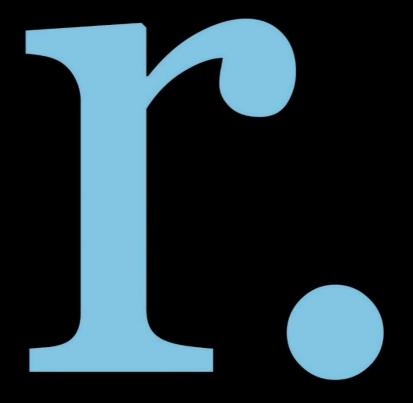
# reside.

# Land south of Funtley Road, Funtley

Phase 1 Desk Study





# Phase I Desk Study

at

Land south of Funtley Road, Funtley, Fareham, Hampshire POI5 6DL

for

**Reside Developments Ltd** 

Reference: 16687/DS

January 2018

#### **Control Document**

### **Project**

Land south of Funtley Road, Funtley, Fareham, Hampshire PO15 6DL

## **Document Type**

Phase I Desk Study (DS)

#### **Document Reference**

16687/DS

#### **Document Status**

**FINAL** 

#### **Date**

January 2018

#### **Prepared by**

Olia Kontogianni BSc, MSc

# First check by

Eur Ing R B Higginson BSc, PGDip, CEng, MICE, FGS.

#### Second check by

C Morrison BSc (Hons), FGS, MIEnvSc

This is not a valid document for use in the design of the project unless it is titled Final in the document status box.

Current regulations and good practice were used in the preparation of this report. The recommendations given in this report must be reviewed by an appropriately qualified person at the time of preparation of the scheme design to ensure that any recommendations given remain valid in light of changes in regulation and practice, or additional information obtained regarding the site.









#### Commission

Soils Limited was commissioned by Reside Developments Ltd to undertake a Phase I Desk Study on Land south of Funtley Road, Funtley, Fareham, Hampshire PO15 6DL. The scope of the investigation was outlined on e-mail sent by the client to Rob Ainsworth "Soils Limited" on the 20<sup>th</sup> December 2017.

#### **Caveat**

Whilst reasonable skill and care has been taken to determine the site history and the environmental setting within the time constraints applied by the project, it should be appreciated that uncertainties may occur owing to the natural variability of soil material within a defined area or as a result of unknowns that are associated with contaminated land assessment in general. The site conditions may be different from that indicated by this desk study, particularly on a site with a history of past development. No responsibility can be accepted should such conditions alter the recommendations made in this report.

This Desk Study does not include a detailed UXO risk assessment. In preparing a Phase I Desk Study reference is made to web based sources to assess the risk of the site potentially having been impacted by bombing during the World Wars. The data readily available is not necessarily definitive. Certain areas were bombed heavily such as centres of industrial manufacture, airfields, shipyards, docklands, railways sidings and junctions. The assessment is based on the likely area risk, bomb patterns (i.e. lines of recorded bomb impacts with gaps where an impact would be anticipated) and the age of structures on and in close proximity to the site.

# **C**ontents

Section	ı	Introduction	I
1.1	Obje	ective	1
1.2	Site	Location	1
1.3	Prop	posed Development	1
1.4	Legi	slation and Liability	1
1.5	Limi	tations and Disclaimers	2
Section	2	Site Conditions	4
2.1	Site	Walkover	4
2.2	Site	Drainage	4
2.3	Site	Photographs	4
Section	3	Geology, Hydrogeology, Hydrology and Radon	5
3.1	Anti	cipated Geology	5
3.1.1	Rive	er Terrace Deposits	5
3.1.2	Lam	beth Group	5
3.1.3	Lond	don Clay	5
3.1.4	Bog	nor Sand Member	5
3.2	Hyd	rogeology	6
3.3	Hyd	rology	7
3.4	Rad	on Gas	8
Section	4	Site History	9
4.1	Histo	oric Map Study	9
4.2	Bom	nb damage and the potential for Unexploded Ordnance1	0
Section	5	Environmental Records and Consultation	
5.1	Data	aset Information1	1
5.2	Site	Sensitivity Maps	2
5.3	Reg	ulatory Enquires1	2
5.4	Soil	Geochemistry	2
Section	6	Data Collection Summary	4
6.1	Gen	eral1	4
Section	7	Preliminary Conceptual Site Model	6
7.1	Gen	eral1	6
7.2	Sou	rces and Pathways of Contamination	6
7.2.1	Pote	ential Pathways1	6
7.2.2	Pote	ential Sources of On-site Contamination	7
7.2.3	Pote	ential Off-site Sources of Contamination	7

7.3	Potential Contaminants	18
7.4	Potential Exposure Receptors	18
7.5	Preliminary Conceptual Site Model and Risk Assessment	19
Section	on 8 Recommendations	23
8.1	General	23
8.2	UXO	23
8.3	Proposed Further Site Works	23
8.4	Discovery Strategy	24
List o	of Figures	
Figure	e 1 – Site Location Map	25
List o	of Tables	
Table	2.1 Site Walkover Record (On-site)	4
Table	2.2 Site Walkover Record (Off-site)	4
Table	3.1 Hydrogeological Assessment	6
Table	3.2 Hydrogeological Assessment	8
Table	4.1 Historic Development of the Site	9
Table	4.2 Historic Off-site Development	9
Table	4.3 Potential Sources of Pollution Indicated from Historic Maps	10
Table	5.1 Environmental Significance of Data	11
Table	5.2 Contemporary Trade Directory	12
Table	5.3 Geological Hazards	12
Table	5.4 Soil Geochemistry	13
Table	6.1 Site Environs	14
Table	6.2 Summary of Potential Contamination Sources	14
Table	7.1 Applicable Pathways	16
Table	7.2 On-site Potential Contamination Sources	17
Table	7.3 Off-site Potential Contamination Sources	17
Table	7.4 Potential Contaminants	18
Table	7.5 Potential Receptors	18
Table	7.6 Preliminary Conceptual Site Model and Risk Assessment Methodolo	gy 20
Table	8.1 Required Further Environmental Investigation	23

# **List of Appendices**

Appendix A Proposed Development Plans

Appendix B Country Series and Ordnance Survey Maps

Appendix C Landmark Envirocheck Report

Appendix D Site Sensitivity Maps

Appendix E Site Photographs

Appendix G Risk Assessment Criteria

#### **Section I** Introduction

# 1.1 Objective

The Phase I Desk Study was undertaken to advise the client on the risk pertaining to the site, with special reference to historic and current potential contaminative activities and processes. This also included the assessment of their impact on current and future sensitive receptors such as human health, controlled waters, ecological features, building structures and services.

#### 1.2 Site Location

The site was located at Land south of Funtley Road, Funtley, Fareham, Hampshire PO15 6DL and had an O.S Land Ranger Grid Reference of SU 560 082.

The site location map is presented in Figure 1 and the full Site Walkover is discussed in Section 2.1 of this report.

# **I.3** Proposed Development

The proposed development will be to provide up to 125 one, two, three and four-bedroom dwellings including 6 Self/Custom build plots, Community Building or Local Shop (Use Class E & F.2) with associated infrastructure, new community park, landscaping and access.

In compiling this report reliance was placed on the masterplan (document reference: RD1731-F3-L100 Rev P1, dated September 2020) prepared by Rummey Design.

The proposed development plans have been provided in Appendix A.

## I.4 Legislation and Liability

The primary legislative mechanism for contaminated land management in the UK is Part 2A of the Environmental Protection Act, 1990 (EPA). Part 2A was introduced into the EPA under Section 57 of the Environment Act 1995 to help deal with the substantial legacy of land contamination. The legislation provides powers in relation to the identification, remediation and apportionment of liability for contaminated land. Part 2A applies where there is unacceptable risk, assessed on the basis of the current use and the relevant circumstances of the land. It is not directed to assessing risks in relation to a future use of the land that would require a specific grant of planning permission.

Under Part IIA of the Environment Act 1995, Local Authorities are required to identify contaminated land and serve on every person who is an appropriate person a remediation notice setting out what is to be done by way of remediation and the period within which it must be done.

If the person who caused, or knowingly permitted, the contaminating substance cannot

be found, the owner and/or, occupier for the time being, of the property can be the appropriate person.

Under the legislation, Contaminated Land is defined as: -

"Land which is in such a condition by reason of substances in, on or under the land that significant harm is being caused or that there is a significant possibility of such harm being caused or that pollution of controlled waters is being, or is likely to be caused."

Where the Act defines harm as:

"harm to the health of living organisms or other interference with the ecological systems of which they form a part and, in the case of man, includes harm to his property."

and pollution of controlled waters is defined as: -

"the entry into controlled waters of any poisonous, noxious or polluting matter or any solid waste matter."

In addition, The Radioactive Contaminated Land (Modification of Enactments) (England) Regulations 2006 introduced the supplementary definition of harm to include: lasting exposure to any person resulting from the after-effects of a radiological emergency, past practice or past work activity.

With regard to contaminated waters, the Environment Act 1995 amends the Water Resources Act 1991 and provides the Environment Agency with the power to force clean-up of historical contamination by issuing a Works Notice, with remediation paid for by the responsible parties.

The Groundwater Regulations (1998) stated that entry of List 1 substances into groundwater must be prevented, and List II substances must be controlled.

#### 1.5 Limitations and Disclaimers

This Phase I Desk Study Report relates to the site located at Land south of Funtley Road, Funtley, Fareham, Hampshire PO15 6DL and was prepared for the sole benefit of Reside Developments Ltd (The "Client") for the brief described in the Commission of this report.

Soils Limited disclaims any responsibility to the Client and others in respect of any matters outside the scope of the above.

This report has been prepared by Soils Limited, with all reasonable skill, care and diligence within the terms of the contract with the Client, incorporation of our General Conditions of Contract of Business and taking into account the resources devoted to us by agreement with the Client.

The report is personal and confidential to the Client and Soils Limited accept no responsibility of whatever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report wholly at its own risk.

The Client may not assign the benefit of the report or any part to any third party without the written consent of Soils Limited.

The ground is a product of continuing natural and artificial processes. As a result, the ground will exhibit a variety of characteristics that vary from place to place across a site, and also with time. Whilst a ground investigation will mitigate to a greater or lesser degree against the resulting risk from variation, the risks cannot be eliminated.

The investigation, interpretations, and recommendations given in this report were prepared for the sole benefit of the client in accordance with their brief. As such these do not necessarily address all aspects of ground behaviour at the site.

Current regulations and good practice were used in the preparation of this report. An appropriately qualified person must review the recommendations given in this report at the time of preparation of the scheme design to ensure that any recommendations given remain valid in light of changes in regulation and practice, or additional information obtained regarding the site.

There may be other sources of information not included in those listed that hold data relevant to the Phase I Desk Study undertaken at the site that could materially affect the conclusions made in this report.

Ownership of land brings with it onerous legal liabilities in respect of harm to the environment. "Contaminated Land" is defined in Section 57 of the Environment Act 1995.

Where a contaminative use is identified in the Phase I Desk Study this does not determine whether contamination has actually occurred, or if it has the degree to which it may have taken place. An intrusive investigation(s) and analysis is required to establish the nature and degree of any contamination present.

Ownership of copyright of all printed material including reports, laboratory test results, trial pit and borehole log sheets, including drillers log sheets, remain with Soils Limited. License is for the sole use of the client and may not be assigned, transferred or given to a third party.

## **Section 2 Site Conditions**

#### 2.1 Site Walkover

A site walkover was undertaken in January 2018, the notes are presented in Table 2.1 and Table 2.2.

**Table 2.1 Site Walkover Record (On-site)** 

	Use of site	Two separated paddocks located on site
	Structures	Northern site area: a gated area consisting of three stable blocks with 4
		to 6 stables and an additional structure holding farming machinery.
		Southern site area: Two main structures containing farming equipment
		and horses. A substation, telephone masts and two old concrete water
		tanks.
ţ	Site topography	Sloping down to the north-east (locally steep)
<u>-</u> -S	Site covering	Predominantly grass covered areas with few scattered hard standing paths
Ö		across the site leading to the structures
	Vegetation	Mature trees and shrubs along all site boundaries and in areas mainly
		within the southern part of site
	<b>Potential Contamination</b>	Farmland/farming machinery
	Sources <sup>1</sup>	Made Ground to the east of the site
	Odour	None noted
	Drainage	Not obvious across the site.

Notes: No asbestos roofing or any other potential asbestos content material was noted on site and as confirmed by the occupiers.

Table 2.2 Site Walkover Record (Off-site)

Use of Land	N: Woodland, fields and residential properties
	S: Residential properties across the M27
	E: Woodland, lake and residential properties
	W: Fields and woodland
Area topography	Sloping down to the north-east
Vegetation	Grass, shrubs and mature trees from neighboring woodlands and residential gardens
Potential	Small electric sub-station to the south adjacent to the site boundary
<b>Contamination Sources</b>	

# 2.2 Site Drainage

No drainage was noted on site which was considered to be self-draining.

# 2.3 Site Photographs

The site photographs have been included within Appendix E.

# Section 3 Geology, Hydrogeology, Hydrology and Radon

# 3.1 Anticipated Geology

The 1:50,000 BGS Geology map showed the half northern part of the site to be situated directly on the Lambeth Group bedrock with no superficial deposits overlying. The southern half of the site was situated directly on London Clay Formation bedrock with a band of the Bognor Sand Member bedrock noted alongside the middle of the London Clay area. Superficial River Terrace Deposits were noted overlying a part of the London Clay Formation to the south-western corner of the site.

# 3.1.1 River Terrace Deposits

The rivers of Hampshire have deposited extensive spreads of River Terrace Deposits in the Southampton area, representative of ancient floodplains. In total, eleven terraces have been recorded. The River Terrace Deposits consist predominantly of gravels made up of subangular to subrounded flints with a significant sand component locally with lenses of silt, clay or peat.

The five highest terraces have appreciable clay content. Poorly sorted, clayey and sandy silts and silty clays overlie the 1st, 3rd, 5th and 6th terraces and locally at above terrace gravels.

# 3.1.2 Lambeth Group

The Lambeth Group (formerly known as the Woolwich and Reading Beds) are a sedimentary complex comprising a basal bed (the Bottom Bed) composed of glauconitic sand, sandy clay and gravel, with laterally variable sand and clay above. In the eastern part of the area the basal bed is mostly overlain by a shelly grey sandy clay or silty sand. Lignite, or brown coal, a carbonaceous rock composed of plant remains which has not been subject to the same intensity of heat and pressure as has ordinary coal, is occasionally found within the Lambeth Group, as are individual logs and groups of logs indicating the position of a former log jam, which was covered by sand and clay at the time of deposition.

#### 3.1.3 London Clay

The London Clay Formation in the Hampshire region comprises silty and sandy clay, clayey and sandy silt, silty sand; sporadic claystones and thin beds of flint pebbles. The formation includes the Whitecliff Sand, Durley Sand, Portsmouth Sand and Nursling Sand Members. Crystals of gypsum (Selenite) are often found within the weathered part of the London Clay, and precautions against sulphate attack to concrete are sometimes required.

The lowest part of the London Clay Formation rests on the Reading Formation.

#### 3.1.4 Bognor Sand Member

Glauconitic bioturbated or cross-bedded fine- and medium-grained sands, partially cemented.

# 3.2 Hydrogeology

To assess the vulnerability of groundwater to contamination, consideration must be given to the leaching characteristics of the overlying soils and the characteristics of the strata in the unsaturated zone. Information on the geological strata such as lithological type and permeability characteristics has been combined with the physical properties of the soil to produce varying degrees of vulnerability.

Table 3.1 presents the hydrological data that is relevant to the site.

Table 3.1 Hydrogeological Assessment

Hydrogeological Data		Comment		
On-site Superficial		Secondary A Aquifer <sup>1</sup> : SW corner of the site		
Aquifers	Bedrock <sup>6</sup>	Unproductive Strata <sup>2</sup> : area to the SW and a band crossing the upper		
		part of the site from the E to the W		
		Secondary A Aquifer: rest of the site		
Groundwater \	<b>V</b> ulnerability	Non-Aquifer <sup>3</sup> : SW corner		
		Minor Aquifer (HI) <sup>4</sup> : SE corner		
		Minor Aquifer (L) <sup>5</sup> : Rest of the site		
Source Protect	tion Zones (SPZ)	None		
Abstraction	Potable	None		
	Non-potable	Groundwater: I79m/NW, 202m/NW		
Sensitive land	uses	Ancient Woodland/SE – On site		
Surface Water	Features -	65m/E: Lake		
Flood Risk from	n Rivers or Seas	None		
Flood Risk from	n Surface Water	Low to High: few small parts scattered alongside the central part of		
		the site from the north to the south		
Flood Risk from Groundwater		Limited Potential for Groundwater Flooding to Occur/S, W, E		
		Potential for Groundwater flooding of Property Situated Below		
		Ground Level/NW		

**Notes:** <sup>1</sup>Secondary A are permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. <sup>2 3</sup> Unproductive strata are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow. <sup>4</sup> Soils of high leaching potential with little ability to attenuate diffuse source pollutants and in which non-adsorbed diffuse source pollutants and liquid discharges have the potential to move rapidly to underlying strata or groundwater. (H1): soils that readily transmit liquid discharges because they are either shallow, or susceptible to rapid flow. <sup>5</sup> Soils in which pollutants are unlikely to penetrate the soil layer because either water movement is largely horizontal, or they have a significant ability to attenuate diffuse source pollutants. <sup>6</sup> See Figure 3.1

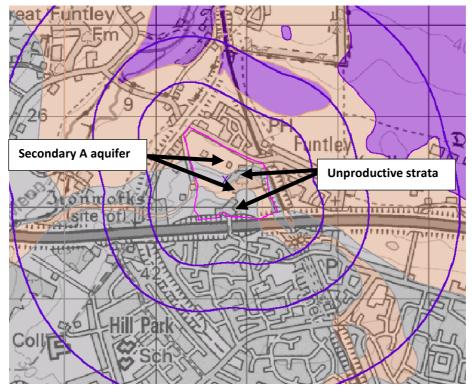


Figure 3.1. On-site bedrock aquifers

Any works or development which has the potential to have an impact on surface water, aquifer or groundwater quality must be approved by the Environment Agency prior to implementation.

# 3.3 Hydrology

The approximate elevation of the site was ~20 to 50m Above Ordnance Datum (AOD). The anticipated groundwater flow direction is given in Table 3.2.

Table 3.2 Hydrogeological Assessment

Туре	Direction	Notes
Surface water	North-east in line with local topography	Within parts on the half southern area of the site
		(London Clay Formation bedrock with no superficial)
		Rest of the site: Surface water is not anticipated
		due to the permeable bedrock of Lambeth Group with no superficial deposits to the northern part and Bognor Sand Member band with no superficial deposits to the southern part
Groundwater	North-East in line with local topography	Within the half northern part of the site (Lambeth
		Group bedrock with no superficial deposits) and
		the southern part (lying on the band of Bognor
		Sand Member bedrock with no superficial deposits)
Shallow	North-East in line with local topography	Within the south-western corner of the site
Groundwater		(London Clay Formation bedrock with superficial
		of River Terrace Deposits overlying)
Notes:		

#### 3.4 Radon Gas

It is not possible in the course of a survey or inspection to determine whether radon gas is present as the gas is colourless and odourless. Tests can be undertaken to assess the concentration of radon in existing structures.

Approximately 2/3 of the site area to the west **was situated** within an area on which some parts were in bands of elevated radon potential. Protection or risk assessment against the ingress of radon was therefore required. Maximum radon potential was 1-3% in these areas, however, radon protection measures are typically only required when the radon potential is 5-10% and therefore it is possible that radon protection measures will not be required as part of the proposed development. Consultation with the local Building Control department at the Local Authority is recommended as they will be able to advise on whether or not radon protection measures are required in new developments within the site's vicinity.

The rest of the site area to the east **was not situated** within an area where protection or risk assessment against the ingress of radon was required.

## Section 4 Site History

# 4.1 Historic Map Study

The object of this study was to report on the evidence of site history and redevelopment of the site and its environs from available County Series and Ordnance Survey Maps dating from the mid to late 19<sup>th</sup> Century to the present day as downloaded from Landmark Environmental.

The published maps only represent a "snap shot" of the site and its environs at the date of the survey. The detail of the information recorded can vary between epochs, map scale and county areas. It should be noted that changes in land uses, processes or activities may have occurred outside of published epochs and these may not have been recorded on subsequent epochs.

Any distances quoted for features remote from the site have been scaled from the maps and are only approximate. Where dates have been noted in brackets, these are the actual dates applicable to the map editions.

The information reported might not represent all pertinent information that could be obtained. The interpretation of the maps and/or other data commented on in this report is subjective.

In the following sections, dealing with individual maps, only features considered to have a potential contaminative impact on the site and usually within a notional 250m radius are discussed. The north point and approximate extent of the site are indicated on each figure. The historic maps referred to are appended to this report (Appendix B).

**Table 4.1 Historic Development of the Site** 

Site History		Date Range	
	From	То	
Open fields were noted to the north-west and south-east of the site / Great Beamond	1870	1897	
Coppice was located to the north-east and Little Beamond Coppice to the south-west			
As mentioned with Brick Works appearing to the north-west of the site	1897	1931	
As described with a couple of buildings noted close to the northeastern site boundary	1931	1963	
The above buildings are now mentioned as "works"	1963	1968	
Works were stopped, and a football ground appeared to the north-east of the site	1968	1990	
Woodley Farm was located to the south and a depot was noted close to the north site	1990	2017	
boundary / Little Beamond Coppice stopped			

Notes:

**Table 4.2 Historic Off-site Development** 

Off-site Development		Date Range	
	From	To	
Coppice areas, open fields, crops and farmlands were noted towards all directions	1870	1910	

Off-site Development		Date Range	
	From	To	
Residential developments were located to north-east			
Fareham Tunnel was noted adjacent to the eastern site boundary			
As described with railway noted to the north-eastern of the site <sup>1</sup>	1910	1968	
As mentioned with a lake noted to the east of the site	1968	1978	
As before with an abattoir to the north of the site and motorway located against the	1978	1987	
southern site boundary			
Residential developments appearing to the south across the motorway and to the east	1987	2000	
More residential developments were noted to the north	2000	2017	

Notes: <sup>1</sup>The railway gets dismantled in 1977 and turns into a path in 1990

**Table 4.3 Potential Sources of Pollution Indicated from Historic Maps** 

Source	Direction	Distance (m)	Date Range	
			From	To
Brick Works	NW	On site	1897	1964
Depot	NE	On site	1990	2017
Woodleigh Farm	SE	On site	1990	2017
Works	NE	On site	1963	1968
Brick Works	NE	On site	1897	1910
Embankment	SW	70	1976	2017
Brick & Tile Works	SE	92	1868	1972
Clay Pit	SE	50	1868	1978
Sand Pit	SE	250	1898	1932
Clay Pit	SE	74	1932	1972
Pond	SE	81	1956	2017
Brick Works	NE	55	1897	1909
Clay Pit	NE	14	1897	1909
Embankment	NE	Adjacent to site boundary	1947	2017
Abattoir	NE	37	1964	1999
Railway	NE	Adjacent to site boundary	1910	1977
Pumping Station (Southampton CCI)	NW	174	1897	1964
Works	NW	166	1964	1999
Bridge Farm	NW	111	1964	1991

Notes:

# 4.2 Bomb damage and the potential for Unexploded Ordnance

Bases solely on review of the historical map data, there was no indication that the site had been subject to bombing or shelling, however, a preliminary UXO risk Assessment would be needed to confirm whether the site had been potentially subject to historical bombing or used for military reasons.

