

**LAND AT
VINE STREET
LIVERPOOL**

**PRELIMINARY
RISK ASSESSMENT**

(PHASE 1 DESK STUDY)



Prepared for:

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LK Consult Ltd
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1 INTRODUCTION

1.1 Introduction

LK Consult Ltd (LKC) has been commissioned by Carpenter Investments Ltd (Project Commencement Form dated 14th October 2013) to carry out a Preliminary Risk Assessment (PRA) for land at Vine Street Liverpool. The PRA was undertaken in support of a future planning application to redevelop the site for residential apartments.

According to guidance set out in CLR11¹, GPLC1-3² and the National Planning Policy Framework (NPPF)³ a PRA with a site reconnaissance is required as a minimum to ascertain if there is a potential contamination risk.

In accordance with current guidance the PRA report will include a site reconnaissance, site history, geology, hydrogeology, hydrology and a landfill search (within 250m of the site boundary). Information gathered from the desk study and site reconnaissance will be used to develop a contamination conceptual model for the site, which will support the identification and assessment of any pollutant linkages. Based on the findings of the PRA an appropriate site investigation can be derived, if required once planning approval has been granted.

1.2 Background

A summary of site settings is presented in Table 1-1. Figures 1 and 2 indicate the site location and boundary. Figure 3 indicates the proposed development.

Location	West of Vine Street in Liverpool. National Grid Reference 336010E 389700N.
Area	4300m ² .
Topography	49 metres above ordnance datum (AOD). Site is approximately level.
Land Use	<u>Site</u> Hardstood ground with car parking and buildings (some of which are boarded up) <u>Surrounding Area</u> North: Myrtle Street. South: Access road, residential gardens and a surgery. West: Chatham Street.
Proposed Development	Residential apartments including soft landscaping and car parking.

Table 1-1. Summary of site details for Vine Street, Liverpool.

¹ EA (2004). "Model Procedures for the Management of Land Contamination." R&D Publication CLR 11

² EA (2010) "Guiding principles for land Contamination." GPLC1-3.

³ DCL (2012). "National Planning Policy Framework." Department of Communities and Local Government. March 2012.

1.3 Disclaimer

This report has been prepared by 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 on 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 Carpenter Investments Ltd. 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.

2 SITE HISTORY

2.1 Introduction

In compiling the site history, LKC consulted mapping and other environmental data provided by the Landmark Information Group Ltd. Copies of relevant historical plans are provided in Appendix A and are summarised Table 2-1. Notable features within 100m of the site boundary have been presented (distances will be approximate). The exception to this will be features that could be infilled historically. The buffer will be 250m for these features.

2.2 Historical Map Review

Site Features	Location	Map Dates Present	Comments
Gardens	S	1849-1908	-Associated with residential dwellings to the south. -No longer present by 1910 mapping
Residential dwelling	S	1849	-No longer indicated by 1891 mapping.
Corporation Yard	N	1891-2013	-Associated buildings present on site. -Buildings associated with Corporation Yard present on southern part of site by 1910 mapping. -Platform annotated on central part of site from 1954 mapping. -Southern building annotated as a garage by 1954 mapping and a warehouse by the 1975 mapping. The building is no longer annotated by the 1984 mapping and no longer present by the 1989 mapping.
Tunnel	Central	1908-2013	-Annotated as Wapping Tunnel by the 1954 mapping. -Annotated as disused by the 1975 mapping.
Surrounding Area Features	Distance/ Location	Map Dates Present	Comments
Tramway	65m E	1893-1927	-No longer present by 1954 mapping.
Residential dwellings	Adj S	1849-1968	-Replaced with access road by 1975 mapping.
Residential dwellings	Adj N	1849-1968	-No longer present by 1975 mapping.
Surgery	Adj S	1954-2013	
Furniture Factory	50m W	1954-1967	-No longer present by 1969 mapping.
Furniture Factory	60m SW	1954-1975	-No longer present by 1980 mapping.
Furniture Factory	70m W	1954-1967	-No longer present by 1969 mapping.
Dairy	70m WSW	1954-1977	-No longer present by 1984 mapping.
Bakery	70m SW	1954-1967	-No longer present by 1969 mapping.
Warehouse	65m NW	1954-1955	-No longer present by the 1967 mapping.
Corporation Yard	50m NE	1975-1977	-No longer present by 1984 mapping.
Domestic garage cluster	10m E	1975-1987	-No longer present by 1989 mapping.
Works	80m S	1989-2013	

Table 2-1: Summary of historical features for land at Vine Street, Liverpool.

2.3 Additional Information

The disused tunnel underlying the site is anticipated to be located approximately 16m below ground level. Plans showing details of the tunnel are provided in Appendix B.

3 ENVIRONMENTAL SETTING

In compiling this Section, LKC consulted environmental information provided by the Envirocheck Report (Appendix C), British Geological Survey (BGS) (Appendix D) and the Environment Agency. A summary is presented in Table 3-1.

Summary of Environmental Settings		
Geology	Superficial	-Till.
	Bedrock	-Wilmslow Sandstone Formation
	Faulting	-1 fault adj W striking NNW to SSE
	BGS logs	-SJ38NE285 109m N. Topsoil to 0.2m, gravelly sand with brick fragments to 2.7m, natural sand to 3.5m, peat to 3.6m, sandy clay with bands of sandy silt to 5.4m, sandy clay with gravel and cobbles to 7.1m sandstone to 8.1m (base of borehole). -SJ38NE286 109m N. Sand with brick and concrete fragments to 1.3m, natural sand to 2.5m, peat to 3.0m, sandy clay with gravel and peat to 3.6m, sand clay with gravel to 6.0m, sand stone to 7.1m (base of borehole).
Hydrogeology	Aquifer Designation	Superficial -Unproductive.
		Bedrock -Principal
	Groundwater abstractions -None within 1km.	
Hydrology	Nearest surface water -Drain 481m NNW.	
	Flooding -No risk from rivers or the sea.	
	Surface water abstractions -None within 1km.	
	Discharge consent -None within 1km.	
	Pollution Incidents -One within 250m located 163m E. Sewage release to a ditch of Padgate Brook due to wrong connection. Occurred in 1997 and classified a Category 3-Minor Incident.	
Mining	Coal Mining -No hazard.	
	Ground Stability -Very low hazard of landslide, shrinking or swelling clay or collapsible ground. -No hazard of compressible ground, ground dissolution or running sand.	
	Mineral Abstraction -No mineral extraction within 250m of the site. Nearest 377m NE for abstraction of common clay and shale by opencast methods. Site has ceased operation.	
Landfill sites (within 250m)	Known/Registered -None within 250m. Nearest is a historical landfill site located 454m E operated by Liverpool City Council accepting inert waste between April and August 1993.	
	Potential -None identified within 250m.	
Radon		-Probability of <1% of homes above Action Level. -No further action required.
Designated Sites		-None within 1km.
Contemporary Trade Directory		-3 within 250m, nearest 20m S. Commercial cleaning services; listed as inactive.

Table 3-1: Summary of environmental setting for land at Vine Street, Liverpool.

4 SITE RECONNAISSANCE

A site reconnaissance of the study site area was carried out by LKC on the 16th October 2013. Photographs are provided in Appendix E.

The site was accessed off Vine Street, via the northern entrance to the car park onsite (Photograph 1). The area of proposed redevelopment is currently used as an area of car parking and a depot associated with Liverpool University.

The site was enclosed by brick walls and bounded to the north by Myrtle Street and Liverpool University, to the east by Vine Street and residential properties, to the south by residential properties, and to the west by Chatham Street and residential properties.

The ground across the site was observed to be hardstood by tarmacadam, concrete and cobble setts (Photographs 2 to 4). Several buildings were present across the site. A boarded up single storey brick building was noted along the length of the northern boundary (Photograph 5). On the western boundary a small single storey building was noted (Photograph 6). Brick buildings with single and two storey sections were noted along the eastern boundary (boarded up) and in the centre of the site (Photographs 7 and 8). The centre building appeared to be used as an office. A raised brick built oblong platform was also noted in the centre of the site (Photograph 9).

The northern half of the site was a car park associated with Liverpool University. In the southern half of the site skips and hazardous waste skips were noted as well as several disused fridges and washing machines, pallets, road barriers and paving stones. (Photographs 10 to 16). A pile of topsoil was noted on the central southern boundary (Photograph 17).

Several Buddleia bushes were noted across the site (Photograph 9). Mature trees were noted along the northern site boundary.

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 CLR11⁴. 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

The primary historical onsite features that may be of concern are the corporation yard, garage and car park.

Potential contaminants that may be present on the site that could be associated with the corporation yard and garage include petroleum hydrocarbons, solvents, asbestos, ethylene glycol and heavy metals.

The skips on site may be a potential source of contamination, however the site is hard surfaced which may impede the migration of contaminants to the underlying soils.

In addition, ash and clinker materials may be present associated with level raising materials or used in the former gardens on the southern part of the site. Contaminants associated with these materials may include heavy metals (such as arsenic and lead) and Polycyclic Aromatic Hydrocarbons ((PAHs), such as benzo(a)pyrene (B(a)P))⁵.

