Phase 1 Desk Study & Site Reconnaissance Report

at Land off Dolphin Road, Shoreham-by-Sea, BN43 6QG

for Jericho Management Company Ltd

Report Reference : LP2337
Report Date : 30th September 2020

Leap Environmental Ltd
Head Office
The Atrium, Curtis Road,
Dorking, Surrey, RH4 1XA
tel +44 (0) 1306 646510
www.leapenvironmental.com

Registered in England No 6552522



TABLE OF CONTENTS

A INTRODUCTION 1

1 Authority 1
2 Objective 1
3 Scope of Works 1
3.1 Phase 1 Scope 1
4 Limitations 2

B PHASE 1 – Desk study 4

5 Environmental Setting 4
5.1 Site Location and Description 4
5.2 Geology 5
5.3 Hydrogeology 6
5.4 Hydrology 6
5.5 Flooding 7
5.6 Designated Environmentally Sensitive Sites 7
5.7 Ground Workings 7
5.8 Mining, Extraction and Natural Cavities 7
6 Site Usage 7
6.1 Current Land Use 7
6.2 Evidence of Onsite Contamination 8
6.3 Neighbouring Land Use 8
6.4 Site History 8
6.5 Unexploded Ordnance (UXO) 10
6.6 Waste Planning and Landfill Records 10
6.7 Radon 10

C PRELIMINARY CONCEPTUAL SITE MODEL 12

7 Environmental Risk Assessment 12
7.1 Conceptual Site Model (CSM) 12
7.2 Sources 12
7.3 Receptors 13
7.4 Pathways and Potential Contaminant Linkages 14
7.5 Qualitative Risk Assessment of Contaminant Linkages 14
7.6 Conclusions 14
8 Recommendations for Intrusive Ground Investigation 15

APPENDIX A – Limitations

APPENDIX B – Figures

APPENDIX C – Historic Maps and Environmental Database Searches

APPENDIX D – Qualitative Risk Assessment Model

APPENDIX E – Site Photographs

EXECUTIVE SUMMARY

The site comprises a car park, approximately 0.10 hectares in size and is situated off Dolphin Road, Shoreham-by-Sea, West Sussex, BN43 6QG. The proposed development is to construct a new access ramp on the eastern boundary of an existing car park, with discrete areas of soft landscaping.

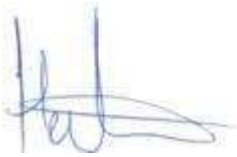
The site has a history of use as fields, and from the early 1950s the western half of the site is mapped as a 'works' building. By 2007, aerial mapping shows the structure no longer present and the land converted to a car park. The desk study has identified a number of potential sources of contaminants including pesticides/herbicides, heavy metals, asbestos, petroleum hydrocarbons and PAHs associated with the site's former use. Following development, there are no plausible contaminant – receptor pathway linkages, as potential residual land contamination will be capped by new hardstanding, and soft landscaped areas are as new raised planters in retaining walls. There may be potential risks to construction workers during the ramp constructions. However, risks to these receptors with the correct precautions taken including appropriate risk assessments and method statements and the correct use of PPE the likelihood of acute exposure is low.

The site is mapped as being within an area which has a moderate risk of being affected by radon gas however no action needs to be taken, in respect of the proposed development.

The site is mapped as being underlain by Tarrant Chalk bedrock and River Terrace superficial deposits. BGS Borehole logs ref TQ20NW187 and ref TQ20NW101 located within 200m of the site boundary show ground conditions to be comprised of made ground to around 0.7mbgl over Head dposits over Tarrant Chalk. Groundwater was encountered within the Clay Head soils at around 3m below ground level. Given the site is capped, there is limited pathways for the contaminants to leach, however if it rains during construction there is a pathway into the groundwater. The overall risk of leaching is low.

The site is mapped by the Environment Agency as a very low flood risk zone.

The site is rated as having a moderate risk of unexploded ordnance.

Signed :	 Hannah Gutteridge
Checked :	 Martin Weil BSc MA C.WEM CSci CEnv
Countersigned :	 Helen Smith BSc MSc CGeol DIC SiLC
Date :	1 October 2020
Revision:	Issue 1

A INTRODUCTION

1 Authority

Leap Environmental Ltd (hereafter referred to as LEAP) has been appointed by Higgidy Ltd to undertake a Phase 1 Desk Study and walkover of a site referred to as car park north of Unit 60 , Dolphin Road, Shoreham by Sea, West Sussex, BN43 6QG. The instruction was given in an email from James Foottit of Jericho Management Company Ltd dated 07th September 2020.

2 Objective

LEAP understands that the site is currently owned by Higgidy Ltd and it is proposed create a new access ramp along the eastern boundary of an existing car park facility. The site is subject to an approved planning application reference AWDM/0760/20 and has been conditioned with respect to land contamination, only if ground works occur. If ground works occur condition 4 requires 1) a preliminary risk assessment, identifying previous land uses, potential contaminants associated with the land uses, a conceptual site model, and identification of potential unacceptable risks associated with contamination at the site 2) site investigation scheme based on 4.1; 3) reporting on the site investigation results and detailed risk assessment and based on these an options appraisal and remediation strategy; and 4) a verification plan based on 4.3.

The assessment is limited to discharging condition 4.1 only and does not include an assessment of geotechnical constraints at the site.

The objectives of this report are to:

- Provide information on the environmental quality of the ground present on the site;
- Assess the potential health and other environmental risks posed by the site to the proposed development and to other specifically identified receptors; and
- Assess the potential for offsite contamination to adversely affect the proposed development.

3 Scope of Works

3.1 Phase 1 Scope

The first part of this report presents the results of a desk study and site reconnaissance. It provides a review of previous site investigation and remediation validation reports, where they have been made available by the Client or where LEAP has been able to locate that information

from third party sources. The previous reports referred to are detailed above. The following publicly accessible sources of information[1] have also been reviewed:

- British Geological Society (BGS) 1:50,000 Series Geological Map Sheet 318 '*Brighton and Worthing*' Solid and Drift ed. 1984
- BGS '*Geology of Britain*' online viewer accessed on 17/09/2020.
- BGS Borehole logs ref TQ20NW187 and ref TQ20NW101 located within 200m of the site boundary.
- Groundsure.io website accessed on 17/09/2020.
- Envirocheck database report (reference LP2337)
- Unexploded WWII aerial delivered bomb (UXB) regional risk maps produced by Zetica
- Interrogation of the World Wide Web on 17/09/2020 for general information pertaining to the site history
- Interrogation of Adur and Worthing Borough Council Planning records for the site

A site reconnaissance was carried out on 03rd September 2020.

The desk study and site reconnaissance have been used to develop an initial conceptual site model, which forms the basis for the site investigation strategy. The initial site conceptual model is used to identify geoenvironmental hazards and the qualitative degree of risk associated with them. In terms of the geoenvironmental assessment the conceptual site model is used to identify potential sources of contamination, potential receptors and pathways by which the two may be connected. These are known as possible contaminant linkages and it is these contaminant linkages that are key to contaminated land risk assessment.

The Phase I investigation is also referred to as a Preliminary Investigation[2] .

4 Limitations

This report has been prepared by Leap Environmental Ltd on the basis of information received from a variety of sources which Leap Environmental Ltd believes to be accurate. Nevertheless,

[1] The report contains British Geological Survey materials ©UKRI 2020 and public sector information licensed under the Open Government Licence v3.0.

[2] BS 10175:2011+A2:2017 Investigation of Potentially Contaminated Sites – Code of Practice.

Leap Environmental Ltd cannot and does not guarantee the authenticity or reliability of the information it has obtained from others.

Leap Environmental Ltd has used all reasonable skill, care and diligence in the design and execution of this report, taking into account the manpower and resources devoted to it in agreement with the Client. Although every reasonable effort has been made to obtain all relevant information, all potential contamination, environmental constraints or liabilities associated with the site may not necessarily have been revealed.

The conclusions reached in this report are necessarily restricted to those which can be determined from the information consulted and may be subject to amendment in the light of additional information becoming available. These conclusions may not be appropriate for alternative schemes.

This report is confidential to the Client, and Leap Environmental Ltd accepts no responsibility whatsoever to third parties to whom this report, or any part thereof, is made known, unless formally agreed by Leap Environmental Ltd beforehand. Any such party relies upon the report at their own risk.

Full details of the limitations are provided in Appendix A.

B PHASE I – DESK STUDY

5 Environmental Setting

5.1 Site Location and Description

The site is located on Dolphin Road, Shoreham by Sea, BN43 6QG, as shown in Figure 1

The approximate National Grid Reference of the site is 523110 105220. The existing car park site lies between 7.5 to 7.2 m Above Ordnance Datum (m AOD).

5.1.1 General Description and Boundaries

The current site layout is shown in Figure 2, Appendix B. A walkover survey was carried out on 03/09/20 and photographs are included within Appendix E.

The site comprises a rectangular shaped car park approximately 0.10 hectares in size, which is located to the northwest of Dolphin Road. The site is reasonably level, with a slight downward slope to the southeast. Dolphin Road (that forms the eastern boundary) is lower than the car park by ~0.80 m. All boundaries are secured by metal palisade fencing. The main vehicle entrance is along the southern boundary, a secondary access (secured by electric gates) is present along the northeast boundary and a pedestrian access is located on the eastern boundary. The ground cover comprises concrete hardstanding in a reasonable state of repair, but cracking and patch repairs using asphaltic concrete are visible in parts. Along the eastern boundary the subbase (comprising pale brown sandy gravelly fill material) was visible through damaged sections of the concrete slab.

To the immediate south of the site are five industrial units, including a machine workshop and to the southeast are Higgidy factory units with approximately 3 floors extending southwards along the Dolphin Road. A large car park is situated to the western side of the site within Dolphin Industrial Estate. The northern gate leads to an access road leading onto Middle Road, ~185 m north of the site. Playing fields owned by Shoreham Academy, and public open space bounds the site to the north. East of Higgidy's industrial units is a large open field of unknown use.

5.1.2 Surrounding Area

The site is predominantly in a commercial setting with light industrial units to the east, west and south of the site, land to the north is open space and residential. A railway line aligned east to west is located approximately 115 m south of the site, beyond which is further commercial land use. The estuarine section of the River Adur is ~100 m south of railway line.

5.2 Geology

The geology of the site has been ascertained by reference to the 1:50,000 British Geological Survey sheet 318, drift edition dated 1976 and the BGS website (https://www.bgs.ac.uk/data/maps/maps.cfc?method=viewRecord&mapId=10218).

The site is mapped as being underlain by superficial deposits of River Terrace Deposits, over the bedrock of the Tarrant Chalk Member. Head deposits (superficial) are mapped approximately 7 m east of the site.

5.2.1 River Terrace Deposits

River Terrace Gravel consists of sand and gravel, locally with lenses of silt, clay or peat. They are associated with river valleys. The main constituent of the gravel is usually flint. Ice age valleys were back filled with gravels silts and clays as sea levels rose to modern day levels, thus forming the infilled buried channels that exist beneath the major flood plains.

5.2.2 Clay Head

Head deposits accumulated largely by solifluction (the slow downslope movement of soil in response to the seasonal freezing and thawing of ground) and hillwash, mainly under periglacial conditions during the Quaternary glaciations. In general, it occurs beneath concave slopes on the flanks and floors of valleys. It is locally derived, and its content reflects the base geology, in this instance it comprises of variable deposits of impure clays, silts and sands, locally gravelly.

5.2.3 Tarrant Chalk Member

Chalk is a very fine-grained white limestone. It consists predominantly of the disaggregated skeletal remains of tiny planktonic algae, composed of almost pure calcium carbonate.

The Newhaven Chalk Member comprises white soft chalk with many widely spaced but large flint seams. Flint is composed of silica derived from the dissolved skeletons of siliceous sponges and microfossils.

Chalk is affected by its weathering, particularly the effects of dissolution. The top surface of the chalk is usually irregular and may include deep drift filled solution pipes for example. Chalk is also susceptible to frost action.

5.2.4 BGS Boreholes

The online BGS Geoindex (http://www.bgs.ac.uk/geoindex/) has been reviewed for detailed local geological and hydrogeological information. 2No. boreholes are mapped within 200m of the site. Borehole ref TQ20NW187 (dated 1991), located ~115m southeast of the site records made ground to 0.70mbgl underlain by firm to stiff clay (Head deposits) to 3.30mbgl underlain by highly weathered putty chalk to at least 6.10mbgl. Borehole ref TQ20NW101 (dated 1973), located ~190 m southeast of the site indicates ground conditions comprise clay with flint to 3.04mbgl underlain by highly weathered rubbly chalk to 15.84mbgl underlain by Tarrant Chalk Member to at least 198.12mbgl. The log shows groundwater was encountered at 3.65mbgl.

5.2.5 Solution Features

Solution features generally occur where preferential weathering of the chalk occurs along discontinuities or joints. They are more common along geological boundaries, where surface water runoff from impermeable soils meets the more permeable underlying chalk. They are generally infilled with loose/soft soils and can be visible at ground level due to surface depressions, although this may be masked by overlying superficial deposits. They may lie dormant for many years, and are generally reactivated by the introduction of water from, for example, a leaking drain, soakaway etc. From historical knowledge solution features appear to be more prevalent near the boundary between the Lambeth Group and Chalk members. The Lambeth Group is mapped ~530 m south of the site.

5.3 Hydrogeology

Table 1: Hydrogeology

Superficial Deposit	River terrace deposits	Secondary B Aquifer
Bedrock	Chalk	Principal Aquifer
Source Protection Zone	Not situated within an SPZ	
Licensed Abstractions	Nearest water abstraction located 981m west of the site	

The hydrogeology of the site has been ascertained from the Envirocheck data report. The source of the data is reported to be the Environment Agency groundwater vulnerability mapping.

The superficial River terrace deposits are classified as a Secondary B Aquifer whilst the underlying Chalk is classed as a Principal Aquifer.

The site is not situated a Groundwater Source Protection Zone (SPZ).

The Envirocheck report lists one active abstraction licence within 1000m of the subject site. The nearest is located 981m to the west of the site and is licensed for industrial purposes.

Groundwater flow is expected to be in a southerly direction, towards the estuarine section of the River Adur (~220 m south).

5.4 Hydrology

There are no surface water features within the site or adjoining the site boundary.

The Envirocheck report lists the nearest surface water feature as the River Adur, located 218m to the south of the site.

The Envirocheck report indicates that there are three discharge consents within 250m of the site, the nearest is 229m south west of the site and is for the discharge of other matter surface water into Shoreham Harbour from the Kingston Railway Wharf.

5.5 Flooding

According to the Environment Agency, the site is not located within a flood zone. However, the BGS indicates the site is at risk from groundwater flooding at surface. The southern part of Dolphin Road is mapped as being at low risk of surface water flooding.

5.6 Designated Environmentally Sensitive Sites

A review of designated environmentally sensitive sites presented within the Envirocheck report has been carried out. The dataset makes reference to a number of sensitive sites including the following:

- Sites of Special Scientific Interest (SSSI);
- Records of National Nature Reserves (NNR);
- Areas of Special Conservation (SAC);
- Records of Special Protection Areas (SPA);
- Records of Ramsar Sites;
- Records of Local Nature Reserves;
- Ancient Woodland Records.

Shoreham Beach is located 678m to the south west of the site is listed as a Local Nature Reserve. The site is located in a nitrate vulnerable zone.

5.7 Ground Workings

The Envirocheck report indicates two historical ground workings within 500m of the site. The nearest is Kingstone by Sea Gravel Pit, which is 379m south east of the site and was opencast but is now ceased.

5.8 Mining, Extraction and Natural Cavities

The Envirocheck report indicates the site is not situated within an area affected by coal mining.

6 Site Usage

6.1 Current Land Use

The current site layout is shown in Figure 2, Appendix B. A walkover survey was carried out on 03rd September 2020.

The site is currently used as a car park.

There are eight active contemporary trade directory entries within 250m of the site in the database search. These relate to car breakdown / garage services, food manufacturing, double glazing manufacturer and a builders merchant.

6.2 Evidence of Onsite Contamination

No evidence of onsite contamination was noted during the site walkover, with the exception of possible fill material of unknown provenance, beneath the car park hardstanding. This was only visible along the eastern site boundary where sections of the concrete were damaged.

A small amount of waste material was present outside the onsite storage containers in the northwest corner, comprising rolls of plastic wrap; wooden pallets; a steel beam; a metal table; and several metal panels.

6.3 Neighbouring Land Use

Several large plastic storage containers were present to the immediate southwest of the site. However, they appeared to be in good condition and there was no evidence of leakage or spills.

Approximately 15 m southeast of the carpark was a bins store and pallet store for the Higgidy units.

