 21 1679
National Grid Reference: 386180, 395730
Slice: A
Site Area (Ha): 0.66
Search Buffer (m): 100

Site Details

Site at 386170, 395690



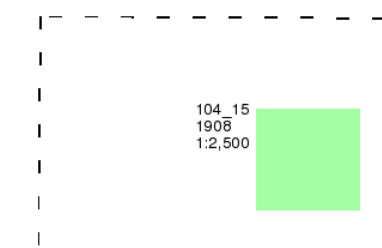
Tel: 0844 844 9952
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Web: www.envirocheck.co.uk

Published 1908

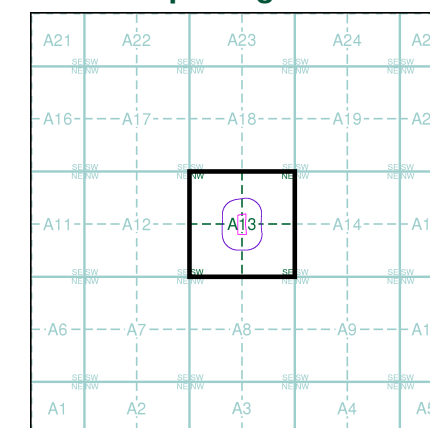
Source map scale - 1:2,500

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

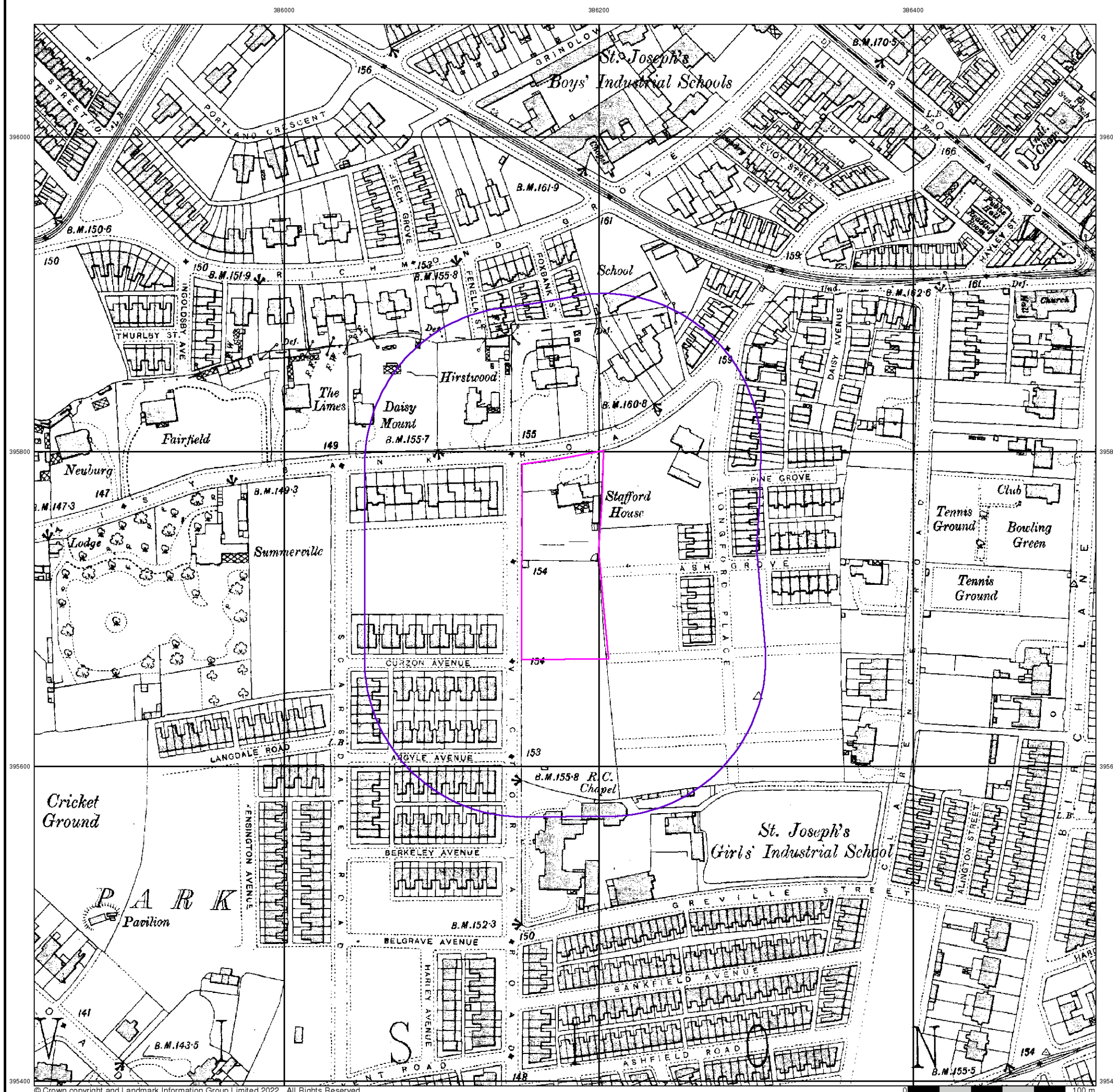


Order Details

Order Number: 298702326_1_1
Customer Ref: LKC 21 1679
National Grid Reference: 386180, 395730
Slice: A
Site Area (Ha): 0.66
Search Buffer (m): 100