The building structures may also have contained Asbestos Containing Materials (ACMs).

The immediate surrounding areas have been mainly developed for residential usage. Several potentially contaminative land-uses have been identified within 250m of the study

⁴ Defra (2004). "Model Procedures for the Management of Land Contamination." R&D Publication CLR 11

⁵ Defra (2002). "Potential Contaminants for the Assessment of Land." R&D Publication CLR 8

site including a tramway, furniture factories, dairy, bakery, warehouse, corporation yard, domestic garage cluster and a works. LKC do not consider these historical features to be a significant risk due to their distance from the site.

The Envirocheck Report has not identified any known/licensed landfill sites within 250m of the study site. A review of the historical OS mapping by LKC has not identified any potentially infilled areas within 250m of the site.

Hazardous gas generation can occur from made ground on the site, however this is strongly dependant upon its quantity and composition. If significant amounts of putrescible or degradable material is found on site hazardous gas generation may be possible.

5.3 Potential Pathways

Principal potential pathways associated with human health from soil contamination are ingestion, dermal and inhalation. The current UK technical report document⁶ recognises ten such pathways comprising four ingestion, two dermal and four inhalation. These are listed as follows:

- 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

The proposed end-use follows a standard conceptual model of residential. Given the proposed development eight of the pathways will need to be considered (Ingestion of contaminated vegetables and Ingestion of soil attached to vegetables are excluded).

Surface water and groundwater are principal mechanisms for the migration of contaminants, with rainwater infiltrating through contaminated material and contamination possibly going into solution. Contaminated water may then find preferential pathways to surface waters and underlying aquifer.

Culverts, ditches, drains, service drains may provide preferential pathways off site.

⁶ EA (2008). "Updated Technical Background to the CLEA Model." Science Report – SC050021/SR3.

Bedrock and superficial geology has the potential to impede or provide preferential pathways for contaminants onto or off site. The underlying Till deposits may impede the migration of contaminants to or from the study site. However, the site is situated on Sandstone, depending on the pore space and bedding orientation, this may act as a pathway for contaminants onto or off-site.

There is one known geological fault within 250m of the study site. This is located on the western site boundary and therefore may provide a viable pathway for the migration of contaminants. In addition, the tunnel below the site is also considered to provide a viable pathway for the migration of contaminants.

5.4 Potential Receptors

Potential receptors with respect to human health and hazards present on the site include:

- Human Health: Future site residents.
- Controlled Waters: Underlying Principal Aquifer.
- Buildings and Services: Hazardous gas and organic/corrosive contaminants that could affect integrity of building materials and service pipes.
- Flora: Within future soft landscaped areas.

Due to the distance of the nearest surface water feature to the study site, surface water is not considered as a potential receptor.

It should be noted that there may be risk from short term exposure from contaminated soil to site workers and offsite receptors. 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 guidance⁷) should be adopted by all workers involved with site enabling and construction works. Therefore construction workers and offsite receptors are only considered within the conceptual model for the risk from asbestos in soil.

5.5 Preliminary Contamination Conceptual Model

The preliminary contamination conceptual model for Vine Street is illustrated in Table 5-1 below and has identified seven generic potential pollutant linkages each of which are considered possible at this stage.

⁷ HSE (1991). "Protection of workers and the general public during development of contaminated land" London HMSO.

Each linkage is discussed below along with an assessment of the likelihood of each linkage considering the available data and the nature of the development. This conceptual model is based upon contaminant-pathway-receptor pollutant linkages, on the premise that if there is no pollutant linkage then there will be no risk to the receptor⁸.

Pollutant Linkage No.	Contaminant					Pathway	Receptor
	ACM	Gases		Contaminants			
		Hazardous	Ground	Organic	Inorganic		
PL1	?	x	x	?	?	-Dermal contact. -Ingestion of soils. -Inhalation of contaminated soil, fibres and dust.	-Future site residents. -Future site construction workers (ACM only). -Off-site receptors (ACM only).
PL2	x	x	x	?	x	-Inhalation of vapours. -Vapour migration through permeable strata.	-Future site residents.
PL3	x	?	x	x	x	-Inhalation of hazardous gas. -Migration through permeable strata. -Migration through underlying fault. -Explosion in confined spaces.	-Future site residents. -Offsite receptors (if gas is generated on site). -Building structure.
PL4	x	x	x	?	?	-Groundwater migration through permeable strata. -Perched waters migration on site.	-Principal Aquifer.
PL5	x	x	x	x	?	-Contact with potential hazards	-Site buildings
PL6	x	x	x	?	?	-Ingestion of tainted water supply. -Corrosion of metal pipework.	-Future site residents. -Pipework.
PL7	x	x	x	x	?	-Root uptake of phytotoxic contaminants	-Flora in future landscaping.

Table 5-1 Contamination Conceptual Model for land at Vine Street, Liverpool.

(Key: ? – pollutant linkage possible; x – pollutant linkage unlikely)

5.5.1 Pollutant Linkage 1

Pollutant linkage 1 refers to the potential asbestos, heavy metals and organic contaminants, such as PAHs and petroleum hydrocarbons coming into direct contact with future site residents. This is considered possible in areas of proposed landscaping. This is also considered possible for future construction workers and off-site receptors for asbestos fibres during groundworks.

5.5.2 Pollutant Linkage 2

Potential pollutant linkage 2 refers to possible inhalation of vapours affecting the future site residents from potential hydrocarbons onsite. LKC therefore consider pollutant linkage 2 to be possible.

⁸ EA (2004). "Model Procedures for the Management of Land Contamination." R&D Publication CLR 11

5.5.3 *Pollutant Linkage 3*

Potential pollutant linkage 3 refers to possible hazardous gas and ground gas affecting the future site residents and buildings by accumulation causing an explosion (methane) and asphyxiation (carbon dioxide).

No known landfill sites or areas of potential infilling were identified within 250m of the study site. However, hazardous gas generation can also occur from made ground on the site, however this is strongly dependant upon its quantity and composition. If significant amounts of putrescible or degradable material is found on site hazardous gas generation may be possible.

Therefore LKC consider this pollutant linkage to be possible at this stage until further information on the ground conditions on site are known.

5.5.4 *Pollutant Linkage 4*

Potential pollutant linkage 4 refers to the possible contaminants and the underlying Principal Aquifer. This linkage is considered possible given the likely presence of made ground and possible hydrocarbon contamination on the study site

The underlying Till deposits may offer some protection to the Principal Aquifer by impeding migration of dissolved phased contaminants. However, LKC consider pollutant linkage 4 to be possible at this stage.

5.5.5 *Pollutant Linkage 5*

Potential pollutant linkage 5 refers to the possible deleterious effects that sulphate may have on building materials such as concrete, water pipes and building structures. Potential made ground comprising ash and clinker may generate sulphate. Therefore, this pollutant linkage is considered possible.

5.5.6 *Pollutant Linkage 6*

Potential pollutant linkage 6 refers to the possible contaminants permeating potable water pipes and consumption by the future residents of the tainted water supply. Given the likely presence of made ground on site and likely contaminants this linkage is also considered possible.

5.5.7 *Pollutant Linkage 7*

Potential pollutant linkage 7 refers to the possible phytotoxic contaminants affecting plant growth. Given the likely presence of made ground onsite and likely heavy metal contaminants, this linkage is also considered possible.

6 SUMMARY CONCLUSIONS AND RECOMMENDATIONS

6.1 Summary Conclusions

Based on the historical mapping the site has been a corporation yard, garage and warehouse. Potential contaminants could therefore include petroleum hydrocarbons, solvents, asbestos, ethylene glycol, heavy metals, PAHs and sulphate that could impact on human health (through direct contact and inhalation and infiltration to potable pipework) and flora (by plant uptake).

Hazardous gas (primarily methane and carbon dioxide) may be generated by made ground on site, however this is dependent on its quantity and composition. Further assessment of the risk of hazardous gas should be made once the ground conditions are known.

No radon protection measures are required.

The preliminary contamination conceptual model for Vine Street, Liverpool, as illustrated in Table 5-1 has identified seven generic potential pollutant linkages, each of which are considered possible at this stage.

6.2 Recommendations

In accordance with NPPF, LKC consider that sufficient information on the potential contaminative status of the site is available in this Preliminary Risk Assessment report to allow the validation of any future planning application by the Local Planning Authority and for conditional planning approval to be granted. Such conditional approval will likely include standard prescriptive conditions requiring a site investigation, risk assessment and, if appropriate, a remedial strategy are completed to the satisfaction of the Local Planning Authority prior to the commencement of any development.

LKC would recommend that once conditional planning approval is granted, a Phase II intrusive survey should be carried out across the site to investigate the seven identified potential pollutant linkages further. The scope of this Phase II survey should be prior agreed with the Local Authority and should include the following.