## Section 5 Environmental Records and Consultation

#### 5.1 Dataset Information

The Landmark Envirocheck Report was obtained by Soils Limited and includes site specific information. The extent of the search has initially been limited to a radius of 250m as it is considered that sources of contamination beyond 250m are unlikely to impact on the site. This search radius may however, be increased if a significant source of contamination or sensitive receptor is identified within 1000m of the site.

A copy of the report is appended to this report in Appendix summarised in Table 5.1, Table 5.2 and Table 5.3.

Table 5.1 Environmental Significance of Data

Source	Direction	Distance
		(m)
Contaminated Land Register Entries and Notices	None	None
Discharge Consents	NW	1181
	NW	175 <sup>2</sup>
	NW	1913
	NW	247 <sup>4</sup>
Integrated Pollution Prevention and Control	None	None
Local Authority Pollution Prevention and Controls	None	None
Local Authority Pollution Prevention and Control Enforcements	None	None
Nearest Surface Water Feature	E	65
Pollution Incidents to Controlled Waters (Significant Incidents only)	None	None
Prosecutions Relating to Authorized Processes	None	None
Registered Radioactive Substances	None	None
Substantiated Pollution Incident Register	None	None
Nearest Potable Abstraction Point	None	None
Nearest Non-Potable Abstraction Point	NW	179
Water Industry Act Referrals	None	None
Source Protection Zones	None	None
Extreme Flooding from Rivers or Sea Without Defences	None	None
Flooding from Rivers or Sea Without Defences	None	None
Areas Benefiting from Flood Defences	None	None
Flood Water Storage Areas	None	None
Flood Defences	None	None
BGS Recorded Landfill Sites	None	None
Historical Landfill Sites	None	None
Licensed Waste Management Facilities	None	None
Local Authority Recorded Landfill Sites	None	None
Potentially Infilled Land (Non-Water)	S	On site
,	N	19
	NE	44
	SE	250
Potentially Infilled Land (Water)	None	None
Registered Landfill Sites	None	None
Registered Waste Transfer Sites	None	None
<u> </u>		

Source	Direction	Distance (m)
Control of Major Accident Hazards Sites (COMAH)	None	None
Notification of Installations Handling Hazardous Substances	None	None
Planning Hazardous Substance Consents	None	None

**Notes:** <sup>1</sup> Farmhouse (2008) <sup>2</sup> Water Collection/Treatment/supply (1991) <sup>3</sup> Farmhouse (2010) <sup>4</sup> Dentist/Hospital/Nursing Home/healthcare (1980)

**Table 5.2 Contemporary Trade Directory** 

Contemporary Trade Directory within 250m	Direction	Distance (m)	Status
Ventilators & Ventilation Systems	Е	113	Inactive
Boilers – Servicing, Replacements & Repairs	S	173	Active
Swimming Pool Contractors, Repairs & Service	E	198	Active

Table 5.3 Geological Hazards

Source	Nearest Distance from Site/Type
Coal Mining Affected Areas	None noted
Mining Instability	None noted
Natural and Mining Cavities	None
Potential for Collapsible Ground Stability Hazards	On site/Very Low
Potential for Compressible Ground Stability Hazards	On site/No Hazard
Potential for Ground Dissolution Stability Hazards	On site/No Hazard
Potential for Landslide Ground Stability Hazards	On site/Very Low
Potential for Running Sand Ground Stability Hazards	On site/Very Low
Potential for Shrinking or Swelling Ground Stability Hazards	On site/No Hazard
Notes:	

#### 5.2 Site Sensitivity Maps

No other significant potential sources of contamination were shown on the Landmark Envirocheck Site Sensitivity Maps, which have not been listed in Table 5.1, Table 5.2 and Table 5.3 and copies of which are appended to this report (Appendix B).

# 5.3 Regulatory Enquires

As part of the Phase I Desk Study the Local Authority was contacted and asked to provide any information on potential risks pertaining the site. At the time of reporting no response had been received from the Local Authority.

# 5.4 Soil Geochemistry

The BGS soil chemistry for environmental assessments dataset coverage, has been developed from BGS G-BASE and Imperial College Wolfson Atlas data. It contains estimated ambient As, Cd, Cr, Ni and Pb background concentrations for rural topsoils

across Great Britain. It also contains the locations and measured concentrations (mg kg-1) of As, Cd, Cr, Cu, Ni, Pb, Sn and Zn in urban topsoil samples, collected from geochemical surveys in 23 major urban centres.

The results of this survey are contoured on the Landmark Environmental check report (Appendix C).

The results of the survey have been assessed against current guidance values for the proposed 'Residential with plant uptake, as presented in SP1010: Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination December 2014 (C4SL), derived for the protection of human health. Where there are no published screening values for determinants within SP1010, screening values have been adopted from the following published guidance; DEFRA Soil Guideline Values (SGV) and LQM/CIEH/Suitable 4 Use Level (S4UL). The results are indicated in Table 5.4.

**Table 5.4 Soil Geochemistry** 

Determinant	Proposed Land Use	Indicated Soil Geochemistry (mg kg <sup>-1</sup> )	Guideline for Residential with plant uptake (mg kg <sup>-1</sup> )	Potentia Risk
Arsenic	Residential with plant	15 – 25: to the south-western corner of the site	37	
Cadmium	_ uptake	<15 to the rest of the site	11	
Chromium	_	60 - 90	910	
Lead	_	<100	200	
Nickel		15-30	130	

The results show no significant risk to identified receptors for contaminants presented based on the proposed end use. Should the proposed development change, then the recommendations given in the report would be likely to change.

Please note that there are only a limited number of land uses for which data on determinants have been published or can be readily determined.

# Section 6 Data Collection Summary

#### 6.1 General

The findings of the Phase I Desk Study are summarised below:

Table 6.1 summaries the site Environs, which include geology, hydrogeology, the risk from radon and potential risk from flooding.

**Table 6.1 Site Environs** 

Environs	Summary
Geology	Half northern part of the site: Lambeth Group bedrock with no superficial deposits overlying.
	Half southern part of the site: London Clay Formation bedrock with a band of the Bognor Sand Member bedrock moving alongside the middle of the London Clay area with no superficial.
	Lower southern part of the site: Superficial River Terrace Deposits overlying the London Clay Formation bedrock.
Hydrogeology	Superficial River Terrace Deposits to the south-western corner of the site were classed as a Secondary A aquifer and could support shallow groundwater. The Lambeth Group and Bognor Sand Member bedrock were classified as Secondary A aquifers. The London Clay Formation bedrock was unproductive strata and act as an aquiclude to the deep groundwater regime.
Surface water Flow	Anticipated only within parts on the half southern area of the site (London Clay Formation bedrock with no superficial)
Radon	The 2/3 of the site area to the west were situated within an area, on which some parts of, where in bands of elevated radon potential. Maximum radon potential was I-3%.
Flooding	The site did not benefit from flood defences and had a potential risk from groundwater flooding and occasional low to high risk from surface flooding.
Geological Hazard	There was a very low potential risk of collapsible ground stability hazards, landslide ground stability hazards and running sand ground stability hazards on site.
Local Authority Response	As part of the Phase I Desk Study the Local Authority was contacted and asked to provide any information on potential risks pertaining the site. At the time of reporting no information had been provided by the LPA.
Soil Chemistry	No significant risk to identified receptors for contaminants presented based on the proposed end use was present on site.

Table 6.2. provides a summary of potential on-site and off-site contamination sources identified during the study of the historic maps, the Landmark Envirocheck Dataset Report and the Site Walkover.

**Table 6.2 Summary of Potential Contamination Sources** 

Contaminative	Direction	Distance	Date Rai	nge	Data
Sources/Environmental Impact		(m)	From	To	Source
On-Site					
Made Ground	Е	On site	-	2017	SW

Contaminative	Direction	Distance	Date Rai	nge	Data
Sources/Environmental Impact		(m)	From	То	Source
Brick Works	NW	On site	1897	1964	НМ
Depot	NE	On site	1990	2017	НМ
Woodleigh Farm	SE	On site	1990	2017	НМ
Works	NE	On site	1963	1968	НМ
Brick Works	NE	On site	1897	1910	НМ
Potentially Infilled Land (Non-Water)	S	On site	-	-	DS
Off-Site					
Small electric sub-station	S	Adjacent to site	-	2017	SW
Embankment	SW	70	1976	2017	НМ
Brick & Tile Works	SE	92	1868	1972	НМ
Clay Pit	SE	50	1868	1978	HM
Sand Pit	SE	250	1898	1932	НМ
Clay Pit	SE	74	1932	1972	НМ
Pond	SE	81	1956	2017	НМ
Brick Works	NE	55	1897	1909	НМ
Clay Pit	NE	14	1897	1909	НМ
Embankment	NE	Adjacent to site	1947	2017	НМ
Abattoir	NE	37	1964	1999	НМ
Railway	NE	Adjacent to site	1910	1977	НМ
Pumping Station (Southampton County Council)	NW	174	1897	1964	НМ
Works	NW	166	1964	1999	HM
Bridge Farm	NW	111	1964	1991	HM
Discharge Consents	NW	1181	-	-	DS
	NW	175 <sup>2</sup>	-	-	DS
	NW	191 <sup>3</sup>		-	DS
	NW	247 <sup>4</sup>	-	-	DS
Potentially Infilled Land (Non-Water)	N	19	-	-	DS
,	NE	44	-	=	DS
	SE	250	1898	1932	DS

 $\textbf{Notes} : SW-Site \ walkover, \ HM-Historic \ Maps, \ DS-Datasheet, \ GC-Geochemistry, \ LA-Local \ Authority, \ GE \ Google \ Earthur \ Annual \ Authority, \ GE \ Google \ Earthur \ Annual \ Authority, \ GE \ Google \ Earthur \ Annual \ Annua$ 

# **Section 7** Preliminary Conceptual Site Model

#### 7.1 General

Environment Agency guidance provided in CLR11 indicates that the Conceptual Site Model should identify those contaminants, pathways and receptors which are 'likely' to represent an 'unacceptable' risk either to human health or the surrounding environment. The following sections present potential contaminants, pathways and receptors based on the information collected during the desktop study. Pathways have been established based on scientific knowledge of the behaviour of the contaminants in the ground.

# 7.2 Sources and Pathways of Contamination

The Landmark Site Specific Envirocheck Report and Site Walkover have been used to identify potential contaminative sources. These sources have been presented in Table 6.2.

An assessment of the likely pathways and the likelihood of each contaminative source that was considered a risk has been presented in Sections 7.2.1 to 7.2.3.

#### 7.2.1 Potential Pathways

Notes:

A review of the potential pathways on and off the site has been undertaken based on the site, ground conditions, hydrology and scientific knowledge of the behaviour of the contaminants in the ground. The pathways applicable to the site and the proposed development have been marked in Table 7.1.

**Table 7.1 Applicable Pathways** 

Pathway	<b>Present</b>	Comment
Inhalation of dust	✓	Residential gardens within the proposed development
Inhalation of vapour/gases	✓	Potential sources have been identified
Ingestion and absorption via direct contact	✓	Residential gardens within the proposed development
Migration via surface runoff	✓	Within parts on the half southern area of the site (London Clay Formation bedrock with no superficial)
Migration in solution via groundwater	✓	Due to the permeable bedrocks of Lambeth
Migration of gases via permeable soils	✓	Group with no superficial deposits to the
Direct contact with construction material	✓	northern part and Bognor Sand Member band with no superficial deposits to the southern part

#### 7.2.2 Potential Sources of On-site Contamination.

A study of Landmark Envirocheck Report and Site Walkover has identified a number of potential on-site sources of contamination which may present a risk to future uses of the proposed development. The sources have been presented in Table 7.2.

**Table 7.2 On-site Potential Contamination Sources** 

Source	Likely	Reasoning
Brick Works	✓	On site source
Depot	✓	
Woodleigh Farm	✓	
Works	✓	
Brick Works	✓	
Made Ground	✓	
Potentially Infilled Land (Non-Water)	✓	On site source/potential risk of soils gas

## 7.2.3 Potential Off-site Sources of Contamination

A study of Landmark Envirocheck Report and Site Walkover has shown a number of potential off-site sources of contamination which may present a risk to future uses of the proposed development. These sources have been presented in given in Table 7.3.

**Table 7.3 Off-site Potential Contamination Sources** 

Source	Direction	Distance (m)	Likely	Reasoning
Small electric substation	S	Adjacent to site	✓	Adjacent to site/within the hydraulic gradient of the site
Embankment	SW	70		Associated to railway – possibly not containing any putrescible, contaminated or soil gas associated material
Brick & Tile Works	SE	92		Not within the hydraulic gradient of the site
Infilled Clay Pit	SE	50	✓	Potential source of soil gas
Infilled Sand Pit	SE	250	✓	Potential source of soil gas
Infilled Clay Pit	SE	74	$\checkmark$	
Brick Works	NE	55		Not within the hydraulic gradient of the site
Infilled Clay Pit	NE	14	✓	Potential source of soil gas
Embankment	NE	Adjacent to the site		Associated to Fareham tunnel – possibly not containing any putrescible, contaminated or soil gas associated material
Abattoir	NE	37		Not within the hydraulic gradient of the site
Railway	NE	Adjacent		Inactive/ structured on an embankment rather
		to the site		than onto a cutting
Pumping Station (Southampton CC)	NW	174		Not within the hydraulic gradient of the site
Works	NW	166		_
Bridge Farm	NW	111		

Source	Direction	Distance (m)	Likely	Reasoning
Discharge Consents	NW	118 <sup>1</sup>		
	NW	175 <sup>2</sup>		_
	NW	1913		-
	NW	247 <sup>4</sup>		-
Potentially Infilled Land	N	19	✓	Potential source of soil gas
(Non-Water)				_
	NE	44	✓	
	SE	250	✓	-

#### 7.3 Potential Contaminants

Table 7.4 presents the range of possible contaminants associated with the onsite and off-site sources of potential contamination which are identified in Table 7.2 and Table 7.3.

Chemical data has been taken from the Department of the Environment Industry Profiles or from referenced sources detailing the processes involved in the activity carried out onsite.

**Table 7.4 Potential Contaminants** 

<b>Potential Contaminative Sources</b>	Contaminants/Chemical Properties
Brick works & Works	Metals, Semi-metals and non-metals, PAHs, TPHs
Depot	Metals, Semi-metals and non-metals, PAHs, TPHs
Woodleigh Farm	Ammonia, Pesticides, Organic Compounds (ex. PAHs and TPHs)
Potentially Infilled Land (Clay Pits and Sand Pits)	Soil gas
Small electric-substation	PCBs
Made Ground	PAHs, TPHs, Metals, Semi-metals and non-metals, Sulphate

## 7.4 Potential Exposure Receptors

The presence of potential receptors has been evaluated from our understanding of the current and planned land use of the site, an assessment of surrounding land uses and currently available information pertaining to the site.

The assessment for potential receptors is presented in Table 7.5.

**Table 7.5 Potential Receptors** 

Potential Receptor		Present
Human Health	Future users of the site	✓
	Construction workers on-site	✓
	Service and maintenance workers	✓
	Site neighbours and wider public	✓

Potential Receptor		Present
-	Groundwater/Future Potable Water Supply	✓
Groundwater/Controlled Waters	Surface Water	✓
	Construction materials	✓
Buildings & Materials	Buildings and confined spaces	✓
	Flora and fauna in surface water	✓
Ecosystems	Flora and fauna in surface water	

# 7.5 Preliminary Conceptual Site Model and Risk Assessment

A preliminary risk assessment has been undertaken based on the proposed development. The assessment has been based on the likelihood of the presence of a pollutant linkage.

A pollutant linkage is the relationship between a contaminant source, a pathway and a receptor. Unless all three elements of a pollutant linkage are present, a risk is not considered to exist. Each of the three elements has been considered within Table 7.1 7.1 to Table 7.5.

The preliminary conceptual site model and risk assessment is presented in Table 7.6. The classification tables on which the level of risk has been determined have been modified from 'Contaminated land risk assessment: A guide to good practice, 2001, CIRIA C552' and are presented in Appendix F.

Soils Limited

Funtley Road Desk Study

# Table 7.6 Preliminary Conceptual Site Model and Risk Assessment Methodology

Source	Potential Contaminant	Exposure Pathway	Receptor		ssment from D	Desk Study	Comments	Proposed Investigation
(See Table 7.2 and	(See Table 7.4)	(See Table 7.1)	(See Table 7.5.	Informatio		. B. I		
Table 7.3)			Table 7.5)	Severity	Probability	Risk		
Brick works & Works	Metals, Semi-metals and non-	Inhalation of dust	Site Workers/Site Maintenance	Medium	Likely	Moderate		Phase II ground investigation to confirm the groun
On-site historic site usage/Off	metals, PAHs, TPHs	initial action of dust	End Users	Medium	Likely	Moderate		conditions present and chemical testing prior to
site sources from which	,,		Off-site Users	Medium	Likely	Moderate		undertaking a generic quantitative risk assessmen
ootential contamination would	PAHs, TPHs	Inhalation of Vapour/gases (including	Site Workers/Site Maintenance	Mild	Likely	Moderate/Low		3 0 1
nave migrated onto the site	-,	Radon)	End Users	Medium	Likely	Moderate		
•		,	Off-site Users	Medium	Likely	Moderate		
	Metals, Semi-metals and non-	Ingestion and absorption via direct	Site Workers/Site Maintenance	Medium	Likely	Moderate		
	metals, PAHs, TPHs	contact	End Users	Medium	Likely	Moderate		
	Metals, Semi-metals and non- metals, PAHs, TPHs	Migration via surface runoff	Surface Water	Medium	Likely	Moderate	Within parts on the half southern area of the site (London Clay Formation bedrock with no superficial)	<del>-</del>
		Migration in solution via groundwater	Surface Water	Medium	Likely	Moderate	Migrating downwards within the superficial River Terrace Deposits to the lower southern part of the site	_
			Shallow Aquifer	_			Within the lowest central south part of the site (London Clay Formation bedrock with superficial of River Terrace Deposits overlying)	_
			Deep Aquifer				Within the half northern part of the site (Lambeth Group bedrock with no superficial	
							deposits) and the southern part (lying on the band of Bognor Sand Member bedrock	
							with no superficial deposits)	_
		Direct contact with construction material	Buried structures Buried Services	Medium	Low	Moderate/Low		_
	PAHs, TPHs	Migration of gases via permeable soils	Site Workers/Site Maintenance	Mild	Low	Low	Whereas applicable across the site according to the locations of superficial River	
			End Users	Medium	Likely	Moderate	Terrace Deposits and permeable bedrocks of Lambeth Group and Bognor Sand	
			Off-site Users	Mild	Low	Low	Member	
			Building and confined spaces	Minor	Unlikely	Very Low		
Depot	Metals, Semi-metals and non-	Inhalation of dust	Site Workers/Site Maintenance	Mild	Unlikely	Very Low		Phase II ground investigation to confirm the grou
On-site historic and current	metals, PAHs, TPHs		End Users	Mild	Unlikely	Very Low		conditions present and chemical testing prior to
site usage.				Mild	Unlikely	Very Low		undertaking a generic quantitative risk assessmen
			Off-site Users	Mild	Unlikely	Very Low		
	PAHs, TPHs	Inhalation of Vapour/gases (including	Site Workers/Site Maintenance	Mild	Unlikely	Very Low		
		Radon)	End Users	Mild	Unlikely	Very Low		
			Off-site Users	Mild	Unlikely	Very Low		
	Metals, Semi-metals and non-	Ingestion and absorption via direct	Site Workers/Site Maintenance	Mild	Unlikely	Very Low		
	metals, PAHs, TPHs	contact	End Users	Mild	Unlikely	Very Low		
	Metals, Semi-metals and non-metals, PAHs, TPHs	Migration via surface runoff	Surface Water	Mild	Unlikely	Very Low	Within parts on the half southern area of the site (London Clay Formation bedrock with no superficial)	_
		Migration in solution via groundwater	Surface Water	Mild _	Unlikely	Very Low	Migrating downwards within the superficial River Terrace Deposits to the lower southern part of the site	_
			Shallow Aquifer	_			Within the lowest central south part of the site (London Clay Formation bedrock with superficial of River Terrace Deposits overlying)	-
			Deep Aquifer				Within the half northern part of the site (Lambeth Group bedrock with no superficial deposits) and the southern part (lying on the band of Bognor Sand Member bedrock with no superficial deposits)	
		Direct contact with construction material	Buried Structures Buried Services	Mild	Unlikely	Very Low	,	-
	PAHs, TPHs	Migration of gases via permeable soils	Site Workers/Site Maintenance End Users	Mild	Unlikely	Very Low		-
	_		Off-site Users Building and confined spaces	_				
Woodleigh Farm	Pesticides, PAHs, TPHs	Inhalation of dust	Site Workers/Site Maintenance	Medium	Likely	Moderate		Phase II ground investigation to confirm the
On-site historic and current			End Users	Medium	Likely	Moderate		ground conditions present and chemical testing
site usage.			Off-site Users	Medium	Likely	Moderate		prior to undertaking a generic quantitative risk
	PAHs, TPHs	Inhalation of Vapour/gases (including Radon)	Site Workers/Site Maintenance	Mild	Likely	Moderate/Low		assessment.
			End Users	Medium	Likely	Moderate		Phase II ground investigation to confirm the
			Off-site Users	Medium	Likely	Moderate		ground conditions present and chemical testing