Site Details

Site at 386170, 395690

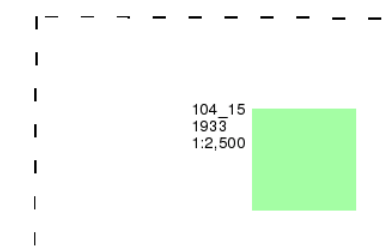


Published 1933

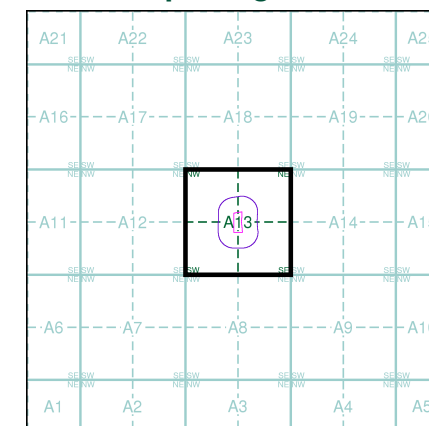
Source map scale - 1:2,500

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

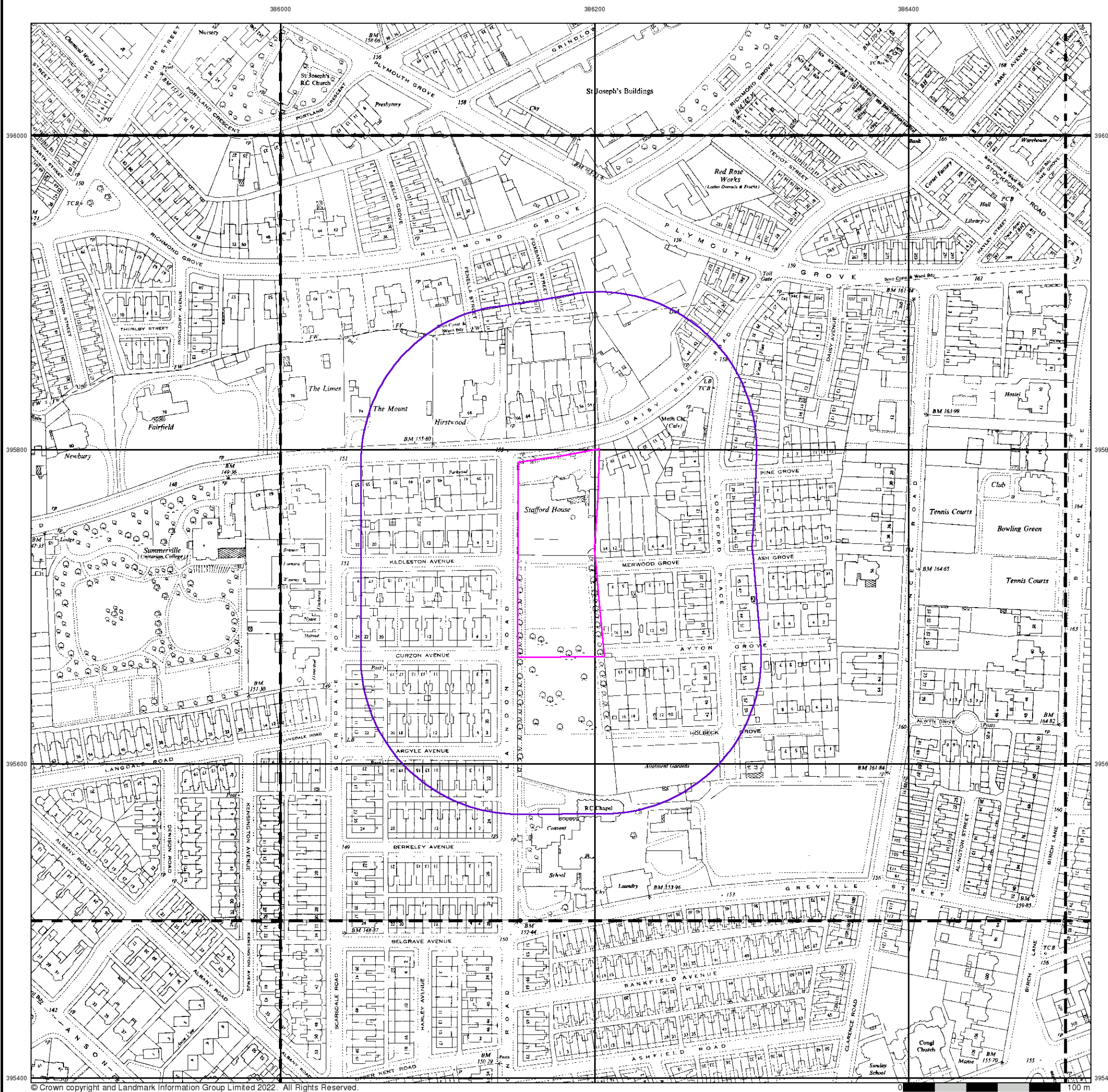


Order Details

Order Number: 298702326_1_1
Customer Ref: LKC 21 1679
National Grid Reference: 386180, 395730
Slice: A
Site Area (Ha): 0.66
Search Buffer (m): 100

Site Details

Site at 386170, 395690



Ordnance Survey Plan

Published 1950 - 1951

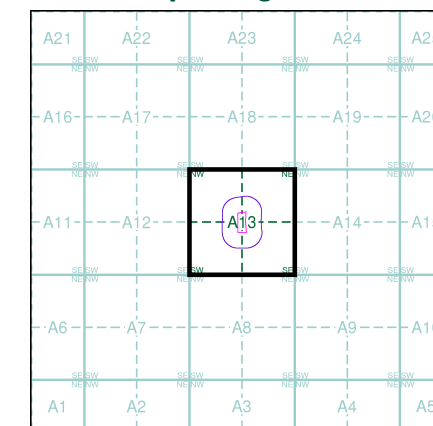
Source map scale - 1:1,250

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)

SJ8596SE	SJ8696SW	SJ8696SE
1950	1950	1950
1:1,250	1:1,250	1:1,250
SJ8595NE	SJ8695NW	SJ8695NE
1951	1951	1951
1:1,250	1:1,250	1:1,250
SJ8595SE	SJ8695SW	SJ8695SE
1951	1951	1951
1:1,250	1:1,250	1:1,250

Historical Map - Segment A13



Order Details

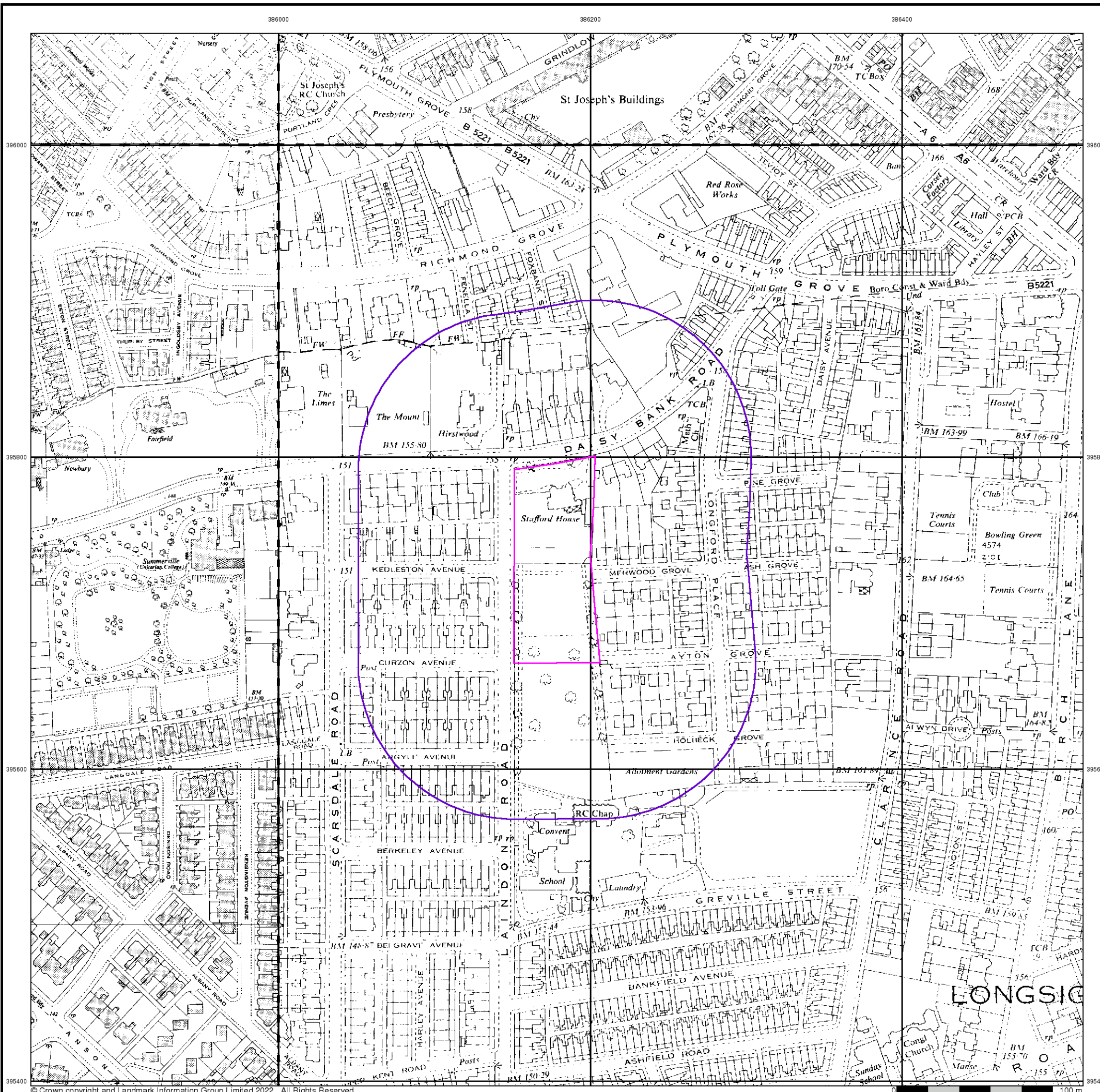
Order Number: 298702326_1_1
Customer Ref: LKC 21 1679
National Grid Reference: 386180, 395730
Slice: A
Site Area (Ha): 0.66
Search Buffer (m): 100