In order to address potential pollutant linkages 1, 2, 5, 6 and 7 solid samples should be collected from trial pits and/or boreholes undertaken across the site subjected to appropriate chemical analyses based upon a broad range of contaminants, including those identified in Section 5.2. The investigation will follow guidance set out in BS10175⁹ and BS5930¹⁰. Some sampling locations will target historical features such as the garage etc. Full details of the proposed site investigation should be forwarded to the Local Authority for approval.

The requirement for gas monitoring will be determined on completion of site investigation once the ground conditions are known. If required, monitoring should be undertaken over a suitable period as recommended in CIRIA C665¹¹. As a minimum gas monitoring would likely be over a three month period with at least six gas monitoring visits under worst case temporal conditions. The monitoring timescales will need to be agreed beforehand with the Local Authority.

Pollutant linkage 4 may be investigated by the sampling and chemical analysis of any groundwater on site or by testing for any leachable contamination in the soils on site. This will be dependent upon prevailing site conditions.

It should be noted that boreholes or trial pits may also be utilised to provide appropriate geotechnical information on sub-surface conditions. The tunnel underlying the site may pose a geotechnical constraint to the proposed site buildings and further advice should be sought from a structural engineer.

This investigation, in conjunction with appropriate geotechnical testing, will delineate any existing areas of potential contamination and identify and characterise any contaminants encountered. Information from this investigation can then be used to provide a more detailed assessment of the identified pollutant linkages, provide appropriate foundation solutions and, if necessary, identify appropriate remedial measures to ensure that the site is made suitable for its proposed end use.

A more detailed scope should be presented to the Local Authority as a Site Investigation Brief and to obtain permission to drill near the tunnel underlying the site.

A copy of this report should be sent as part of the planning application.

⁹ British Standard (2011). "Investigation of Potentially Contaminated Sites – Code of Practice." BS10175:2011

¹⁰ British Standard (1999). "Code of Practice for Site Investigations." BS5930:1999

¹¹ CIRIA (2007). "Assessing Risks Posed by Hazardous Ground Gases to Buildings." CIRIA C665

6.3 Further Considerations

Even though no asbestos was identified externally on the existing buildings there may be areas inside that have Asbestos Containing Materials (ACMS) given the age of the properties. Therefore we would advise that a Pre-Demolition and Major Refurbishment Asbestos Survey is undertaken prior to demolition by a professional contractor. The LK Group have a designated Asbestos Department would be happy to advise you on the appropriate steps to take in order to have the building suitably surveyed.

FIGURES

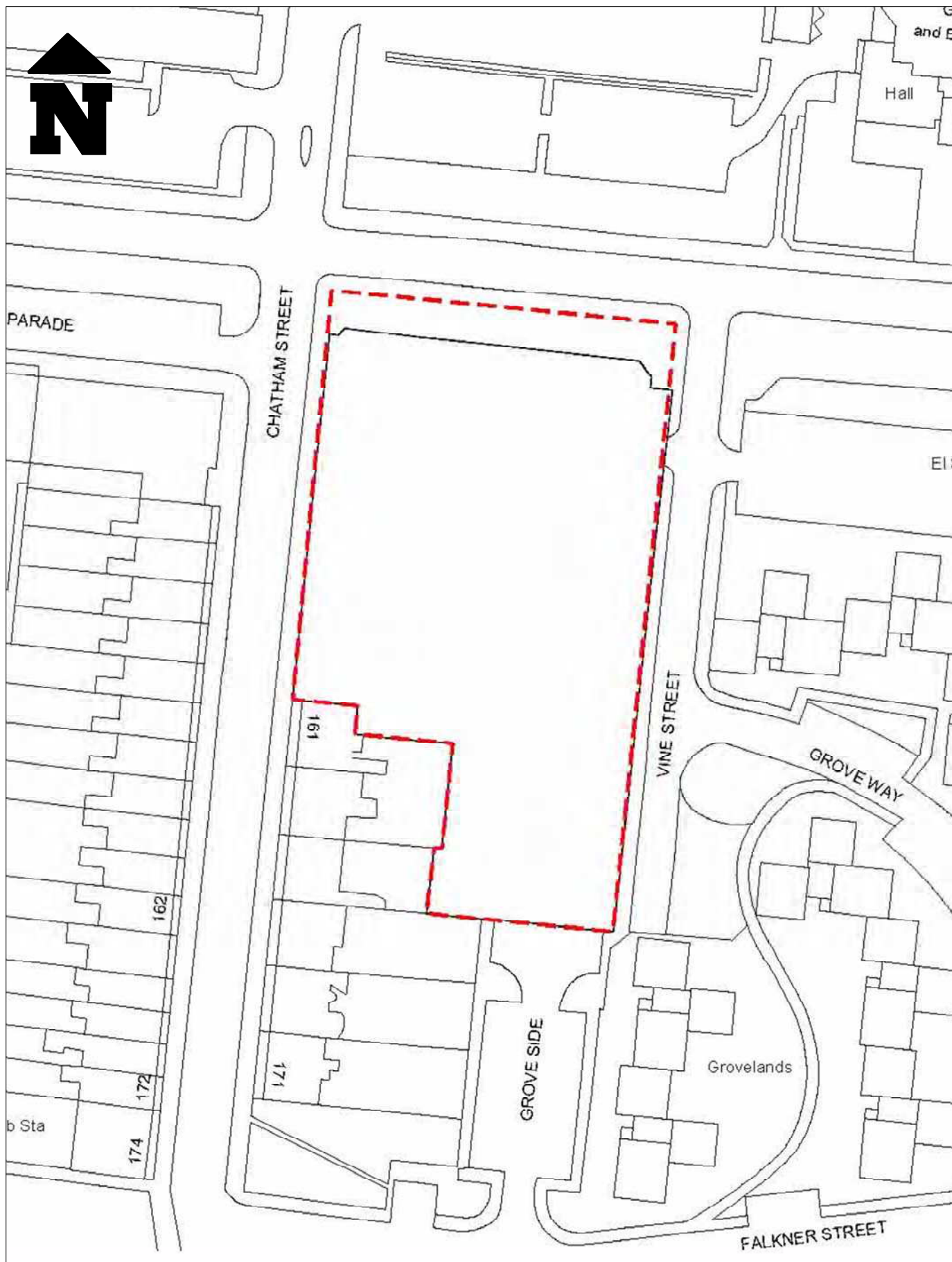


Figure 2: Site Plan, Vine Street, Liverpool

Drawn: October 2013. Not to Scale. Plan provided by L7 Architects.



Figure 3: Proposed Layout Plan, Land at Vine Street, Liverpool

Drawn: October 2013. Not to Scale. Plan Provided by L7 Architects

APPENDIX A

HISTORICAL MAPS

Source map scale - 1:1,056

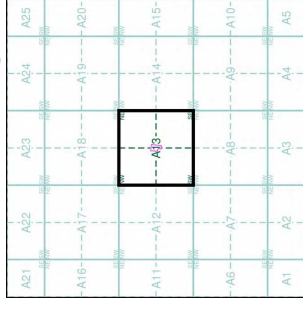
The 1:1056 scale of Ordnance Survey mapping was adopted from Ireland in 1848 and was used to survey towns with a population of over 4,000, plus smaller towns and villages with a population of over 1,000. The first edition of the Ordnance Survey map of Lancashire and Furness was published in 1849. The map was surveyed by the Ordnance Survey and a 'sketch' 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_030	000_00_031
1850	1849
1:1,056	1:1,056
000_00_035	000_00_036
1849	1849
1:1,056	1:1,056

Historical Town Plan - Segment A13



Order Details

Order Number: 50089215_1_1
Customer Ref: LKC 13 1354
National Grid Reference: 336010, 389700

Site Area (Ha): 0.43

Search Buffer (m): 0

Site Details

Vine Street, LIVERPOOL, L7 7AZ

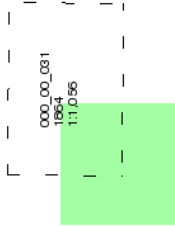


Source map scale - 1:1,056

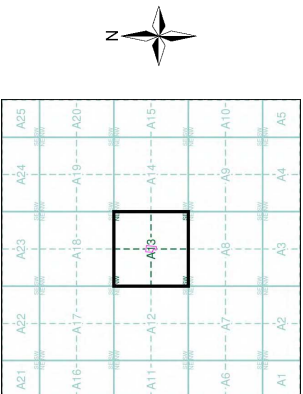
The 1:1056 scale of Ordnance Survey mapping was adopted from Ireland in 1848 and was used to survey towns with a population of over 4,000, plus coastal towns with a population of over 2,000. The first map at the six-inch scale was published in 1841-55. The first map at the six-inch scale was published by the Ordnance Survey and a 'sketch' survey of the capital showing little more than streets, street names, frontages and altitudes, was undertaken between 1848 and 1850. The majority of the 1:1056 surveys were later replaced by 1:500 surveys; although almost all the remainder were revised at this scale, sometimes more than once before 1895. The type of detail shown on the 1:1056 scale is broadly similar to that on 1:500; the apparent omission of minor details such as sewer access points and street lights may be as much a reflection of the generally earlier date of these plans, as of the specification of the map.