The Envirocheck report details no fuel stations within 250m of the subject site.

6.4 Site History

The contaminative and development history of the site has been ascertained with reference to the Ordnance Survey historical maps.

In summary the site consisted of fields and a wooded area until an industrial works is mapped onsite in the early 1950s, then replaced by a car park, mapped in 2007.

6.4.1 Historical Map Evidence

The historical Ordnance Survey maps provided spanned the period from 1873 to present day at scales of 1:10,000, 1:2,500 and 1:1,250.

Table 2: Summary of Historical Map Evidence

Year	On site	Surrounding area
1873-1874	The site is mapped on an open field a tree line, aligned east to west is present in the north of the site.	100m to the south is a railway station and a large railway line aligned west to east. ~150 m southwest are five coke ovens;~170 m south east is a malt house; ~180 m south is a steam saw and planning mill
1898	No significant changes noted.	210 m south east a timber yard is shown. Railway station no longer mapped.

1912	No significant changes noted.	Coke ovens no longer mapped. A nursery and glass house located ~160 m southwest. An orchard with glass houses located ~180 m north of the site.
1930-1933	No significant changes noted.	Two unnamed tanks are mapped ~150m east of the site,
1952	A road aligned southwest to northeast present in the western half of the site. Southern boundaries extend into land labelled as 'allotment gardens	The fields to south of the site are mapped as allotment gardens. A large sewage tank is mapped ~50m to the south east. A school and an adjacent playing field are mapped 100m to north west of the site. Factory (metal components) 120 m southwest of the site.
1954-1965	A rectangular shaped building labelled as 'works' mapped in the west of the site extending off site. East half remains undeveloped. A track aligned north to south is present in the centre of the site.	Two depots mapped 60 to 80 m southwest of the site. Engineering works with tanks, laundry, clothing factory, packing case factory mapped 140 to 200 m west and southwest of the site. Large new residential development ~180 m north of the site. School to the north shows expansion and labelled as Shoreham County Secondary School for Boys
1960-1970	No significant changes noted.	School expanded to the east. Depots 60-80 m to the southwest expands.
1977-1987	No significant changes noted.	Dolphin Road mapped in its current position and as are industrial units south and south east. Residential development is mapped ~120 m to the east. Electrical substations are mapped ~40 m southeast, ~80 m southwest and ~100 m south of the site.
1985-1991	No significant changes noted.	No significant changes noted.
1994	No significant changes noted.	School 100m north of the site is no longer mapped. Electrical substation is mapped ~20 m west of the site
2000	No significant changes noted.	Residential developments ~40 m north of the site
2004 Aerial image	No significant changes noted.	No significant changes noted.
2007 Aerial image	Warehouse in the west of the site no longer mapped. Site is used as a car park for commercial units to the west	No significant changes noted.
2016 Aerial image	Shown as current layout	No significant changes noted.

6.5 Unexploded Ordnance (UXO)

The risks from unexploded ordnance have been assessed in accordance with CIRIA guidance[3]. A non-UXO specialist preliminary screening assessment has been carried out. The risks have been assessed by considering firstly the likelihood of military activities on, or in the vicinity of the site as determined from the desk study and historical review. Secondly the risk of UXO has been assessed by reference to the unexploded WWII aerial delivered bomb (UXB) regional risk maps produced by Zetica.

The Zetica risk maps indicate a moderate risk. Furthermore, the maps indicate two UXO finds within 650m of the site boundary. Hence the overall risk of UXO is rated as moderate.

6.6 Waste Planning and Landfill Records

6.6.1 Recorded Landfill Sites

The Environment Agency website and Envirocheck report contain details on areas of historic and active landfilling in the vicinity of the site.

There are no areas of historic or active landfill listed within 500m of the subject site. According to the Envirocheck report, landfill records have been provided by West Sussex County council and council.

6.6.2 Waste Management Facilities

The closest active waste management facility is at Kingston Wharf, Brighton Road, which is approximately 356m south west of the site. The details are as follows:

Table 3: Active waste management details

Site address	Kingston Wharf, Brighton Road, Shoreham By Sea, West Sussex, BN43 6RN
Operator	Cooper Barnes Metals Ltd
Licence status	Modified
Licence Number	19694
Site Category	Metal Recycling Sites (Mixed)

6.7 Radon

According to the Envirocheck report database search, the site is in an intermediate probability radon area, as between 1 and 3% of homes are above the action level. However, no special

[3] CIRIA C681 2009. Unexploded ordnance (UXO) - A guide for the construction industry

protective measures are required in the construction of buildings on this site, in respect of radon gas.

C PRELIMINARY CONCEPTUAL SITE MODEL

7 Environmental Risk Assessment

7.1 Conceptual Site Model (CSM)

A risk based approach is used to assess contaminated or potentially contaminated land within the UK. For a potential risk to exist, there must be a contaminant linkage in place, i.e. there must be a source of contamination, a potential receptor, and a pathway linking the two.

In order to quantify the magnitude of the risk, it is necessary to first calculate the potential exposure of the receptor as a result of all the individual active contaminant linkages affecting that receptor. Secondly it is necessary to ascertain "what is an acceptable exposure level for each of the identified receptors and contaminants?". Various numerical models are available to aid in the assessment and these are discussed in more detail below.

The purpose of the Conceptual Site Model, in this instance, is to identify all of the potential contaminant linkages by considering, in turn, the potential sources, receptors and pathways.

7.2 Sources

7.2.1 Onsite Sources

Based on a review of the available site information, the following potential contaminants of concern are proposed:

Table 4: Onsite sources of contamination

Source	Contaminants of Concern
Allotment gardens	Pesticides, herbicides and heavy metals
Onsite buildings	Asbestos
Car park	Petroleum hydrocarbons
Potential Made Ground	Heavy metals, asbestos, PAH

The main source of potential contamination is the possible made ground of unknown provenance for example construction or demolition materials originating from the surrounding historical works. Typical contaminants of concern include heavy metals, asbestos, PAH.

The historical allotment gardens are a risk of contamination due to the use of pesticides, herbicides and heavy metals in fertilizers onto the soils.

There is a risk of asbestos containing material and loose asbestos fibres in fill relating to the former warehouse that was demolished in c.2006/7 and possibly used as fill material when the car park was constructed.

Vehicles have been stored on site, therefore there is potential for contamination from petroleum hydrocarbons / mineral oils through spillages or leakages from the vehicles. However, significant hydrocarbon staining of the surface was not noted. The car park is covered by concrete, limiting the potential for the hydrocarbons to migrate into the ground below.

7.2.2 Offsite Sources

The desk study has highlighted the following potential off site sources of contamination:

Table 5: Offsite sources of contamination

Source	Distance from Site (m)	Contaminants of Concern
Historic works	20m south	Hydrocarbons, metals and asbestos
Active car works	50m south	Petroleum hydrocarbons
Large below ground sewage tank	50m southeast	Sewage, land gases (CO_2, CH_4) BOD, ammoniacal nitrogen, faecal coliforms
Electrical substation	20m west and 40 m east	Polychlorinated biphenyls
2 unnamed tanks	150m east	Possible hydrocarbons

Historic works are mapped to the south of the site, these could potentially to be a source of contamination, for example, heavy metals, asbestos, petroleum hydrocarbons and other materials, as the historic industrial use is largely unknown.

Large sewage tank, car breakdown facility and smaller tanks to the west can be discounted as a source of significant contamination, due to the extensive hardstand cover, lack of new structures distance and groundwater flow, which is anticipated to be in a southerly direction.

7.3 Receptors

Potential receptors are those which may be impacted by any of the contaminants of concern identified above, and include the following:-

- Future site users (adult worker)
- Construction workers
- Groundwater – Secondary B Aquifer and Secondary Undifferentiated Aquifer and Principal Aquifer at depth
- Material construction of buildings and infrastructure

- Neighbouring properties

7.4 Pathways and Potential Contaminant Linkages

The proposed changes to the existing car park include a new access ramp, with retaining walls and a small area of soft landscaping along the eastern boundary. The soft landscaping is understood to consist of raised planters.

There are no contaminant-receptor linkages created by the proposed development, as following development any potential contaminants of concern will be encapsulated by the new hardstanding surfacing and pathways broken. There are no enclosed spaces that will facilitate the concentration of land gases or potentially hazardous vapours. Contaminant linkages are not anticipated to be present in the new area of soft landscaping, which will be in contained 'planters' not in contact with historical fill material.

During the construction phase ground workers are at risk from direct contact, dust / soil ingestion and dust / respirable fibre inhalation from potential contaminants of concern identified above.

The site is underlain by a medium vulnerability, secondary aquifer, whilst the underlying chalk is high vulnerability leaching potential. However, after the new ramp is constructed infiltration through the hardstand will be minimal, as such contaminant linkages between potential onsite sources of contamination and controlled waters receptors are not considered to be active.

7.5 Qualitative Risk Assessment of Contaminant Linkages

Risk levels within the preliminary CSM are determined on a qualitative basis following review of the available desk-based information. The significance of particular contaminant linkages is dependant both upon the severity and likelihood of the risk. These two factors are summarised in the following tables.

The potential contaminant linkages are summarised in the table appended in Appendix D and given a qualitative risk classification in accordance with current guidance. The details of the risk assessment methodology are presented in Appendix D.

7.6 Conclusions

Following development no contaminant linkages are identified above moderate / low. Construction workers will be exposed to soils and dust onsite, however with the correct precautions taken including appropriate risk assessments and method statements including the correct use of PPE the likelihood of acute exposure is low.

8 Recommendations for Intrusive Ground Investigation

With respect to contaminated land and the proposed development an intrusive site investigation and risk assessment is not considered necessary.

However, waste material will be generated as a result of the ramp and retaining wall construction and it is the legal duty of the waste producer to characterise the material prior to disposal off site. It may be advisable characterise the possible waste material in advance of groundworks commencing.

APPENDIX A – Limitations

Limitations

LIMITATIONS

This report is confidential to the Client, and Leap Environmental Ltd accepts no responsibility whatsoever to third parties to whom this report, or any part thereof, is made known, unless formally agreed by Leap Environmental Ltd beforehand. Any such party relies upon the report at their own risk. Unless explicitly agreed otherwise in writing, this report has been prepared under LEAP's standard terms and conditions, as included in the quotation for this works.

This report has been prepared by Leap Environmental Ltd on the basis of information received from a variety of sources which Leap Environmental Ltd believes to be accurate. Nevertheless, Leap Environmental Ltd cannot and does not guarantee the authenticity or reliability of the information it has obtained from others.

Leap Environmental Ltd has used all reasonable skill, care and diligence in the design and execution of this report, taking into account the manpower and resources devoted to it in agreement with the Client. Although every reasonable effort has been made to obtain all relevant information, all potential contamination, environmental constraints or liabilities associated with the site may not necessarily have been revealed. LEAP cannot be held responsible for any disclosures or changes in regulation that are provided post production of this report, and will not automatically update the report.

The conclusions reached in this report are necessarily restricted to those which can be determined from the information consulted, and may be subject to amendment in the light of additional information becoming available. These conclusions may not be appropriate for alternative schemes.

The extent of the exploratory holes, laboratory testing and monitoring undertaken may have been restricted due to a number of factors including accessibility, the presence of buried or overhead services, current development and site usage, timescales or clients specification. The exploratory holes only assess a small proportion of the site area with respect to the site as a whole, and as such may only provide an overall assessment of ground conditions on site. The presence of hotspots of undisclosed contamination or exceptional and unforeseen ground conditions cannot be discounted.

Eurocode 7 gives guidance on the type of sampling, sample quality, number and spacing of intrusive investigations, and number of laboratory tests required. It is intended that the Geotechnical Information section of this report will fulfil the general requirements of the Ground Investigation Report as set out in section 6 of Eurocode7[4], although this is subject to the restrictions imposed on the investigation as listed above. For geotechnical design, Eurocode 7 requires the Geotechnical Design Report to address both the geotechnical and

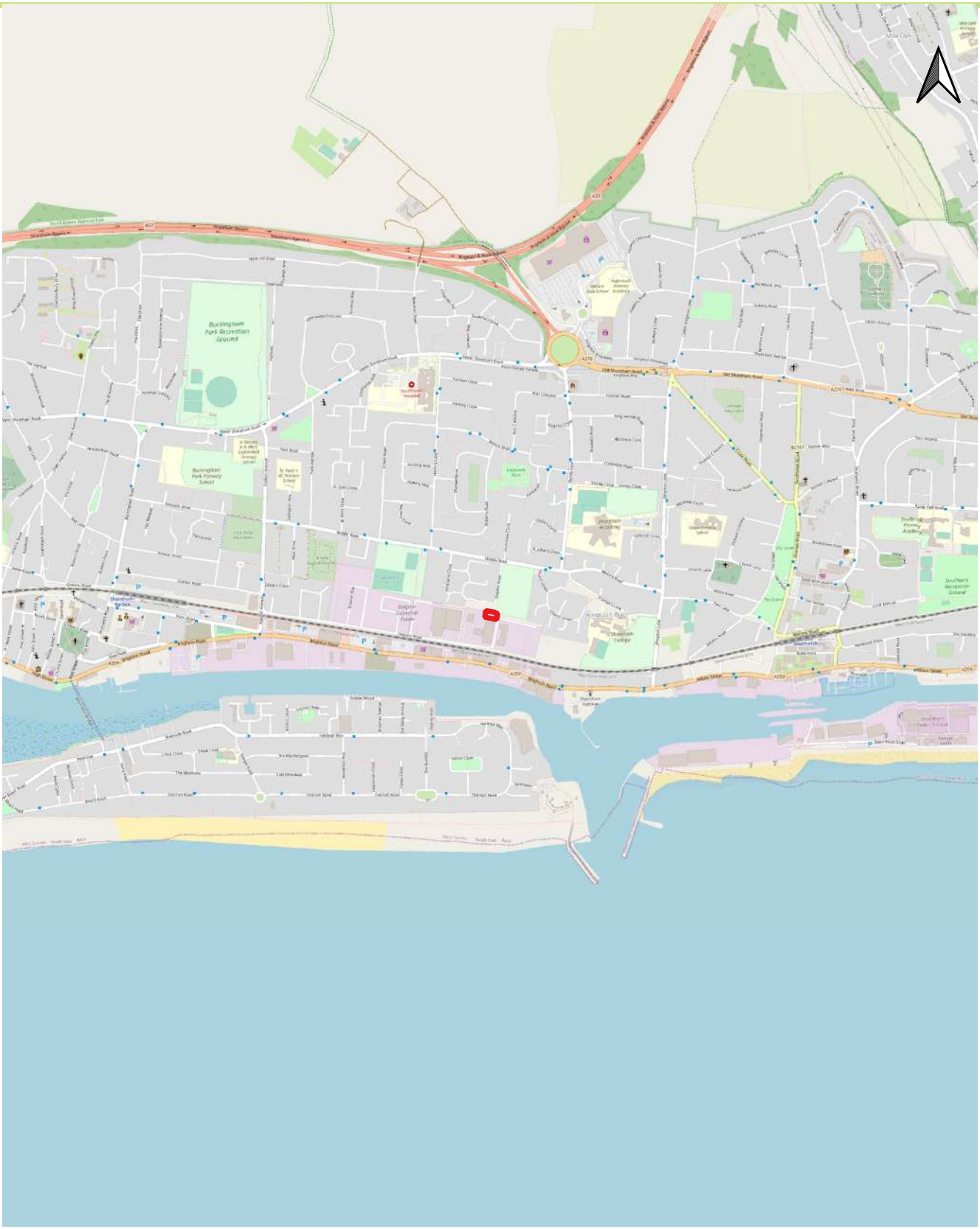
[4] BS EN 1997 Eurocode 7- Geotechnical Design - Part 1: General Rules (2004) and Part 2: Ground Investigation and Testing (2007)

structural aspects of the geotechnical design for both the limit and serviceability states. The Geotechnical Appraisal section of this report will not meet the requirements of a Geotechnical Design Report (GDR), and should therefore be used for preliminary guidance only.

The presence of asbestos may be noted during the site walkover survey, intrusive investigations and/or from the results of contamination testing. However, this report does not constitute an asbestos survey. On this basis, the presence of asbestos on site cannot be discounted and a full asbestos survey should be undertaken.

