



RIDGE

DESK TOP STUDY

WATER LANE, ANGMERING

MCCARTHY AND STONE LIMITED

November 2020



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Prepared for

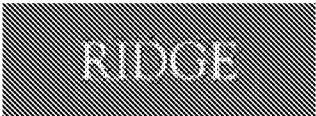
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EXECUTIVE SUMMARY

INSTRUCTIONS	Prepare a Desk Top Study Report for a site located at TQ 06932 04428, Former BMW Garage, Water Lane, Angmering.
PROPOSAL	Development of one block of 33no. retirement apartments spread across two floors. In addition to a small Tesco supermarket and a total of 33no. car parking spaces for both resident and customer use.
SITE CONDITIONS	Secured site of the Former Chandlers BMW garage and a derelict residential property within the south of the site.
ADJACENT SITE CONDITIONS	Residential land use bounds the site on all sides. In addition to a number of independent high street shops and a public house to the south and south-west.
SITE HISTORY	A number of structures and a well were recorded within the south-west of the site circa 1876. Allotments were recorded to encroach onto the east of the site from 1896-1899. The site underwent a period of minor development and demolition between 1932 and 1970. A large garage was recorded centrally onsite from circa 1970. A canopy structure was recorded within the north of the site circa 1985-1988. The garage was recorded to be extended south-eastwards onsite circa 1994.
GEOLOGY	Made Ground over Head deposits and the White Chalk Subgroup.
HYDROLOGY	Closest surface water feature is recorded 140m south-west of site, however it is recorded that the water course runs through a culvert adjacent to the northern site boundary.
HYDROGEOLOGY	Superficial aquifer classified as Secondary Undifferentiated. Bedrock classified as a Principal Aquifer. No Source Protection Zones within 500m of the site.
CONSULTATIONS	Groundsure – Enviro+Geo Insight, Historical Maps. Arun District Council.
POTENTIAL CONTAMINANTS	Contamination relating to the sites former industrial land use including recorded tanks, licenced pollution releases and results from previous site investigation. Made Ground associated with the demolition of historical structures across the site. Contamination relation to the historical coal yard, formally located adjacent to the south-east site boundary.
FOUNDATION SOLUTION	Expected to be traditional foundations within Head deposits. A Ground Investigation will confirm this.
DRAINAGE	Given the shallow groundwater, soakaways are considered unlikely. recommended that the existing surface water drainage network is investigated prior to demolition as it may be possible to re-use some of this network
RADON	Site lies within a Medium risk area. The installation of a radon membrane that is fully sealed across the full footprint of the building is required in light of the identified risk profile.
GEOTECHNICAL CONSIDERATIONS	Groundwater is expected <1.80mbgl: this may affect temporary and permanent works. Foundations of existing onsite buildings are likely to affect ground engineering and foundation design and construction. Foundations likely to be deeper in positions of former buildings where the ground will have been disturbed during demolition and grubbing out old foundations.



1. INTRODUCTION

1.1. Brief

Ridge and Partners LLP (Ridge) was commissioned by McCarthy and Stone Retirement Lifestyles Limited (the Client) to undertake a Desk Top Study at Former BMW Garage, Water Lane, Angmering, BN16 4EH, (hereafter referred to as 'the site'). A site location plan is included as Figure 1.

Ridge were briefed to use information provided to obtain an environmental database search relating to the site, and carry out a walkover survey to assess and report on the findings with respect to potential ground contamination and potential associated future liabilities in accordance with the Preliminary Risk Assessment procedure outlined in Land Contamination Risk Management (LCRM, 2020), published by the Environment Agency.

This report is prepared in line with the agreed brief and is subject to report conditions shown in Appendix 1.

1.2. Proposals

At present, the proposal comprises the demolition of the existing structures onsite and the development of 33no. one- and two-bedroom retirement living apartments spread over a two-storey building within the south and east of the site. The development allows for 21no. residential parking spaces within the west and eastern portions of the site.

The proposal also includes the development of a small Tesco supermarket totalling 4080sq.ft attached to the residential development within the north of the site, several of the residential flats within the second storey are located above the Tesco. 12no. additional parking spaces are proposed for Tesco customer parking within the north of the site.

Much of the west and north of the site is to have a hardstanding cover consisting of the previously mentioned parking areas and onsite vehicle access. To the east of the proposed residential structure is a communal garden and associated areas of soft landscaping. A number of mature trees are to be retained along the southern and south-eastern site boundaries. At present the proposals do not detail any private residential gardens.

Proposed development plans are included as Figure 3.

1.3. Legal Context

Part IIA of the Environmental Protection Act 1990 (inserted by Section 57 of the Environment Act 1995) provides a regime for the control of specific threats to health or the environment from land contamination. In accordance with the Act and the statutory guidance document 'The Contaminated Land (England) Regulations 2000', the definition of contaminated land is intended to embody the concept of risk assessment. Within the meaning of the Act, land is only "contaminated land" where it appears to the Regulatory Authority, by reason of substances within or under the land, that:

"Significant harm is being caused, or there is a significant possibility of such harm being caused; or
Pollution of controlled waters is being, or is likely to be, caused."

Inherent in this definition is the requirement for contamination risk assessment to be undertaken on a site-specific basis, as the potential for harm is determined by the Site's end use and its specific environmental setting. The guidance defines "risk" as the combination of:

- The probability, or frequency, of occurrence of a defined hazard (for example, exposure of a property to a substance with the potential to cause harm); and
- The magnitude (including the seriousness) of the consequences.

While Part IIA of the Environmental Protection Act provides a risk-based approach to the identification and remediation of land where contamination poses an unacceptable risk to human health or the environment, the regime does not take into account future uses. New developments are therefore controlled by the planning regime, with reference to the National Planning Policy Framework (NPPF, 2018), rather than directly by Part IIA of the Environmental Protection Act.

The NPPF is based on the principal that the site should be suitable for its new use, taking account of ground conditions, including from natural hazards or former activities and states that "Where a site is affected by contamination or land stability issues, responsibility for securing a safe development rests with the developer and/or landowner". The NPPF also links the planning and Part IIA regimes by stating that "after remediation, as a minimum, land should not be capable of being determined as contaminated land under Part IIA of the Environmental Protection Act 1990". Key components of the Part IIA regime, such as the definition of Contaminated Land and the associated risk-based assessment approach, are therefore considered to also be applicable to the planning regime.

1.4. Methodology

This report has been prepared in accordance with published Environment Agency guidance ('Land Contamination Risk Management' (LCRM) – 2020). LCRM provides the technical framework for structured decision making about land contamination and builds on previous work carried out within CLR 11 Model Procedures for the Management of Land Contamination (2004). LCRM has adopted and refined the well-recognised methodology and terminology that has been used in contaminated land risk assessment for a number of years.

1.4.1. Pollutant Linkage Concept

In the context of land contamination, there are three essential elements to any risk:

A **contaminant source** – a substance that is in, on or under the land and has the potential to cause harm or to cause pollution of controlled waters.

A **receptor** – in general terms, something that could be adversely affected by a contaminant, such as people, an ecological system, property, or a water body.

A **pathway** – a route or means by which a receptor can be exposed to, or affected by, a contaminant.

Each of these elements can exist independently, but they create a risk only where they are linked together, so that a particular contaminant affects a particular receptor through a particular pathway. This kind of linked combination of contaminant–pathway–receptor is described as a pollutant linkage.

1.4.2. Conceptual Model

An important thread throughout the overall process of risk assessment is the need to formulate and develop a conceptual model for the site, which supports the identification and assessment of pollutant linkages. A conceptual model represents the characteristics of the site in diagrammatic or written form that shows the possible relationships between contaminants, pathways and receptors (pollutant linkages).

1.4.3. Risk Assessment

LCRM advocates a tiered approach to risk assessment comprising the following in order, as necessary:

Preliminary Risk Assessment – a desk study consisting of a review of documentary, anecdotal and site walk over evidence.

Generic Quantitative Risk Assessment (GQRA) - comparison of contaminant concentrations obtained from site investigation with generic assessment criteria.

Detailed Quantitative Risk Assessment (DQRA) - comparison of contaminant concentrations obtained from site investigation with site-specific assessment criteria.

This document constitutes a Preliminary Risk Assessment.

1.5. End Use Classification

Whilst it is acknowledged that the proposed site use is sheltered residential, for the Preliminary Risk Assessment the most sensitive end use classification will be applied – ‘residential with possible consumption of home grown produce’ as an initial cautious approach.

A change in the site use from that currently proposed may result in the need for re-assessment of risk criteria and the conclusions and recommendations resulting from the risk assessment could therefore significantly change.

1.6. Report Scope and Limitation

This report is based upon a review of readily available historical and current information, a site walkover survey, geological and hydrogeological maps and information from an environmental database search. The assessment is based on the proposed use outlined in Section 1.2. The outcomes of this assessment could change if the end uses change.

The information contained in this report is intended for the use of **McCarthy and Stone Limited**. Ridge can take no responsibility for the use of this information by any other party or for uses other than that described in this report.

2. SITE CONDITIONS

2.1. Site Description

An engineer from Ridge visited the site on 23 October 2020 to conduct a walkover survey of the site and the surrounding areas for the purpose of identifying any potential contamination or evidence of previous contaminative processes. A site walkover plan is presented as Figure 2.

2.1.1. Current Site Use

The majority of the site is currently disused and was last used as a BMW garage which provided new and used car sales, servicing, and accident repair services. A derelict two storey residential house and associated garden areas are located within the west of the site. Most of the site is currently secured from public use apart from a courtyard within the west of the site which is currently being used as an area of permitted parking.

2.1.2. Boundaries and Entrances

Currently the only active site entrance is a road leading from High Street to the south-west which provides access to the courtyard area within the west of the site. There are three entrances from Water Lane which have been secured with Heras fencing within the north-west of the site. One further entrance from High Street is secured by palisade fencing within the south of the site.

The north-west of site is bound by Water Lane and an associated footpath which leads north-east to a Grade II listed building which bounds the south-west corner of the site. The south of the site is bounded by palisade fencing which is overgrown by vegetation. The south-east, east, and north-eastern boundaries consist of a piled retaining wall faced with either brick or steel panelling, the retaining wall is topped by a concrete capping beam and wooden fencing to bound the site from neighbouring residential properties. The retaining wall varies in height from 1.00 – 1.50m within the south and north-east of the site to a maximum height of approximately 4.50m within the south-east of the site. It was noted that parts of the retaining wall facing was cracked in the case of the brick and some of the steel panels were damaged/missing.

The north boundary of the site adjacent to Cumberland Crescent consists of a small brick retaining wall approximately 0.50 to 1.00m in height.

2.1.3. Structures

Building (1) within Figure 2 is the former garage facility within the centre of the site, the building is part single and part two storey with the two-storey section having a former office use. The building is largely glass fronted to the north-west and has a number of vehicle access roller shutter doors on all sides of the structure. The garage has a largely flat roof with an area of pitched roofing containing inferred corrugated fibre cement sheets within the centre of the structure. The building has had a number of uses, including a showroom/sales area within the north of the structure, a repairs/servicing area within the centre of the building a parts store within the north and a car paint spray area within the south of the former garage. On top of the northern most section of the structure was a boiler flue, however the boiler was not identified during the walkover.

Building (2) is a former covered vehicle display area associated with the BMW garage, the construction includes block pillars supporting a part pitched and part flat roof. The irregular part of the structure is a small boarded up room, inferred as a small office space relating to the sale of cars.



Building (3) is the location of a car wash area with a central culvert style drain. The building has a brick and glass construction with a flat roof and roller shutter door for vehicle access. The south of the structure contains a small storage area with large drums containing what was inferred as cleaning solution. On top of the structure was a large ventilation unit.

Building (4) is a two-storey derelict residential building with a pitched tile roof. The building has brick elevations. All lower windows and entrances are boarded up with wooden and steel panels, a number of second floor windows have been smashed. A small shed is located within the rear garden of the building in addition to various debris thought to be related to the gutting of the property. The grounds of the property are densely overgrown with various vegetation.

2.1.4. Surface Coverage

Approximately 90% of the site covering consists of mixed hard standing. Block paving is present within the north-east, and south-west of the site with concrete covering much of the north-east and south-east of the site, the rest of the site consists overgrown areas to the immediate east and south of the derelict residential building onsite.

2.1.5. Storage Tanks

Two exterior tanks were recorded onsite, the first tank is of a steel construction within the north of the site and adjacent to the main structure. The tank is within a steel leak catchment bund and no evidence of leaks were recorded around the tank. Adjacent to the tank were seven steel barrels which appeared to be full, in addition to three plastic containers containing a dark liquid. The second exterior tank is a double bunded plastic tank with a capacity of 1150 litres located south-east the former car wash facility (building 3) within the north-east of the site. A hydrocarbon odour was noted when the tank cover was lifted however the "Bundman" sensor system recorded the tank as empty.

An interior tank within the south-west of the garage (building 1) was recorded as having a 1978 litre capacity for the storage of waste engine oil, a number of small oils tanks were noted on top of and adjacent to the tank, some of which contained what was inferred as waste oil.

In addition to the interior tank, three mobile oil collectors were noted within the service area of the garage, two patches of spilt oil were noted around the two of the mobile oil collectors.

Ridge were made aware prior to the site visit of an underground tank below building (2) onsite, no significant evidence of the tank was recorded onsite however there is no record of its removal.

2.1.6. Topography

Generally, the site gently slopes down towards the south-eastern corner however most of the west of the site was noted as being relatively flat. The topography of the area however slopes quite considerably downwards towards Water Lane when it becomes relatively flat. This considerable difference in on- and off-site topography is highlighted by the relative height of the retaining walls within the east of the site.

2.1.7. Vegetation

The majority of onsite vegetation is present within the overgrown residential garden spaces surrounding building (4). The vegetation includes overgrown grasses, bramble and buddleia. Vegetation is also present within areas of disused hardstanding particularly within the north-east and south of the site, again with bramble and buddleia present between concrete pads. Mature and semi-mature trees including Scots Pine and Beech were recorded to bound the south and east of the site.

2.1.8. Drainage

A surface drainage system was identified within the north and east of the site with various interconnected surface water drains leading from the south-east of the site to an interceptor system located between building (1) and building (2) it is also anticipated that roof run off will also enter this system, prior evidence of service clearance also highlighted the presence of a surface water drainage system. No surface water drainage was noted within the west half of the site.

2.1.9. Previous Site Investigations

During the walkover evidence of eight windowless sampler boreholes was recorded, three external and five within building (1). The three external holes appear to have been installed with monitoring wells. Spray markings characteristic of service clearance was also noted within the north and east of the site.

2.2. Surroundings

Residential land use was recorded to surround the site on all sides with a commercial and residential land use to the south and south west of the site. The commercial land uses include a number of independent shops, a Co-op and The Lamb at Angmering Public House. The area recorded as Old Barns to the south-east of the site was investigated and found to be residential garages and parking.

Photographs relating to the observations made during the walkover are included within Appendix 2.

2.3. Potential Sources of Contamination – Walkover Survey

A number of sources of potential contamination were identified during the walkover survey and have been listed below:

- Internal and external tanks for waste oil and the storage of fuel, in addition to the storage of waste liquids within steel and plastic barrels.
- Oil leaks and spills identified from within the service areas of the garage (building 1).
- Previous land use as an accident repair/service centre and associated storage of car parts.
- Fibre cement sheeting potentially containing asbestos.

3. SITE HISTORY AND HISTORICAL CONTAMINATIVE SOURCES

3.1. Review of Historical Maps

Ordnance Survey Maps provided within a Groundsure Report package have been obtained to provide details of the history of the site and surrounding areas. A chronological description of the maps is shown in the table below. The descriptions focus on features which are considered to be relevant to the proposed development within 100m of the development site boundary. Note, potential contaminative sources and features more than 100m from the site have been discussed only where they are considered to be relevant. Copies of the maps are included as Appendix 3.

MAPPING DATE (Scale)	OBSERVATIONS	
	On-Site	Off-Site
1876 (1:2500) (1:10,560)	The site is bound to the north, west and south by unnamed roads. Within the south-west of the site are seven recorded buildings. Beyond the buildings are what appear as residential gardens. A well is located centrally within the southern half of the site. In addition to a pump in the north-west corner. The centre of the site is labelled Post Office, however the post office itself appears to be located adjacent to the west of the site. Deciduous trees are recorded within the north and east of the site.	The area immediately east of the site and north of the unmarked road appears to be undeveloped agricultural land. The area immediately south of the site appears to be largely residential with the Red Lion public house located 15m south. The land to the south and west of the site also appears to be largely residential with the Lamb Inn located 25m west of the site. An area recorded as St Peter's Church (Site of) is 65m west of the site. Water course adjacent north of the site.
1896-1899 (1:2500) (1:10,560)	The centre of the site is no longer recorded as Post Office. The eastern most parts of the site are recorded as allotment gardens. The pump is no longer recorded.	Allotment gardens are recorded adjacent to the eastern site boundary. The road bounding the north and west of the site is recorded as Water Lane. The Red Lion public house is no longer recorded. A gravel pit is recorded 105m east of the site. A nursery is located 145m east of the site.
1909-1911 (1:2500) (1:10,560)	The well onsite is no longer recorded.	The gravel pit is no longer recorded. Ground workings are recorded adjacent to the south-eastern site boundary. A smithy is 25m south-west of the site.

MAPPING DATE (Scale)	OBSERVATIONS	
	On-Site	Off-Site
1909-1911 (1:2500) (1:10,560)	As above.	Spot levels within water lane identify a relatively level topography to the north of the site. Spot levels within high street to the south of the site identifies a relatively steeply sloping topography from the east down to the west of the site.
1927 (Aerial Photography)	The image depicts the structures onsite as single and two storey commercial and residential properties with pitched roofs. Large trees bound the east and south of the site.	The image nicely displays the patchwork of allotment gardens extending eastwards off-site.
1932 (1:2,500) (1:10,560)	Two structures have been developed towards the north-western boundary and centre of the site. One of the smaller buildings within the south-west of the site has been removed.	The road adjacent to the south-western boundary is recorded as high street. The water course adjacent to the north of the site is no longer recorded, it is inferred to have been culverted. The smithy is no longer recorded.
1938-1943 (1:2,500) (1:10,560)	Further structures have been removed within the southern half of the site. Only two buildings remain within the south-west corner of the site.	The ground workings adjacent to the south-eastern boundary is no longer recorded and has been developed to residential terraced housing.
1957 (1:10,560)	Two larger rectangular buildings have been recorded centrally within the west half of the site.	No significant changes.
1970 (1:2,500)	The two rectangular buildings within the west of the site have been removed and a garage approximately 50m x 30m has been developed within the west and central regions of the site. A rectangular building recorded as Phares Courtledge is recorded in the western portions of the site. The allotment gardens within the east of the site are no longer recorded.	A coal yard is recorded bounding the south-east of the site. St Peter's Church (Site of) is no longer recorded and the allotment gardens and nursery are no longer recorded and have been developed into residential. Builders yards are recorded 155m north-east and 195m north-west of the site. An electricity substation is recorded 30m north-east of the site.
1974-1979 (1:2,500)	No significant changes.	No significant changes.

MAPPING DATE (Scale)	OBSERVATIONS	
	On-Site	Off-Site
1985-1988 (1:2,500)	A rectangular canopy style structure is recorded within the north of the site.	The coal yard is now labelled as old barns. The area formally recorded as St Peter's Church (Site of) is now labelled St Nicholas Garden.
1994 (1:2,500)	The garage has been extended south-easterly onsite to within 2m of the site boundary. The site lay out is considered to be representative of the present day layout.	Both builders' yards are no longer recorded.
2001- 2020 (1:10,000) (1:1,250)	No significant changes	No significant changes

Table 3.1 Historical Map Review

3.2. Review of Satellite Imagery

A review of the satellite imagery has identified no significant change in the lay out of structures on-site from the earliest reviewed image, dated October 1999 until present.

The garden of the derelict residential structure onsite appears to be maintained within the imagery from October 1999, within more recent imagery from October 2009 until present the garden area appears to have been neglected. It could be inferred that between these dates the residential building became derelict.

3.3. Potential Sources of Contamination – Historical Map Review

Contaminant sources considered to present a potential risk to the site are detailed in the table below.

POTENTIAL SOURCES OF CONTAMINATION CONSIDERED A RISK TO THE SITE		
Feature	Distance, Direction	Approx. dates present
Made ground from the demolition of historical structures across the site.	On site	1976 - Present
Former industrial land use onsite, including the activities and processes pertaining to vehicle servicing, accident repair, parts storage and car spraying.	On site	1970 - 2016
Activities and processes pertaining to the neighbouring coal yard.	Adjacent to site, south-east	1970 - 1988

Table 3.3: Potential Sources following Historical Map Review

Potential contamination sources not considered to represent a significant risk to the site are detailed in the table below.

POTENTIAL SOURCES NOT CONSIDERED FURTHER	
Feature	Justification
Potentially infilled ground adjacent to the south-east of the site	Any contamination is anticipated to have been remediated as part of the area's residential development circa 1943.
Smithy	Relative distance from site (25m), limited contamination potential and the time since last recorded activity circa 1932.
Nursery	Limited contamination potential, distance of the potential source from site (145m) and time since last recorded as active circa 1970.

POTENTIAL SOURCES NOT CONSIDERED FURTHER	
Feature	Justification
Allotments adjacent to the north east of the site	Limited contamination potential and time since last recorded as active circa 1970. The area was developed to a residential land use and any contamination is likely to have been remediated.
Gravel pit	The distance of the potential source from site (105m) and the time since last recorded as active (circa 1911).
Electricity substation	Limited contamination potential and relative distance to site (30m).
Builders yards	The distance of the potential source from site (155m and 195m) and the time since

Table 3.3: Potential Sources not considered further

4. PHYSICAL SETTING

4.1. Geology and Hydrogeology

The following observations are taken from the British Geological Survey (BGS) Geology of Britain Viewer (2020) and the Geo Insight Groundsure Report (Appendix 4).

Superficial Head Deposits (Diamicton) are present across the entirety of the site as per Image 1 below.

Bedrock on site comprises the White Chalk Subgroup, this is depicted in Image 2.

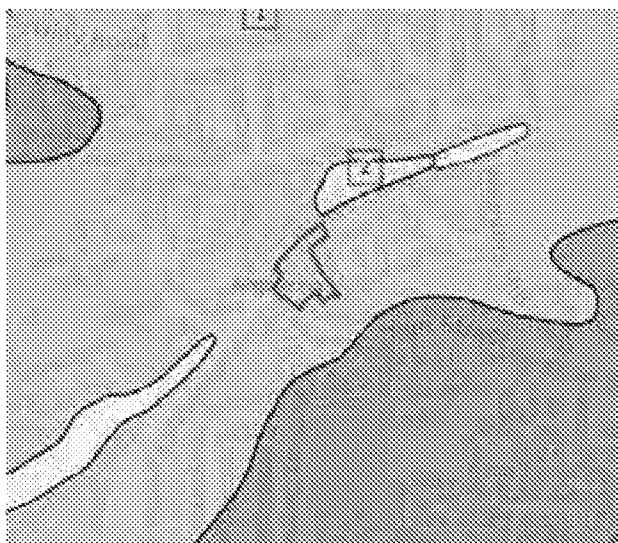


Image 1: Superficial Deposits – Head (Diamicton)

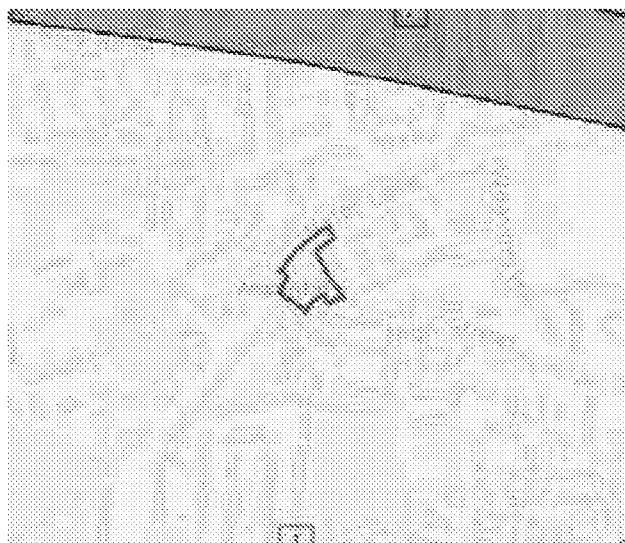


Image 2: Bedrock Geology – White Chalk Subgroup

The table below identifies the expected composition of the published strata and associated aquifer classification.

SUPERFICIAL DEPOSITS	
Unit Name	Head - Diamicton
Geology Description	Head is poorly sorted and poorly stratified, angular rock debris and/or clayey hillwash and soil creep. The superficial geology typically comprises gravel, sand and clay depending on upslope source and distance from source. Locally with lenses of silt, clay or peat and organic material.
Aquifer	Secondary Undifferentiated
Aquifer Description	Assigned where it is not possible to attribute either category A or B to a rock type. In general, these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type.

Table 4.1: Superficial Deposits

BEDROCK GEOLOGY

Unit Name	White Chalk Subgroup
Geology Description	Chalk with flints. With discrete marl seams, nodular chalk, sponge-rich and flint seams throughout. Typology of flints and incidence of marl seams is important for correlation.
Aquifer Classification	Principal
Aquifer Description	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers

*Table 4.2: Bedrock Geology***4.1.1. Historical Borehole Records**

There are no historical boreholes located within the same anticipated geological sequence as the site. However, a BGS report titled The Chalk Aquifers of the South Downs makes reference to approximate groundwater levels within Hampshire and West Sussex, a borehole TQ00NE63 located along Water Lane identified the groundwater level to be at 2.26mAOD.

4.1.2. Artificial Ground, Landslips and Faults

There are no records within 500m of the site.

4.1.3. Radon

The entire site has been identified to lie within a Radon Affected Area estimated to have between 5% and 10% of properties above the action level. This constitutes to a Medium risk area.

Required Radon measures have been discussed further in Section 9.2. Radon has not been considered further within the Contamination Risk Assessment/ Conceptual Site Model.

4.1.4. Ground Workings

There is one BritPit record 137m north-east of the site, recorded as Angmering Gravel Pit, the status is recorded as ceased. There are five further records of surface ground workings within 250m of the site. Two of the records make reference to unspecified pits onsite dated 1910 and 1932. The other three record pertain to a gravel pit 102m east of the site dated 1896, a graveyard 145m south-west of the site dated 1876, and an unspecified pit, 244m east of the site dated 1974.

No further pertinent records of ground working were noted within 250m of the site.

4.1.5. Mining, Extraction and Natural Cavities

There are no records of mining, extraction, or natural cavities within 500m of the site boundary.

4.1.6. Natural Ground Subsidence

The BGS has provided the following information as summarised in the table below.

PROCESS	RISK LEVEL	DETAILS
Shrink Swell Clay	Low	Ground conditions predominantly medium plasticity. No special actions likely to be required to avoid problems due to shrink swell clays.
Collapsible Deposits	Low	Deposits with potential to collapse when loaded and saturated have a low potential to be present onsite.
Running Sands	Low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly. No special actions required to avoid problems due to running sands.
Ground Dissolution of Soluble Rocks	Low	Soluble rocks are present within the ground, few dissolution features are likely to be present. Potential for difficult ground conditions or localised subsidence are at a level where they need not be considered.
Landslides	Very Low	Slope instability problems are unlikely to be present. No special actions required.
Compressible Deposits	Negligible	No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits.

Table 4.3: Ground Subsidence Records

4.1.7. BGS Estimated Background Soil Chemistry

Estimated background concentrations on site are as follows: arsenic <15mg/kg; cadmium <1.8mg/kg; chromium 60-90mg/kg; nickel 15-30mg/kg, lead <100mg/kg.

4.2. Hydrology

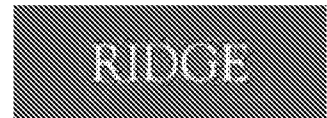
4.2.1. Surface Water Features

Groundsure records make note of a surface water feature bounding the north-west of the site, this feature was not observed during the site walkover, however subsequent research identified that the stream had been diverted via a culvert beneath Water Lane from a location 260m north-east and 140m south-west of the site. The culverted watercourse is anticipated to be the former surface water feature identified during the review of historical maps in section 3.1 of this report. A small lake is also recorded 410m north east of the site. There are no further records within 500m of the site boundary.

4.2.2. Flooding

The north and west of the site is located within an environment agency flood zone 3 which is defined as land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%), the flood zone appears to relate to the diverted watercourse below Water Lane. The Risk of Flooding from Rivers and Sea (RoFRaS) flood rating was recorded as medium. There are no flood defences or areas benefiting from flood defences within 250m of the site.

The risk from groundwater flooding is considered high within the north and west of the site and moderate-high with the centre and eastern portions of the site.



4.3. Controlled Waters

4.3.1. Abstraction Licences

There are five active non-potable groundwater and three active non-potable surface water abstractions all relating to either spray irrigation or general farming and domestic within 2km of the site. The closest abstraction to site is located 1144m south-west with a max annual volume of 11,783m³. There are no further active abstraction licences (including potable) within 2km of the site boundary.

4.3.2. Source Protection Zones

There are no SPZs within 500m of the site boundary.

4.3.3. Groundwater Vulnerability and Soil Leaching Potential

The White Chalk Subgroup is classified as a Principal aquifer and has a low groundwater vulnerability because of a low leaching potential, although it should be noted the chalk will contain well connected fractures. The Secondary Undifferentiated superficial aquifer has a medium groundwater vulnerability and a medium soil leaching potential.

4.4. Designated Environmentally Sensitive Sites

The site itself lies within a Site of Special Scientific Interest (SSSI) Impact Risk Zone which requires development consultation for developments listed as a potential risk to a SSSI. There are no records of designated Environmentally Sensitive Sites within 1km.

4.5. Nitrate Vulnerable Zones

There are two records of groundwater nitrate vulnerable zones located 16m north-west and 1493m north of the site. There are no further records of Nitrate Vulnerable Zones within 2km of the site.

5. ENVIRONMENTAL RECORDS REVIEW

The following information has been obtained from public archive via the data supplier Groundsure or by direct application. The full Enviro Insight Groundsure Report is included as Appendix 4. The subsequent review focusses on records within 100m of the outlined development site, or those which are considered relevant to the proposed development. Ridge have not included data from Groundsure's own review of historical maps.

5.1. Groundsure Record Search

The following observations are taken from the British Geological Survey (BGS) Geology of Britain Viewer (2020) and the Enviro Insight Report (Appendix 4).

5.1.1. Historical Industrial Land Uses

The Groundsure reports refer to two on-site records of historical industrial land use pertaining to a smithy and an unspecified pit, dated 1910 and 1910 to 1932, respectively. Upon further inspection of the Groundsure records in conjunction with the historical map review, it is inferred that the former smithy is actually located 25m south-west of the site and the unspecified pit is actually located adjacent to the south-eastern site boundary.

There are three further off-site records. These records relate to, a nursery 19m north-east and dated 1910, a gravel pit 102m east and dated 1896, and an area recorded as unspecified commercial /industrial, located 143m east and dated 1957. There are no other records within 150m of the site.

5.1.2. Historical Petrol Stations and Garages

There are three records of garages onsite dated 1970-1977, 1988 and 1994. One further record relates to a garage 156m north-west of the site, dated 1994. There are no further records including those relating to petrol stations within 250m of the site.

5.1.3. Historical Tank Database

There are no records within 100m of the site.

5.1.4. Historical Energy Features

There is one record of an electricity substation located 30m north-east dated between 1970 and 1994. There are no further records within 100m of the site.

5.1.5. Potentially Infilled Land

There are no records within 100m of the site boundary.

5.1.6. Environmental Permits, Incidents, Registers and Consents

There are two onsite records of Part B licensed pollutant releases at the former Chandlers Garage on-site, relating to a waste oil burner, the respraying of road vehicles and the unloading of petrol into storage at service stations. There is one registered pollution incident located 83m south-west of the site, the incident was noted to have had a minor land and air impact. There are no further pertinent records within 100m of the site.

5.1.7. Landfill and other Waste Sites

There are no records of any active or historical landfill and other waste sites recorded within 500m of the site boundary.



5.1.8. Waste Exemptions

There are six records located between 20m and 29m south and south-east of the site at Barn Farm, the records relate to a number of activities including, wood chipping, disposal by incineration and the burning of waste in the open. There are no further records within 100m of the site boundary.

5.1.9. Current Industrial Data

There are three records of current industrial land use, one of which relates to an electricity substation 15m north-east of the site. The further two records pertain to the production of medical equipment, supplies and pharmaceuticals at a location 98m south-west, and an industrial engineers located 124m north-west of the site. There are no other records within 150m of the site.

5.2. Local Authority Consultation

5.2.1. Contaminated Land Officer – Arun District Council

Arun District Council (ADC) were contacted for information pertaining to contaminated land and the wider environment in relation to the Former BMW Garage, Water Lane, Angmering on 21st October 2020. Ridge are waiting on a response. An amended report will be issued in light of any pertinent information provided to Ridge by Arun District Council.

5.2.2. Building Control – Arun District Council

Arun District Council (ADC) were contacted for information pertaining to building restrictions, potential geological hazards, and soakaway viability in relation to the Former BMW Garage, Water Lane, Angmering on 21st October 2020. Unfortunately, the Building Control Department informed Ridge that they were unable to conduct any research or provide any information regarding our enquiry.

5.2.3. Trading Standards – West Sussex County Council

Ridge were made aware of previous correspondence with the trading standards department at West Sussex County Council (WSCC) dated November 2019. With regards to a buried tank recorded in 1954 and thought to be located within the north of the site. The previous correspondence detailed the approximate location of a proposed tank and the existing tanks. A certificate pertaining to the making safe of the tank via foam filling in 2002 was also included within the provided emails.

The trading standards department at WSCC were contacted again by Ridge on 21st October 2020. The council informed ridge that they have not been made aware of any further tanks onsite in addition to any remedial works, decommissioning or leaks and spills. The council also confirmed that they are not aware of any further installations of tanks or pumps along Water Lane.

5.3. Potential Sources of Contamination – Records Review

Contaminant sources considered to present a potential risk to the site are detailed in the table below.

POTENTIAL SOURCES OF CONTAMINATION CONSIDERED A RISK TO THE SITE		
Feature	Distance, Direction	Approx. dates present
Potential leaks and spills pertaining to the underground tank within the north of the site.	On site	1954 until Present
Historical Industrial Land Use as a former garage providing, vehicle servicing accident repair and car spraying. In addition to holding a historical Part B Pollutant Releases Licence.	On site	1970 - 2016

Table 5.1: Potential Sources following Records Review

Potential contamination sources not considered to represent a significant risk to the site are detailed in the table below.

POTENTIAL SOURCES NOT CONSIDERED FURTHER	
Feature	Justification
Unspecified Pit	The unspecified pit onsite it is inferred that the record refers to the levelling of the site and thus no infill is anticipated. Very limited contamination potential.
Garage (Off-site)	Distance of the source from site (156m). Time since last recorded activity circa 1994.
Electricity Substations	Very limited contamination potential thus not anticipated to impact the site.
Waste Exemptions	Limited contamination potential from the various exemptions relating to generic farm activities (20m and 29m from site), not anticipated to impact the site.
Pollution Incidents	Incident effects recorded as minor and thus not anticipated to have impacted the site. Relative distance from site (83m).
Industrial engineers	Distance of the source from site (124m), not anticipated to impact the site.
Smithy	Relative distance of the source from site (25m) given the contamination potential. Time since last recorded activity circa 1932.
Nursery	Very limited contamination potential and time since last recorded activity circa 1970.
Gravel pit	Distance of the source from site (102m) and time since last recorded activity circa 1896.
Unspecified commercial/ industrial area	Limited contamination potential and distance from site (143m).

Table 5.2: Potential Sources not considered further

6. PREVIOUS INVESTIGATIONS

6.1. Southern Testing Site Investigation Report (2007)

Ridge were provided with a previous site investigation report undertaken by Southern Testing (Ref: J9299) dated 26 September 2007. The investigation centred on a 10m x 10m area around a known underground tank within the north of the site. The object of Southern Testing's investigation was to assess the nature and extend of any potential contamination pertaining to the underground feature.

The intrusive investigation comprised 6no. windowless sampler boreholes to a maximum depth of 4.00mbgl. and the installation of 2no. monitoring wells. The investigation encountered the following sequence of materials: Concrete block paving from ground level to 0.10mbgl, underlain by a subbase comprised loose brown sandy gravel from 0.10mbgl to a maximum depth of 0.30mbgl. A concrete slab was encountered between 0.30mbgl to 0.50mbgl. Made Ground comprised loose dark grey, sandy silty clayey gravel, with occasional brick and flint fragments were encountered underlaying the concrete slab to a depth of between 0.60mbgl and 1.70mbgl. Natural soils inferred as Head Deposits were encountered directly beneath the Made Ground and typically comprised, firm to stiff brown, silty gravelly clay. Gravel is fine to coarse, sub-angular flint. Occasional black speckling and rear very soft off-white chalky silt at the base of TH2 and TH6. The Head deposits were encountered to the full exploratory depth of 4.00mbgl.

Strong hydrocarbon odours were noted within the chalky silt material encountered within TH2 and TH6. Groundwater was encountered between 0.80m and 1.80mbgl during the investigation, subsequent monitoring visits confirmed the presence of groundwater between 0.81mbgl and 1.77mbgl.

28no. soils samples were submitted for soil contamination Suites including total petroleum hydrocarbons (TPHs) volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs), Two soil samples (TH3 at 1.00mbgl and TH6 at 4.00mbgl) presented elevated slightly elevated TPH levels, one sample (TH4 at 1.00mbgl) presented elevated PAHs and Carbozole. The report concluded that despite the slightly elevated levels of soil contaminants that there was no significant risk to the human health receptor given a commercial land use. *It should be noted that the Southern Testing report was written in relation to a continued commercial end-use, as opposed to a residential end-use currently proposed.*

8no. groundwater samples were taken from a subsequent monitoring visit and 2no. surface water samples were obtained from the inflow and outflow portals of the culverted watercourse that runs adjacent to the site. All samples were tested in accordance with Southern Testing's contamination suites, which included TPHs, VOCs and SVOCs. Slightly elevated levels of TPH was encountered within the downstream culvert sample and in two of the groundwater samples from both TH1 and TH2. Two groundwater samples from TH1 displayed slightly elevated VOCs, including 4-Methylphenol, Diethyl Phthalate, Di-n-butly phthalate and aniline. The upstream culvert sample tested free from any significant contaminants.

The report concluded a **Low** level of onsite contamination given a continual commercial land use scenario, however the report continues to recommend further investigation to define the extent of the contamination over the wider site to assess any links and the impact on the adjacent water course and the chalk aquifer.

7. CONCEPTUAL SITE MODEL

7.1. Sources

It should be noted that additional sources of contamination may become apparent during any future investigation and development of the site.

The Department of the Environment (DoE) industry profile for road vehicle fuelling, service and repair details the following common contaminants in relation to the historical site use.

Car washes: detergents, phosphate-silicate formulation including nitrilotriacetic acid (NTA), salts and calcium/sodium aluminosilicate (Zeolites).

Repair garages: Lubricating oils, lead from fuel, copper from engine bearings, a range of other heavy metals, products of combustion (polycyclic aromatic hydrocarbons (PAHs)), anti-freeze (ethylene glycol and methanol), brake fluid (polymerised glycols and ethers), solvents (chlorinated hydrocarbons and carbon tetrachloride), paints (lead, zinc, glycol ethers, ethyl acetate and butyl acetate, polyurethanes, isocyanate curing agents, and other Volatile organic compounds (VOCs)).