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

Map Name(s) and Date(s)



Historical Town Plan - Segment A13



Order Details

Order Number: 50089215_1_1
Customer Ref: LKC 13 1354
National Grid Reference: 336010, 389700
Slice: A
Site Area (Ha): 0.43
Search Buffer (m): 0

Site Details

Vine Street, LIVERPOOL, L7 7AZ

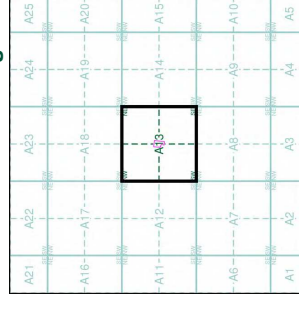
The 1:500 scale Ordnance Survey mapping was introduced in 1855 as a replacement for the 1:578 scale of the 1840s and the 1:2500 scale that had been implemented in 1853. By 1895, the 1:500 scale covered most towns over a population of about 40,000 at the time of survey, although very few towns were mapped more than once at this scale, and none have been since 1910. The 1:500 scale gave 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)

$\frac{66}{891} = \frac{1}{13.5}$

Historical Town Plan - Segment A13



Order Details

Order Details
Order Number: 50069215_1_1
Customer Ref: LKC 13 1354
National Grid Reference: 336010 389700

Slice:	A
Site Area (Ha):	0.43
Search Buffer (m):	0

Site Details

SITE DETAILS
Vine Street, LIVERPOOL, L7 7AZ



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

Historical Mapping Legends

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

County Boundary (Geographical)			
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County & Civil Parish Boundary			
---	---	---	---
Administrative County & Civil Parish Boundary			
---	---	---	---
County Borough Boundary (England)			
---	---	---	---
County Borough Boundary (Scotland)			
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Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250

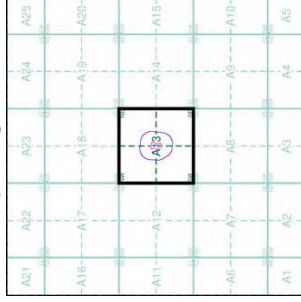
County Boundary (Geographical)			
---	---	---	---
County & Civil Parish Boundary			
---	---	---	---
Civil Parish Boundary			
---	---	---	---
Admin. County or County Bor. Boundary			
---	---	---	---
London Borough Boundary			
---	---	---	---
Symbol marking point where boundary mereing changes			

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

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

Mapping Type	Scale	Date	Pg.
Lancashire And Furness	1:2,500	1890 - 1893	2
Lancashire And Furness	1:2,500	1908	3
Lancashire And Furness	1:2,500	1927	4
Ordnance Survey Plan	1:1,250	1954	5
Ordnance Survey Plan	1:2,500	1955	6
Additional SIMs	1:2,500	1955	7
Ordnance Survey Plan	1:1,250	1959 - 1975	8
Ordnance Survey Plan	1:2,500	1968 - 1970	9
Ordnance Survey Plan	1:1,250	1968 - 1990	10
Supply of Unpublished Survey Information	1:1,250	1974 - 1975	11
Additional SIMs	1:1,250	1978 - 1984	12
Additional SIMs	1:1,250	1987 - 1989	13
Large-Scale National Grid Data	1:1,250	1993	14
Large-Scale National Grid Data	1:1,250	1993 - 1994	15
Large-Scale National Grid Data	1:1,250	1994	16
Large-Scale National Grid Data	1:1,250	1996	17
Large-Scale National Grid Data	1:1,250	1996	18

Historical Map - Segment A13



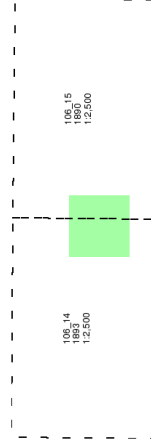
Order Details

Order Number: 50069215_1_1
Customer Ref: LKC 13 1354
National Grid Reference: 336010, 389700
Slice: A
Site Area (Ha): 0.43
Search Buffer (m): 100

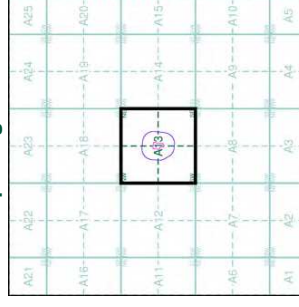
Site Details

Vine Street, LIVERPOOL, L7 7AZ

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Details
Order Number: 50069215_1_1
Customer Ref: LKC 13 1354
National Grid Reference: 336010, 389700

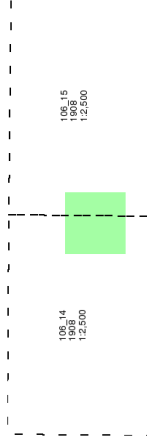
Site Details

Site Details
Vine Street, LIVERPOOL, L7 7AZ

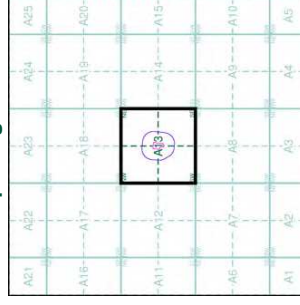
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the time adopted for England, Wales and Scotland in the 1940s. In 1854 the Ordnance Survey was established and the first series of maps were produced. 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



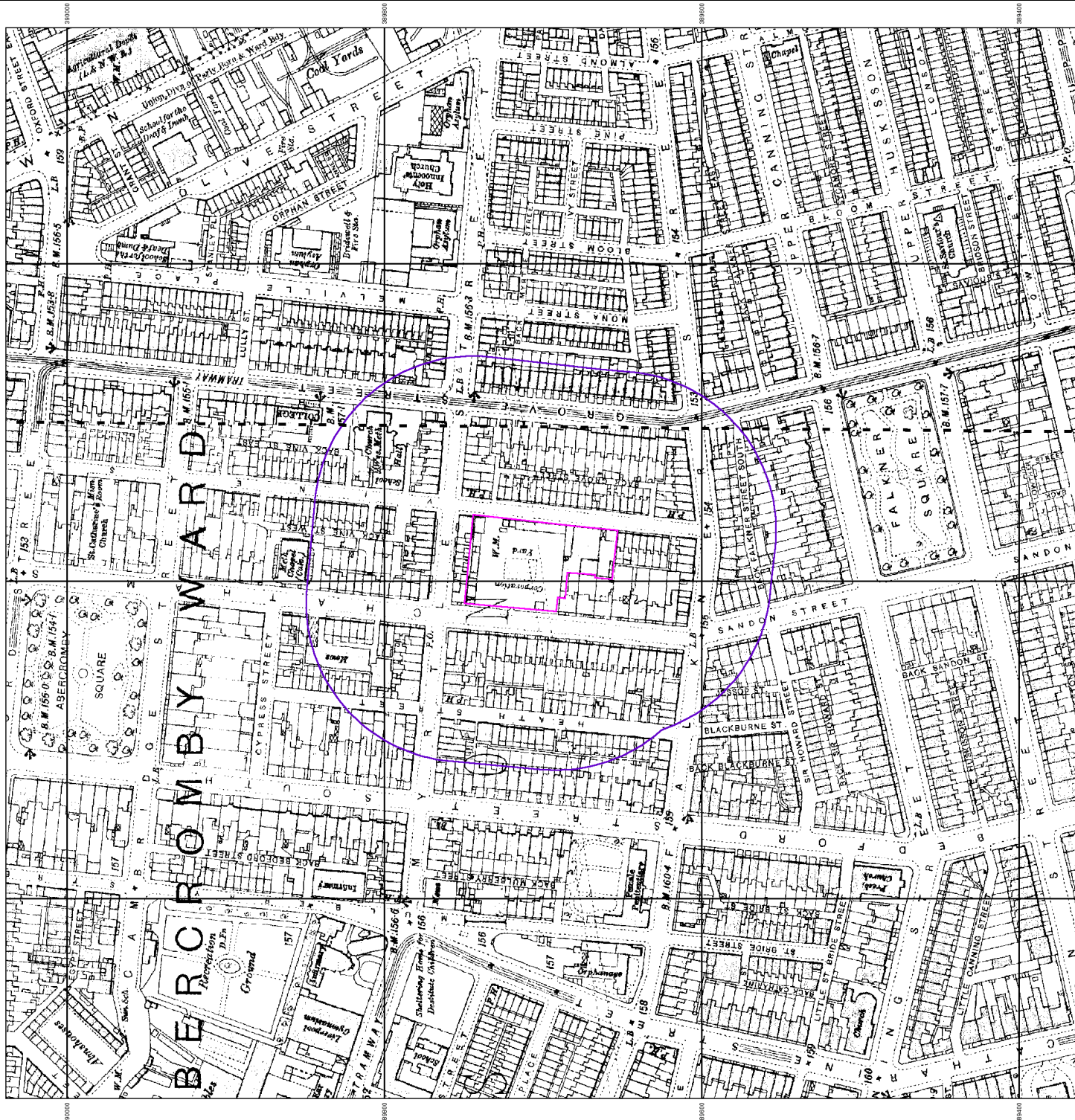
Order Details

Order Number: 50009215_1_1
Customer Ref: LKC 13 1354
National Grid Reference: 336010, 389700