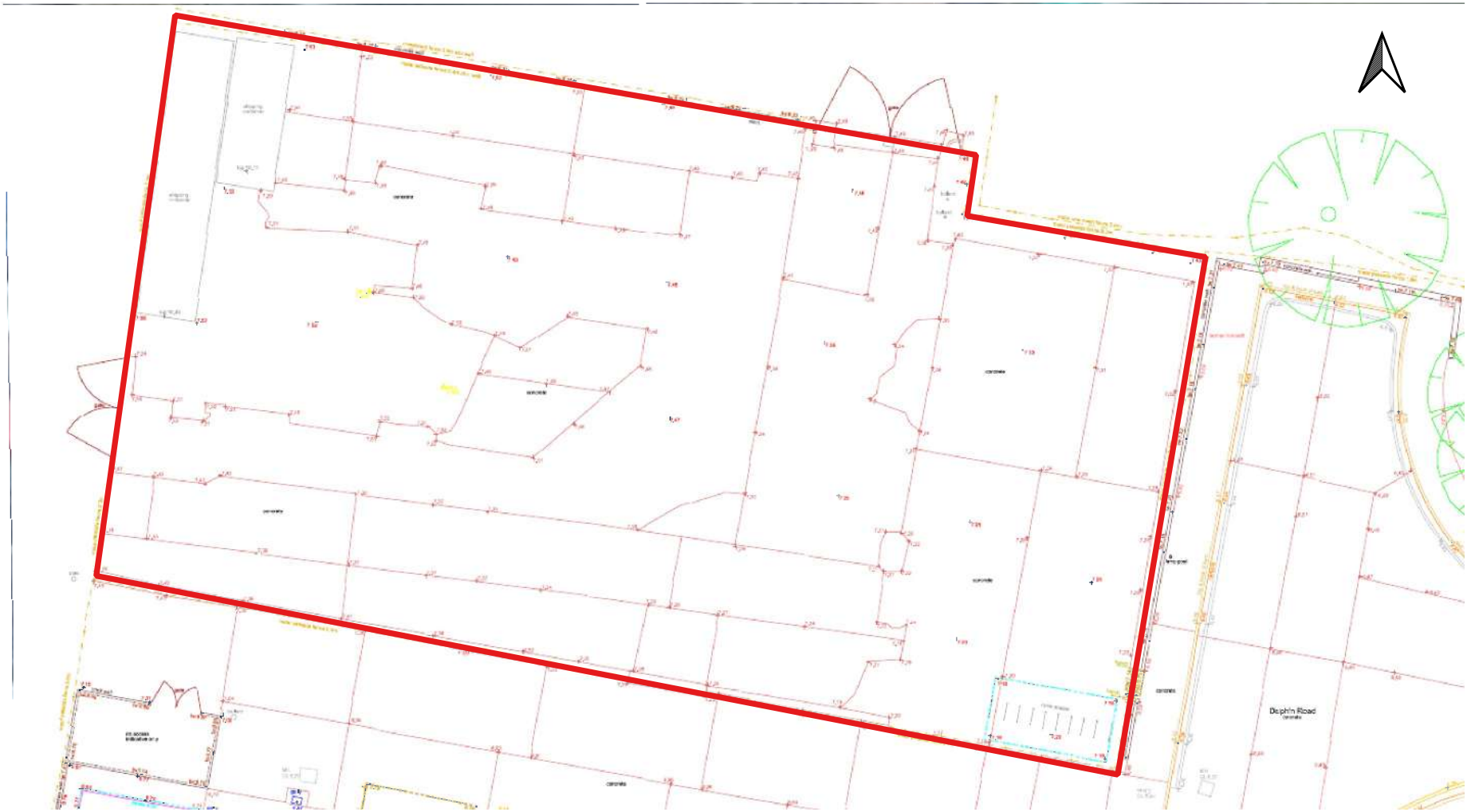
APPENDIX B – Figures

Figures



Basemap: © OpenStreetMapcontributors

leap environmental	Client:	Jericho Management Company Ltd	Title:	Site Location Plan	Project ID:	LP2337
	Project:	Land off Dolphin Road, Shoreham-by-Sea	Date:	30/09/20	Figure No.	01



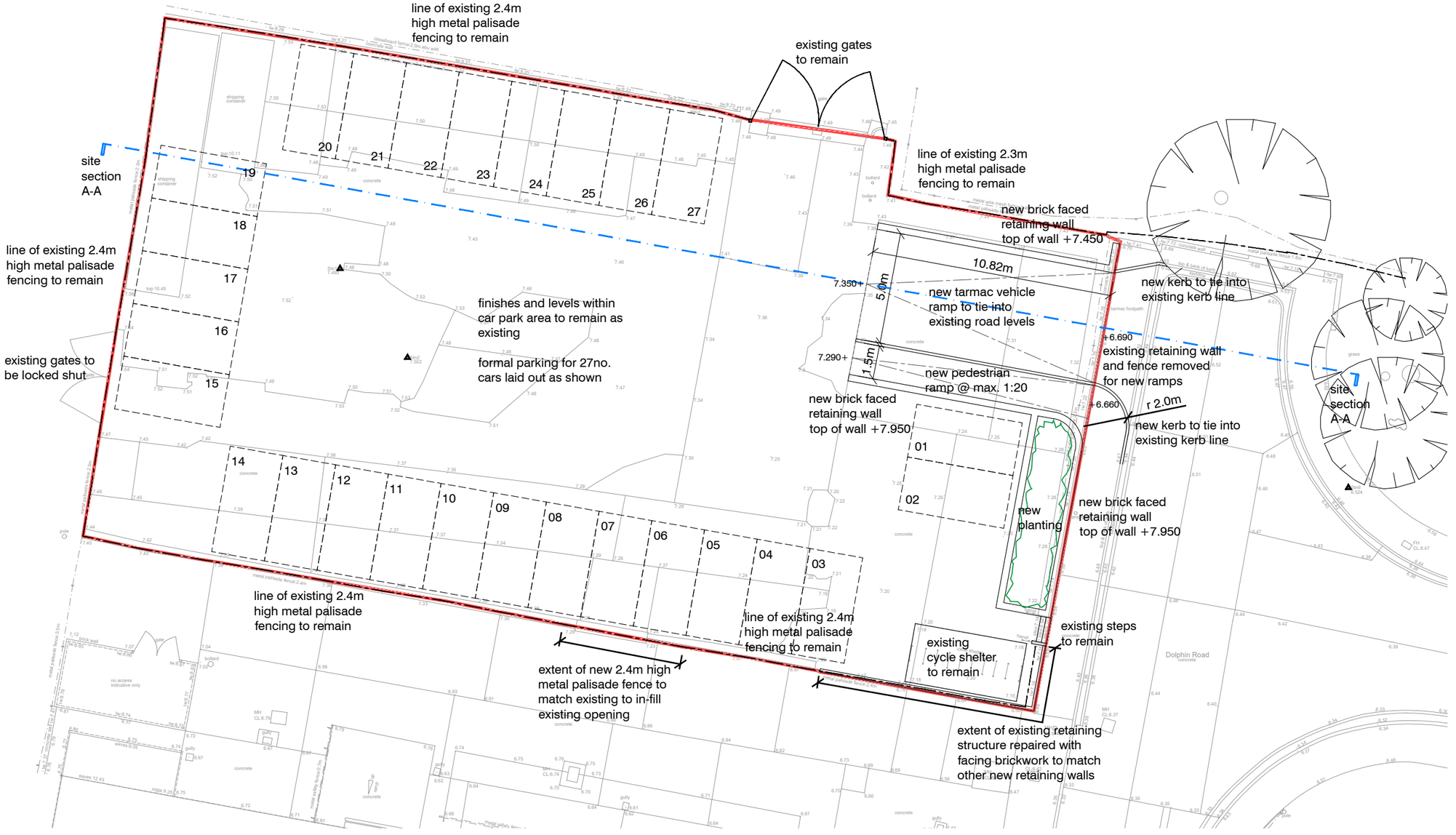
Basemap: Client Supplied

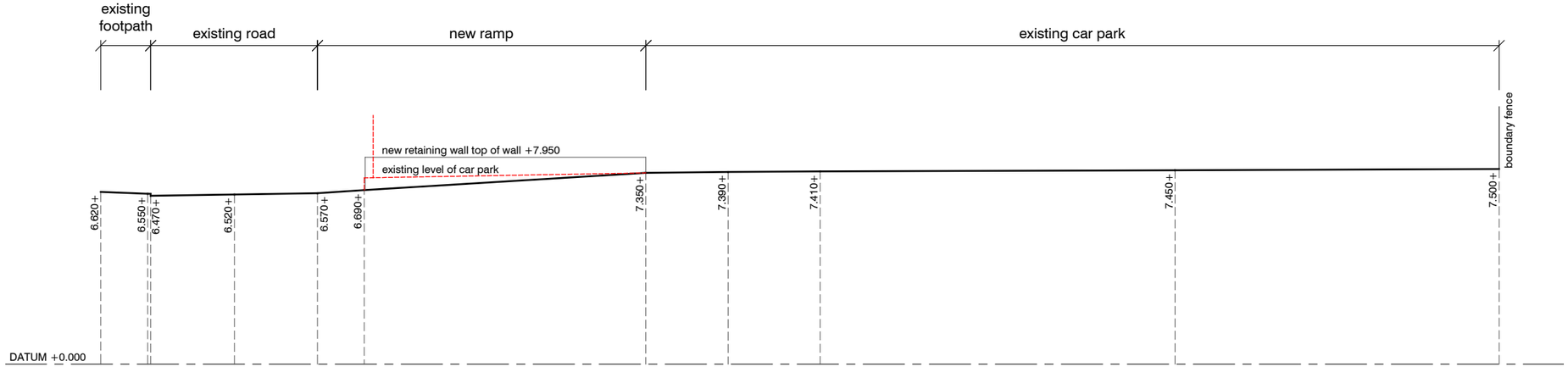
Client:	Jericho Management Company Ltd	Title:	Current layout	Project ID:	LP2337
Project:	Land off Dolphin Road, Shoreham-by Sea	Date:	30/09/20	Figure No.	02

Physical Scale 1:200

0 2m 4m 10m

NOTES:
Dimensions to be checked on site before commencing work. any discrepancies shall be reported to Curtis Leeves Technical Ltd. immediately.
Do not scale from these drawings except for planning purposes. Use figured dimensions only.
Where applicable this drawing is to be read in conjunction with other consultants' drawings.
This drawing is the copyright of Curtis Leeves Technical Ltd. and may not be copied, altered or reproduced in any way, or passed to a third party, without written authority.





Site Section A-A

rev	description	date
status	PLANNING	

CURTIS LEEVES TECHNICAL LTD
01243 378070 I mail@cltechnical.co.uk

client
Jericho Management Compay Ltd

project
Proposed New Access to Exisitng Car Parking Area

title
Site Plan & Site Section

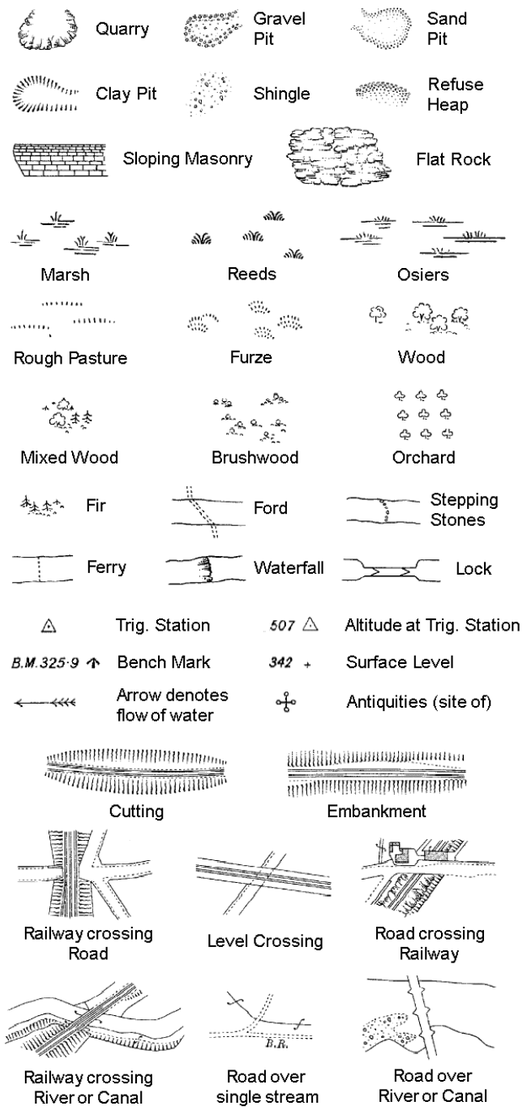
date	scale @ A3	drawn	chkd
April 2020	1:200	MRL	GBC
project no.	drawing no.		rev
2013	P101		-

APPENDIX C – Historic Maps and Environmental Database Searches

Historic Maps and Environmental Database Searches

Historical Mapping Legends

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



County Boundary (Geographical)

County & Civil Parish Boundary

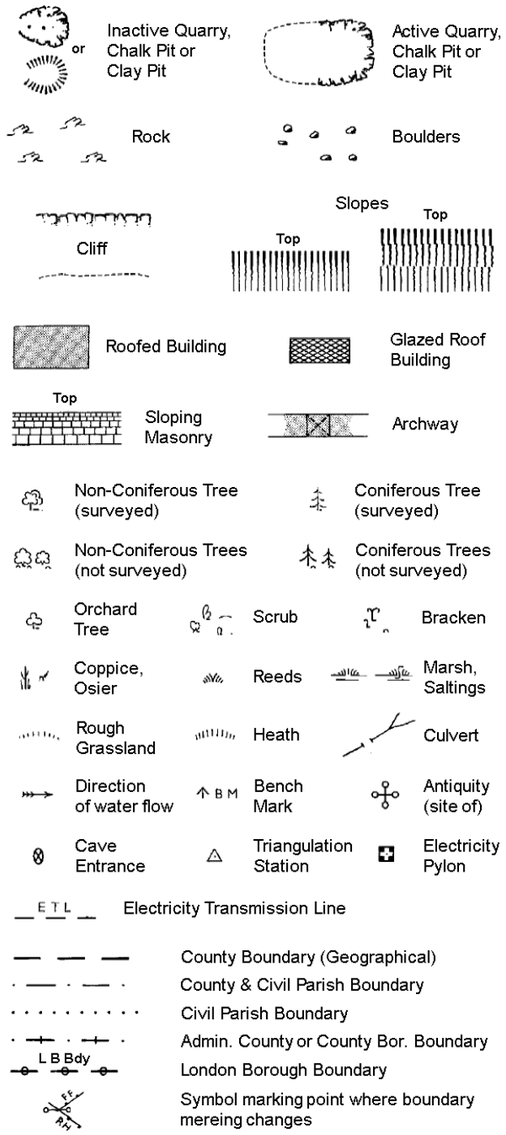
Administrative County & Civil Parish Boundary

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

Co. Burgh Bdy. County Burgh Boundary (Scotland)

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

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



County Boundary (Geographical)

County & Civil Parish Boundary

Civil Parish Boundary

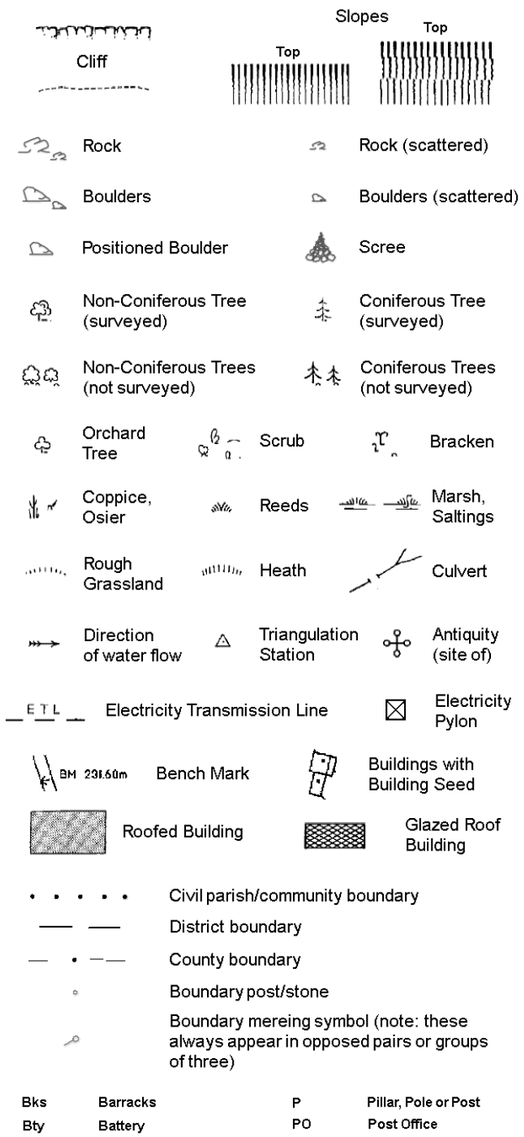
Admin. County or County Bor. Boundary

L B Bdy London Borough Boundary

Symbol marking point where boundary mereing changes

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

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



Civil parish/community boundary

District boundary

County boundary

Boundary post/stone

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

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

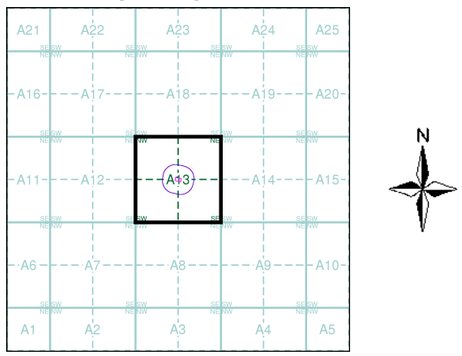
Envirocheck®

LANDMARK INFORMATION GROUP®

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Sussex	1:2,500	1873 - 1874	2
Sussex	1:2,500	1898	3
Sussex	1:2,500	1912	4
Sussex	1:2,500	1930 - 1933	5
Additional SIMs	1:1,250	1950 - 1980	6
Ordnance Survey Plan	1:2,500	1952	7
Ordnance Survey Plan	1:1,250	1952	8
Ordnance Survey Plan	1:1,250	1954 - 1965	9
Ordnance Survey Plan	1:1,250	1960 - 1970	10
Ordnance Survey Plan	1:2,500	1963	11
Additional SIMs	1:2,500	1963	12
Ordnance Survey Plan	1:1,250	1969 - 1989	13
Ordnance Survey Plan	1:1,250	1974 - 1988	14
Additional SIMs	1:1,250	1977 - 1987	15
Additional SIMs	1:1,250	1985 - 1991	16
Large-Scale National Grid Data	1:1,250	1994	17
Large-Scale National Grid Data	1:1,250	1995	18