Waste: spent oil and solvent containers and sludges from storage tanks, waste batteries, in addition to any, or all, of the common contaminants associated with repair garages.

The conceptual model, based on information obtained as part of the preliminary risk assessment, identified the following potential contaminant sources:

7.1.1. On-Site – Historical and Current

- Contamination relating to the sites former industrial land use including the recorded tanks, licenced pollution releases and elevated TPH and PAH levels identified during the historical ground investigation detailed within section 6.1. Contaminants of concern (CoC) are likely to include, metals, semi-metals and non-metals, polycyclic aromatic hydrocarbons (PAHs), total petroleum hydrocarbons (TPHs), volatile organic compounds (VOCs) and potentially elevated pH. The presence of petroleum hydrocarbons creates a potential risk from soil vapour.
- Made ground associated with the demolition of historical structures across the site. CoC are likely to include, metals, semi-metals and non-metals, PAHs, TPHs, asbestos containing material (ACM) and potentially elevated pH. Ground gas is considered to represent a potential risk.

7.1.2. Off-Site – Historical and Current

- Contamination in relation to the historical coal yard, formally located adjacent to the south-east site boundary. CoC are likely to include, metals, semi-metals and non-metals, PAHs, TPHs, ACM, VOCs, SVOCs and potentially elevated pH.

7.2. Pathways

The key environmental pathways and exposure routes by which potentially toxic substances can reach the identified potential receptors are considered to be:

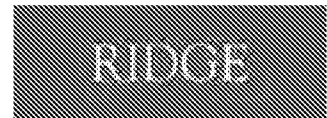


7.2.1. Indirect

- Vertical and lateral migration of ground gas and soil vapour leading to accumulation in enclosed spaces.
- Vertical and lateral migration of organic and inorganic compounds through underlying geology

7.2.2. Direct

- Inhalation of ground gases and soil vapour
- Inhalation of contaminated dust
- Ingestion
- Dermal contact



7.3. Receptors

Receptors that may be affected by the potential contamination are considered to be:

7.3.1. Human

- Residential end users of the site
- Construction and Groundworkers during development of the site
- Maintenance workers post site development

7.3.2. Environmental

- Underlying Secondary (Undifferentiated) superficial and Principal bedrock aquifers
- Culverted stream identified to run adjacent to the northern site boundary.

8. RISK ASSESSMENT

8.1. Risk Assessment Procedure

By considering the sources, pathways and receptors (pollutant linkages), an assessment of the human health/ environmental risks is made with reference to the significance and degree of the risk. This assessment is based on consideration of whether the contamination source can reach a receptor and hence whether it is of major or minor significance.

The risk assessment has been undertaken with reference to BS 10175:2011+A1:2013 and CIRIA Document C552: Contaminated Land Risk assessment 'A Guide to Good Practice'. The risk assessment has been carried out by assessing the severity of the potential consequence, considering both the potential magnitude of the hazard and the sensitivity of the target, based on the categories given below.

CATEGORY	EXAMPLES
High	Residential with gardens/Groundwater Source Protection Zone
Medium	Residential without gardens/Principal (Major) Aquifer/sensitive watercourse
Low	Commercial and industrial use/Secondary (Minor) Aquifer
Very Low	Construction and maintenance workers/non-sensitive watercourse

Table 8.1: Sensitivity of Receptor

CATEGORY	EXAMPLES
Gross Impact	Heavily contaminated gasworks or industrial site, hazardous waste landfill
Moderate Impact	Major leaks and spills from fuel infrastructure (e.g. petrol stations), domestic waste landfills
Slight Impact	Minor leaks and spills from fuel infrastructure, 'inert' waste landfills

Table 8.2: Magnitude of Impact

Magnitude of impact	SENSITIVITY OF RECEPTOR			
	High	Medium	Low	Very Low
Gross Impact	Severe	Medium	Mild	Minor
Moderate Impact	Medium	Mild	Minor	Minor
Slight Impact	Mild	Minor	Minor	Minor

Table 8.3: Level of severity of potential hazard

The likelihood of an event (probability) takes into account both the presence of the hazard and target and the integrity of the pathway and has been assessed based on the categories given below.

CATEGORY	EXAMPLES
High likelihood	Pollutant linkage may be present, and risk is almost certain to occur in long term, or there is evidence of harm to the receptor.
Likely	Pollutant linkage may be present, and it is probable that the risk will occur over the long term.
Low likelihood	Pollutant linkage may be present, and there is a possibility of the risk occurring, although there is no certainty that it will do so.
Unlikely	Pollutant linkage may be present, but the circumstances under which harm would occur are improbable.

Table 8.4: Probability of risk definition

The potential severity of the risk and the probability of the risk occurring have been combined in accordance with the following matrix in order to give a level of risk for each potential hazard.

Probability of risk	SENSITIVITY OF RECEPTOR			
	Severe	Medium	Mild	Minor
High likelihood	Very High	High	Moderate	Low/Moderate
Likely	High	Moderate	Low/Moderate	Low
Low likelihood	Moderate	Low/Moderate	Low	Very Low
Unlikely	Low/Moderate	Low	Very Low	Very Low

Table 8.5: Level of risk for potential hazard definition

The assessment is discussed below in terms of plausible pollutant linkages. A complete assessment of the pollutant linkages is presented in Table 7.6.

A description of these risk classifications and likely action required are given in CIRIA 552 as:

Very high risk – High probability that severe harm could arise to a designated receptor from an identified hazard OR there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised, is likely to result in substantial liability. Urgent investigation and remediation are likely to be required.

High risk – Harm is likely to arise to a designated receptor from an identified hazard. This risk, if realised, is likely to result in substantial liability. Urgent investigation is required, and remedial works may be necessary in the short term and are likely over the long term.

Moderate risk – It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation is normally required to clarify risks and to determine potential liability. Some remedial works may be required in the long term.

Low risk – It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.

Very low risk – It is a low possibility that harm could arise to a designated receptor. In the event of such harm being realised it is not likely to be severe.

8.2. Pollutant Linkage Assessment

Analysis of factors affecting source-pathway-receptor pollutant linkages is provided below, with a full assessment presented in Table 8.6.

8.2.1. Contaminants in Soil

Two on-site sources of contamination have been identified. The first source pertains to the sites former industrial land use as a BMW garage which included sales, servicing, and accident repairs. Four tanks have been identified onsite relating to the former garage. It is anticipated that during the garages operational period there has been the potential for various leaks and spills, evidence of leaks was identified within the service area of the former garage during the site walkover.

In addition to the tanks observed the presence of a buried tank within the north of the site indicated by notes and plans from the county council's petroleum officer. The former garage was licensed for pollutant release, including the burning of waste oil, the respraying of road vehicles and the unloading of petrol into storage at service stations. All three process have potential to have impacted the site.

During the site walkover a number of steel and plastic barrels were also noted as a potential source of contamination relating to the former land use. Seven rusting steel barrels and three plastic containers which all appear to contain waste oil are located around the external steel tank located within the north-east of the site. Moreover at least three mobile waste oil transfer tanks were encountered within the former service area, in addition to a number of plastic containers of waste oil.

The previous site investigation undertaken by Southern Testing identified a number of PAH, TPH and VOC exceedances with respect to a commercial land use classification, the exceedances were encountered from a number of soil samples, given the proposed residential land-use considered within this report the exceedances are anticipated to pose a greater risk to the human health receptor.

The second source identified onsite was the potential for Made Ground on-site, associated with the demolition of former structures particularly within the south and west of the site. Based on a review of historical maps, the site underwent several periods of short-term development where structures were noted on a single period of mapping and subsequently inferred to have been demolished prior to further site development. This occurred most frequently along the southern site boundary and much of the south-west of the site. Due to the age of the former structures there is potential for asbestos containing material (ACM) to be encountered within any Made Ground onsite. Fibre cement sheeting potentially containing asbestos was also noted during the site walkover as roofing material. Given the age of the structures onsite it is likely that asbestos is present within the fabric of the buildings, construction and ground workers have potential to come into contact with this material during the proposed demolition.

A review of the historical maps highlighted the presence of a coal yard bounding the site between 1970 and 1988. It is considered that there is potential for contamination from the former coal yard to have migrated to the site given its location adjacent to the site. Although not noted within historic mapping, often coal yards

have fuel storage tank for servicing delivery vehicles. Moreover, given the development of the site into a hard standing carparking area it is unlikely that any potential contamination has been remediated.

There is potential for there be contaminants within Made Ground and shallow natural soils beneath the site and within the immediate vicinity. This is compounded in consideration of a worst case residential with home grown end use. Residential end users and maintenance/grounds workers have the potential to come into direct contact with soils during gardening practices and furthermore ingest soil contaminants through the consumption of homegrown produce (in the case of recreational gardening).

It is possible that construction and groundworkers may interact with contaminated soils during development, although the temporary external work setting acts to reduce the final risk rating significantly. Furthermore, health and safety measures implemented during works will reduce risk levels further.

8.2.2. Ground Gas and Soil Vapour

Potential sources of ground gas and soil vapour considered include the Made Ground within the south and south-west of the site, and the fuel infrastructure and storage tanks on site. No other potential sources of ground gas such as landfill or waste facilities have been identified. The nature and depth of on-site Made Ground will go some way to determining the level of risk to end users and construction/ ground workers.

8.2.3. Controlled Waters

Underlying superficial and bedrock aquifers are respectively considered to be **Low** and **Medium** in terms of sensitivity. It is acknowledged there are no Source Protection Zones and no potable abstraction licenses within at least 2km of the site. Given the lack of any SPZ and the distance of the potable abstraction from the site the final risk rating is reduced.

Groundwater is anticipated to be present at a depth <1.80mbgl, it is also noted that a culverted watercourse is present adjacent to the north-western boundary of the site. Given the shallow depth to groundwater it is considered that contaminants have the potential to migrate to depth within the superficial secondary (Undifferentiated) aquifers. There is also limited potential for contaminants to migrate vertically within the shallow superficial aquifer to the principal bedrock aquifer, however the likelihood of this is considered low.

It should also be noted that the investigation undertaken by Southern Testing identified values of total petroleum hydrocarbons in exceedance of commercial screening values, from surface water samples taken from the outflow portal of the culverted watercourse which runs adjacent to the site. No notable levels of contamination were recorded from the samples taken from the inflow portal. In light of this it is considered possible that the potential contaminants on site have migrated to and impacted the watercourse.

8.2.4. Assessment

SOURCE	PATHWAY	RECEPTOR	SEVERITY	LIKELIHOOD	RISK LEVEL
Contamination pertaining to former industrial land uses	Direct contact, ingestion and inhalation of impacted soils/ groundwater	Residential end users	Medium	Low Likelihood	Low/Moderate
		Construction and groundworkers	Mild	Likely	Low/Moderate
		Maintenance workers	Mild	Low Likelihood	Low
	Migration of soil vapour through the underlying geology	Residential end users	Medium	Low Likelihood	Low/Moderate
		Construction and groundworkers	Mild	Unlikely	Very Low
		Maintenance workers	Mild	Low Likelihood	Low
	Vertical migration of contaminants through the underlying geology and/ or via overland flow	Culverted watercourse	Mild	Likely	Low/Moderate
		Superficial Secondary (Undifferentiated) aquifer	Medium	Likely	Moderate
		Bedrock Principal aquifer	Medium	Low Likelihood	Low/Moderate
Made ground associated with historic development onsite.	Direct contact, ingestion and inhalation of impacted soils/ groundwater	Residential end users	Mild	Low Likelihood	Low
		Construction and groundworkers	Minor	Likely	Low
		Maintenance workers	Mild	Low Likelihood	Low
	Migration of ground gas through the underlying geology	Residential end users	Mild	Low Likelihood	Low
		Construction and groundworkers	Mild	Unlikely	Very Low
		Maintenance workers	Mild	Unlikely	Very Low

SOURCE	PATHWAY	RECEPTOR	SEVERITY	LIKELIHOOD	RISK LEVEL
Made ground associated with historic development onsite.	Vertical migration of contaminants through the underlying geology and/ or via overland flow	Culverted watercourse	Mild	Likely	Low/Moderate
		Superficial Secondary (Undifferentiated) aquifer	Minor	Low Likelihood	Very Low
		Bedrock Principal aquifer	Mild	Unlikely	Very Low
Historical coal yard located adjacent to the site boundary.	Direct contact, ingestion and inhalation of impacted soils/ groundwater	Residential end users	Mild	Unlikely	Very Low
		Construction and groundworkers	Minor	Unlikely	Very Low
		Maintenance workers	Mild	Unlikely	Very Low

Table 8.6: Pollutant Linkage Assessment

9. CONCLUSIONS AND RECOMMENDATIONS

9.1. Contamination

9.1.1. Potential Sources of Contamination

The following potential sources of contamination were identified:

- Contamination relating to the sites former industrial land use including the recorded tanks, licenced pollution releases and elevated TPH and PAH levels identified during the previous ground investigation detailed within section 6.1.
- Made Ground associated with the demolition of historical structures across the site.
- Contamination relating to the historical coal yard, formally located adjacent to the south-east site boundary.

It should be noted that additional sources of contamination may become apparent during any future investigation or development of the site.

9.1.2. Preliminary Risk Rating

As a worst-case scenario, the present risk to residential end users and controlled waters from exposure to impacted soils is deemed to be **Low/Moderate** and **Moderate**, respectively. A **Low/Moderate** risk has been identified to end users from exposure to permanent gases and soil vapour. These risk ratings are based on an assumed residential end use scenario and without any remedial mitigation measures applied.

This level of risk is defined as the following – ‘Moderate risk’ – It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation is normally required to clarify risks and to determine potential liability. Some remedial works may be required in the long term’. However, it should be noted that future groundworks could potentially agitate contaminated soils and encourage the migration of pollutants to the underlying aquifer.

Therefore, given the risks identified, the following recommendations have been made below.

9.1.3. Further Works

The following recommendations are based on the current proposed residential setting and may be subject to change.

Following the formulation of the preliminary risk assessment there is currently deemed to be the potential for unacceptable risks to identified receptors. Further investigation works will be required in order to refine these risks.

Further to the above, we recommend an intrusive Site Investigation. The primary aim of the Site Investigation should be to assess the soil conditions in specific areas of the site, mindful of the identified sources, in particular within the locations of the anticipated Made Ground and the tanks identified onsite. The investigation should also provide sufficient site coverage to assess the condition as a whole. Soil samples should be gathered and submitted for laboratory analysis in order to characterise the encountered ground conditions.

Monitoring wells should be installed across the site in order to permit future groundwater, ground gas and soil vapour monitoring/sampling. Sampling is likely to contain soil analysis against a laboratory suite that best matches the CoCs associated with the sources identified.

Investigation should also be carried out in the vicinity of the known and suspected underground fuel tanks to determine their presence. This investigation should be supervised by certified contractors as buried tanks represent an explosive risk.

9.2. Radon

The entire site has been identified to lie within a Radon Affected Area estimated to have between 5% and 10% of properties above the action level. This constitutes to a Medium risk area.

This requires the installation of a **radon membrane that is fully sealed across the full footprint of the building**, this should be undertaken by a specialist contractor and validated following installation.

9.3. Foundations

Made Ground is anticipated to be relatively deep with respect to the south and west of the site. Competent natural soils may be encountered at a relatively shallow depth across the other areas of the study area. It is implied that traditional spread foundations would be suitable for relatively lightly loaded structures. Piled foundations may be required in other areas following the results of an intrusive geotechnical investigation.

The depth to natural ground will be deeper beneath any buried structures remaining on site.

9.4. Drainage

Based on the expected Head deposits – Diamicton (clayey, slightly sandy Gravel) it is possible that soils may be suitable for the use of soakaway drainage, however infiltration testing will provide a greater insight into potential drainage solutions. The presence of shallow groundwater may restrict the use of soakaway drains. Most of the current site is occupied by buildings and hardstanding and therefore it is recommended that the existing surface water drainage network is investigated prior to demolition as it may be possible to re-use some of this network, subject to the necessary authorisations.

9.5. Floor Slabs

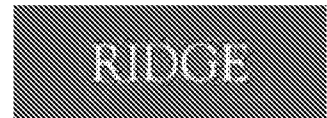
Due to the probable presence of Made Ground it is considered likely that suspended ground floor slabs will likely be required for the proposed building.

9.6. Geotechnical Considerations

Groundwater is expected at a depth <1.80mbgl: there is therefore potential for groundwater to affect temporary and permanent works.

Foundations of current structures onsite are likely to affect ground engineering and foundation design and construction.

There is a risk of low volume change potential materials being present within any cohesive elements of the Head deposits. This may require foundations to be deepened to existing or proposed trees.



9.7. Unexploded Ordnance

The site is not considered to be in an area at risk from UXO.

9.8. Constraints to Development

Disturbed ground is likely to be present in areas where former buildings were located, and previous structures and foundations have been removed. If new structures are placed in these areas, new foundations will need to be deepened in these areas to found in undisturbed ground.

9.9. Flooding

The north and west extents of the site have been identified within an Environment Agency Flood Zone 3. This is defined as a 1 in 100 (1%) or greater chance of flooding from rivers. Furthermore, the risk of flooding from rivers and sea (RoFRaS) is classified as Medium. The identified Medium risk at the north and west extents of site is considered to be associated with the culverted watercourse and not representative of the site as a whole. A Flood Risk Assessment should be commissioned in order to fully define risks.

9.10. Retaining Walls

The facing to the piled retaining wall in the south-east part of the site appears defective in a number of locations. It is recommended that the wall is investigated by a qualified expert as some repairs may be necessary.



FIGURE 1 - SITE LOCATION PLAN



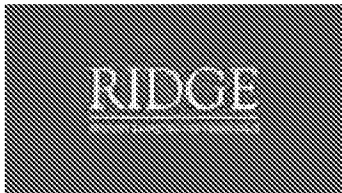
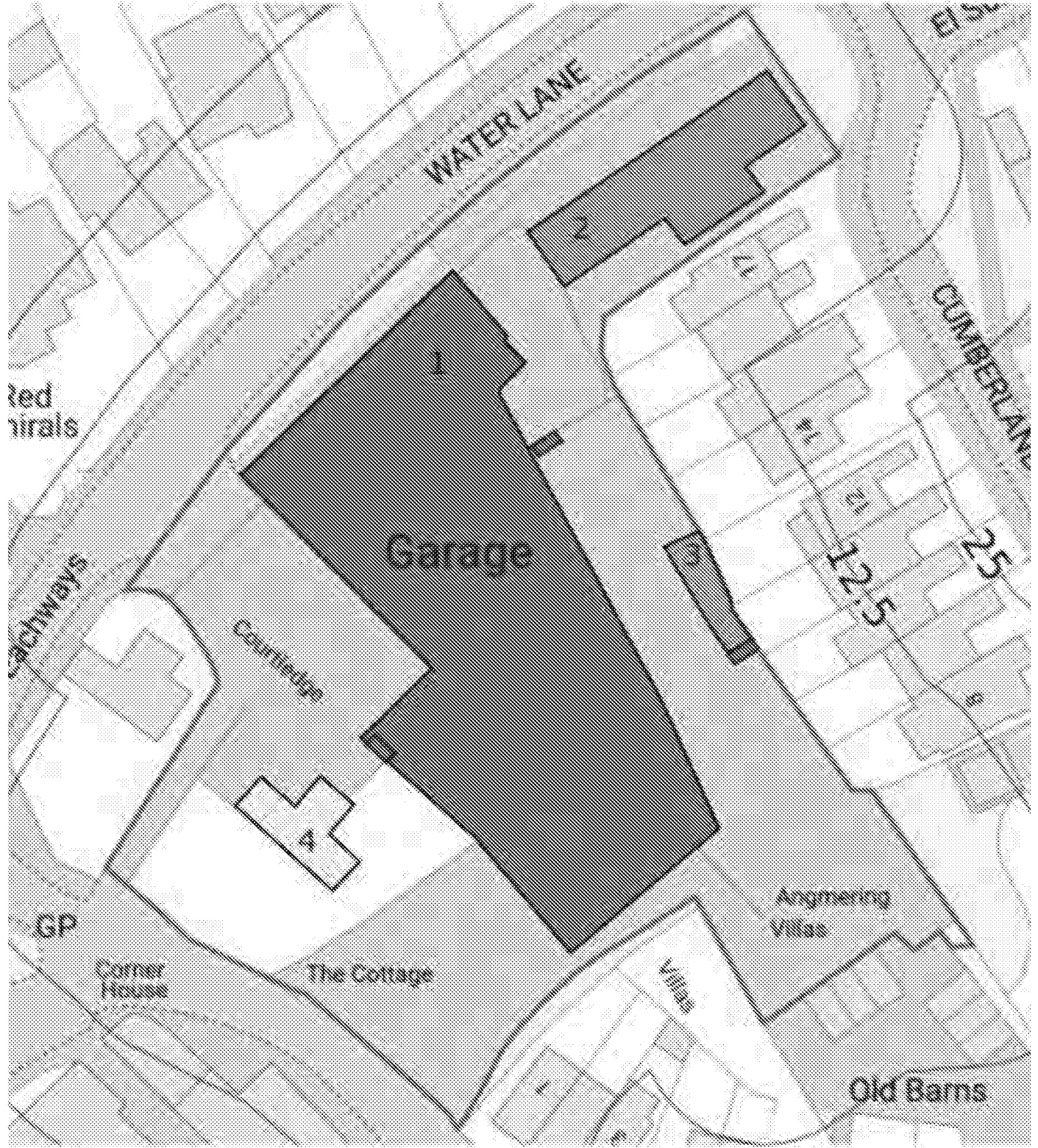
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Job Number:	5013719	Client:	McCarthy & Stone Ltd	 Partnership House Moorside Road Winchester Hampshire SO23 7RX		
Drawing:	5013719-Fig1	Revision :	-			
Drawn:	RM	Date:	November 2020			
Checked by:	COUNCIL A/110/21/PL RJH	Scale:	NTS	Ridge and Partners LLP www.ridge.co.uk		
						TEL: 01962 834300



FIGURE 2 – SITE WALKOVER PLAN



■ = Observed Surface Tanks

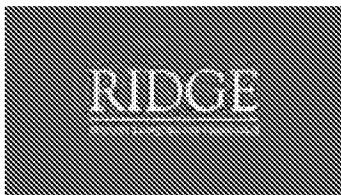
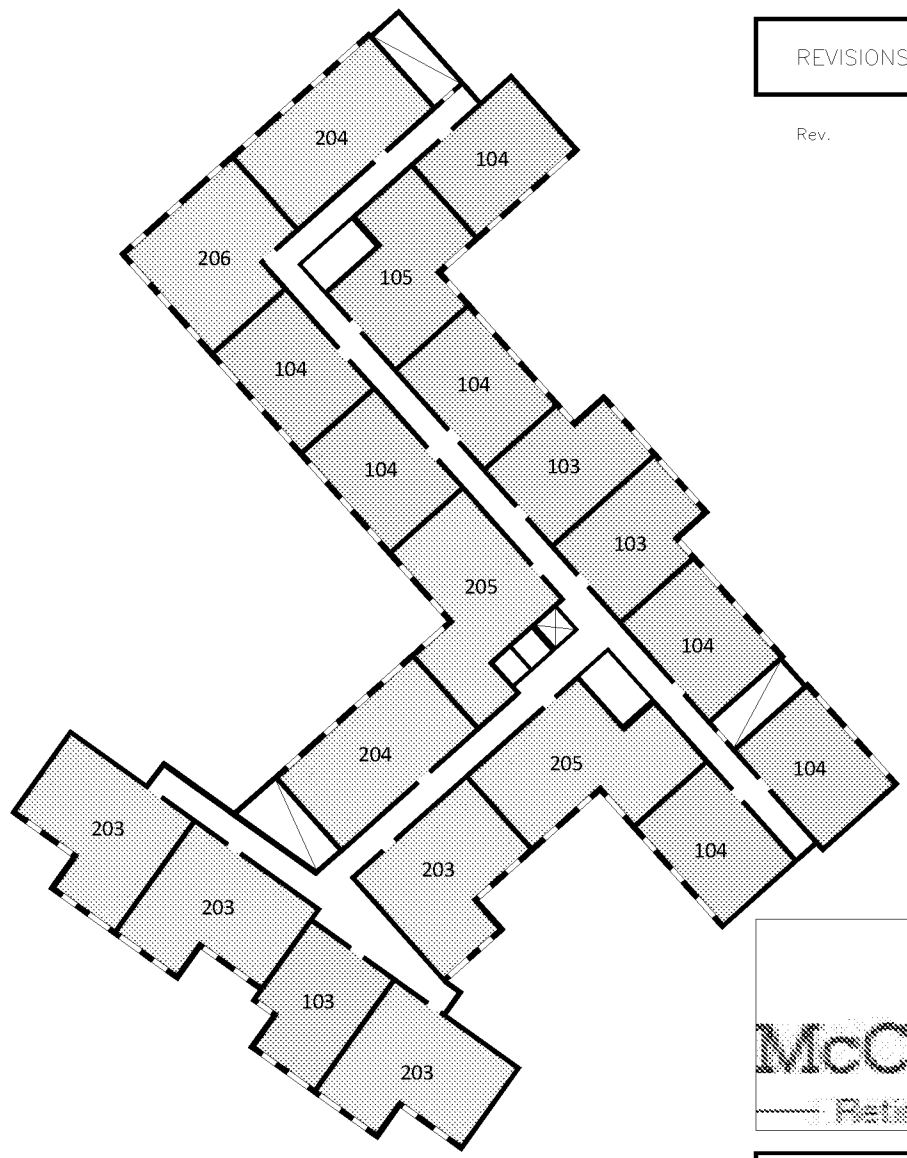
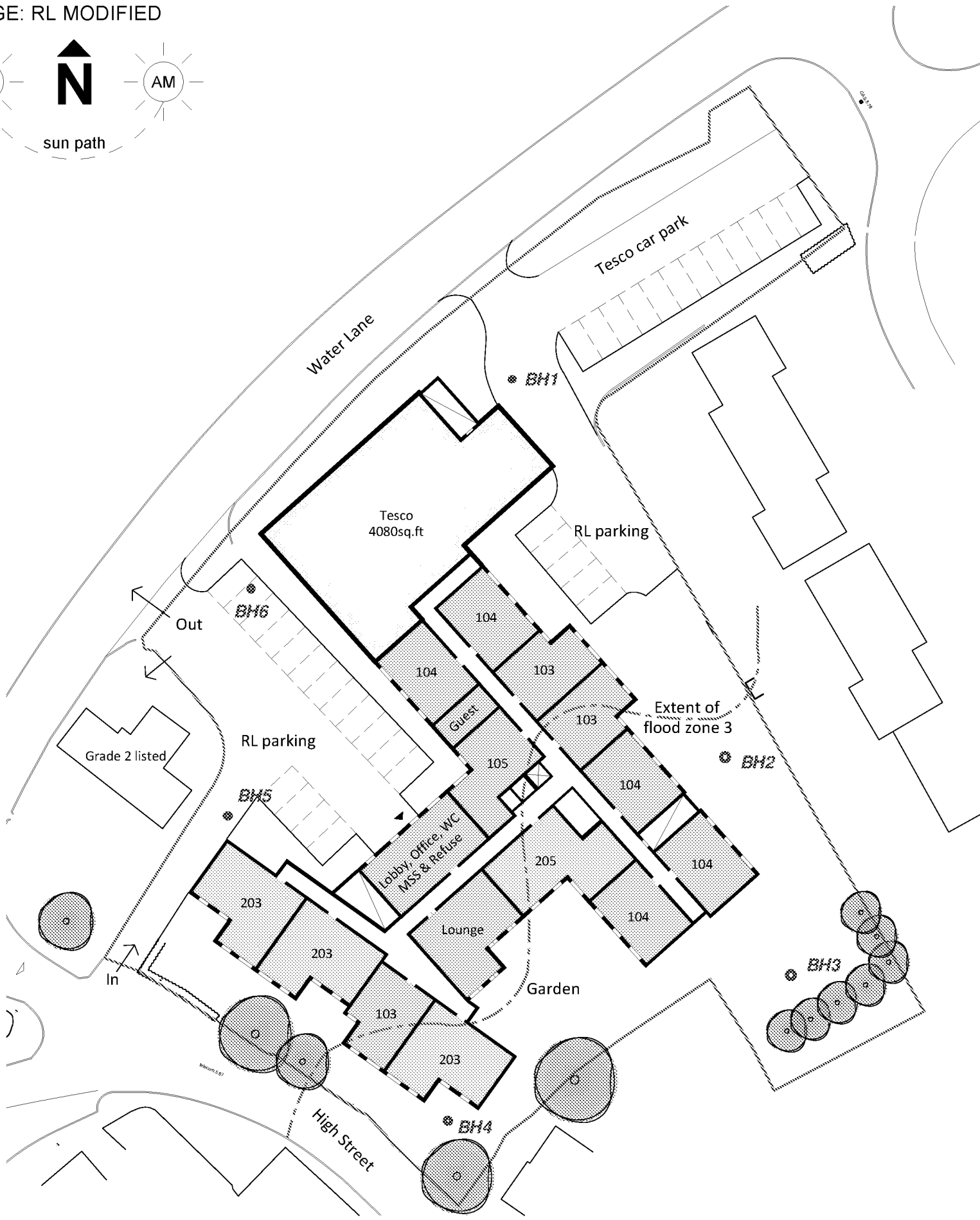
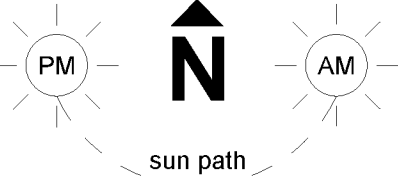
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Job Number:		5013719	Client:		McCarthy & Stone Ltd		
Drawing:		5013719-Fig2	Revision :		-		
Drawn:		RM	Date:		November 2020		
Checked by:		COUNCIL A/110/21/PL RJH	Scale:		NTS		
						Partnership House Moorside Road Winchester Hampshire SO23 7RX	
Ridge and Partners LLP www.ridge.co.uk						TEL: 01962 834300	



FIGURE 3 – DEVELOPMENT PLANS

RANGE: RL MODIFIED



WFBA
20105
Suggested borehole/
windowless sample
locations



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Project Title
Former Chandlers Accident Repair Center
High Street
Angmering
BN16 4DR

Drawing Title
Indicative Site Plan
OPTION 3

- NOTES
- Tree constraints TBC
 - Site within conservation area
 - Within Flood zone 3, FFL TBC
 - Demolition of car workshops, ground contamination TBC
 - Mixed use development with Tesco
 - 2 storey subject to planning advice
 - Right of way for listed building

ACCOMMODATION SCHEDULE

	1 BED	2BED		
01.L GROUND				
02.GROUND	9	4	13	
03.FIRST	11	9	20	
04.SECOND				
05.THIRD				
06.FOURTH				
APARTMENTS	20	13	33	TOTAL
BUNGALOWS				TOTAL
PARKING (apts)			21	TOTAL

Scale 1:500@A3 Date 20.08.2020

Drawn CT Checked .

Drawing No. Rev.

SO-0116-03
FP 2694

ALL DIMENSIONS TO BE CHECKED ON SITE, WORK TO FIGURED DIMENSIONS ONLY. REPORT DISCREPANCIES TO THE ARCHITECT AT ONCE BEFORE PROCEEDING

APPENDIX 1 – REPORT CONDITIONS

This report is produced solely for the benefit of **McCarthy And Stone Limited** and no liability is accepted for any reliance placed on it by any other party unless specifically agreed in writing otherwise.

This report refers, within the limitations stated, to the condition of the site at the time of the inspections. No warranty is given as to the possibility of future changes in the condition of the Site.

This report is based on a visual Site inspection, study of readily accessible referenced historical records, information supplied by those parties noted in the text and preliminary discussions with local and Statutory Authorities. Some of the opinions are based on unconfirmed data and information and are presented in good faith without exhaustive clarification. Where ground contamination is suspected but no physical site test results are available to confirm this, the report must be regarded as initial advice only, and further assessment should be undertaken prior to detailed activities related to the Site. Where test results undertaken by others have been made available these can only be regarded as a limited sample. The possibility of the presence of contaminants, not revealed by this research cannot be discounted.

Whilst confident in the findings detailed within this report because there are no exact UK definitions of these matters, being subject to risk analysis, we are unable to give categoric assurances that they will be accepted by Authorities or Funds etc. without question, as such bodies may have unpublished, often more stringent objectives. This report is prepared for the proposed uses stated in the report and should not be used in a different context without reference to Ridge and Partners LLP. In time improved practices or amended legislation may necessitate a re-assessment.

The report is necessarily limited to those aspects of land contamination specifically reported on and no liability is accepted for any other aspect especially concerning gradual or sudden pollution incidents that may occur. The opinions expressed cannot be absolute due to the limitations of time and resources within the context of the agreed brief and the possibility of unrecorded previous use and abuse of the Site and adjacent Sites. The report concentrates on the Site as defined in the report and provides an opinion on surrounding Sites. If migrating pollution or contamination (past or present) exists this can only practically be better assessed following extensive on and off Site intrusive investigations and monitoring.

APPENDIX 2 – PHOTOGRAPHIC LOG

PHOTOGRAPHIC LOG – SITE WALKOVER

RIDGE

SITE: WATER LANE, ANGERMING

PROJECT NUMBER: 5013719

Photo No	Date	
1	23/10/20	
Photo Title Looking south-west onto the north of the site at the covered parking structure.		

Photo No	Date	
2	23/10/20	
Photo Title Looking north towards the northern site boundary and identifying surface drainage onsite.		

PHOTOGRAPHIC LOG – SITE WALKOVER

RIDGE

SITE: WATER LANE, ANGERMING

PROJECT NUMBER: 5013719

Photo No	Date	
3	23/10/20	
Photo Title The image identifies a steel tank, seven full steel drums, and three full plastic containers. Drums and containers thought to contain waste oil.		
		

Photo No	Date	
4	23/10/20	
Photo Title Photo identifies the carwash and bundled fuel tank to its rear within the east of the site.		
		

PHOTOGRAPHIC LOG – SITE WALKOVER

RIDGE

SITE: WATER LANE, ANGERMING

PROJECT NUMBER: 5013719

Photo No	Date
5	23/10/20

Photo Title

Looking south-east, towards the retaining walls bounding the site.

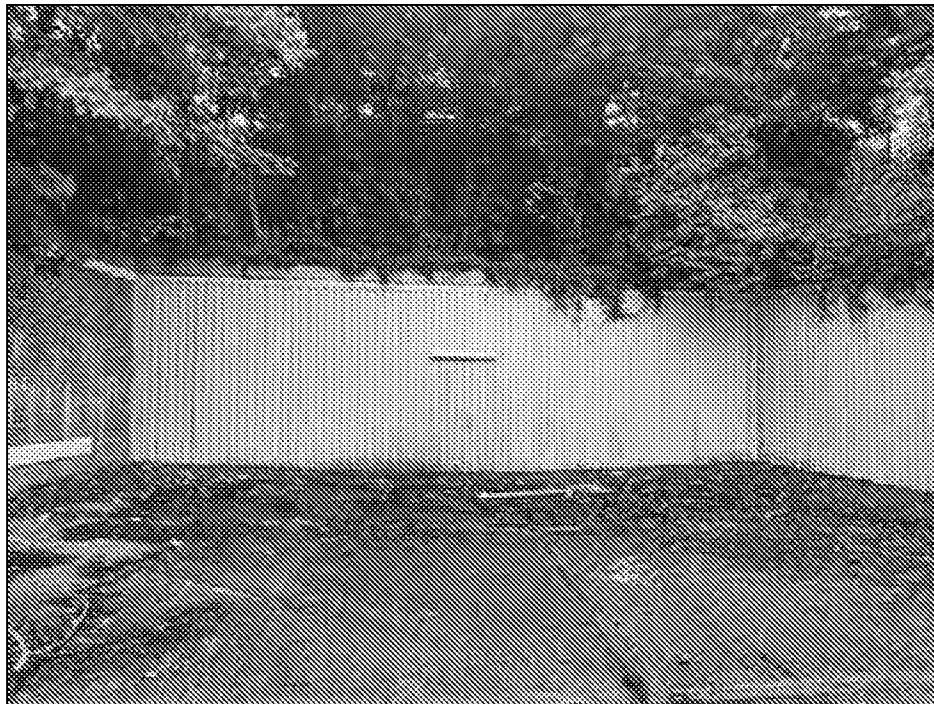


Photo No	Date
6	23/10/20

Photo Title

Looking south-west along the north-western boundary.



PHOTOGRAPHIC LOG – SITE WALKOVER

RIDGE

SITE: WATER LANE, ANGERMING

PROJECT NUMBER: 5013719

Photo No	Date
7	23/10/20

Photo Title

Looking east at the courtyard within the west of the site, image also identifies asbestos containing pitched roof.



Photo No	Date
8	23/10/20

Photo Title

Looking south towards the derelict house onsite.



PHOTOGRAPHIC LOG – SITE WALKOVER

RIDGE

SITE: WATER LANE, ANGERMING

PROJECT NUMBER: 5013719

Photo No	Date
9	23/10/20

Photo Title

Photo identifying an internal waste oil tank within the former servicing area within the garage structure.



Photo No	Date
10	23/10/20

Photo Title

Image identifies three mobile waste oil drums in addition to full plastic containers and two patches of spilt oil.



PHOTOGRAPHIC LOG – SITE WALKOVER

RIDGE

SITE: WATER LANE, ANGERMING

PROJECT NUMBER: 5013719

Photo No	Date
11	23/10/20

Photo Title

Image looking south across the servicing and repair area within the garage.



Photo No	Date
12	23/10/20

Photo Title

Image identifying the two car spraying booths within the south of the main garage structure.



PHOTOGRAPHIC LOG – SITE WALKOVER

RIDGE

SITE: WATER LANE, ANGERMING

PROJECT NUMBER: 5013719

Photo No	Date
13	23/10/20

Photo Title

Looking south-west within the repairs area within the south of the garage structure.



Photo No	Date
14	23/10/20

Photo Title

Image looking north-east towards the repair centre entrance within the south east of the site.



PHOTOGRAPHIC LOG – SITE WALKOVER

RIDGE

SITE: WATER LANE, ANGERMING
PROJECT NUMBER: 5013719

Photo No	Date
15	23/10/20

Photo Title

Image looking north west towards the site across the area formally recorded as coal yard within historic maps.