Soils Limited

Funtley Road Desk Study

	B B		C: \A/   /C: \A/ :	N4 !:	1.4.1			
	Pesticides, PAHs, TPHs	Ingestion and absorption via direct contact	Site Workers/Site Maintenance End Users	Medium Medium	Likely Likely	Moderate  Moderate		prior to undertaking a generic quantitative risk assessment.
	Pesticides, PAHs, TPHs	Migration via surface runoff	Surface Water	Medium	Likely	Moderate	Within parts on the half southern area of the site (London Clay Formation bedrock with no superficial)	455551116111.
	resucides, 17(1)s, 1111s	Migration in solution via groundwater	Surface Water	Medium	Likely	Moderate	Migrating downwards within the superficial River Terrace Deposits to the lower southern part of the site	•
			Shallow Aquifer				Within the lowest central south part of the site (London Clay Formation bedrock with superficial of River Terrace Deposits overlying)	-
			Deep Aquifer				Within the half northern part of the site (Lambeth Group bedrock with no superficial deposits) and the southern part (lying on the band of Bognor Sand Member bedrock with no superficial deposits)	-
		Direct contact with construction material	Buried structures Buried Services	Medium	Low	Moderate/Low		•
	PAHs, TPHs	Migration of gases via permeable soils	Site Workers/Site Maintenance End Users	Mild Medium	Low Likely	Low Moderate	Whereas applicable across the site according to the locations of superficial River Terrace Deposits and permeable bedrocks of Lambeth Group and Bognor Sand	•
			Off-site Users Building and confined spaces	Mild Minor	Low	Low Very Low	Member	
Small Electric substation On-site sources of potential	PCB's	Inhalation of dust	Site Workers/Site Maintenance End Users	Medium Medium	Unlikely Unlikely	No Risk No Risk		Phase II ground investigation to confirm the ground conditions present and chemical testing prior to undert
contamination		11.13	Off-site Users	Medium	Unlikely	No Risk	<del>-</del> -	generic quantitative risk assessment.
		Inhalation of Vapour/gases	Site Workers/Site Maintenance End Users	Minor Medium	Unlikely Unlikely	No Risk No Risk	- -	
		Migration via surface runoff	Off-site Users Surface Water	Minor Mild	Unlikely Unlikely	No Risk Very Low	Within parts on the half southern area of the site (London Clay Formation bedrock	_
		Migration in solution via groundwater	Surface Water	=			with no superficial)  Migrating downwards within the superficial River Terrace Deposits to the lower	_
			Shallow Aquifer	-			southern part of the site  Within the lowest central south part of the site (London Clay Formation bedrock with	_
			Deep Aquifer	_			superficial of River Terrace Deposits overlying)  Within the half northern part of the site (Lambeth Group bedrock with no superficial deposits) and the southern part (lying on the band of Bognor Sand Member bedrock	_
		Ingestion and absorption via direct	Site Workers/Site Maintenance	- -			with no superficial deposits)	_
		Contact  Direct contact with construction	End Users Buried structures	Mild	Unlikely	Very Low		
		material  Migration of gases via permeable soils	Site Workers Site Workers/Site Maintenance	Minor	Unlikely	No Risk		
			End Users Off-site Users	Medium Minor	Unlikely Unlikely	No Risk No Risk		
Made Ground	PAHs, TPHs, Metals, Semi-metals	Inhalation of dust	Building and confined spaces Site Workers/Site Maintenance	Minor Minor	Unlikely Low	No Risk Very Low Risk	-	Phase II ground investigation to confirm the ground
On-site sources of potential	and non-metals, Sulphate		End Users Off-site Users		20	, c., 20, 1		conditions present and chemical testing prior to under generic quantitative risk assessment.
	PAHs, TPHs, Metals, Semi-metals and non-metals, Sulphate	Inhalation of Vapour/gases	Site Workers/Site Maintenance End Users Off-site Users	_ Minor	Low	Very Low Risk		
	PAHs, TPHs, Metals, Semi-metals and non-metals, Sulphate	Migration via surface runoff	Surface Water	Minor	Low	Very Low Risk	Within parts on the half southern area of the site (London Clay Formation bedrock with no superficial)	_
	and non means, surprace	Migration in solution via groundwater	Surface Water	_			Migrating downwards within the superficial River Terrace Deposits to the lower southern part of the site	_
			Shallow Aquifer	Minor	Low	Very Low Risk	Within the lowest central south part of the site (London Clay Formation bedrock with superficial of River Terrace Deposits overlying)	_
			Deep Aquifer	_			Within the half northern part of the site (Lambeth Group bedrock with no superficial deposits) and the southern part (lying on the band of Bognor Sand Member bedrock with no superficial deposits)	_
	PAHs, TPHs, Metals, Semi-metals and non-metals, Sulphate	Ingestion and absorption via direct contact	Site Workers/Site Maintenance End Users	Minor	Low	Very Low Risk	1	_
	•	Direct contact with construction material	Buried structures Site Workers	Minor	Unlikely	Very Low Risk		
	PAHs, TPHs, Metals, Semi-metals an non-metals, Sulphate	d Migration of gases via permeable soils	Site Workers/Site Maintenance End Users	Minor Minor	Unlikely Unlikely	Very Low		
					J			

Soils Limited

Funtley Road Desk Study

			Off-site Users	Minor	Unlikely	Very Low
			Building and confined spaces	Minor	Unlikely	Very low
Potentially infilled land	Soil gas	Inhalation of dust	Site Workers/Site Maintenance	_	-	No Risk
(non-water) Possibly			End Users	=		
infilled Sand and Clay Pits			Off-site Users	=		
On-site and off-site potential		Inhalation of Vapour/gases	Site Workers/Site Maintenance	Mild	Low	Low
sources of soil gas			End Users	Medium	Likely	Moderate
			Off-site Users	Medium	Likely	Moderate
		Migration via surface runoff	Surface Water	-	-	No Risk
		Migration in solution via groundwater	Surface Water	_		
			Shallow Aquifer	_		
			Deep Aquifer	_		
		Ingestion and absorption via direct	Site Workers/Site Maintenance		-	No Risk
		contact	End Users			
		Direct contact with construction	Buried structures		-	No Risk
		material	Site Workers			
		Migration of gases via permeable soils	Site Workers/Site Maintenance	Mild	Low	Low
			End Users	Medium	Likely	Moderate
			Off-site Users	Medium	Likely	Moderate
			Building and confined spaces	Minor	Likely	Low

#### **Section 8** Recommendations

#### 8.1 General

Based on the information obtained during the compilation of this Phase I Desk Study and the preliminary conceptual site model which has indicated a **VERY LOW**, **LOW**, **MODERATE or HIGH** risk of contamination, an intrusive investigation will be required to quantify the risks. The intrusive investigation may reveal additional on-site sources of contamination that were not identified in the Phase I Desk Study and Site Walkover. Any additional sources of contamination or unexpected ground conditions that may promote the migration of contamination will be included within the Conceptual Site Model.

#### 8.2 UXO

Bases solely on review of the historical map data, there was no indication that the site had been subject to bombing or shelling, however, a preliminary UXO risk Assessment would be needed to confirm whether the site had been potentially subject to historical bombing or used for military reasons.

# **8.3** Proposed Further Site Works

An intrusive investigation was required to quantify the risks that have been identified within the preliminary CSM. The preliminary CSM identifies the test parameters relevant to the sources that have a pathway to a receptor. Dependant on the findings of an intrusive investigation the test parameters may be modified. The intrusive investigation will investigate and assess pollutant linkages identified in the preliminary Conceptual Site Model.

The required further environmental investigation has been presented in Table 8.1.

Table 8.1 Required Further Environmental Investigation

Potential Further works	General Purpose	Required
Investigatory Holes	To collect sufficient samples for a robust assessment	✓
Laboratory Testing	To quantify the risks identified in the Conceptual Site Model	✓
Risk Assessment	Assess pollutant linkages based on current contaminated land guidance and screening criteria's	✓
Borehole well installation	To allow for continued groundwater and/or gas monitoring	✓
Remediation	If the site-specific risk assessment reveals that the site was contaminated	✓
Validation & Verification	To validate and verify the remedial objectives based on the site- specific risk assessment	✓
Notes:		

# 8.4 Discovery Strategy

There may be areas of contamination not identified during the course of the investigation. Such occurrences may also be discovered during the demolition and construction phases for the redevelopment of the site.

Care should be taken during excavation works especially to investigate any soils which appear by eye (e.g. such as fibrous materials, large amounts of ash and unusual discolouration), odour (e.g. fuel, oil and chemical type odours or unusual odours such as sweet odours or fishy odours) or wellbeing (e.g. light headedness and/or nausea, burning of nasal passages and blistering or reddening of skin due to contact with soil) to be contaminated or of unusual and/or different character to standard soils or those analysed.

In the event of any discovery of potentially contaminated soils or materials, this discovery should be quarantined and reported to the most senior member of site staff or the designated responsible person at the site for action. The location, type and quantity must be recorded, and the Local Authority and a competent and appropriate third-party Engineer/Environmental consultant notified immediately. An approval from the Local Authority must be sought prior to implementing any proposed mitigation action.

The discovery strategy must remain on-site at all times and must demonstrate a clear allocation of responsibility for reporting and dealing with contamination. A copy of the strategy must be placed on the health and safety notice board and /or displayed in a prominent area where all site staff are able to take note of and consult the document at any time. Any member of the workforce entering the site to undertake any excavation must be made aware of the potential to discover contamination and the discovery strategy.

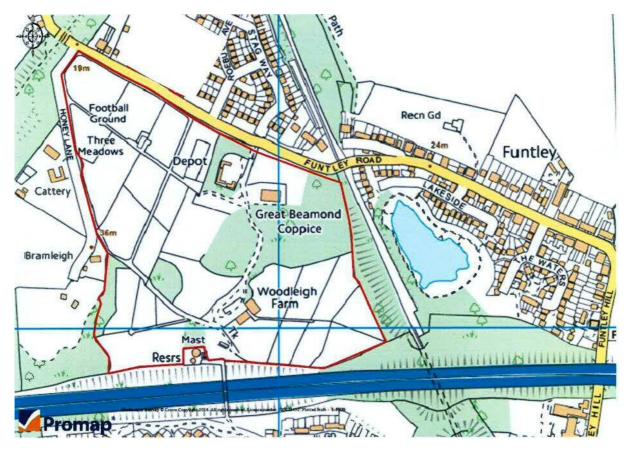




Figure I – Site Location Map

Job Number 16687	Project Land south of Funtley Road, Funtley, Fareham, PO15 6DL Hampshire
Client Reside Developments Ltd	Date January 2018

# **Appendix A Proposed Development Plans**



THIS DRAWING IS COPYRIGHT OF RUMMEY DESIGN.
THIS DRAWING MUST BE READ IN CONJUNCTION WITH THE DESIGNER'S RISK
ASSESSMENT, SPECIFICATION AND ALL OTHER RELEVANT DOCUMENTATION AND
DRAWINGS.
DO NOT SCALE FROM THIS DRAWING OR ITS DIGITAL FILE. ONLY FIGURED DIMENSIONS
ARE TO BE USED. IF IN DOUBT- ASK.

Ordnance Survey material by permission of Ordnance Survey on behalf of The Controller of Her Majesty's Stationery Office © Crown Copyright (2019). All rights reserved. Licence number 100042131

P1 30.09.20 DO/RR Planning issue
REV DATE DRAWN/CHECK DESCRIPTION

PLANNING ISSUE

# RD173 Funtley Road, Fareham

Illustrative masterplan

DATE DRAWN/CHECKED SCALE A1 DRAWNG NO.
02.09/20 DO/RR 1:1000 RD1731-F3-L100

Rummey design

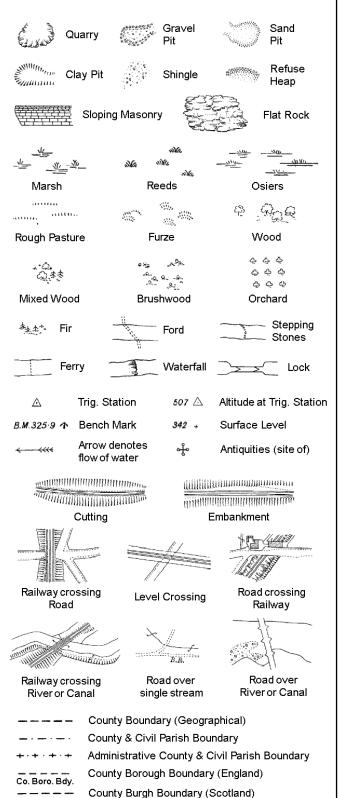
South Park Studios South Park Sevenaaks Kent TN13 1AN t +44 (0) 1732 743 753 f +44 (0) 1732 743 178 e rda@rummey.co.uk w www.rummey.co.uk

Masterplanners • Urban Designers • Landscape Architects

**Appendix B Country Series and Ordnance Survey Maps** 

# **Historical Mapping Legends**

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



Police Call Box

Telephone Call Box

Signal Post

Pump

Sluice

Spring

Trough

Well

S.P

T.C.B

Sl.

Tr

Co. Burgh Bdy.

Bridle Road

Foot Bridge

Mile Stone

M.P.M.R. Mooring Post or Ring

Electricity Pylor

Guide Post or Board

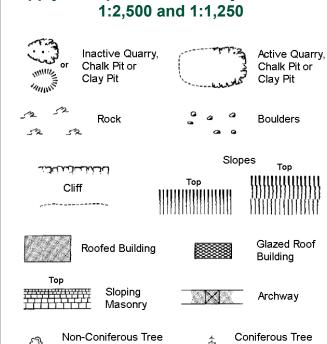
B.R.

E.P

F.B.

M.S

Ordnance Survey Plan, Additional SIMs and Large-Scale National Grid Data 1:2,500 and **Supply of Unpublished Survey Information** 



(surveyed) (surveyed) Non-Coniferous Trees Coniferous Trees ಟ್ಟಿಟ್ಟ (not surveyed) (not surveyed) Orchard ွင့် Scrub Bracken డ్తి Marsh, Coppice, Reeds Saltings Rough Culvert Grassland Direction Bench

Antiquity of water flow (site of) Electricity Triangulation Cave Entrance **Electricity Transmission Line** 

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

,			
вн	Beer House	Р	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
EIP	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
Н	Hydrant or Hydraulic	TCB	Telephone Call Box
LC	Level Crossing	TCP	Telephone Call Post
MH	Manhole	Tr	Trough
MP	Mile Post or Mooring Post	WrPt,WrT	Water Point, Water Tap
MS	Mile Stone	W	Well
NTL	Normal Tidal Limit	Wd Pp	Wind Pump

GVC

MP, MS

Gas Governer

Mile Post or Mile Stone

**Guide Post** 

Manhole

Wd Pp

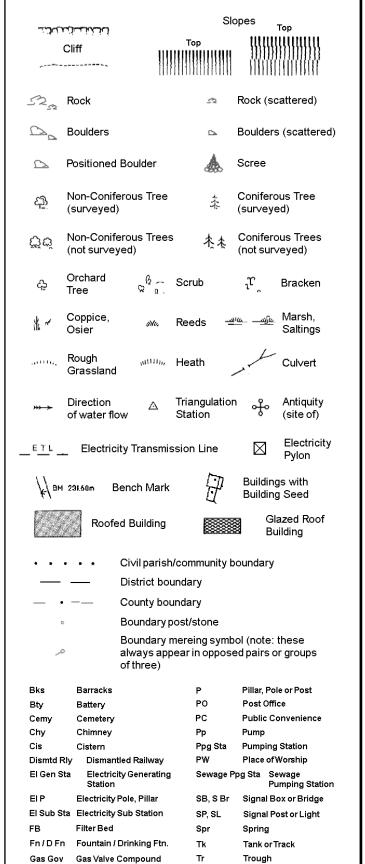
Wks

Wind Pump

Wr Pt. Wr T Water Point, Water Tap

Works (building or area)

# 1:1,250

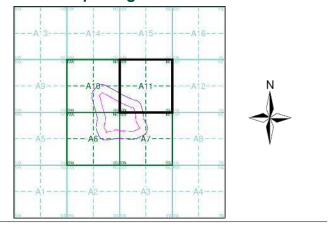




# **Historical Mapping & Photography included:**

Mapping Type	Scale	Date	Pg
Hampshire & Isle Of Wight	1:2,500	1879 - 1881	2
Hampshire & Isle Of Wight	1:2,500	1897	3
Hampshire & Isle Of Wight	1:2,500	1909 - 1910	4
Hampshire & Isle Of Wight	1:2,500	1932	5
Ordnance Survey Plan	1:2,500	1964 - 1965	6
Additional SIMs	1:2,500	1964 - 1988	7
Additional SIMs	1:2,500	1988 - 1989	8
Ordnance Survey Plan	1:2,500	1990	9
Additional SIMs	1:2,500	1991	10
Large-Scale National Grid Data	1:2,500	1992	11
Historical Aerial Photography	1:2,500	1999	12

# **Historical Map - Segment A11**



#### **Order Details**

Order Number: 150541838\_1\_1 16687 **Customer Ref:** National Grid Reference: 455880, 108150 Slice: Site Area (Ha): 15.94

Search Buffer (m):

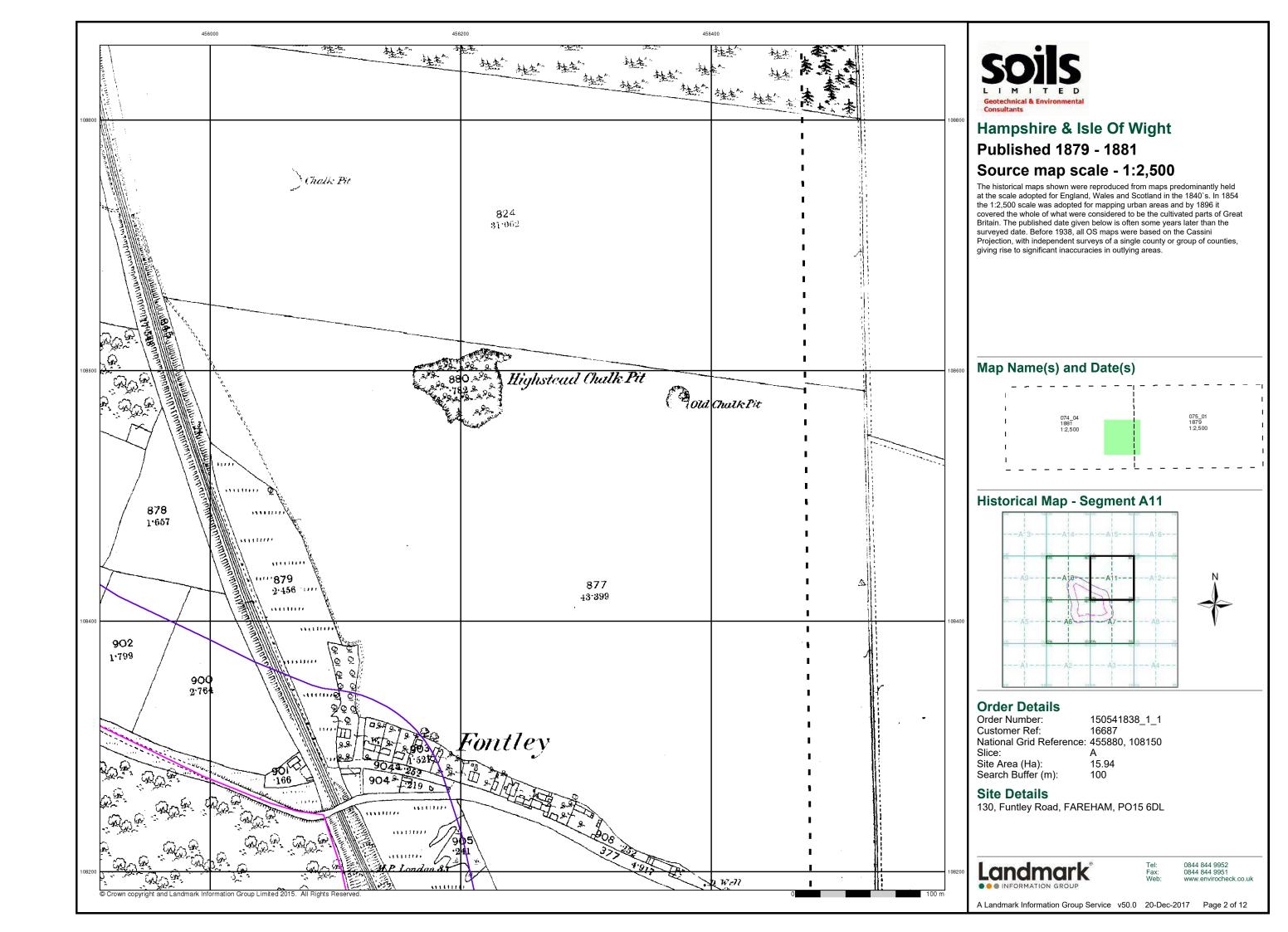
Site Details 130, Funtley Road, FAREHAM, PO15 6DL