Historical Map - Segment A13



Order Details

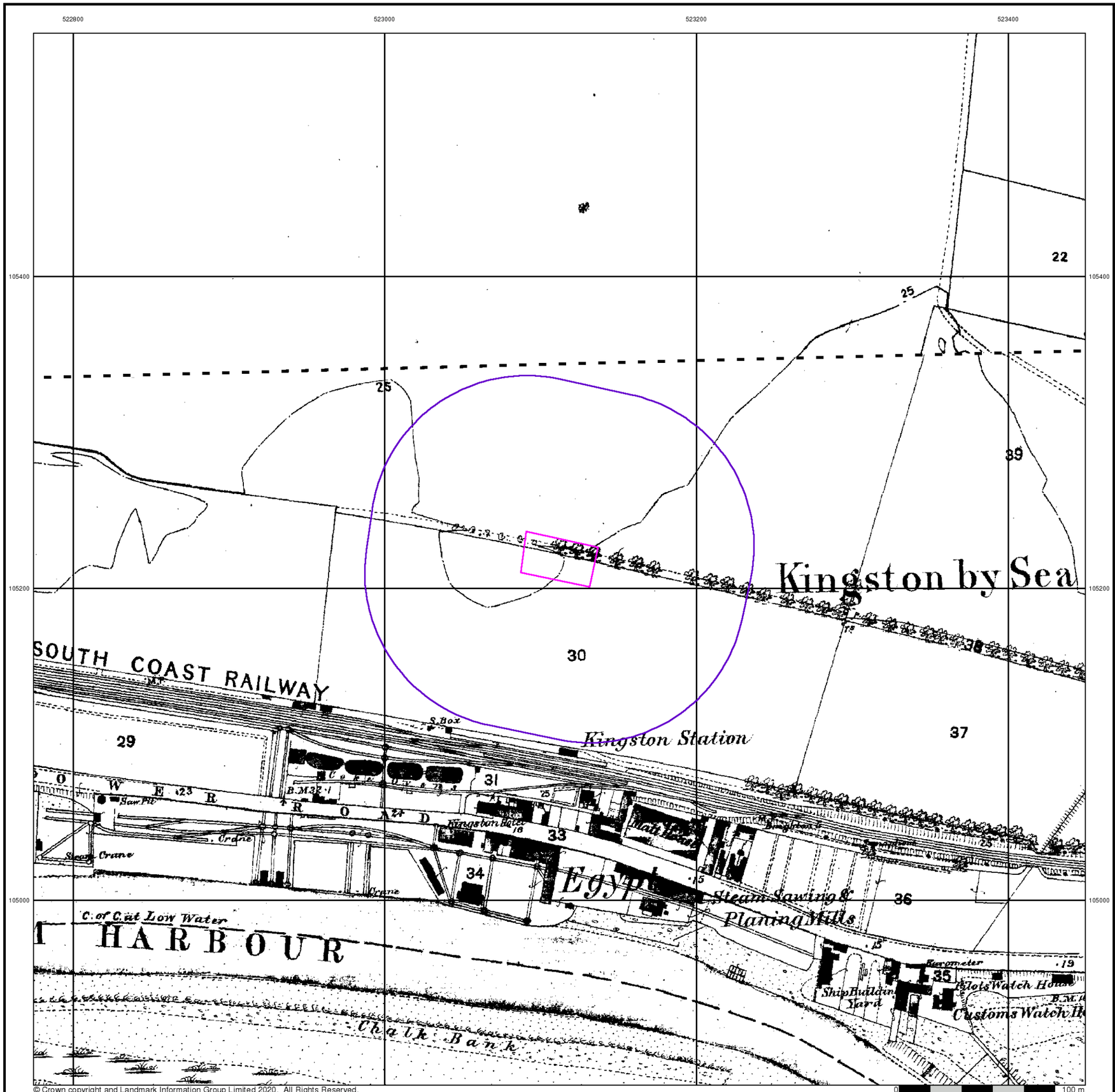
Order Number:	256331611_1_1
Customer Ref:	LP2337
National Grid Reference:	523110, 105220
Slice:	A
Site Area (Ha):	0.13
Search Buffer (m):	100

Site Details

Pyroban, Pyroban Endeavour Works, 51, Dolphin Road, SHOREHAM-BY-SEA, BN43 6QG

Landmark® INFORMATION GROUP

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



© Crown copyright and Landmark Information Group Limited 2020. All Rights Reserved.

Envirocheck®

LANDMARK INFORMATION GROUP®

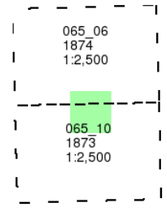
Sussex

Published 1873 - 1874

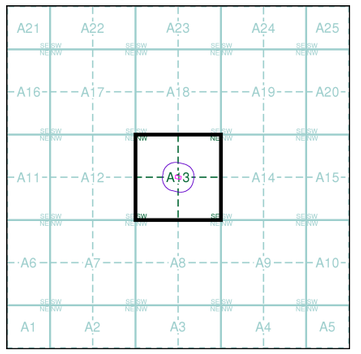
Source map scale - 1:2,500

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



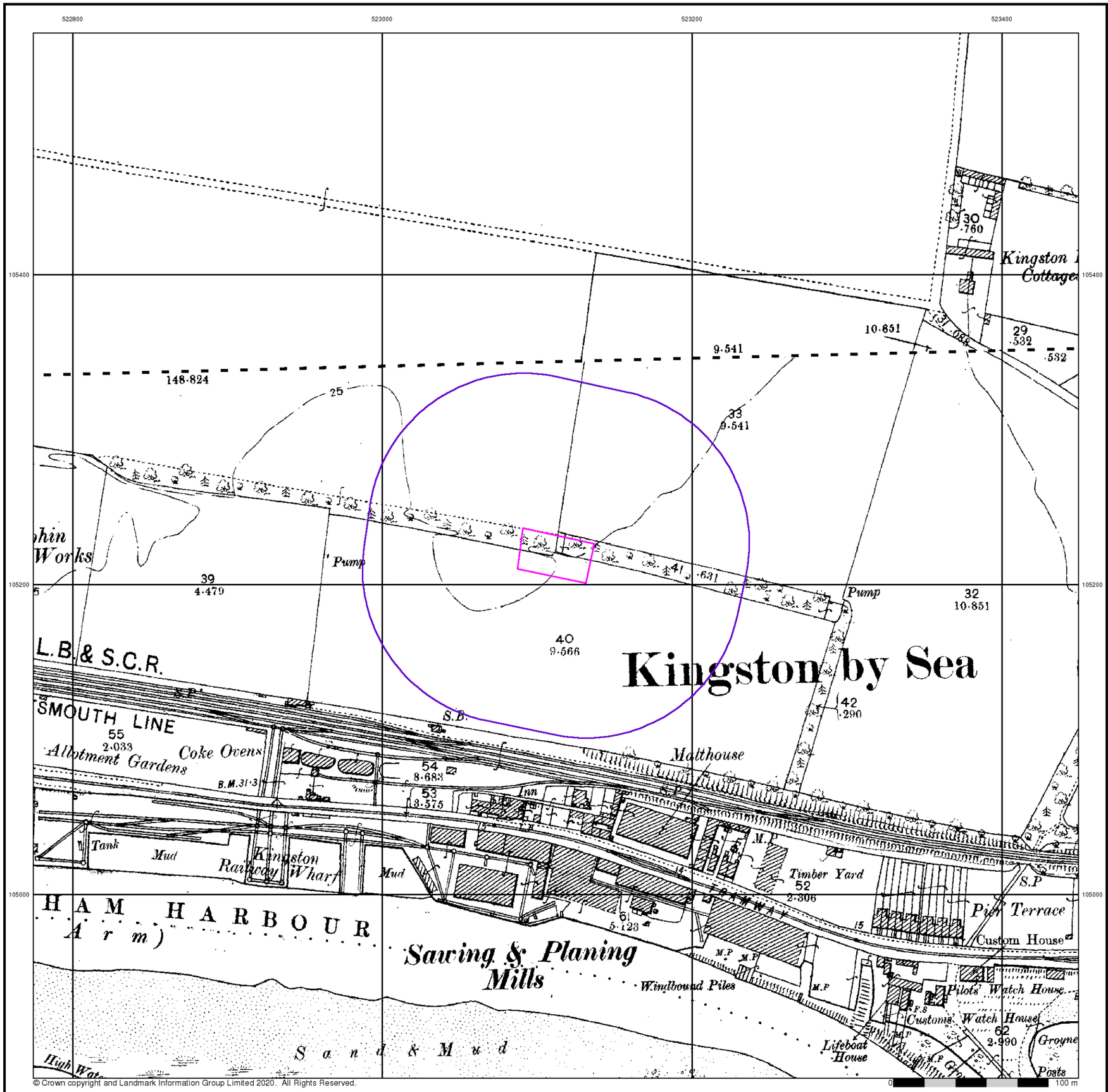
Order Details

Order Number:	256331611_1_1
Customer Ref:	LP2337
National Grid Reference:	523110, 105220
Slice:	A
Site Area (Ha):	0.13
Search Buffer (m):	100

Site Details

Pyroban, Pyroban Endeavour Works, 51, Dolphin Road, SHOREHAM-BY-SEA, BN43 6QG

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



© Crown copyright and Landmark Information Group Limited 2020. All Rights Reserved.

Envirocheck®

LANDMARK INFORMATION GROUP®

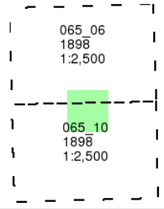
Sussex

Published 1898

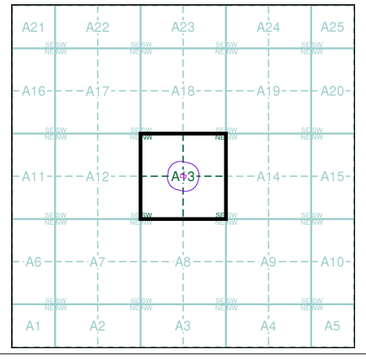
Source map scale - 1:2,500

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



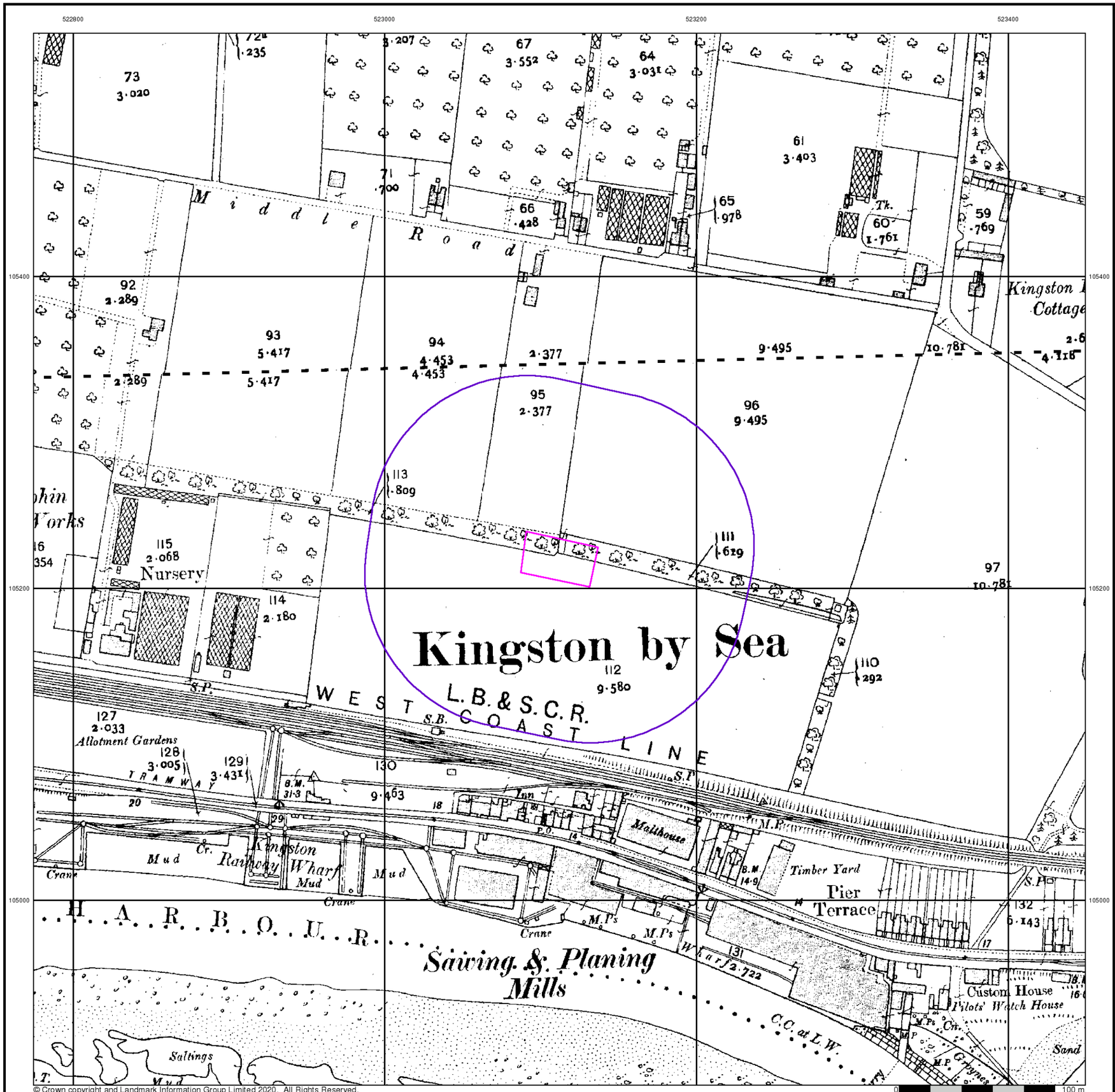
Order Details

Order Number:	256331611_1_1
Customer Ref:	LP2337
National Grid Reference:	523110, 105220
Slice:	A
Site Area (Ha):	0.13
Search Buffer (m):	100

Site Details

Pyroban, Pyroban Endeavour Works, 51, Dolphin Road, SHOREHAM-BY-SEA, BN43 6QG

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



Envirocheck®

LANDMARK INFORMATION GROUP®

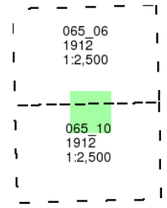
Sussex

Published 1912

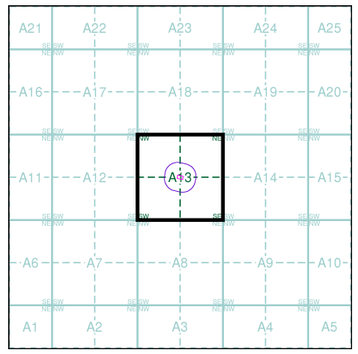
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number:	256331611_1_1
Customer Ref:	LP2337
National Grid Reference:	523110, 105220
Slice:	A
Site Area (Ha):	0.13
Search Buffer (m):	100

Site Details

Pyroban, Pyroban Endeavour Works, 51, Dolphin Road, SHOREHAM-BY-SEA, BN43 6QG

Landmark INFORMATION GROUP

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



© Crown copyright and Landmark Information Group Limited 2020. All Rights Reserved.