APPENDIX 3 – HISTORICAL MAPS

Site Details:

Former BMW Garage, Water
Lane, Angmering, BN16 4EH

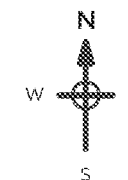
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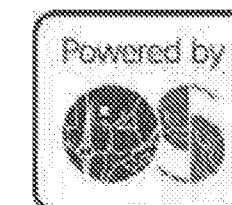
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Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1878
Revised 1876
Edition N/A
Copyright N/A
Levelled N/A

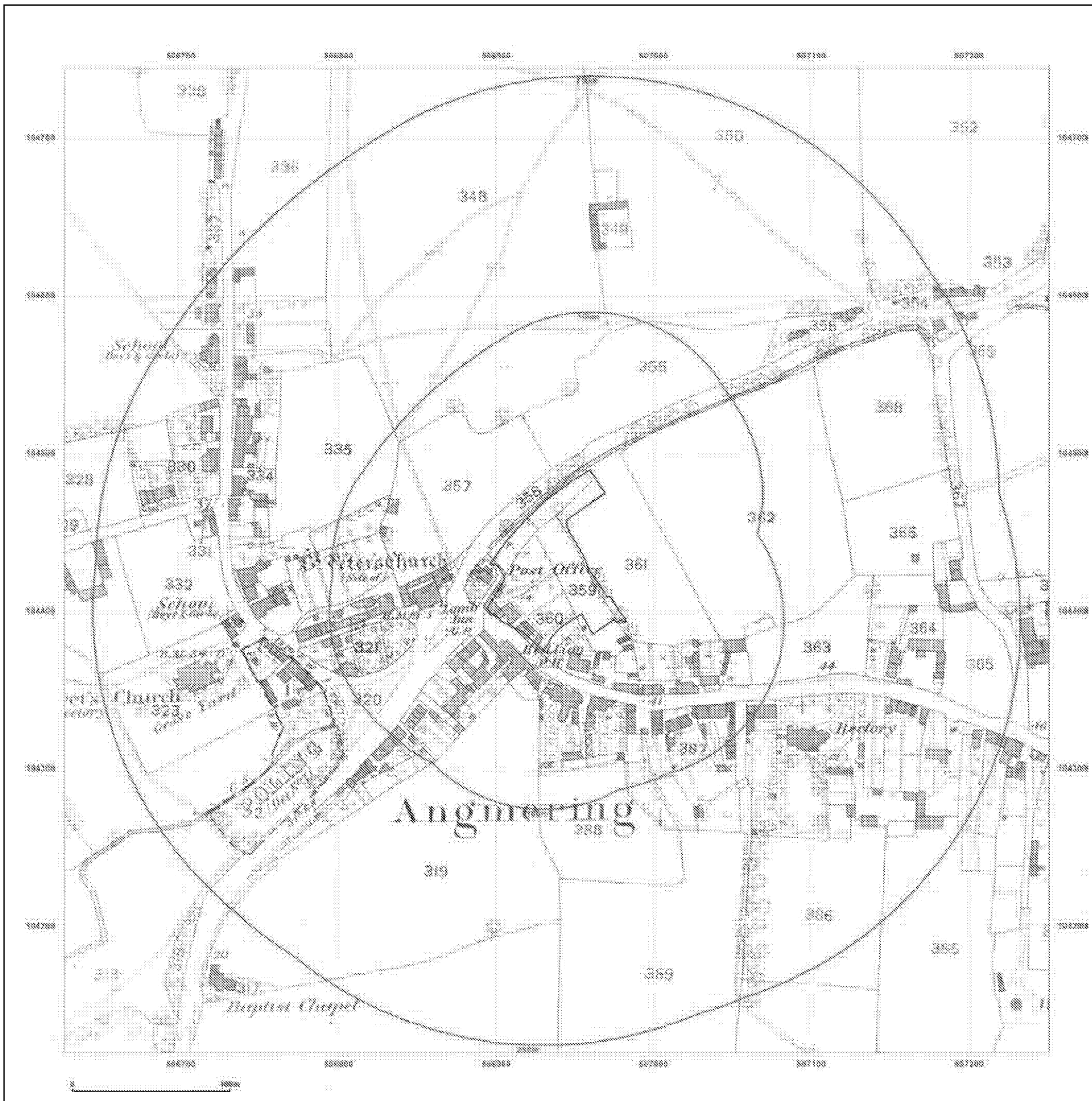


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Site Details:

Former BMW Garage, Water Lane, Angmering, BN16 4EH

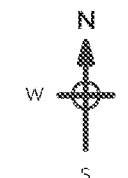
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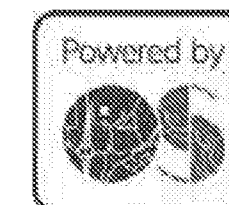
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Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1887
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Edition N/A
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Landed N/A



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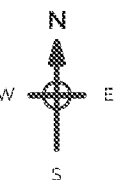


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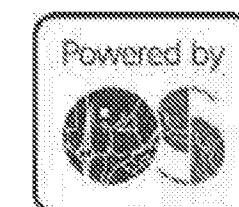
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Surveyed 1911
Revised 1911
Edition N/A
Copyright N/A
Levelled N/A

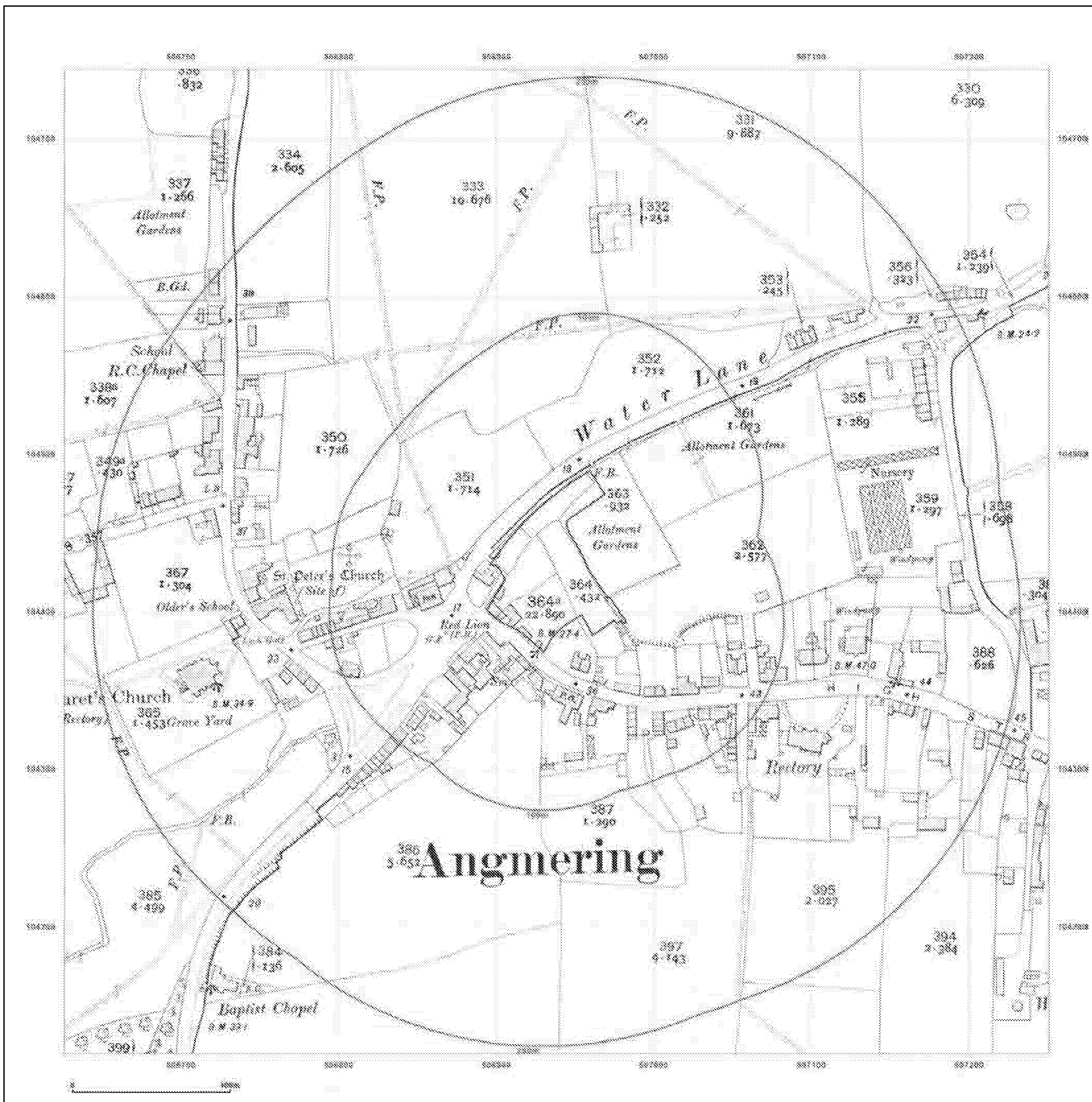


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Site Details:

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Lane, Angmering, BN16 4EH

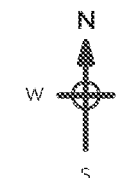
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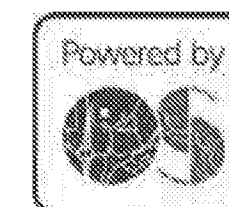
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Copyright N/A
Levelled N/A

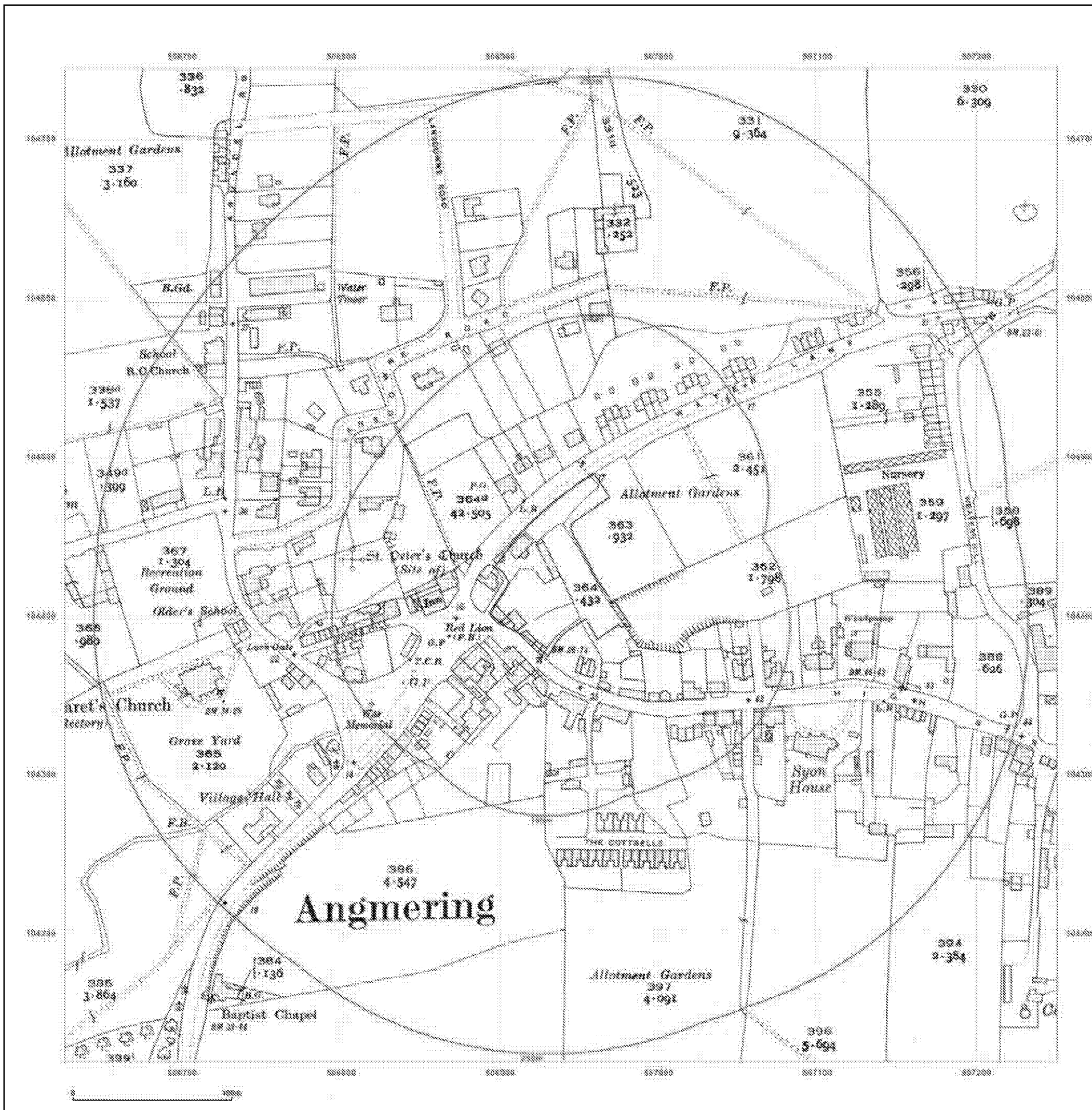


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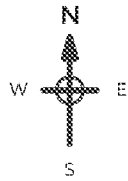


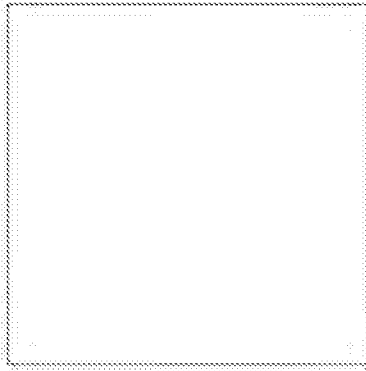
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Former BMW Garage, Water Lane, Angmering, BN16 4EH

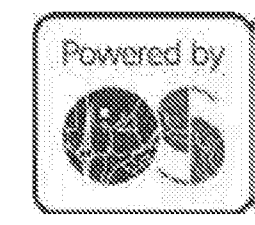
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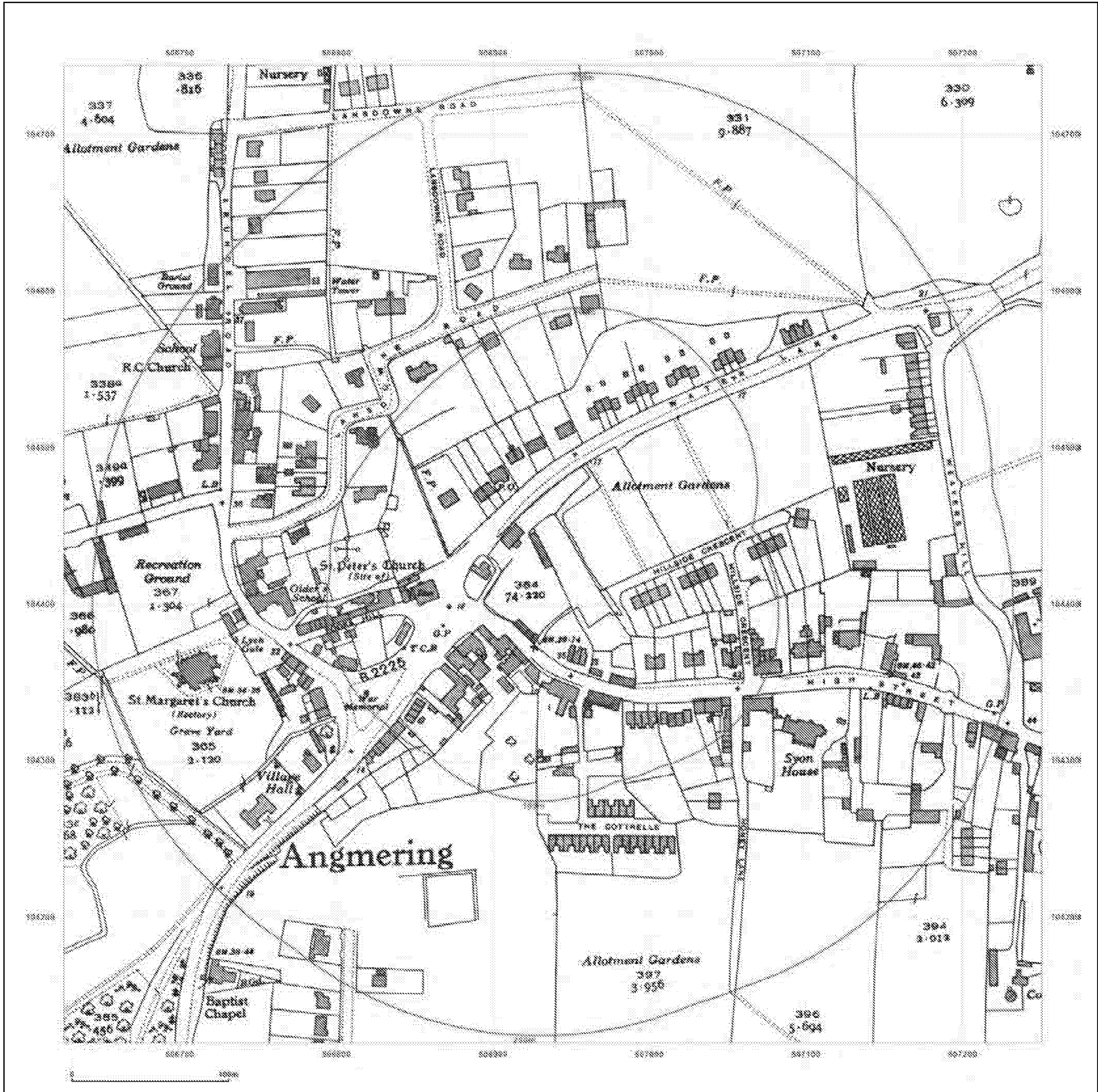




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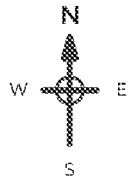


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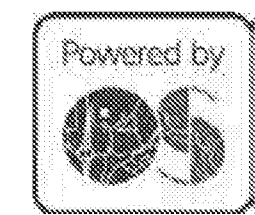
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Revised 1970
Edition N/A
Copyright 1971
Levelled 1968



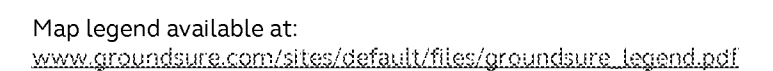
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Site Details:

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Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

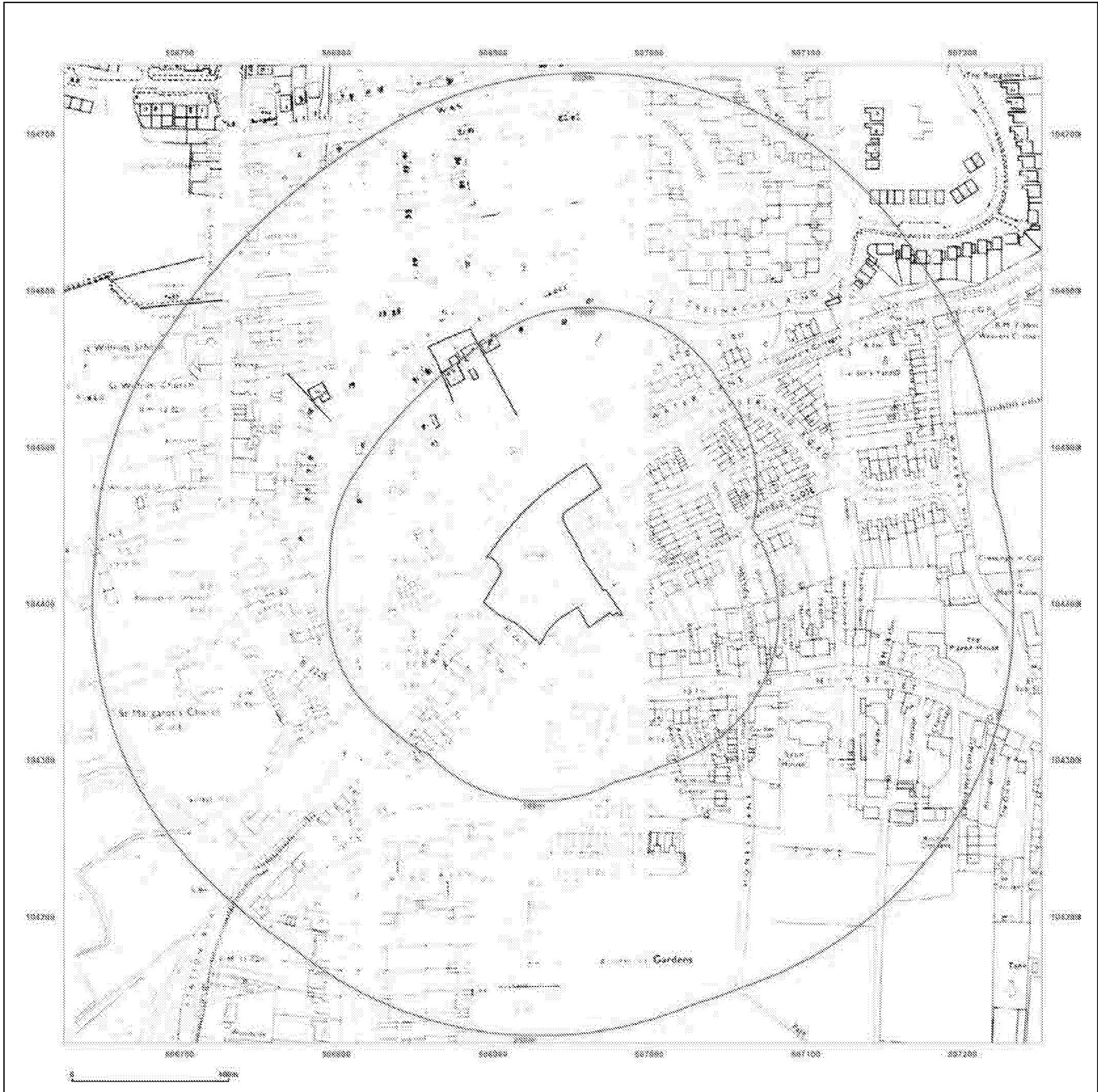
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Revised N/A
Edition N/A
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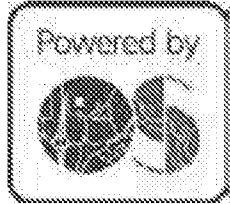
Site Details:

Former BMW Garage, Water Lane, Angmering, BN16 4EH

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Grid Ref: 506938, 104432

Map Name: National Grid
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Scale: 1:2,500
Printed at: 1:2,500

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Revised 1977
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Site Details:

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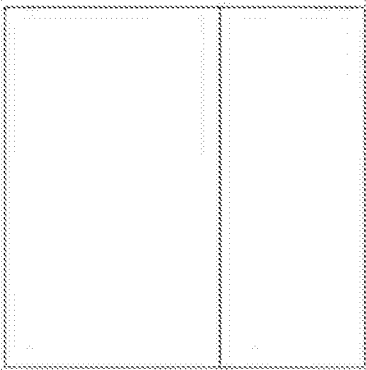
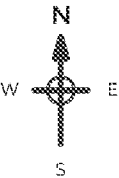
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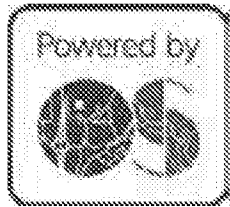
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Scale: 1:2,500

Printed at: 1:2,500



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Site Details:

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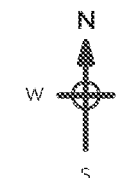
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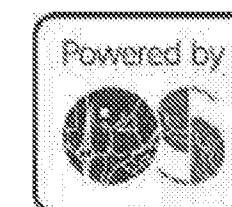
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Edition N/A
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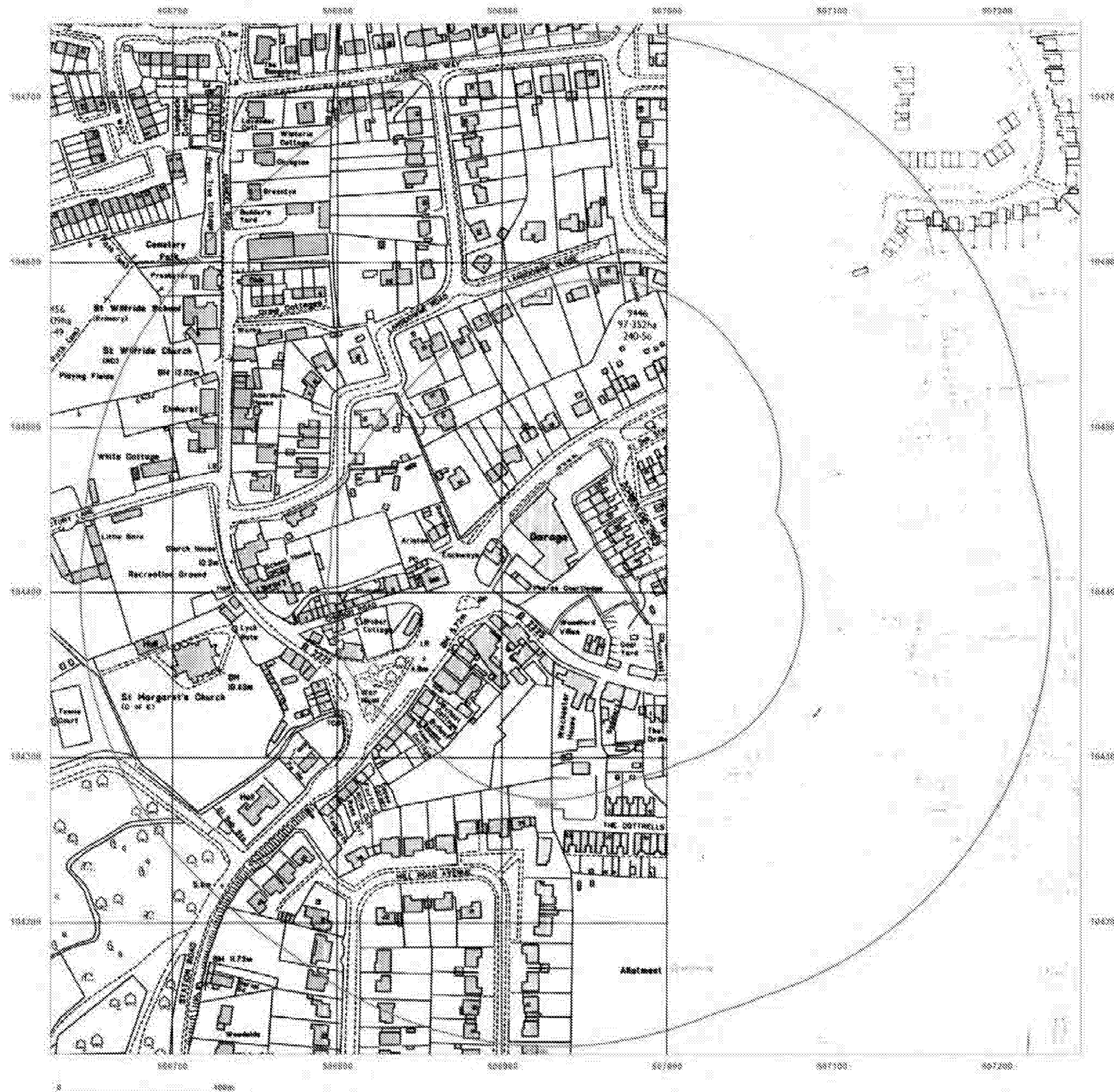


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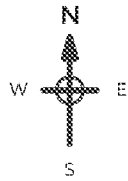


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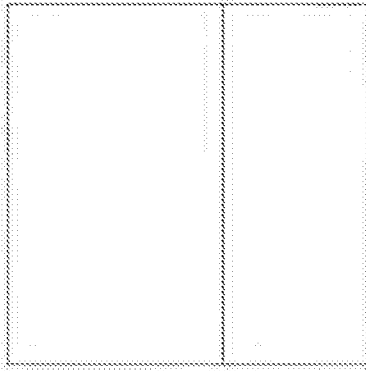
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Report Ref: GS-7180768
Grid Ref: 506938, 104432

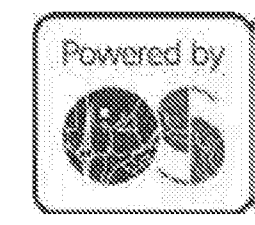
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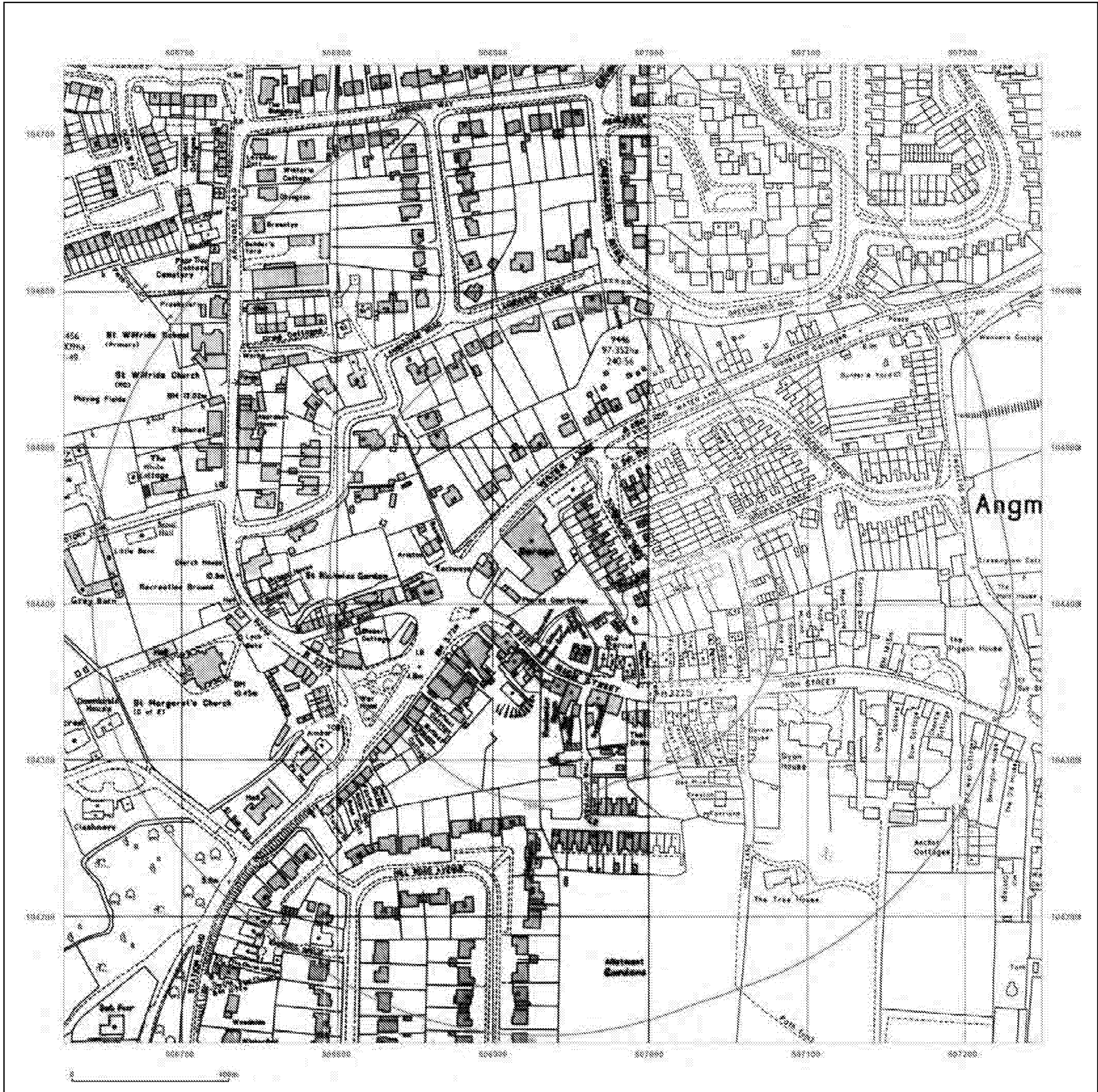
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Revised 1988
Edition N/A
Copyright 1988
Levelled 1988



Surveyed 1988
Revised 1988
Edition N/A
Copyright 1988
Levelled 1988



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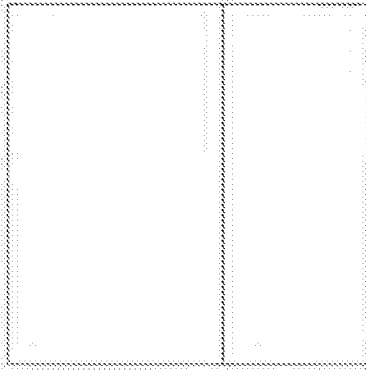
Site Details:

Former BMW Garage, Water Lane, Angmering, BN16 4EH

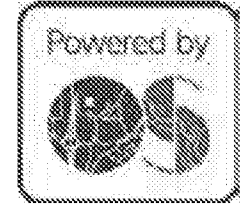
Client Ref: 5013719-13446
Report Ref: GS-7180768
Grid Ref: 506938, 104432

Map Name: National Grid
Map date: 1994
Scale: 1:2,500
Printed at: 1:2,500

Surveyed 1994
Revised N/A
Edition N/A
Copyright 1994
Levelled N/A



Surveyed 1994
Revised N/A
Edition N/A
Copyright 1994
Levelled N/A



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Site Details:

Former BMW Garage, Water
Lane, Angmering, BN16 4EH

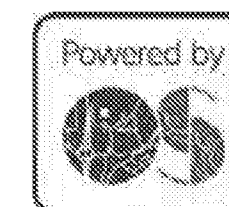
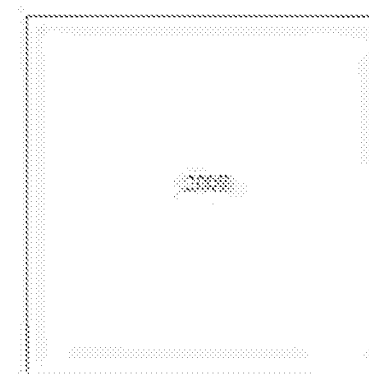
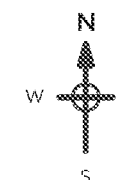
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Report Ref: GS-7180768
Grid Ref: 506938, 104432

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250



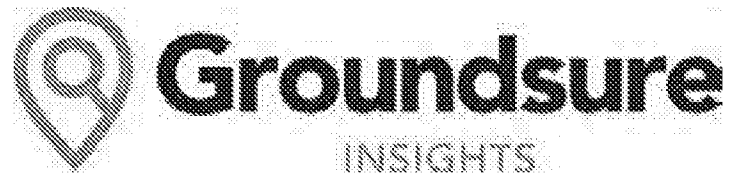
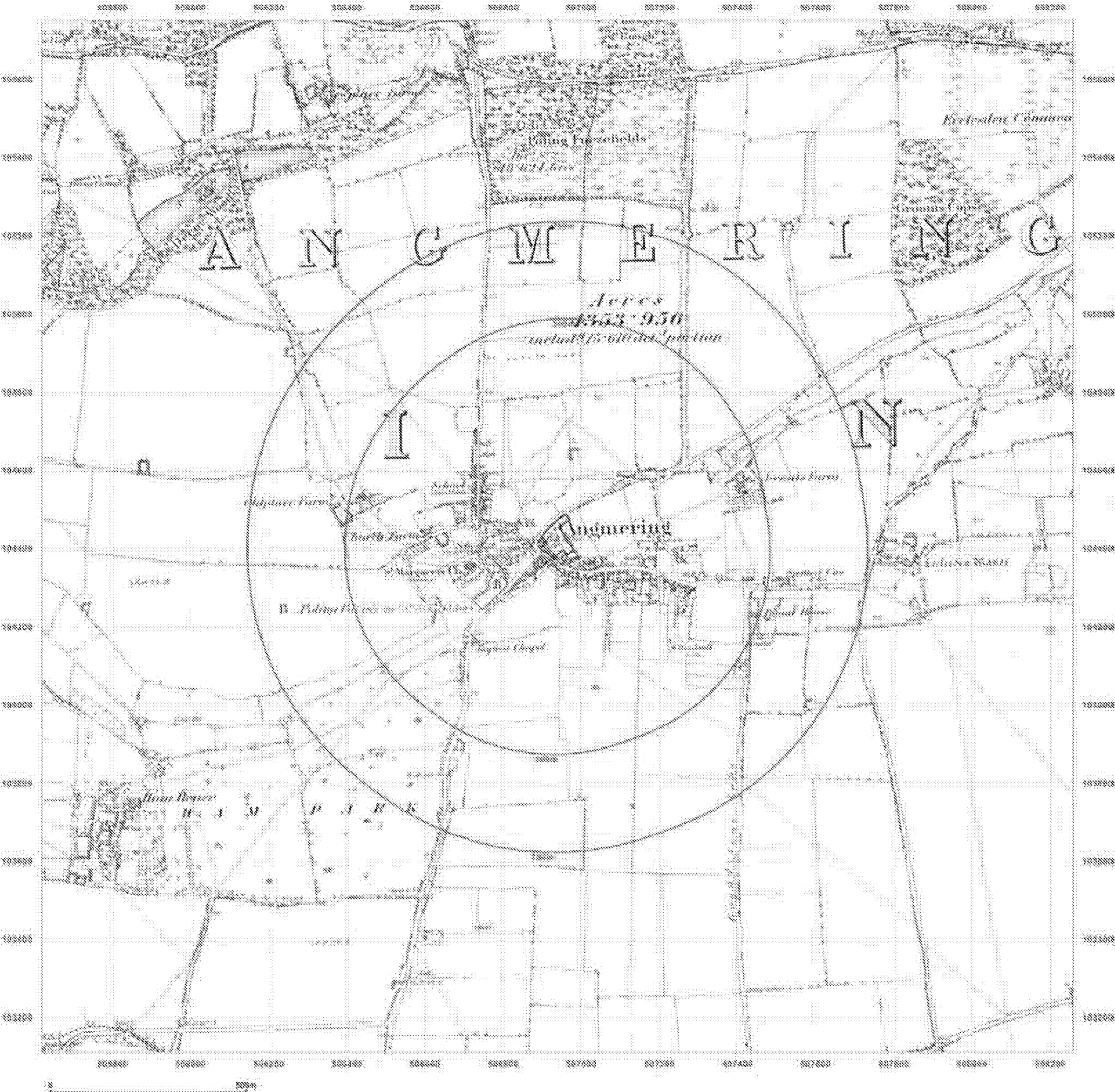
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Site Details:

Former BMW Garage, Water Lane, Angmering, BN16 4EH

Client Ref: 5013719-13446
Report Ref: GS-7180768
Grid Ref: 506938, 104432

Map Name: County Series
Map date: 1876
Scale: 1:10,560
Printed at: 1:10,560

Map Legend:

Surveyed 1876
Revised 1876
Edition N/A
Copyright N/A
Levelled N/A

Scale: 1:10,560

Printed at: 1:10,560

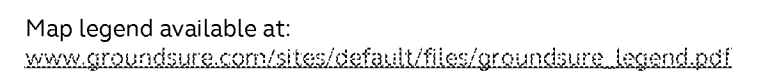
Powered by

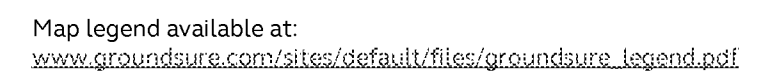
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Site Details:

Former BMW Garage, Water Lane, Angmering, BN16 4EH

Client Ref: 5013719-13446
Report Ref: GS-7180768
Grid Ref: 506938, 104432

Map Name: County Series
Map date: 1909-1910
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Printed at: 1:10,560

