144 Albion Street
Southwick
West Sussex

Combined Geotechnical and Ground Contamination Risk Assessment

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EXECUTIVE SUMMARY

The following presents a summary of the main findings of the report. It is emphasised that no reliance should be placed on any individual point until the whole of the report has been read as other sections of the report may put into context the information contained herein.

It is proposed to demolish the existing building at 144 Albion Street, Southwick, and to construct a three-storey building housing a commercial unit at ground floor level and residential units above. No areas of soft landscaping are proposed, with the limited external space to comprise hard standing.

The site is mainly occupied by a former tyre fitting garage located within a part two-storey and part single storey building. Limited external areas of hardstanding were noted to the south and east of the building.

The building on site appears to have been present since the time of the earliest map referenced in 1873-74, at which time it was labelled as a smithy. The site itself appears to have remained broadly unchanged since that time.

Reference to geological datasets indicates that the site is expected to be underlain by an area of Made Ground, which extends further to the east and west associated with historical wharfs and timber ponds. Beneath the made ground the site is expected to be underlain by the Head overlying Lambeth Group deposits. The ground investigation confirmed the underlying soils to comprise a variable thickness of made ground, overlying the expected sequence of natural deposits.

The Head is classed as a Secondary Undifferentiated aquifer, whilst the underlying Lambeth Group is classed as a Secondary A Aquifer. The site does not lie within an Environment Agency potable groundwater Source Protection Zone. Groundwater was not encountered during drilling of any of the boreholes (boreholes extended to depths of up to 5.00m).

It is recommended that the design of precautions against shrinkage and heave for any new foundation system should assume a medium volume change potential for the fine-grained Head and Lambeth Group soils.

A net allowable bearing capacity of 150kN/m^2 may be assumed for pad or strip foundations up to 1.50m in breadth that are constructed directly onto the Head soils of at least stiff consistency.

A DS-1 Design Sulfate Class and an AC-1 ACEC classification should be assumed as a minimum for the design of concrete in contact with the ground.

Ground floors should be suspended unless the conditions set out within this report can be met.

The preliminary risk assessment identified the potential for on-site contamination due to the historical use of the building. It also identified the potential for ground gas generation from the historical area of made ground. The level of risk posed by ground gases was considered to be low and no further assessment has been undertaken in this regard.

The investigation did not record concentrations of petroleum hydrocarbons or volatile organic compounds (VOC) considered to pose an unacceptable risk to end users of the proposed development. No remedial measures or further assessment works are considered to be necessary.

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1. INTRODUCTION

It is proposed to demolish the existing building at 144 Albion Street, Southwick, and to construct a three-storey building housing a commercial unit at ground floor level and residential units above. No areas of soft landscaping are proposed, with the limited external space to comprise hard standing. A copy of the proposed development layout is presented in Appendix A.

Ashdown Site Investigation Ltd was requested to undertake a ground investigation to provide advice to assist with the structural design and discharge of planning conditions.

The specific objectives of the works were to:

a) Establish the expected geology, hydrogeology and hydrology at the site;
b) Ascertain the development history and current site use;
c) Develop a preliminary conceptual model of the site identifying potential pollutant linkages relating to end users of the proposed development works, to controlled waters beneath and in the vicinity of the site, or to other off-site sensitive receptors, if identified;
d) Investigate the shallow ground and groundwater conditions prevailing at the site;
e) Provide advice to assist others in undertaking design of foundations and ground floors;
f) Test for the presence of contaminants identified by the preliminary conceptual model; and
g) Develop a quantitative conceptual model of the site, refining the preliminary model to identify any pollutant linkages that may be present.

The scope of the works covered by this report, and the terms and conditions under which they were undertaken, were set out within the offer letter Q13050, dated 11th May 2023. The instruction to proceed was received from DVD Building Design on behalf of the client, 3H Construction.

Copies of the historical maps and geo-environmental data referred to in this report are presented within Appendix G.

2. WALKOVER SURVEY

The site comprises a broadly rectangular shaped plot of land located to the south of Albion Street, Southwick, West Sussex, and is centred on the approximate Ordnance Survey national grid reference 524446 105030. A site location plan and site plan are presented as Figure 1 and Figure 2, respectively.

The site is mainly occupied by a former tyre fitting garage located within a part two-storey and part single storey building. The two-storey section in the west of the site appeared to have been used as office space and staff welfare areas whilst the single storey extension in the east had been used for vehicle tyre fitting. The extension was in a poor condition and supported by scaffolding; no evidence of MOT inspection pits was noted within the extension. Both buildings had largely been cleared, with no garage equipment remaining.

Limited external areas of hardstanding were noted to the south and east of the building. A steel shipping container was present adjacent to the south of the extension, no access to the inside of the container was available. An area of concrete surfacing fronted the container, which contained potentially fly tipped materials including mattresses, pallets and office furniture.

South east corner of the site with the two-storey building and single storey extension, shipping container and potentially fly tipper materials.	**Office space on the ground floor of the two-storey building**
	
Inside the single storey extension looking east (left photograph) and west towards the main building (right photograph)	
	

3. ENVIRONMENTAL AND GEO-ENVIRONMENTAL DATA REVIEW

3.1 Geological Data Review

3.1.1 Expected Geology and Aquifer Designation

The stratigraphic succession that may be expected to underlie the site has been established by reference to British Geological Survey (BGS) mapping and the BGS Lexicon of Named Rock Units. The expected stratigraphy is presented in the following table.

Table 1. Expected Strata and Aquifer Designation

Type	Stratum	Aquifer Designation
Artificial	Made Ground	n/a
Superficial	Head	Secondary Undifferentiated Aquifer
Bedrock	Lambeth Group	Secondary A Aquifer

The site lies within an area designated as Made Ground, which extends some distance to the east and west, along the bank of the canal further to the south.

The superficial Head is a polymict deposit generally comprising clay and sandy clay with variable amounts of gravel. The lithology of the Head reflects the nature of the parent solid strata. The material is likely to have been disturbed by intense frost action in a periglacial environment. It is usually poorly sorted but may be stratified where it has been subject to solifluction and/or hillwash and soil creep.

The Lambeth Group comprises vertically and laterally variable sequences mainly of clay, some silty or sandy, with some sands and gravels, minor limestones and lignites and occasional sandstone and conglomerate.

3.1.2 Natural Ground Subsidence

Table 2. Natural Ground Subsidence from Groundsure Data

Section	Risk Assessment
Soil Volume Change Potential (Shrink-Swell)	Very Low
Running Sands	Very Low
Compressible Deposits	Very low
Collapsible Deposits	Very low
Landslides	Very Low
Ground Dissolution of Soluble Rocks	Negligible

It should be noted that the assessment provided within the data represents a generic assessment only. Information on the site-specific investigation is presented in Section 8 of this report.

3.1.3 Mining, Ground Workings and Natural Cavities

Table 3. Mining, Extraction and Natural Cavities from Groundsure Data

Section	Risk Assessment
Natural Cavities	No natural cavity records are identified within 500m of the site.
BritPits	An active wharf, Penney's Wharf, is mapped 441m to the west of the site associated with crush rock and marine sand and gravel.
Surface Ground Workings	Several surface workings including a canal (16m and 20m south), timber ponds (19m south) and unspecified wharfs (21m south west to 54m west) are mapped in the immediate vicinity of the site. A pond and unspecified wharfs are mapped 204-206m south east and 245m to the west of the site, respectively.
Underground Workings	No underground workings are identified within 250m of the site.
Historical Mineral Planning Areas	No records are identified within 500m of the site.
Non-Coal Mining	The site is located in an area where the data identifies that "sporadic underground mining of restricted extent may have occurred." However, it goes on to state that "The potential for difficult ground conditions are unlikely and localised, and are at a level where they need not be considered."
Mining Cavities	No records are identified within 500m of the site.
Johnson Poole and Bloomer	No records are identified on the site.
Coal Mining	No records are identified on the site.
Brine Areas	No records are identified on the site.
Gypsum Areas	No records are identified on the site.
Tin Mining	No records are identified on the site.
Clay Mining	No records are identified on the site.

3.1.4 Radon

Table 4. Radon

Section	Risk Assessment
Radon Affected Areas	The site is reported to be within an area where between 1% and 3% of properties are above the action level requiring radon gas protection measures to be installed in new buildings.
Radon Protection Measures	No radon protection measures are reported by the British Geological Survey to be necessary in the construction of new dwellings or extensions.