Site Details

Site at 386170, 395690



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ORDNANCE SURVEY PLAN

Published 1951 - 1952

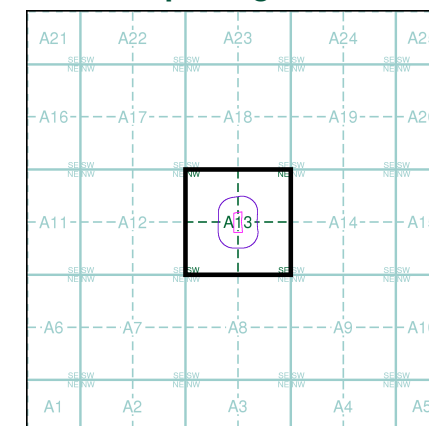
Source map scale - 1:2,500

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)

SJ8596	SJ8696
1951	1951
12,500	12,500
SJ8595	SJ8695
1952	1952
12,500	12,500

Historical Map - Segment A13



Order Details

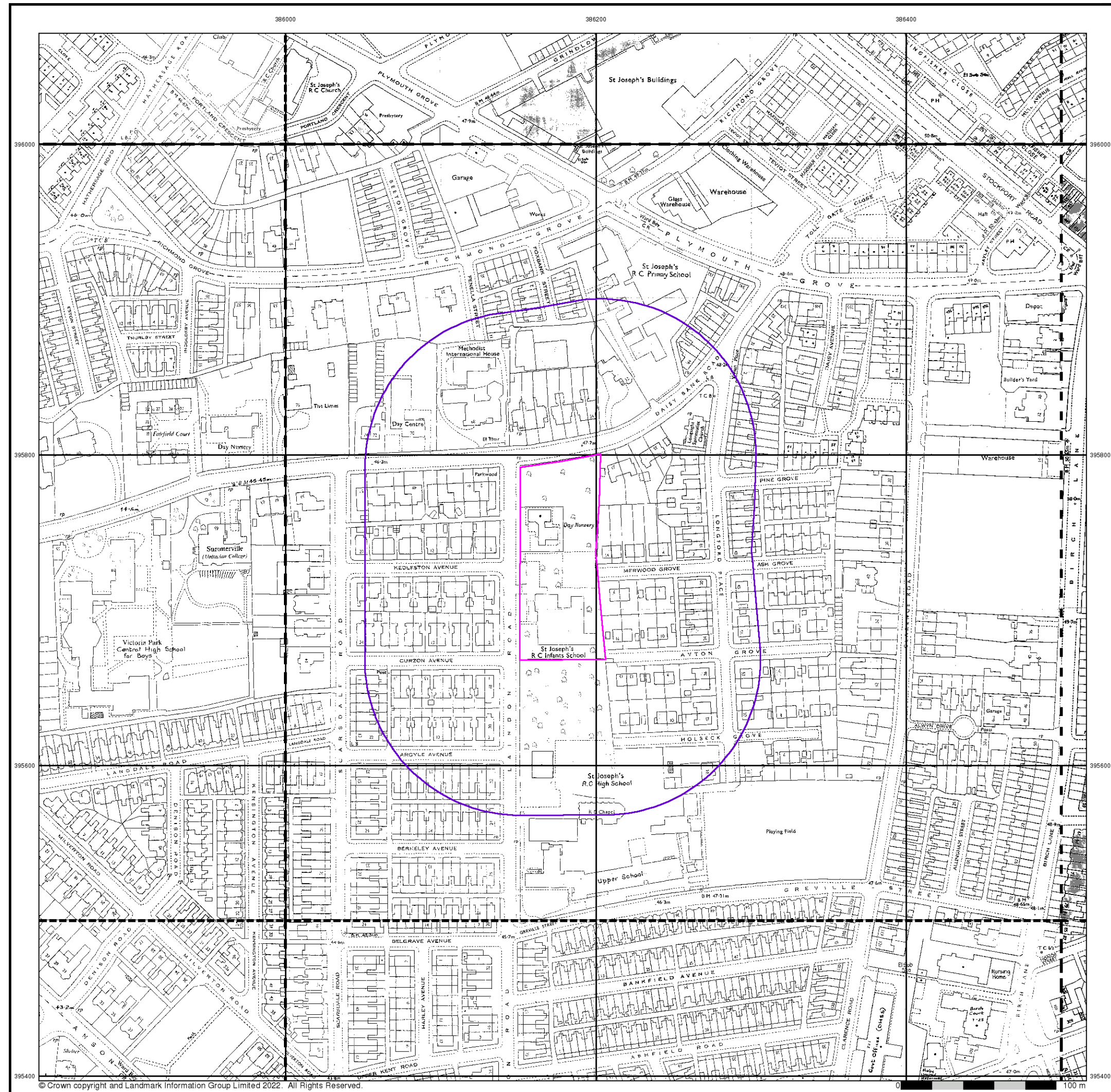
Order Number: 298702326_1_1
Customer Ref: LKC 21 1679
National Grid Reference: 386180, 395730
Slice: A
Site Area (Ha): 0.66
Search Buffer (m): 100

Site Details

Site at 386170, 395690



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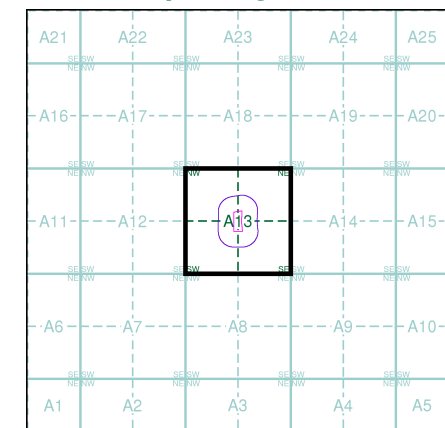
Published 1951 - 1992
Source map scale - 1:1,250

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)