Surveyed 1875
Revised 1909
Edition N/A
Copyright N/A
Levelled N/A

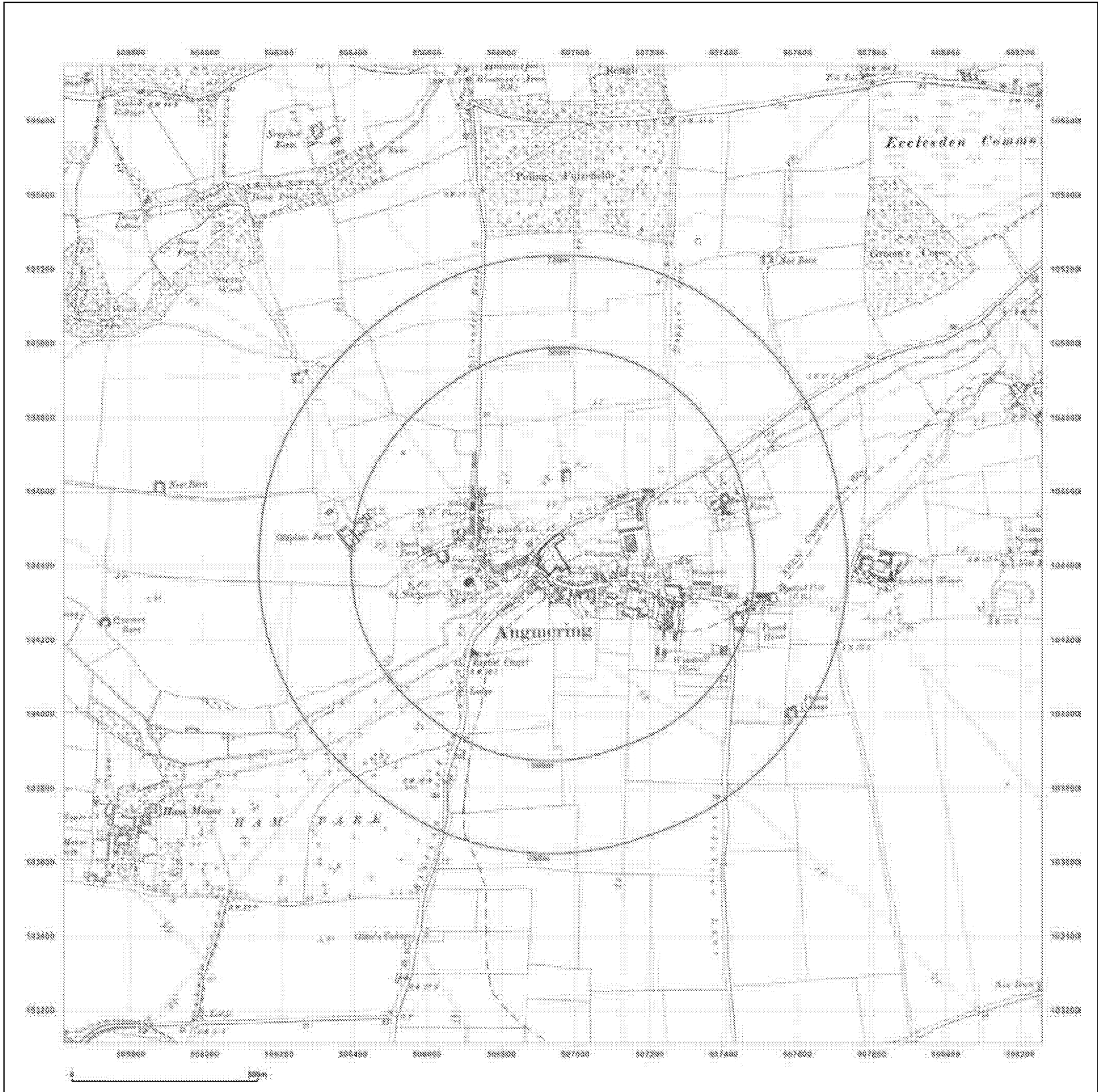
Surveyed 1875
Revised 1910
Edition N/A
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Site Details:

Former BMW Garage, Water Lane, Angmering, BN16 4EH

Client Ref: 5013719-13446
Report Ref: GS-7180768
Grid Ref: 506938, 104432

Map Name: County Series
Map date: 1909-1910
Scale: 1:10,560
Printed at: 1:10,560

Surveyed 1875
Revised 1909
Edition N/A
Copyright N/A
Levelled N/A

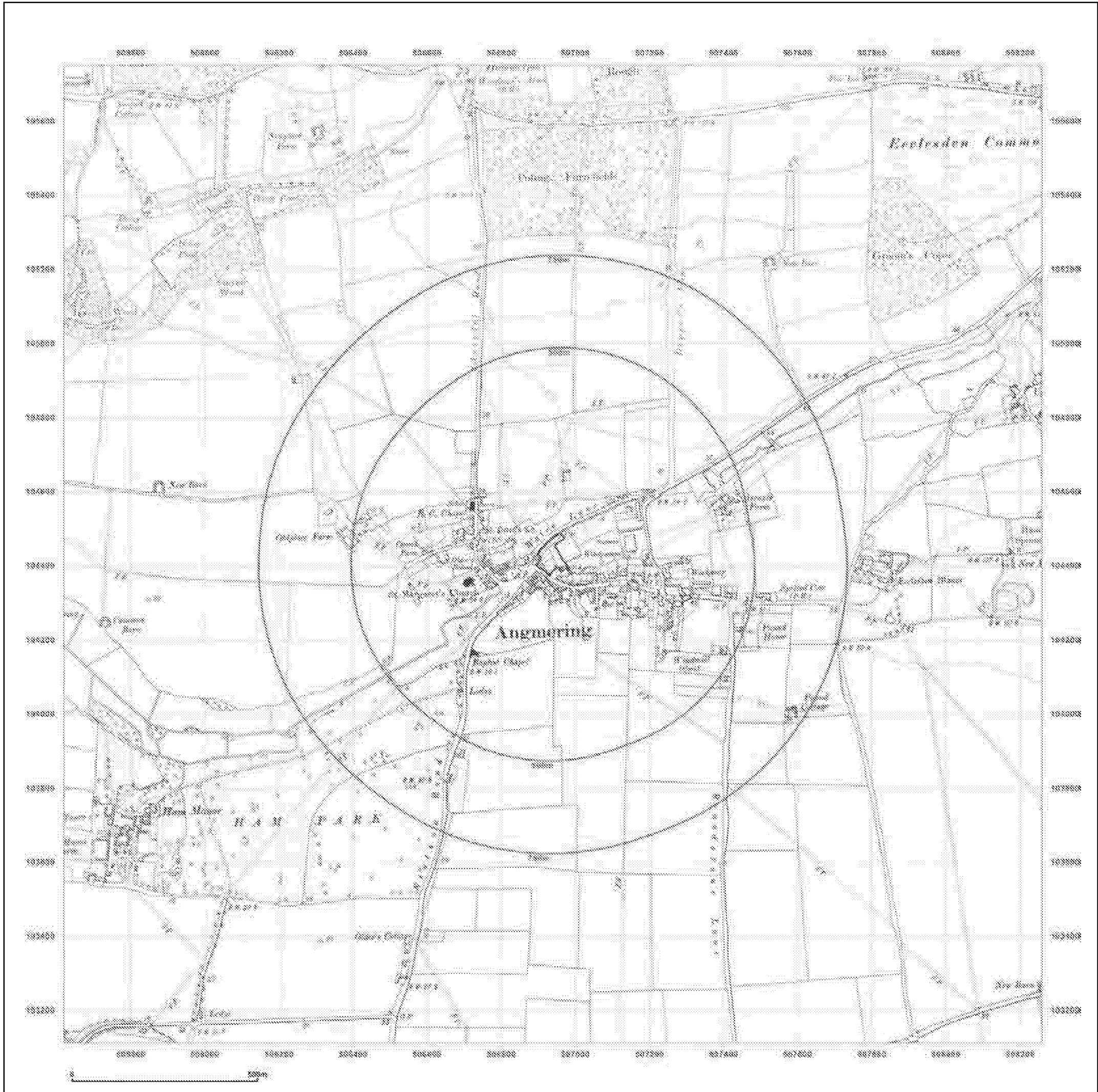
Surveyed 1875
Revised 1910
Edition N/A
Copyright N/A
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Site Details:

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Client Ref: 5013719-13446
Report Ref: GS-7180768
Grid Ref: 506938, 104432

Map Name: County Series
Map date: 1932
Scale: 1:10,560
Printed at: 1:10,560

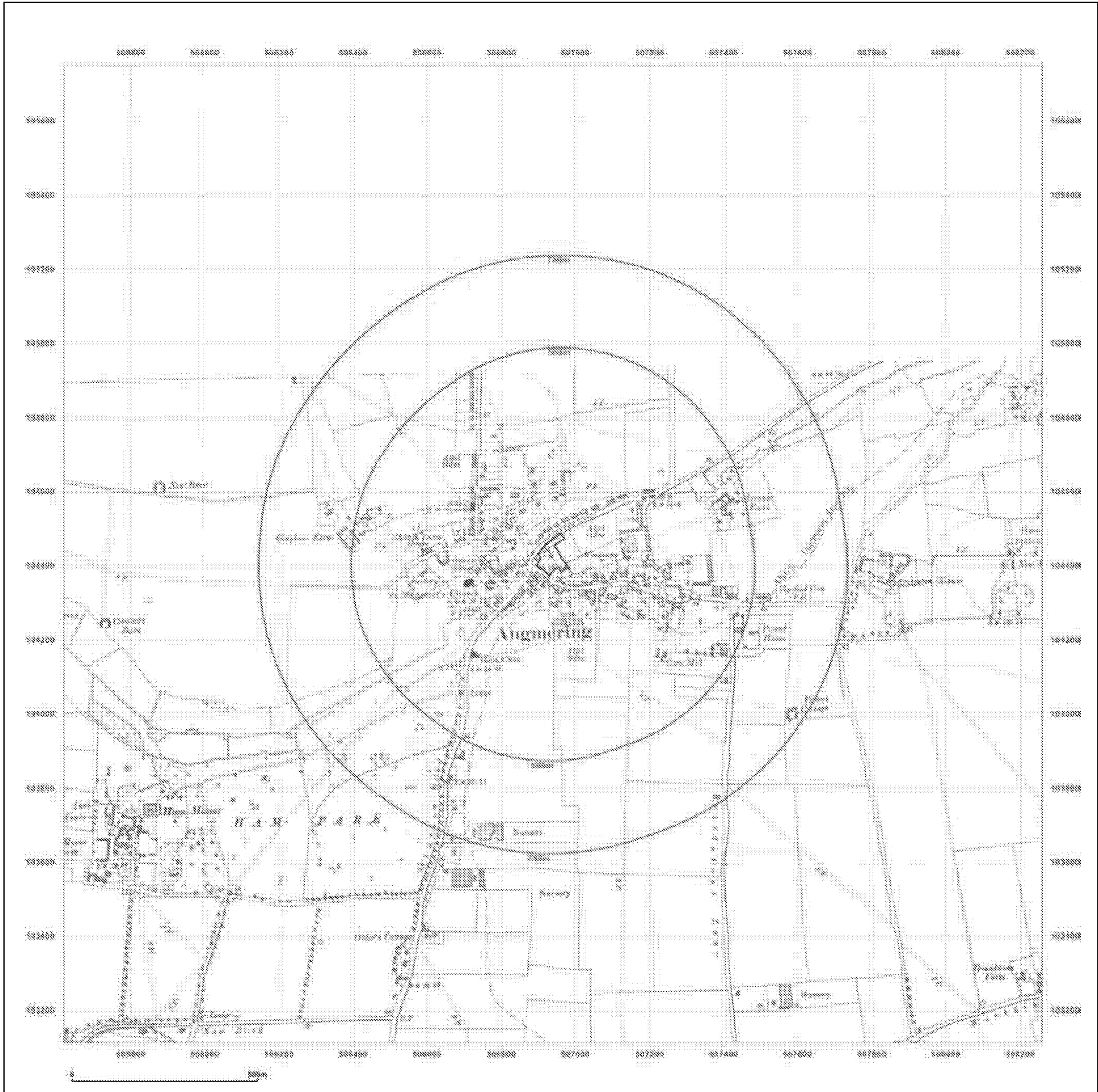
Surveyed 1878
Revised 1932
Edition N/A
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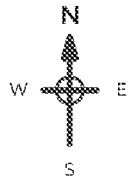


Site Details:

Former BMW Garage, Water Lane, Angmering, BN16 4EH

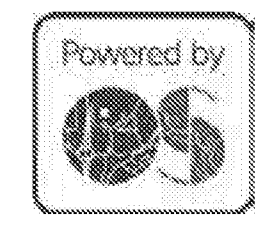
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Report Ref: GS-7180768
Grid Ref: 506938, 104432

Map Name: County Series
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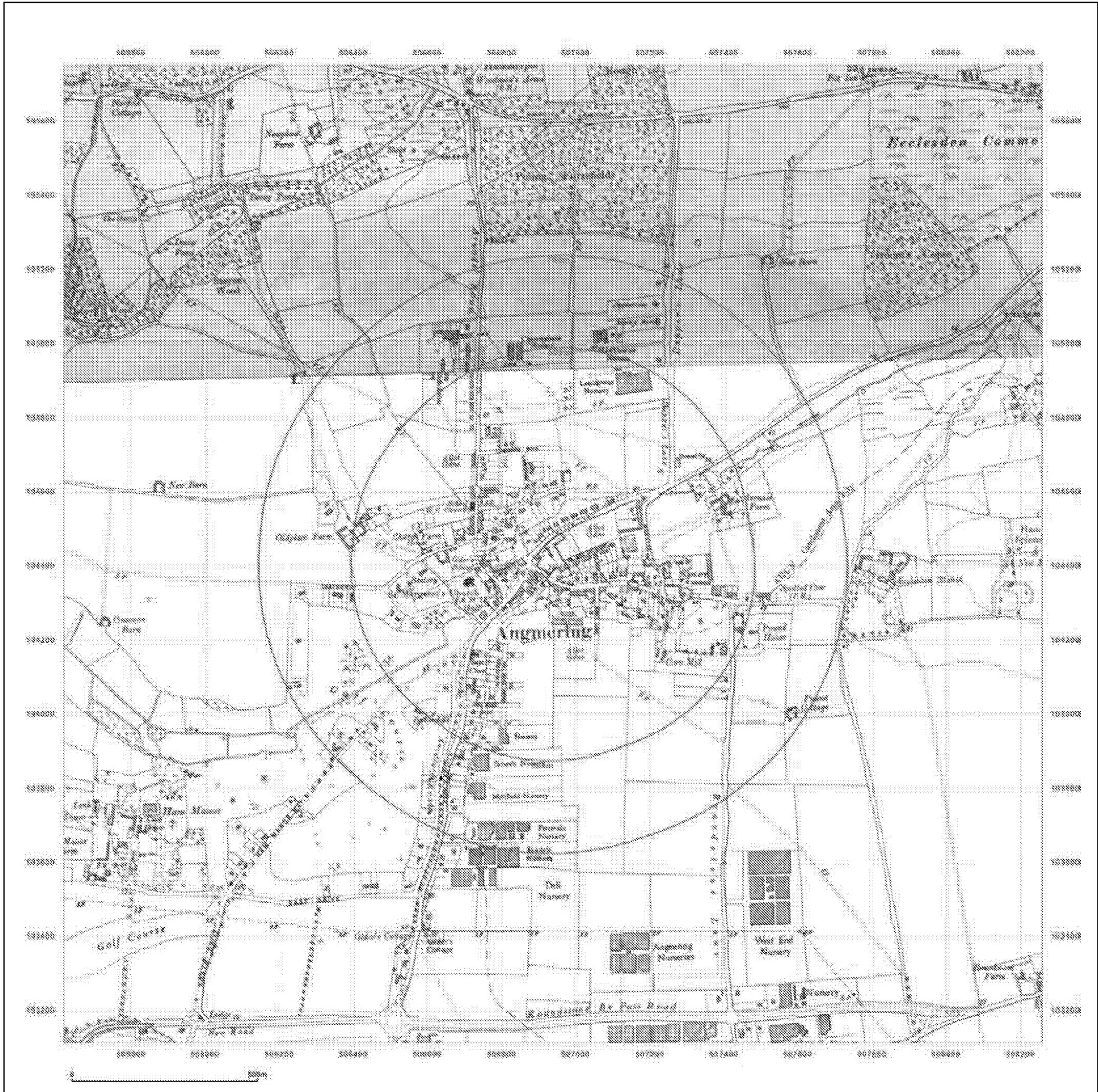


Surveyed 1875
Revised 1938
Edition N/A
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Surveyed 1875
Revised 1943
Edition N/A
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Site Details:

Former BMW Garage, Water Lane, Angmering, BN16 4EH

Client Ref: 5013719-13446
Report Ref: GS-7180768
Grid Ref: 506938, 104432

Map Name: Provisional
Map date: 1957
Scale: 1:10,560
Printed at: 1:10,560

Surveyed 1957
Revised 1957
Edition N/A
Copyright N/A
Levelled N/A

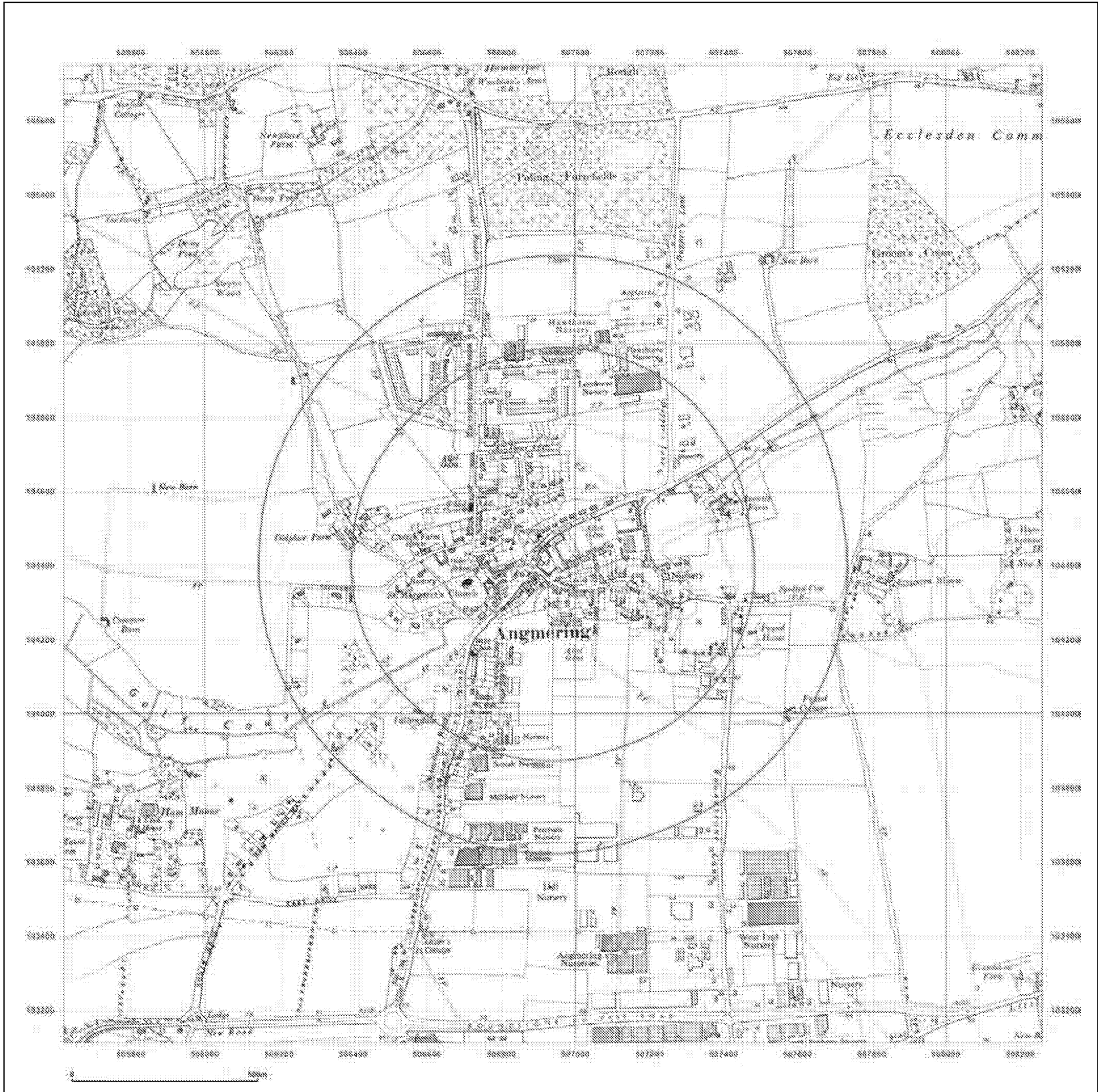
Surveyed 1957
Revised 1957
Edition N/A
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Map legend available at:
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Site Details:

Former BMW Garage, Water Lane, Angmering, BN16 4EH

Client Ref: 5013719-13446
Report Ref: GS-7180768
Grid Ref: 506938, 104432

Map Name: National Grid
Map date: 1974-1976
Scale: 1:10,000
Printed at: 1:10,000

Surveyed 1972
Revised 1976
Edition N/A
Copyright N/A
Levelled N/A

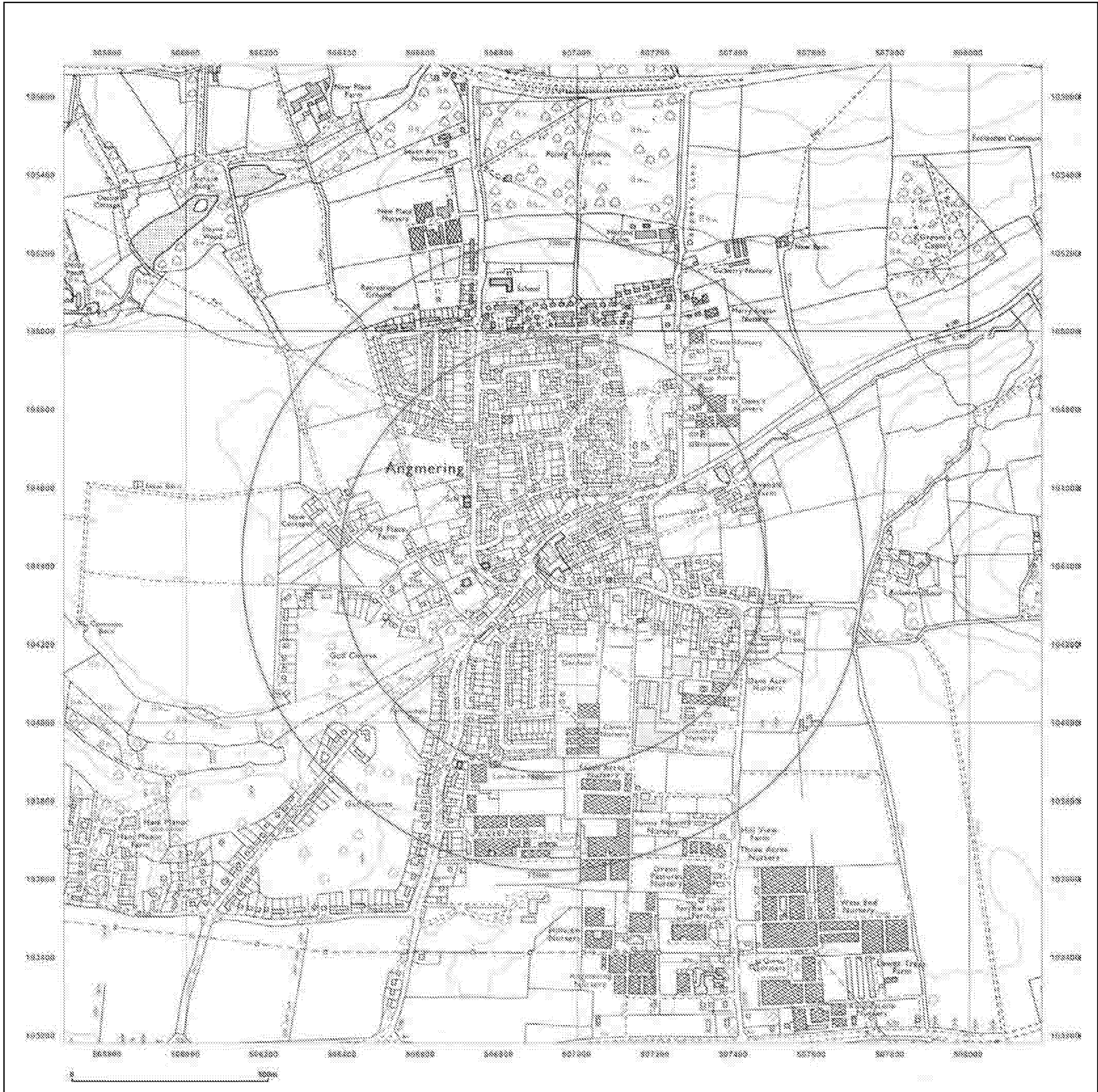
Surveyed 1973
Revised 1974
Edition N/A
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Site Details:

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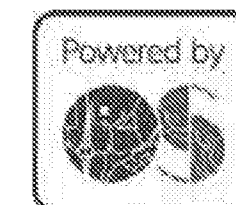
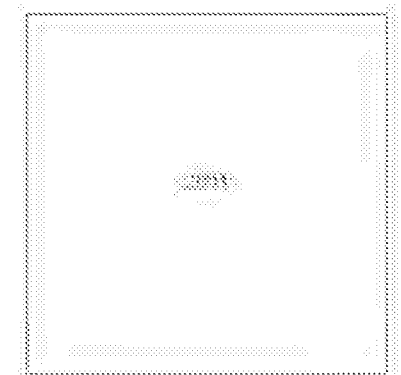
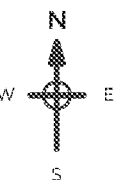
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Report Ref: GS-7180768
Grid Ref: 506938, 104432

Map Name: National Grid

Map date: 2001

Scale: 1:10,000

Printed at: 1:10,000

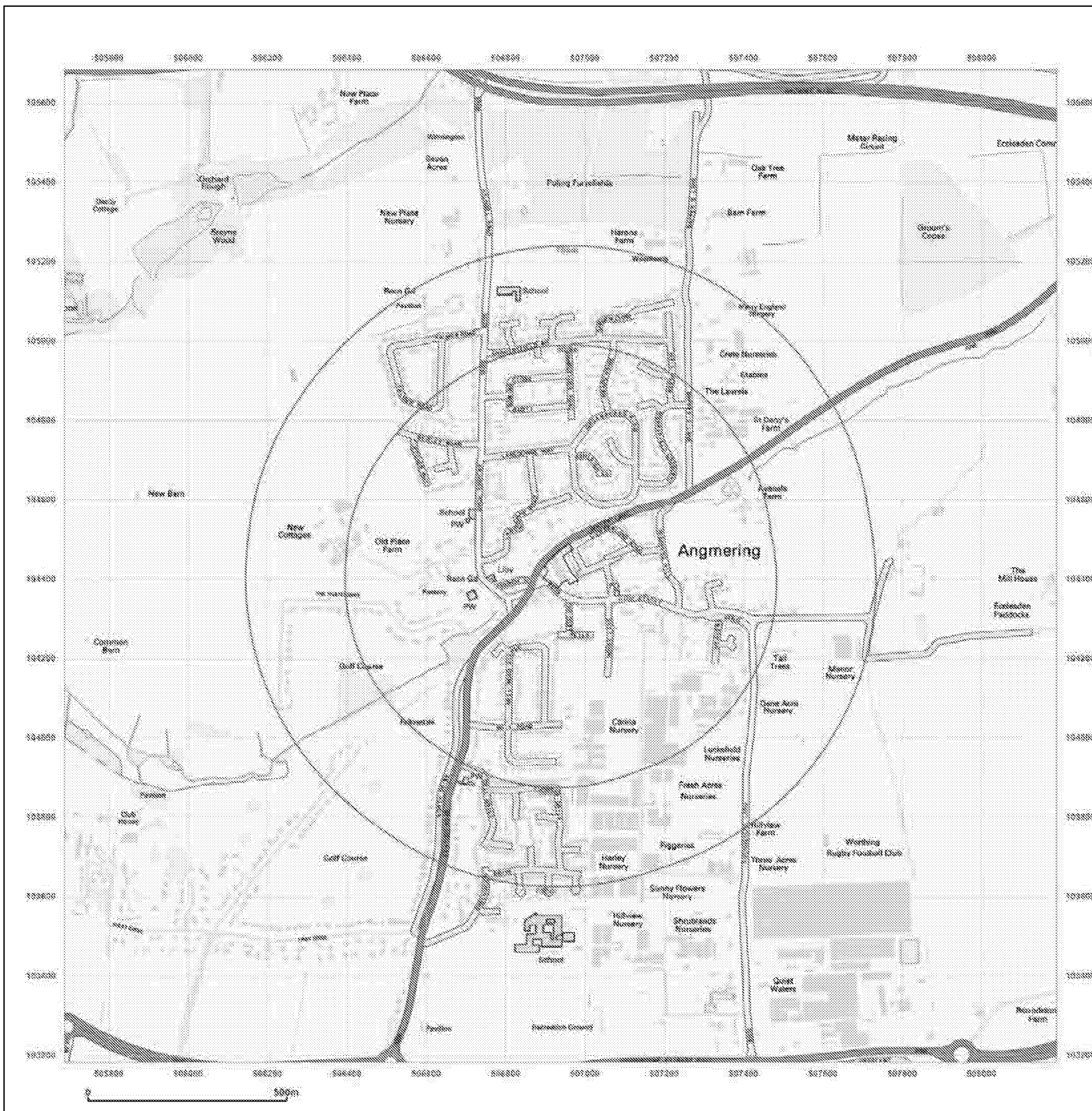


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Site Details:

Former BMW Garage, Water Lane, Angmering, BN16 4EH

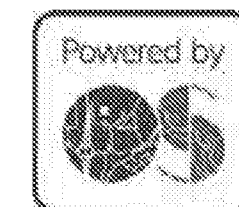
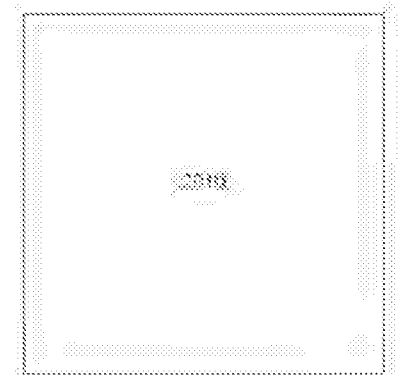
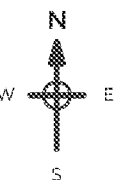
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Report Ref: GS-7180768
Grid Ref: 506938, 104432

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000

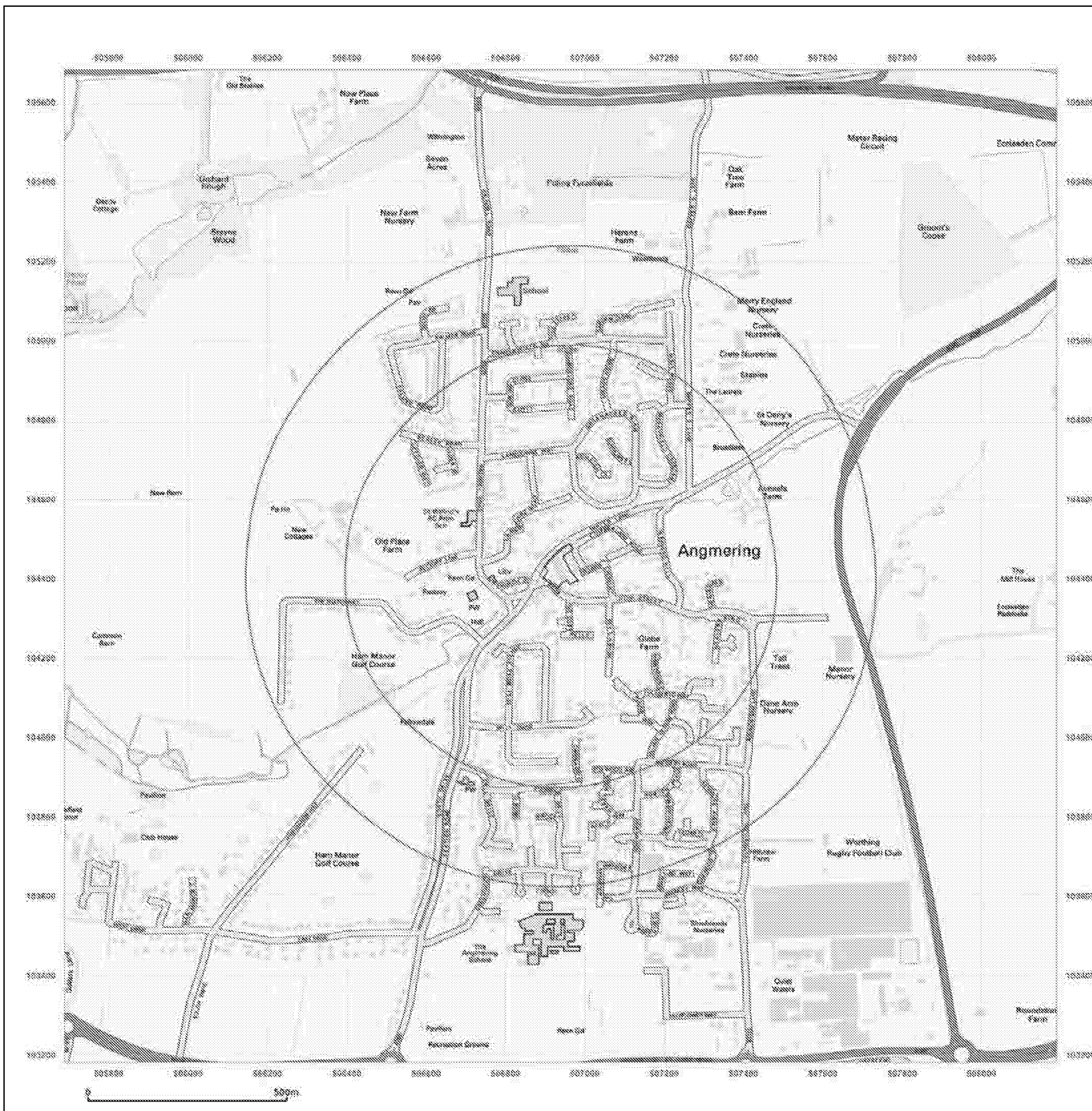


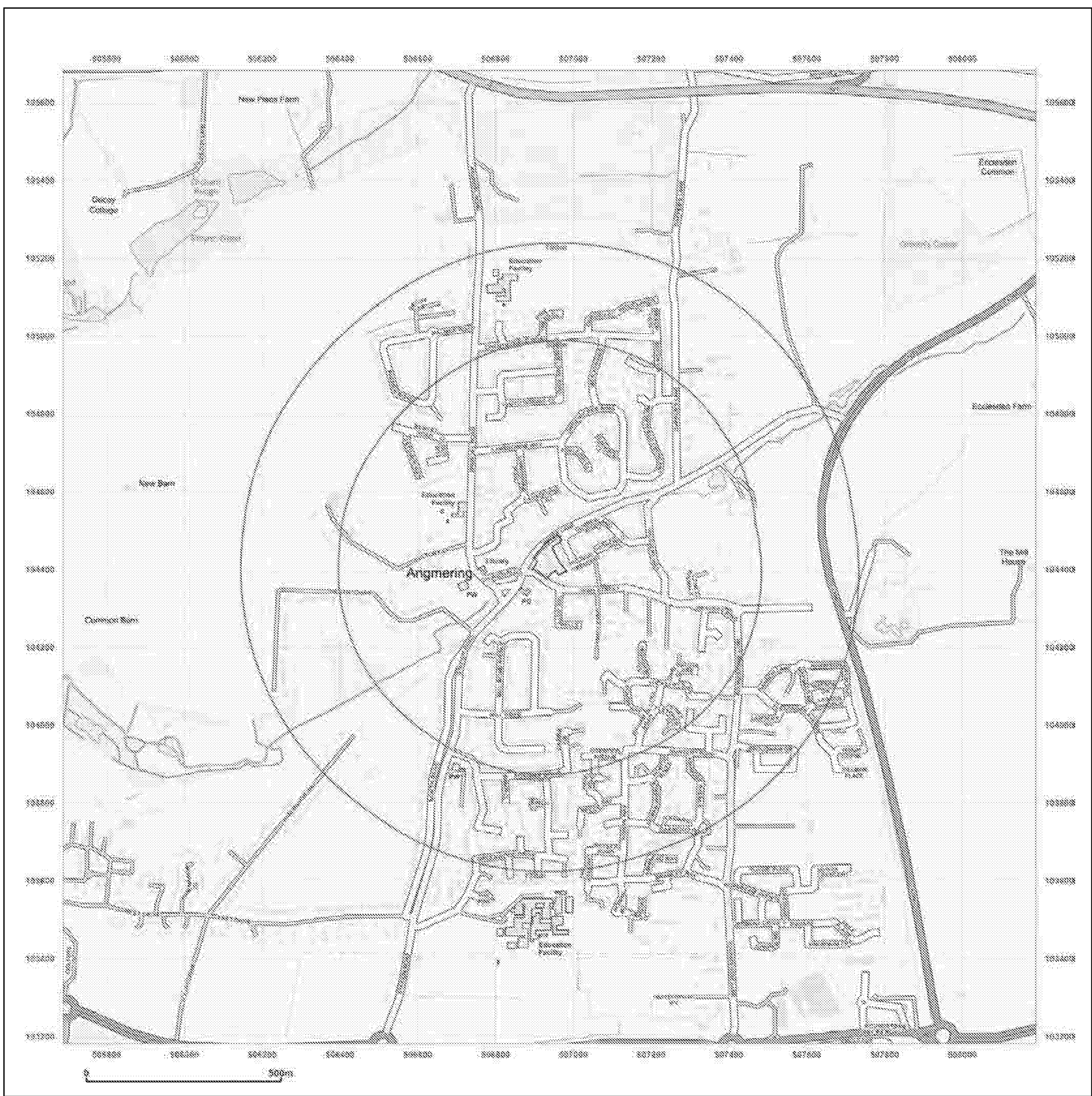
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Production date: 21 October 2020

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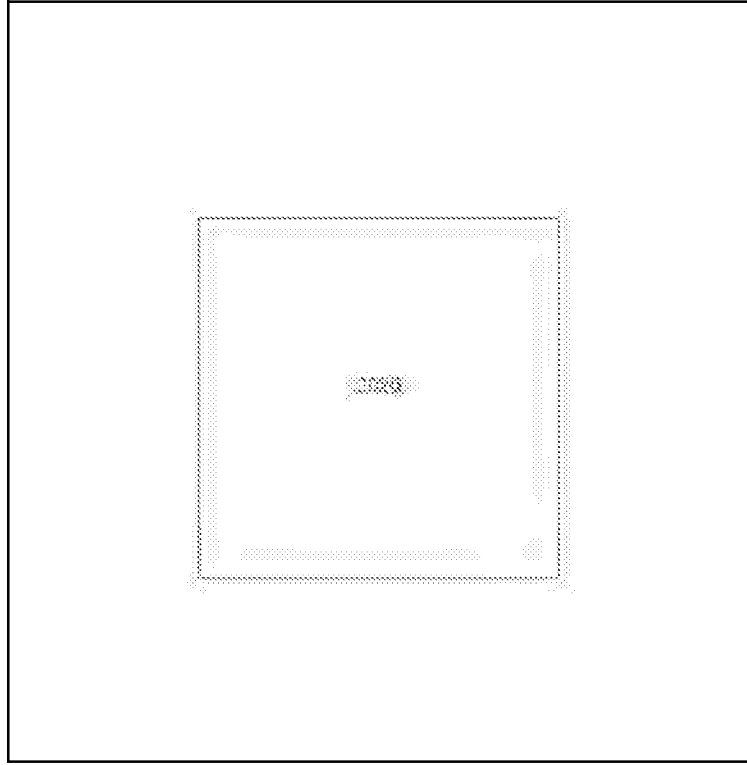