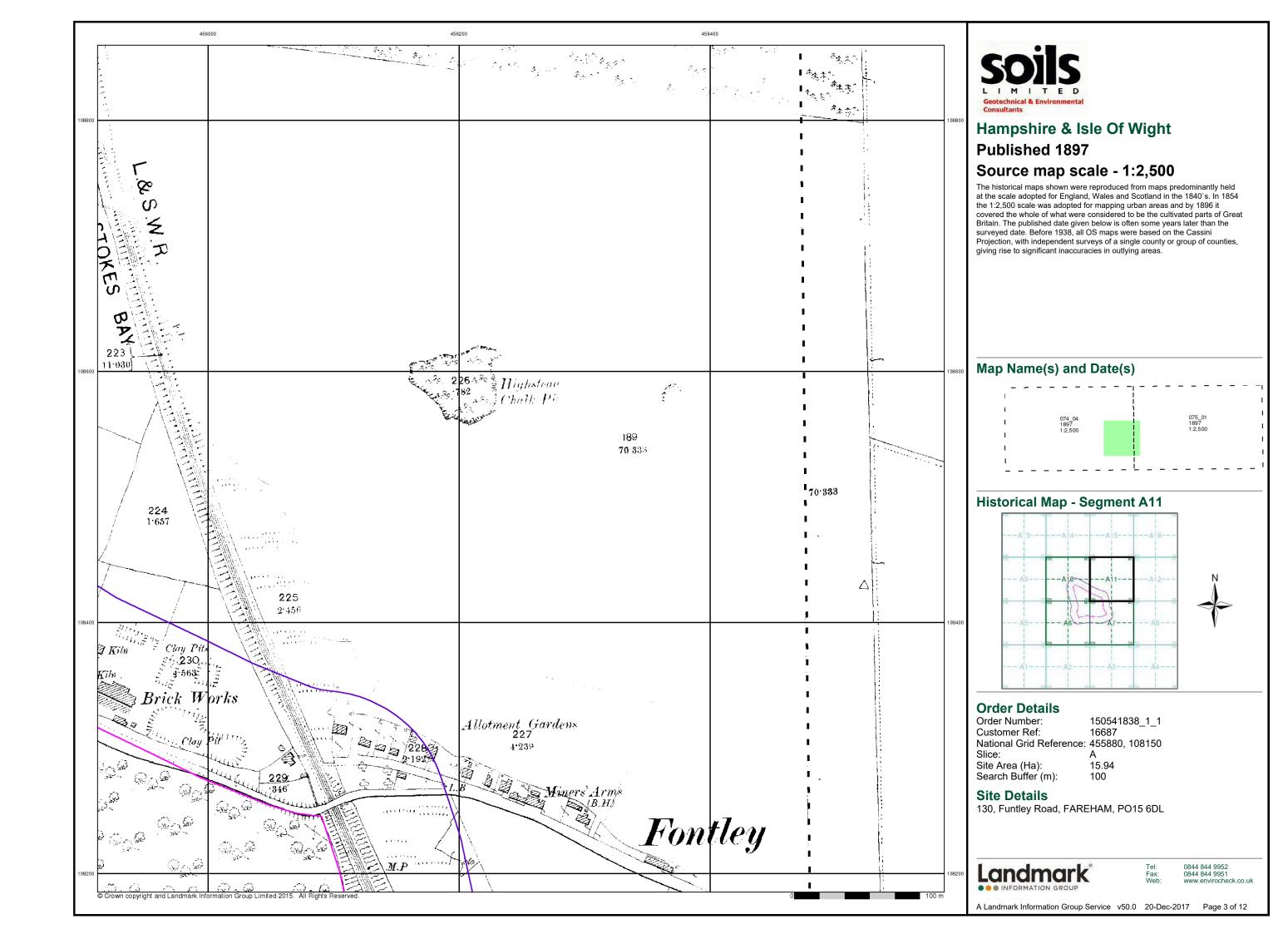
100

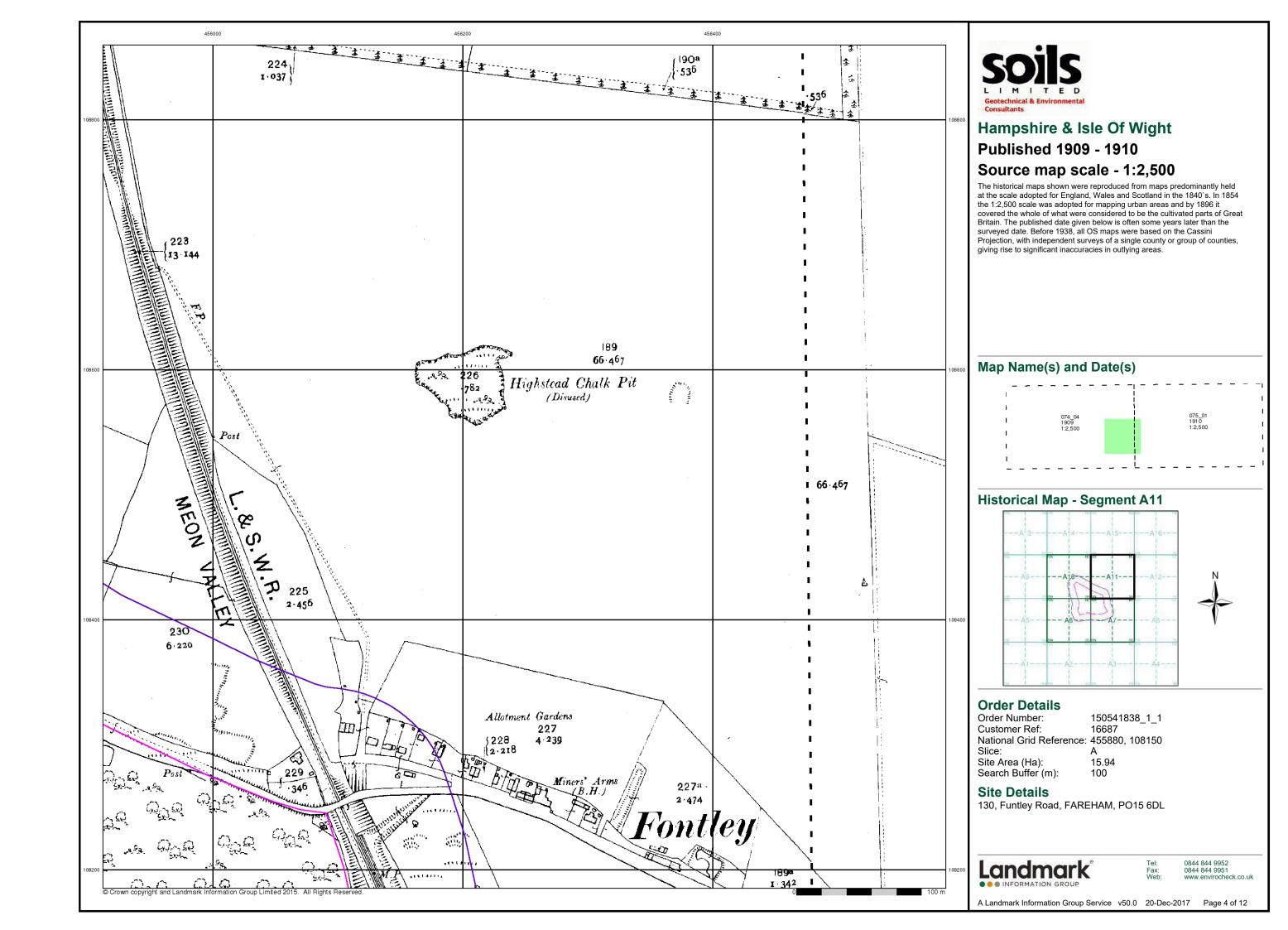


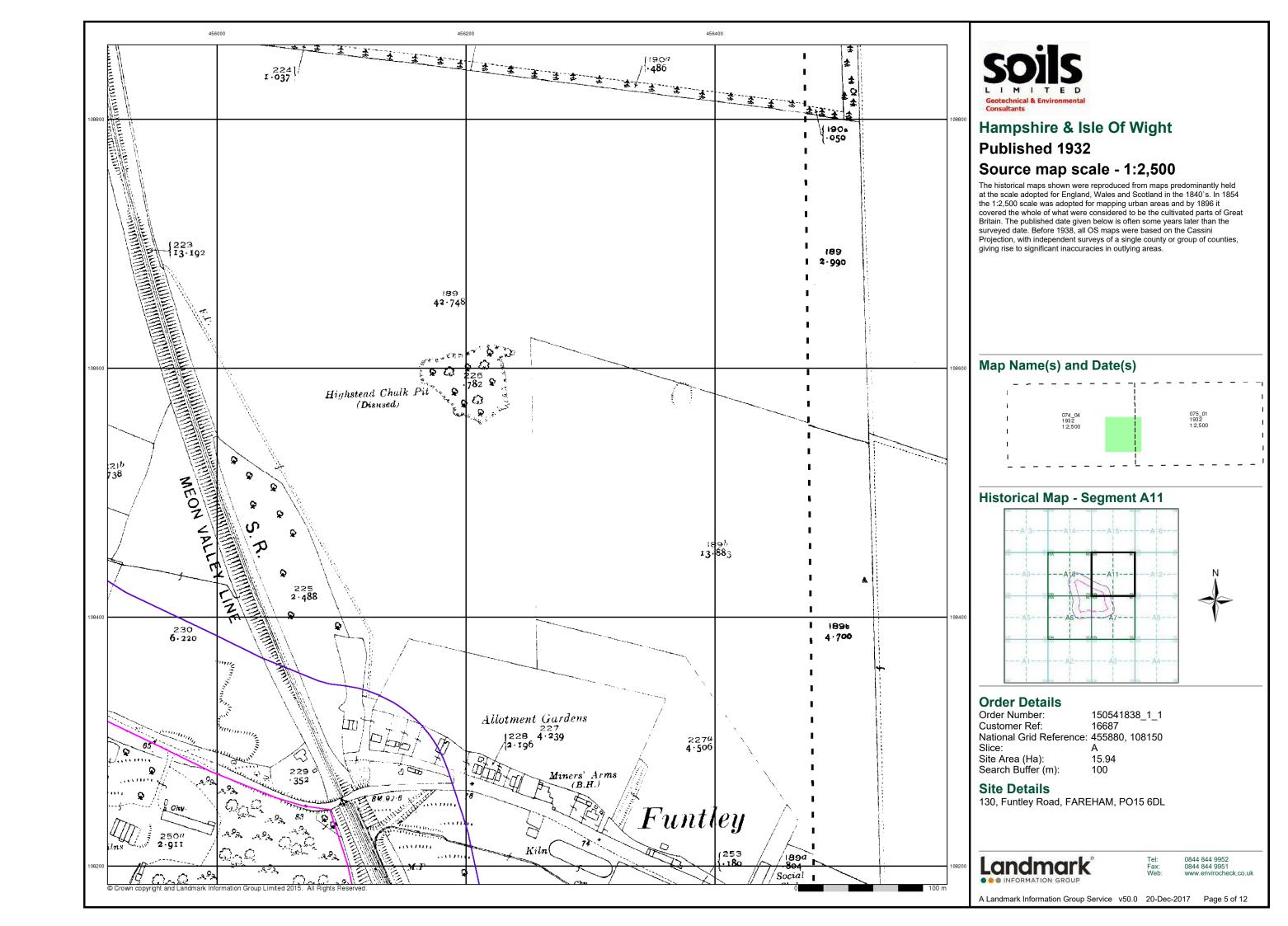
0844 844 9952 0844 844 9951

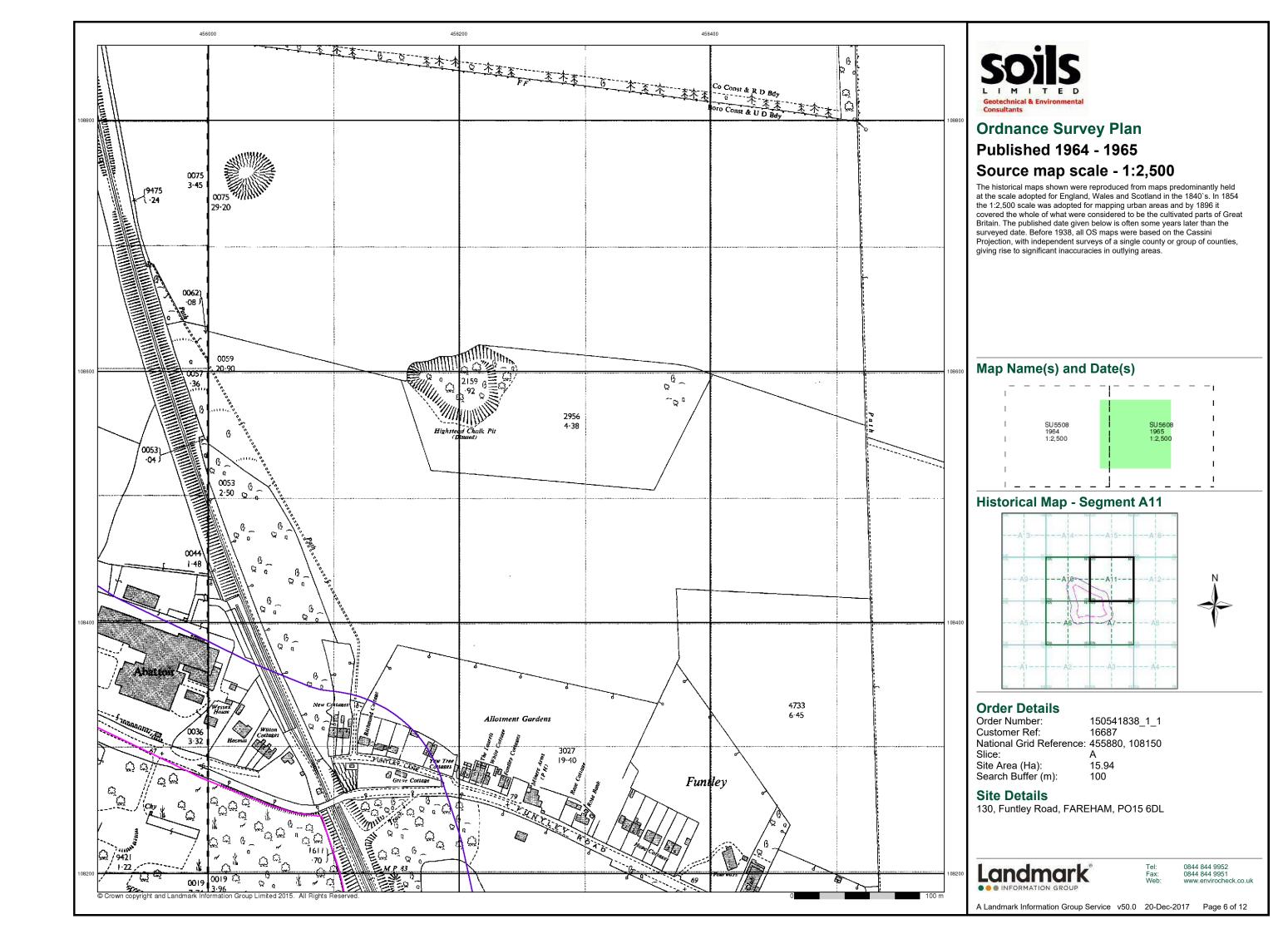
A Landmark Information Group Service v50.0 20-Dec-2017 Page 1 of 12