SJ8596SE	SJ8696SW	SJ8696SE
1978	1991	1978
1:1,250	1:1,250	1:1,250
SJ8595NE	SJ8695NW	SJ8695NE
1980	1979	1951
1:1,250	1:1,250	1:1,250
SJ8595SE	SJ8695SW	SJ8695SE
1980	1992	1979
1:1,250	1:1,250	1:1,250

Historical Map - Segment A13

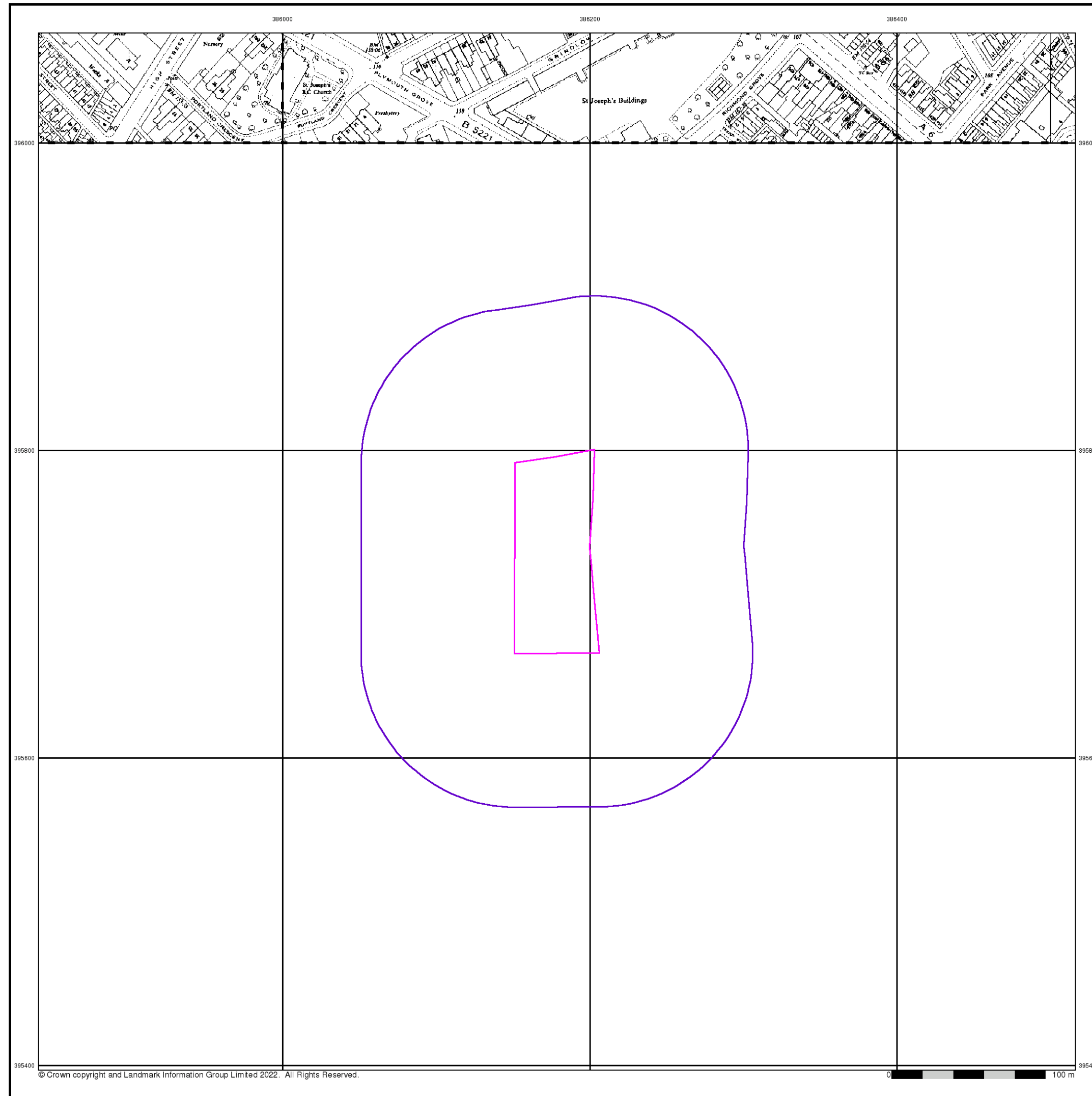


Order Details

Order Number: 298702326_1_1
Customer Ref: LKC 21 1679
National Grid Reference: 386180, 395730
Slice: A
Site Area (Ha): 0.66
Search Buffer (m): 100

Site Details

Site at 386170, 395690



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0 100 m



GROUP

Ordnance Survey Plan

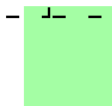
Published 1963 - 1964

Source map scale - 1:2,500

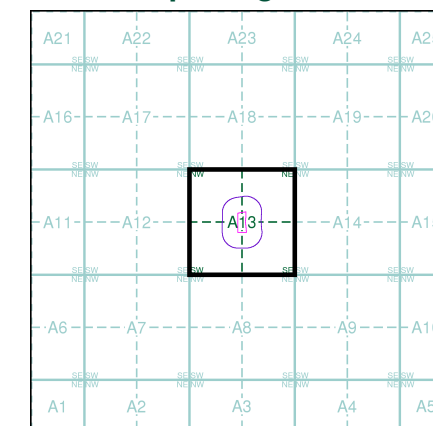
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. 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)