Site Area (Ha): 0.43
Search Buffer (m): 100

Site Details

Vine Street, LIVERPOOL, L7 7AZ



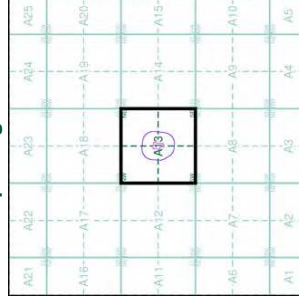
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the 2,500 scale for England, Wales and Scotland in the 1940s. It is believed that the 1955 edition was compiled by 1956. It is believed that 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)

SJ3590	SJ3690
1955	1955
12,500	12,500
SJ3589	SJ3689
1955	1955
12,500	12,500

Historical Map - Segment A13



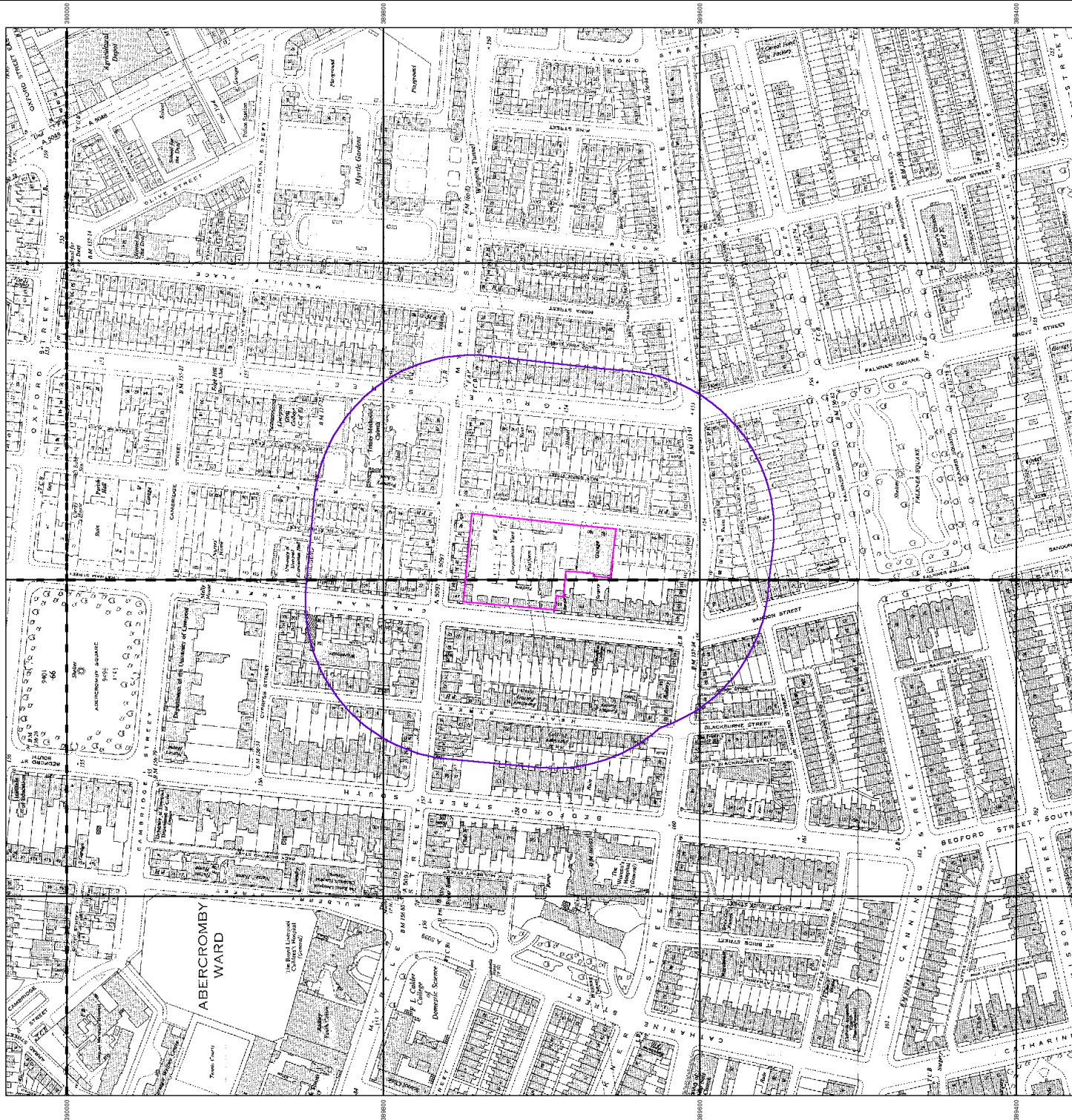
Order Details

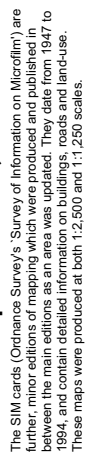
Order Number: 50009215_1_1
Customer Ref: LKC 13 1354
National Grid Reference: 336010, 389700

Site Area (Ha): 0.43
Search Buffer (m): 100

Site Details

Vine Street, LIVERPOOL, L7 7AZ





SJ3590
 1955
 12,500

Site Details
Vine Street, LIVERPOOL, L7 7AZ



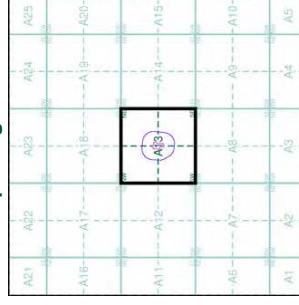
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the time adopted for England, Wales and Scotland in the 1940s, 1954, 1968, 1977, 1989 and 1990. The maps were produced by the Ordnance Survey, which was created by the amalgamation of the Ordnance Survey of Great Britain and the Ordnance Survey of Ireland. 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)

SJ55906SE	1968	1:1,250
SJ55906SE	1977	1:1,250
SJ55906SE	1989	1:1,250
SJ55906SE	1990	1:1,250

Historical Map - Segment A13



Order Details

Order Number: 50009215_1
Customer Ref: LKC 13 1354
National Grid Reference: 336010, 389700
Slice: A
Site Area (Ha): 0.43
Search Buffer (m): 100

Site Details

Vine Street, LIVERPOOL, L7 7AZ



Published 1974 - 1975

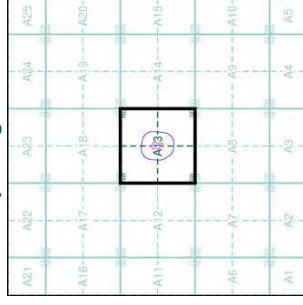
Source map scale - 1:1,250

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 up to date individual sites and buildings. These maps are 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)

6,359,905 E	6,369,03 W
1975	1975
1:1,250	1:1,250
6,359,905 E	
1975	1975
1:1,250	1:1,250
6,359,905 E	6,369,03 W
1974	1975
1:1,250	1:1,250