Site Details:

Former BMW Garage, Water Lane, Angmering, BN16 4EH

Client Ref: 5013719-13446
Report Ref: GS-7180768
Grid Ref: 506938, 104432

Map Name: National Grid
Map date: 2020
Scale: 1:10,000
Printed at: 1:10,000



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Project:	Water Lane, Angmering			Title:	Aerial Photography - 1927	
Job Number:	5013719	Client:	McCarthy and Stone	Ridge and Partners LLP TEL: 01962 834300 www.ridge.co.uk	Partnership House Moorside Road Winchester Hampshire SO23 7RX	
Drawing:	5013719-AP1	Revision:	-			
Drawn:	RM	Date:	November 2020			
Checked by:	RJH	Scale:	NTS			

APPENDIX 4 – GROUNDSURE REPORT



Former BMW Garage, Water Lane, Angmering, BN16 4EH

Order Details

Date: 21/10/2020
Your ref: 5013719-13446
Our Ref: GS-7180769
Client: Ridge & Partners LLP

Site Details

Location: 506932 104424
Area: 0.49 ha
Authority: Arun District Council



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Summary of findings

p. 2

Aerial image

p. 8

OS MasterMap site plan

p.13

Contact us with any questions at:
info@groundsure.com

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
<u>14</u>	<u>1.1</u>	<u>Historical industrial land uses</u>	2	1	6	16	-
<u>16</u>	<u>1.2</u>	<u>Historical tanks</u>	0	0	0	6	-
<u>16</u>	<u>1.3</u>	<u>Historical energy features</u>	0	1	5	4	-
17	1.4	Historical petrol stations	0	0	0	0	-
<u>17</u>	<u>1.5</u>	<u>Historical garages</u>	3	0	1	0	-
18	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped	On site	0-50m	50-250m	250-500m	500-2000m
<u>19</u>	<u>2.1</u>	<u>Historical industrial land uses</u>	3	1	6	25	-
<u>21</u>	<u>2.2</u>	<u>Historical tanks</u>	0	0	0	10	-
<u>22</u>	<u>2.3</u>	<u>Historical energy features</u>	0	4	9	8	-
23	2.4	Historical petrol stations	0	0	0	0	-
<u>23</u>	<u>2.5</u>	<u>Historical garages</u>	4	0	1	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
24	3.1	Active or recent landfill	0	0	0	0	-
24	3.2	Historical landfill (BGS records)	0	0	0	0	-
25	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
25	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
25	3.5	Historical waste sites	0	0	0	0	-
25	3.6	Licensed waste sites	0	0	0	0	-
<u>25</u>	<u>3.7</u>	<u>Waste exemptions</u>	0	6	0	8	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
<u>28</u>	<u>4.1</u>	<u>Recent industrial land uses</u>	0	1	10	-	-
29	4.2	Current or recent petrol stations	0	0	0	0	-
29	4.3	Electricity cables	0	0	0	0	-
30	4.4	Gas pipelines	0	0	0	0	-
30	4.5	Sites determined as Contaminated Land	0	0	0	0	-

30	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
30	4.7	Regulated explosive sites	0	0	0	0	-
30	4.8	Hazardous substance storage/usage	0	0	0	0	-
31	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
31	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
31	4.11	<u>Licensed pollutant release (Part A(2)/B)</u>	2	0	1	0	-
32	4.12	Radioactive Substance Authorisations	0	0	0	0	-
32	4.13	<u>Licensed Discharges to controlled waters</u>	0	0	3	1	-
33	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
33	4.15	Pollutant release to public sewer	0	0	0	0	-
33	4.16	List 1 Dangerous Substances	0	0	0	0	-
33	4.17	List 2 Dangerous Substances	0	0	0	0	-
33	4.18	<u>Pollution Incidents (EA/NRW)</u>	0	0	1	0	-
34	4.19	Pollution inventory substances	0	0	0	0	-
34	4.20	Pollution inventory waste transfers	0	0	0	0	-
34	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
35	5.1	<u>Superficial aquifer</u>	Identified (within 500m)				
37	5.2	<u>Bedrock aquifer</u>	Identified (within 500m)				
39	5.3	<u>Groundwater vulnerability</u>	Identified (within 50m)				
40	5.4	<u>Groundwater vulnerability- soluble rock risk</u>	Identified (within 0m)				
41	5.5	Groundwater vulnerability- local information	None (within 0m)				
42	5.6	<u>Groundwater abstractions</u>	0	0	0	0	10
45	5.7	<u>Surface water abstractions</u>	0	0	0	0	6
46	5.8	Potable abstractions	0	0	0	0	0
47	5.9	Source Protection Zones	0	0	0	0	-
47	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
48	6.1	<u>Water Network (OS MasterMap)</u>	0	1	1	-	-

<u>49</u>	<u>6.2</u>	<u>Surface water features</u>	0	0	2	-	-
<u>49</u>	<u>6.3</u>	<u>WFD Surface water body catchments</u>	1	-	-	-	-
<u>49</u>	<u>6.4</u>	<u>WFD Surface water bodies</u>	0	1	0	-	-
<u>50</u>	<u>6.5</u>	<u>WFD Groundwater bodies</u>	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
<u>51</u>	<u>7.1</u>	<u>Risk of Flooding from Rivers and Sea (RoFRaS)</u>	High (within 50m)				
<u>52</u>	<u>7.2</u>	<u>Historical Flood Events</u>	1	0	0	-	-
52	7.3	Flood Defences	0	0	0	-	-
52	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
52	7.5	Flood Storage Areas	0	0	0	-	-
<u>54</u>	<u>7.6</u>	<u>Flood Zone 2</u>	Identified (within 50m)				
<u>55</u>	<u>7.7</u>	<u>Flood Zone 3</u>	Identified (within 50m)				
Page	Section	Surface water flooding					
<u>56</u>	<u>8.1</u>	<u>Surface water flooding</u>	1 in 30 year, Greater than 1.0m (within 50m)				
Page	Section	Groundwater flooding					
<u>58</u>	<u>9.1</u>	<u>Groundwater flooding</u>	High (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
59	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
60	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
60	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
60	10.4	Special Protection Areas (SPA)	0	0	0	0	0
60	10.5	National Nature Reserves (NNR)	0	0	0	0	0
61	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
<u>61</u>	<u>10.7</u>	<u>Designated Ancient Woodland</u>	0	0	0	0	12
62	10.8	Biosphere Reserves	0	0	0	0	0
62	10.9	Forest Parks	0	0	0	0	0
62	10.10	Marine Conservation Zones	0	0	0	0	0
62	10.11	Green Belt	0	0	0	0	0
62	10.12	Proposed Ramsar sites	0	0	0	0	0

63	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
63	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
63	10.15	Nitrate Sensitive Areas	0	0	0	0	0
63	10.16	<u>Nitrate Vulnerable Zones</u>	0	1	0	0	1
65	10.17	<u>SSSI Impact Risk Zones</u>	1	-	-	-	-
66	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
67	11.1	World Heritage Sites	0	0	0	-	-
68	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
68	11.3	National Parks	0	0	0	-	-
68	11.4	<u>Listed Buildings</u>	0	3	34	-	-
70	11.5	<u>Conservation Areas</u>	1	0	0	-	-
71	11.6	Scheduled Ancient Monuments	0	0	0	-	-
71	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
72	12.1	<u>Agricultural Land Classification</u>	Not Surveyed (within 250m)				
73	12.2	Open Access Land	0	0	0	-	-
73	12.3	Tree Felling Licences	0	0	0	-	-
73	12.4	Environmental Stewardship Schemes	0	0	0	-	-
73	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
75	13.1	<u>Priority Habitat Inventory</u>	0	0	1	-	-
76	13.2	Habitat Networks	0	0	0	-	-
76	13.3	Open Mosaic Habitat	0	0	0	-	-
76	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
77	14.1	<u>10k Availability</u>	Identified (within 500m)				
78	14.2	Artificial and made ground (10k)	0	0	0	0	-
79	14.3	<u>Superficial geology (10k)</u>	1	1	2	3	-

80	14.4	Landslip (10k)	0	0	0	0	-
81	14.5	<u>Bedrock geology (10k)</u>	1	0	1	1	-
82	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
83	15.1	<u>50k Availability</u>	Identified (within 500m)				
84	15.2	Artificial and made ground (50k)	0	0	0	0	-
84	15.3	Artificial ground permeability (50k)	0	0	-	-	-
85	15.4	<u>Superficial geology (50k)</u>	1	2	1	3	-
86	15.5	<u>Superficial permeability (50k)</u>	Identified (within 50m)				
86	15.6	Landslip (50k)	0	0	0	0	-
86	15.7	Landslip permeability (50k)	None (within 50m)				
87	15.8	<u>Bedrock geology (50k)</u>	1	0	2	1	-
88	15.9	<u>Bedrock permeability (50k)</u>	Identified (within 50m)				
88	15.10	Bedrock faults and other linear features (50k)	0	0	0	0	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
89	16.1	<u>BGS Boreholes</u>	0	0	1	-	-
Page	Section	Natural ground subsidence					
90	17.1	<u>Shrink swell clays</u>	Low (within 50m)				
92	17.2	<u>Running sands</u>	Low (within 50m)				
94	17.3	<u>Compressible deposits</u>	Negligible (within 50m)				
95	17.4	<u>Collapsible deposits</u>	Low (within 50m)				
96	17.5	<u>Landslides</u>	Very low (within 50m)				
97	17.6	<u>Ground dissolution of soluble rocks</u>	Low (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
99	18.1	Natural cavities	0	0	0	0	-
100	18.2	<u>BritPits</u>	0	0	1	0	-
100	18.3	<u>Surface ground workings</u>	2	0	3	-	-
101	18.4	Underground workings	0	0	0	0	0
101	18.5	Historical Mineral Planning Areas	0	0	0	0	-

101	18.6	<u>Non-coal mining</u>	1	0	0	0	1
102	18.7	Mining cavities	0	0	0	0	0
102	18.8	IPB mining areas	None (within 0m)				
102	18.9	Coal mining	None (within 0m)				
102	18.10	Brine areas	None (within 0m)				
102	18.11	Gypsum areas	None (within 0m)				
103	18.12	Tin mining	None (within 0m)				
103	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
104	19.1	<u>Radon</u>	Between 5% and 10% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
105	20.1	<u>BGS Estimated Background Soil Chemistry</u>	1	5	-	-	-
105	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
106	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
107	21.1	Underground railways (London)	0	0	0	-	-
107	21.2	Underground railways (Non-London)	0	0	0	-	-
107	21.3	Railway tunnels	0	0	0	-	-
107	21.4	Historical railway and tunnel features	0	0	0	-	-
107	21.5	Royal Mail tunnels	0	0	0	-	-
108	21.6	Historical railways	0	0	0	-	-
108	21.7	Railways	0	0	0	-	-
108	21.8	Crossrail 1	0	0	0	0	-
108	21.9	Crossrail 2	0	0	0	0	-
108	21.10	HS2	0	0	0	0	-

Recent aerial photograph



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Capture Date: 28/06/2018

Site Area: 0.49ha

Recent site history - 2015 aerial photograph



Capture Date: 07/06/2015

Site Area: 0.49ha

Recent site history - 2012 aerial photograph



Capture Date: 13/09/2012

Site Area: 0.49ha



Contact us with any questions at:



Date: 21 October 2020

Recent site history - 2009 aerial photograph



Capture Date: 27/09/2009

Site Area: 0.49ha



Contact us with any questions at:

Date: 21 October 2020

Recent site history - 1999 aerial photograph



Capture Date: 06/09/1999

Site Area: 0.49ha



Contact us with any questions at:



Date: 21 October 2020

1 Past land use



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
- Historical tanks
- Historical energy features
- Historical garages

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1.1 Historical industrial land uses

Records within 500m

25

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 1:10,560 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 14](#)

ID	Location	Land use	Dates present	Group ID
1	On site	Smithy	1910	2167094

ID	Location	Land use	Dates present	Group ID
2	On site	Unspecified Pit	1910 - 1932	2175977
3	19m NE	Nursery	1910	2161018
5	102m E	Gravel Pit	1896	2138670
6	143m E	Unspecified Commercial/Industrial	1957	2130602
7	145m SW	Grave Yard	1876	2145502
C	199m E	Nursery	1943 - 1957	2173185
C	209m E	Nursery	1910	2271406
9	244m E	Unspecified Pit	1974	2123489
10	278m S	Nursery	1943 - 1974	2219035
E	307m SE	Corn Mill	1932 - 1943	2245896
11	309m SE	Nursery	1974	2220403
E	310m SE	Corn Windmill	1876	2172040
12	318m SE	Nursery	1974	2249855
F	322m N	Nursery	1957	2183633
F	323m N	Nursery	1943	2292628
E	342m SE	Windmill	1896	2128424
E	342m SE	Corn Windmill	1910	2186648
13	351m NE	Gravel Pit	1943 - 1957	2184615
14	379m E	Unspecified Ground Workings	1974	2132464
H	402m S	Nursery	1943 - 1957	2248203
I	405m NE	Nursery	1974	2268479
15	425m N	Nursery	1957	2182095
16	466m S	Nursery	1974	2256767
18	483m E	Unspecified Ground Workings	1974	2132465

This data is sourced from Ordnance Survey / Groundsure.



Contact us with any questions at:



Date: 21 October 2020

1.2 Historical tanks

Records within 500m	6
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Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
E	343m SE	Unspecified Tank	1970 - 1994	383359
E	343m SE	Unspecified Tank	1942	359163
H	468m S	Unspecified Tank	1942	359181
I	479m NE	Unspecified Tank	1970	359260
17	480m W	Tanks	1897	374883
I	486m NE	Unspecified Tank	1985 - 1994	409780

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	10
----------------------------	-----------

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
4	29m NE	Electricity Substation	1970 - 1994	292062
B	180m NE	Gas Governor	1994	249952
B	184m NE	Electricity Substation	1970 - 1994	269395
B	184m NE	Electricity Substation	1985	285206
D	214m SW	Electricity Substation	1988	289447



ID	Location	Land use	Dates present	Group ID
D	214m SW	Electricity Substation	1970 - 1994	278898
C	272m E	Electricity Substation	1970 - 1994	292424
C	275m E	Electricity Substation	1985	289752
G	341m S	Electricity Substation	1970 - 1988	271301
G	342m S	Electricity Substation	1994	273810

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	0
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Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m	4
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Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
A	On site	Garage	1994	74371
A	On site	Garage	1988	76230
A	On site	Garage	1970 - 1977	81712
B	156m NW	Garage	1994	73021

This data is sourced from Ordnance Survey / Groundsure.



1.6 Historical military land

Records within 500m

0

Areas of military land digitised from multiple sources including the National Archives, local records, MOD records and verified other sources, intelligently grouped into contiguous features.

This data is sourced from Ordnance Survey / Groundsure / other sources.

2 Past land use - un-grouped



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
- Historical tanks
- Historical energy features
- Historical garages

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2.1 Historical industrial land uses

Records within 500m

35

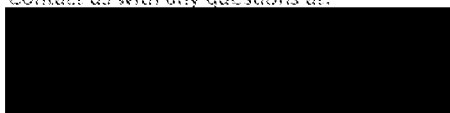
Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 10,560 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on [page 19](#)

ID	Location	Land Use	Date	Group ID
1	On site	Smithy	1910	2167094
8	On site	Unspecified Pit	1932	2175977
8	On site	Unspecified Pit	1910	2175977



ID	Location	Land Use	Date	Group ID
2	19m NE	Nursery	1910	2161018
3	102m E	Gravel Pit	1896	2138670
4	143m E	Unspecified Commercial/Industrial	1957	2130602
5	145m SW	Grave Yard	1876	2145502
E	199m E	Nursery	1957	2173185
E	209m E	Nursery	1910	2271406
7	244m E	Unspecified Pit	1974	2123489
E	255m E	Nursery	1943	2173185
8	278m S	Nursery	1974	2219035
G	307m SE	Corn Mill	1943	2245896
G	307m SE	Corn Mill	1932	2245896
9	309m SE	Nursery	1974	2220403
G	310m SE	Corn Windmill	1876	2172040
10	318m SE	Nursery	1974	2249855
H	322m N	Nursery	1957	2183633
H	323m N	Nursery	1943	2292628
G	342m SE	Corn Windmill	1910	2186648
G	342m SE	Windmill	1896	2128424
J	351m NE	Gravel Pit	1957	2184615
J	354m NE	Gravel Pit	1943	2184615
11	379m E	Unspecified Ground Workings	1974	2132464
K	402m S	Nursery	1943	2248203
K	404m S	Nursery	1957	2248203
L	405m NE	Nursery	1974	2263479
12	425m N	Nursery	1957	2182095
13	453m N	Nursery	1957	2182095
M	464m S	Nursery	1943	2219035
14	466m S	Nursery	1974	2256767



ID	Location	Land Use	Date	Group ID
M	466m S	Nursery	1974	2219035
M	466m S	Nursery	1957	2219035
16	483m E	Unspecified Ground Workings	1974	2132465
17	487m S	Nursery	1974	2249855

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

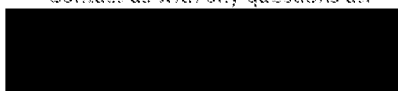
Records within 500m	10
----------------------------	-----------

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 19**

ID	Location	Land Use	Date	Group ID
G	343m SE	Unspecified Tank	1994	383359
G	343m SE	Unspecified Tank	1942	359163
G	343m SE	Unspecified Tank	1977	383359
G	343m SE	Unspecified Tank	1970	383359
G	344m SE	Unspecified Tank	1985	383359
K	468m S	Unspecified Tank	1942	359181
L	479m NE	Unspecified Tank	1970	359260
15	480m W	Tanks	1897	374883
L	486m NE	Unspecified Tank	1994	409780
L	489m NE	Unspecified Tank	1985	409780

This data is sourced from Ordnance Survey / Groundsure.



2.3 Historical energy features

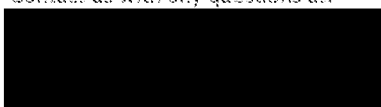
Records within 500m	21
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Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 19**

ID	Location	Land Use	Date	Group ID
C	29m NE	Electricity Substation	1988	292062
C	29m NE	Electricity Substation	1994	292062
C	31m NE	Electricity Substation	1977	292062
C	31m NE	Electricity Substation	1970	292062
D	100m NE	Gas Governor	1994	249952
D	184m NE	Electricity Substation	1985	285206
D	184m NE	Electricity Substation	1994	269395
D	184m NE	Electricity Substation	1977	269395
D	184m NE	Electricity Substation	1970	269395
F	214m SW	Electricity Substation	1988	289447
F	214m SW	Electricity Substation	1977	278898
F	214m SW	Electricity Substation	1970	278898
F	216m SW	Electricity Substation	1994	278898
E	272m E	Electricity Substation	1994	292424
E	274m E	Electricity Substation	1977	292424
E	274m E	Electricity Substation	1970	292424
E	275m E	Electricity Substation	1985	289752
I	341m S	Electricity Substation	1988	271301
I	341m S	Electricity Substation	1977	271301
I	341m S	Electricity Substation	1970	271301
I	342m S	Electricity Substation	1994	273810

This data is sourced from Ordnance Survey / Groundsure.



2.4 Historical petrol stations

Records within 500m	0
---------------------	---

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m	5
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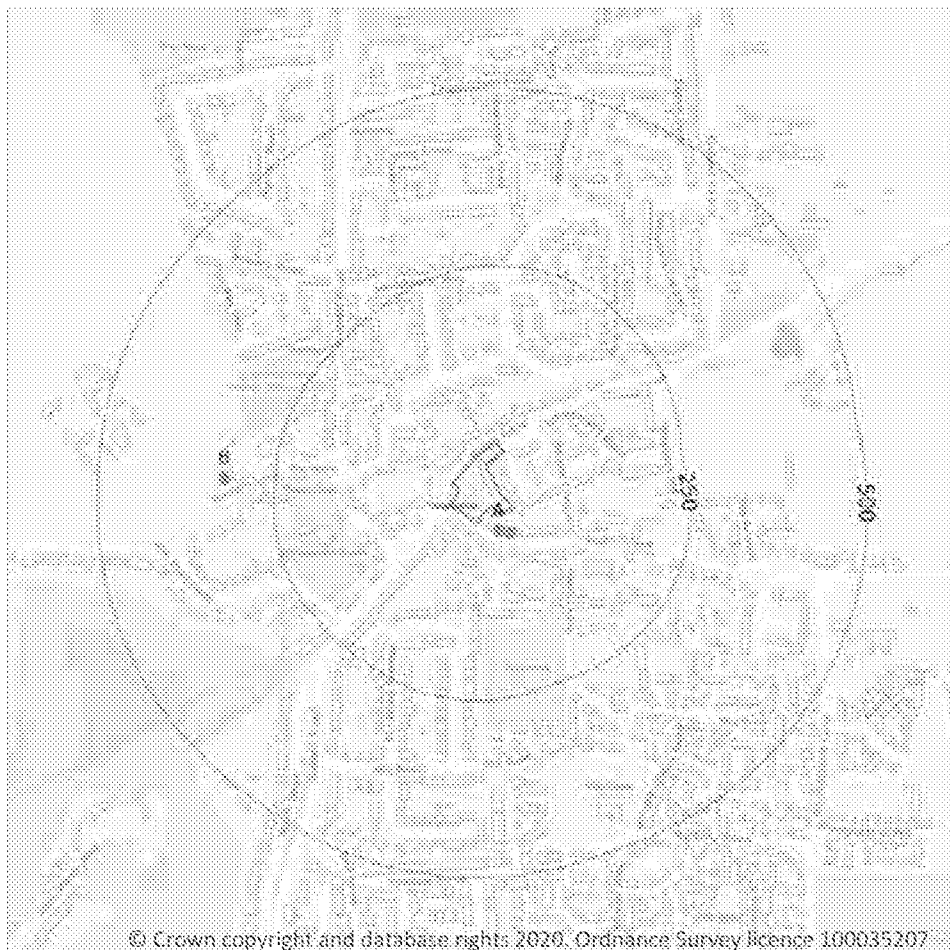
Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 19**

ID	Location	Land Use	Date	Group ID
A	On site	Garage	1988	76230
A	On site	Garage	1994	74371
A	On site	Garage	1977	81712
A	On site	Garage	1970	81712
6	156m NW	Garage	1994	73021

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



- Site Outline
- Search buffers in metres (m)
- Waste exemptions

3.1 Active or recent landfill

Records within 500m

0

Active or recently closed landfill sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.2 Historical landfill (BGS records)

Records within 500m

0

Landfill sites identified on a survey carried out on behalf of the DoE in 1973. These sites may have been closed or operational at this time.

This data is sourced from the British Geological Survey.



3.3 Historical landfill (LA/mapping records)

Records within 500m**0**

Landfill sites identified from Local Authority records and high detail historical mapping.

This data is sourced from the Ordnance Survey/Groundsure and Local Authority records.

3.4 Historical landfill (EA/NRW records)

Records within 500m**0**

Known historical (closed) landfill sites (e.g. sites where there is no PPC permit or waste management licence currently in force). This includes sites that existed before the waste licensing regime and sites that have been licensed in the past but where a licence has been revoked, ceased to exist or surrendered and a certificate of completion has been issued.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.5 Historical waste sites

Records within 500m**0**

Waste site records derived from Local Authority planning records and high detail historical mapping.

This data is sourced from Ordnance Survey/Groundsure and Local Authority records.

3.6 Licensed waste sites

Records within 500m**0**

Active or recently closed waste sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.7 Waste exemptions

Records within 500m**14**

Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on **page 24**

ID	Location	Site	Reference	Category	Sub-Category	Description
A	20m S	BARN FARM, Dappers Lane, Angmering, BN16 4AE	WEX230536	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
A	20m S	BARN FARM, Dappers Lane, Angmering, BN16 4AE	WEX230536	Disposing of waste exemption	On a farm	Disposal by incineration
A	20m S	BARN FARM, Dappers Lane, Angmering, BN16 4AE	WEX230536	Disposing of waste exemption	On a farm	Burning waste in the open
A	29m SE	BARN FARM, Dappers Lane, Angmering, BN16 4AE	WEX082709	Disposing of waste exemption	On a farm	Disposal by incineration
A	29m SE	BARN FARM, Dappers Lane, Angmering, BN16 4AE	WEX082709	Disposing of waste exemption	On a farm	Burning waste in the open
A	29m SE	BARN FARM, Dappers Lane, Angmering, BN16 4AE	WEX082709	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
B	323m W	Old Place Farm, Rectory Lane, Angmering, Littlehampton, BN16 4JU	WEX067451	Disposing of waste exemption	On a farm	Deposit of waste from dredging of inland waters
B	323m W	Old Place Farm, Rectory Lane, Angmering, Littlehampton, BN16 4JU	WEX067451	Disposing of waste exemption	On a farm	Disposal by incineration
B	323m W	Old Place Farm, Rectory Lane, Angmering, Littlehampton, BN16 4JU	WEX067451	Disposing of waste exemption	On a farm	Burning waste in the open
B	323m W	Old Place Farm, Rectory Lane, Angmering, Littlehampton, BN16 4JU	WEX067451	Storing waste exemption	On a farm	Storage of waste in secure containers
B	323m W	Old Place Farm, Rectory Lane, Angmering, Littlehampton, BN16 4JU	WEX067451	Storing waste exemption	On a farm	Storage of waste in a secure place
B	323m W	Old Place Farm, Rectory Lane, Angmering, Littlehampton, BN16 4JU	WEX067451	Treating waste exemption	On a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
B	323m W	Old Place Farm, Rectory Lane, Angmering, Littlehampton, BN16 4JU	WEX067451	Using waste exemption	On a farm	Use of waste in construction

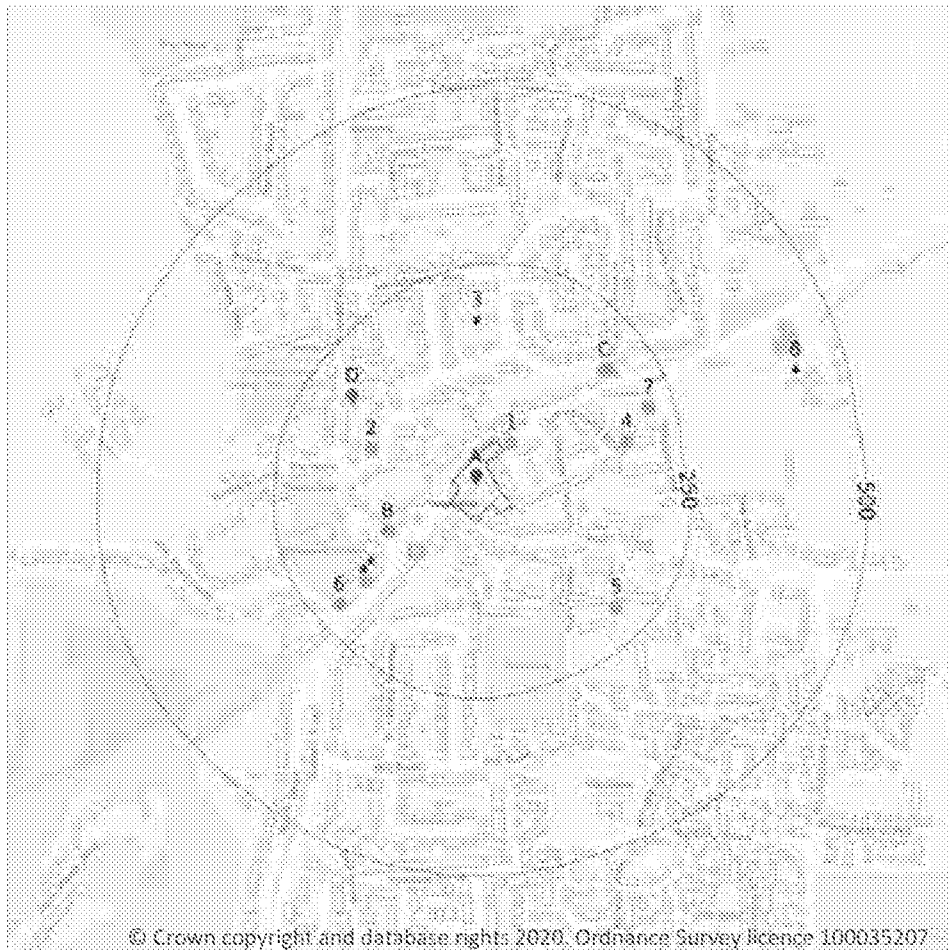


ID	Location	Site	Reference	Category	Sub-Category	Description
B	323m W	Old Place Farm , Rectory Lane, Angmering, Littlehampton , BN16 4JU	WEX067451	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit

This data is sourced from the Environment Agency and Natural Resources Wales.



4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- Licensed pollutant release (Part A(2)/B)
- Licensed Discharges to controlled waters
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m

11

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 28**

ID	Location	Company	Address	Activity	Category
1	15m NE	Electricity Sub Station	West Sussex, BN16	Electrical Features	Infrastructure and Facilities
8	98m SW	Physiodent Ltd	Glaber House, The Square, Angmering, Littlehampton, West Sussex, BN16 4EF	Medical Equipment, Supplies and Pharmaceuticals	Industrial Products



ID	Location	Company	Address	Activity	Category
2	124m NW	S C H Sussex Ltd	5, Lansdowne Road, Angmering, Littlehampton, West Sussex, BN16 4IX	Industrial Engineers	Engineering Services
8	163m SW	Pump House	West Sussex, BN16	Water Pumping Stations	Industrial Features
4	174m E	Airport Connections	14, Cumberland Road, Angmering, Littlehampton, West Sussex, BN16 4BG	Airlines and Airline Services	Transport, Storage and Delivery
C	181m NE	Gas Governor Station	West Sussex, BN16	Gas Features	Infrastructure and Facilities
D	186m NW	Arundel Road Garage Ltd	Arundel Road, Angmering, Littlehampton, West Sussex, BN16 4JZ	Vehicle Repair, Testing and Servicing	Repair and Servicing
C	188m NE	Electricity Sub Station	West Sussex, BN16	Electrical Features	Infrastructure and Facilities
5	201m SE	Warning Safety Signs	The Honey Pot, Honey Lane, Angmering, Littlehampton, West Sussex, BN16 4AB	Signs	Industrial Products
6	213m SW	Electricity Sub Station	West Sussex, BN16	Electrical Features	Infrastructure and Facilities
7	214m E	J O & P N Burrows	5, Weavers Hill, Angmering, Littlehampton, West Sussex, BN16 4BP	Distribution and Haulage	Transport, Storage and Delivery

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	0
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Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	0
----------------------------	----------

High voltage underground electricity transmission cables.

This data is sourced from National Grid.



4.4 Gas pipelines

Records within 500m**0**

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m**0**

Contaminated Land Register of sites designated under Part 2a of the Environmental Protection Act 1990.

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m**0**

Control of Major Accident Hazards (COMAH) sites. This data includes upper and lower tier sites, and includes a historical archive of COMAH sites and Notification of Installations Handling Hazardous Substances (NIHHS) records.

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m**0**

Sites registered and licensed by the Health and Safety Executive under the Manufacture and Storage of Explosives Regulations 2005 (MSER). The last update to this data was in April 2011.

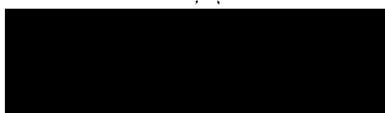
This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m**0**

Consents granted for a site to hold certain quantities of hazardous substances at or above defined limits in accordance with the Planning (Hazardous Substances) Regulations 2015.

This data is sourced from Local Authority records.



4.9 Historical licensed industrial activities (IPC)

Records within 500m

0

Integrated Pollution Control (IPC) records of substance releases to air, land and water. This data represents a historical archive as the IPC regime has been superseded.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.10 Licensed industrial activities (Part A(1))

Records within 500m

0

Records of Part A(1) installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.11 Licensed pollutant release (Part A(2)/B)

Records within 500m

3

Records of Part A(2) and Part B installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

Features are displayed on the Current industrial land use map on **page 28**

ID	Location	Address	Details	
A	On site	Chandlers Garage Worthing Ltd, Water Lane, BN16 4EH	Process: Waste Oil Burner 0.4 MW; Respraying Of Road Vehicles Status: New Legislation Applies Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
A	On site	Chandlers Garage (Worthing) Ltd, BMW House, Water Lane, Angmering, Littlehampton, BN16 4HE	Process: Unloading of Petrol into Storage at Service Stations Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
D	184m NW	Arundel Road Garage, Arundel Road, Angmering, West Sussex, BN16 4JZ	Process: Waste Oil Burner 0.4 MW Status: New Legislation Applies Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m

0

Records of the storage, use, accumulation and disposal of radioactive substances regulated under the Radioactive Substances Act 1993.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.13 Licensed Discharges to controlled waters

Records within 500m

4

Discharges of treated or untreated effluent to controlled waters under the Water Resources Act 1991.

Features are displayed on the Current industrial land use map on **page 28**

ID	Location	Address	Details	
B	139m SW	OUTLET AT ANGMERING GREEN, ANGMERING, NR LITTLEHAMPTON, WEST SUSSEX	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: S01200 Permit Version: 1 Receiving Water: FRESHWATER RIVER	Status: SURRENDERED UNDER EPR 2010 Issue date: 30/08/1957 Effective Date: 30/08/1957 Revocation Date: 04/03/2019
B	153m SW	ANGMERING GREEN, ANGMERING	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 501771 Permit Version: 1 Receiving Water: FRESHWATER RIVER	Status: SURRENDERED UNDER EPR 2010 Issue date: 07/02/1969 Effective Date: 07/02/1969 Revocation Date: 04/03/2019
B	172m N	SOUTHDOWNS & PERRYHILL, GREENACRES RING, ANGMERING, WEST SUSSEX	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: P03266 Permit Version: 1 Receiving Water: INTO LAND	Status: LAPSED UNDER SCHEDULE 23 ENVIRONMENT ACT 1995 Issue date: 15/11/1990 Effective Date: 15/11/1990 Revocation Date: 31/03/1997
B	427m E	LOWER AVENALS FARM, WATER LANE, ANGMERING, WEST SUSSEX	Effluent Type: SEWAGE DISCHARGES - UNSPECIFIED - NOT WATER COMPANY Permit Number: P02921 Permit Version: 1 Receiving Water: FRESHWATER RIVER	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 25/04/1990 Effective Date: 25/04/1990 Revocation Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.



4.14 Pollutant release to surface waters (Red List)

Records within 500m	0
---------------------	---

Discharges of specified substances under the Environmental Protection (Prescribed Processes and Substances) Regulations 1991.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.15 Pollutant release to public sewer

Records within 500m	0
---------------------	---

Discharges of Special Category Effluents to the public sewer.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.16 List 1 Dangerous Substances

Records within 500m	0
---------------------	---

Discharges of substances identified on List I of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.17 List 2 Dangerous Substances

Records within 500m	0
---------------------	---

Discharges of substances identified on List II of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.18 Pollution Incidents (EA/NRW)

Records within 500m	1
---------------------	---

Records of substantiated pollution incidents. Since 2006 this data has only included category 1 (major) and 2 (significant) pollution incidents.

Features are displayed on the Current industrial land use map on **page 28**

ID	Location	Details	
8	83m SW	Incident Date: 05/11/2002 Incident Identification: 118345 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)

This data is sourced from the Environment Agency and Natural Resources Wales.

4.19 Pollution inventory substances

Records within 500m	0
----------------------------	----------

The pollution inventory (substances) includes reporting on annual emissions of certain regulated substances to air, controlled waters and land. A reporting threshold for each substance is also included. Where emissions fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

4.20 Pollution inventory waste transfers

Records within 500m	0
----------------------------	----------

The pollution inventory (waste transfers) includes reporting on annual transfers and recovery/disposal of controlled wastes from a site. A reporting threshold for each waste type is also included. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

4.21 Pollution inventory radioactive waste

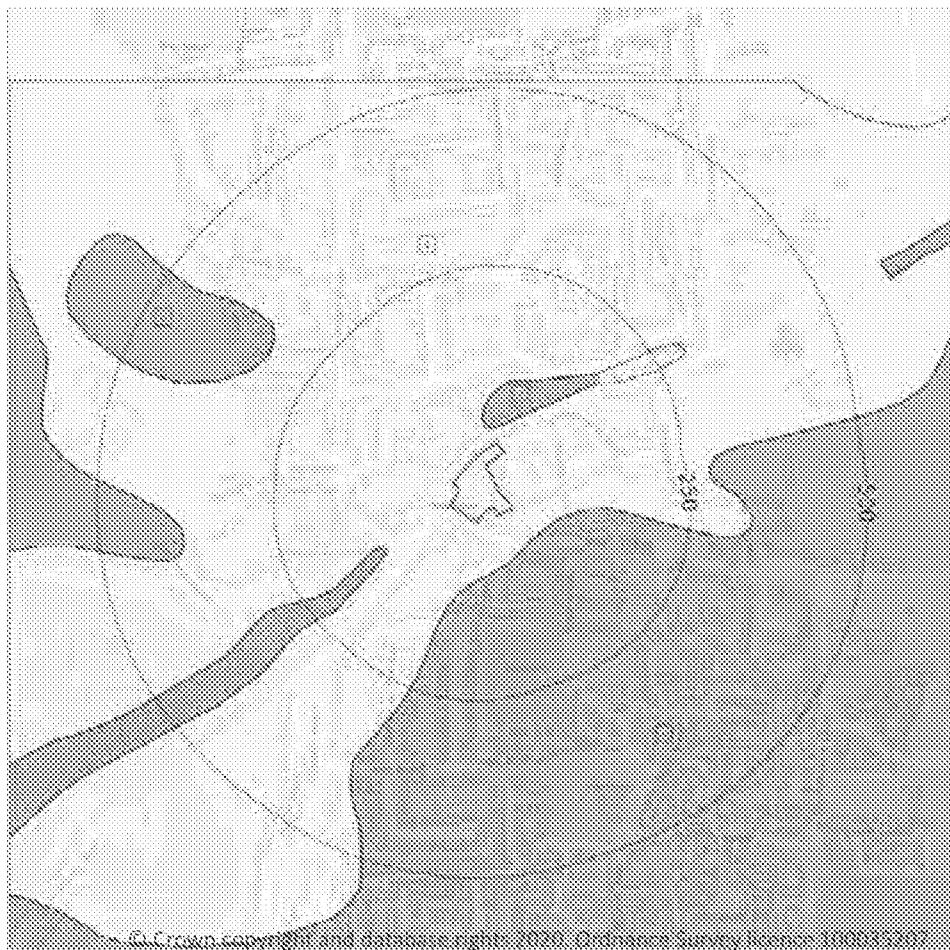
Records within 500m	0
----------------------------	----------

The pollution inventory (radioactive wastes) includes reporting on annual releases of radioactive substances from a site, including the means of release. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.