3.1.5 Soil Chemistry

The estimated background soil chemistry does not pose an unacceptable risk in the context of the site. However, this does not refer to data taken from the site itself and higher contaminant concentrations could be present as a result of site activities.

3.2 Hydrogeological and Hydrological Data Review

3.2.1 Groundwater Abstractions

No groundwater abstraction licences are indicated within 2km of the site.

3.2.2 Surface Water Abstractions

No surface water abstraction licences are indicated within 2km of the Site.

3.2.3 Potable Abstractions

No potable abstraction licences are indicated within 2km of the site.

3.2.4 Groundwater Source Protection Zones

The site does not lie within an Environment Agency Source Protection Zone.

3.2.5 Surface Water Features

The nearest recorded significant surface water feature is The River Adur, located 105m to the south east of the site.

3.2.6 Flood Risk

The table below summarises the flood risk data provided by the Groundsure report.

Table 5. Flood Risk

	On Site	Within 50m of the Site
Risk of Flooding from Rivers and Seas (RoFRaS)	None Identified	High
Historical Flood Events	None Identified	None Identified
Flood Defences	None Identified	None Identified
Areas Benefitting from Flood Defences	None Identified	None Identified
Flood Storage Areas	None Identified	None Identified
Environment Agency Flood Zone 2	None Identified	4m to the south west
Environment Agency Flood Zone 3	None Identified	6m to the south
Surface Water Flooding	Highest Risk: Negligible	Highest Risk: 1 in 250 year, 0.30m to 1.00m
Groundwater Flooding	Highest Risk: Moderate	Highest Risk: High

3.3 Geo-Environmental Data Review

3.3.1 Historical Industrial Sites

The following table summarises past land uses of the site and the surrounding area extracted from 1:10,000 and 1:10,560 historical maps.

Table 6. Historical Industrial Sites

Section	Remarks
Historical Industrial Land Uses Identified from 1:10,560 and 1:10,000 scale mapping	Timber ponds are mapped 19m to the south of the site. Several records for unspecified wharfs are mapped between 21m and 54m to the south west and west of the site.
Historical Tank Database Identified from 1:1,250 and 1:2,500 scale mapping	No historical tanks are identified within 100m of the site.
Historical Energy Features Identified from 1:1,250 and 1:2,500 scale mapping	An electricity substation is mapped some 67m to the north of the site from 1985. Given the distance from site, this is not considered to represent a potential source of contamination.
Historical Petrol Stations Identified from 1:1,250 and 1:2,500 scale mapping	No historical petrol stations are identified within 100m of the site.
Historical Garages Identified from 1:1,250 and 1:2,500 scale mapping	No historical garages are identified within 100m of the site.
Historical Military Sites	No historical military sites are identified within 100m of the site.

3.3.2 Landfill and Other Waste Sites

The following table summarises the location of waste sites either on the site or within the surrounding area (within 250m of the site).

Table 7. Landfill and Other Waste Sites

Section	Remarks
Active or Recent Landfills	No active or recent landfills are identified within 250m of the site.
Historical Landfill (BGS Records/LA/Mapping Records EA Records)	No historical landfills are identified within 250m of the site.
Historical Waste Sites	No historical waste sites are identified within 250m of the site.
Licensed Waste Sites	No licensed waste sites are identified within 250m of the site.
Waste Exemptions	No waste exemptions are identified within 250m of the site.

3.3.3 Current Industrial Land Use

The relevant current industrial land uses are discussed in the table below.

Table 8. Current Industrial Land Uses

Section	Remarks
Recent Industrial Land Use	A scrap metal merchant is listed 16m to the east of the site. However, this appears to be an office address rather than any kid of waste storage yard. Although a concrete company is identified 21m to the west, it is thought this feature is located some 1.7km away.
Current or Recent Petrol stations	No current or recent petrol stations are identified within 100m of the site.
Electricity Cables / Gas Pipelines	No underground high voltage cables or high-pressure pipes are identified within 100m of the site.
Sites determined as Contaminated Land	No sites determined as contaminated land are identified within 100m of the site.
Control of Major Accident Hazards (COMAH) Sites	An Historical NIHHS site associated with Shoreham Port Authority is located to the south of the site.
Regulated Explosive Sites	No regulated explosive sites are identified within 100m of the site.
Hazardous Substance Storage/Usage	No consents have been granted for hazardous substance storage/usage within 100m of the site.
Historical Licensed Industrial Activities (IPC)	No records are identified within 100m of the site.
Licensed Industrial Activities (Part A(1))	No records are identified within 100m of the site.
Licensed Pollutant Release (Part A(2)/B)	No records are identified within 100m of the site.
Radioactive Substance Authorisations	No records are identified within 100m of the site.
Licensed Discharges to Controlled Waters	No records are identified within 100m of the site.
Pollutant Release to Surface Water / Public Sewer	No records are identified within 100m of the site.
List 1 / List 2 Dangerous Substances	No records are identified within 100m of the site.
Pollution Incidents (EA/NRW)	A record of an incident identified as "oils and fuel spillage" is recorded 92m to the south. This is listed as having a minor impact to water with no impact to land or air. Given the distance from the site this is not considered to represent a potential source of contamination.
Pollution Inventory Substances / Waste Transfers / Radioactive Waste	No records are identified within 100m of the site.

3.3.4 Sensitive Land Use

No sensitive land uses at risk from contamination are identified within 1km of the site.

3.3.5 Railway Infrastructure and Projects

A railway line runs roughly east west some 140m to the north of the site.

4. HISTORICAL MAP REVIEW

Historical Ordnance Survey maps covering the area of the site have been reviewed and are summarised in the following table.

It is noted that each map presents information applicable at the time of the survey (or revision date) and is subject to surveying and cartographic errors and/or advances. Revisions to maps are made at irregular intervals and it is possible that significant developments may have taken place on or within the vicinity of the site that are not shown on the maps.

'In the Vicinity of the Site' generally refers to features of relevance within approximately 250m of the site boundary but may also include more distant features if considered to be pertinent to the assessment of the development history.

Table 9. Summary of Significant Features Identified on Historical Maps

Map Details	On-Site	In the Vicinity of the Site
1873-74 1:2,500	There is a slight geo-referencing error showing the site slightly to the south east of where it actually lies. The site is mostly occupied by a building labelled as a *Smithy.*	Large *Timber Ponds* are mapped some 25m to the south and 50m to the south east. A large *Wharf* lies ~50m to the west.
1898 1:2,500	The site is no longer mapped as a *Smithy* however, the building remains.	The *Timber Ponds* are no longer mapped. A Tramway Line runs along the road to the immediate north of the site in an east to west direction.
1930-32 1:2,500	No significant changes.	The Tramway is no longer mapped. Buildings are now shown to the west of the site.
1966-1969 1:2,500	No significant changes.	A number of buildings to the west have been cleared.
1987-1991 1:1,250	No significant changes.	The remaining buildings on the plot to the west of the site have been cleared.
2003 1:1,250	An additional building is mapped adjacent to the south of the existing building on site.	No significant changes.

5. PRELIMINARY CONTAMINATION RISK ASSESSMENT

5.1 Introduction

The risk assessment considers the potential sources of contamination identified, the receptors that may be present in view of the development proposals and the contaminant pathways by which these may be linked. A complete pollutant linkage is only deemed to exist where all three are present and a site is considered suitable for use where no complete pollutant linkages are identified.

Where a complete pollutant linkage is deemed to be present, an assessment of the level of risk associated with the pollutant linkage has been carried out in line with current guidance[1].

The level of risk is determined using the risk matrix presented in the following table. Classifications of probability, consequence and risk are presented in Appendix B.

Table 10. Risk Assessment Matrix

		Probability			
		Very Low	**Low**	**Moderate**	**High**
Consequence	**Very Minor**	Negligible	Very Low	Low	Low/Moderate
	Minor	Very Low	Low	Low/Moderate	Moderate
	Moderate	Low	Low/Moderate	Moderate	High
	Severe	Low/Moderate	Moderate	High	Very High

5.2 Contaminant Pathways Identified

The development is to comprise a new building with commercial space at ground level and apartments on the first and second floors. All external areas are to be covered with brick paving.