Historical Map - Segment A13

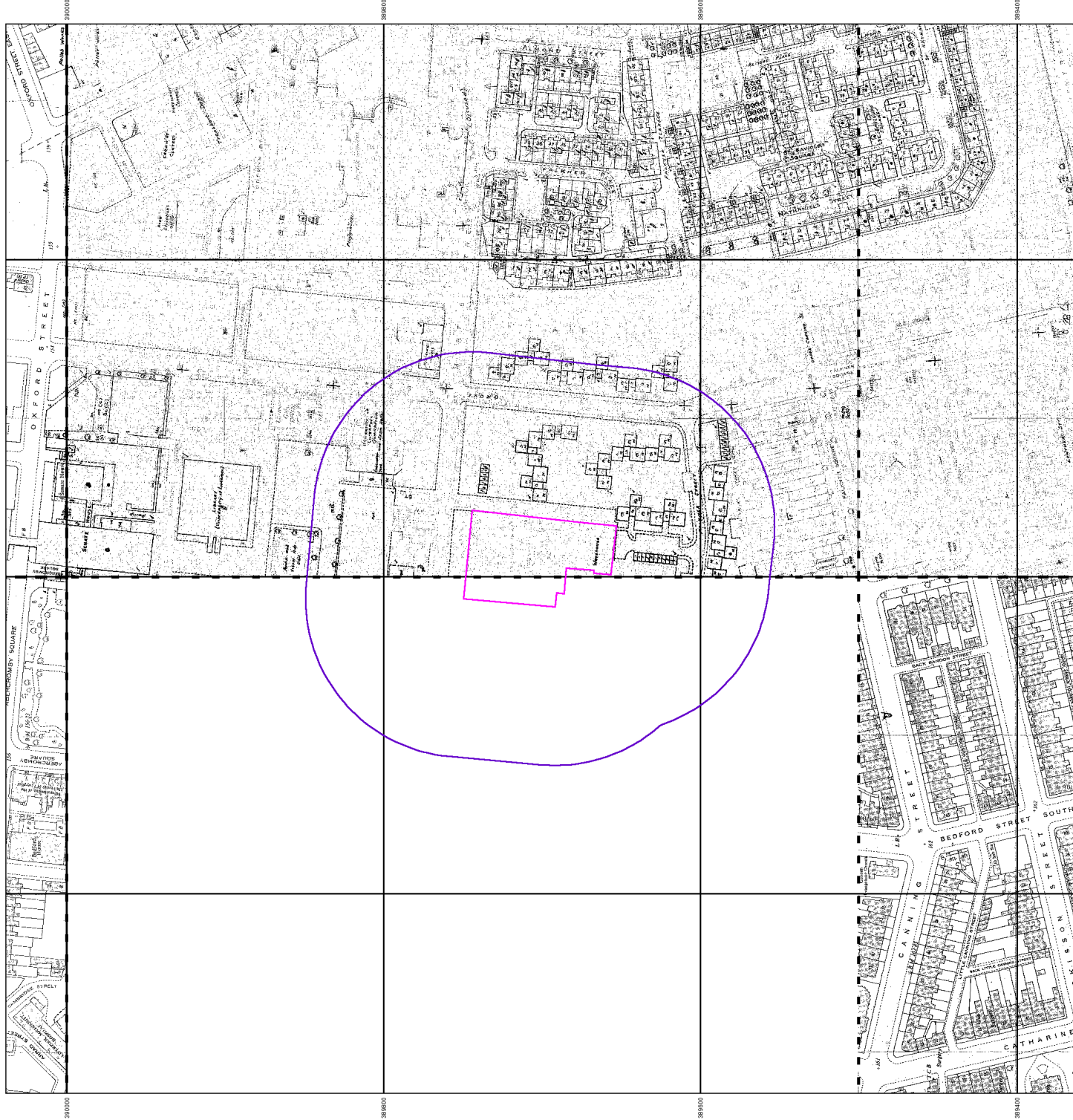


Order Details

Order Number: 5009215_1_1
Customer Ref: LKC 13 1354
National Grid Reference: 336010, 389700
Slice: A
Site Area (Ha): 0.43
Search Buffer (m): 100

Site Details

Vine Street, LIVERPOOL, L7 7AZ

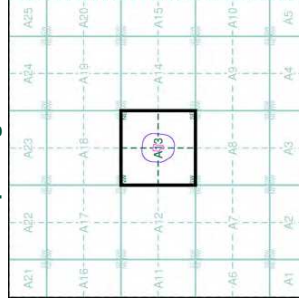


The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are the primary source of mapping which were produced and published on microfilm in 1978 and 1984. The maps are based on aerial photography from 1947 to 1984 and contain details of buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

6J2590SW 1:1,250 1978
6J2590SW 1:1,250 1984
6J2590SW 1:1,250 1984
6J2590SW 1:1,250 1984
6J2590SW 1:1,250 1984
6J2590SW 1:1,250 1984
6J2590SW 1:1,250 1984
6J2590SW 1:1,250 1984
6J2590SW 1:1,250 1984
6J2590SW 1:1,250 1984

Historical Map - Segment A13

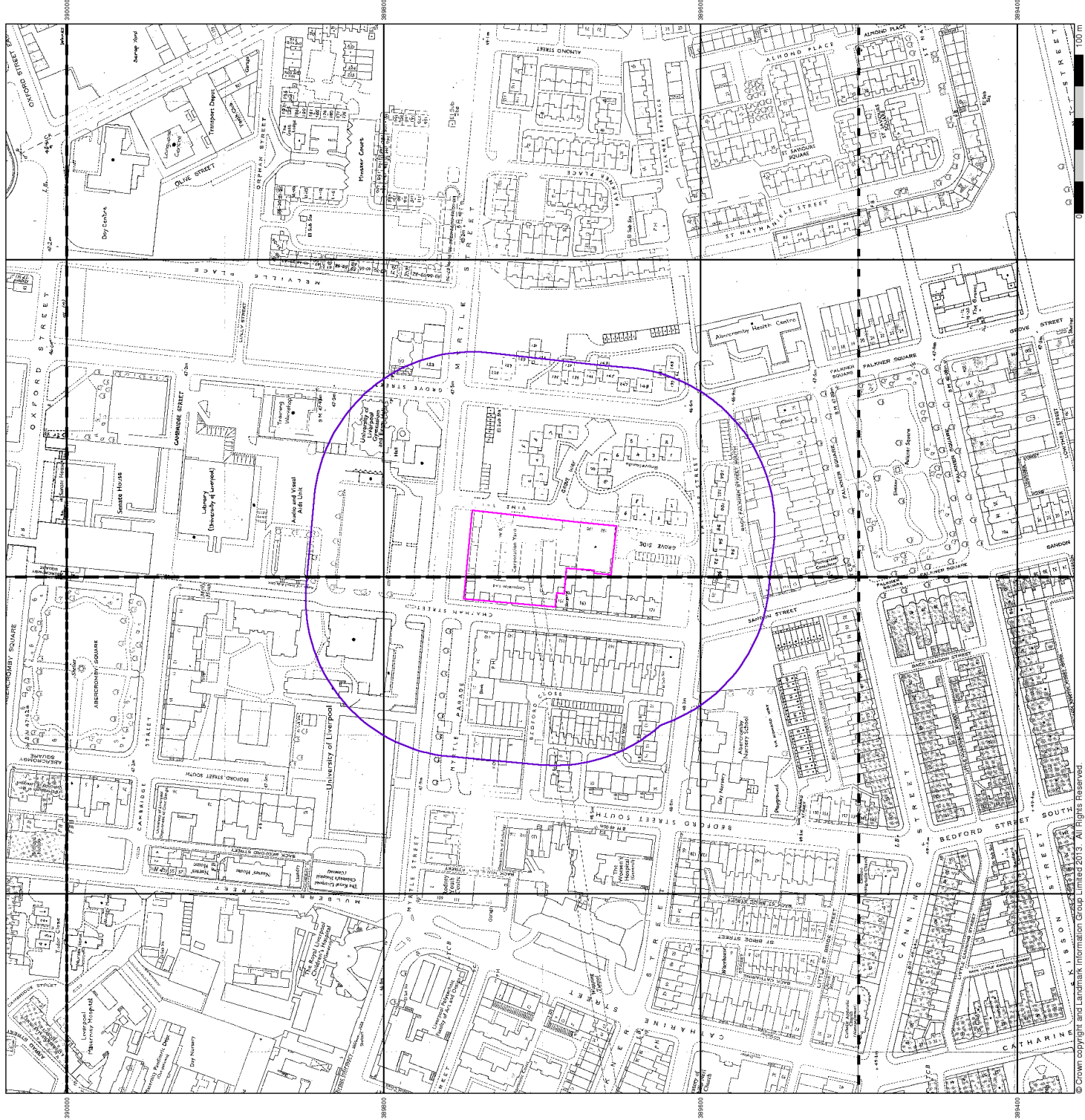


Order Details

Order Number: 5009215_1
Customer Ref: LKC 13 1354
National Grid Reference: 336010, 389700
Site: A
Site Area (Ha): 0.43
Search Buffer (m): 100

Site Details

Vine Street, LIVERPOOL, L7 7AZ



The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are the primary source of mapping which were produced and published on microfilm from 1947 to 1994. The cards contain details of buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

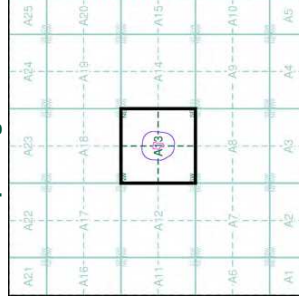
Map Name(s) and Date(s)