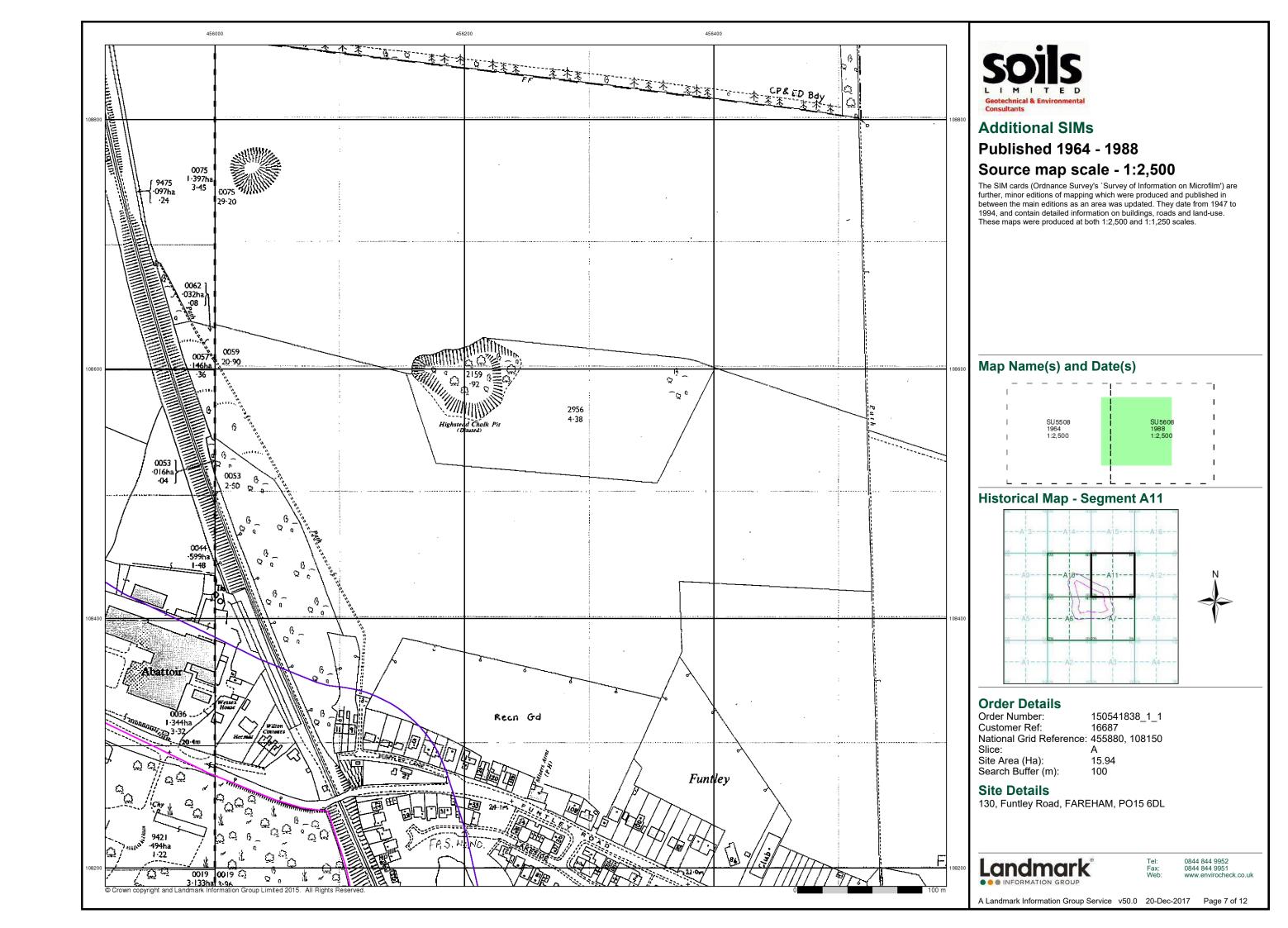


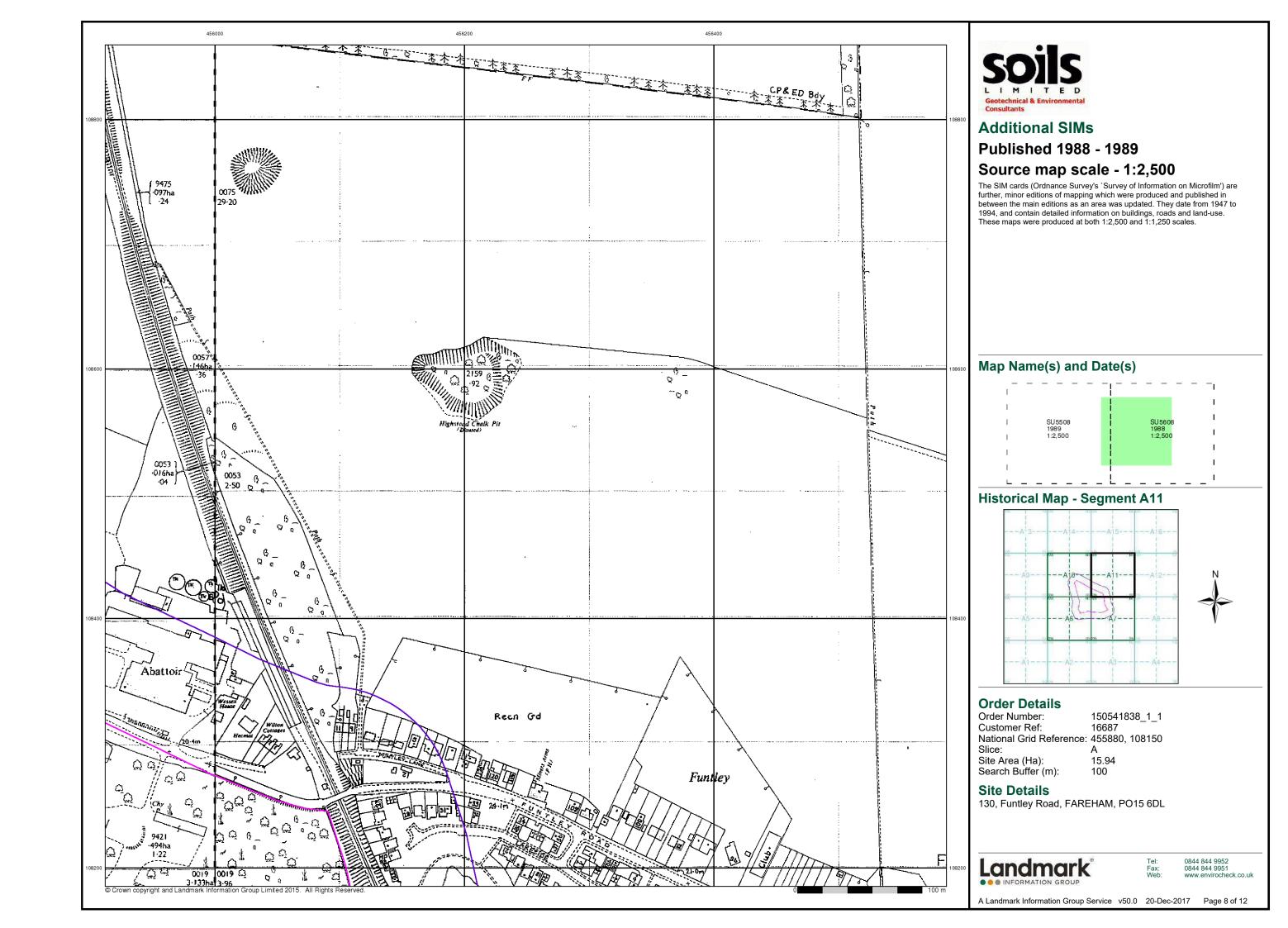


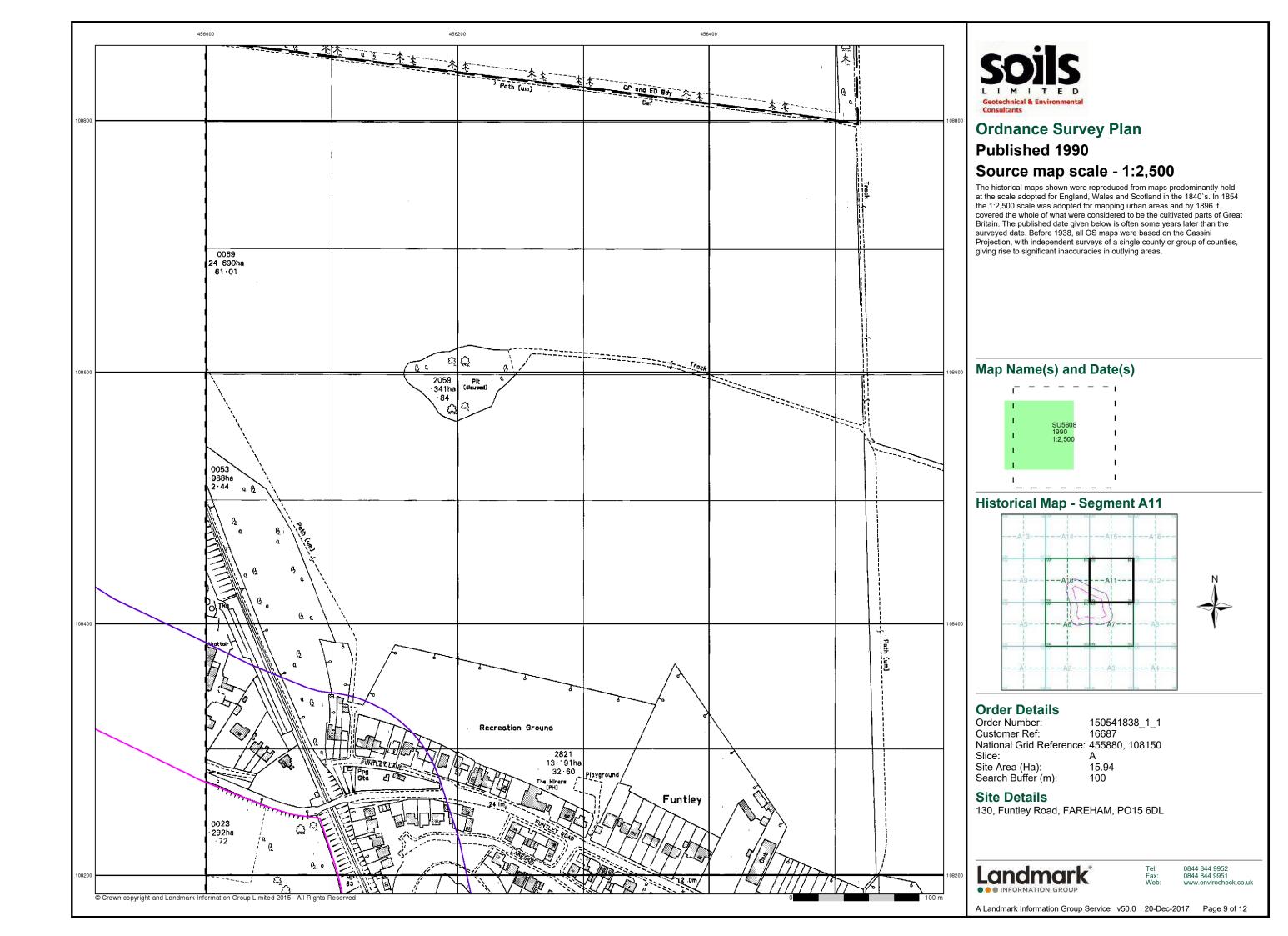


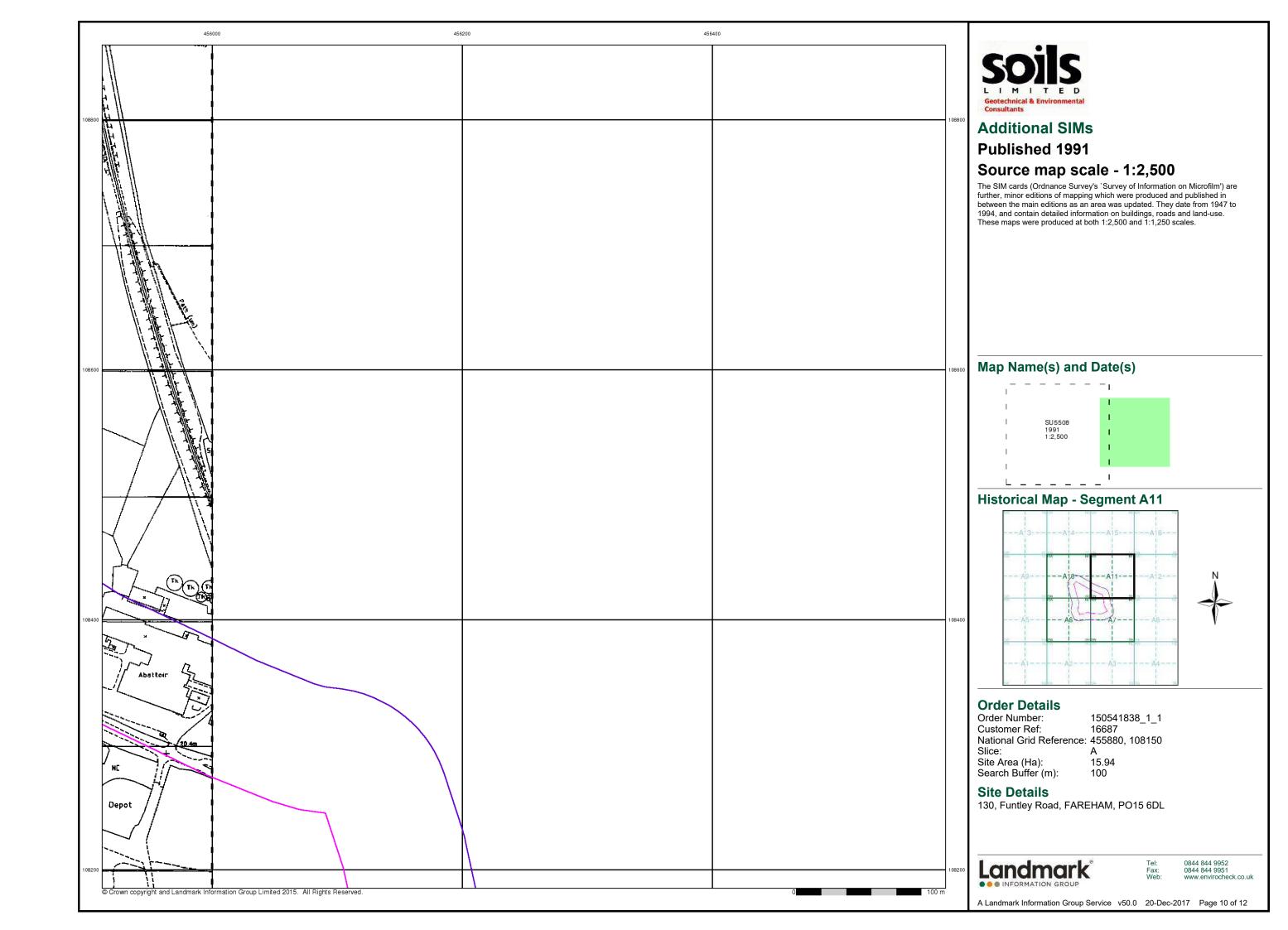


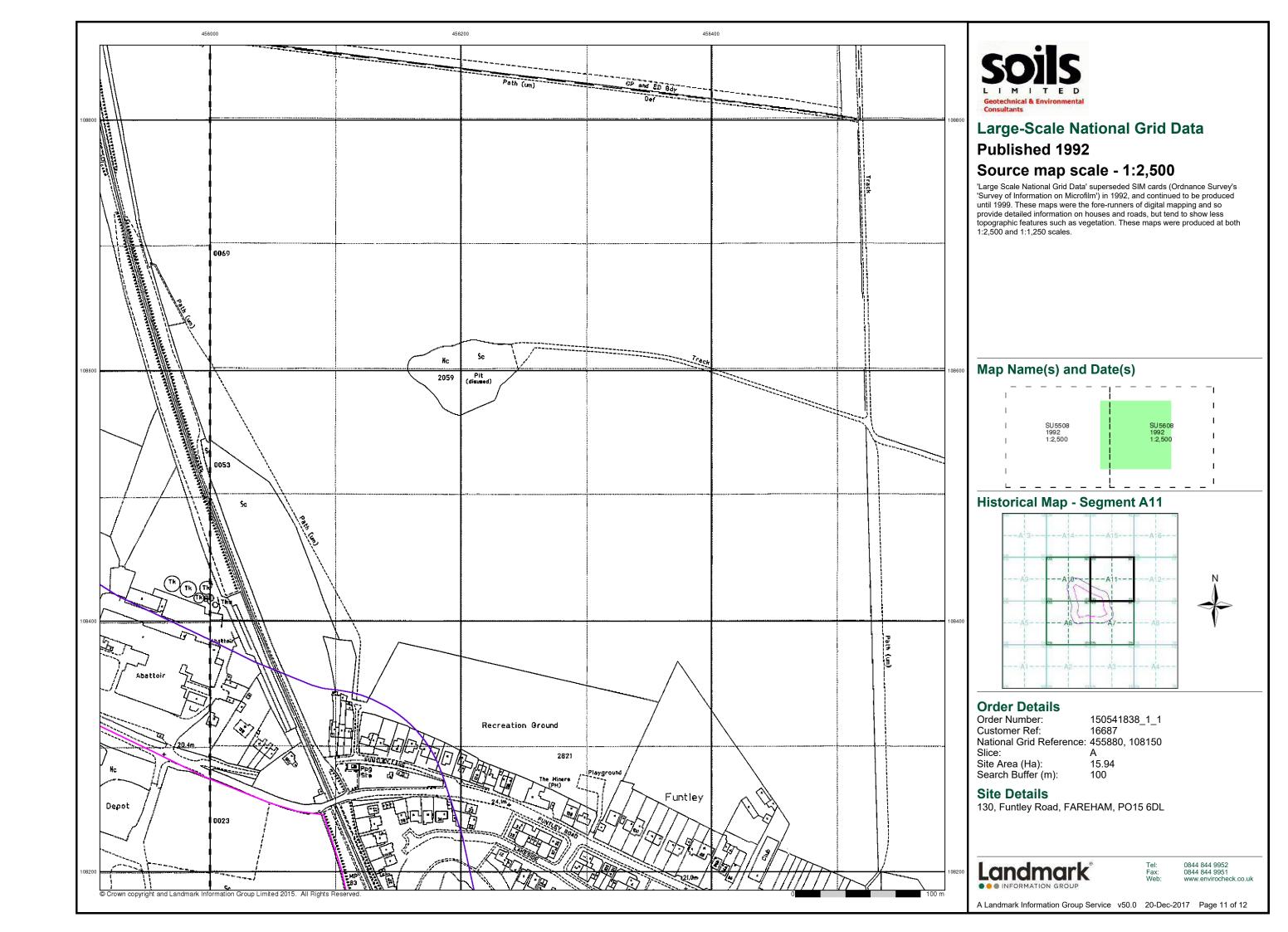












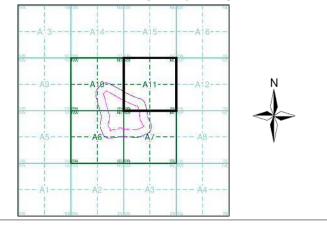




## **Historical Aerial Photography** Published 1999

This aerial photography was produced by Getmapping, these vertical aerial photographs provide a seamless, full colour survey of the whole of Great Britain

#### **Historical Aerial Photography - Segment A11**



Order Details
Order Number: Order Number: 150541838\_1\_1
Customer Ref: 16687
National Grid Reference: 455880, 108150

Slice: Site Area (Ha): Search Buffer (m): 15.94 100

**Site Details** 130, Funtley Road, FAREHAM, PO15 6DL

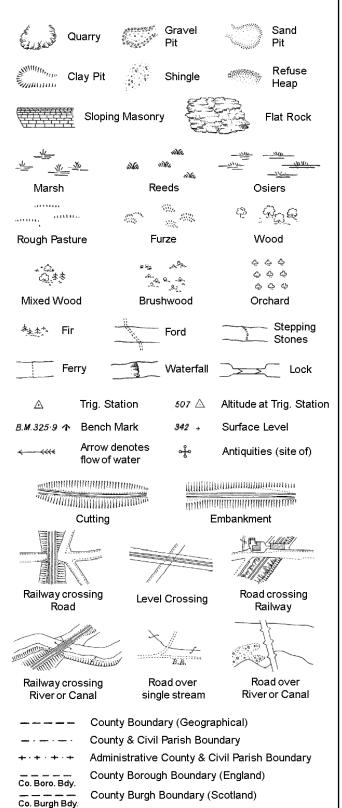
Landmark\*

0844 844 9952 0844 844 9951 www.envirocheck.co.uk

A Landmark Information Group Service v50.0 20-Dec-2017 Page 12 of 12

## **Historical Mapping Legends**

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



B.R.

EP

F.B.

Bridle Road

Foot Bridge

Mile Stone

M.P.M.R. Mooring Post or Ring

Electricity Pylor

Police Call Box

Telephone Call Box

Signal Post

Pump

Sluice

Spring

Trough

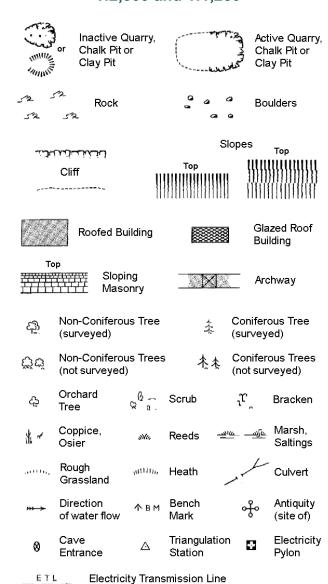
Well

S.P

Sl.

Tr:

#### Ordnance Survey Plan, Additional SIMs and Large-Scale National Grid Data 1:2,500 and **Supply of Unpublished Survey Information** 1:2,500 and 1:1,250



	County Boundary (Geographical)
	County & Ci∨il Parish Boundary
	Civil Parish Boundary
· <del></del> · ·	Admin. County or County Bor. Boundary
L B Bdy	London Borough Boundary
264	Symbol marking point where boundary

mereing changes

вн	Beer House	Р	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
EIP	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
Н	Hydrant or Hydraulic	TCB	Telephone Call Box
LC	Level Crossing	TCP	Telephone Call Post
MH	Manhole	Tr	Trough
MP	Mile Post or Mooring Post	WrPt,WrT	Water Point, Water Tap
MS	Mile Stone	W	Well
NTL	Normal Tidal Limit	Wd Pp	Wind Pump

# 1:1,250

(	Slift Driving		Slo Top	opes        	Top
		[[[		11111	11171171111
25	Rock		7,5	Rock (	scattered)
$\Box_{\Delta}$	Boulders		₽	Boulde	ers (scattered)
	Positioned	Boulder		Scree	
Čii	Non-Conif (surveyed	erous Tree )	\$	Conife (surve	rous Tree yed)
C 3 C1	Non-Conif (not surve	erous Trees yed)	* **		rous Trees ırveyed)
<i>c</i> 3	Orchard Tree	Q a.	Scrub	<sup>ب</sup> ير ّ	Bracken
* ~	Coppice, Osier	sHu,	Reeds -=	<u> </u>	Marsh, Saltings
acette,	Rough Grassland	1411111 <sub>11</sub>	Heath	1	Culvert
<del>&gt;&gt;&gt;</del>	Direction of water flo	Δ ow	Triangulation Station	, of	Antiquity (site of)
E_TL	. Electric	ity Transmis	ssion Line	$\boxtimes$	Electricity Pylon
<b>∤</b> ∤Вм	231.6ûm E	Bench Mark			ngs with ng Seed
	Roofe	ed Building		251	Glazed Roof Building
		Civil parish	/community b	oundar	v
		District box	=		,
_ •		County box	-		
٥		Boundary			
٥		Boundary i	mereing symb pear in oppose		
Bks	Barracks		Р	Pillar, F	Pole or Post
Bty	Battery		PO	Post 0	
Cemy	Cemetery		PC	Public	Convenience
Chy	Chimney		Pp	Pump	
Cis	Cistern		Ppg Sta		ng Station
Dismtd R	•	tled Railway	PW		ofWorship
El Gen St	a Electric Station	ity Generating	Sewage F		Sewage Pumping Station
EIP	Electricity	Pole, Pillar	SB, S Br	Signal	Box or Bridge
El Sub St	a Electricity	Sub Station	SP, SL	Signal	Post or Light
FB	Filter Bed		Spr	Spring	

Fn / D Fn Fountain / Drinking Ftn.

Gas Governer

**Guide Post** 

Manhole

Gas Valve Compound

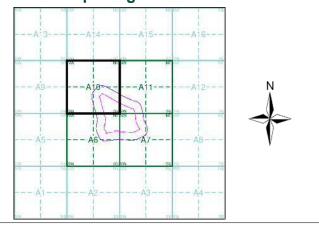
Mile Post or Mile Stone



#### **Historical Mapping & Photography included:**

Mapping Type	Scale	Date	Pg
Hampshire & Isle Of Wight	1:2,500	1881	2
Hampshire & Isle Of Wight	1:2,500	1897	3
Hampshire & Isle Of Wight	1:2,500	1909	4
Hampshire & Isle Of Wight	1:2,500	1932	5
Ordnance Survey Plan	1:2,500	1964	6
Additional SIMs	1:2,500	1964	7
Additional SIMs	1:2,500	1989	8
Additional SIMs	1:2,500	1991	9
Large-Scale National Grid Data	1:2,500	1992	10
Historical Aerial Photography	1:2,500	1999	11

### **Historical Map - Segment A10**



#### **Order Details**

Order Number: 150541838\_1\_1 **Customer Ref:** 16687

National Grid Reference: 455880, 108150 Slice: Site Area (Ha): 15.94

Search Buffer (m):

Tank or Track

Works (building or area)

Trough

Wind Pump Wr Pt. Wr T Water Point, Water Tap

Tr

Wd Pp

Wks

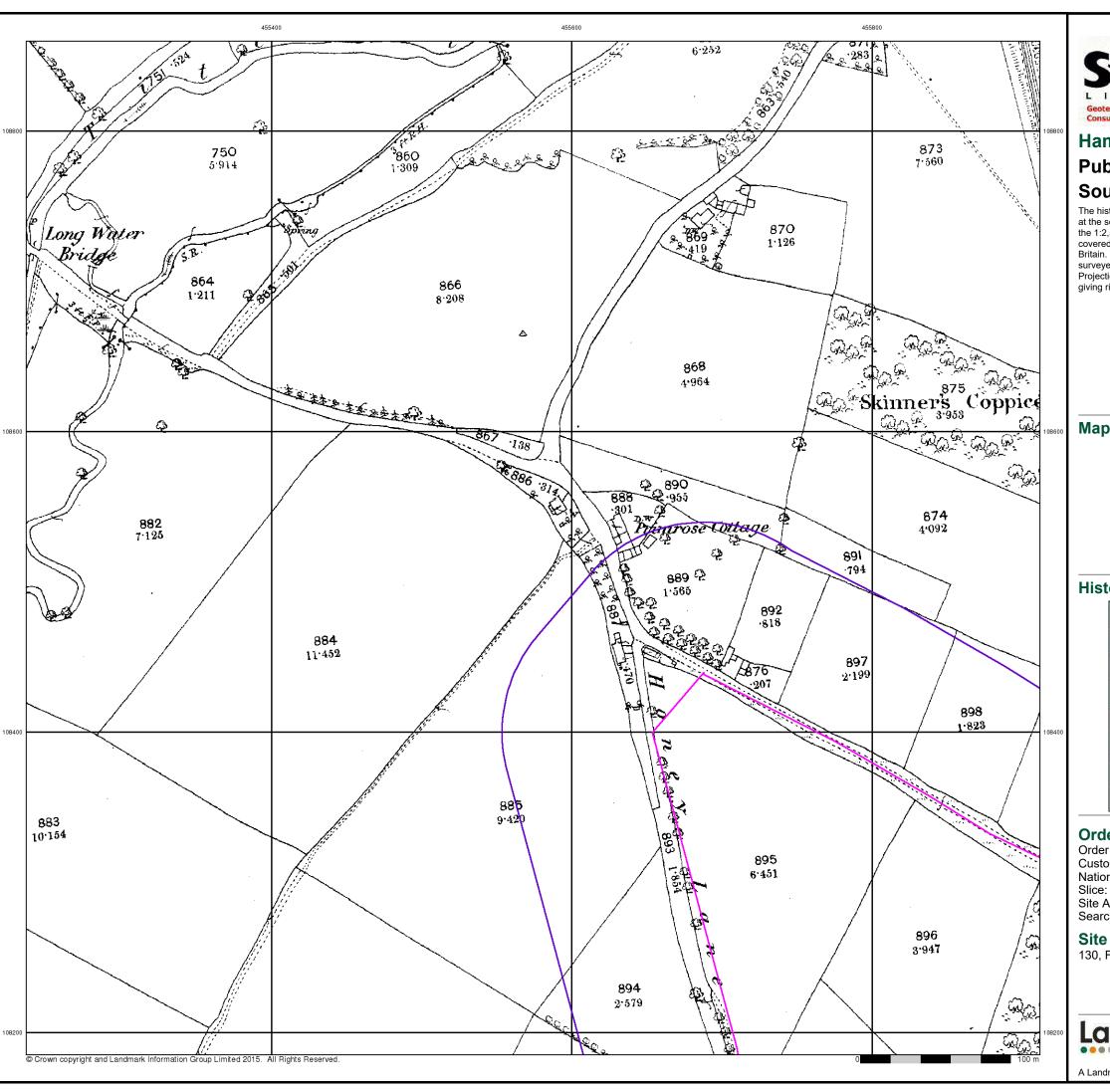
**Site Details** 130, Funtley Road, FAREHAM, PO15 6DL