5 Hydrogeology - Superficial aquifer



- Site Outline
- Search buffers in metres (m)
- Principal
 - Secondary A
 - Secondary B
 - Secondary Undifferentiated
 - Unproductive
 - Unknown

5.1 Superficial aquifer

Records within 500m

4

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on page 35

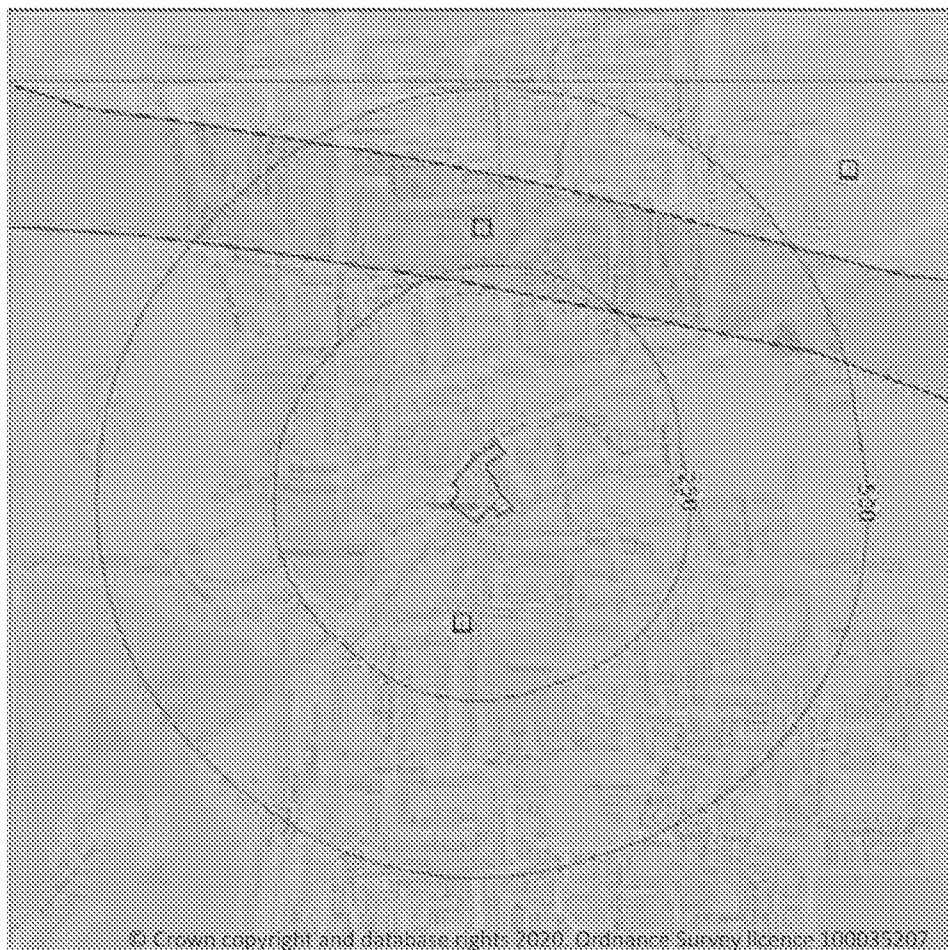
ID	Location	Designation	Description
1	On site	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
2	20m N	Secondary A	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. These are generally aquifers formerly classified as minor aquifers

ID	Location	Designation	Description
3	48m SE	Secondary A	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. These are generally aquifers formerly classified as minor aquifers
4	317m NW	Secondary A	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. These are generally aquifers formerly classified as minor aquifers

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.



Bedrock aquifer



- Site Outline
- Search buffers in metres (m)
- Principal
 - Secondary A
 - Secondary B
 - Secondary Undifferentiated
 - Unproductive

5.2 Bedrock aquifer

Records within 500m

3

Aquifer status of groundwater held within bedrock geology.

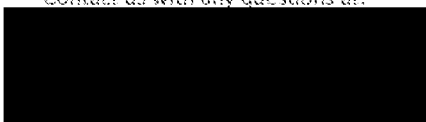
Features are displayed on the Bedrock aquifer map on [page 37](#)

ID	Location	Designation	Description
1	On site	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
2	213m N	Secondary A	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. These are generally aquifers formerly classified as minor aquifers



ID	Location	Designation	Description
3	370m N	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.



Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m

4

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid. Groundwater vulnerability is described as High, Medium or Low as follows:

- High - Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits.
- Medium - Intermediate between high and low vulnerability.
- Low - Areas that provide the greatest protection from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.

Features are displayed on the Groundwater vulnerability map on **page 39**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Principal Flow mechanism: Well connected fractures
3	17m E	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: No Data	Vulnerability: Low Aquifer type: Principal Flow mechanism: Well connected fractures
5	19m N	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Principal Flow mechanism: Well connected fractures
6	47m SE	Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: No Data	Vulnerability: Low Aquifer type: Principal Flow mechanism: Well connected fractures

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

5.4 Groundwater vulnerability- soluble rock risk

Records on site	1
------------------------	----------

This dataset identifies areas where solution features that enable rapid movement of a pollutant may be present within a 1km grid square.

ID	Maximum soluble risk category	Percentage of grid square covered by maximum risk
2	Significant soluble rocks are likely to be present. Low possibility of localised subsidence or dissolution-related degradation of bedrock occurring naturally, but may be possible in adverse conditions such as high surface or subsurface water flow.	0.0%

This data is sourced from the British Geological Survey and the Environment Agency.

5.5 Groundwater vulnerability- local information

Records on site

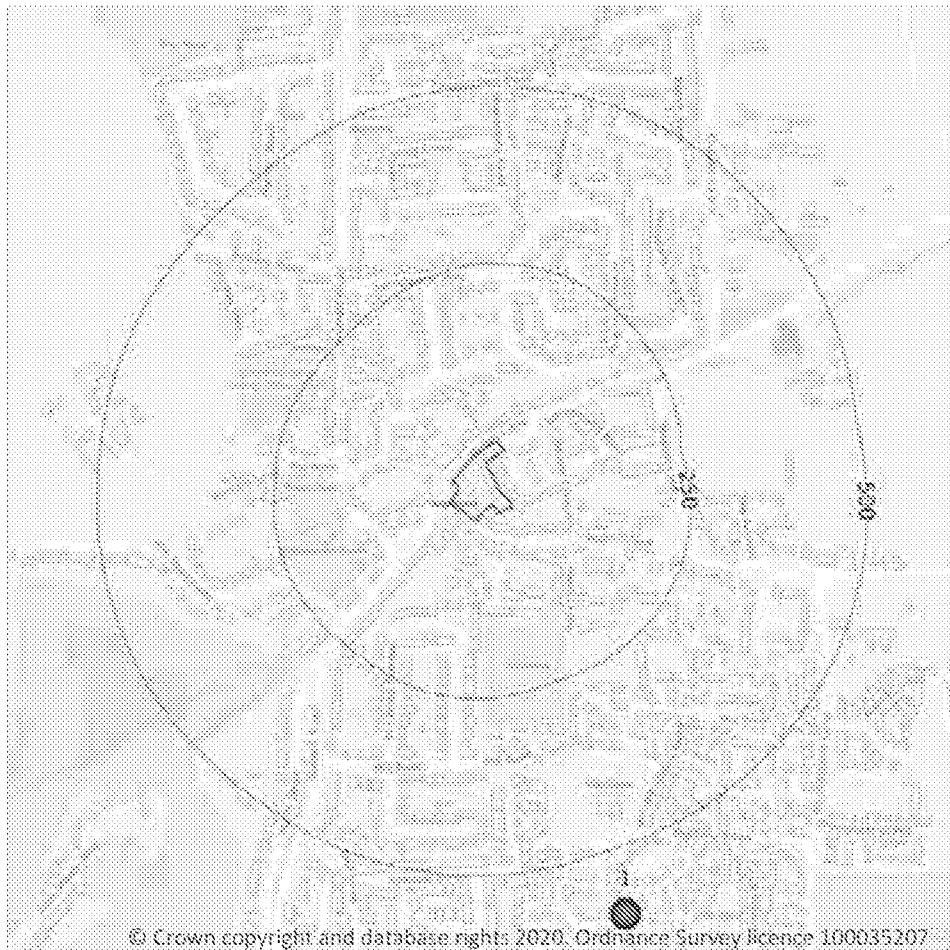
0

This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506 or by email on enquiries@environment-agency.gov.uk.

This data is sourced from the British Geological Survey and the Environment Agency.



Abstractions and Source Protection Zones



- Site Outline
- Search buffers in metres (m)
- Source Protection Zone 1
Inner catchment
- Source Protection Zone 2
Outer catchment
- Source Protection Zone 3
Total catchment
- Source Protection Zone 4
Zone of Special Interest
- Source Protection Zone 1c
Inner catchment - confined aquifer
- Source Protection Zone 2c
Outer catchment - confined aquifer
- Source Protection Zone 3c
Total catchment - confined aquifer
- Drinking water abstraction licences
Polygon features
- Drinking water abstraction licences
Linear features
- Groundwater abstraction licence (point)
- Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

5.6 Groundwater abstractions

Records within 2000m

10

Licensed groundwater abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, between two points (line data) or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on [page 42](#)

ID	Location	Details	
1	592m S	Status: Historical Licence No: 10/41/414018 Details: Horticultural Watering Direct Source: Southern Region Groundwater Point: FRESH ACRES NURSERIES Data Type: Point Name: Fresh Acres Nurseries Ltd Easting: 507140 Northing: 103820	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 19/07/1967 Version End Date: -
-	1027m SE	Status: Historical Licence No: 10/41/414002 Details: Horticultural Watering Direct Source: Southern Region Groundwater Point: WEST END NURSERIES Data Type: Point Name: Van Heyningen Bros. Ltd Easting: 507540 Northing: 103530	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 11/01/1966 Version End Date: -
-	1144m SW	Status: Active Licence No: 10/41/414009 Details: Spray Irrigation - Direct Direct Source: Southern Region Groundwater Point: BLACK DITCH AT HAM MANOR GOLF CLUB Data Type: Point Name: Ham Manor Golf Club Ltd Easting: 505870 Northing: 103890	Annual Volume (m³): 11,783 Max Daily Volume (m³): 109.10 Original Application No: - Original Start Date: 07/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 31/03/2016 Version End Date: -
-	1327m SE	Status: Active Licence No: 10/41/310106 Details: Spray Irrigation - Direct Direct Source: Southern Region Groundwater Point: ROUNDSTONE NURSERY Data Type: Point Name: Roundstone Garden Centre Ltd Easting: 507640 Northing: 103240	Annual Volume (m³): 18,200 Max Daily Volume (m³): 191 Original Application No: - Original Start Date: 27/01/1966 Expiry Date: - Issue No: 101 Version Start Date: 08/05/2015 Version End Date: -
-	1443m NW	Status: Historical Licence No: 10/41/414103 Details: General Farming & Domestic Direct Source: Southern Region Groundwater Point: DECOY COTTAGE POLING Data Type: Point Name: Langmead Easting: 505870 Northing: 105450	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 27/10/1980 Version End Date: -



ID	Location	Details	
-	1533m W	Status: Active Licence No: 24/066 Details: Spray Irrigation - Direct Direct Source: Southern Region Groundwater Point: OLD PLACE FARM Data Type: Point Name: F W Longhurst & Son Ltd Easting: 505370 Northing: 104580	Annual Volume (m³): 18,184 Max Daily Volume (m³): 1,400 Original Application No: - Original Start Date: 29/07/1996 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2016 Version End Date: -
-	1533m W	Status: Active Licence No: 24/066 Details: General Farming & Domestic Direct Source: Southern Region Groundwater Point: OLD PLACE FARM Data Type: Point Name: F W Longhurst & Son Ltd Easting: 505370 Northing: 104580	Annual Volume (m³): 18,184 Max Daily Volume (m³): 1,400 Original Application No: - Original Start Date: 29/07/1996 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2016 Version End Date: -
-	1620m E	Status: Active Licence No: 10/41/310112 Details: Spray Irrigation - Direct Direct Source: Southern Region Groundwater Point: ROUNDSTONE FARM FERRING Data Type: Point Name: Langmead Easting: 508580 Northing: 104120	Annual Volume (m³): 77,270 Max Daily Volume (m³): 1,820 Original Application No: - Original Start Date: 03/11/1987 Expiry Date: - Issue No: 100 Version Start Date: 08/06/2009 Version End Date: -
-	1988m NW	Status: Historical Licence No: 10/41/414024 Details: Horticultural Watering Direct Source: Southern Region Groundwater Point: FORMER DARLINGTON MUSHROOM SITE POLING POINT 2 Data Type: Point Name: Coleman Easting: 505260 Northing: 105560	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: - Expiry Date: - Issue No: 101 Version Start Date: 28/11/2003 Version End Date: -
-	1988m NW	Status: Historical Licence No: 10/41/414024 Details: Spray Irrigation - Direct Direct Source: Southern Region Groundwater Point: FORMER DARLINGTON MUSHROOM SITE POLING POINT 2 Data Type: Point Name: Langmead Easting: 505260 Northing: 105560	Annual Volume (m³): 59098 Max Daily Volume (m³): 364 Original Application No: - Original Start Date: 15/03/1966 Expiry Date: 31/03/2016 Issue No: 103 Version Start Date: 19/05/2011 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.7 Surface water abstractions

Records within 2000m

6

Licensed surface water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 42**

ID	Location	Details	
-	1291m W	Status: Active Licence No: 10/41/414021 Details: Spray Irrigation - Storage Direct Source: Southern Region Surface Waters Point: BLACK DITCH AT HAM MANOR FARM RUSTINGTON Data Type: Line Name: Rustington Golf Centre Ltd Easting: 505620 Northing: 104190	Annual Volume (m³): 31,822 Max Daily Volume (m³): 1,500 Original Application No: - Original Start Date: 08/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 01/04/2016 Version End Date: -
-	1291m W	Status: Active Licence No: 10/41/414021 Details: Spray Irrigation - Direct Direct Source: Southern Region Surface Waters Point: BLACK DITCH AT HAM MANOR FARM RUSTINGTON Data Type: Line Name: Rustington Golf Centre Ltd Easting: 505620 Northing: 104190	Annual Volume (m³): 31,822 Max Daily Volume (m³): 1,500 Original Application No: - Original Start Date: 08/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 01/04/2016 Version End Date: -
-	1418m NW	Status: Historical Licence No: 10/41/414014 Details: Spray Irrigation - Direct Direct Source: Southern Region Surface Waters Point: BLACK DITCH AT MANOR FARM Data Type: Line Name: Langmead Easting: 503250 Northing: 104460	Annual Volume (m³): 20548 Max Daily Volume (m³): 916.5 Original Application No: - Original Start Date: - Expiry Date: 31/10/2006 Issue No: 101 Version Start Date: 01/04/2006 Version End Date: -

ID	Location	Details	
-	1739m W	Status: Historical Licence No: 24/068 Details: Spray Irrigation - Storage Direct Source: Southern Region Surface Waters Point: SIDE CHANNEL OF THE BLACK DITCH AT MANOR FARM POLING Data Type: Point Name: Keith Langmead Ltd Easting: 505164 Northing: 104596	Annual Volume (m³): 55000 Max Daily Volume (m³): 1000 Original Application No: - Original Start Date: 01/11/2006 Expiry Date: 31/03/2016 Issue No: 1 Version Start Date: 16/06/2009 Version End Date: -
-	1739m W	Status: Active Licence No: 24/068/R01 Details: Spray Irrigation - Storage Direct Source: Southern Region Surface Waters Point: SIDE CHANNEL OF THE BLACK DITCH AT MANOR FARM POLING Data Type: Point Name: Langmead Easting: 505164 Northing: 104596	Annual Volume (m³): 49,500 Max Daily Volume (m³): 1,000 Original Application No: - Original Start Date: 01/04/2016 Expiry Date: 31/02/2028 Issue No: 1 Version Start Date: 01/04/2019 Version End Date: -
-	1743m W	Status: Historical Licence No: 24/068 Details: Spray Irrigation - Storage Direct Source: Southern Region Surface Waters Point: SIDE CHANNEL OF THE BLACK DITCH AT MANOR FARM POLING Data Type: Point Name: Keith Langmead Ltd Easting: 505160 Northing: 104590	Annual Volume (m³): 55000 Max Daily Volume (m³): 1000 Original Application No: - Original Start Date: 01/11/2006 Expiry Date: 31/03/2016 Issue No: 1 Version Start Date: 16/06/2009 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.8 Potable abstractions

Records within 2000m	0
-----------------------------	----------

Licensed potable water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.9 Source Protection Zones

Records within 500m

0

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.10 Source Protection Zones (confined aquifer)

Records within 500m

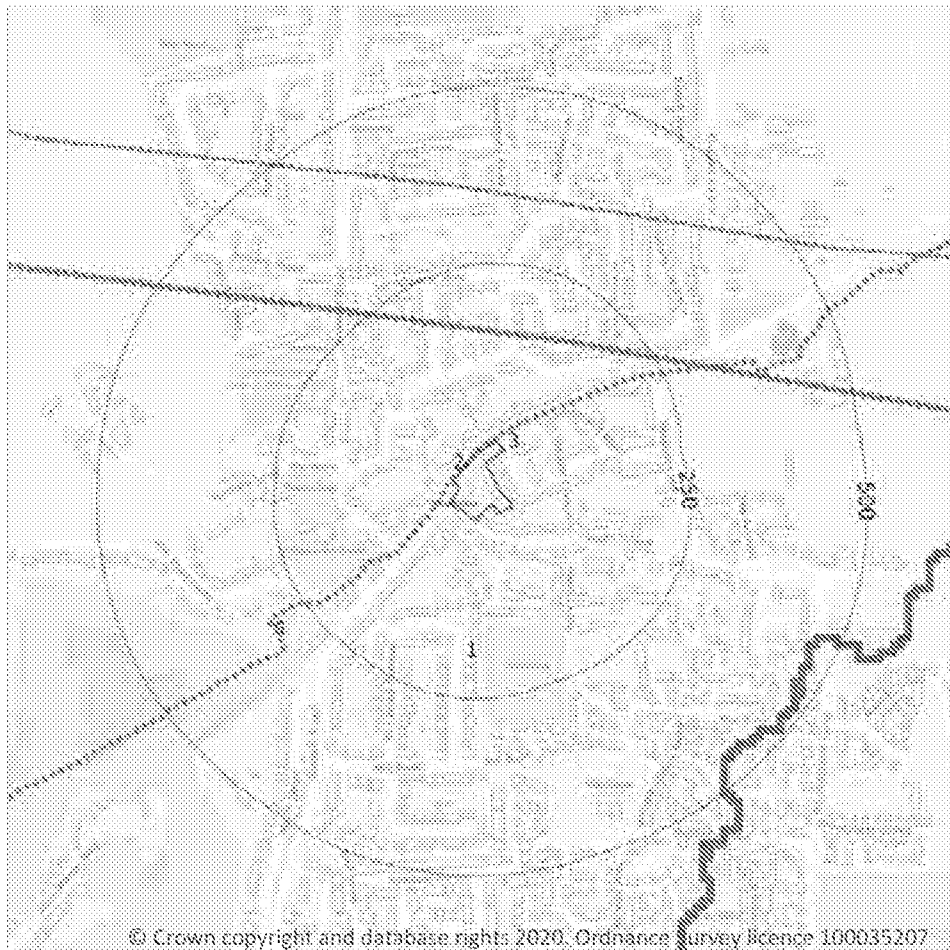
0

Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

This data is sourced from the Environment Agency and Natural Resources Wales.



6 Hydrology



- Site Outline
- Search buffers in metres (m)
- Water Network (OS MasterMap)
- Surface water features (wider than 5m)
- Surface water features (narrower than 5m)
- WFD River, canal and surface water transfer water bodies
- WFD Lake water bodies
- WFD Transitional and coastal water bodies
- WFD Surface water body catchments boundaries
- WFD Groundwater body boundaries

6.1 Water Network (OS MasterMap)

Records within 250m

2

Detailed water network of Great Britain showing the flow and precise central course of every river, stream, lake and canal.

Features are displayed on the Hydrology map on [page 48](#)

ID	Location	Type of water feature	Ground level	Permanence	Name
3	On site	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
6	141m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	2
----------------------------	----------

Covering rivers, streams and lakes (some overlap with OS MasterMap Water Network data in previous section) but additionally covers smaller features such as ponds. Rivers and streams narrower than 5m are represented as a single line. Lakes, ponds and rivers or streams wider than 5m are represented as polygons.

Features are displayed on the Hydrology map on **page 48**

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site	1
------------------------	----------

The Water Framework Directive is an EU-led framework for the protection of inland surface waters, estuaries, coastal waters and groundwater through river basin-level management planning. In terms of surface water, these basins are broken down into smaller units known as management, operational and water body catchments.

Features are displayed on the Hydrology map on **page 48**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
2	On site	River WB catchment	Black Ditch (W Sussex)	GB107041012890	Lower Arun	Arun and Western Streams

This data is sourced from the Environment Agency and Natural Resources Wales.

6.4 WFD Surface water bodies

Records identified	1
---------------------------	----------

Surface water bodies under the Directive may be rivers, lakes, estuary or coastal. To achieve the purpose of the Directive, environmental objectives have been set and are reported on for each water body. The progress towards delivery of the objectives is then reported on by the relevant competent authorities at the end of each six-year cycle. The river water body directly associated with the catchment listed in the previous section is detailed below, along with any lake, canal, coastal or artificial water body within 250m of the site. Click on the

water body ID in the table to visit the EA Catchment Explorer to find out more about each water body listed.
 Features are displayed on the Hydrology map on **page 48**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
4	1m NW	River	Black Ditch (W Sussex)	GB107041012890	Poor	Good	Poor	2016

This data is sourced from the Environment Agency and Natural Resources Wales.

6.5 WFD Groundwater bodies

Records on site	1
------------------------	----------

Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

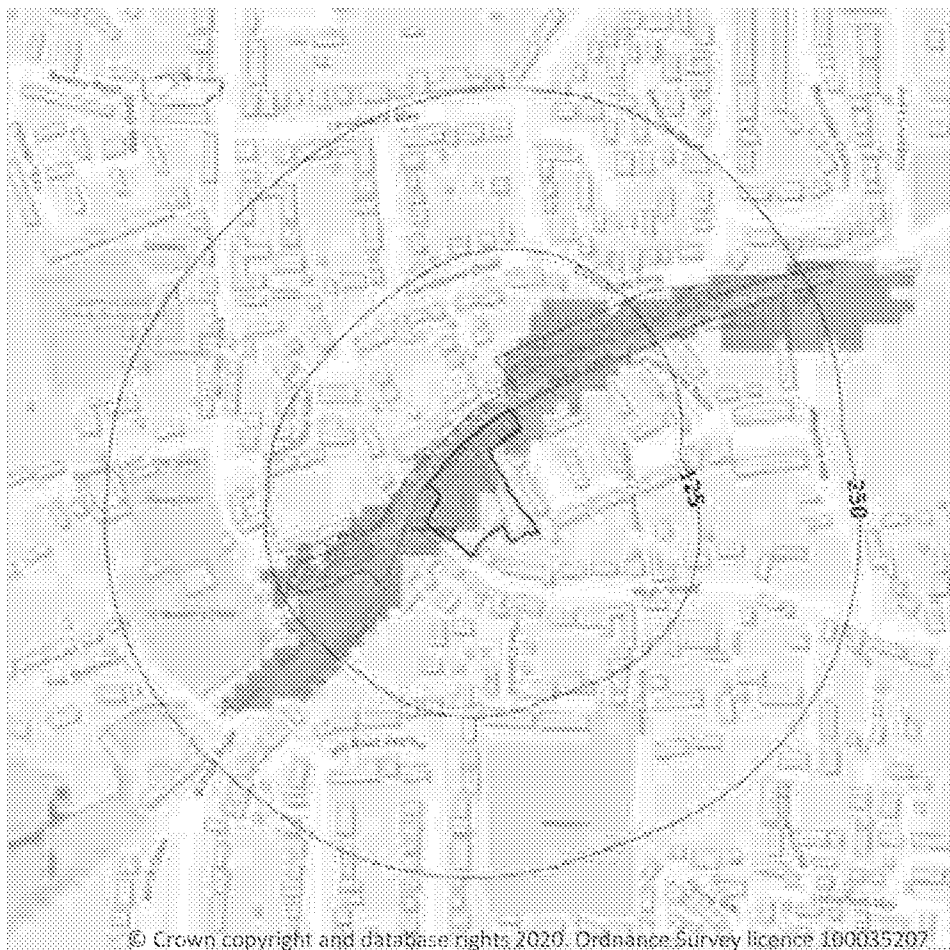
Features are displayed on the Hydrology map on **page 48**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
1	On site	Littlehampton Anticline East	GB40701G503400	Good	Good	Good	2015

This data is sourced from the Environment Agency and Natural Resources Wales.



7 River and coastal flooding



- Site Outline
- Search buffers in metres (m)
- Environment Agency river and coastal flooding:
 - High
 - Medium
 - Low
 - Very Low
- Historical Flood Events
- Areas Used for Flood Storage
- Areas Benefiting from Flood Defences
- Flood Defences

7.1 Risk of Flooding from Rivers and Sea (RoFRaS)

Records within 50m

4

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance).

Features are displayed on the River and coastal flooding map on [page 51](#)

Distance	RoFRaS flood risk
On site	High
0 - 50m	High

This data is sourced from the Environment Agency and Natural Resources Wales.

7.2 Historical Flood Events

Records within 250m

1

Records of historic flooding from rivers, the sea, groundwater and surface water. Records began in 1946 when predecessor bodies started collecting detailed information about flooding incidents, although limited details may be included on flooding incidents prior to this date. Takes into account the presence of defences, structures, and other infrastructure where they existed at the time of flooding, and includes flood extents that may have been affected by overtopping, breaches or blockages.

Features are displayed on the River and coastal flooding map on [page 51](#)

ID	Location	Event name	Date of flood	Flood source	Flood cause	Type of flood
A	On site	Angmering 1980	1980-09-20 1980-09-20	Drainage	Other	Fluvial

This data is sourced from the Environment Agency and Natural Resources Wales.

7.3 Flood Defences

Records within 250m

0

Records of flood defences owned, managed or inspected by the Environment Agency and Natural Resources Wales. Flood defences can be structures, buildings or parts of buildings. Typically these are earth banks, stone and concrete walls, or sheet-piling that is used to prevent or control the extent of flooding.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.4 Areas Benefiting from Flood Defences

Records within 250m

0

Areas that would benefit from the presence of flood defences in a 1 in 100 (1%) chance of flooding each year from rivers or 1 in 200 (0.5%) chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.5 Flood Storage Areas

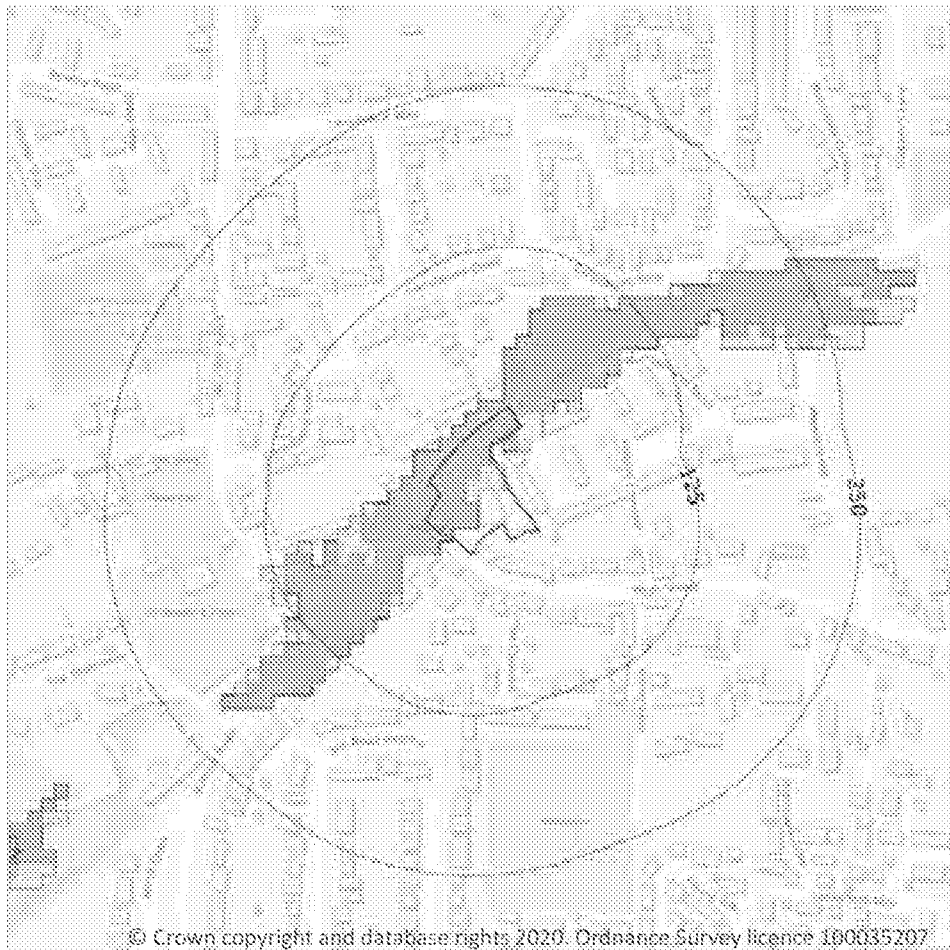
Records within 250m

0

Areas that act as a balancing reservoir, storage basin or balancing pond to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel or to delay the timing of a flood peak so that its volume is discharged over a longer period.

This data is sourced from the Environment Agency and Natural Resources Wales.

River and coastal flooding - Flood Zones



- Site Outline
- Search buffers in metres (m)
- Flood zone 2
 - Flood zone 3

7.6 Flood Zone 2

Records within 50m

1

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land between Flood Zone 3 (see next section) and the extent of the flooding from rivers or the sea with a 1 in 1000 (0.1%) chance of flooding each year.

Features are displayed on the River and coastal flooding map on [page 51](#)

Location	Type
On site	Zone 2 - (Fluvial /Tidal Models)

This data is sourced from the Environment Agency and Natural Resources Wales.

7.7 Flood Zone 3

Records within 50m

1

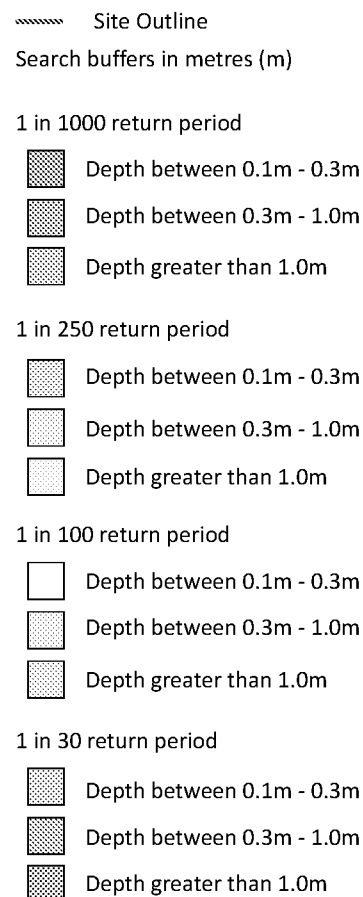
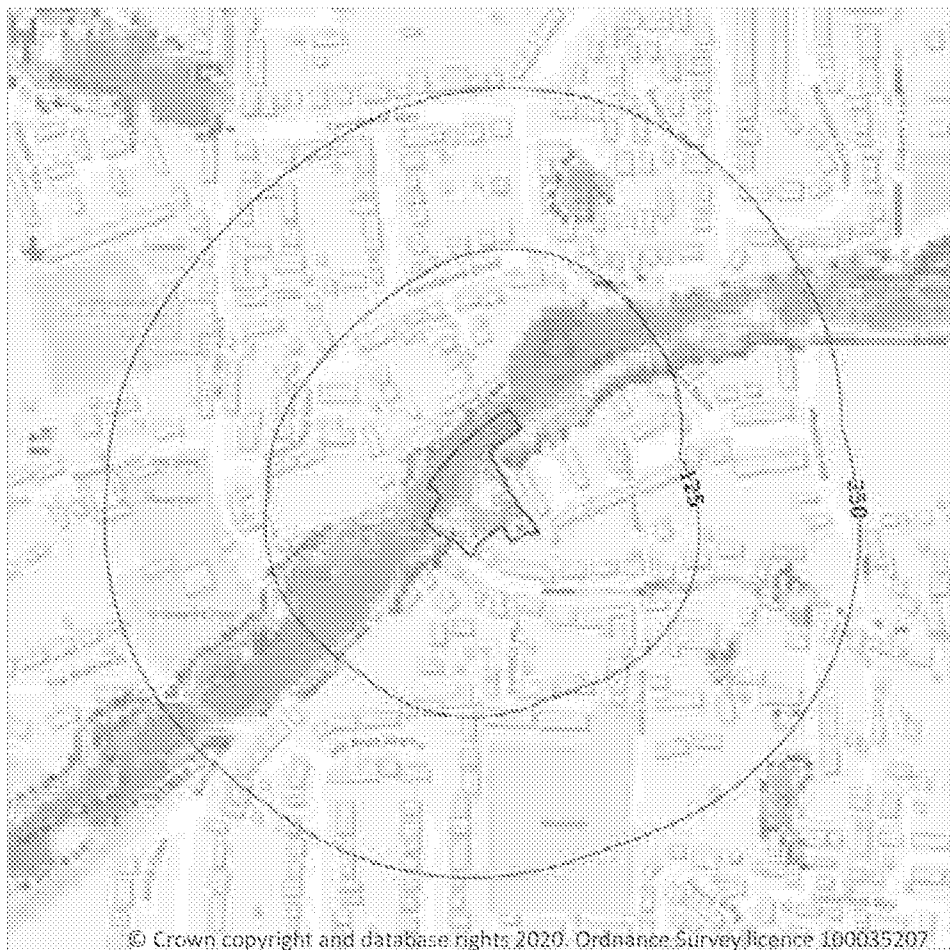
Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

Features are displayed on the River and coastal flooding map on **page 51**

Location	Type
On site	Zone 3 - (Fluvial Models)

This data is sourced from the Environment Agency and Natural Resources Wales.

8 Surface water flooding



8.1 Surface water flooding

Highest risk on site

1 in 30 year, 0.3m - 1.0m

Highest risk within 50m

1 in 30 year, Greater than 1.0m

Ambiental Risk Analytics surface water (pluvial) FloodMap identifies areas likely to flood as a result of extreme rainfall events, i.e. land naturally vulnerable to surface water ponding or flooding. This data set was produced by simulating 1 in 30 year, 1 in 100 year, 1 in 250 year and 1 in 1,000 year rainfall events. Modern urban drainage systems are typically built to cope with rainfall events between 1 in 20 and 1 in 30 years, though some older ones may flood in a 1 in 5 year rainfall event.

Features are displayed on the Surface water flooding map on [page 56](#)

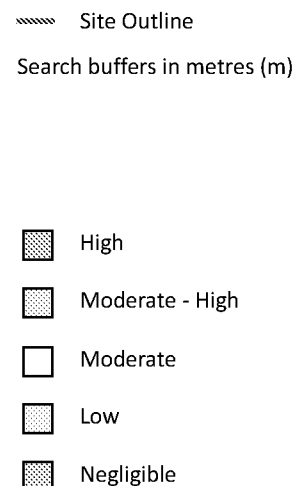
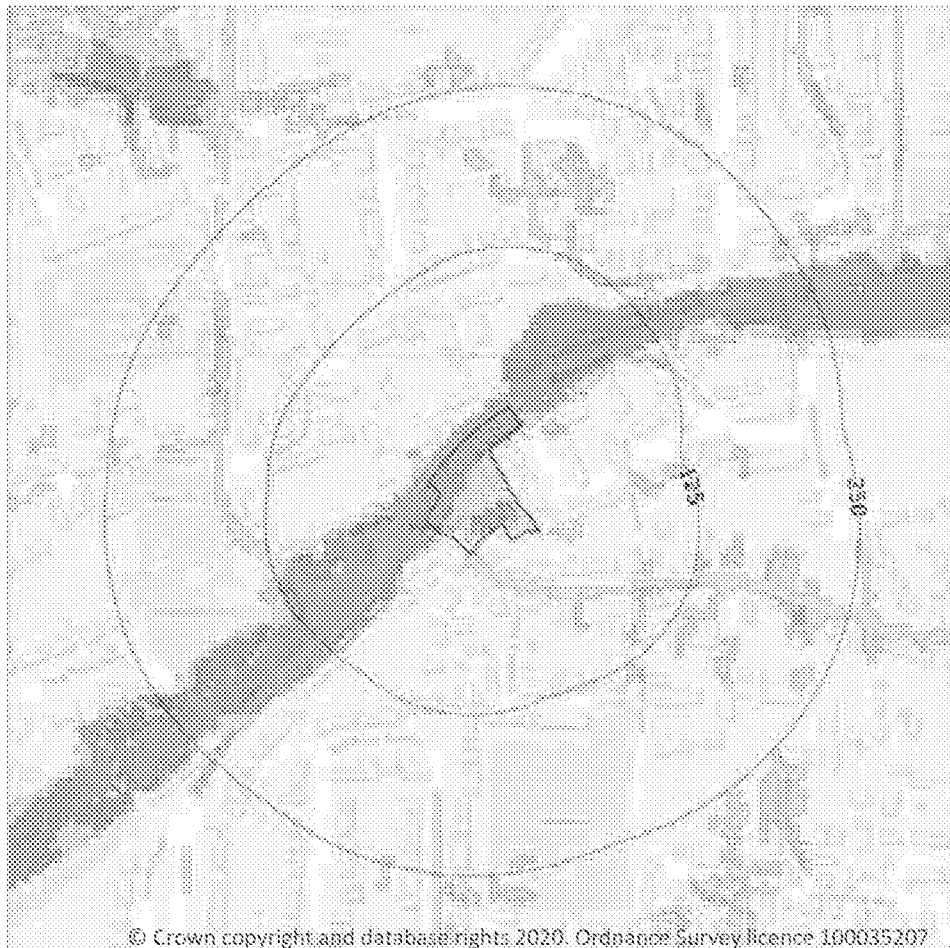
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Greater than 1.0m
1 in 250 year	Greater than 1.0m
1 in 100 year	Greater than 1.0m
1 in 30 year	Between 0.3m and 1.0m

This data is sourced from Ambienta Risk Analytics.