Pathways associated with gas and vapour intrusion are considered to be valid in the context of the development. In the absence of any external soft landscaping, those pathways associated with direct contact, dust generation or consumption of site grown produce are not considered to be valid.

Should the proposed development plans be altered, a revised risk assessment may be required.

It is noted that an asbestos survey of existing structures and infrastructure[2] was beyond the brief of this report. The risk assessment assumes that, should asbestos be identified within buildings or infrastructure, any such materials will be removed by appropriately trained and licensed contractors and disposed of in accordance with legal requirements, prior to demolition or other works commencing, to avoid contaminating soils at the site.

The site is expected to be underlain by the Head and Lambeth Group strata which are classed as a Secondary Undifferentiated and Secondary A Aquifer, respectively. No potable drinking water abstraction points are noted within 2km of the site and the site is not located within a source protection zone. As such, there are not considered to be viable pathways linking potential contamination on the site with sensitive groundwater.

[1] Contaminated Land Risk Assessment: A guide to good practice, CIRIA C552, 2001.
[2] As defined under Section 5(a) of the Control of Asbestos Regulations, 2012.

5.3 Potential Contamination Sources Identified

The following potential sources of contamination have been identified by the preliminary contamination risk assessment:

- Petroleum hydrocarbon and volatile organic compound (VOC) contamination from historical use of the site for vehicle maintenance.
- Ground gas generation from made ground beneath and in the vicinity of the site.

5.4 Preliminary Conceptual Model

The preliminary conceptual model for the proposed development is presented in Appendix C.

6. GROUND INVESTIGATION

6.1 Introduction

The ground investigation comprised the drilling of a series of dynamic sampler boreholes, together with accompanying in-situ geotechnical testing. The intrusive work was carried out on 26th May 2023. The exploratory hole locations are shown on Figure 2.

Descriptions of the strata encountered and comments on groundwater conditions are shown in the exploratory hole records given in Appendix D, together with notes to assist in their interpretation.

6.2 Exploratory Holes

6.2.1 Dynamic Sampler Boreholes

Four boreholes were drilled to depths of either 3.00m or 5.00m below ground level. Boreholes WS01 and WS02 were drilled closest to Albion Street to a depth of 3.00m, whilst boreholes WS03 and WS04 were drilled to the rear (south) of the site adjacent to a retaining wall; these boreholes were drilled to a deeper depth of 5.00m below ground level. The locations of the boreholes were limited by available access for the drilling rig.

Dynamic sampler boreholes are formed by a series of 1.0m long, open ended, hollow steel tubes of up to 100mm diameter, each containing a removable plastic liner. The tubes, progressively reducing in diameter, are driven into the ground by means of a track-mounted drop weight. Each tube is extracted from the ground using a hydraulically operated jack and the enclosed sample is recovered in its plastic liner.

The system enables sub-samples to be taken for detailed examination and laboratory testing.

6.3 Sampling

Disturbed samples of soil were taken at the depths shown in the exploratory hole records and were collected in plastic bags, plastic tubs or amber jars fitted with gas tight lids.

On collection the amber jars were stored in cool boxes with cooling blocks to maintain temperatures below 4°C until transferred to refrigerators upon return to the office and subsequently forwarded to the external accredited chemical testing laboratory.

6.4 In-situ Testing

The depths of in-situ testing, together with the test results, are either given on the exploratory hole records or are summarised separately in Appendix D.

6.4.1 DPSH Dynamic Probe (Super Heavy) Testing

Continuous dynamic probe tests were undertaken adjacent to all four boreholes. The tests were conducted to depths of between 3.50m and 7.00m below ground level using a super heavy DPSH-B[3] probing geometry.

The DPSH-B configuration is similar to that of the standard penetration test (SPT); the main differences being that the tip comprises a 90° cone, the driving rods are lighter than those used for SPT testing and the blow counts are recorded over 100mm increments rather than 300mm, as is the case for the SPT.

The blow counts recorded and the calculated dynamic point resistances, which account for inertia of the anvil and driving rods, are presented on the borehole records and separately in Appendix D.

6.4.2 Undrained Shear Strength

Undrained shear strength determinations were made within samples of the fine-grained soils held in the dynamic sampler liners using a hand penetrometer.

6.5 Laboratory Testing

Laboratory testing was scheduled by Ashdown Site Investigation Ltd. Results from the laboratory tests are provided in Appendix E.

6.5.1 Geotechnical Testing

Geotechnical testing was undertaken by Ashdown Site Investigation Ltd in accordance with the methods given in BS1377[4]. Chemical testing to enable classification of the chemical environment of soils in accordance with BRE SD1[5] was undertaken by an external UKAS accredited laboratory.

6.5.2 Chemical Testing

Chemical (contamination) testing of selected samples was undertaken by a laboratory with recognised (UKAS and MCERTS) accreditation for quality control.

[3] As defined by BS EN ISO 22476-2:2005.
[4] BS1377:1990 Parts 1 to 8, Methods of test for soils for civil engineering purposes.
[5] BRE Special Digest 1:2005 Concrete in Aggressive Ground.

7. GROUND CONDITIONS

7.1 Stratigraphy

7.1.1 Surface Covering

All four exploratory positions encountered hardstanding at the surface. Concrete was present at boreholes WS01 and WS03, some 50mm and 70mm in thickness, respectively. Boreholes WS02 and WS04 encountered 80mm and 50mm thickness of asphalt, respectively.

7.1.2 Made Ground

Made ground, variously comprising a sandy gravel, gravelly sand and sandy gravelly clay was recorded to depths of between 0.50m and 1.00m below ground level. The gravel fraction comprised variable quantities of bituminous material, slate, concrete, crushed crystalline rock, flint and brick.

7.1.3 Head

Underlying the made ground, the investigation progressed into undisturbed stiff to very stiff gravelly clay deposits which persisted to depths of between 4.10m and 4.80m below ground level. The full extent of these soils was only proven in boreholes WS03 and WS04, whilst the stratum was present below the made ground soils to the full depths of boreholes WS01 and WS02 at 3.00m below ground level. The gravel fraction within these soils comprised of fine to medium subangular to subrounded flint and chalk.

These soils are considered to represent the Head deposits indicated on the published geological map.

7.1.4 Lambeth Group

Beneath the Head deposits, boreholes WS03 and WS04 encountered very stiff clay deposits, which continued to the full depth of the investigation.

These soils are considered to be representative of the Lambeth Group soils indicated on the published geology map.

7.2 Groundwater and Stability

Each of the exploratory holes was recorded to remain dry and stable during the course of drilling.

It should be noted that water levels within the boreholes may not have equilibrated with the groundwater table at the time the readings were recorded and that groundwater levels should be expected to fluctuate seasonally.

8. GEOTECHNICAL ASSESSMENT

The geotechnical assessment has been prepared in connection with the development proposals shown on the drawings included in Appendix A.

In summary these drawings indicate the proposed development is to comprise demolition of the existing building, and the construction of a three-storey building comprising car parking, cycle storage and a commercial unit at ground level with 4 no. residential flats at first and second floor level.

At the time of writing, no details were available concerning the specific loads likely to be applied to the foundations.

8.1 Foundations

8.1.1 Soil Shrinkage/Heave Potential

The fine-grained soils of the Head and Lambeth Group have been classified as clays and with modified plasticity indices in the range of 18% to 39%, the soils may be expected to exhibit a low to medium volume change potential.

It is recommended that the design of precautions against shrinkage and heave for any new foundation system (spread footings, and ground beams etc.) should assume a medium volume change potential for the fine-grained Head and Lambeth Group soils and take into account current guidance such as that given by the Building Research Establishment (BRE)[6] or the National House Builders Council (NHBC)[7].

Whilst this report has been prepared to provide advice to assist designers in undertaking detailed design, the report itself does not represent a detailed design statement. Detailed foundation design, including assessment of foundation type, minimum founding depths for spread foundations, and requirements for placement of void formers et cetera, should take into account the findings of this report and the presence of trees (previous, present and proposed). In connection with the latter, it is recommended that an arboricultural survey of the site that identifies the species and maturity of the existing trees/shrubs in the southern part of the site should be provided to engineers responsible for the foundation design.