100



0844 844 9952

A Landmark Information Group Service v50.0 20-Dec-2017 Page 1 of 11





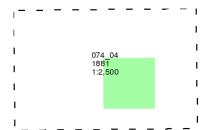
### Hampshire & Isle Of Wight

## Published 1881

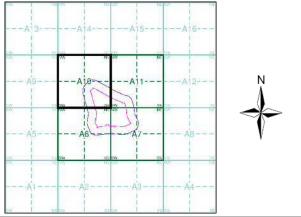
### Source map scale - 1:2,500

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 A10**



#### **Order Details**

Order Number: 150541838\_1\_1 Customer Ref: 16687

National Grid Reference: 455880, 108150

Site Area (Ha): 15.94 Search Buffer (m): 100

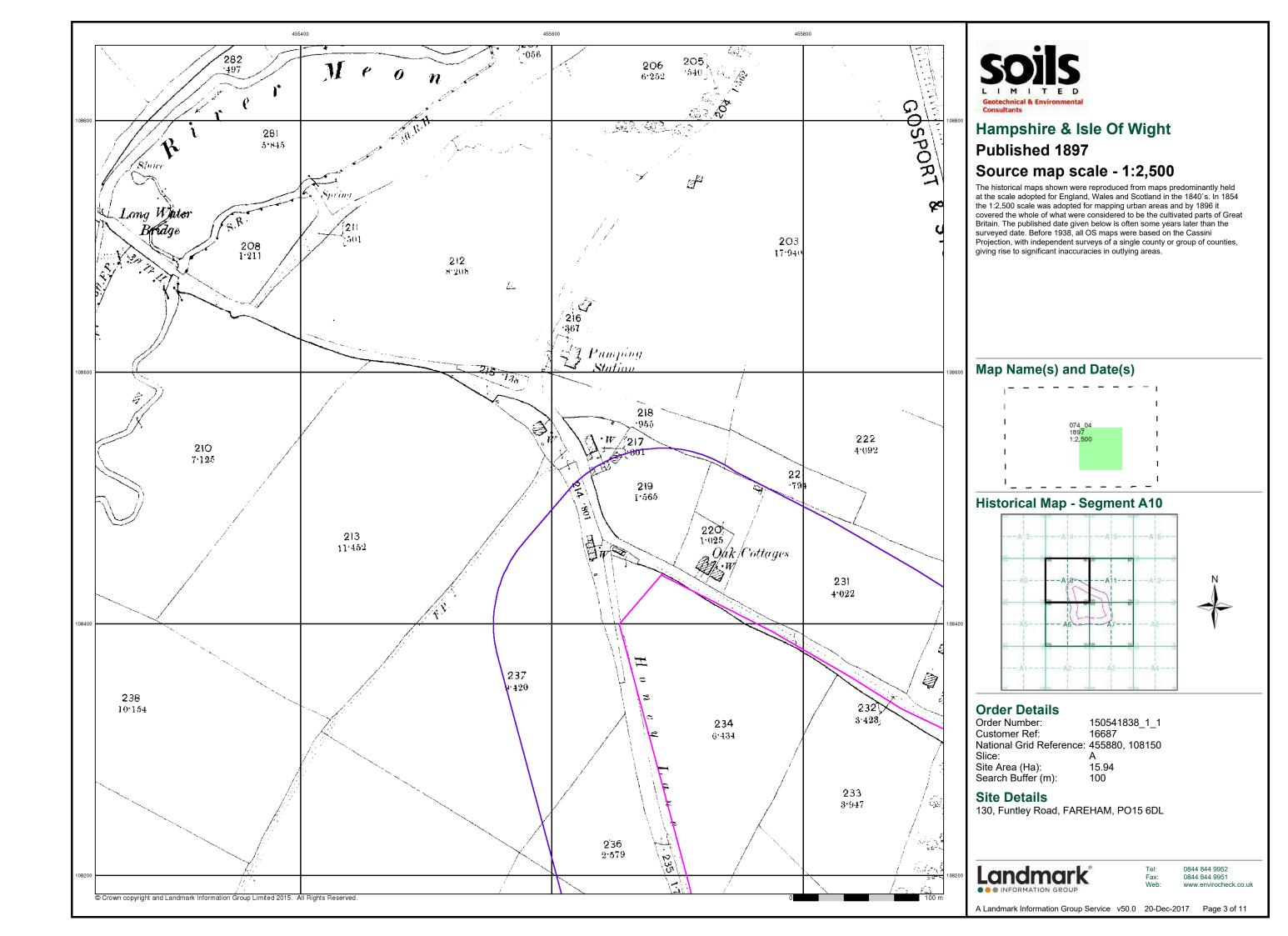
#### **Site Details**

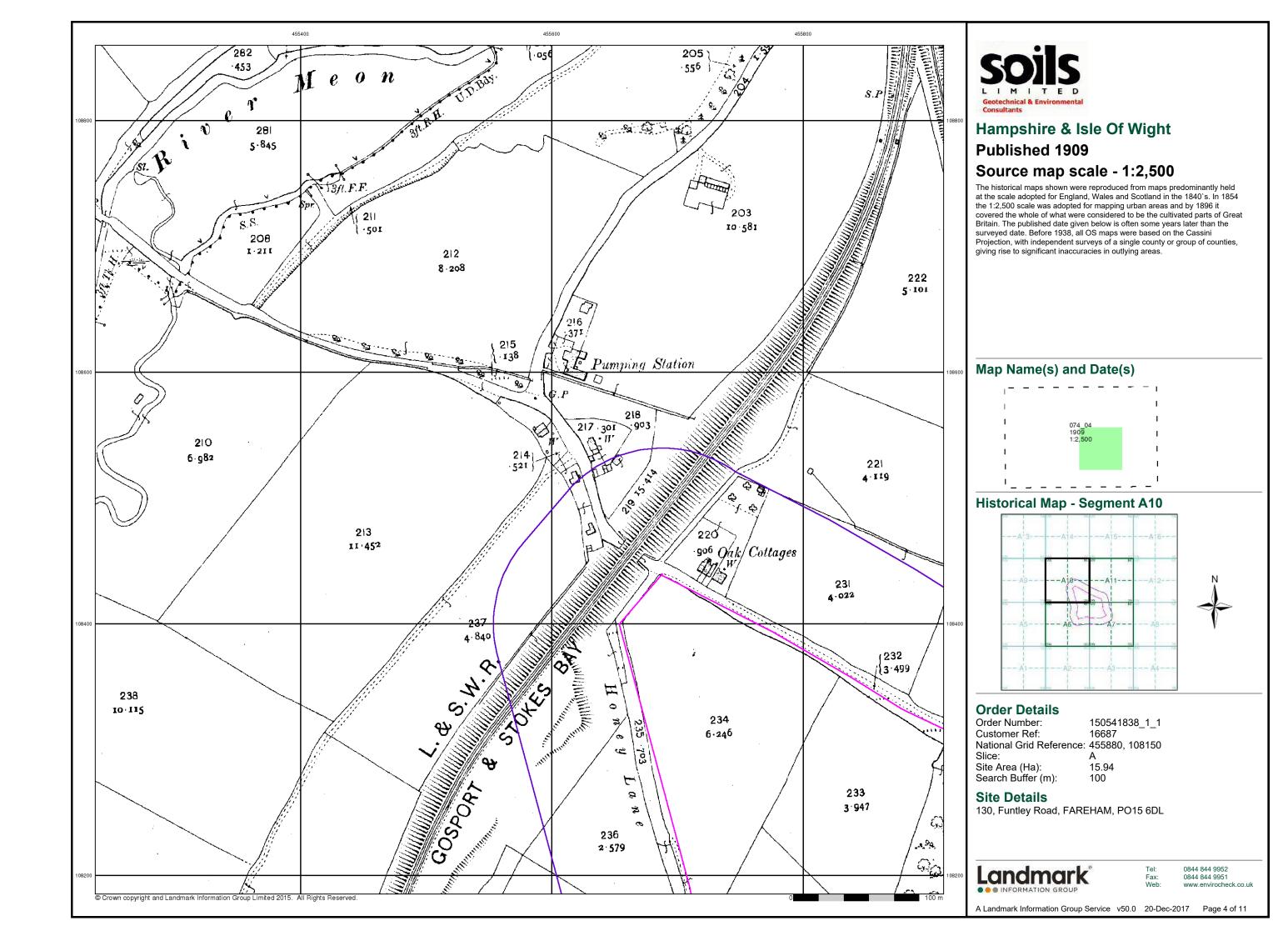
130, Funtley Road, FAREHAM, PO15 6DL

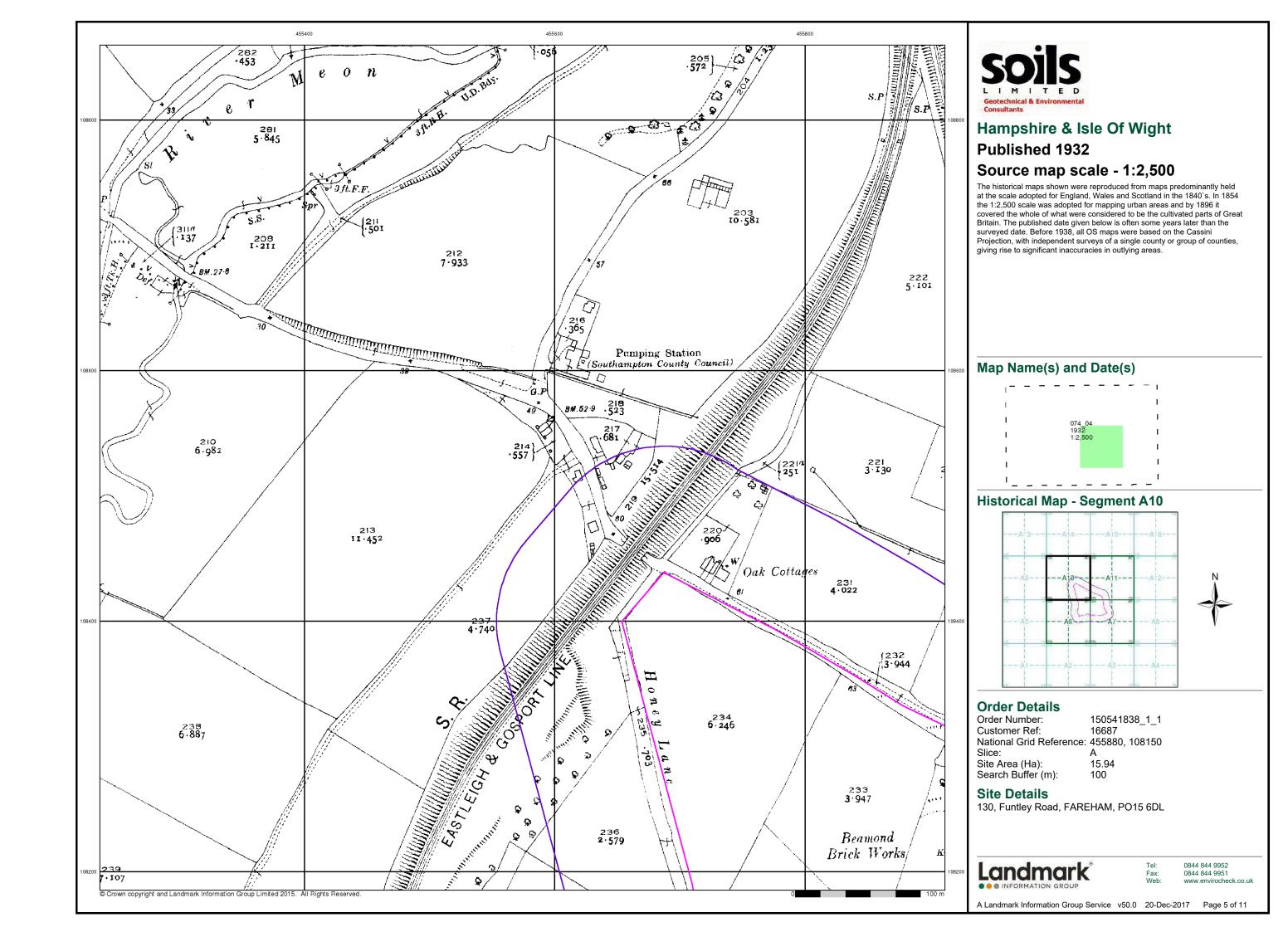


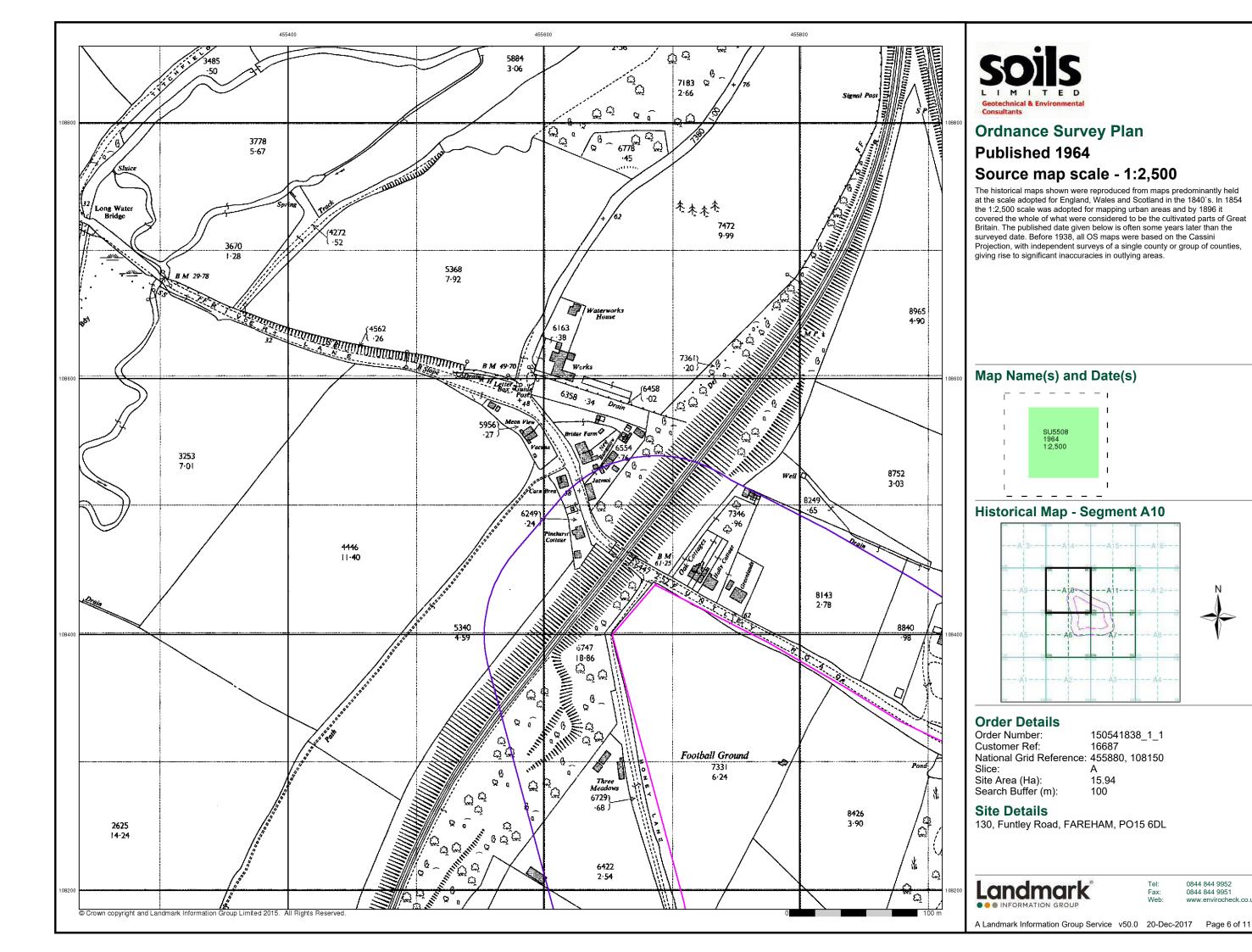
Fel: 0844 844 9952 Fax: 0844 844 9951 Web: www.envirochec

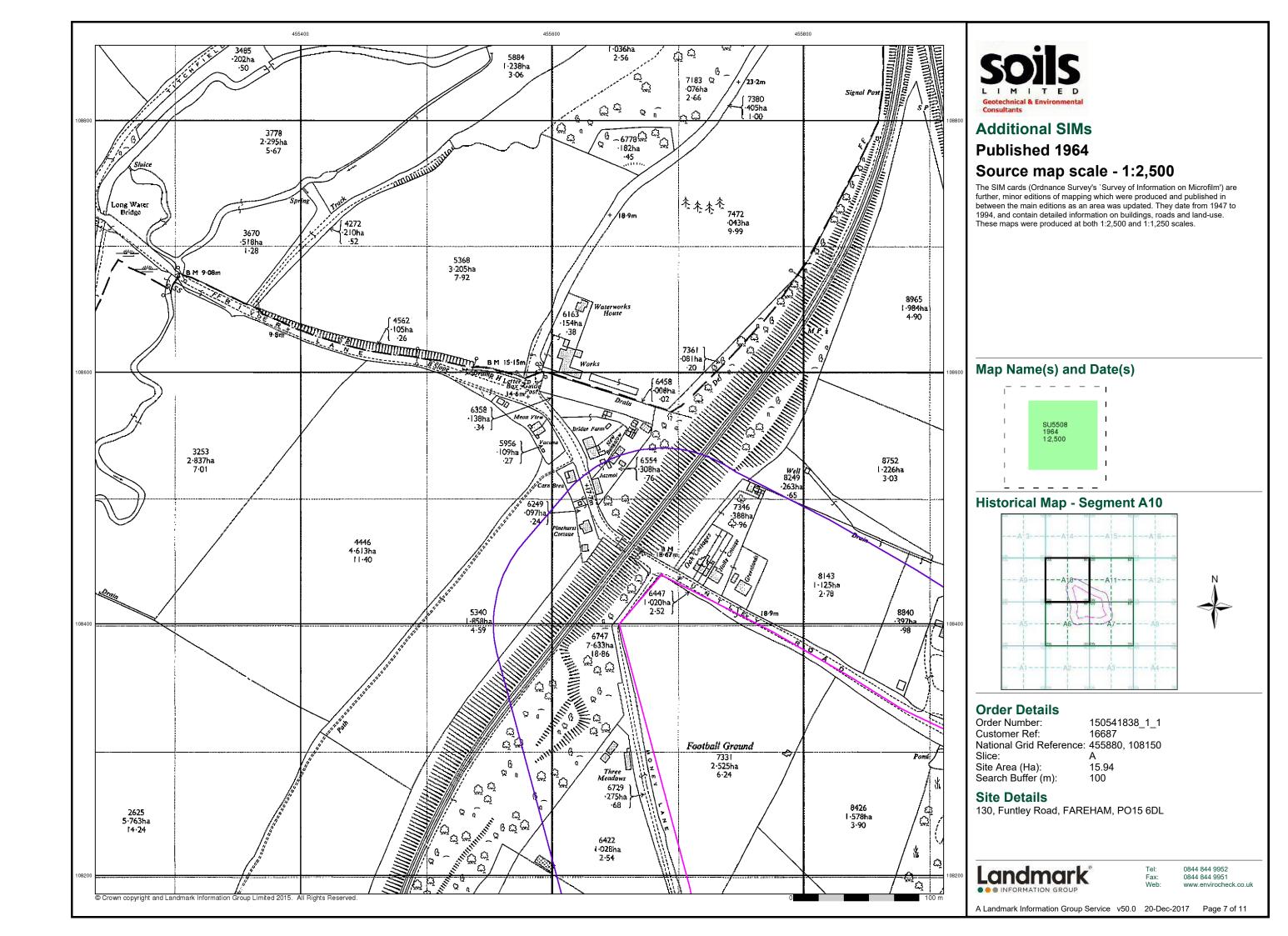
A Landmark Information Group Service v50.0 20-Dec-2017 Page 2 of 11