Envirocheck®

LANDMARK INFORMATION GROUP®

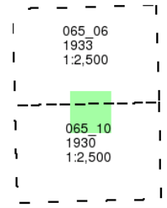
Sussex

Published 1930 - 1933

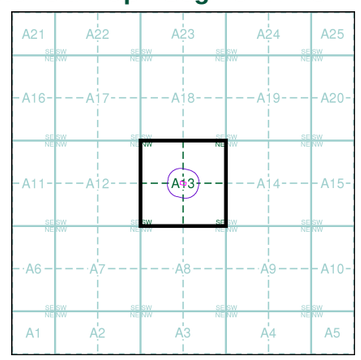
Source map scale - 1:2,500

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



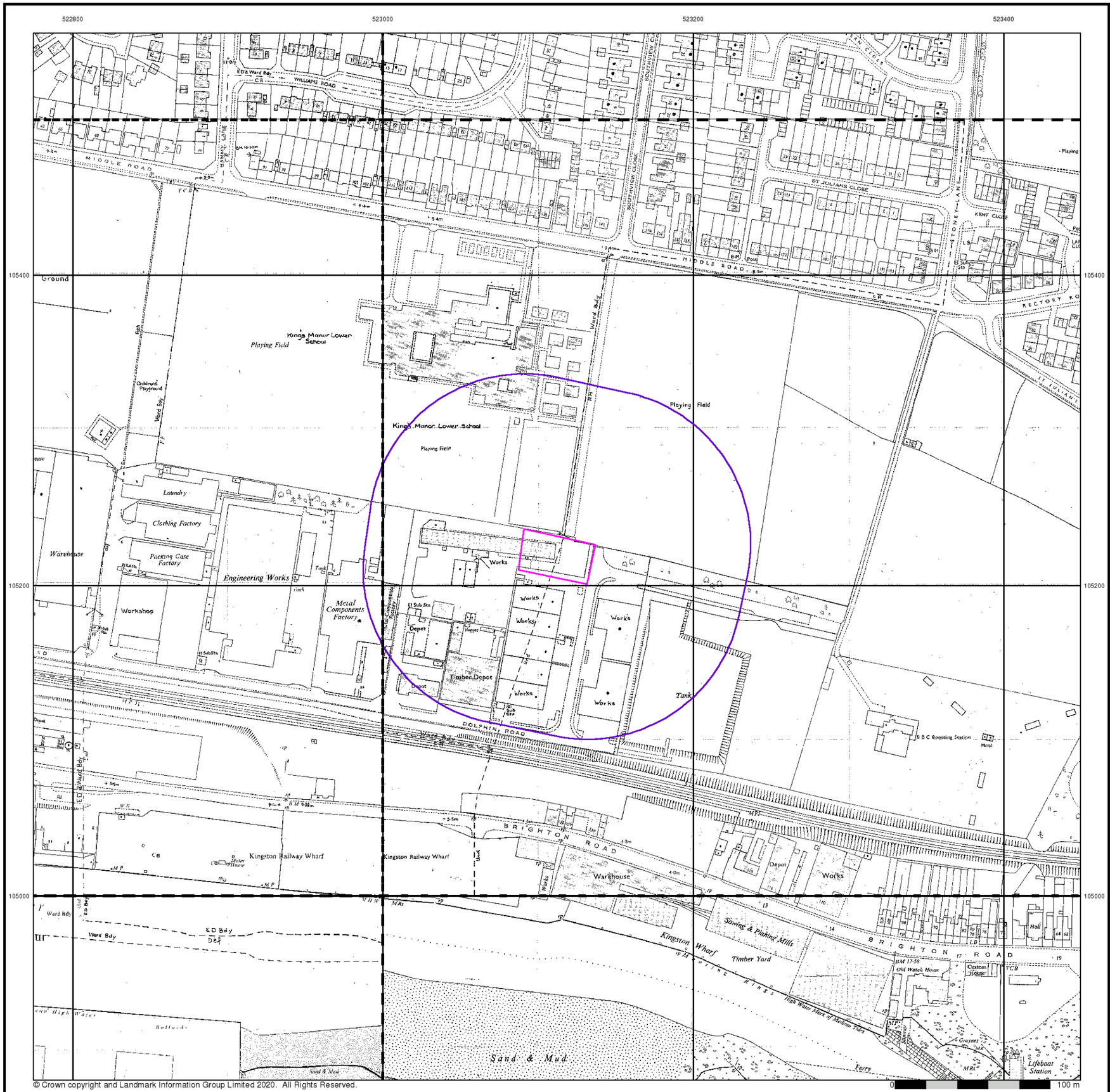
Order Details

Order Number:	256331611_1_1
Customer Ref:	LP2337
National Grid Reference:	523110, 105220
Slice:	A
Site Area (Ha):	0.13
Search Buffer (m):	100

Site Details

Pyroban, Pyroban Endeavour Works, 51, Dolphin Road, SHOREHAM-BY-SEA, BN43 6QG

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



© Crown copyright and Landmark Information Group Limited 2020. All Rights Reserved.

Envirocheck®

LANDMARK INFORMATION GROUP®

Additional SIMs

Published 1950 - 1980

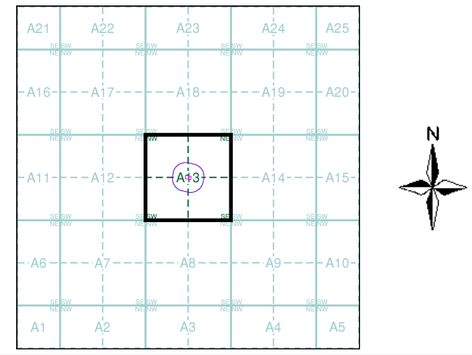
Source map scale - 1:1,250

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)

TQ2205NE 1979 1:1,250	TQ2305NW 1977 1:1,250
TQ2205SE 1978 1:1,250	TQ2305SW 1980 1:1,250
TQ2204NE 1979 1:1,250	TQ2304NW 1950 1:1,250

Historical Map - Segment A13



Order Details

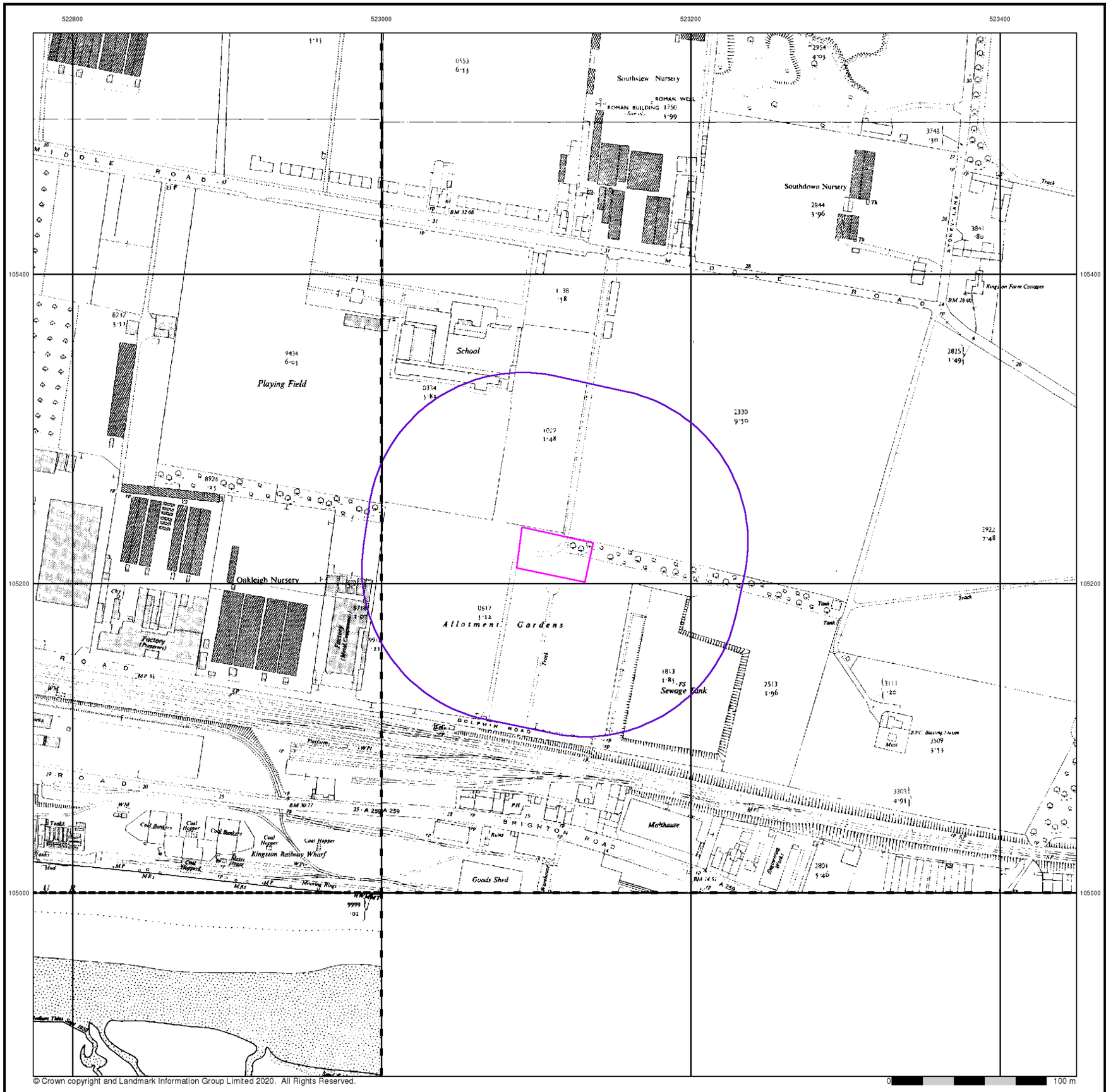
Order Number:	256331611_1_1
Customer Ref:	LP2337
National Grid Reference:	523110, 105220
Slice:	A
Site Area (Ha):	0.13
Search Buffer (m):	100

Site Details

Pyroban, Pyroban Endeavour Works, 51, Dolphin Road, SHOREHAM-BY-SEA, BN43 6QG

Landmark INFORMATION GROUP

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



© Crown copyright and Landmark Information Group Limited 2020. All Rights Reserved.

Envirocheck®

LANDMARK INFORMATION GROUP®

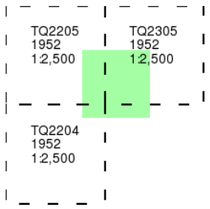
Ordnance Survey Plan

Published 1952

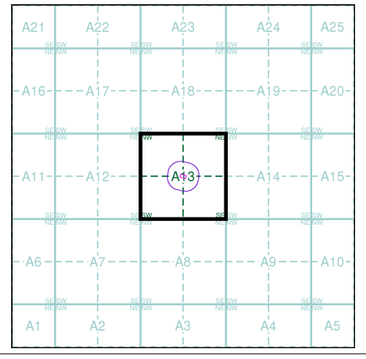
Source map scale - 1:2,500

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)



Historical Map - Segment A13



Order Details

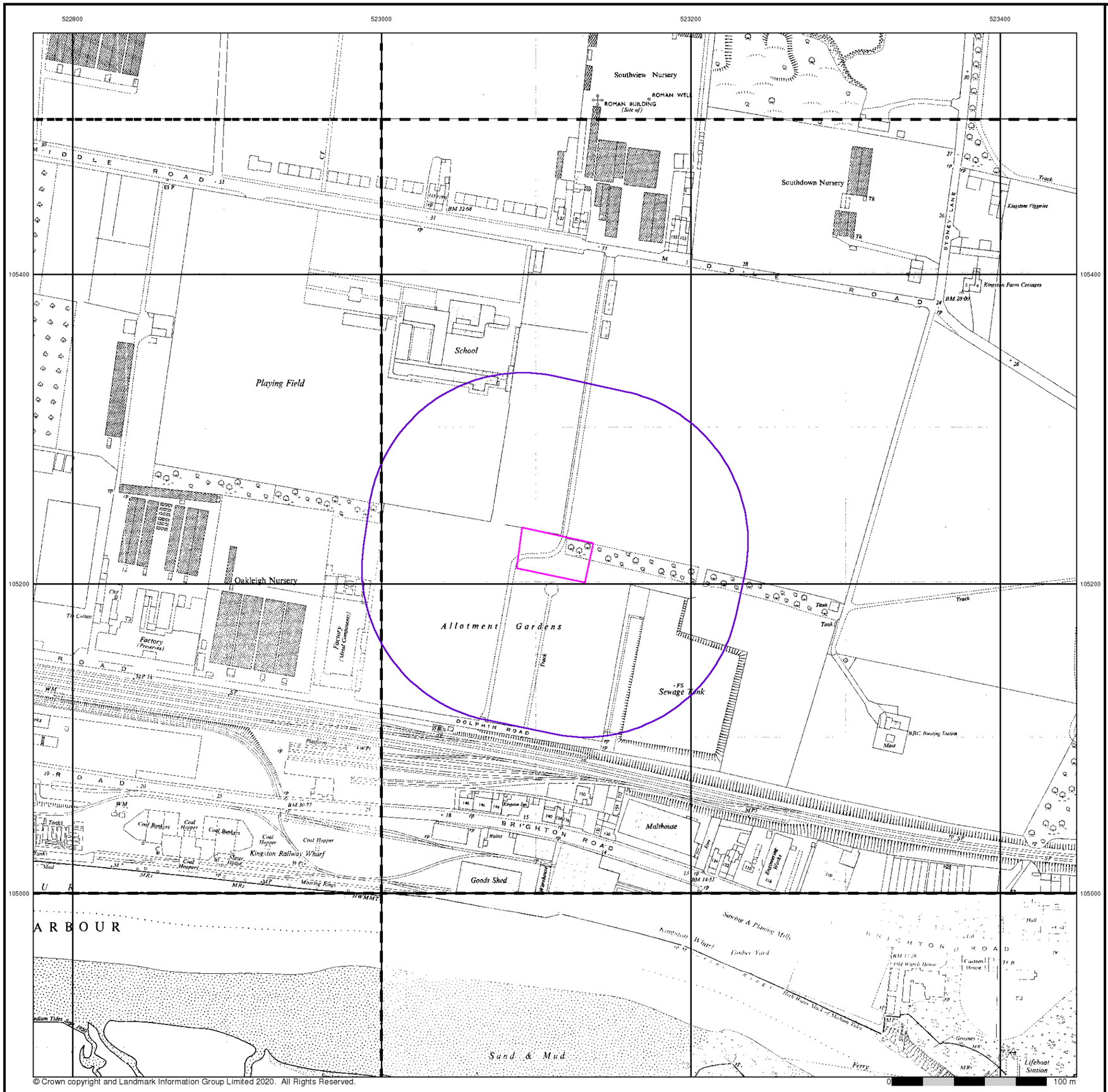
Order Number:	256331611_1_1
Customer Ref:	LP2337
National Grid Reference:	523110, 105220
Slice:	A
Site Area (Ha):	0.13
Search Buffer (m):	100

Site Details

Pyroban, Pyroban Endeavour Works, 51, Dolphin Road, SHOREHAM-BY-SEA, BN43 6QG

Landmark® INFORMATION GROUP

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



Envirocheck®

LANDMARK INFORMATION GROUP®

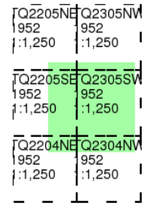
Ordnance Survey Plan

Published 1952

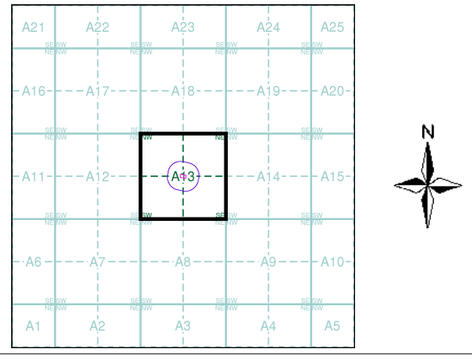
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