633690SW
1987
1:1,250

633690NE, 633690NW
1989
1987
1:1,250

633690SE, 633690SW
1987
1989
1:1,250

Historical Map - Segment A13

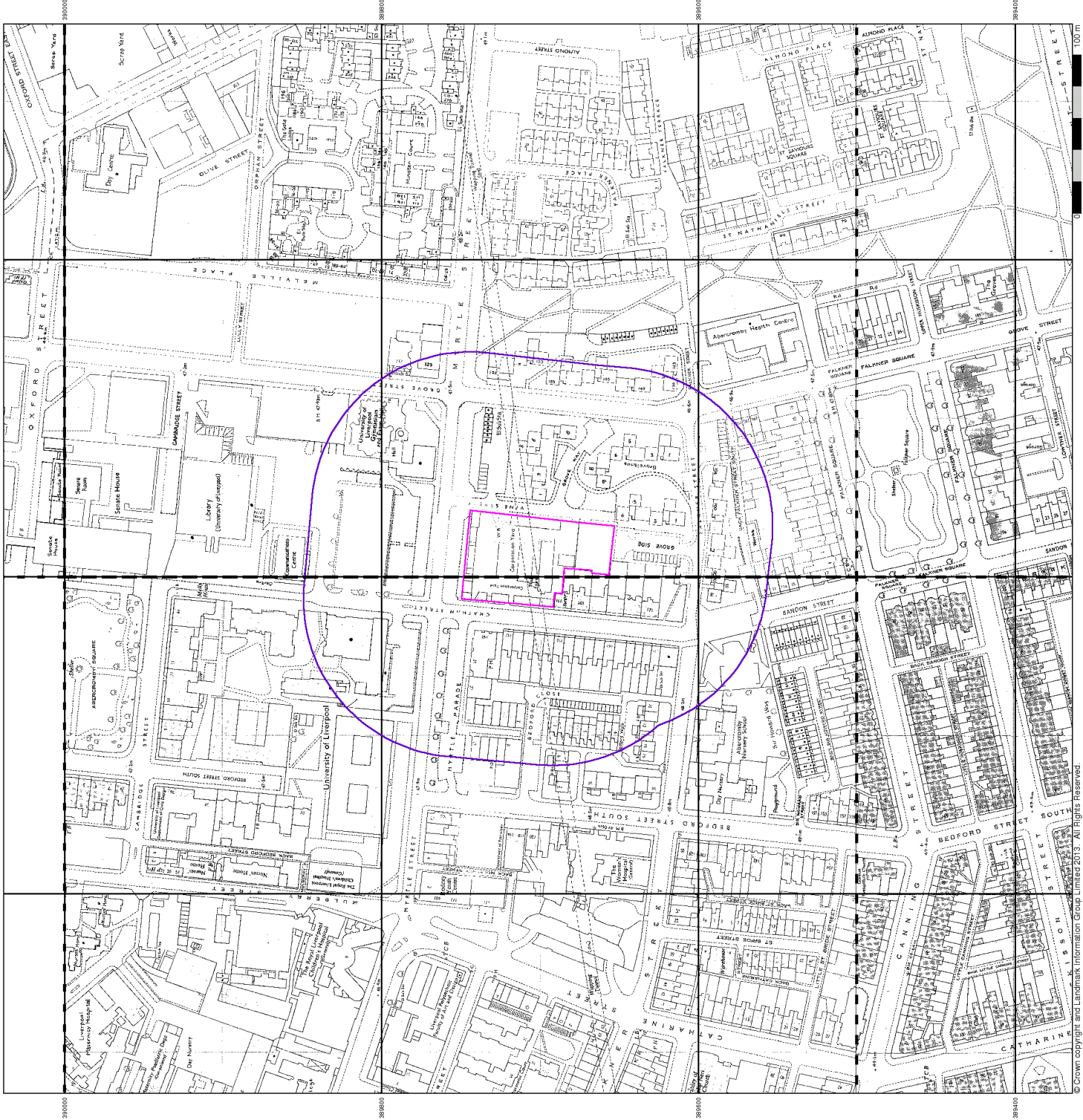


Order Details

Order Number: 5009215_1
Customer Ref: LKC 13 1354
National Grid Reference: 336010, 389700
Slice: A
Site Area (Ha): 0.43
Search Buffer (m): 100

Site Details

Vine Street, LIVERPOOL, L7 7AZ



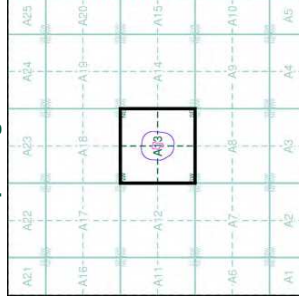
Source map scale - 1:1,250

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 are the original mapping and do not include updates or topographic details from 1993 and onwards. The maps are produced at two scales: 1:1,250 and 1:12,500. These maps were produced at both 1:1,250 and 1:12,500 scales.

Map Name(s) and Date(s)

6J3590SGB3690SW	1993	1:1,250
6J3590SGB3690SW	1993	1:1,250
6J3590SGB3690SW	1993	1:1,250
6J3590SGB3690SW	1993	1:1,250
6J3590SGB3690SW	1993	1:1,250
6J3590SGB3690SW	1993	1:1,250

Historical Map - Segment A13

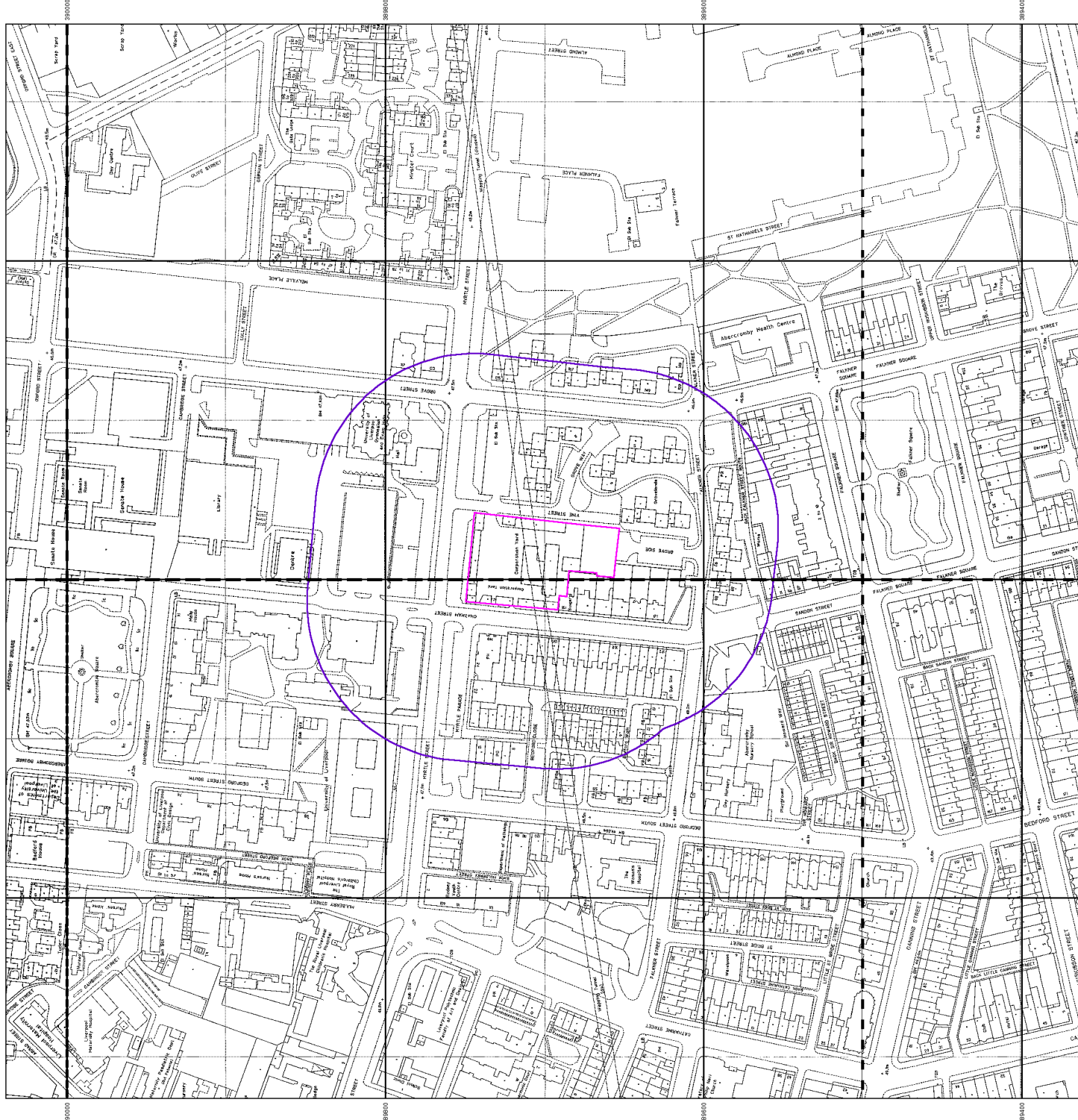


Order Details

Order Number: 5009215_1_1
Customer Ref: LKC 13 1354
National Grid Reference: 336010, 389700
Slice: A
Site Area (Ha): 0.43
Search Buffer (m): 100

Site Details

Vine Street, LIVERPOOL, L7 7AZ



Source map scale - 1:1,250

Large Scale National Grid Data: superseded SIM cards (Ordnance Survey's Survey Information on Microfilm) in 1992, and continued to be produced until 1999. These maps are original topographic maps, and do not include 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)

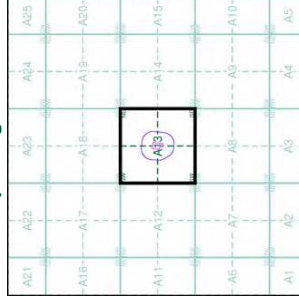
6J3690SE
1994
1:1,250

6J3690NW
1994
1:1,250

6J3690SE
1994
1:1,250

6J3690SW
1994
1:1,250

Historical Map - Segment A13



Order Details

Order Number: 50009215_1_1
Customer Ref: LKC 13 1354
National Grid Reference: 336010, 389700
Slice: A
Site Area (Ha): 0.43
Search Buffer (m): 100