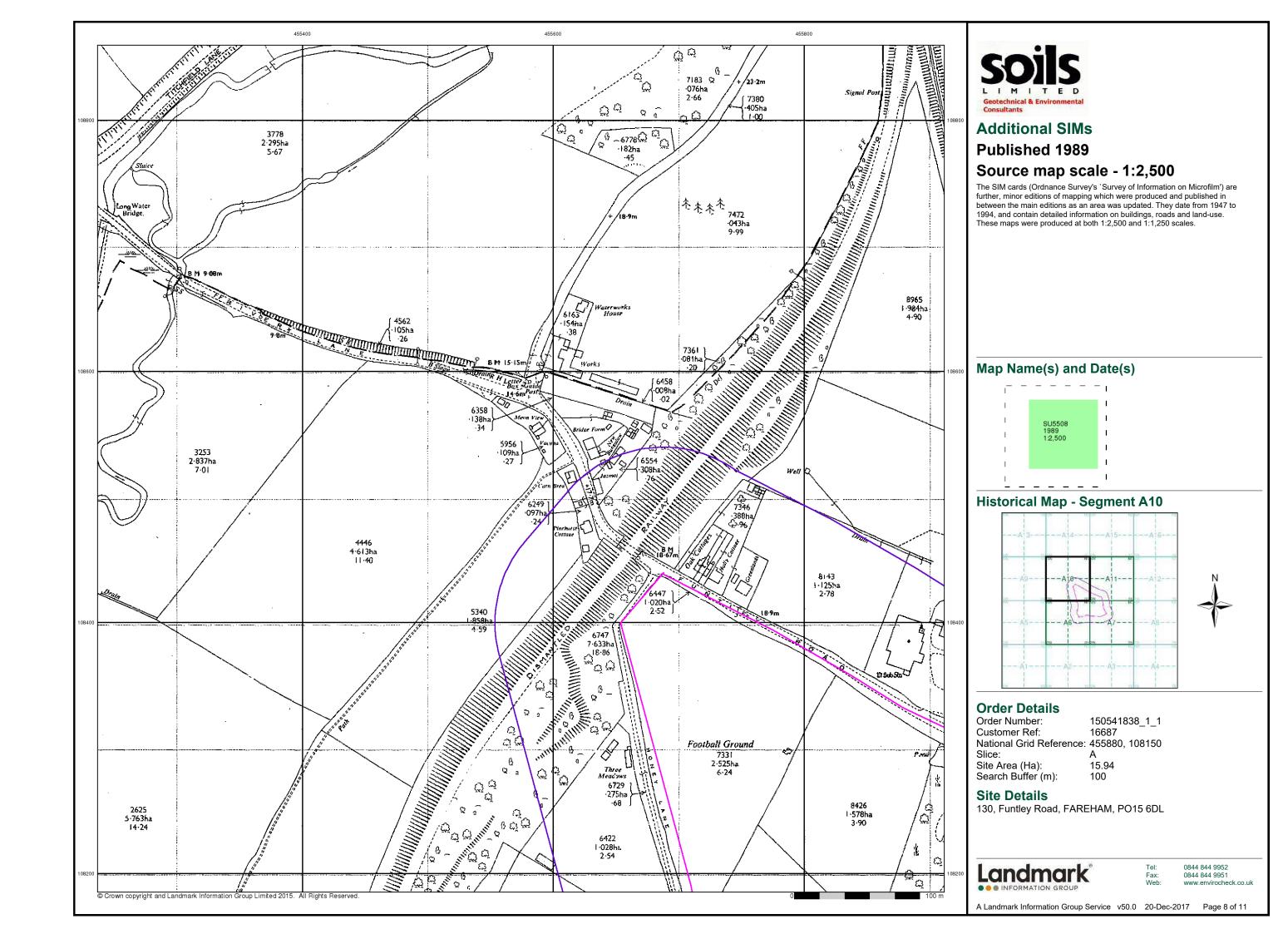


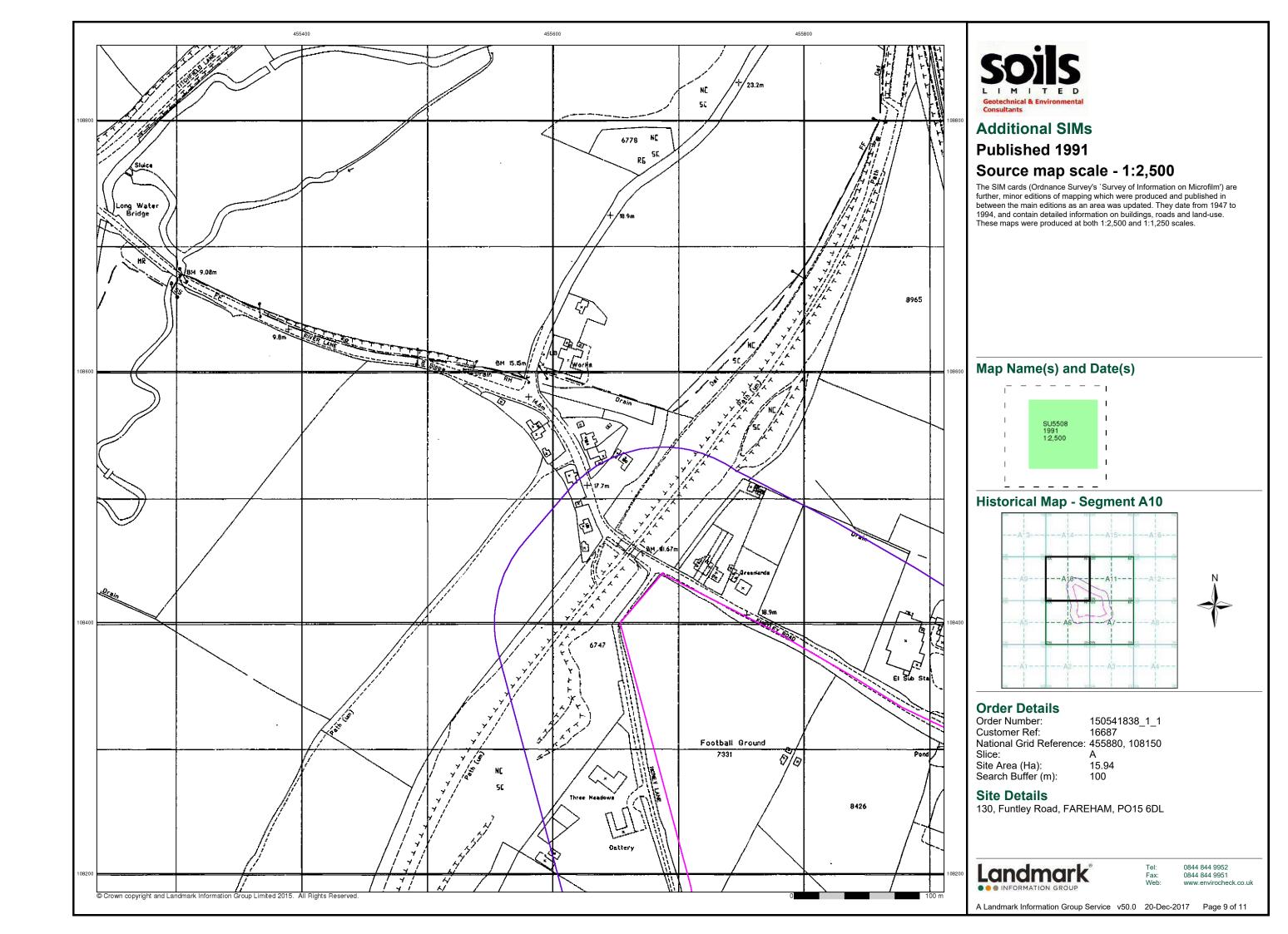


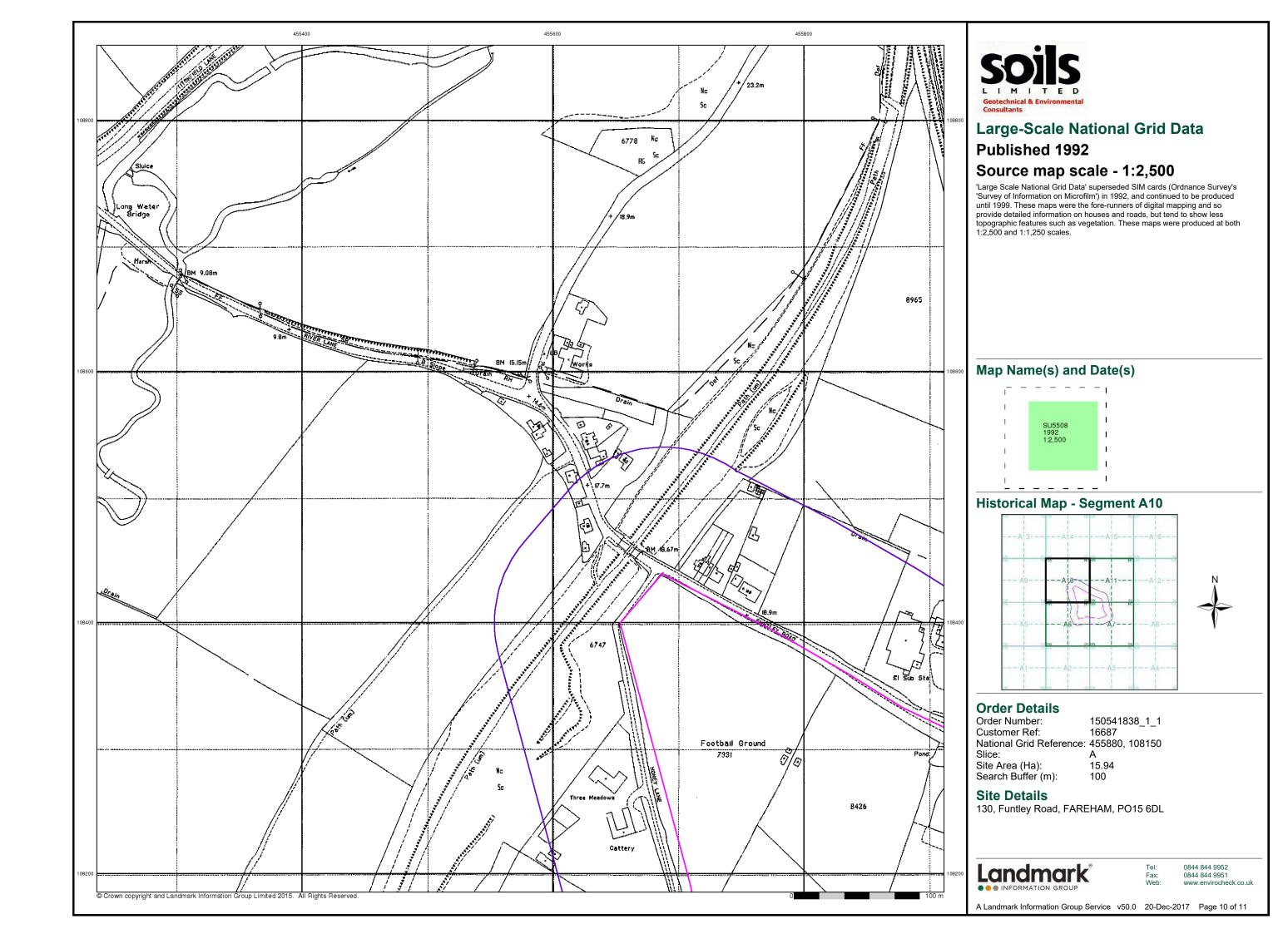












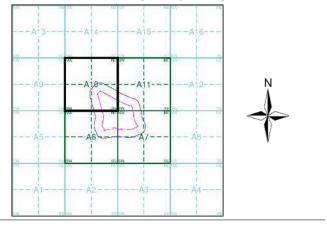




## **Historical Aerial Photography** Published 1999

This aerial photography was produced by Getmapping, these vertical aerial photographs provide a seamless, full colour survey of the whole of Great Britain

#### **Historical Aerial Photography - Segment A10**



Order Details
Order Number: Order Number: 150541838\_1\_1
Customer Ref: 16687
National Grid Reference: 455880, 108150

Slice: Site Area (Ha): Search Buffer (m): 15.94 100

**Site Details** 130, Funtley Road, FAREHAM, PO15 6DL

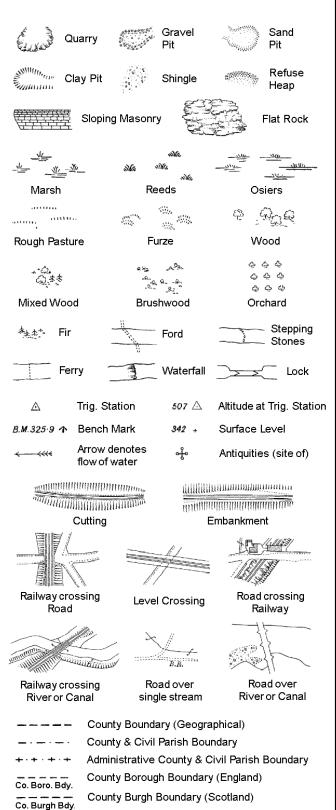
Landmark\*

0844 844 9952 0844 844 9951 www.envirocheck.co.uk

A Landmark Information Group Service v50.0 20-Dec-2017 Page 11 of 11

## **Historical Mapping Legends**

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



B.R.

EP

F.B.

M.S

Bridle Road

Foot Bridge

Mile Stone

M.P.M.R. Mooring Post or Ring

Electricity Pylor

Police Call Box

Telephone Call Box

Signal Post

Pump

Sluice

Spring

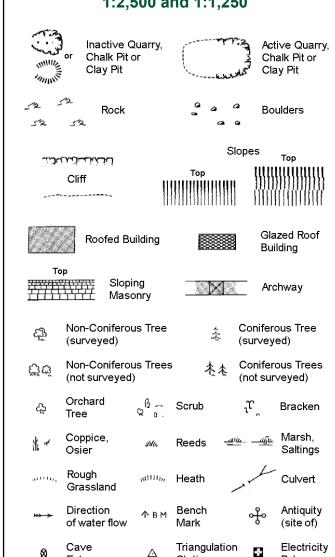
Trough Well

S.P

Sl.

Tr:

#### Ordnance Survey Plan, Additional SIMs and Large-Scale National Grid Data 1:2,500 and **Supply of Unpublished Survey Information** 1:2,500 and 1:1,250



**Electricity Transmission Line** 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

ВН	Beer House	Р	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
EIP	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
Н	Hydrant or Hydraulic	TCB	Telephone Call Box
LC	Level Crossing	TCP	Telephone Call Post
MH	Manhole	Tr	Trough
MP	Mile Post or Mooring Post	WrPt,WrT	Water Point, Water Tap
MS	Mile Stone	W	Well
NTL	Normal Tidal Limit	Wd Pp	Wind Pump

# 1:1,250

ر <b>ائات</b> درائات	لخاضات		Slopes Top			
, <del>.</del>	Cliff		Top			
523	Rock		7,3	Rock (scattered)		
$\triangle_{a}$	Boulders		<i>△</i>	Boulders (scattered)		
	Positioned	Boulder		Scree		
<u> </u>	Non-Conif (surveyed	erous Tree )	*	Coniferous Tree (surveyed)		
ర్జుచ	Non-Conif (not surve	erous Trees yed)	杰杰	Coniferous Trees (not surveyed)		
ද	Orchard Tree	g <sup>l</sup> α. So	crub	$^{\mathcal{T}}_{_{\perp}}$ Bracken		
* ~	Coppice, Osier	awa R∈	eds 📲	<u>യ</u> <u>യ</u> ്യ Marsh, Saltings		
arren,	Rough Grassland	линь, Не	eath	Culvert		
<b>››→</b>	Direction of water flo		angulation ation	Antiquity (site of)		
ETL Electricity Transmission Line						
Buildings with Building Seed						
Roofed Building Glazed Roof Building						
		Civil parish/co	mmunity b	oundary		
		District boundary				
		County boundary				
	3	Boundary post/stone				
×		Boundary mer	eing symb	ol (note: these d pairs or groups		
Bks	Barracks		Р	Pillar, Pole or Post		
Bty	Battery		PO	Post Office		
Cemy	Cemetery		PC	Public Convenience		
Chy	Chimney		Pp	Pump		
Cis Dismtd F	Cistern	tlad Pailway	Ppg Sta PW	Pumping Station Place of Worship		
El Gen S	•	tled Railway ity Generating	Sewage P			
EIP	Electricity	Pole, Pillar	SB, S Br	Signal Box or Bridge		
ELOUE O		0.1.01.11				

El Sub Sta Electricity Sub Station

Filter Bed

Gas Governer

**Guide Post** 

Manhole

Fountain / Drinking Ftn.

Gas Valve Compound

Mile Post or Mile Stone

FΒ

GVC

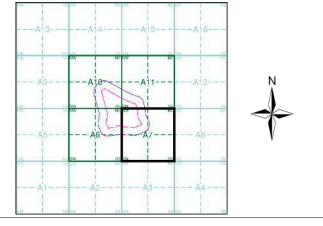
Fn/DFn



#### **Historical Mapping & Photography included:**

	Τ	T = .	
Mapping Type	Scale	Date	Pg
Hampshire & Isle Of Wight	1:2,500	1868 - 1881	2
Hampshire & Isle Of Wight	1:2,500	1897 - 1898	3
Hampshire & Isle Of Wight	1:2,500	1909 - 1910	4
Hampshire & Isle Of Wight	1:2,500	1932	5
Ordnance Survey Plan	1:1,250	1956 - 1972	6
Ordnance Survey Plan	1:2,500	1956 - 1965	7
Ordnance Survey Plan	1:2,500	1964 - 1990	8
Additional SIMs	1:2,500	1964 - 1988	9
Ordnance Survey Plan	1:1,250	1970 - 1986	10
Supply of Unpublished Survey Information	1:1,250	1973 - 1976	11
Supply of Unpublished Survey Information	1:1,250	1976	12
Additional SIMs	1:1,250	1978 - 1981	13
Ordnance Survey Plan	1:1,250	1981	14
Additional SIMs	1:1,250	1984 - 1987	15
Additional SIMs	1:2,500	1988 - 1989	16
Additional SIMs	1:1,250	1989	17
Additional SIMs	1:2,500	1991	18
Large-Scale National Grid Data	1:2,500	1992	19
Large-Scale National Grid Data	1:1,250	1992	20
Historical Aerial Photography	1:2,500	1999	21

#### **Historical Map - Segment A7**



#### **Order Details**

Order Number: 150541838\_1\_1 **Customer Ref:** 16687 National Grid Reference: 455880, 108150

Slice:

Signal Post or Light

Works (building or area)

Spring

Trough

Wind Pump Wr Pt. Wr T Water Point, Water Tap

Tank or Track

Spr

Tr

Wd Pp

Wks

Site Area (Ha): 15.94 Search Buffer (m): 100

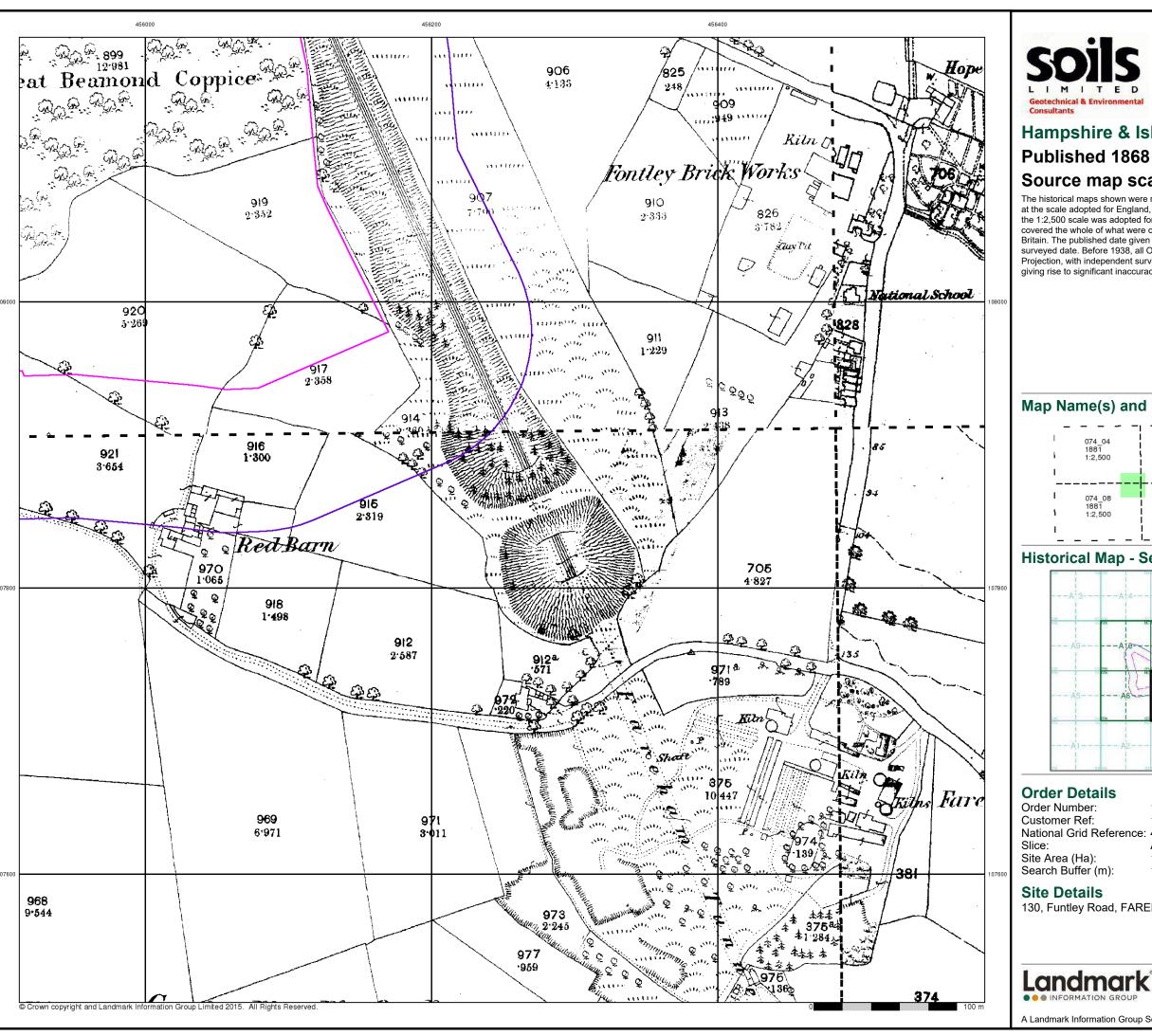
#### **Site Details**

130, Funtley Road, FAREHAM, PO15 6DL



0844 844 9952

A Landmark Information Group Service v50.0 20-Dec-2017 Page 1 of 21



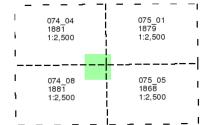


## Hampshire & Isle Of Wight

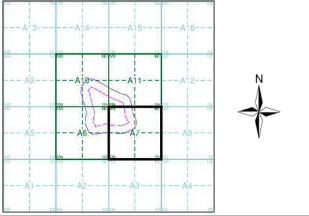
### Published 1868 - 1881 Source map scale - 1:2,500

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 A7**



150541838\_1\_1

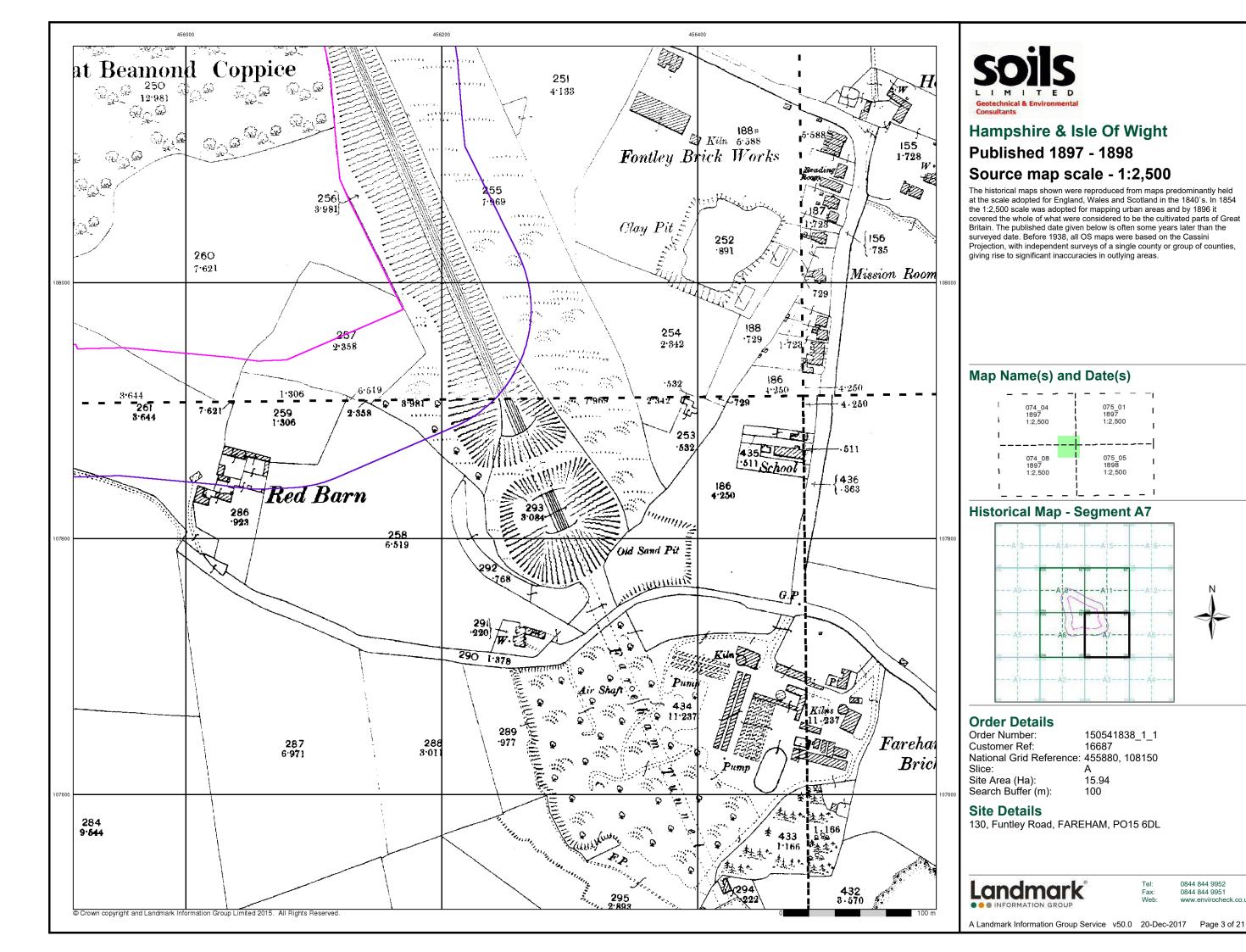
16687 National Grid Reference: 455880, 108150