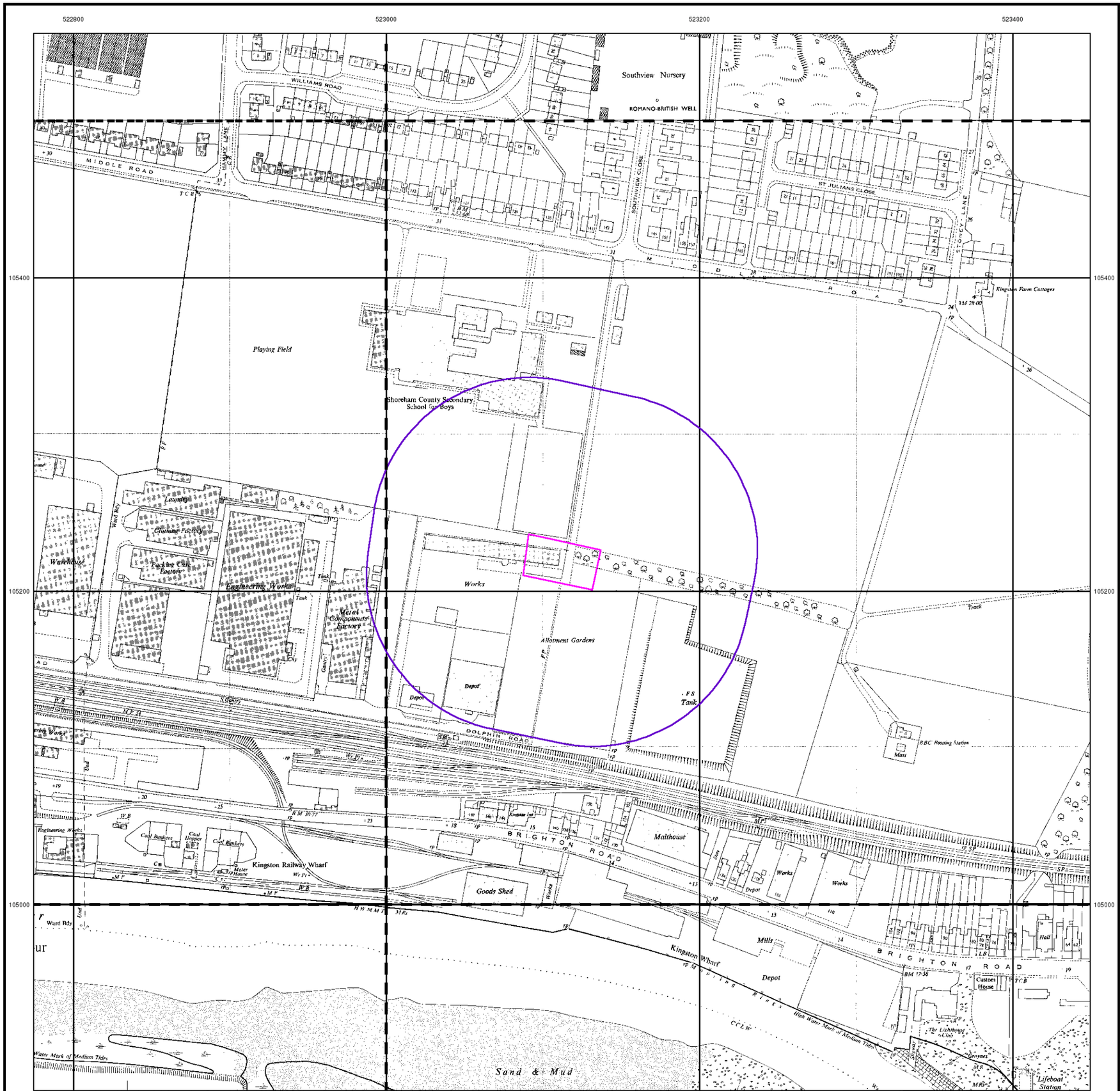
Order Number:	256331611_1_1
Customer Ref:	LP2337
National Grid Reference:	523110, 105220
Slice:	A
Site Area (Ha):	0.13
Search Buffer (m):	100

Site Details

Pyroban, Pyroban Endeavour Works, 51, Dolphin Road, SHOREHAM-BY-SEA, BN43 6QG

Landmark INFORMATION GROUP

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



© Crown copyright and Landmark Information Group Limited 2020. All Rights Reserved.

Envirocheck®

LANDMARK INFORMATION GROUP®

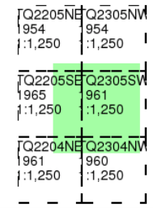
Ordnance Survey Plan

Published 1954 - 1965

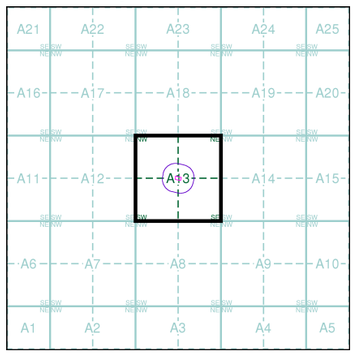
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

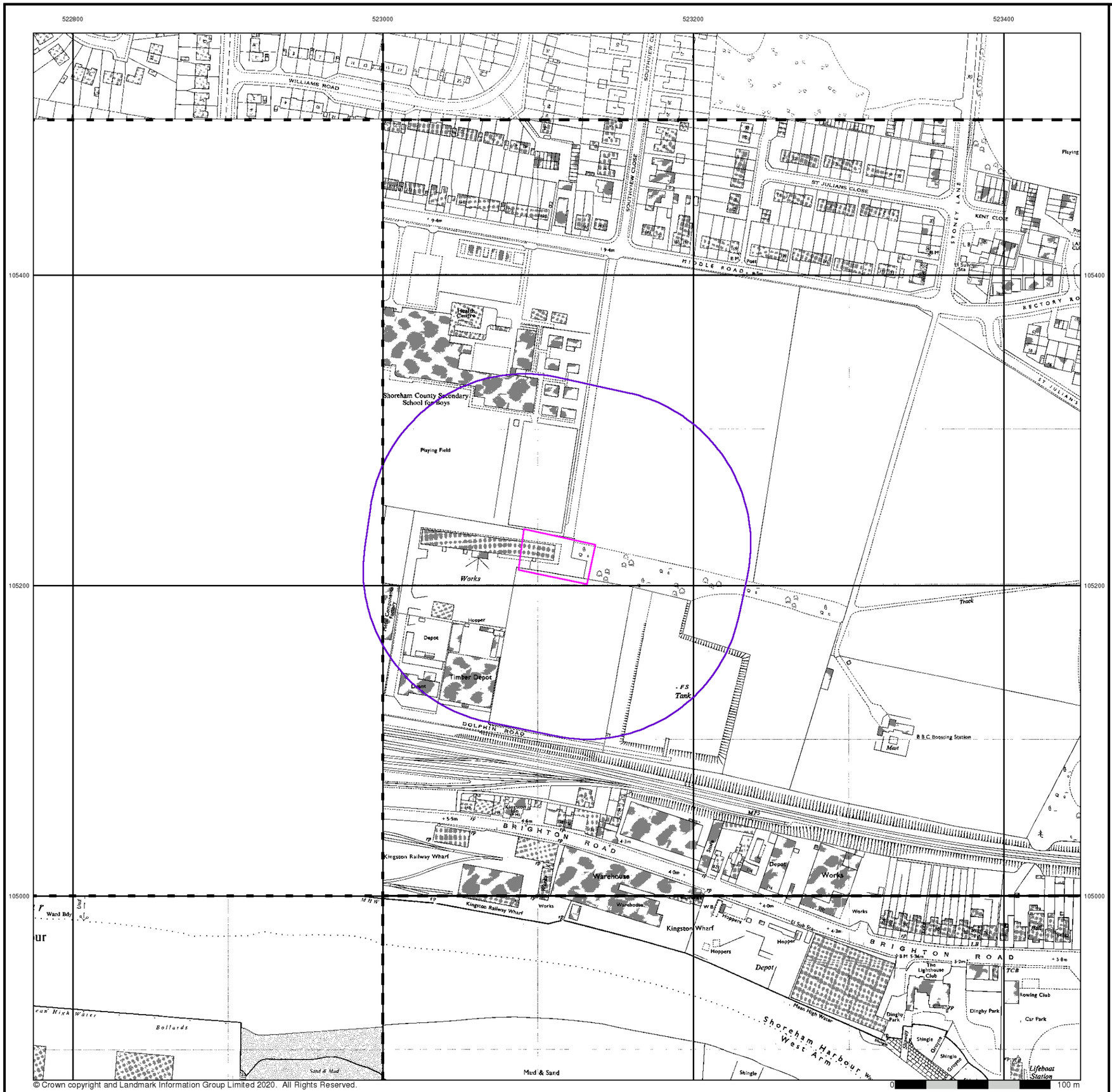
Order Number:	256331611_1_1
Customer Ref:	LP2337
National Grid Reference:	523110, 105220
Slice:	A
Site Area (Ha):	0.13
Search Buffer (m):	100

Site Details

Pyroban, Pyroban Endeavour Works, 51, Dolphin Road, SHOREHAM-BY-SEA, BN43 6QG

Landmark® INFORMATION GROUP

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



© Crown copyright and Landmark Information Group Limited 2020. All Rights Reserved.

Envirocheck®

LANDMARK INFORMATION GROUP®

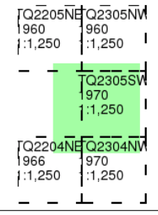
Ordnance Survey Plan

Published 1960 - 1970

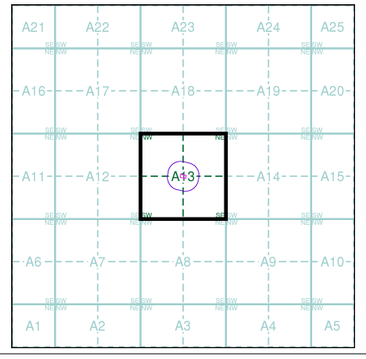
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

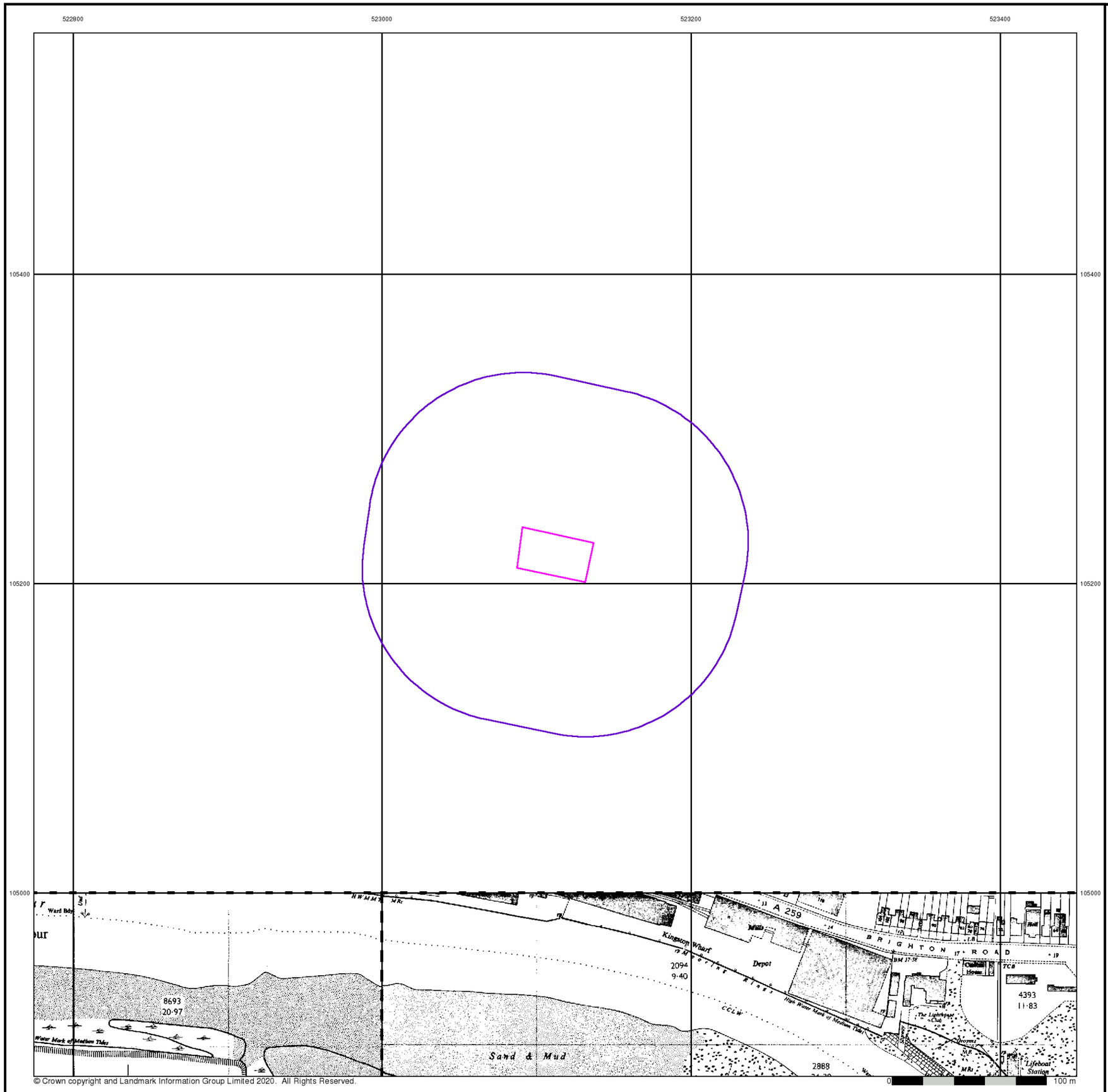
Order Number:	256331611_1_1
Customer Ref:	LP2337
National Grid Reference:	523110, 105220
Slice:	A
Site Area (Ha):	0.13
Search Buffer (m):	100

Site Details

Pyroban, Pyroban Endeavour Works, 51, Dolphin Road, SHOREHAM-BY-SEA, BN43 6QG

Landmark INFORMATION GROUP

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



© Crown copyright and Landmark Information Group Limited 2020. All Rights Reserved.

Envirocheck®

LANDMARK INFORMATION GROUP®

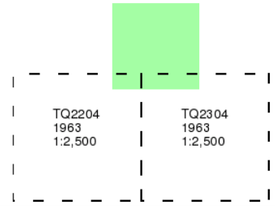
Ordnance Survey Plan

Published 1963

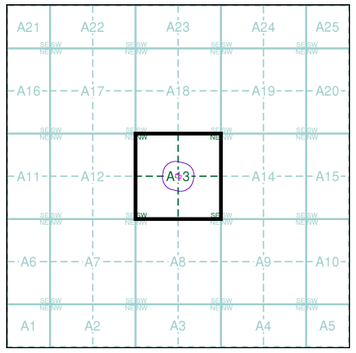
Source map scale - 1:2,500

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

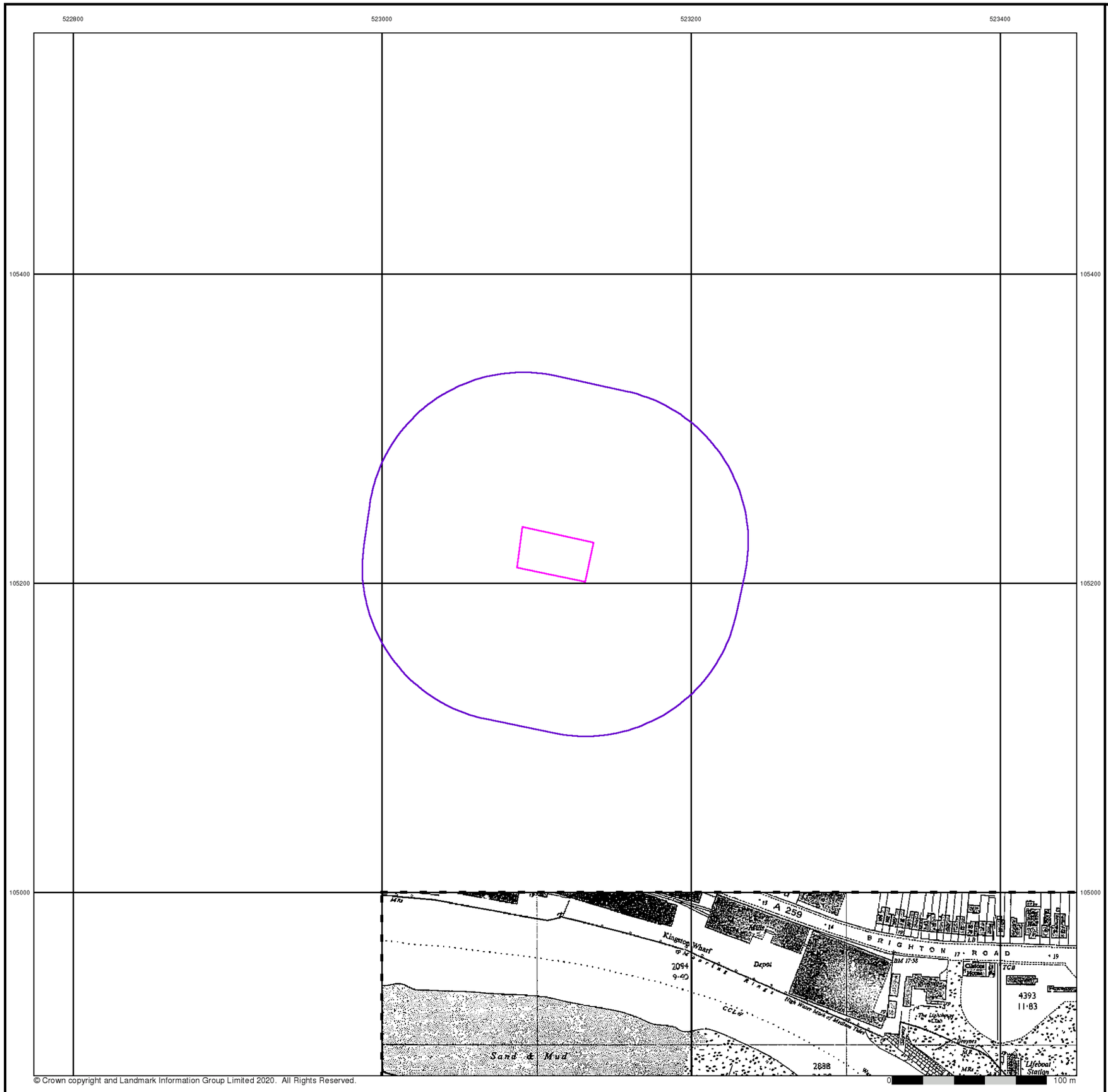
Order Number:	256331611_1_1
Customer Ref:	LP2337
National Grid Reference:	523110, 105220
Slice:	A
Site Area (Ha):	0.13
Search Buffer (m):	100

Site Details

Pyroban, Pyroban Endeavour Works, 51, Dolphin Road, SHOREHAM-BY-SEA, BN43 6QG

Landmark® INFORMATION GROUP

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



© Crown copyright and Landmark Information Group Limited 2020. All Rights Reserved.