Site Details

Vine Street, LIVERPOOL, L7 7AZ



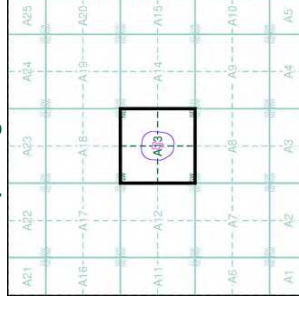
Source map scale - 1:1,250

Large Scale National Grid Data: superseded SIM cards (Ordnance Survey's 'Simulation on Microfilm') in 1992, and continued to be produced until 1999. These maps are original topographical mapping and provide detailed information on roads and other features, but 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)

---	SJ3689NW	---
---	1:1,250	---
---	SJ3688SW	---
---	1994	---
---	1:1,250	---

Historical Map - Segment A13



Order Details

Order Number: 50069215_1_1
Customer Ref: LKC 13 1354
National Grid Reference: 336010, 389700
Slice: A
Site Area (Ha): 0.43
Search Buffer (m): 100

Site Details

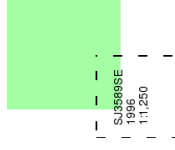
Vine Street, LIVERPOOL, L7 7AZ



Source map scale - 1:1,250

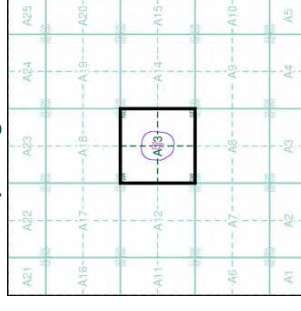
Large Scale National Grid Data: superseded SIM cards (Ordnance Survey's Survey of Great Britain) in 1992, and continued to be produced until 1999. These maps were the original mapping and provide detailed information on houses and other built land, as well as topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



--- SJ33889SE
1996
1:1,250

Historical Map - Segment A13



Order Details

Order Number: 50069215_1_1
Customer Ref: LKC 13 1354
National Grid Reference: 336010, 389700
Slice: A
Site Area (Ha): 0.43
Search Buffer (m): 100

Site Details

Vine Street, LIVERPOOL, L7 7AZ

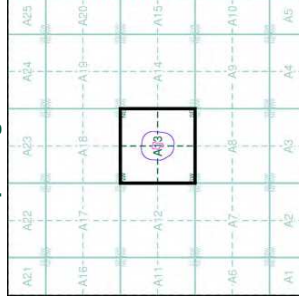
Source map scale - 1:1,250

Large Scale National Grid Data: superseded SIM cards (Ordnance Survey's 'Simulation on Microfilm') in 1992, and continued to be produced until 1999. These maps are original mapping and do not provide detailed information on trees and vegetation, but 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)

---	SJ0689NW	---
---	1:1,250	---
---	SJ0688SW	---
---	1996	---
---	1:1,250	---

Historical Map - Segment A13

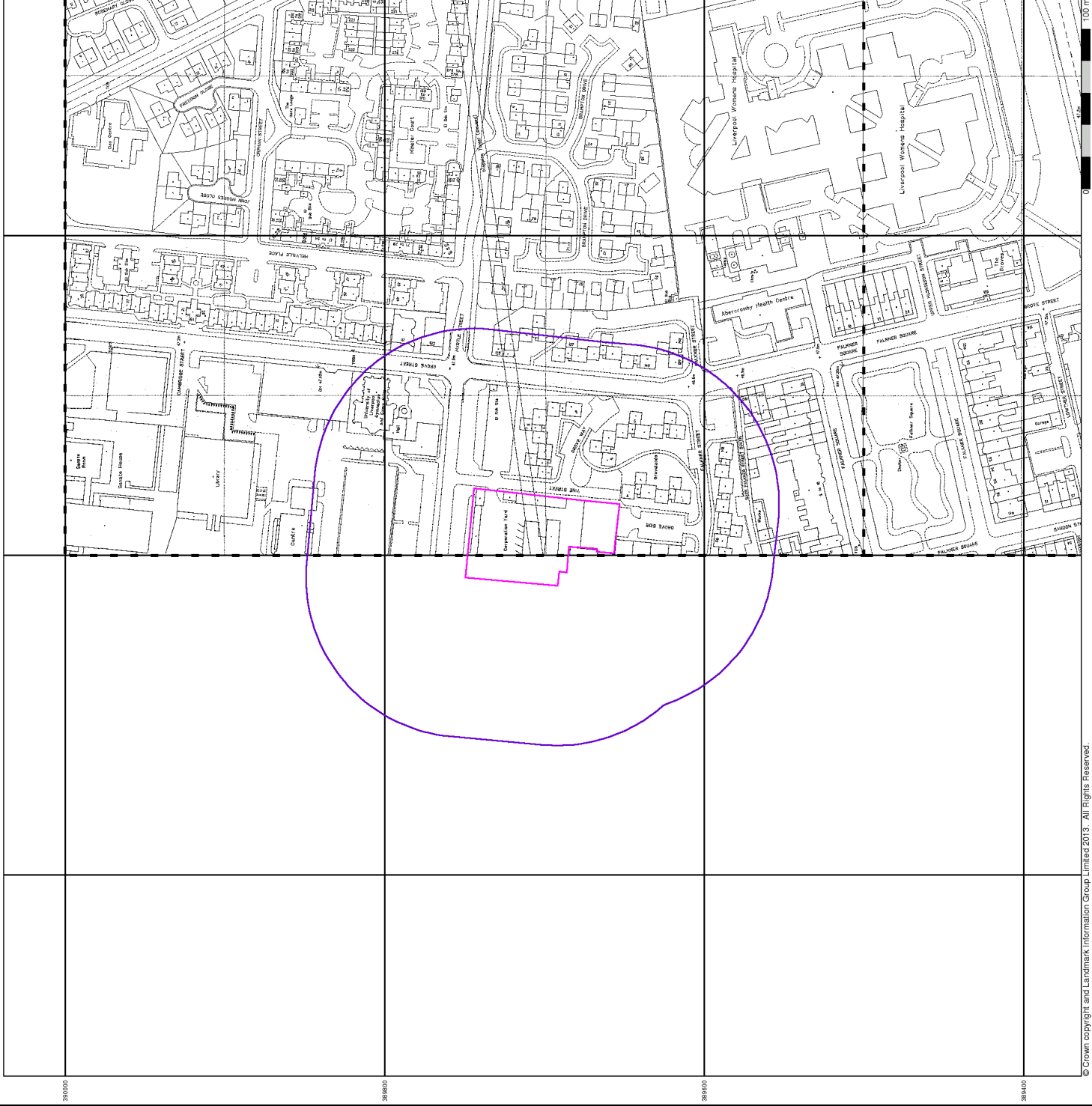


Order Details

Order Number: 50069215_1_1
Customer Ref: LKC 13 1354
National Grid Reference: 336010, 389700
Slice: A
Site Area (Ha): 0.43
Search Buffer (m): 100

Site Details

Vine Street, LIVERPOOL, L7 7AZ



Historical Mapping Legends

Ordnance Survey County Series 1:10,560

Ordnance Survey Plan 1:10,000

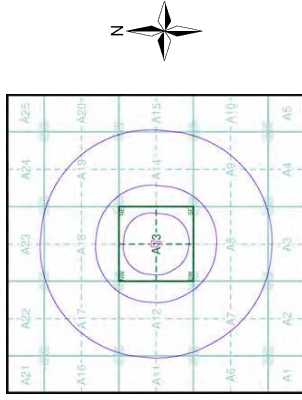
1:10,000 Raster Mapping

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

CONSULT LIMITED Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:10,560	1850 - 1851	3
Cheshire	1:10,560	1881 - 1882	4
Lancashire And Furness	1:10,560	1884	5
Cheshire	1:10,560	1889 - 1900	6
Lancashire And Furness	1:10,560	1909 - 1910	7
Cheshire	1:10,560	1913	8
Cheshire	1:10,560	1927	9
Lancashire And Furness	1:10,560	1928	10
Lancashire And Furness	1:10,560	1928	11
Lancashire And Furness	1:10,560	1938	12
Cheshire	1:10,560	1938	13
Ordnance Survey Plan	1:10,000	1954 - 1957	14
Ordnance Survey Plan	1:10,000	1956	15
Ordnance Survey Plan	1:10,000	1966 - 1968	16
Ordnance Survey Plan	1:10,000	1973 - 1978	17
Liverpool	1:10,000	1974	18
Ordnance Survey Plan	1:10,000	1982 - 1987	19
Ordnance Survey Plan	1:10,000	1989	20
Ordnance Survey Plan	1:10,000	1990 - 1991	21
10K Raster Mapping	1:10,000	2006	22
10K Raster Mapping	1:10,000	2013	23

Historical Map - Slice A



Order Details

Order Number: 50069215_1_1
Customer Ref: LKC 13 1354
National Grid Reference: 336010, 389700

Slice: A
Site Area (Ha): 0.43
Search Buffer (m): 1000

Site Details

Vine Street, LIVERPOOL, L7 7AZ