8.1.2 Spread Foundations

8.1.2.1 Foundation Depths for Spread Foundations

Foundations should be constructed to bear below soils that are likely to be affected by significant soil volume changes caused by seasonal changes in moisture content to avoid damage to foundations that could otherwise arise. In addition, all made ground and any soils disturbed by the construction or removal of any previously existing foundations or services should be regarded as being variable in nature and state of compaction and, as such, unsuitable as a founding medium for shallow footings. New footings should be constructed so as to bear below made ground/disturbed natural soils and soil subject to seasonal soil volume changes, whichever is the deeper, and onto undisturbed, competent, natural deposits.

[6] www.bre.co.uk : BRE Digests 240, 241 and 242, Low rise buildings on shrinkable clay soils, parts 1, 2 and 3; and BRE Digest 298 , The influence of trees on house foundations in clay soils and BRE Digest 412, Desiccation in clay soils.
[7] http://www.nhbc.co.uk/ : NHBC Standards, Chapter 4.2.

Summary guidance on suitable minimum foundation depths to protect against the effects of seasonal soil volume changes is presented in the table below but designers undertaking detailed design of foundations should follow the detailed guidance such as that provided within Chapter 4.2 of the NHBC Standards.

Table 11. Indicative Minimum Foundation Depths

Tree Type	Water Demand of Tree	Tree Distance to Tree Height Ratio (D/H)									
		0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.80	1.00	1.25
		Minimum Foundation Depth Required in Medium Volume Change Potential Soils (m)									
Broad Leaf	High	†			2.50	2.35	2.20	2.00	1.70	1.35	0.90*
	Moderate	2.00	1.85	1.70	1.60	1.45	1.30	1.15	0.90*	0.90*	0.90*
	Low	1.50	1.40	1.30	1.15	1.05	0.90*	0.90*	0.90*	0.90*	0.90*
Coniferous	High	†		2.30	1.95	1.60	1.25	0.90*	0.90*	0.90*	0.90*
	Moderate	2.00	1.70	1.40	1.10	0.90*	0.90*	0.90	0.90*	0.90*	0.90*

* Minimum foundation depth required to protect against soil volume changes.
† Foundations deeper than 2.50m require specialist design to protect against soil volume changes.

Where specialist foundation design is required (foundation depths exceeding the maximum permitted by the guidance) then piled foundations are likely to be needed, though commercial considerations may also dictate that piled foundations may be more economic even in comparison with conventional spread foundations constructed to depths less than the maximum permitted by guidance. Further works including deep boreholes would be required if structural engineers or quantity surveyors decide that piled foundations should be adopted.

Details on the water demand and mature height of common trees is given within Table 3 of Chapter 4.2 of the NHBC standards which should be referred to when assessing minimum foundation depths required for the proposed development. A summary is provided in the table below.

Table 12. Indicative Summary of Water Demand and Mature Height of Common Trees

Tree Type	High Water Demand		Moderate Water Demand		Low Water Demand	
	Tree	Height (m)	Tree	Height (m)	Tree	Height (m)
Broad Leaf	Elm	18 – 24*	Acacia	18	Birch	14
	Oak	16 – 24*	Alder	18	Elder	10
	Poplar	15 – 28*	Apple	10	Fig	8
	Willow	16 – 24*	Ash	11 – 23*	Hazel	8
	Eucalyptus	18	Laurel	10	Holly	12
	Hawthorn	10	Beech	20	Honey Locust	14
			Blackthorn	8	Hornbeam	17
			Cherry	8 – 17*	Laburnum	12
			Chestnut	20 – 24*	Magnolia	9
			Lime	22	Mulberry	9
			Maple	8 – 18*	Tulip Tree	20
			Pear	12		

Tree Type	High Water Demand		Moderate Water Demand		Low Water Demand	
	Tree	Height (m)	Tree	Height (m)	Tree	Height (m)
			Plane	26		
			Plum	10		
			Sycamore	22		
			Tree of Heaven	20		
			Walnut	18		
			Whitebeam	12		
Coniferous	Cypress	18 – 20*	Cedar	20		
			Douglas Fir	20		
			Larch	20		
			Monkey Puzzle	18		
			Pine	20		
			Spruce	18		
			Wellingtonia	30		
			Yew	12		

* Dependent on particular species.

8.1.2.2 Bearing Capacity for Spread Foundations

For design purposes, a net allowable bearing capacity of 150kN/m^2 may be assumed for spread (pad or strip) foundations up to 1.50m across bearing within the clays of the Head soils, of at least stiff consistency. The quoted bearing capacity is expected to limit settlement to less than 25mm.

Care must be taken to ensure that new foundations do not undermine or impose additional loading on the adjacent retaining wall to the south of the site (vertical or lateral). Similarly, the construction of new foundations should be undertaken carefully and monitored in those situations where temporary works could affect existing foundations.

8.2 Ground Floors

In view of the variable thickness of made ground and the presence of soils of medium volume change potential, it is recommended that ground floors should be suspended.

Current guidance[8] suggests that ground bearing floor slabs may, however, be considered where:

1. All made ground is removed from beneath the building footprint;
2. The depth of foundations required to protect against seasonal soil volume changes close to trees is less than 1.5m; and
3. Further works demonstrate that close to the time of construction, no significant soil desiccation is present.

Where the above criteria cannot be met ground floors should be suspended.

[8] http://www.nhbc.co.uk/ : NHBC Standards, Chapter 4.2.

If ground bearing floors are adopted it is recommended that the potential for differential movement, both between the floor slab and walls and across the floor slab itself, should be anticipated. Such floors should be fully debonded from walls. Formations should be adequately proof rolled and any excessively soft materials excavated and replaced with a suitable, well graded granular fill. The depth of any fill should be limited to a maximum of 600mm unless placed to an engineering specification designed to limit internal settlement of the fill materials to a tolerance to be advised by the designer. The detailing of services through, or under, ground-bearing floors should incorporate flexible connections and, where appropriate, enhanced falls.

8.3 Groundwater

No groundwater was encountered within the exploratory boreholes up to a depth of 5.00m below ground level. It should be noted that water levels within the boreholes may not have equilibrated with the groundwater table at the time the readings were recorded and that groundwater levels should be expected to fluctuate seasonally.

The potential for perched groundwater to be present above the groundwater table, for example within the made ground etc, should not be overlooked. It is also possible that heavy precipitation during construction could lead to the ingress of perched groundwater or surface water run-off into excavations. In such circumstances it would be expected that water entering excavations would be adequately managed by pumping from sumps.

8.4 Stability of Excavations

All made ground exposed in excavations should be assumed to be unstable, even in the short term. Whilst fine-grained natural soils may remain stable for a short period of time if not subjected to surcharge loads (such as may be imposed by existing foundations, traffic or storage of materials), the stability of these deposits if left unsupported should be assumed to have the potential to deteriorate. Where stable excavations are required, excavations should be suitably supported.

All excavations requiring human entry must be shored or battered as necessary to conform to current best practice, as accepted by the Health and Safety Executive (HSE)[9]. Current legislation requires that where personnel access is required into any excavation a competent person must inspect excavation supports or battering of slopes at the start of the working shift and at other specified times. No work should take place until the excavation is safe. Excavations should also be inspected after any event that may have affected their stability, such as a significant weather event, changes in surcharge loadings imposed by temporary storage of materials or changes in site traffic plans or alteration of support systems. Inspections should be formally recorded and any faults that are found should be corrected immediately.

Particular attention must be paid to ensuring the stability of nearby structures, services and neighbouring sites as well as the road frontage.

[9] Relevant guidance is given on the HSE website, www.hse.gov.uk

8.5 Aggressivity to Concrete

The aggressivity of the soils to concrete has been assessed in accordance with guidance published by the BRE[10].

In consideration of the soils encountered beneath the site and its historical usage it is considered that 'natural ground conditions' may be assumed for the purpose of assessing the aggressivity of the chemical environment for concrete classification (ACEC class). Whilst groundwater was not encountered during the short period of the works, in the absence of long-term monitoring data, 'mobile groundwater' conditions should be conservatively assumed.

The following table summarises the characteristic values indicated from the chemical analysis of the soils present beneath the site.

Table 13. Assessment of the Chemical Analysis of the Soil

	Characteristic Value	**Design Sulfate Class**	**ACEC Classification**
pH	7.9	-	-
Water Soluble Sulphate (mg/l as SO4) *	100	DS-1	AC-1

Notes: * Characteristic value rounded to nearest 100.

In accordance with the guidance, a DS-1 Design Sulfate Class and an AC-1 ACEC classification should be assumed as a minimum for the design of concrete in contact with the ground.