SJ8596 1963 1:2,500	SJ8696 1964 1:2,500
---------------------------	---------------------------



Historical Map - Segment A13



Order Details

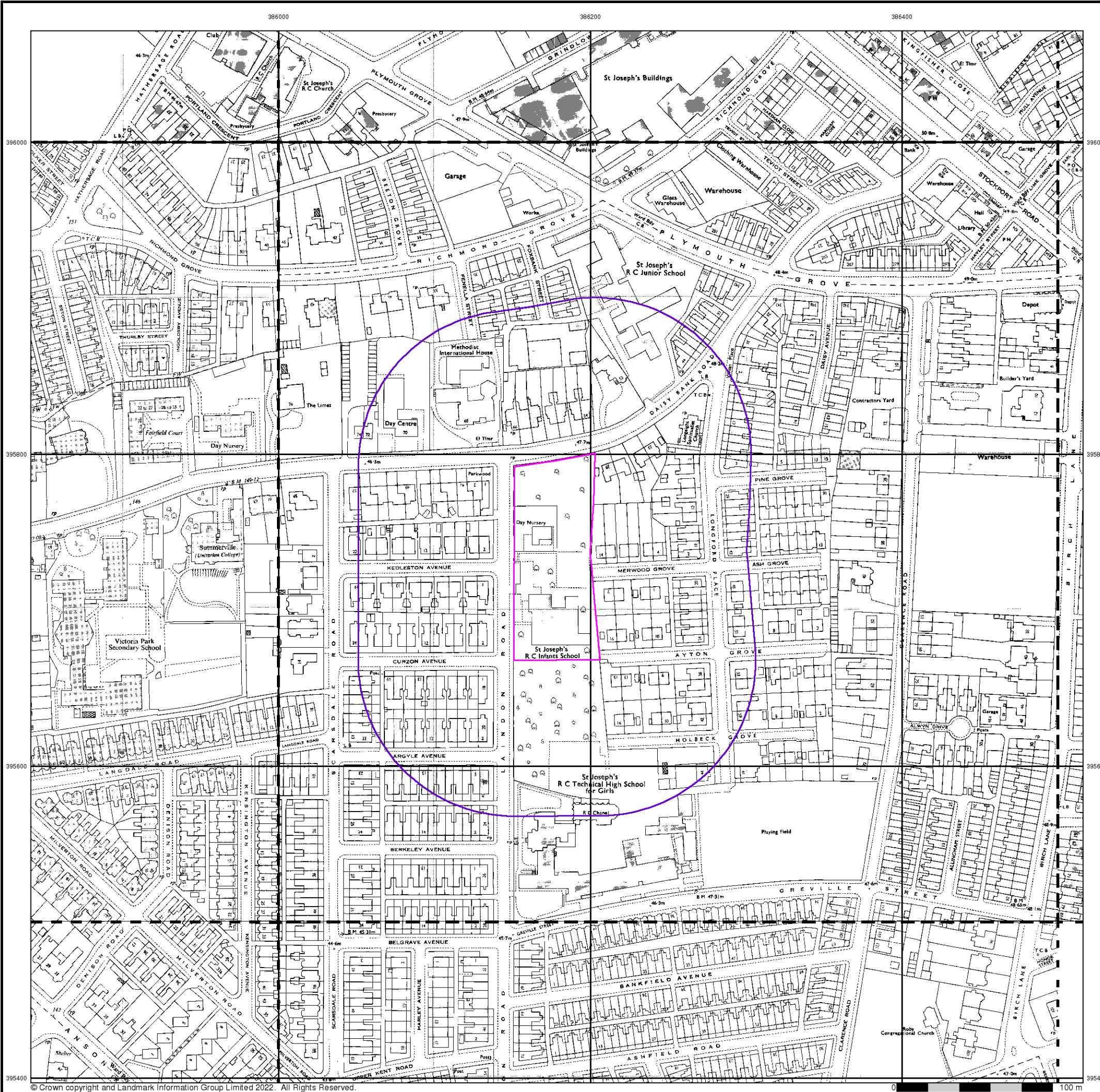
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Customer Ref: LKC 21 1679
National Grid Reference: 386180, 395730
Slice: A
Site Area (Ha): 0.66
Search Buffer (m): 100

Site Details

Site at 386170, 395690



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GROUP

Ordnance Survey Plan

Published 1965 - 1983

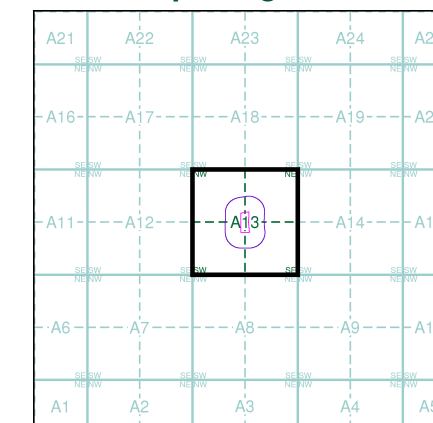
Source map scale - 1:1,250

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)

SJ8596SE	SJ8696SW	SJ8696SE
1976	1976	1981
1:1,250	1:1,250	1:1,250
SJ8595NE	SJ8695NW	SJ8695NE
1967	1972	1983
1:1,250	1:1,250	1:1,250
SJ8595SE	SJ8695SW	
1965	1972	
1:1,250	1:1,250	

Historical Map - Segment A13



Order Details

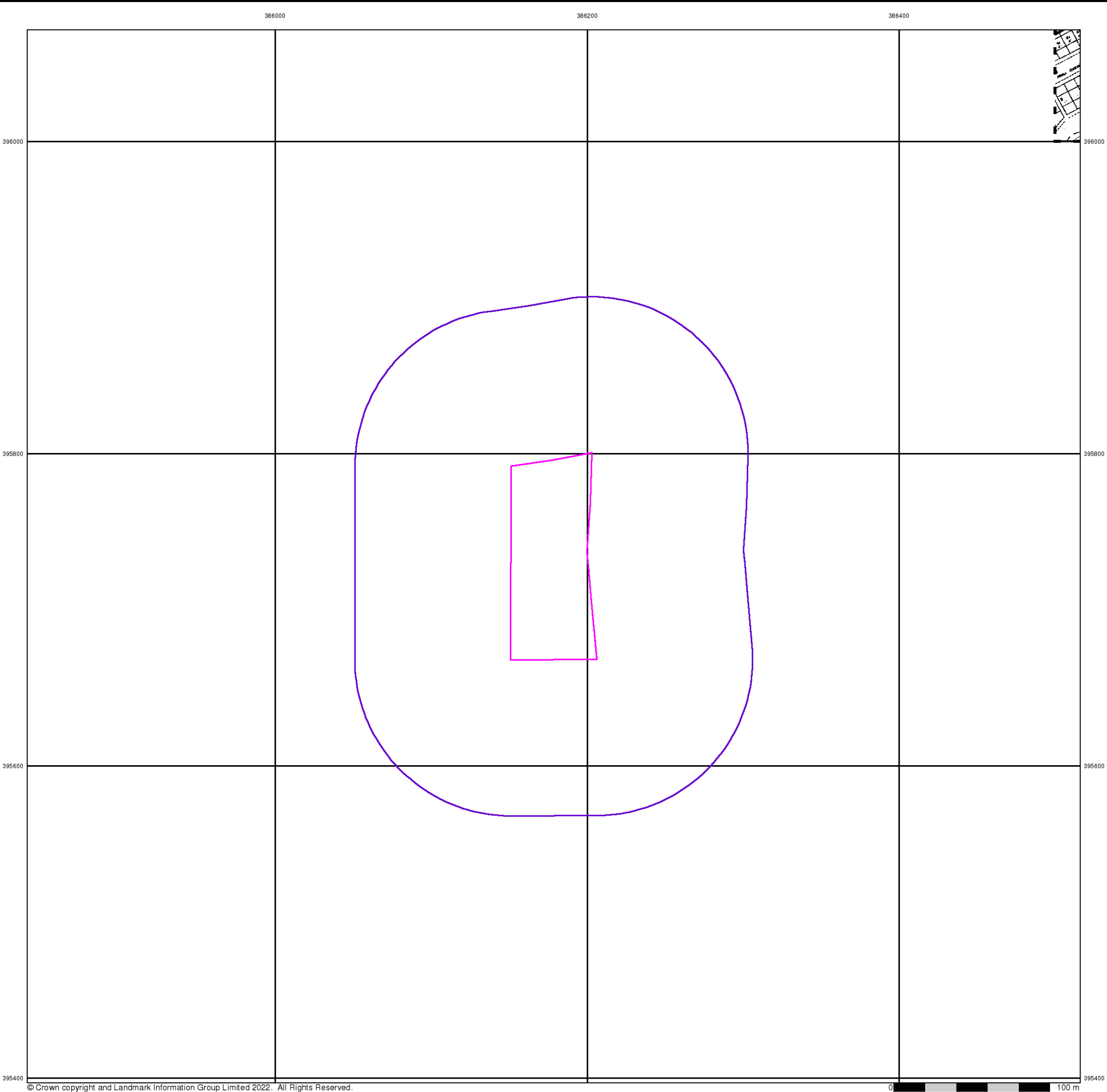
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Customer Ref: LKC 21 1679
National Grid Reference: 386180, 395730
Slice: A
Site Area (Ha): 0.66
Search Buffer (m): 100