9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site

High

Highest risk within 50m

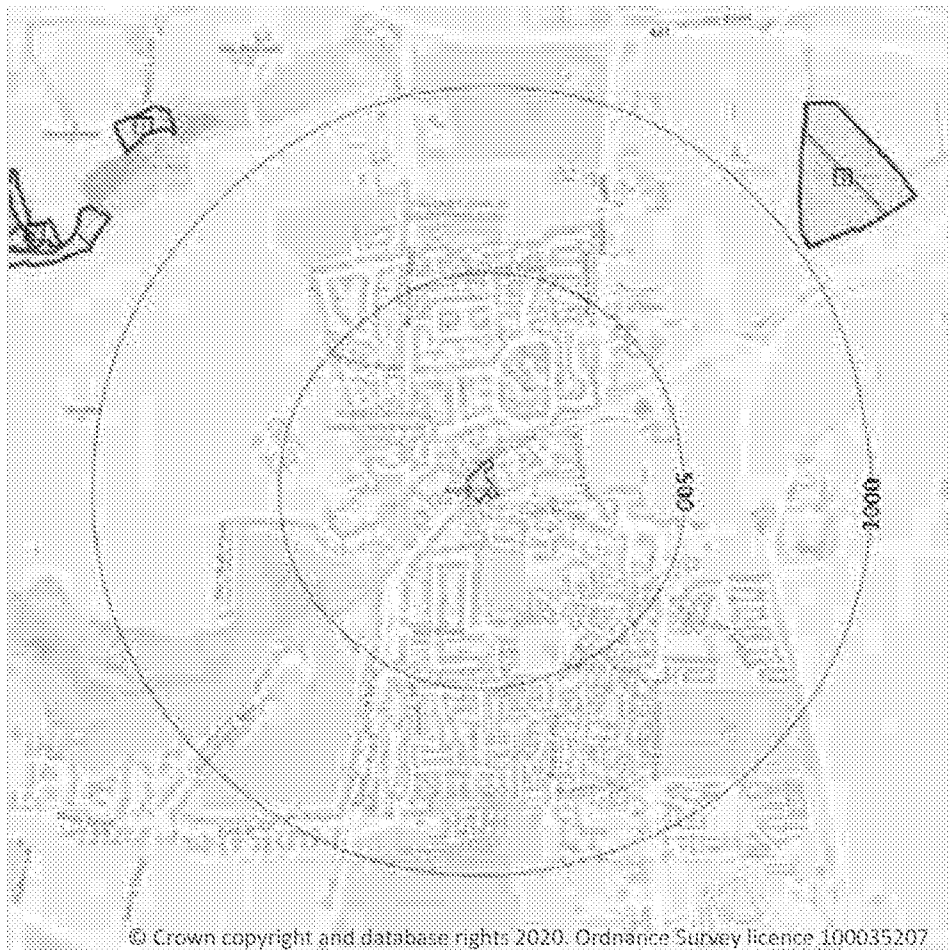
High

Groundwater flooding is caused by unusually high groundwater levels. It occurs when the water table rises above the ground surface or within underground structures such as basements or cellars. Groundwater flooding tends to exhibit a longer duration than surface water flooding, possibly lasting for weeks or months, and as a result it can cause significant damage to property. This risk assessment is based on a 1 in 100 year return period and a 5m Digital Terrain Model (DTM).

Features are displayed on the Groundwater flooding map on [page 58](#)

This data is sourced from Ambienta Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
-  Designated Ancient Woodland

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10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

0

Sites providing statutory protection for the best examples of UK flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were re-notified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and (in Scotland) by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2010.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m	0
-----------------------------	----------

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. They cover all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. These sites cover a broad definition of wetland; marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, and even some marine areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.3 Special Areas of Conservation (SAC)

Records within 2000m	0
-----------------------------	----------

Areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.4 Special Protection Areas (SPA)

Records within 2000m	0
-----------------------------	----------

Sites classified by the UK Government under the EC Birds Directive, SPAs are areas of the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.5 National Nature Reserves (NNR)

Records within 2000m	0
-----------------------------	----------

Sites containing examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. They are managed to conserve their habitats, provide special opportunities for scientific study or to provide public recreation compatible with natural heritage interests.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.6 Local Nature Reserves (LNR)

Records within 2000m

0

Sites managed for nature conservation, and to provide opportunities for research and education, or simply enjoying and having contact with nature. They are declared by local authorities under the National Parks and Access to the Countryside Act 1949 after consultation with the relevant statutory nature conservation agency.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.7 Designated Ancient Woodland

Records within 2000m

12

Ancient woodlands are classified as areas which have been wooded continuously since at least 1600 AD. This includes semi-natural woodland and plantations on ancient woodland sites. 'Wooded continuously' does not mean there is or has previously been continuous tree cover across the whole site, and not all trees within the woodland have to be old.

Features are displayed on the Environmental designations map on [page 59](#)

ID	Location	Name	Woodland Type
1	1028m NE	Unknown	Ancient & Semi-Natural Woodland
2	1185m NW	Decoy Pond Wood, Plat, The Lag, Poling Brook	Ancient & Semi-Natural Woodland
3	1207m NW	Unknown	Ancient & Semi-Natural Woodland
-	1607m N	Unknown	Ancient Replanted Woodland
-	1620m NW	Pound Lane Coppice, Lower Charlow, Charlow Furze *	Ancient & Semi-Natural Woodland
-	1644m NW	Charlow Furze Field, Lower Charlow, Pound Lane Co*	Ancient & Semi-Natural Woodland
-	1776m NW	Unknown	Ancient & Semi-Natural Woodland
-	1824m N	Unknown	Ancient & Semi-Natural Woodland
-	1884m NW	Unknown	Ancient Replanted Woodland
-	1938m N	Unknown	Ancient Replanted Woodland
-	1940m NE	Jews Head Coppice, Seldon Coppice, Jewshead Wood	Ancient & Semi-Natural Woodland
-	1942m N	Unknown	Ancient Replanted Woodland

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.8 Biosphere Reserves

Records within 2000m

0

Biosphere Reserves are internationally recognised by UNESCO as sites of excellence to balance conservation and socioeconomic development between nature and people. They are recognised under the Man and the Biosphere (MAB) Programme with the aim of promoting sustainable development founded on the work of the local community.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.9 Forest Parks

Records within 2000m

0

These are areas managed by the Forestry Commission designated on the basis of recreational, conservation or scenic interest.

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m

0

A type of marine nature reserve in UK waters established under the Marine and Coastal Access Act (2009). They are designated with the aim to protect nationally important, rare or threatened habitats and species.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.11 Green Belt

Records within 2000m

0

Areas designated to prevent urban sprawl by keeping land permanently open.

This data is sourced from the Ministry of Housing, Communities and Local Government.

10.12 Proposed Ramsar sites

Records within 2000m

0

Ramsar sites are areas listed as a Wetland of International Importance under the Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention) 1971. The sites here supplied have a status of 'Proposed' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m	0
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Special Areas of Conservation are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive. Those sites supplied here are those with a status of 'Possible' having been identified for potential adoption under the framework.

This data is sourced from Natural England and Natural Resources Wales.

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m	0
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Special Protection Areas (SPAs) are areas designated (or 'classified') under the European Union Wild Birds Directive for the protection of nationally and internationally important populations of wild birds. Those sites supplied here are those with a status of 'Potential' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m	0
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Areas where nitrate concentrations in drinking water sources exceeded or was at risk of exceeding the limit of 50 mg/l set by the 1980 EC Drinking Water Directive. Voluntary agricultural measures as a means of reducing the levels of nitrate were introduced by DEFRA as MAFF, with payments being made to farmers who complied. The scheme was started as a pilot in 1990 in ten areas, later implemented within 32 areas. The scheme was closed to further new entrants in 1998, although existing agreements continued for their full term. All Nitrate Sensitive Areas fell within the areas designated as Nitrate Vulnerable Zones (NVZs) in 1996 under the EC Nitrate Directive (91/676/EEC).

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m	2
----------------------	---

Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

Location	Name	Type	NVZ ID	Status
16m NW	Sussex Chalk	Groundwater	G56	Changed

Location	Name	Type	NVZ ID	Status
1493m N	Sussex Chalk	Groundwater	G56	Changed

This data is sourced from Natural England and Natural Resources Wales.

SSSI Impact Zones and Units



- Site Outline
- Search buffers in metres (m)
- SSSI Impact Risk Zones
- SSSI Units
- Not recorded
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Partially destroyed
- Destroyed

10.17 SSSI Impact Risk Zones

Records on site

1

Developed to allow rapid initial assessment of the potential risks to SSSIs posed by development proposals. They define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts.

Features are displayed on the SSSI Impact Zones and Units map on [page 65](#)

ID	Location	Type of developments requiring consultation
1	On site	Infrastructure - Airports, helipads and other aviation proposals.

This data is sourced from Natural England.

10.18 SSSI Units

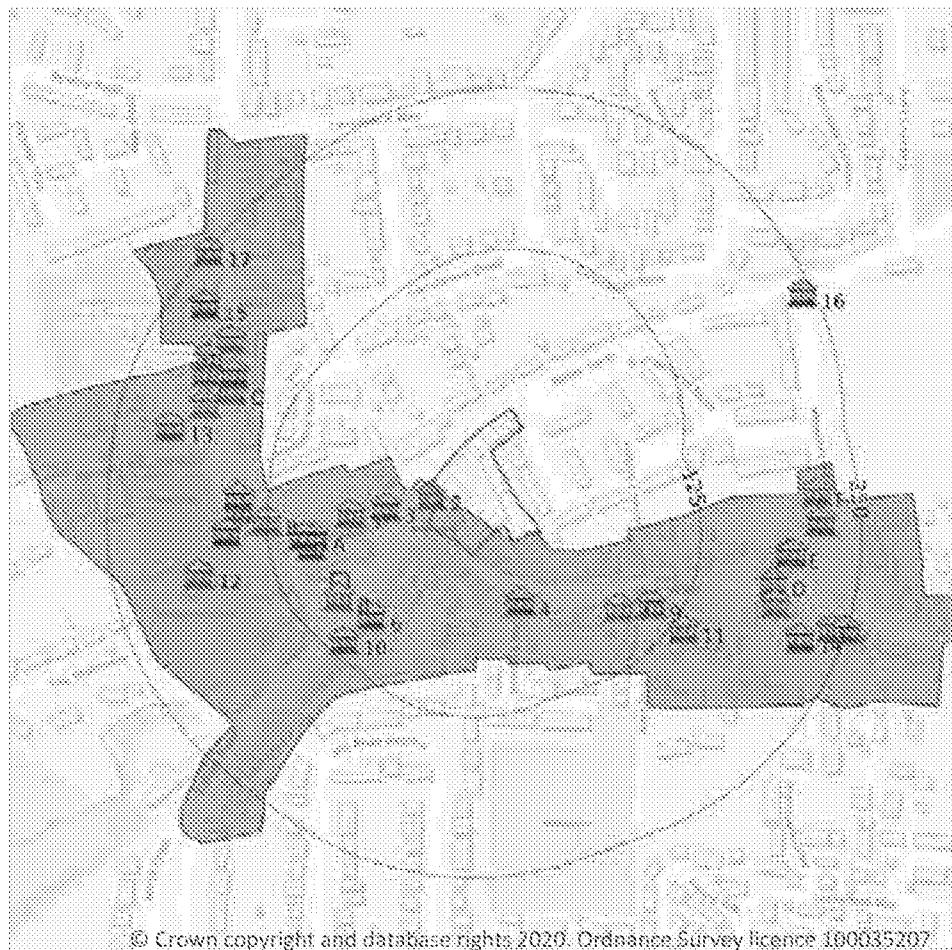
Records within 2000m

0

Divisions of SSSIs used to record management and condition details. Units are the smallest areas for which Natural England gives a condition assessment, however, the size of units varies greatly depending on the types of management and the conservation interest.

This data is sourced from Natural England and Natural Resources Wales.

11 Visual and cultural designations



- Site Outline
- Search buffers in metres (m)
- Listed buildings
- Conservation areas
- Conservation areas - no data
- National Parks
- Areas of Outstanding Natural Beauty
- Registered parks and gardens
- Scheduled Monuments
- World Heritage Sites

11.1 World Heritage Sites

Records within 250m

0

Sites designated for their globally important cultural or natural interest requiring appropriate management and protection measures. World Heritage Sites are designated to meet the UK's commitments under the World Heritage Convention.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

Areas of Outstanding Natural Beauty (AONB) are conservation areas, chosen because they represent 18% of the finest countryside. Each AONB has been designated for special attention because of the quality of their flora, fauna, historical and cultural associations, and/or scenic views. The National Parks and Access to the Countryside Act of 1949 created AONBs and the Countryside and Rights of Way Act, 2000 added further regulation and protection. There are likely to be restrictions to some developments within these areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

11.3 National Parks

Records within 250m

0

In England and Wales, the purpose of National Parks is to conserve and enhance landscapes within the countryside whilst promoting public enjoyment of them and having regard for the social and economic well-being of those living within them. In Scotland National Parks have the additional purpose of promoting the sustainable use of the natural resources of the area and the sustainable social and economic development of its communities. The National Parks and Access to the Countryside Act 1949 established the National Park designation in England and Wales, and The National Parks (Scotland) Act 2000 in Scotland.

This data is sourced from Natural England, Natural Resources Wales and the Scottish Government.

11.4 Listed Buildings

Records within 250m

37

Buildings listed for their special architectural or historical interest. Building control in the form of 'listed building consent' is required in order to make any changes to that building which might affect its special interest. Listed buildings are graded to indicate their relative importance, however building controls apply to all buildings equally, irrespective of their grade, and apply to the interior and exterior of the building in its entirety, together with any curtilage structures.

Features are displayed on the Visual and cultural designations map on [page 67](#)

ID	Location	Name	Grade	Reference Number	Listed date
2	7m SW	Eachways, Angmering, Arun, West Sussex, BN16	II	1027683	20/09/1984
3	35m W	The Lamb Inn, Angmering, Arun, West Sussex, BN16	II	1027684	20/09/1984
4	46m S	Saddlers, Angmering, Arun, West Sussex, BN16	II	1027716	20/09/1984
5	60m W	Conyers St Nicholas, Angmering, Arun, West Sussex, CONYERS	II	1353839	12/10/1954
6	84m SW	Byfleet House And Hazel Cottage, Angmering, Arun, West Sussex, BN16	II	1027685	20/09/1984

ID	Location	Name	Grade	Reference Number	Listed date
7	84m SE	Ivy Cottage Thorpe Cottage, Angmering, Arun, West Sussex, IVY COTTAGE	II	1276846	20/09/1984
A	89m W	Little Avenings, Angmering, Arun, West Sussex, BN16	II	1232913	20/09/1984
8	90m SW	Angmering War Memorial, Angmering, Arun, West Sussex, BN16	II	1360799	24/06/2002
A	93m W	Blaber Cottage, Angmering, Arun, West Sussex, BN16	II	1232936	20/09/1984
A	97m W	Jade Cottage Pook's Cottage St Margaret, Angmering, Arun, West Sussex, JADE COTTAGE POOK'S COTTAGE	II	1027715	20/09/1984
9	102m SE	Garden House, Angmering, Arun, West Sussex, BN16	II	1027717	20/09/1984
10	112m SW	Ann's Cottage Dolphin Cottage Elm Grove, Angmering, Arun, West Sussex, ANN'S COTTAGE DOLPHIN COTTAGE	II	1276813	20/09/1984
8	126m W	The Public Library, Angmering, Arun, West Sussex, BN16	II	1232845	20/09/1984
11	134m SE	Syon House, Angmering, Arun, West Sussex, BN16	II	1232939	12/10/1954
8	147m W	School House, Angmering, Arun, West Sussex, BN16	II	1353836	20/09/1984
8	149m W	Church House, Angmering, Arun, West Sussex, BN16	II	1276880	20/09/1984
8	157m W	The Vestry Hall, Angmering, Arun, West Sussex, BN16	II	1027709	20/09/1984
C	172m NW	Outbuilding Or Former Stable Of Aberdeen House Adjoining The House On The South, Angmering, Arun, West Sussex, BN16	II	1232874	20/09/1984
C	176m NW	Aberdeen House (Premises Of Wood, Butcher), Angmering, Arun, West Sussex, BN16	II	1027712	20/09/1984
12	182m W	The Parish Church Of St Margaret, Angmering, Arun, West Sussex, BN16	II*	1027708	12/10/1954
D	185m E	Outbuilding, To The South East Of The Pigeon House, Angmering, Arun, West Sussex, BN16	II	1276823	20/09/1984
C	187m W	Waterton House, Angmering, Arun, West Sussex, BN16	II	1232836	20/09/1984
D	191m E	Bow Cottage Salters, Angmering, Arun, West Sussex, BOW COTTAGE	II	1353840	20/09/1984
C	193m NW	Angmering Forge, Angmering, Arun, West Sussex, BN16	II	1353837	20/09/1984
E	194m E	Barn To The East Of The Pigeon House, Angmering, Arun, West Sussex, BN16	II	1027720	20/09/1984



ID	Location	Name	Grade	Reference Number	Listed date
C	196m NW	Elmhurst, Angmering, Arun, West Sussex, BN16	II	1027710	20/09/1984
E	197m E	The Pigeon House, Angmering, Arun, West Sussex, BN16	II	1353842	12/10/1954
C	200m NW	Barn At Elmhurst To The North Of The House, Angmering, Arun, West Sussex, BN16	II	1353835	20/09/1984
13	208m W	The White Cottage, Angmering, Arun, West Sussex, BN16	II	1027680	12/10/1954
F	217m E	Cressingham Cottage, Angmering, Arun, West Sussex, BN16	II	1276758	06/06/1975
14	218m E	Chents, Angmering, Arun, West Sussex, BN16	II	1232962	12/10/1954
F	219m E	Barn Or Outbuilding To The South Of Cressingham Cottage And Wall Linking It To The Cottage, Angmering, Arun, West Sussex, BN16	II	1353854	06/06/1975
15	225m NW	Church Cottage, Angmering, Arun, West Sussex, BN16	II	1276911	20/09/1984
G	238m E	Old Well Cottage, Angmering, Arun, West Sussex, BN16	II	1027718	20/09/1984
16	242m NE	Weaver Cottage, Angmering, Arun, West Sussex, BN16	II	1276764	20/09/1984
17	248m NW	Pear Tree Cottage, Angmering, Arun, West Sussex, BN16	II	1276876	20/09/1984
G	250m E	Bennington House, Angmering, Arun, West Sussex, BN16	II	1353841	20/09/1984

This data is sourced from English Heritage, Cadw and Historic Environment Scotland.

11.5 Conservation Areas

Records within 250m	1
----------------------------	----------

Local planning authorities are obliged to designate as conservation areas any parts of their own area that are of special architectural or historic interest, the character and appearance of which it is desirable to preserve or enhance. Designation of a conservation area gives broader protection than the listing of individual buildings. All the features within the area, listed or otherwise, are recognised as part of its character. Conservation area designation is the means of recognising the importance of all factors and of ensuring that planning decisions address the quality of the landscape in its broadest sense.

Features are displayed on the Visual and cultural designations map on **page 67**

ID	Location	Name	District	Date of designation
1	On site	Angmering	Arun	12/1974

This data is sourced from English Heritage, Cadw and Historic Environment Scotland.

11.6 Scheduled Ancient Monuments

Records within 250m**0**

A scheduled monument is an historic building or site that is included in the Schedule of Monuments kept by the Secretary of State for Digital, Culture, Media and Sport. The regime is set out in the Ancient Monuments and Archaeological Areas Act 1979. The Schedule of Monuments has c.20,000 entries and includes sites such as Roman remains, burial mounds, castles, bridges, earthworks, the remains of deserted villages and industrial sites. Monuments are not graded, but all are, by definition, considered to be of national importance.

This data is sourced from English Heritage, Cadw and Historic Environment Scotland.

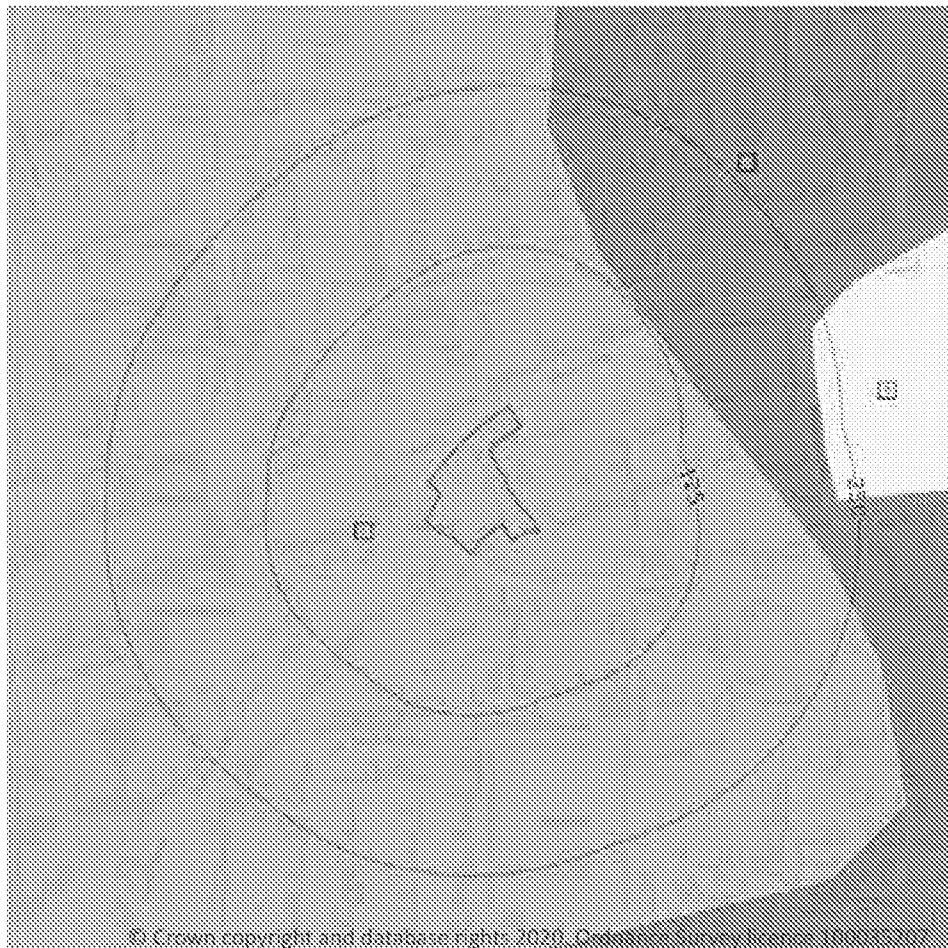
11.7 Registered Parks and Gardens

Records within 250m**0**

Parks and gardens assessed to be of particular interest and of special historic interest. The emphasis being on 'designed' landscapes, rather than on planting or botanical importance. Registration is a 'material consideration' in the planning process, meaning that planning authorities must consider the impact of any proposed development on the special character of the landscape.

This data is sourced from English Heritage, Cadw and Historic Environment Scotland.

12 Agricultural designations



- Site Outline
- Search buffers in metres (m)
- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m

3

Classification of the quality of agricultural land taking into consideration multiple factors including climate, physical geography and soil properties. It should be noted that the categories for the grading of agricultural land are not consistent across England, Wales and Scotland.

Features are displayed on the Agricultural designations map on [page 72](#)

ID	Location	Classification	Description
1	On site	Grade 3	Good to moderate quality agricultural land. Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2.

ID	Location	Classification	Description
2	128m NE	Grade 1	Excellent quality agricultural land. Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.
3	231m E	Not Surveyed	-

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m

0

The Countryside and Rights of Way Act 2000 (CROW Act) gives a public right of access to land without having to use paths. Access land includes mountains, moors, heaths and downs that are privately owned. It also includes common land registered with the local council and some land around the England Coast Path. Generally permitted activities on access land are walking, running, watching wildlife and climbing.

This data is sourced from Natural England and Natural Resources Wales.

12.3 Tree Felling Licences

Records within 250m

0

Felling Licence Application (FLA) areas approved by Forestry Commission England. Anyone wishing to fell trees must ensure that a licence or permission under a grant scheme has been issued by the Forestry Commission before any felling is carried out or that one of the exceptions apply.

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m

0

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment.

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m

0

Countryside Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. Main objectives are to improve the farmed environment for wildlife and to reduce diffuse water pollution.

This data is sourced from Natural England.

13 Habitat designations



- Site Outline
- Search buffers in metres (m)
- Priority Habitat Inventory
 - Open Mosaic Habitat
 - Limestone Pavement Orders
- Habitat Networks
- Primary Habitat
 - Restorable Habitat
 - Associated Habitats
 - Habitat Restoration-Creation
 - Network Enhancement Zone 1
 - Network Enhancement Zone 2

13.1 Priority Habitat Inventory

Records within 250m

1

Habitats of principal importance as named under Natural Environment and Rural Communities Act (2006) Section 41.

Features are displayed on the Habitat designations map on [page 75](#)

ID	Location	Main Habitat	Other habitats
1	228m E	No main habitat but additional habitats present	Additional: GOSIG (INV 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m

0

Habitat networks for 18 priority habitat networks (based primarily, but not exclusively, on the priority habitat inventory) and areas suitable for the expansion of networks through restoration and habitat creation.

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m

0

Sites verified as Open Mosaic Habitat. Mosaic habitats are brownfield sites that are identified under the UK Biodiversity Action Plan as a priority habitat due to the habitat variation within a single site, supporting an array of invertebrates.

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

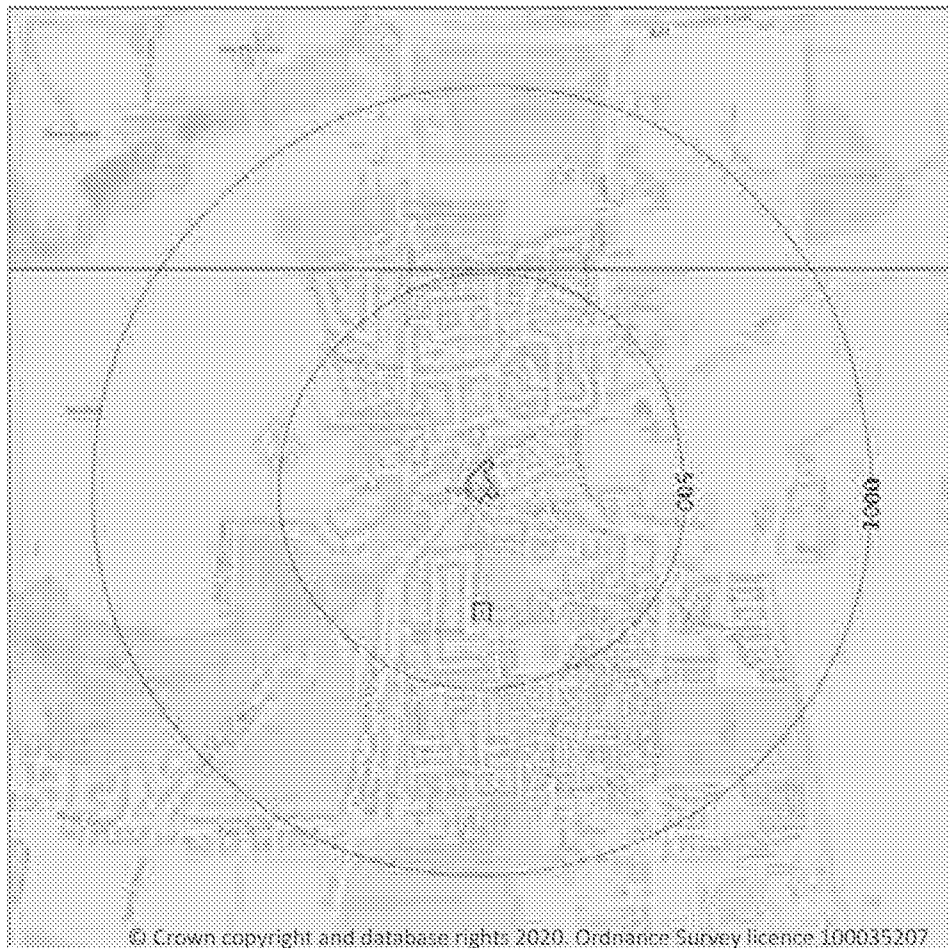
Records within 250m

0

Limestone pavements are outcrops of limestone where the surface has been worn away by natural means over millennia. These rocks have the appearance of paving blocks, hence their name. Not only do they have geological interest, they also provide valuable habitats for wildlife. These habitats are threatened due to their removal for use in gardens and water features. Many limestone pavements have been designated as SSSIs which affords them some protection. In addition, Section 34 of the Wildlife and Countryside Act 1981 gave them additional protection via the creation of Limestone Pavement Orders, which made it a criminal offence to remove any part of the outcrop. The associated Limestone Pavement Priority Habitat is part of the UK Biodiversity Action Plan priority habitat in England.

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability



Site Outline
Search buffers in metres (m)

- ☒ Full coverage
- ☒ Partial coverage
- ☐ No coverage

14.1 10k Availability

Records within 500m

1

An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:10,000 scale - Availability map on [page 77](#)

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	Full	Full	No coverage	TQ00SE

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Artificial and made ground

14.2 Artificial and made ground (10k)

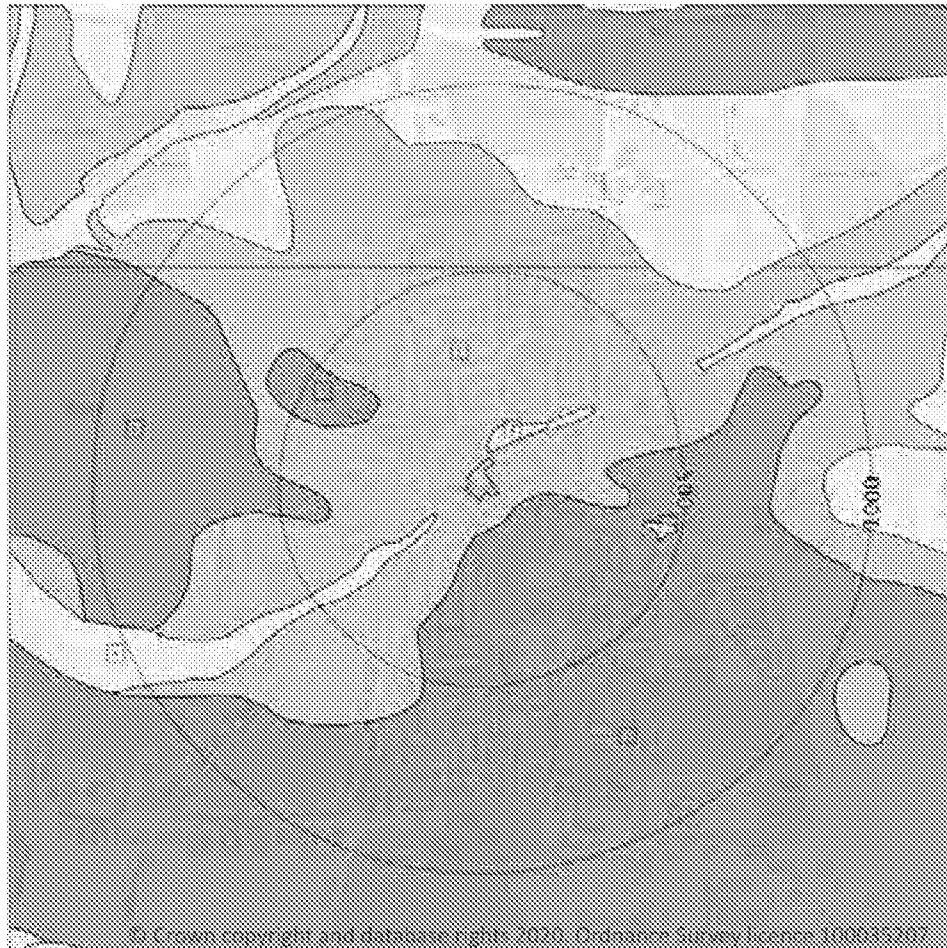
Records within 500m

0

Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial



Site Outline

Search buffers in metres (m)

 Landslip (10k)

Superficial geology (10k)
Please see table for more details.

14.3 Superficial geology (10k)

Records within 500m

7

Superficial geological deposits at 1:10,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:10,000 scale - Superficial map on [page 79](#)

ID	Location	LEX Code	Description	Rock description
1	On site	HEAD-DMTN	Head - Diamicton	Diamicton
2	13m N	RBD1-V	Raised Beach Deposits, 1 - Gravel	Gravel
3	57m SE	BRY-Z	Brickearth - Silt	Silt

ID	Location	LEX Code	Description	Rock description
4	102m SW	ALV-XSZC	Alluvium - Sand, Silt And Clay	Sand, Silt And Clay
5	306m NW	BRK-Z	Brickearth - Silt	Silt
6	368m W	BRK-Z	Brickearth - Silt	Silt
7	397m E	RBD1-V	Raised Beach Deposits, 1 - Gravel	Gravel

This data is sourced from the British Geological Survey.

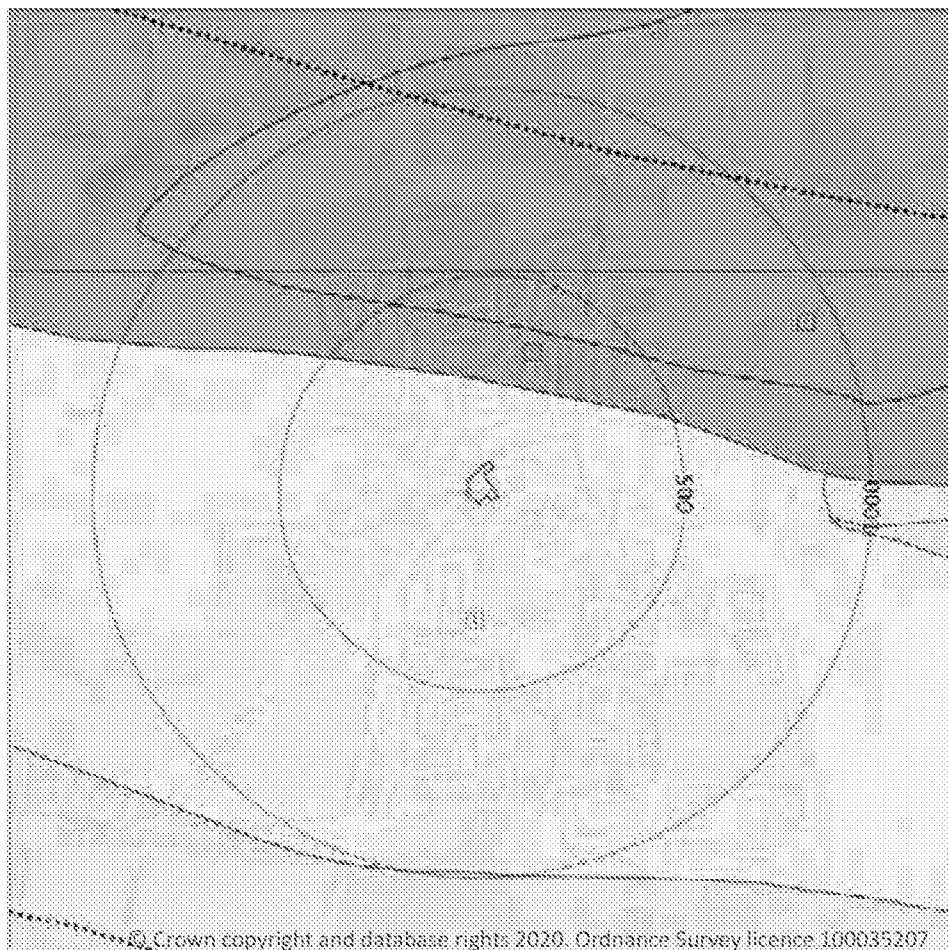
14.4 Landslip (10k)

Records within 500m	0
----------------------------	----------

Mass movement deposits on BGS geological maps at 1:10,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock



----- Site Outline

Search buffers in metres (m)

.... Bedrock faults and other linear features (10k)

Bedrock geology (10k)
Please see table for more details.

14.5 Bedrock geology (10k)

Records within 500m

3

Bedrock geology at 1:10,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 81**

ID	Location	LEX Code	Description	Rock age
1	On site	LPCK-CHLK	Lewes Nodular Chalk Formation, Seaford Chalk Formation, Newhaven Chalk Formation, Culver Chalk Formation And Portsdown Chalk Formation (undifferentiated) - Chalk	Campanian Age - Turonian Age
2	210m N	LMBE-CLAY	Lambeth Group - Clay	Paleocene Epoch

ID	Location	LEX Code	Description	Rock age
3	370m N	LC-CLSISA	London Clay Formation - Clay, Silt And Sand	Eocene Epoch

This data is sourced from the British Geological Survey.

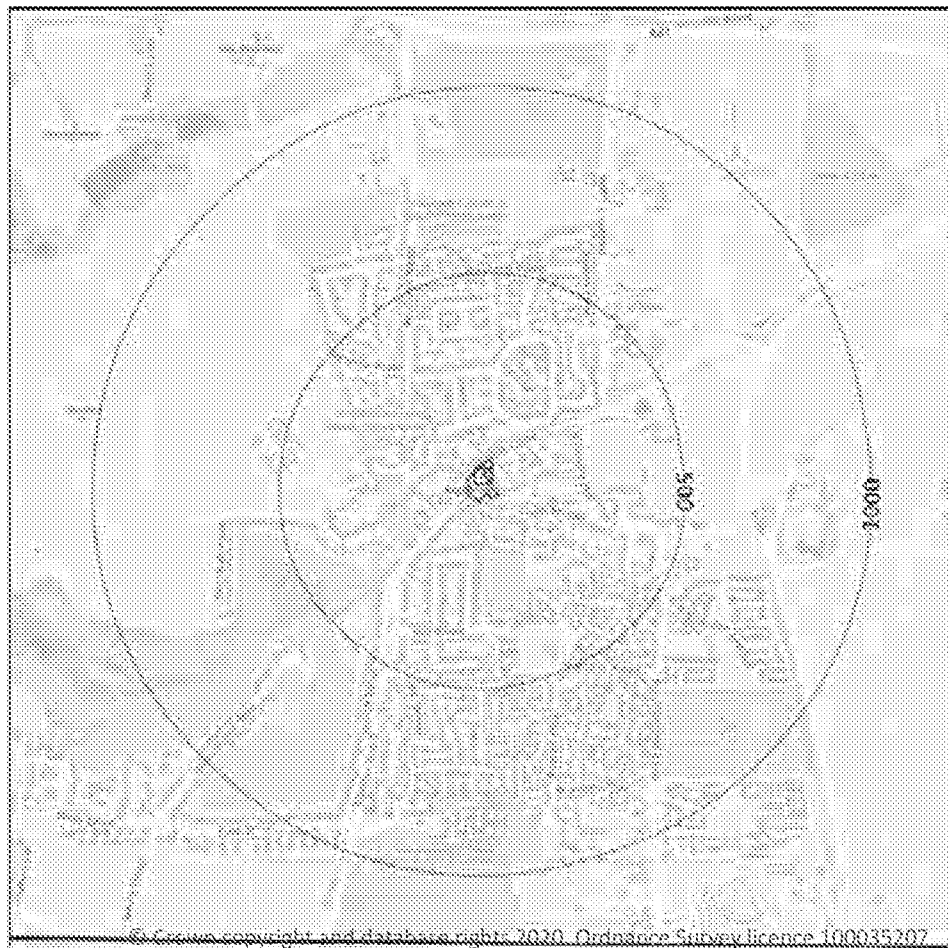
14.6 Bedrock faults and other linear features (10k)

Records within 500m	0
---------------------	---

Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

This data is sourced from the British Geological Survey.

15 Geology 1:50,000 scale - Availability



Site Outline

Search buffers in metres (m)

Geological map tile

15.1 50k Availability

Records within 500m

1

An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on [page 83](#)

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW317_332_chichester_and_bognor_v4

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Artificial and made ground

15.2 Artificial and made ground (50k)

Records within 500m

0

Details of made, worked, infilled, disturbed and landscaped ground at 1:50,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m

0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



Site Outline
Search buffers in metres (m)
Landslip (50k)
Superficial geology (50k)
Please see table for more details.