[10] BRE Special Digest 1:2005 Concrete in Aggressive Ground.

9. QUANTITATIVE CONTAMINATION ASSESSMENT

9.1 Assessment Strategy

The risk posed by petroleum hydrocarbon and VOC contamination has been assessed by way of testing of samples of the underlying soils taken from the boreholes.

Due to the age of the areas of worked ground associated with the construction of the river wharfs on and in the vicinity of the site, the overall level of risk posed by gas generation is considered to be low, and no further assessment works have been carried out in this regard.

9.2 Analysis of Contamination Test Results

9.2.1 Method of Assessment

For the assessment of risk to end users, comparison of the results of the laboratory testing has been made against published soil screening values (SSV) comprising the 'Suitable For Use Levels' (S4UL)[11] or, in lieu of an S4UL being developed for lead, the Category 4 Screening Level (C4SL)[12].

Published SSV are only available for three generic land uses, all of which assume that direct contact and dust generation pathways are valid. As an initial, and highly conservative, assessment of the laboratory test results, comparison has been made with SSV calculated for a generic "Residential" land use[13], but without the pathways associated with ingestion of site grown vegetables and ingestion of soil attached to vegetables. The critical receptor for this land use is considered to be a young female child resident on site from birth to age 6. Exposure routes that are considered include the potential for direct ingestion of the soil, the outdoor and indoor ingestion of dust and the potential inhalation of dust and vapours.

For other contaminants where S4UL do not exist, reference has been made to other generic screening values where appropriate.

9.2.2 Petroleum Hydrocarbons & VOC

The following tables list the screening values for petroleum hydrocarbon equivalent carbon weight fractions and BTEX compounds, calculated for 1% organic content.

Table 14. Soil Screening Values for petroleum hydrocarbon equivalent carbon weight fractions

Petroleum Hydrocarbon Fraction	SSV (mg/kg)	Petroleum Hydrocarbon Fraction	SSV (mg/kg)
Aliphatic EC 5-6	42	Aromatic EC 5-7	370
Aliphatic EC >6-8	100	Aromatic EC >7-8	560
Aliphatic EC >8-10	27	Aromatic EC >8-10	47
Aliphatic EC >10-12	130	Aromatic EC >10-12	250
Aliphatic EC >12-16	1100	Aromatic EC >12-16	1800

[11] Nathanail, C.P, et al., The LQM/CIEH S4ULs for Human Health Risk Assessment, 2015, Land Quality Press, Nottingham. Copyright Land Quality Management Limited reproduced with permission; Publication Number S4UL3071.
[12] SP1010: Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination. Final Project Report, published by DEFRA, 2014.
[13] As defined within Science Report SC050021/SR3, January 2009, with the amendments discussed in the LQM/CIEH report.

Petroleum Hydrocarbon Fraction	SSV (mg/kg)	Petroleum Hydrocarbon Fraction	SSV (mg/kg)
Aliphatic EC >16-35	65000	Aromatic EC >16-21	1900
Aliphatic EC >35-44	65000	Aromatic EC >21-35	1900
		Aromatic EC >35-44	1900

Table 15. Soil Screening Values for BTEX Compounds

Compound	SSV (mg/kg)	Compound	SSV (mg/kg)
Benzene	0.38	Ethylbenzene	83
Toluene	880	*p*-Xylene[1]	79

[1] Xylene has three structural isomers, the SSV presented is for *p*-Xylene, which has the most conservative SSV.

None of the samples recorded concentrations of any individual petroleum hydrocarbon fraction above the respective screening value.

Only the sample tested from borehole WS01 at 0.4m depth recorded any detectable concentrations of BTEX compounds or other VOC. The concentrations of ethyl benzene, toluene and xylenes were several orders of magnitude below the published screening values.

The sample also recorded a concentration of trichlororethene of just 8µg/kg. There is no published SSV for trichlororethene. However, given the very low concentration recorded in this sample, and the absence of any further detectable concentrations in other samples, this is not considered to represent an unacceptable risk to end users.

9.3 Quantitative Contamination Risk Assessment

9.3.1 Contamination Sources Identified

Following assessment of the laboratory test results, no sources of contamination that warrant further investigation or assessment have been identified.

9.3.2 Quantitative Conceptual Model

The quantitative conceptual model for the proposed development is presented in Appendix F.

No remedial measures or further assessment works are considered to be necessary.

9.4 Risks to Other Potential Receptors

All construction workers must undertake their own risk assessment, based upon the works to be carried out and the proposed method by which this will be achieved, in accordance with current health and safety legislation. Their assessment should take into account all available information about the site, including that present within this report.

Appropriate working procedures and PPE should be adopted to ensure the health and safety of the site operatives. Instruction should be given in the recognition of potentially hazardous materials. All site personnel should be appropriately briefed on the discovery strategy, presented below, and what actions they must take in the event that further evidence of contamination is identified or suspected.

9.5 Discovery Strategy

If, during the course of the site clearance and development works, any materials not previously identified by the investigation that are suspected of being 'contaminants' are encountered, then the following procedure should apply:

- All works in that area should cease and the site manager should be informed.
- Advice should be sought from suitably qualified and experienced personnel as to whether any further site inspection, sampling, testing and/or assessment is deemed necessary.
- If required, the conclusions of any assessment and any proposed remedial works (if required) should be agreed by the local authority.
- If necessary, full details of any remedial works should be included in a verification report for the site.

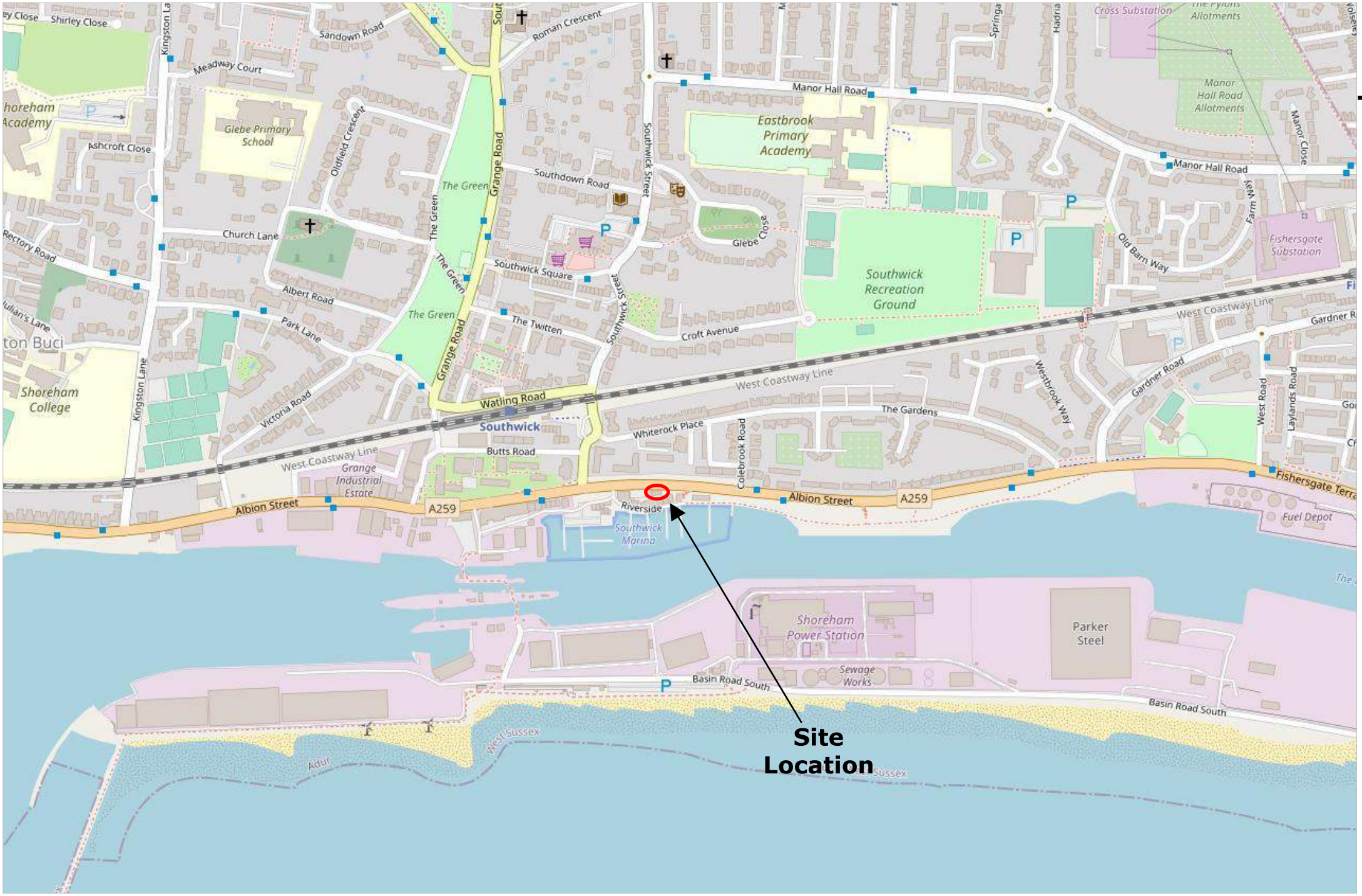
Suspected 'contamination' may take the following form, though it is noted that this list is not exhaustive and site operatives should ask if they are at all unsure of any findings:

- Soil or water looks oily and/or has an oily odour
- Soil or water has a solvent type of odour
- Significant quantities of man-made materials within fill such as paint cans, car parts, glass fragments
- Suspected asbestos containing materials (insulating boards, cement, loose fibres etc.)
- Significant volumes of clinker like or ashy material
- Sand bags, and/or subsurface concrete structures
- Animal carcasses or evidence of animal burial pits

Ashdown Site Investigation Ltd.

FIGURES

Figure 1 Site Location Plan
Figure 2 Site Plan



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ASHDOWN SITE INVESTIGATION LIMITED	Site Location Plan	Site Name	Figure No.	Project Reference
		144 Albion Street, Southwick, West Sussex	1	P16136



N

ASHDOWN SITE INVESTIGATION LIMITED

Unit 3
The Old Grain Store
Ditchling Common Business Park
Ditchling
East Sussex
BN6 8SG
01273 483119
contact@ashdownsi.co.uk

Site:

144 Albion Street
Southwick
West Sussex

Project Ref:

P16136

Figure No.

2

Drawing Title

Site Plan

Scale

NTS

APPENDIX A

Proposed Development Layout

ALBION STREET

8.79

SL 8.84

pavement

car park

commercial unit
55 sqm

wc

cycles

ev charging

parking

access zone

fore court

ev charging

recycling

new metal framed ballustrade to lightwell

new surface water drain

existing foul sewer

lightwell

CLUB

0 40m
1:1250

0 15m
1:500

0 6m
1:200

0 3m
1:100

0 1m
1:50

DVD Building Design
8 Ashdown
Eaton Road
Hove
BN3 3AQ

07976 410454

Revision

Client
Brighton & Hove Properties

Project
Demolition of existing building
and construction of three storey building
with ground floor commercial and
Four self contained flats over
144 Albion Street, Southwick, BN42 4AU

Drawing
Proposed ground floor plan

Issue Date
01.03.2023

CHL drawing ref.
2023-08-01

Scale
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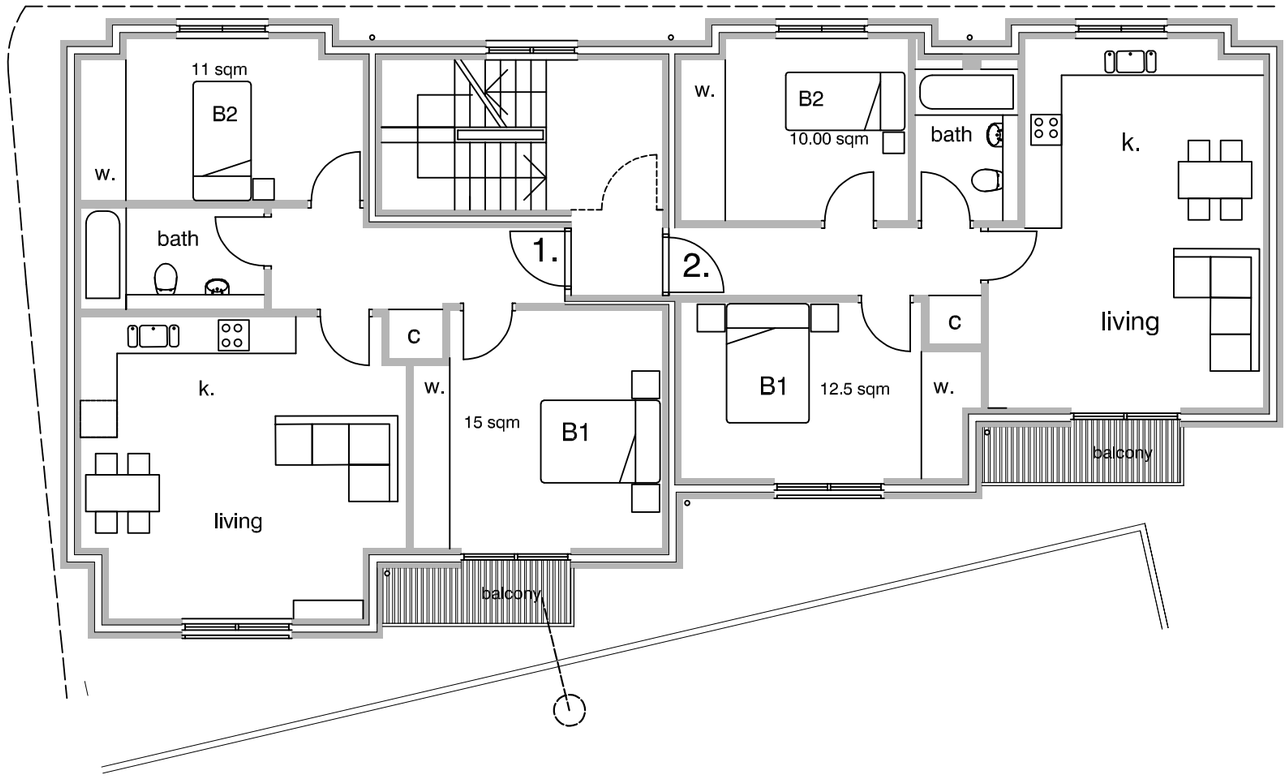
1:500

0 6m
1:200

0 3m
1:100

0 1m
1:50



DVD Building Design
8 Ashdown
Eaton Road
Hove
BN3 3AQ

07976 410454

Revision

Client
Brighton & Hove Properties

Project
Demolition of existing building
and construction of three storey building
with ground floor commercial and
Four self contained flats over
144 Albion Street, Southwick, BN42 4AU

Drawing
Proposed first floor plan

Issue Date	CHL drawing ref.
01.03.2023	2023-08-02
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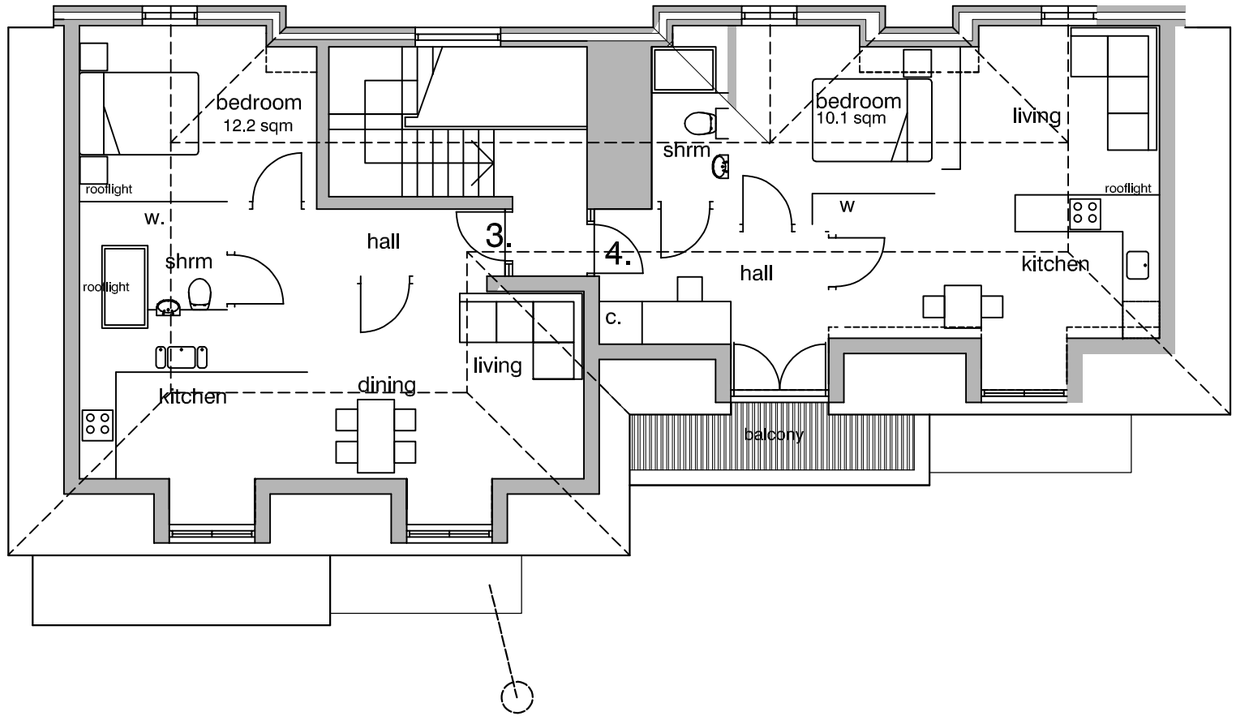