Site Details

Site at 386170, 395690

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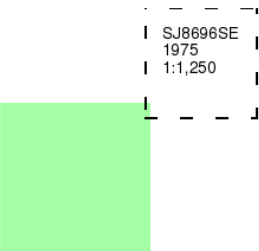
Supply of Unpublished Survey Information

Published 1975

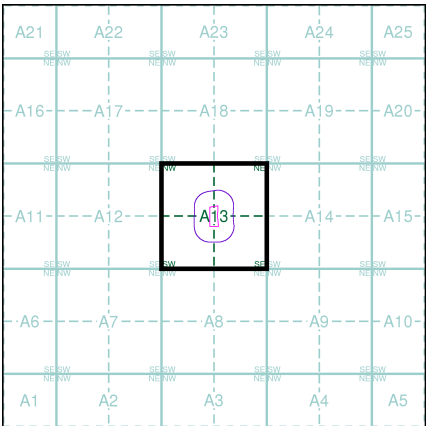
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

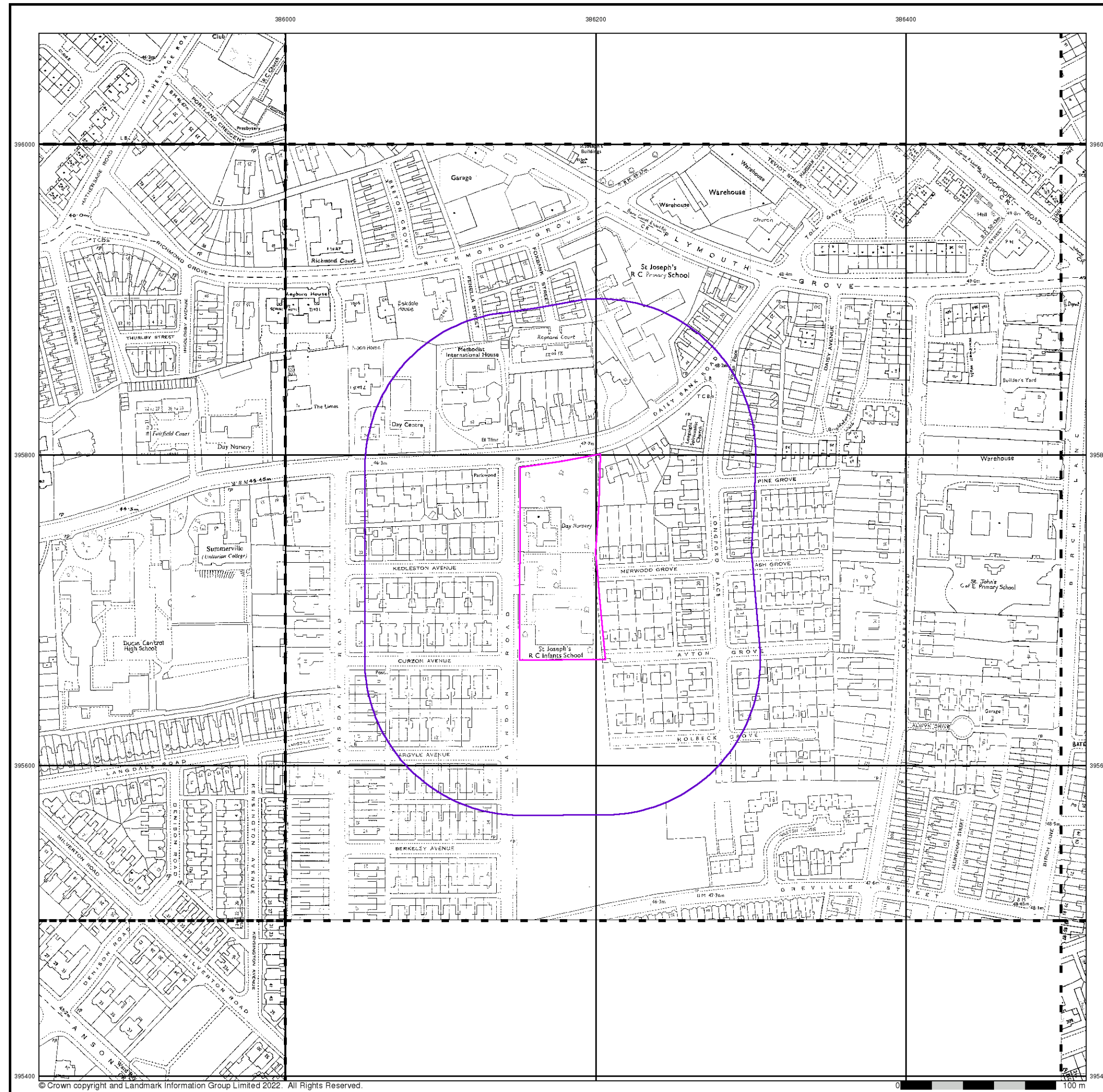
Order Number: 298702326_1_1
Customer Ref: LKC 21 1679
National Grid Reference: 386180, 395730
Slice: A
Site Area (Ha): 0.66
Search Buffer (m): 100

Site Details

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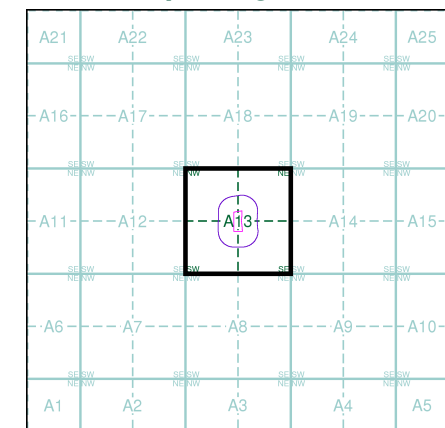
Published 1979 - 1992
Source map scale - 1:1,250

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)

SJ8596SE	SJ8696SE
1991	1988
1:1,250	1:1,250
SJ8595NE	SJ8695NW
1992	1991
1:1,250	1:1,250
SJ8595SE	SJ8695SE
1989	1990
1:1,250	1:1,250