Envirocheck®

LANDMARK INFORMATION GROUP®

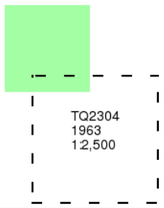
Additional SIMs

Published 1963

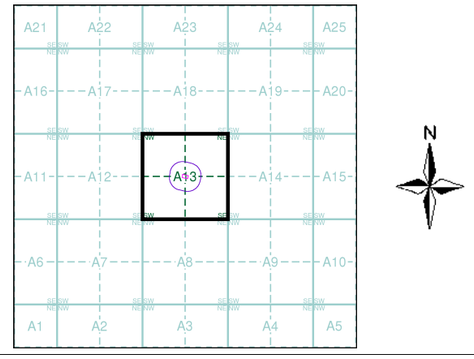
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

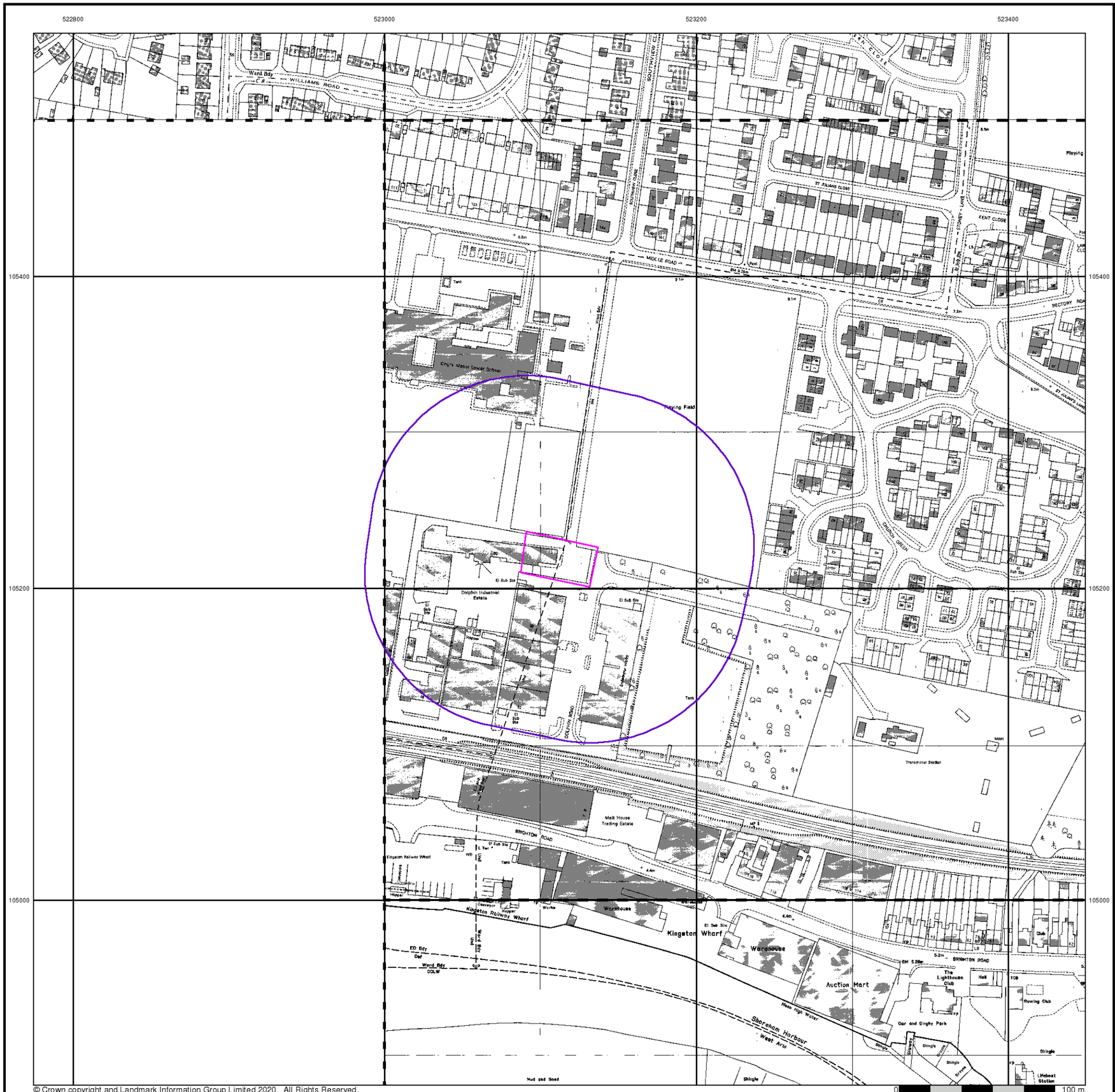
Order Number:	256331611_1_1
Customer Ref:	LP2337
National Grid Reference:	523110, 105220
Slice:	A
Site Area (Ha):	0.13
Search Buffer (m):	100

Site Details

Pyroban, Pyroban Endeavour Works, 51, Dolphin Road, SHOREHAM-BY-SEA, BN43 6QG

Landmark INFORMATION GROUP

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



© Crown copyright and Landmark Information Group Limited 2020. All Rights Reserved.

Envirocheck®

LANDMARK INFORMATION GROUP®

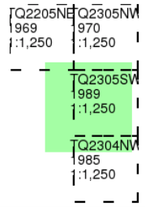
Ordnance Survey Plan

Published 1969 - 1989

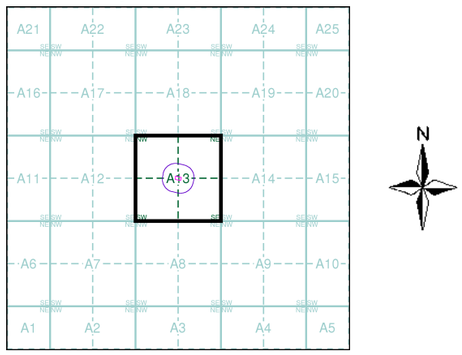
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

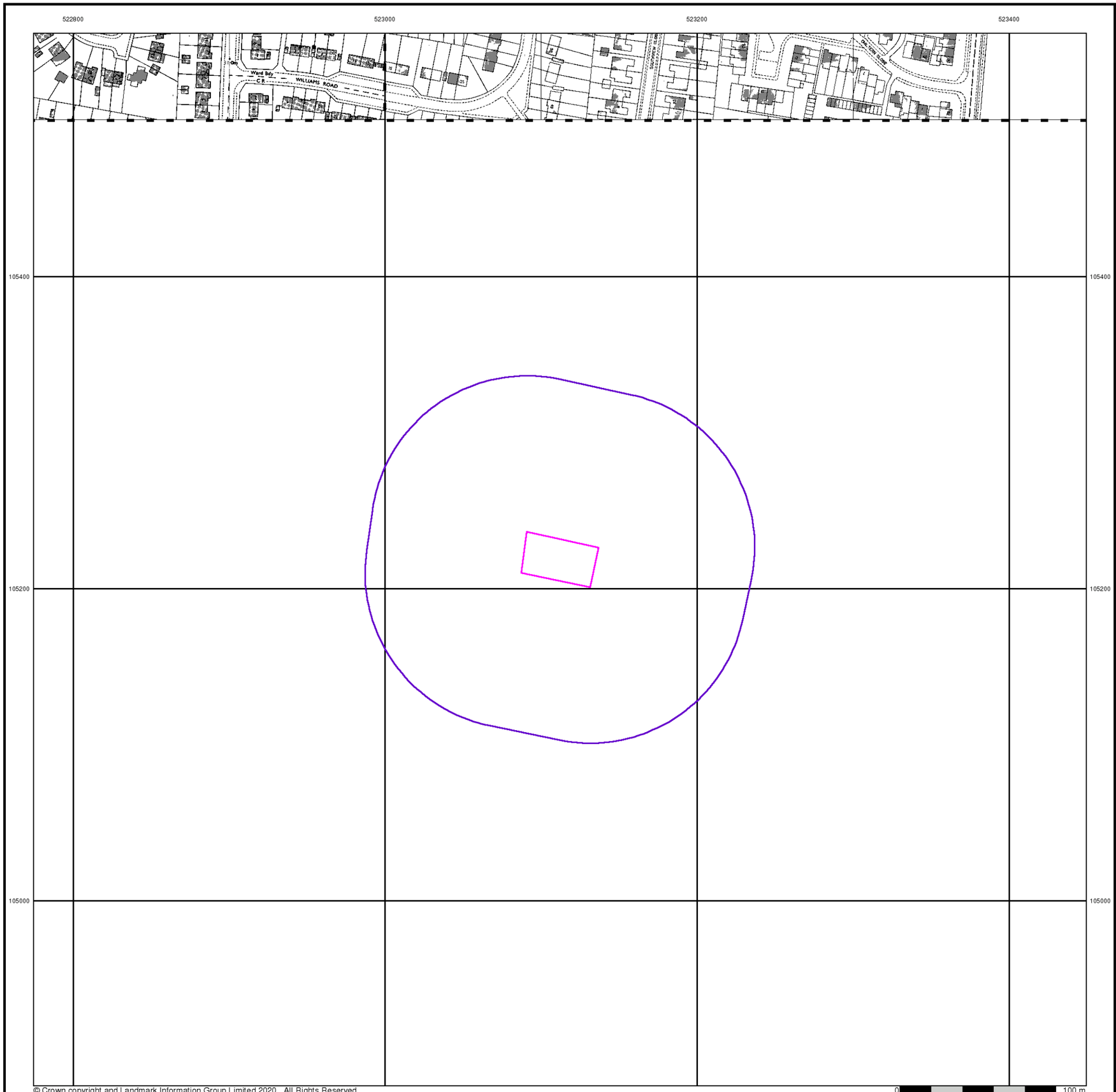
Order Number:	256331611_1_1
Customer Ref:	LP2337
National Grid Reference:	523110, 105220
Slice:	A
Site Area (Ha):	0.13
Search Buffer (m):	100

Site Details

Pyroban, Pyroban Endeavour Works, 51, Dolphin Road, SHOREHAM-BY-SEA, BN43 6QG

Landmark® INFORMATION GROUP

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



© Crown copyright and Landmark Information Group Limited 2020. All Rights Reserved.

0 100 m

Envirocheck®

LANDMARK INFORMATION GROUP®

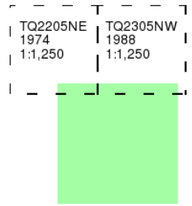
Ordnance Survey Plan

Published 1974 - 1988

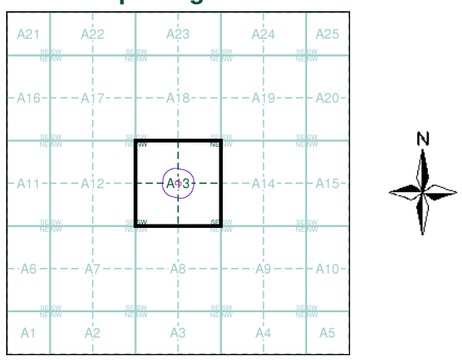
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

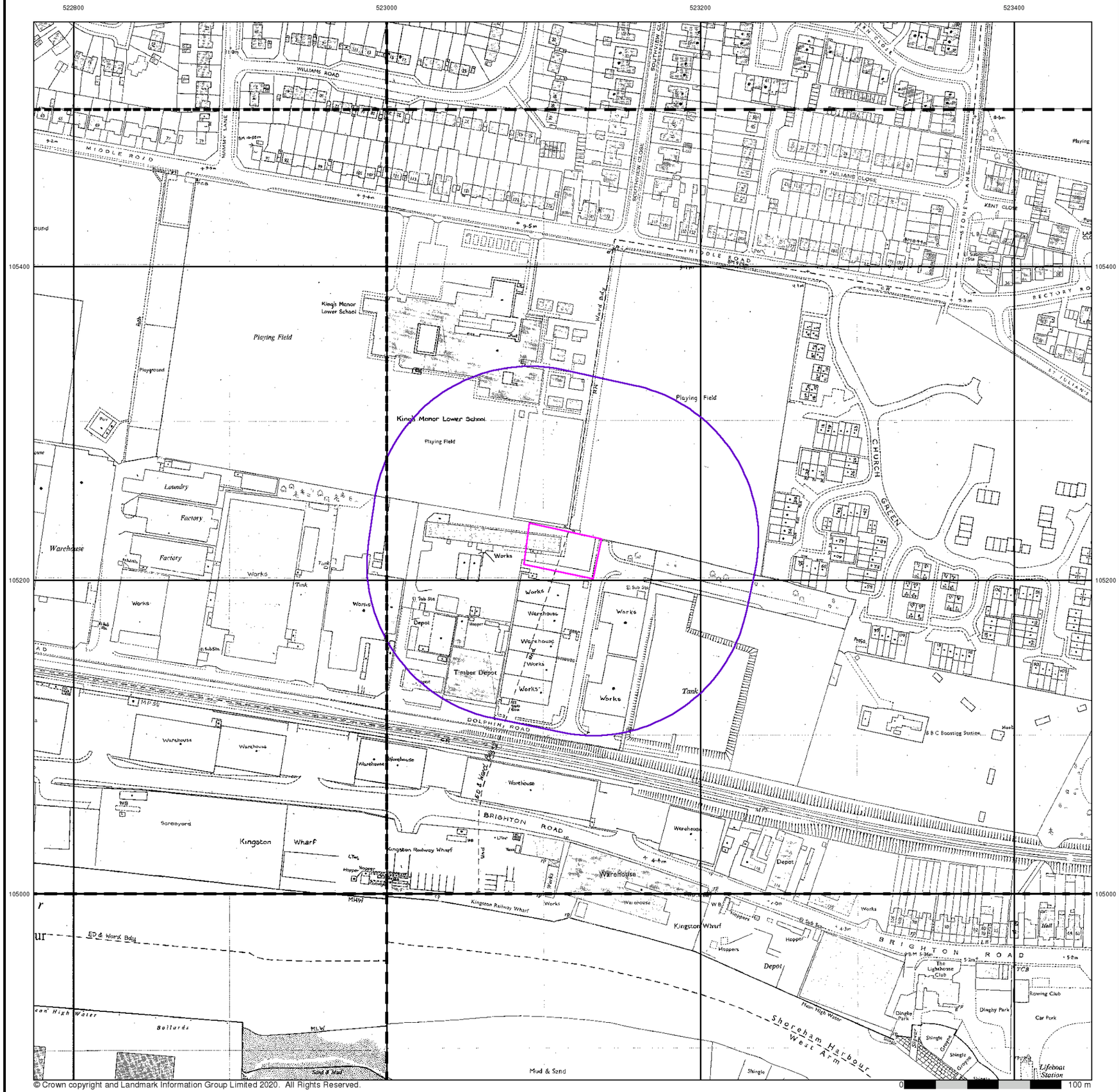
Order Number:	256331611_1_1
Customer Ref:	LP2337
National Grid Reference:	523110, 105220
Slice:	A
Site Area (Ha):	0.13
Search Buffer (m):	100

Site Details

Pyroban, Pyroban Endeavour Works, 51, Dolphin Road, SHOREHAM-BY-SEA, BN43 6QG

Landmark® INFORMATION GROUP

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



© Crown copyright and Landmark Information Group Limited 2020. All Rights Reserved.