15.94 100

130, Funtley Road, FAREHAM, PO15 6DL

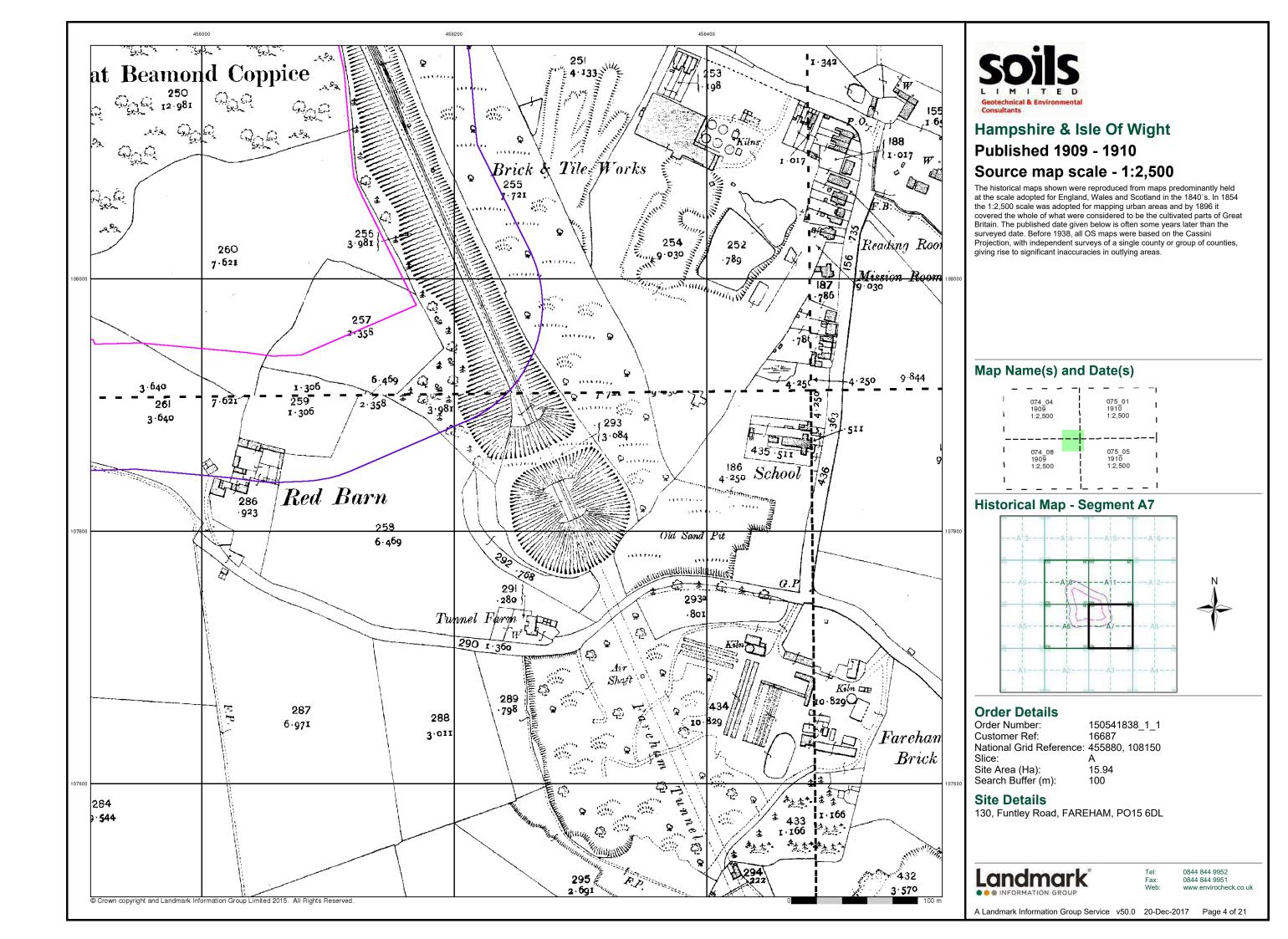
0844 844 9952 0844 844 9951

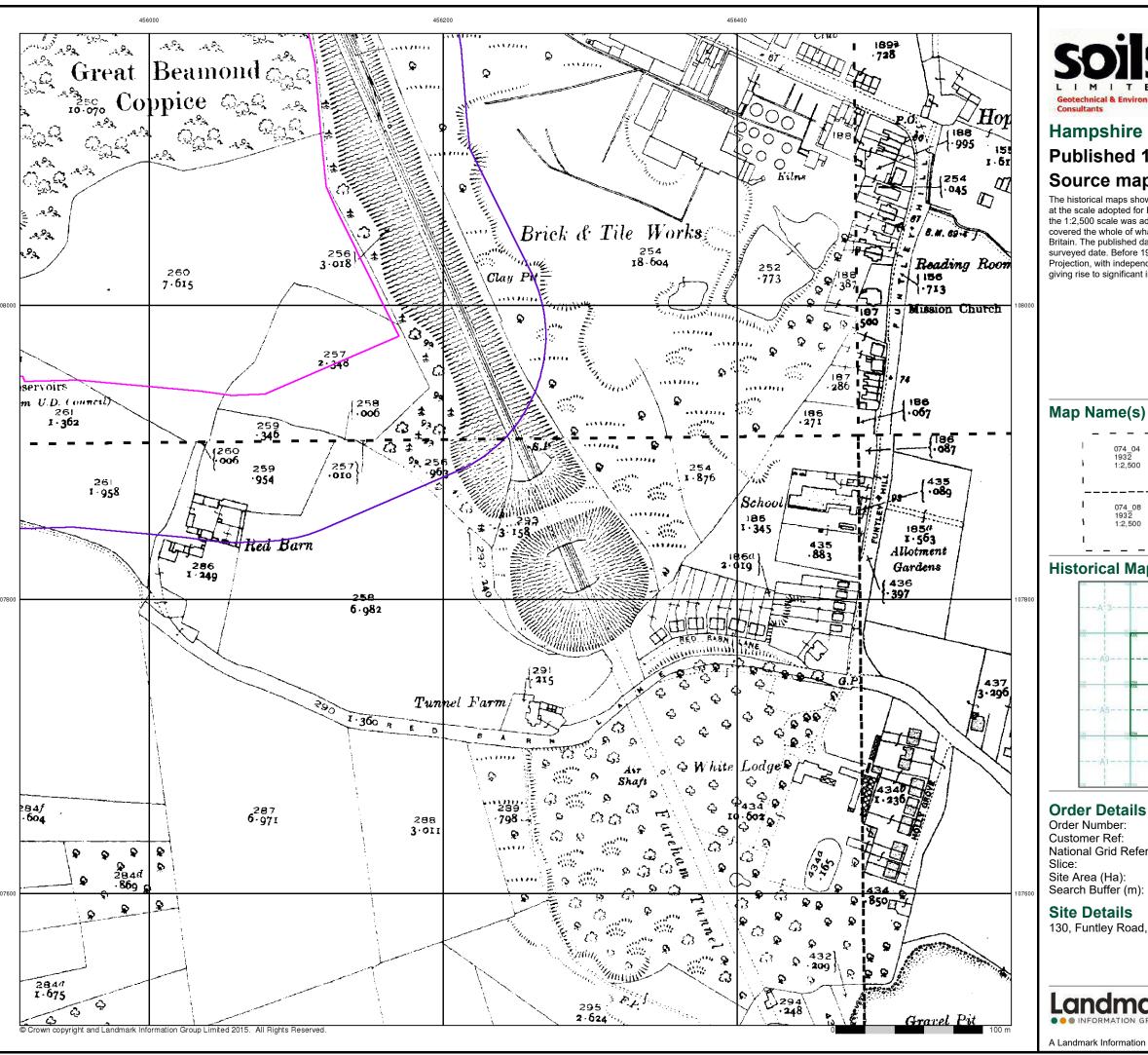
A Landmark Information Group Service v50.0 20-Dec-2017 Page 2 of 21



0844 844 9952

0844 844 9951







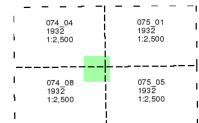
### Hampshire & Isle Of Wight

### Published 1932

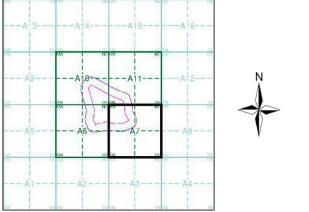
### Source map scale - 1:2,500

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 A7**



150541838\_1\_1 16687

National Grid Reference: 455880, 108150

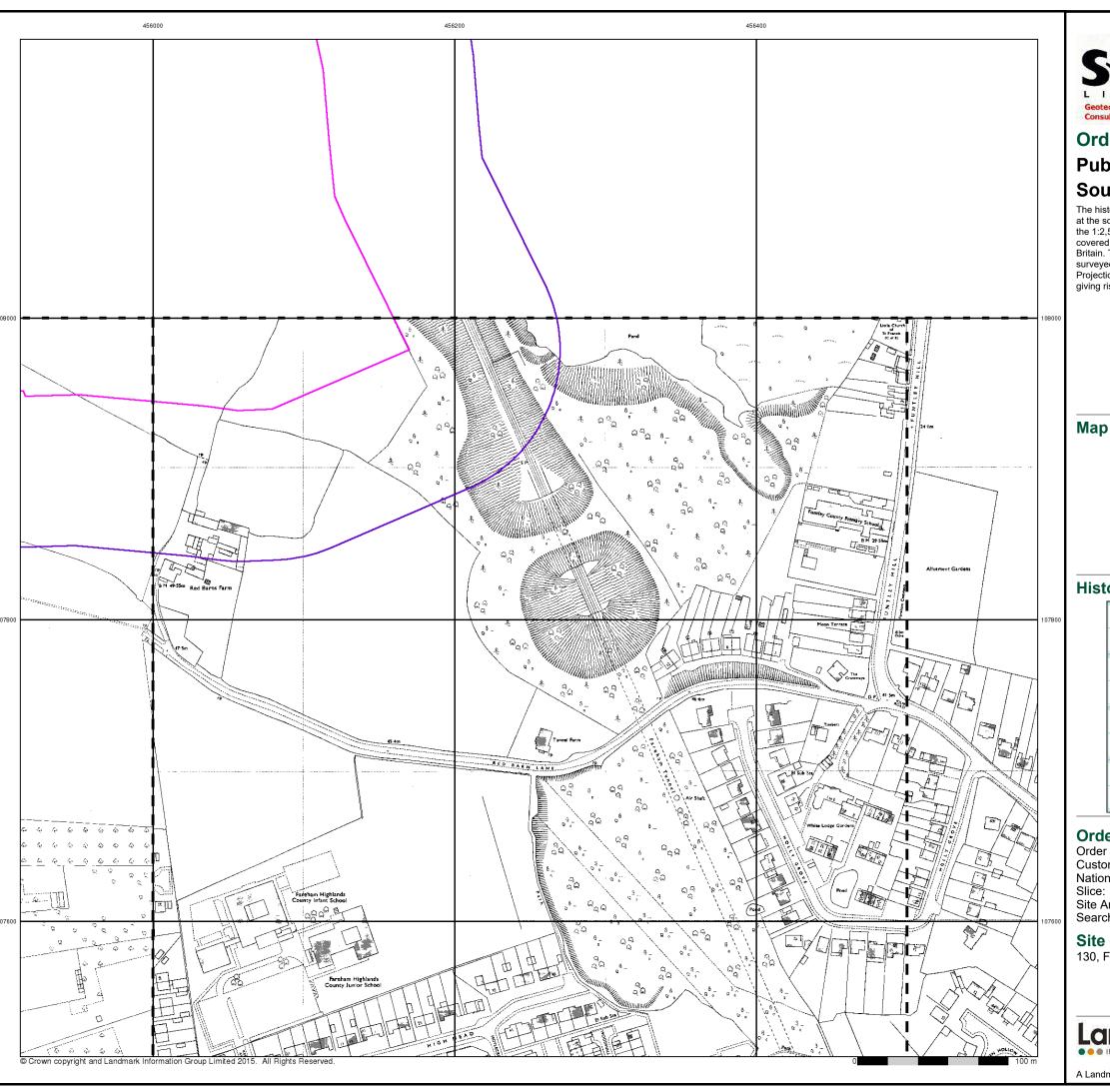
15.94 100

130, Funtley Road, FAREHAM, PO15 6DL

Landmark

0844 844 9952 0844 844 9951

A Landmark Information Group Service v50.0 20-Dec-2017 Page 5 of 21





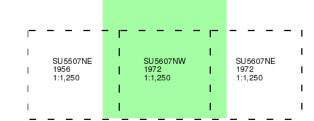
## **Ordnance Survey Plan**

# **Published 1956 - 1972**

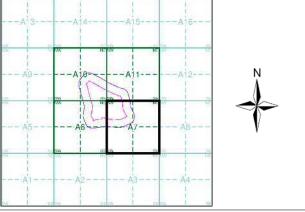
### Source map scale - 1:1,250

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 A7**



#### **Order Details**

150541838\_1\_1 16687 Order Number:

Customer Ref: National Grid Reference: 455880, 108150

Site Area (Ha): Search Buffer (m): 15.94 100

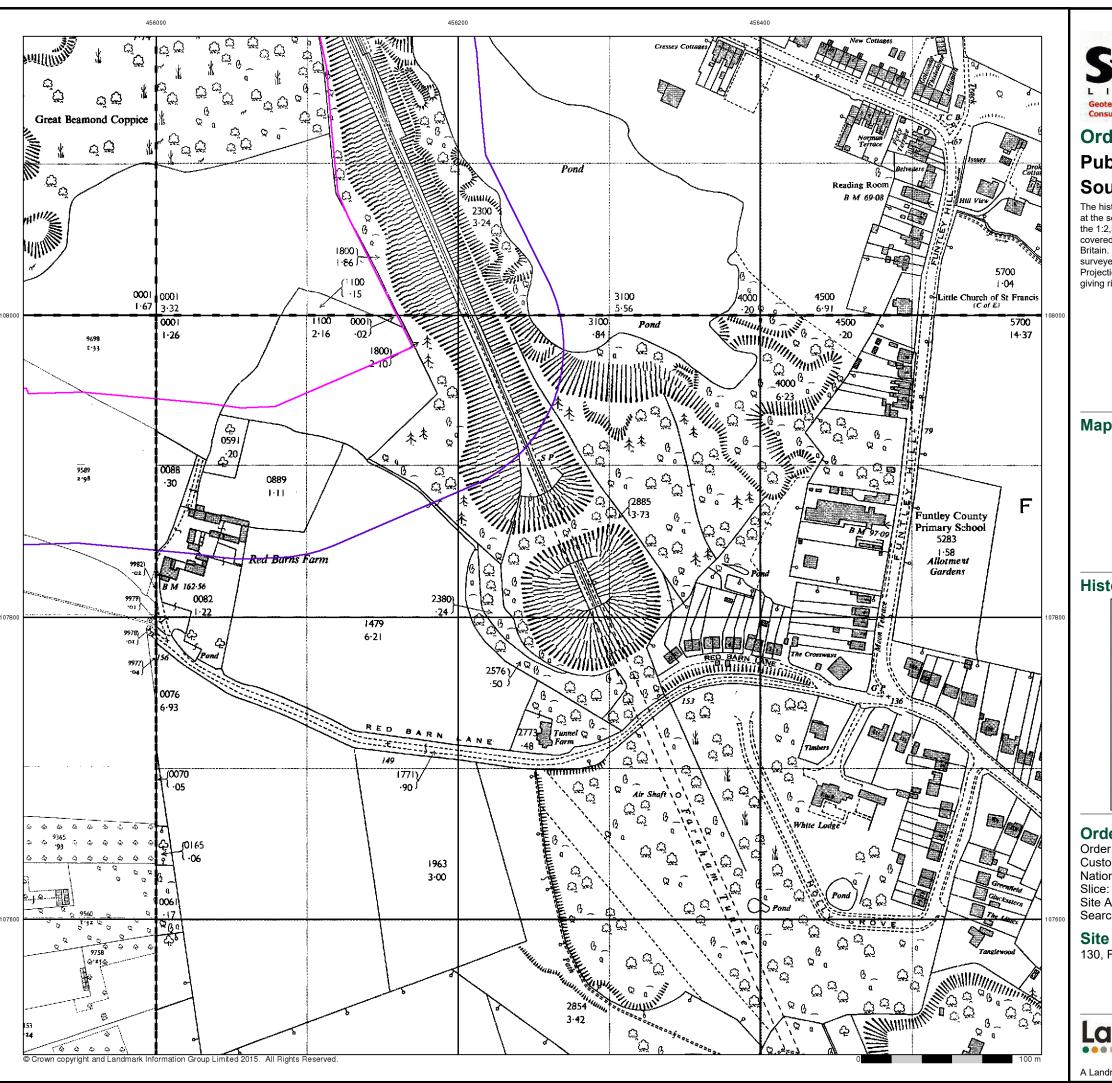
#### **Site Details**

130, Funtley Road, FAREHAM, PO15 6DL



0844 844 9952

A Landmark Information Group Service v50.0 20-Dec-2017 Page 6 of 21



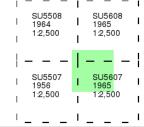


### **Ordnance Survey Plan**

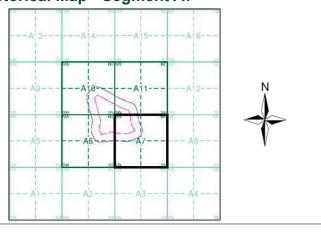
### Published 1956 - 1965 Source map scale - 1:2,500

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 A7**



#### **Order Details**

Order Number: 150541838\_1\_1 **Customer Ref:** 16687 National Grid Reference: 455880, 108150

Site Area (Ha): Search Buffer (m): 15.94 100

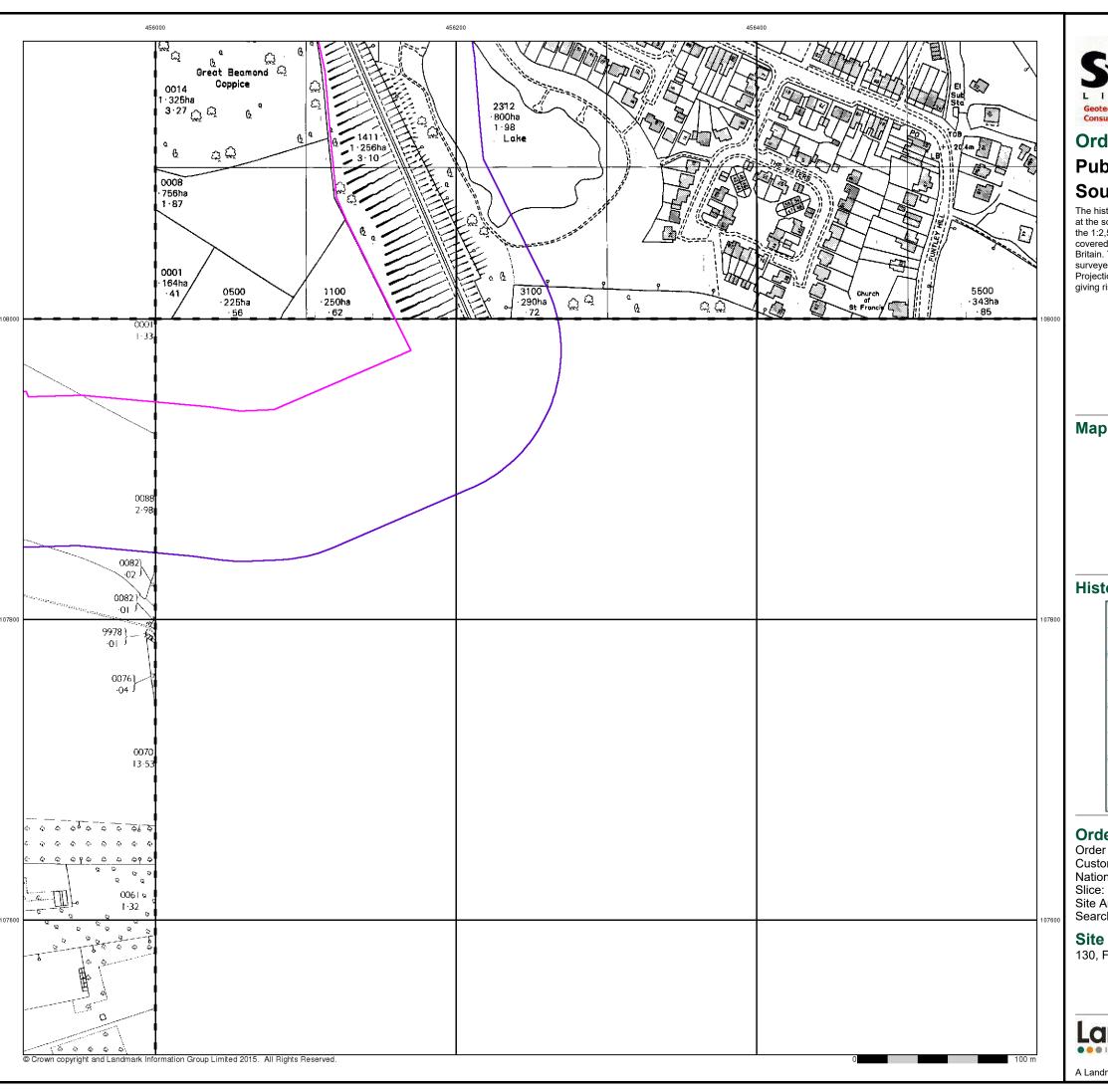
#### **Site Details**

130, Funtley Road, FAREHAM, PO15 6DL



0844 844 9952 0844 844 9951

A Landmark Information Group Service v50.0 20-Dec-2017 Page 7 of 21



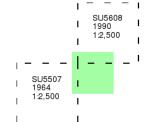


### Ordnance Survey Plan

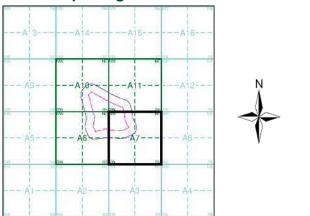
### Published 1964 - 1990 Source map scale - 1:2,500

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 A7**



#### **Order Details**

Order Number: 150541838\_1\_1 Customer Ref: 16687

National Grid Reference: 455880, 108150

e: A

Site Area (Ha): 15.94 Search Buffer (m): 100

#### **Site Details**

130, Funtley Road, FAREHAM, PO15 6DL



Tel: 0844 844 9952 Fax: 0844 844 9951 Web: www.envirochecl

A Landmark Information Group Service v50.0 20-Dec-2017 Page 8 of 21