Historical Map - Segment A13



Order Details

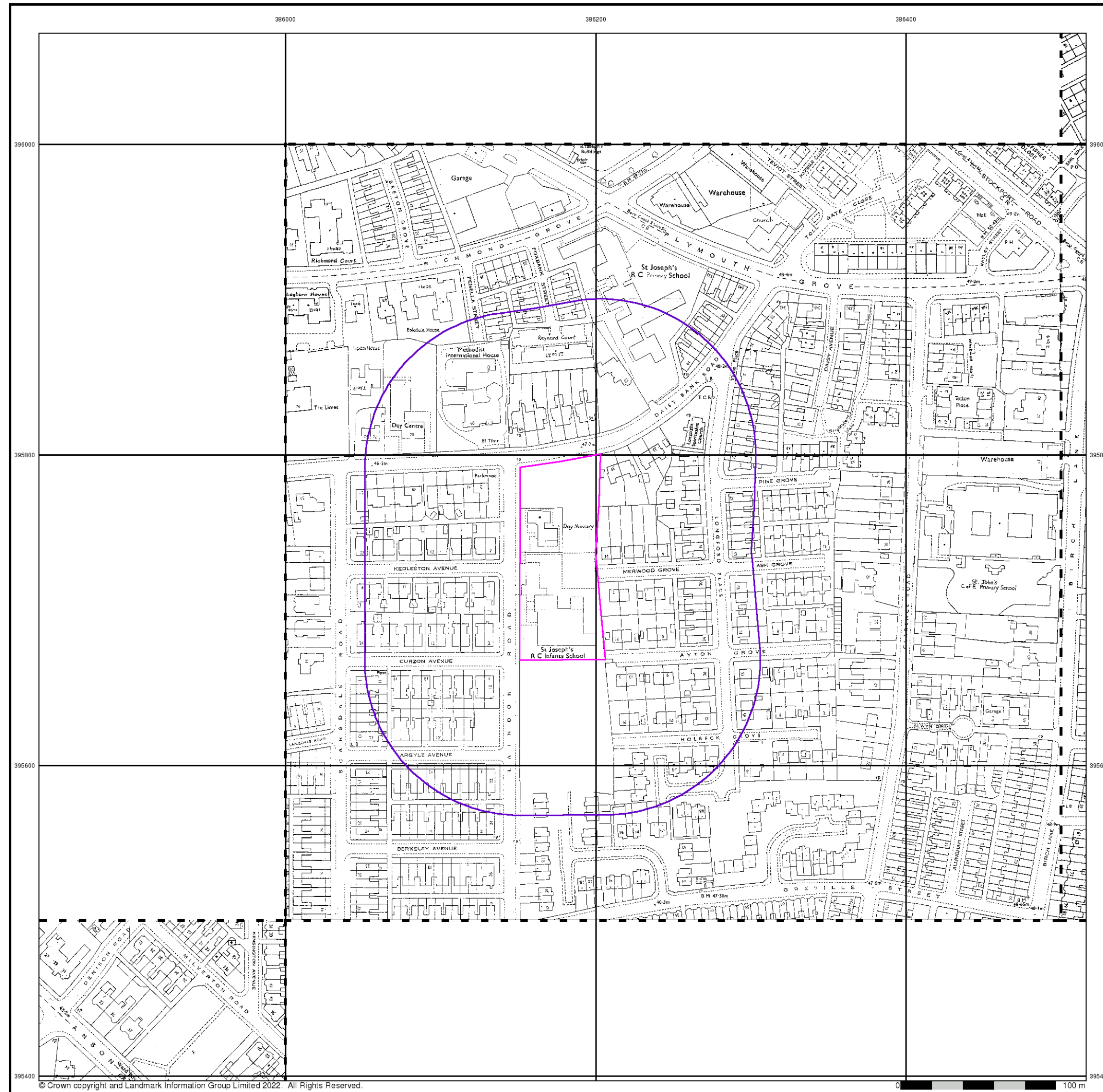
Order Number: 298702326_1_1
Customer Ref: LKC 21 1679
National Grid Reference: 386180, 395730
Slice: A
Site Area (Ha): 0.66
Search Buffer (m): 100

Site Details

Site at 386170, 395690



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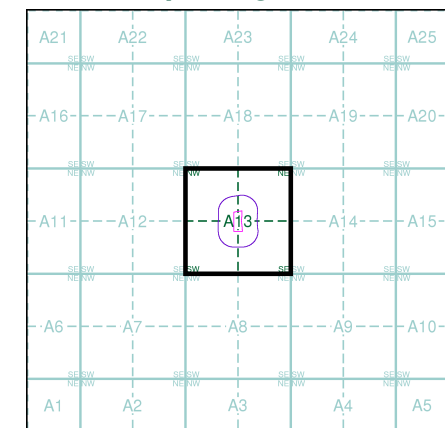
Published 1983 - 1992
Source map scale - 1:1,250

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)

SJ8696SE	1991	1:1,250
SJ8695NW	1983	1:1,250
SJ8695NE	1992	1:1,250
SJ8595SE	1992	1:1,250

Historical Map - Segment A13



Order Details

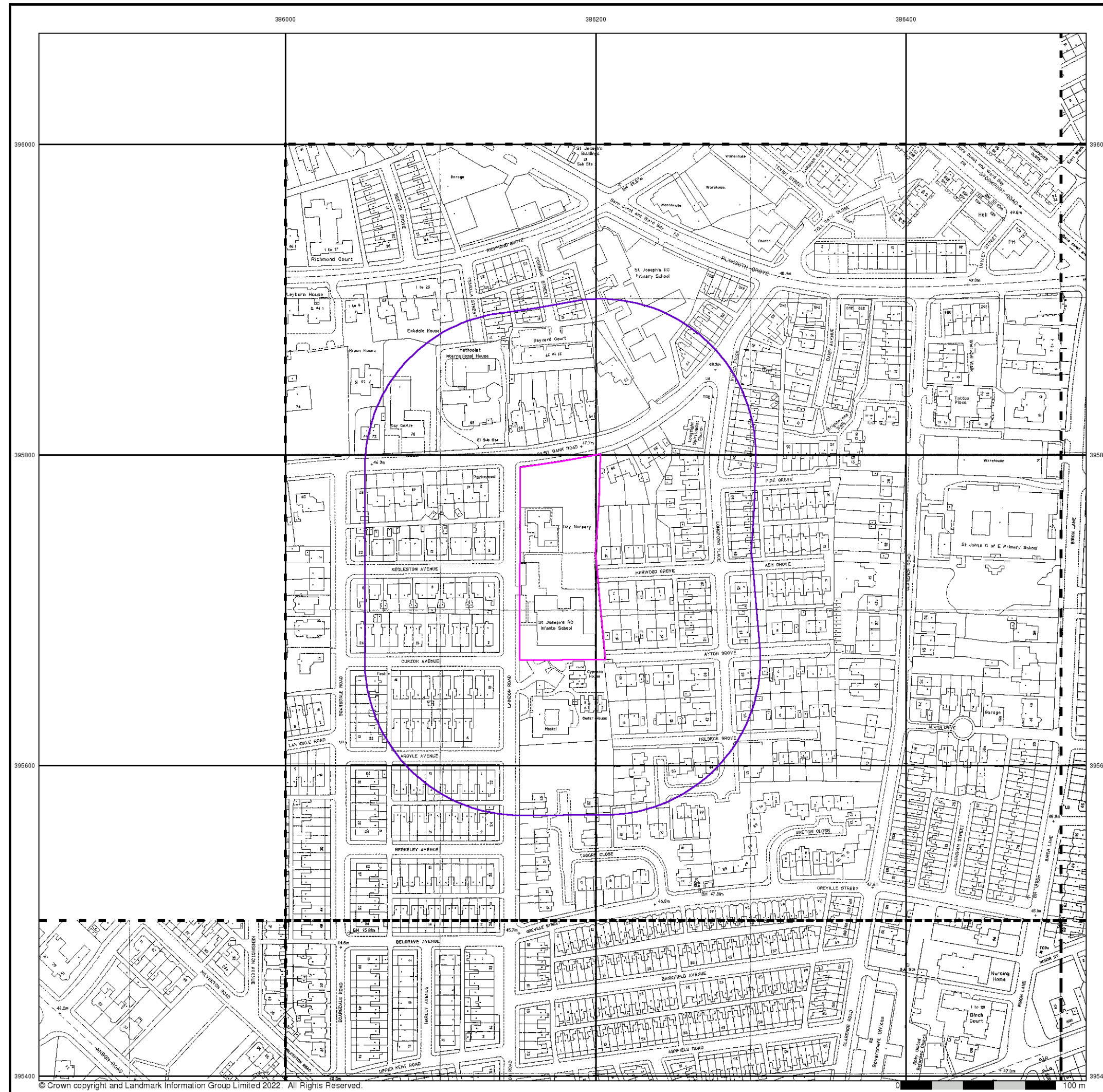
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Slice: A
Site Area (Ha): 0.66
Search Buffer (m): 100