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1:200

0 3m
1:100

0 1m
1:50

DVD Building Design
8 Ashdown
Eaton Road
Hove
BN3 3AQ

07976 410454

Revision

Client
Brighton & Hove Properties

Project
Demolition of existing building
and construction of three storey building
with ground floor commercial and
Four self contained flats over
144 Albion Street, Southwick, BN42 4AU

Drawing
Proposed second floor plan

Issue Date
01.03.2023

CHL drawing ref.
2023-08-03

Scale
1:100@A3

APPENDIX B

Classification of Probability, Consequence and Risk

Probability of risk being realised	
Classification	Definition
High	There is a pollution linkage and an event that either appears very likely in the short term and almost inevitable over the long term or there is evidence at the receptor of harm or pollution.
Moderate	There is a pollution linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.
Low	There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place and is less likely in the shorter term.
Very Low	There is a pollution linkage but circumstances are such that it is improbable that an event would occur even in the very long term.

Consequence of risk being realised		
Classification	Category	Definition
Severe	Human Health	Short term (acute) risk to human health likely to result in "significant harm" as defined by the Environment Protection Act 1990, Part IIA.
	Controlled Waters	Short term risk of pollution (note: Water Resources Act contains no scope for considering significance of pollution) of sensitive water resource.
	Property	Catastrophic damage to buildings/property.
	Ecological Systems	A short term risk to a particular ecosystem or organisation forming part of such ecosystem.
Moderate	Human Health	Chronic damage to Human Health.
	Controlled Waters	Pollution of sensitive water resources (note: Water Resources Act contains no scope for considering significance of pollution).
	Ecological System	A significant change in a particular ecosystem or organism forming part of such ecosystem.
Minor	Controlled Waters	Pollution of non-sensitive water resources.
	Property	Significant damage to crops, buildings, structures and services.
	Ecological Systems	Damage to sensitive buildings/structures/services or the environment.
Very Minor	Human Health	Non-permanent health effects to human health (easily prevented by means such as personal protective clothing, etc).
	Property	Easily repairable effects of damage to buildings, structures and services.
	Project	Harm, although not necessarily significant harm, which may result in a financial loss or expenditure to resolve.

Risk classification definitions	
Very High	There is a 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 a substantial liability. Urgent investigation (if not undertaken already) and remediation are likely to be required.
High	Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short term and are likely over the long term.
Moderate	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is 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 (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term.
Low	It is possible that harm could arise to a designated receptor from an identified hazard, but there is a low likelihood of this hazard occurring and if realised, harm would at worst normally be mild.
Very Low	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised, it is not likely to be severe.

APPENDIX C

Preliminary Conceptual Model

144 Albion Street, Southwick, West Sussex				Preliminary Conceptual Model		P16136	
Potential Source	**Potential Receptor**	**Potential Contaminants**	**Potential Pathway**	**Complete Linkage Present?**	**Probability**	**Consequence**	**Risk**
• Petroleum hydrocarbon and volatile organic compound (VOC) contamination from historical use of the site for vehicle maintenance	End Users	Petroleum Hydrocarbons and VOC Compounds	Dermal contact with soil and dust (indoor & outdoor)	Pathway severed by hard surfacing			N/A
			Ingestion of soil and indoor dust	Pathway severed by hard surfacing			N/A
			Consumption of home-grown produce and attached soil	No private gardens proposed			N/A
			Inhalation of soil dust (indoor and outdoor)	Pathway severed by hard surfacing			N/A
			Inhalation of soil vapours	Yes	P2: Low	C3: Moderate	Low/Moderate
			Inhalation of soil gases/ Risk of explosion	Identified contaminant(s) do not pose a risk via this pathway			N/A
	End Users (via Water Supply Pipework)	Petroleum Hydrocarbons and VOC Compounds	Contamination of incoming services	Yes	P2: Low	C3: Moderate	Low/Moderate
	Groundwater		Migration to groundwater	No significant pathway to groundwater exists			N/A
• Ground gas generation from made ground beneath and in the vicinity of the site.	End Users	Land Gases	Dermal contact with soil and dust (indoor & outdoor)	Identified contaminant(s) do not pose a risk via this pathway			N/A
			Ingestion of soil and indoor dust	Identified contaminant(s) do not pose a risk via this pathway			N/A
			Consumption of home-grown produce and attached soil	Identified contaminant(s) do not pose a risk via this pathway			N/A
			Inhalation of soil dust (indoor and outdoor)	Identified contaminant(s) do not pose a risk via this pathway			N/A
			Inhalation of soil vapours	Identified contaminant(s) do not pose a risk via this pathway			N/A
			Inhalation of soil gases/ Risk of explosion	Yes	P2: Low	C2: Minor	Low
	End Users (via Water Supply Pipework)		Contamination of incoming services	Identified contaminant(s) do not pose a risk via this pathway			N/A
	Groundwater		Migration to groundwater	Identified contaminant(s) do not pose a risk via this pathway			N/A

APPENDIX D

Exploratory Hole Notes
Exploratory Hole Records
DPSH-B Dynamic Probe Records

NOTES FOR THE INTERPRETATION OF EXPLORATORY HOLE RECORDS

1 Symbols and abbreviations

Samples

U	'Undisturbed' Sample: - 100mm diameter by 450mm long. The number of blows to drive in the sampling tube is shown after the test index letter in the SPT column.
U_o	Sample not obtained
U*	Full penetration of sample not obtained
Pi	Piston Sample: 'Undisturbed' sample 100mm diameter by 600mm long.
D	Disturbed Sample
R	Root Sample
B	Bulk Disturbed Sample
W	Water Sample
J	Jar Sample (sample taken in amber glass jar fitted with gas tight lid)
T	Tub Sample
Vi	Vial Sample

In situ Testing

S Standard penetration test (SPT): Using the split spoon sampler.

C Standard Penetration Test (SPT): using a solid cone instead of the sampler - conducted usually in coarse grained soils or weak rocks.

V Shear Vane Test: Undrained shear strength (cohesion) (kN/m^2) shown within the Vane/Pen Test and N Value column.

H Hand penetrometer Test: Undrained shear strength (cohesion) (kN/m^2) shown within the Vane/Pen Test and N Value column.

P Perth Penetrometer Test: Number of blows for 300mm penetration shown under Vane/Pen Test and N Value column.

Excavation Method

CP	Cable Percussion Borehole
WLS	Dynamic Sampler Borehole using windowless sampler tubes
WS	Dynamic Sampler Borehole using window sampler tubes
TP	Trial Pit excavated using mechanic excavator
HDP	Trial Pit excavated using hand tools

2 Soil Description

Description and classification of soils has been carried out using as a general basis the British Standard Geotechnical investigation and testing – Identification and classification of soil, Part 1 Identification and description (BS EN ISO 14688-1) and Part 2 Principles of classification (BS EN 14688-2) as well as the BS5930 code of Practice for Ground Investigations.