Envirocheck®

LANDMARK INFORMATION GROUP®

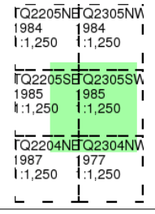
Additional SIMs

Published 1977 - 1987

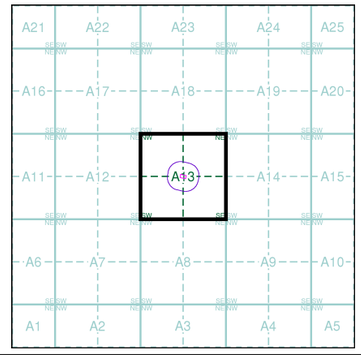
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

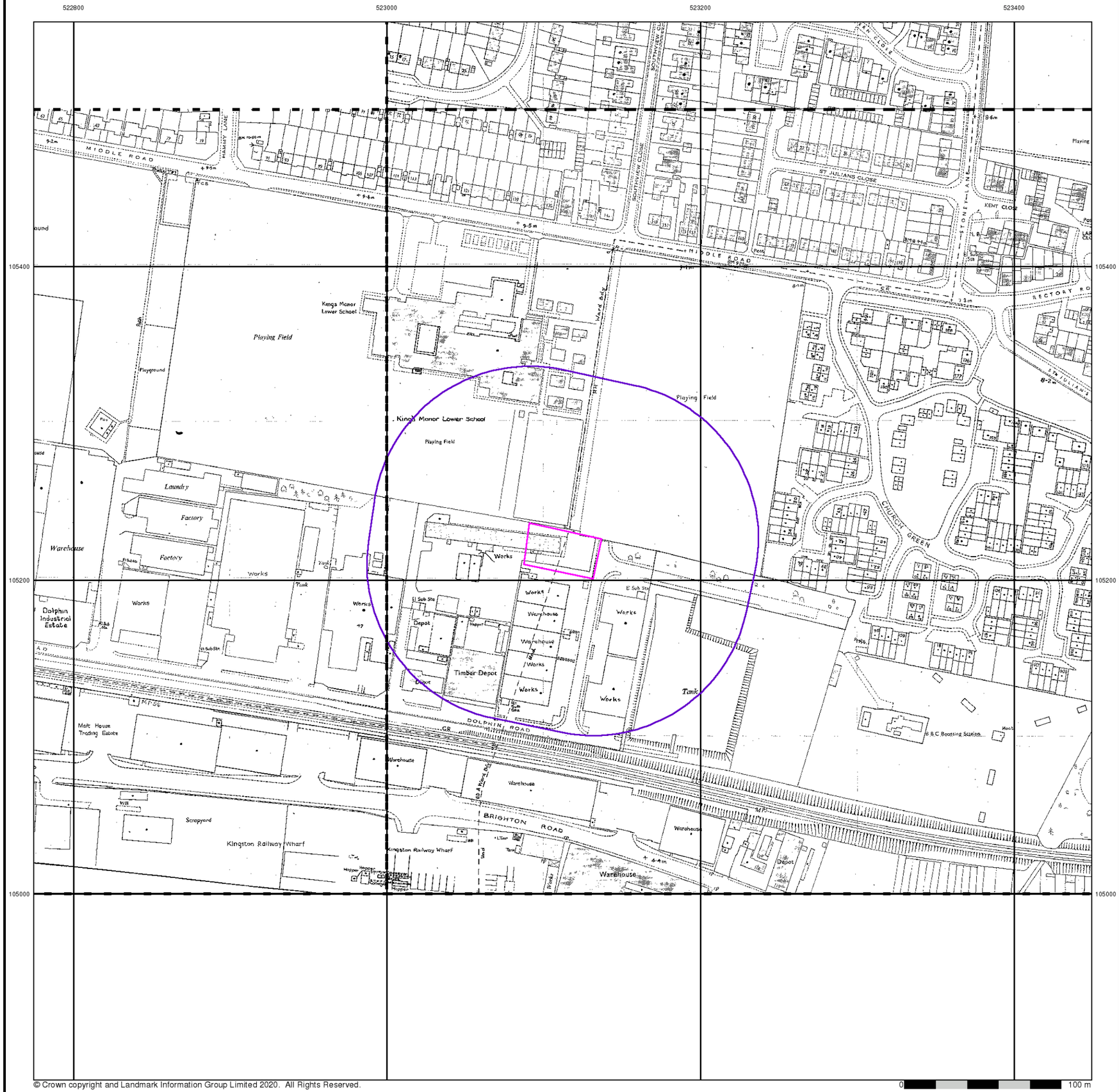
Order Number:	256331611_1_1
Customer Ref:	LP2337
National Grid Reference:	523110, 105220
Slice:	A
Site Area (Ha):	0.13
Search Buffer (m):	100

Site Details

Pyroban, Pyroban Endeavour Works, 51, Dolphin Road, SHOREHAM-BY-SEA, BN43 6QG

Landmark® INFORMATION GROUP

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



© Crown copyright and Landmark Information Group Limited 2020. All Rights Reserved.

Envirocheck®

LANDMARK INFORMATION GROUP®

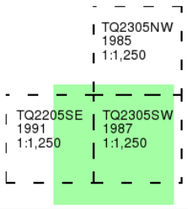
Additional SIMs

Published 1985 - 1991

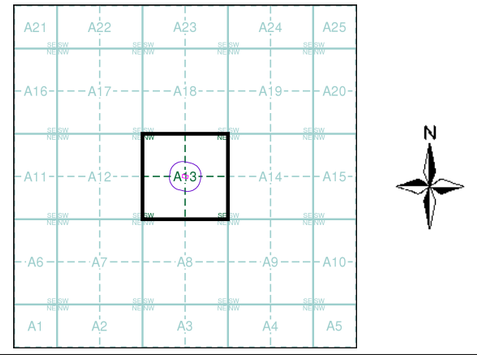
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

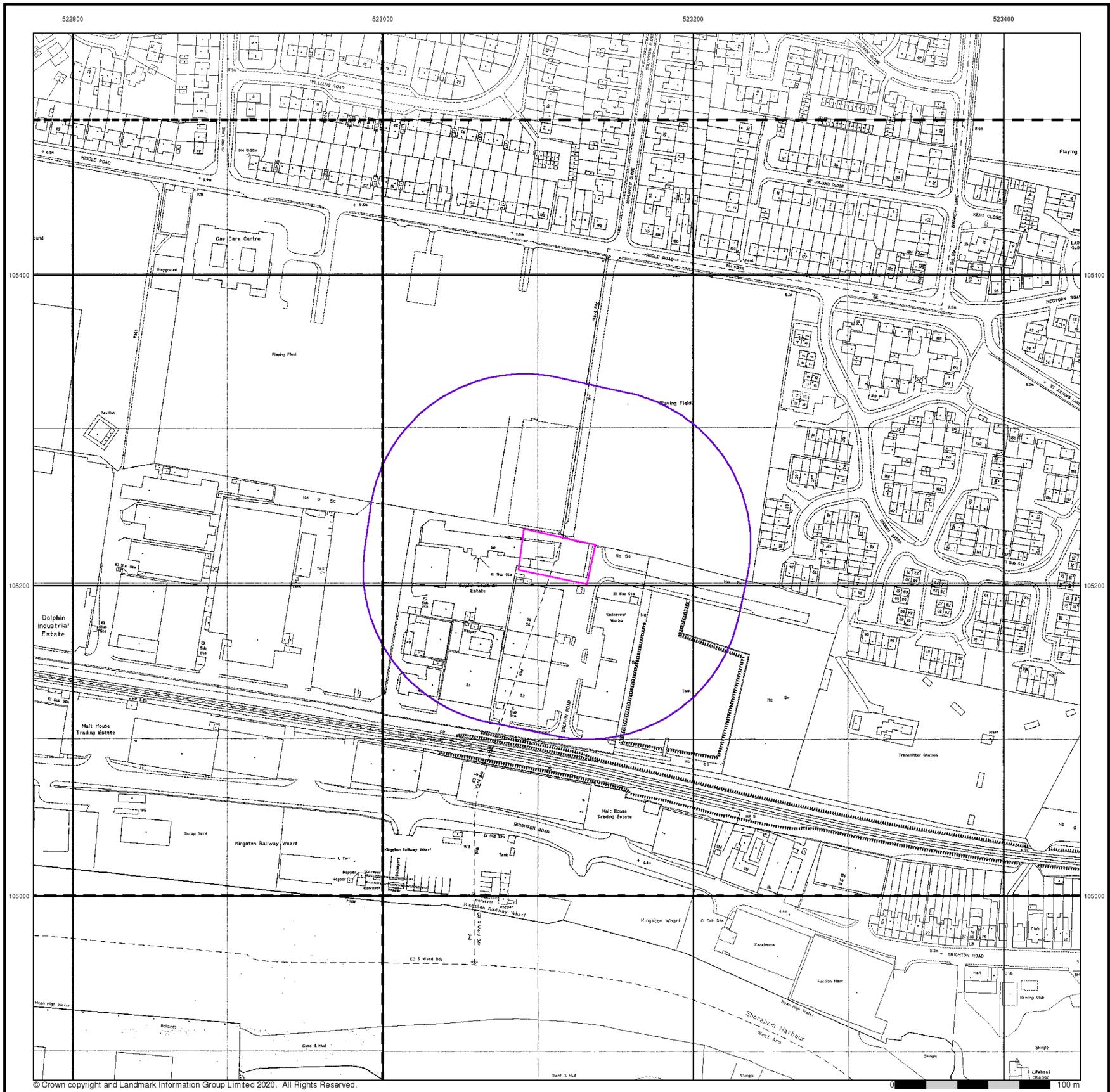
Order Number:	256331611_1_1
Customer Ref:	LP2337
National Grid Reference:	523110, 105220
Slice:	A
Site Area (Ha):	0.13
Search Buffer (m):	100

Site Details

Pyroban, Pyroban Endeavour Works, 51, Dolphin Road, SHOREHAM-BY-SEA, BN43 6QG

Landmark INFORMATION GROUP

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



© Crown copyright and Landmark Information Group Limited 2020. All Rights Reserved.

0 100 m

Envirocheck®

LANDMARK INFORMATION GROUP®

Large-Scale National Grid Data

Published 1994

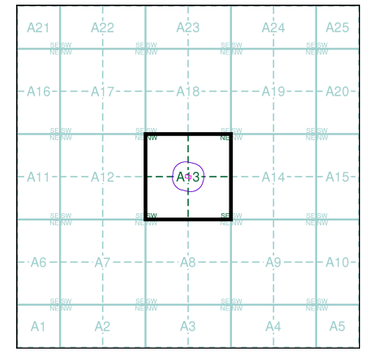
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

TQ2205NE 1994 1:1,250	TQ2305NW 1994 1:1,250
TQ2205SE 1994 1:1,250	TQ2305SW 1994 1:1,250
TQ2204NE 1994 1:1,250	TQ2304NW 1994 1:1,250

Historical Map - Segment A13



Order Details

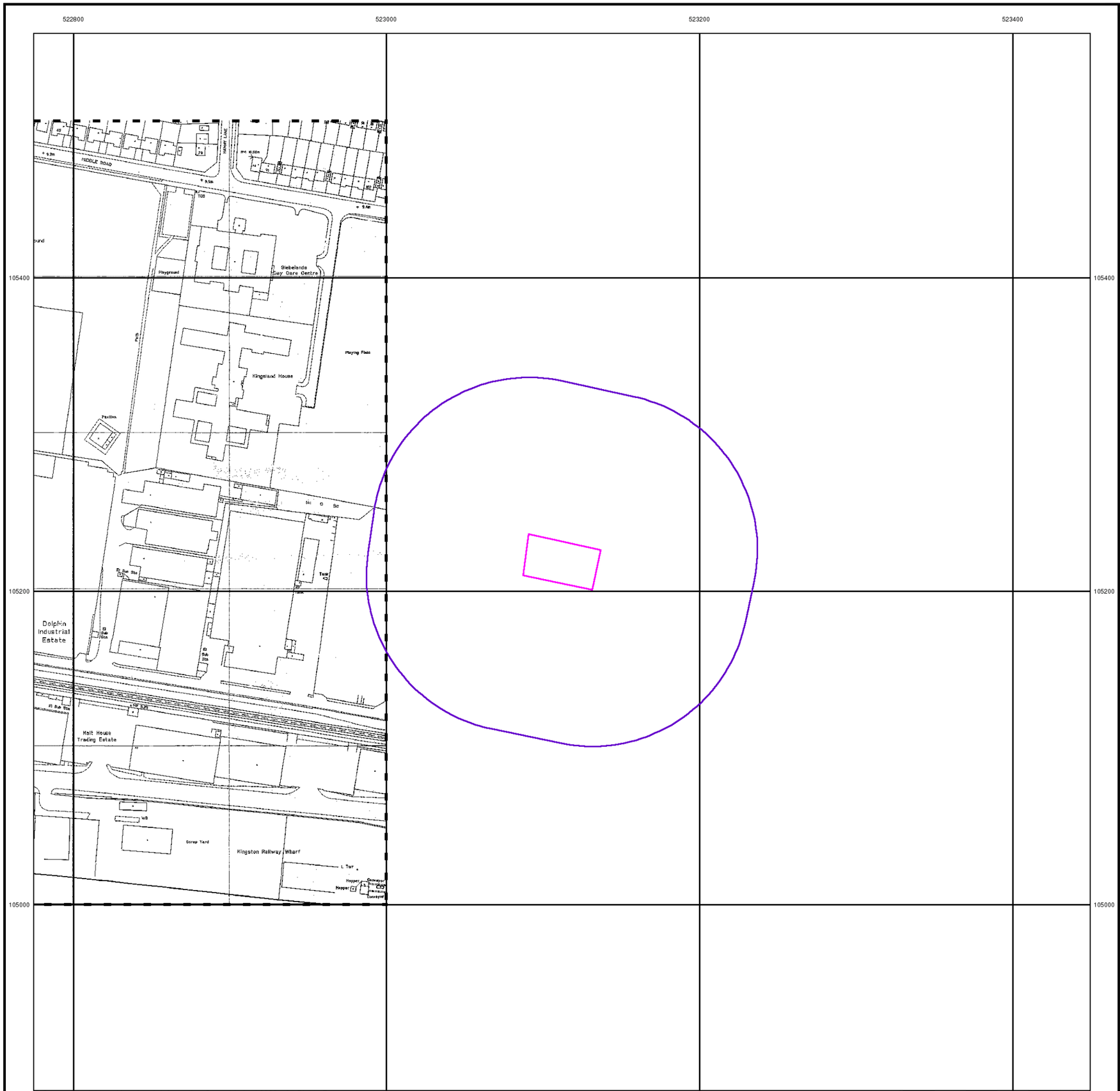
Order Number:	256331611_1_1
Customer Ref:	LP2337
National Grid Reference:	523110, 105220
Slice:	A
Site Area (Ha):	0.13
Search Buffer (m):	100

Site Details

Pyroban, Pyroban Endeavour Works, 51, Dolphin Road, SHOREHAM-BY-SEA, BN43 6QG

Landmark® INFORMATION GROUP

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



Envirocheck®

LANDMARK INFORMATION GROUP®

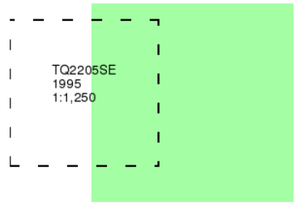
Large-Scale National Grid Data

Published 1995

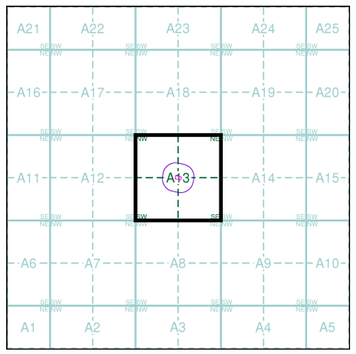
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number:	256331611_1_1
Customer Ref:	LP2337
National Grid Reference:	523110, 105220
Slice:	A
Site Area (Ha):	0.13
Search Buffer (m):	100

Site Details

Pyroban, Pyroban Endeavour Works, 51, Dolphin Road, SHOREHAM-BY-SEA, BN43 6QG

Landmark® INFORMATION GROUP

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