Site Details

Site at 386170, 395690



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Large-Scale National Grid Data

Published 1993 - 1995

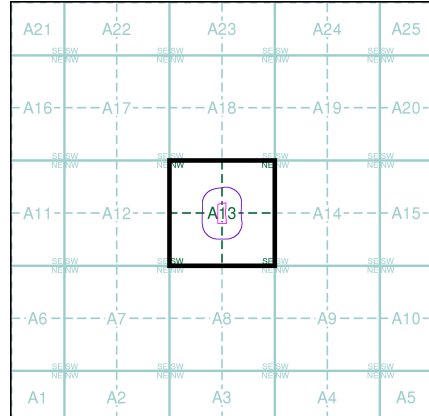
Source map scale - 1:1,250

'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)

SJ8896SE	1994	1:1,250
SJ8895NW	1993	1:1,250
SJ8895SE	1995	1:1,250
SJ8895SW	1995	1:1,250

Historical Map - Segment A13



Order Details

Order Number:	298702326_1_1
Customer Ref:	LKC 21 1679
National Grid Reference:	386180, 395730
Slice:	A
Site Area (Ha):	0.66
Search Buffer (m):	100

Site Details

Site at 386170, 395690



Landmark
INFORMATION GROUP

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Web: www.envirocheck.co.uk

A Landmark Information Group Service v50.0 21-Jul-2022 Page 14 of 17



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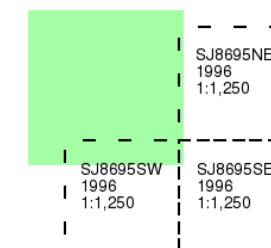
Large-Scale National Grid Data

Published 1996

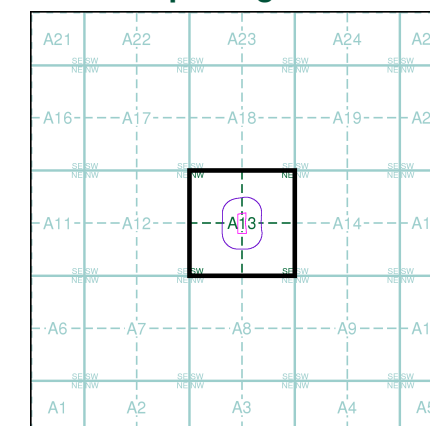
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Historical Map - Segment A13



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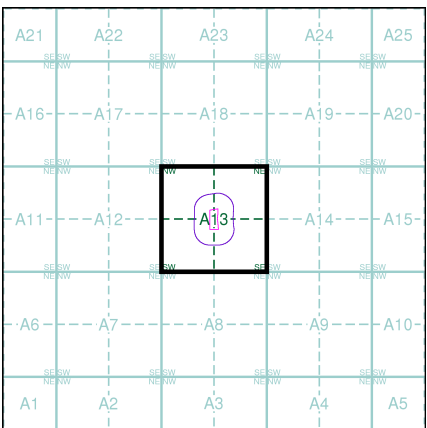
G R O U P

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: 298702326_1_1
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Slice: A
Site Area (Ha): 0.66
Search Buffer (m): 100

Site Details

Site at 386170, 395690



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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 Boundary Post or Stone		Police Station
	Church		Post Office
	Club House		Public Convenience
	Fire Engine Station		Public House
	Foot Bridge		Signal Box
	Fountain		Spring
	Guide Post		Telephone Call Box
	Mile Post		Telephone Call Post
	Mile Stone		Well

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

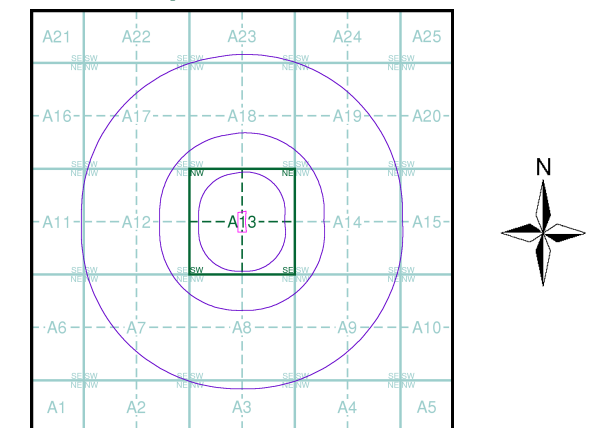


GROUP

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:10,560	1848	3
Cheshire	1:10,560	1882	4
Lancashire And Furness	1:10,560	1894	5
Lancashire And Furness	1:10,560	1908 - 1909	6
Lancashire And Furness	1:10,560	1923	7
Lancashire And Furness	1:10,560	1933 - 1934	8
Lancashire And Furness	1:10,560	1938	9
Ordnance Survey Plan	1:10,000	1955 - 1956	10
Ordnance Survey Plan	1:10,000	1965 - 1968	11
Ordnance Survey Plan	1:10,000	1972 - 1976	12
Manchester	1:25,000	1975	13
Ordnance Survey Plan	1:10,000	1980 - 1985	14
Ordnance Survey Plan	1:10,000	1985 - 1989	15
Ordnance Survey Plan	1:10,000	1989	16
Ordnance Survey Plan	1:10,000	1990 - 1994	17
10K Raster Mapping	1:10,000	1999	18
10K Raster Mapping	1:10,000	2006	19
VectorMap Local	1:10,000	2021	20

Historical Map - Slice A



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Slice: A
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Search Buffer (m): 1000

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Site at 386170, 395690



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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

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

Cut, Fill, Km Post, Plantings

Telegraph/Telephone Lines

Main Highway

Highway under Construction

Improved Dirt Road (former truck road)

Small Bridge, Pipe (Culvert), Tunnel

Double-track Railroad with First Class Station

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

SJ89_Manchester

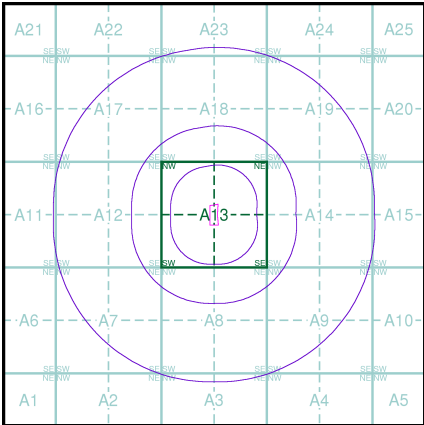
No.	Description
25	Depot (Railway)



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