15.4 Superficial geology (50k)

Records within 500m

7

Superficial geological deposits at 1:50,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:50,000 scale - Superficial map on [page 85](#)

ID	Location	LEX Code	Description	Rock description
1	On site	HEAD-XCZSV	HEAD	CLAY, SILT, SAND AND GRAVEL
2	20m N	RBD1-XSV	RAISED BEACH DEPOSITS, 1	SAND AND GRAVEL
3	48m SE	RTDU-XSZC	RIVER TERRACE DEPOSITS (UNDIFFERENTIATED)	SAND, SILT AND CLAY

ID	Location	LEX Code	Description	Rock description
4	110m SW	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
5	317m NW	RTDU-XSZC	RIVER TERRACE DEPOSITS (UNDIFFERENTIATED)	SAND, SILT AND CLAY
6	379m E	RBD1-XSV	RAISED BEACH DEPOSITS, 1	SAND AND GRAVEL
7	381m W	RTDU-XSZC	RIVER TERRACE DEPOSITS (UNDIFFERENTIATED)	SAND, SILT AND CLAY

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	3
---------------------------	----------

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any superficial deposits (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	Mixed	High	Very Low
20m NE	Intergranular	Very High	High
48m S	Intergranular	High	Low

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m	0
----------------------------	----------

Mass movement deposits on BGS geological maps at 1:50,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

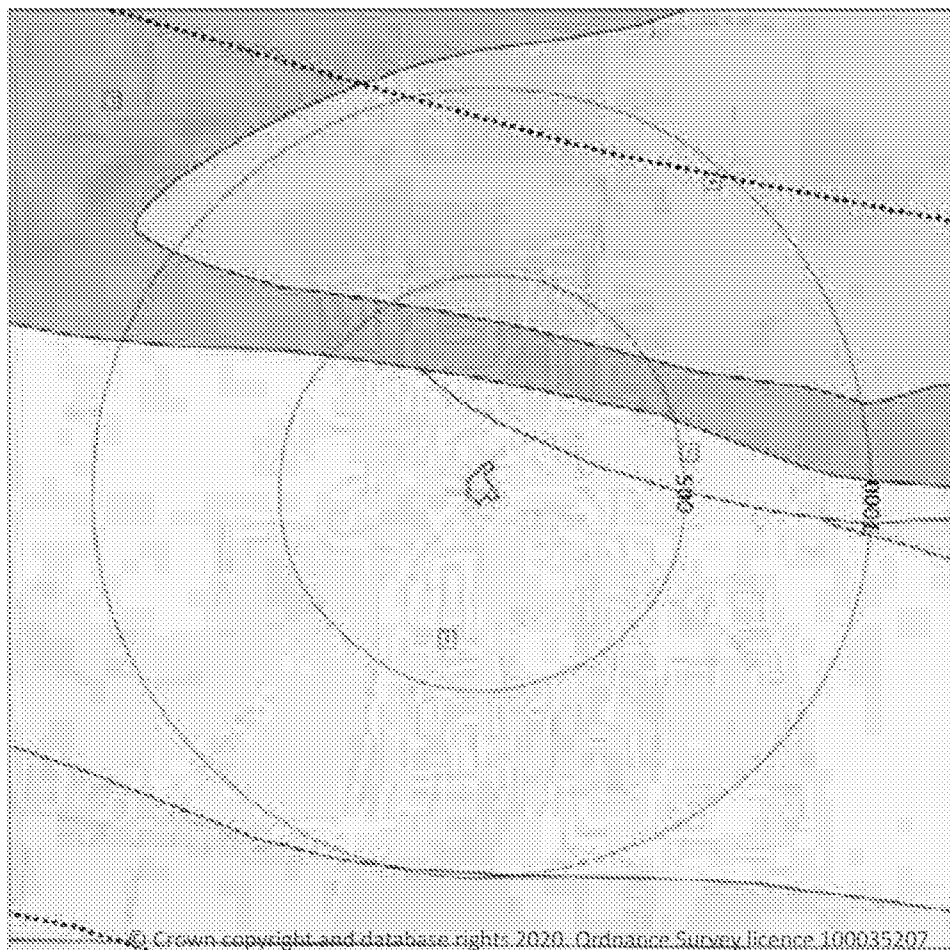
15.7 Landslip permeability (50k)

Records within 50m	0
---------------------------	----------

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any landslip deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



----- Site Outline
Search buffers in metres (m)
..... Bedrock faults and other linear features (50k)
Bedrock geology (50k)
Please see table for more details.

15.8 Bedrock geology (50k)

Records within 500m

4

Bedrock geology at 1:50,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on [page 87](#)

ID	Location	LEX Code	Description	Rock age
1	On site	LPCK-CHLK	LEWES NODULAR CHALK FORMATION, SEAFORD CHALK FORMATION, NEWHAVEN CHALK FORMATION, CULVER CHALK FORMATION AND PORTSDOWN CHALK FORMATION (UNDIFFERENTIATED) - CHALK	TURONIAN
2	104m NE	TACH-CHLK	TARRANT CHALK MEMBER - CHALK	CAMPANIAN

ID	Location	LEX Code	Description	Rock age
3	213m N	LM8E-XCZS	LAMBETH GROUP - CLAY, SILT AND SAND	THANETIAN
4	370m N	LC-XCZS	LONDON CLAY FORMATION - CLAY, SILT AND SAND	YPRESIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	1
---------------------------	----------

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of bedrock (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	Fracture	Very High	Very High

This data is sourced from the British Geological Survey.

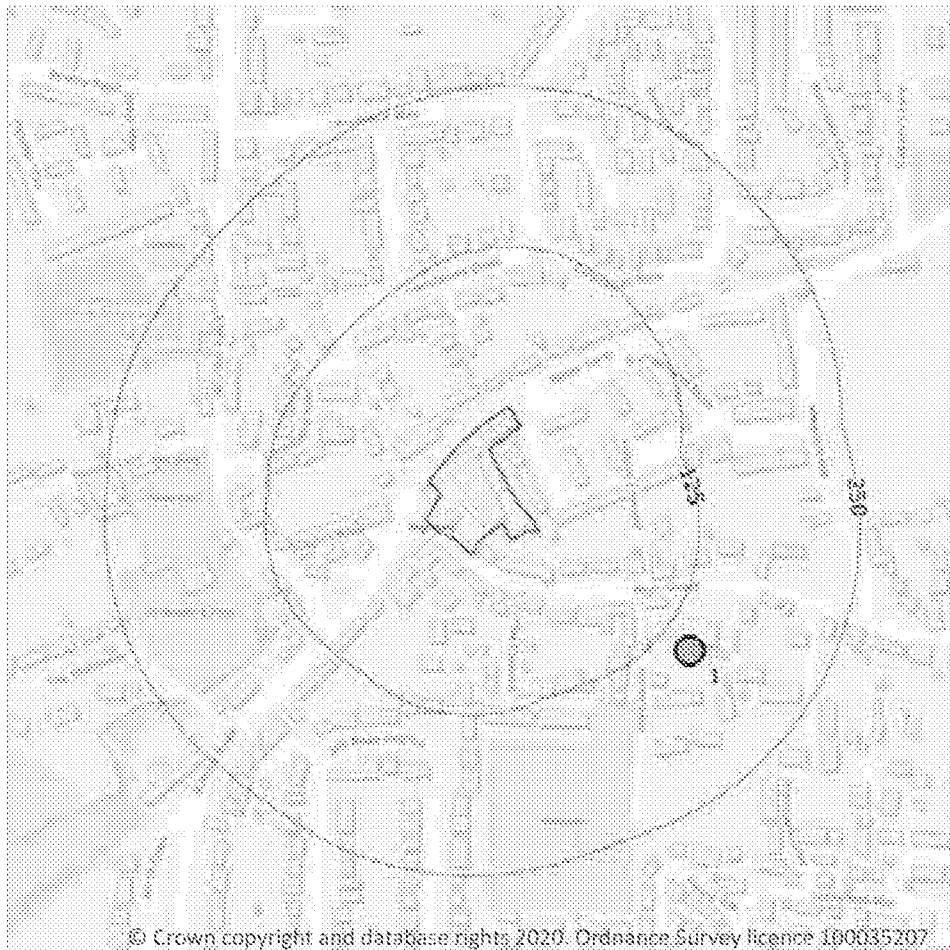
15.10 Bedrock faults and other linear features (50k)

Records within 500m	0
----------------------------	----------

Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

This data is sourced from the British Geological Survey.

16 Boreholes



Site Outline
Search buffers in metres (m)

- Confidential
- 0 - 10m
- 10 - 30m
- 30m+
- Unknown

16.1 BGS Boreholes

Records within 250m

1

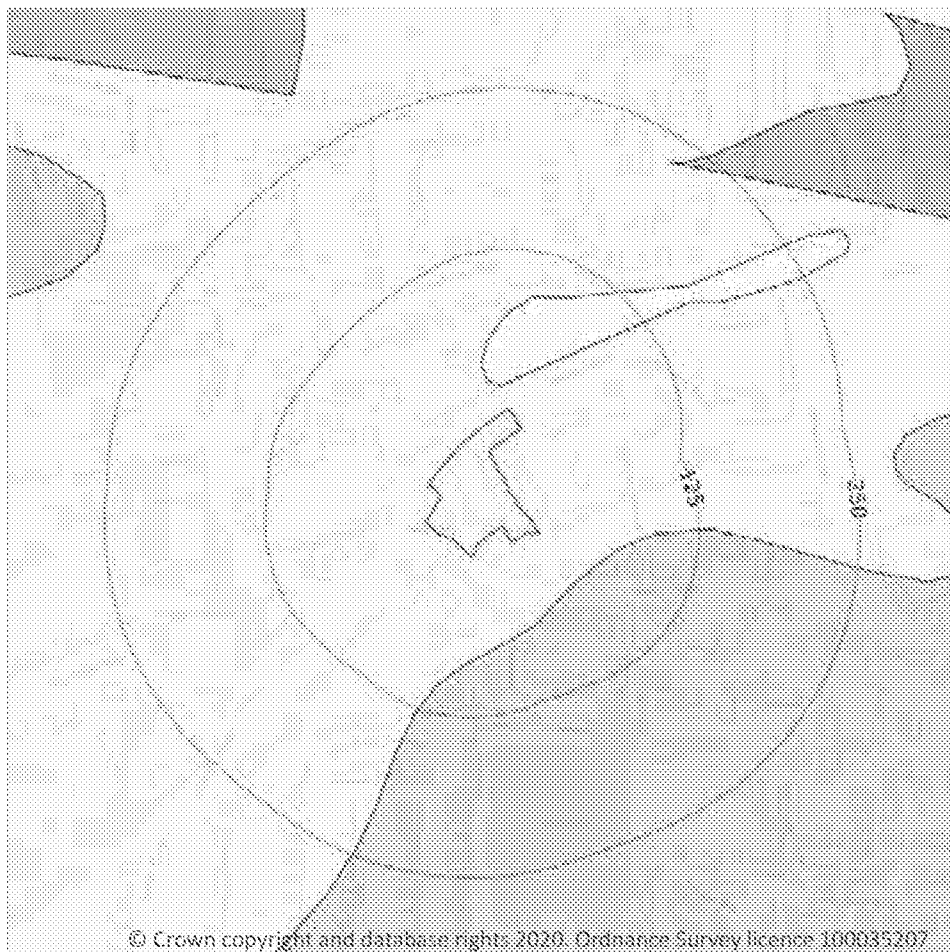
The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several thousand metres deep.

Features are displayed on the Boreholes map on **page 89**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	150m SE	507100 104300	ANGMERING COTTAGE ANGMERING	47.54	N	569952

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

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17.1 Shrink swell clays

Records within 50m

3

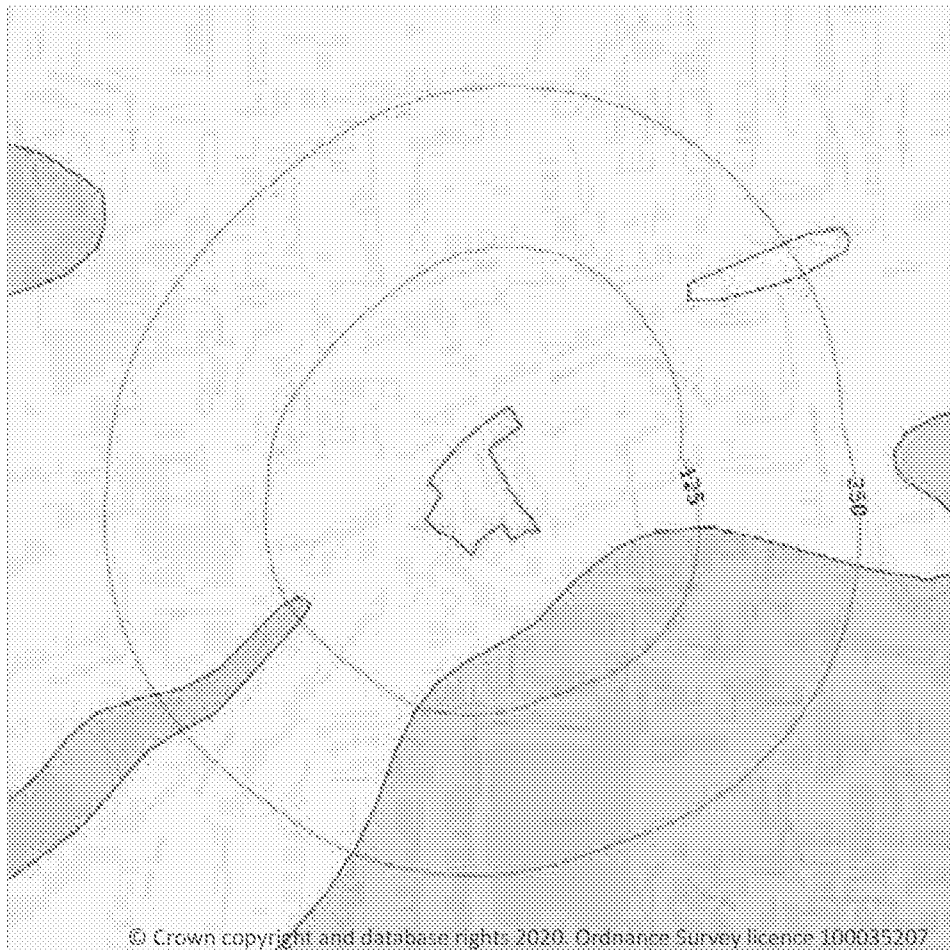
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and local drainage).

Features are displayed on the Natural ground subsidence - Shrink swell clays map on [page 90](#)

Location	Hazard rating	Details
On site	Very low	Ground conditions predominantly low plasticity.
20m N	Negligible	Ground conditions predominantly non-plastic.
48m SE	Low	Ground conditions predominantly medium plasticity.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.2 Running sands

Records within 50m

2

The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

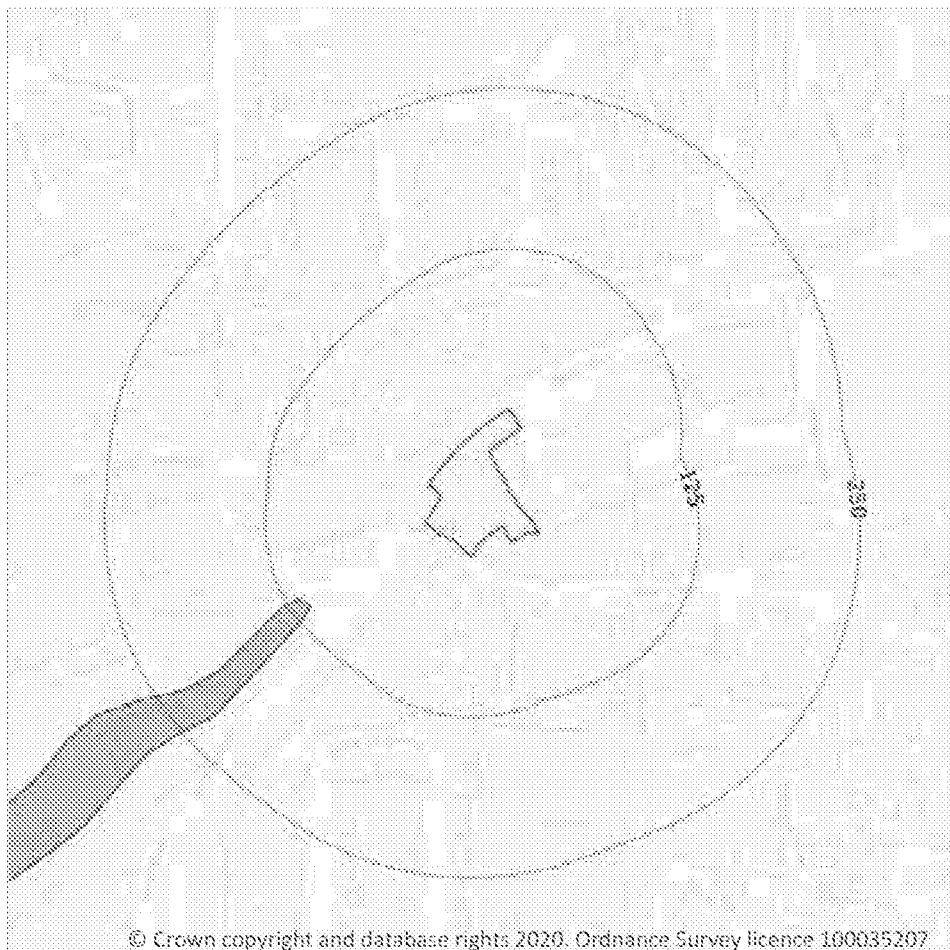
Features are displayed on the Natural ground subsidence - Running sands map on [page 92](#)

Location	Hazard rating	Details
On site	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.

Location	Hazard rating	Details
48m SE	Low	Running sand conditions may be present. Constraints may apply to land uses involving excavation or the addition or removal of water.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



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17.3 Compressible deposits

Records within 50m

1

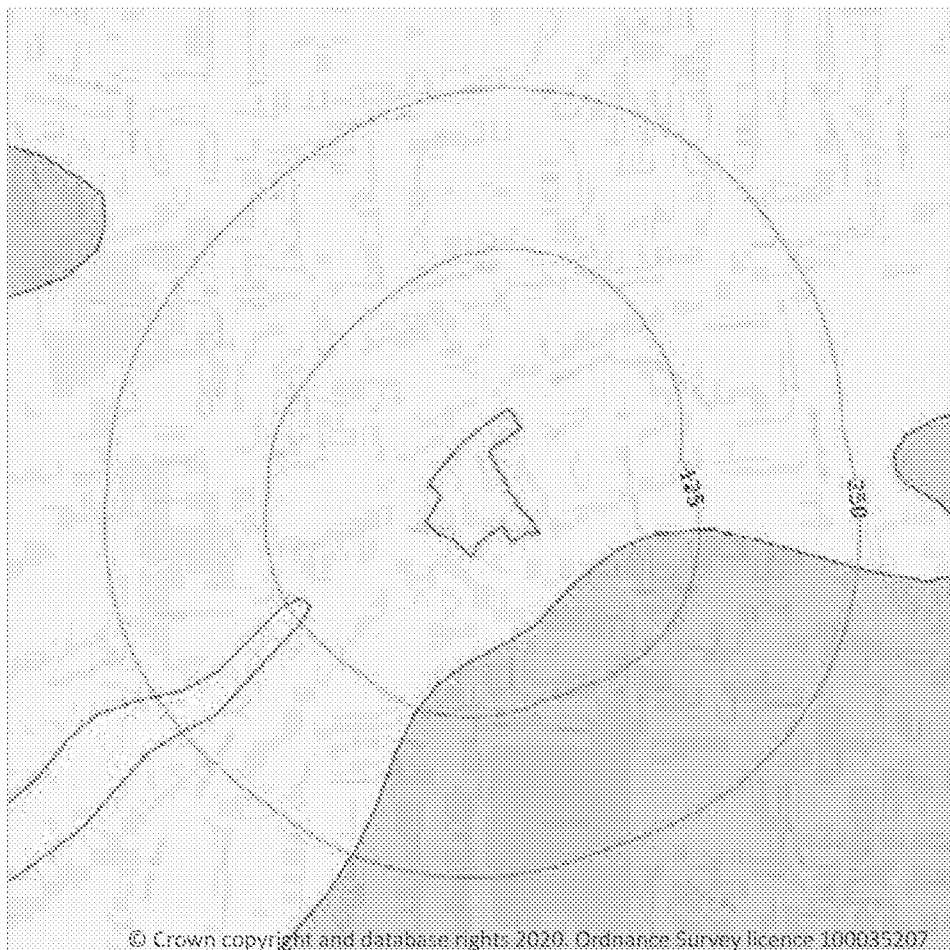
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on [page 94](#)

Location	Hazard rating	Details
On site	Negligible	Compressible strata are not thought to occur.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.4 Collapsible deposits

Records within 50m

2

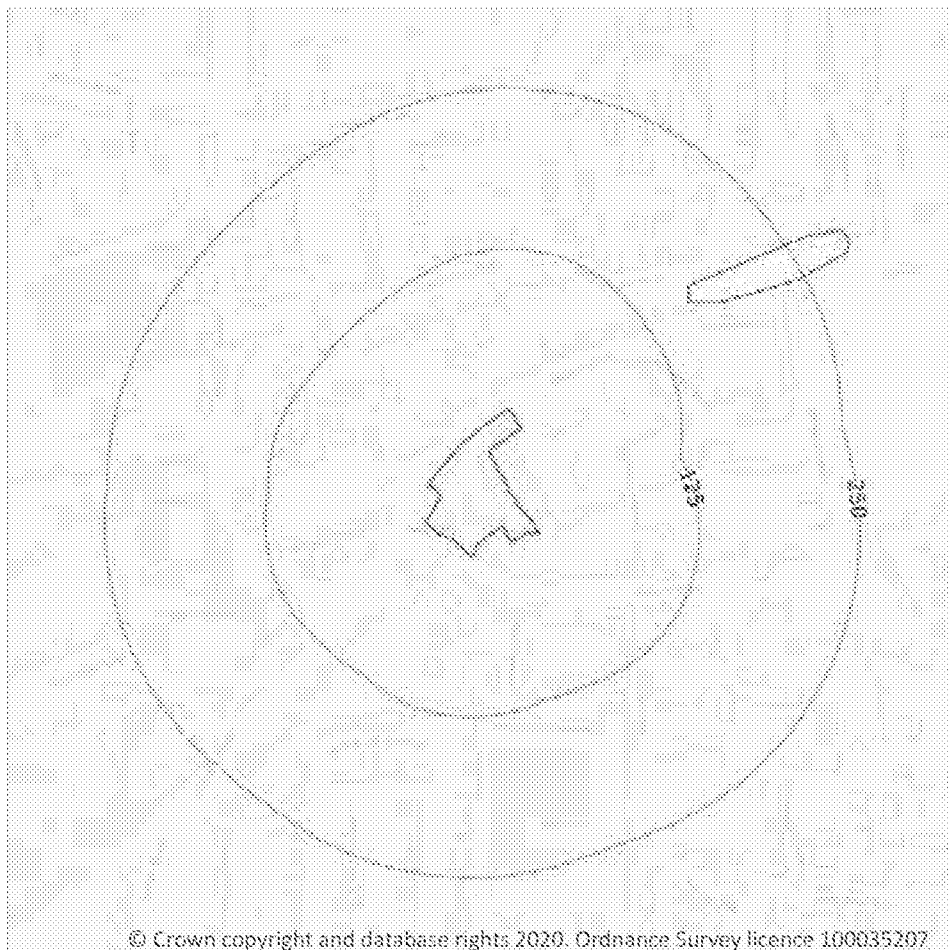
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on [page 95](#)

Location	Hazard rating	Details
On site	Very low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.
48m SE	Low	Deposits with potential to collapse when loaded and saturated are possibly present in places.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

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17.5 Landslides

Records within 50m

1

The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

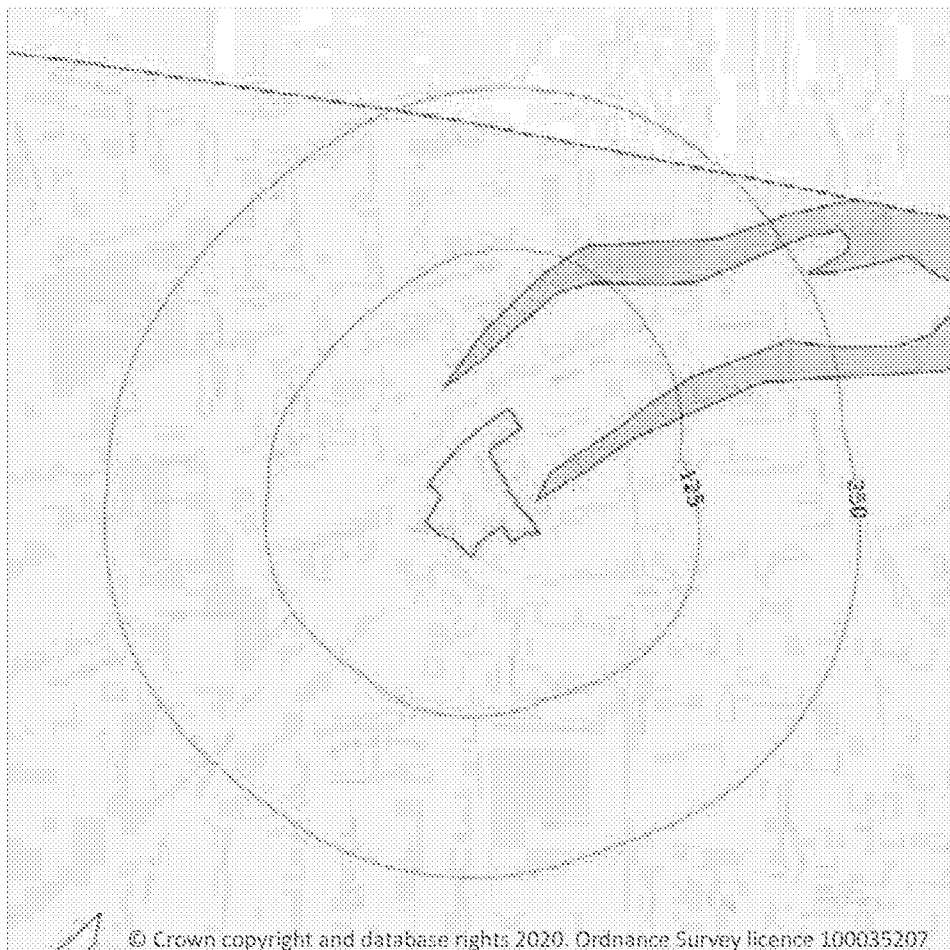
Features are displayed on the Natural ground subsidence - Landslides map on [page 96](#)

Location	Hazard rating	Details
On site	Very low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.6 Ground dissolution of soluble rocks

Records within 50m

2

The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

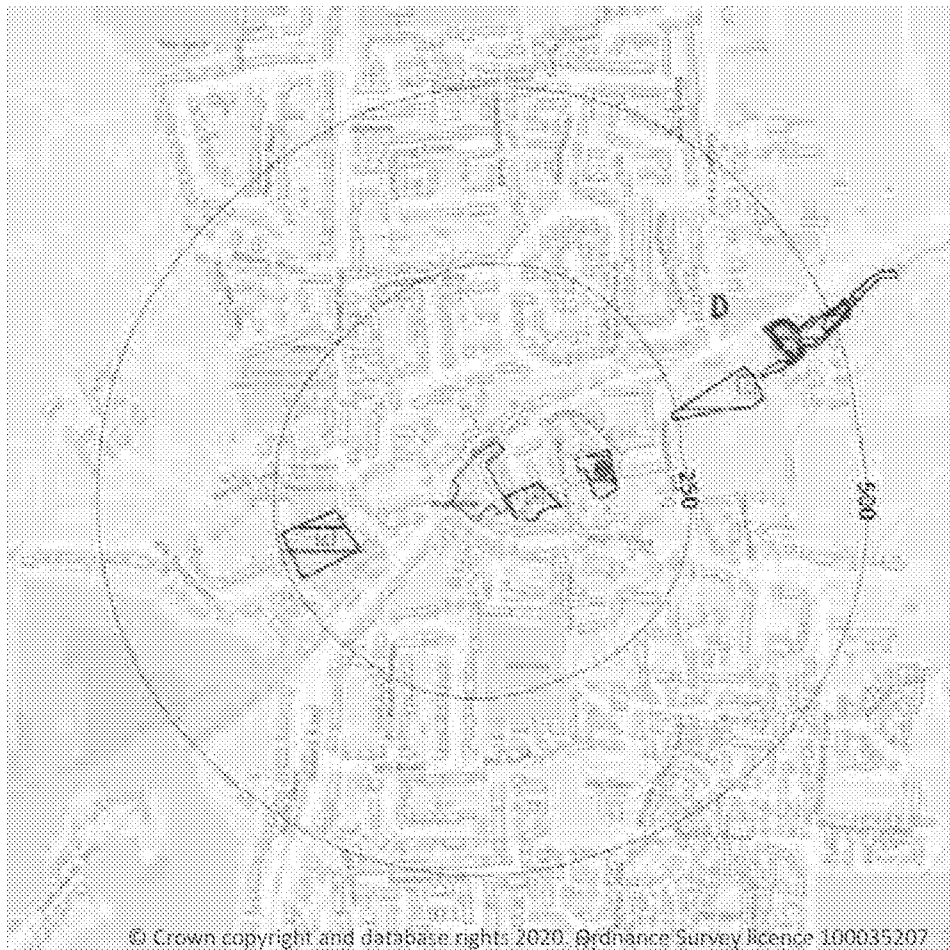
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on page 97

Location	Hazard rating	Details
On site	Very low	Soluble rocks are present within the ground. Few dissolution features are likely to be present. Potential for difficult ground conditions or localised subsidence are at a level where they need not be considered.

Location	Hazard rating	Details
12m NE	Low	Soluble rocks are present within the ground. Some dissolution features may be present. Potential for difficult ground conditions are at a level where they may be considered, localised subsidence need not be considered except in exceptional circumstances.

This data is sourced from the British Geological Survey.

18 Mining, ground workings and natural cavities



- Site Outline
- Search buffers in metres (m)
- Natural cavities (Area)
- Natural cavities (Point)
- BritPits
- Surface ground workings
- Underground workings
- Historical Mineral Planning Areas
- Mining Cavities
- Non Coal Mining
 - Sporadic underground mining of restricted extent possible
 - Localised small scale underground mining possible
 - Small scale mining possible
 - Underground mining known or likely within or in close proximity
 - Underground mining known within or in very close proximity

18.1 Natural cavities

Records within 500m

0

Industry recognised national database of natural cavities. Sinkholes and caves are formed by the dissolution of soluble rock, such as chalk and limestone, gulls and fissures by cambering. Ground instability can result from movement of loose material contained within these cavities, often triggered by water.

This data is sourced from Peter Brett Associates (PBA).

18.2 BritPits

Records within 500m

1

BritPits (an abbreviation of British Pits) is a database maintained by the British Geological Survey of currently active and closed surface and underground mineral workings. Details of major mineral handling sites, such as wharfs and rail depots are also held in the database.

Features are displayed on the Mining, ground workings and natural cavities map on [page 99](#)

ID	Location	Details	Description
B	137m NE	Name: Angmering Gravel Pit Address: Angmering, LITTLEHAMPTON, West Sussex Commodity: Sand & Gravel Status: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Type: Ceased Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m

5

Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining, ground workings and natural cavities map on [page 99](#)

ID	Location	Land Use	Year of mapping	Mapping scale
A	On site	Unspecified Pit	1932	1:10560
A	On site	Unspecified Pit	1910	1:10560
B	102m E	Gravel Pit	1896	1:10560
2	145m SW	Grave Yard	1876	1:10560
3	244m E	Unspecified Pit	1974	1:10000

This data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m

0

Historical land uses identified from Ordnance Survey mapping that indicate the presence of underground workings e.g. mine shafts.

This data is sourced from Ordnance Survey/Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m

0

Boundaries of mineral planning permissions for England and Wales. This data was collated between the 1940s (and retrospectively to the 1930s) and the mid 1980s. The data includes permitted, withdrawn and refused permissions.

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m

2

The potential for historical non-coal mining to have affected an area. The assessment is drawn from expert knowledge and literature in addition to the digital geological map of Britain. Mineral commodities may be divided into seven general categories - vein minerals, chalk, oil shale, building stone, bedded ores, evaporites and 'other' commodities (including ball clay, jet, black marble, graphite and chert).

Features are displayed on the Mining, ground workings and natural cavities map on [page 99](#)

ID	Location	Name	Commodity	Class	Likelihood
1	On site	Not available	Chalk	A	Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered
-	856m NW	Not available	Chalk	A	Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered

This data is sourced from the British Geological Survey.

18.7 Mining cavities

Records within 1000m

0

Industry recognised national database of mining cavities. Degraded mines may result in hazardous subsidence (crown holes). Climatic conditions and water escape can also trigger subsidence over mine entrances and workings.

This data is sourced from Peter Brett Associates (PBA).

18.8 JPB mining areas

Records on site

0

Areas which could be affected by former coal mining. This data includes some mine plans unavailable to the Coal Authority.

This data is sourced from Johnson Poole and Bloomer.

18.9 Coal mining

Records on site

0

Areas which could be affected by past, current or future coal mining.

This data is sourced from the Coal Authority.

18.10 Brine areas

Records on site

0

The Cheshire Brine Compensation District indicates areas that may be affected by salt and brine extraction in Cheshire and where compensation would be available where damage from this mining has occurred. Damage from salt and brine mining can still occur outside this district, but no compensation will be available.

This data is sourced from the Cheshire Brine Subsidence Compensation Board.

18.11 Gypsum areas

Records on site

0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

Records on site
0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Mining Searches UK.

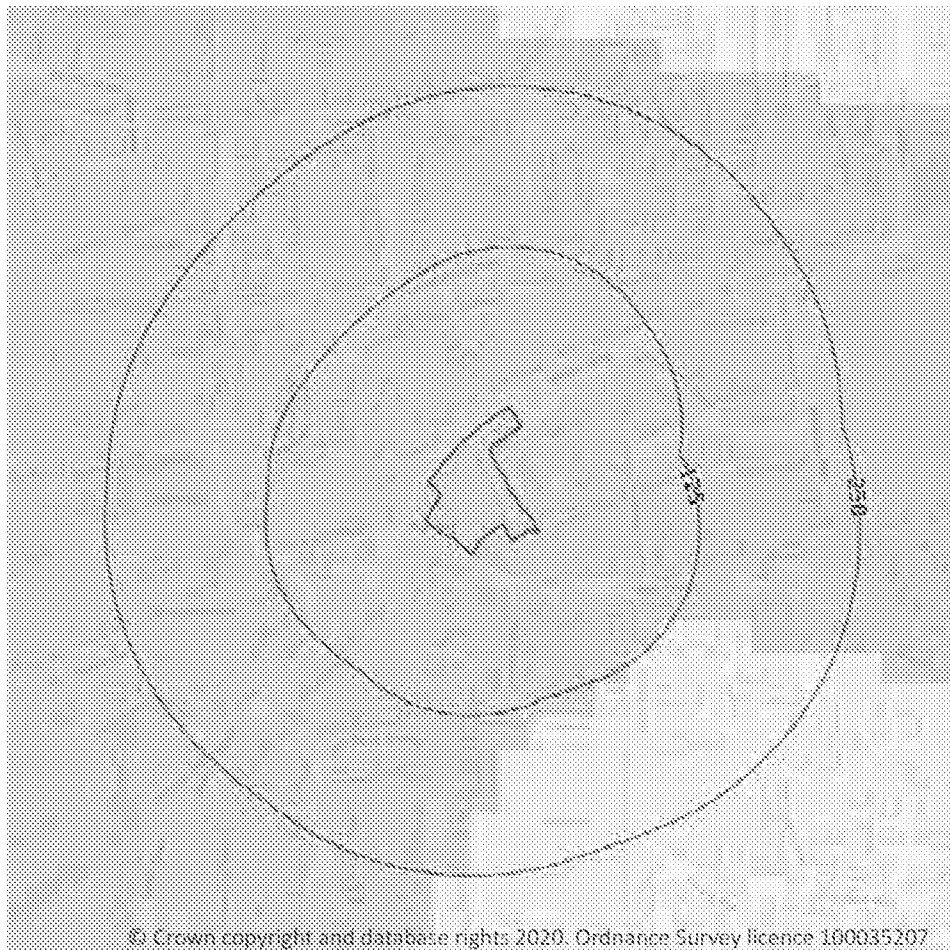
18.13 Clay mining

Records on site
0

Generalised areas that may be affected by kaolin and ball clay extraction.

This data is sourced from the Kaolin and Ball Clay Association (UK).

19 Radon



Site Outline
Search buffers in metres (m)

- ☒ Greater than 30%
- ☒ Between 10% and 30%
- ☒ Between 5% and 10%
- ☒ Between 3% and 5%
- ☒ Between 1% and 3%
- ☒ Less than 1%

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19.1 Radon

Records on site

1

Estimated percentage of dwellings exceeding the Radon Action Level. This data is the highest resolution radon dataset available for the UK and is produced to a 75m level of accuracy to allow for geological data accuracy and a 'residential property' buffer. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain. The data was derived from both geological assessments and long term measurements of radon in more than 479,000 households.

Features are displayed on the Radon map on [page 104](#)

Location	Estimated properties affected	Radon Protection Measures required
On site	Between 5% and 10%	Basic

This data is sourced from the British Geological Survey and Public Health England.

20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m

6

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km². In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km²; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
10m NW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
18m E	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
20m N	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
40m NE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
48m SE	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km²).

This data is sourced from the British Geological Survey.

20.3 BGS Measured Urban Soil Chemistry

Records within 50m

0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km².

This data is sourced from the British Geological Survey.

21 Railway infrastructure and projects

21.1 Underground railways (London)

Records within 250m

0

Details of all active London Underground lines, including approximate tunnel roof depth and operational hours.

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m

0

Details of the Merseyrail system, the Tyne and Wear Metro and the Glasgow Subway. Not all parts of all systems are located underground. The data contains location information only and does not include a depth assessment.

This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m

0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m

0

Railways and tunnels digitised from historical Ordnance Survey mapping as scales of 1:1,250, 1:2,500, 1:10,000 and 1:10,560.

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m

0

The Post Office Railway, otherwise known as the Mail Rail, is an underground railway running through Central London from Paddington Head District Sorting Office to Whitechapel Eastern Head Sorting Office. The line is 10.5km long. The data includes details of the full extent of the tunnels, the depth of the tunnel, and the depth to track level.

This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

Records within 250m

0

Former railway lines, including dismantled lines, abandoned lines, disused lines, historic railways and razed lines.

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m

0

Currently existing railway lines, including standard railways, narrow gauge, funicular, trams and light railways.

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m

0

The Crossrail railway project links 41 stations over 100 kilometres from Reading and Heathrow in the west, through underground sections in central London, to Shenfield and Abbey Wood in the east.

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m

0

Crossrail 2 is a proposed railway linking the national rail networks in Surrey and Hertfordshire via an underground tunnel through London.

This data is sourced from publicly available information by Groundsure.

21.10 HS2

Records within 500m

0

HS2 is a proposed high speed rail network running from London to Manchester and Leeds via Birmingham. Main civils construction on Phase 1 (London to Birmingham) of the project began in 2019, and it is currently anticipated that this phase will be fully operational by 2026. Construction on Phase 2a (Birmingham to Crewe) is anticipated to commence in 2021, with the service fully operational by 2027. Construction on Phase 2b (Crewe to Manchester and Birmingham to Leeds) is scheduled to begin in 2023 and be operational by 2033.

This data is sourced from HS2 Ltd.

Data providers

Groundsure works with respected data providers to bring you the most relevant and accurate information. To find out who they are and their areas of expertise see <https://www.groundsure.com/sources-reference>.

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