3 Rock Description

Description and classification of rocks has been carried out using as a general basis the British Standard Geotechnical investigation and testing – Identification and classification of rock, Part 1 Identification and classification (BS EN ISO 14689-1) as well as the BS5930 code of Practice for Ground Investigations. TCR – Total Core Recovery, SCR – Solid Core Recovery, RQD – Rock Quality Designation, NI – Non Intact, If – indicative fracture spacing (min/ave/max), FI – Fracture Index.

4 Chalk Description

Chalk description is based on BS EN ISO 14688, BS EN ISO 14689 and BS5930. The classification of chalk generally follows the guidance offered by the Construction Industry Research and Information Association (CIRIA) C574, 'Engineering in Chalk'. This is based on assessment of chalk density, discontinuity and aperture spacing, and the proportion of intact chalk to silt of chalk.

ASHDOWN SITE INVESTIGATION LIMITED
E-mail: contact@ashdownsi.co.uk
Web: www.ashdownsi.co.uk
Tel: 01273 483119

Site Name: 144 Albion Street, Southwick, West Sussex

Job Number: P16136

Start Date: 26/05/2023

End Date: 26/05/2023

Borehole Number: **WS01**

Standpipe	Sample/ Test Type	Depth From (m)	Depth To (m)	Test Result	Dynamic Probe 0 5 10 15 20 25 30	Legend	Depth	Stratum Description
							0.00	Concrete.
							0.05	MADE GROUND: Black and dark brown gravelly sandy clay. Gravel is subangular to subrounded fine to coarse bituminous-like material, flint and concrete.
	J T	0.40						
	D	0.50						
							0.70	Stiff to very stiff orange brown slightly gravelly slightly sandy CLAY. Gravel is subangular to subrounded fine to coarse flint and chalk. (Head)
	J T	0.80						
	H	0.80		150				
	D	1.00						
	H	1.20		175				
								becoming gravelly between 1.30m and 1.50m depth.
	D	1.50						
	H	1.70		>225				
								becoming light brown and brown below1.80m depth.
	D	2.00						
	H	2.30		>225				
	D	2.50						
	H	2.90		>225				
	D	3.00					3.00	End of borehole at 3.00m

Remarks

Groundwater: Borehole dry on completion.

Stability: Borehole stable on completion.

Notes: n/a

Excavation Method: WLS

Borehole Diameter: Various

Made By: JN

ASHDOWN SITE INVESTIGATION LIMITED
E-mail: contact@ashdownsi.co.uk
Web: www.ashdownsi.co.uk
Tel: 01273 483119

Site Name: 144 Albion Street, Southwick, West Sussex

Job Number: P16136

Start Date: 26/05/2023

End Date: 26/05/2023

Borehole Number: **WS02**

Standpipe	Sample/ Test Type	Depth From (m)	Depth To (m)	Test Result	Dynamic Probe 0 5 10 15 20 25 30	Legend	Depth	Stratum Description
							0.00	Asphalt.
	J T	0.10					0.08	MADE GROUND: Dark brown and black sandy gravel. Gravel is subangular to subrounded fine to coarse bituminous-like material and crushed crystalised rock.
	J T	0.30					0.20	
	D	0.50					0.40	MADE GROUND: Brown sandy silty gravel. Gravel is subangular to subrounded fine to coarse clinker-like material, bituminous-like material, crushed crystalised rock and rare brick.
	J T	0.70						MADE GROUND: Orange brown slightly gravelly clay. Gravel is subangular to subrounded fine to medium flint, chalk and bituminous-like material.
	D	1.10					1.00	Stiff orange brown slightly gravelly CLAY. Gravel is subangular to subrounded fine to medium flint and chalk. (Head)
	H	1.20		75				
	D	1.60						
	H	1.80		90				
	D	2.00						becoming stiff to very stiff and gravelly towards base.
	H	2.10		100				
	D	2.50						
	D	3.00					3.00	End of borehole at 3.00m

Remarks

Groundwater: Borehole dry on completion.

Stability: Borehole stable on completion.

Notes: n/a

Excavation Method: WLS

Borehole Diameter: Various

Made By: JN

ASHDOWN SITE INVESTIGATION LIMITED
E-mail: contact@ashdownsi.co.uk
Web: www.ashdownsi.co.uk
Tel: 01273 483119

Site Name: 144 Albion Street, Southwick, West Sussex

Job Number: P16136

Start Date: 26/05/2023

End Date: 26/05/2023

Borehole Number: **WS03**

Standpipe	Sample/ Test Type	Depth From (m)	Depth To (m)	Test Result	Legend	Depth	Stratum Description
						0.00	Concrete.
	J T	0.20				0.07	MADE GROUND: Dark brown gravelly sand. Gravel is subangular to subrounded fine to coarse concrete, flint and slate.
	J T	0.45				0.40	
	H	0.50		125		0.50	MADE GROUND: Dark brown slightly gravelly slightly sandy clay. Gravel is subangular to subrounded fine to coarse flint, concrete and rare brick.
	D	0.60					Firm to stiff brown slightly gravelly CLAY with occasional roots and rootlets. Gravel is subangular to subrounded fine to medium flint. (Head)
	J T	0.60					
	H	0.90		100			
	D	1.00					becoming stiff below 1.00m depth.
	D	1.50					
	H	1.50		110		1.70	Very stiff light brown gravelly slightly sandy CLAY. Gravel is subangular to subrounded fine to coarse flint and chalk. (Head)
	H	1.90		150			
	D	2.00					
	H	2.50		>225		2.50	Very stiff brown gravelly CLAY. Gravel is subangular to subrounded fine to medium flint and chalk. (Head)
	D	2.60					
	H	2.90		>225			
	D	3.00					
	H	3.50		>225			
	H	3.90		>225			
	D	4.00					
	H	4.50		>225		4.10	Stiff to very stiff grey and light brown CLAY. (Lambeth Group)
	H	4.90		>225			
	D	5.00				5.00	End of borehole at 5.00m

Remarks

Groundwater: Borehole dry on completion.

Stability: Borehole stable on completion.

Notes: n/a

Excavation Method: WLS

Borehole Diameter: Various

Made By: JN

ASHDOWN SITE INVESTIGATION LIMITED
E-mail: contact@ashdownsi.co.uk
Web: www.ashdownsi.co.uk
Tel: 01273 483119

Site Name: 144 Albion Street, Southwick, West Sussex

Job Number: P16136

Start Date: 26/05/2023

End Date: 26/05/2023

Borehole Number: **WS04**

Standpipe	Sample/ Test Type	Depth From (m)	Depth To (m)	Test Result (Dynamic Probe 0 5 10 15 20 25 30)	Depth	Stratum Description
	J T	0.10			0.00	Asphalt.
					0.05	MADE GROUND: Dark brown and black sandy subangular to subrounded fine to coarse gravel of bituminous-like material, slate and concrete.
	J T	0.30			0.15	
					0.30	MADE GROUND: Brown sandy clayey subangular to subrounded fine to coarse gravel of flint, brick, bituminous-like material, concrete and clinker-like material. With occasional flint cobbles.
	H	0.50		125		
	D	0.60				
	J T	0.60				MADE GROUND: Brown and dark brown slightly gravelly slightly sandy clay. Gravel is subangular to subrounded fine to coarse flint with occasional brick and clinker-like material.
					0.80	
	D	1.00				Stiff orange brown and brown slightly gravelly CLAY. Gravel is subangular to subrounded fine to medium flint. (Head)
	H	1.10		125		
	D	1.50				
	H	1.70		175		becoming gravelly (flint and chalk) between 1.60m and 2.00m depth. becoming stiff to very stiff below 1.70m depth.
	D	2.10				
	H	2.30		125		becoming gravelly at 2.30m depth.
					2.40	Stiff to very stiff light brown gravelly slightly sandy CLAY. Gravel is subangular to subrounded fine to medium flint and chalk. (Head)
	D	2.60				becoming stiff below 260m depth.
	D	3.00				
	H	3.00		>225		
	H	3.50		>225		
	D	4.00				
	H	4.00		>225		
					4.20	Stiff to very stiff yellow brown and grey slightly sandy CLAY. (Lambeth Group)
	H	4.50		>225		
	H	4.90		>225		
	D	5.00			5.00	End of borehole at 5.00m

Remarks

Groundwater: Borehole dry on completion.

Stability: Borehole stable on completion.

Notes: n/a

Excavation Method: WLS

Borehole Diameter: Various

Made By: JN

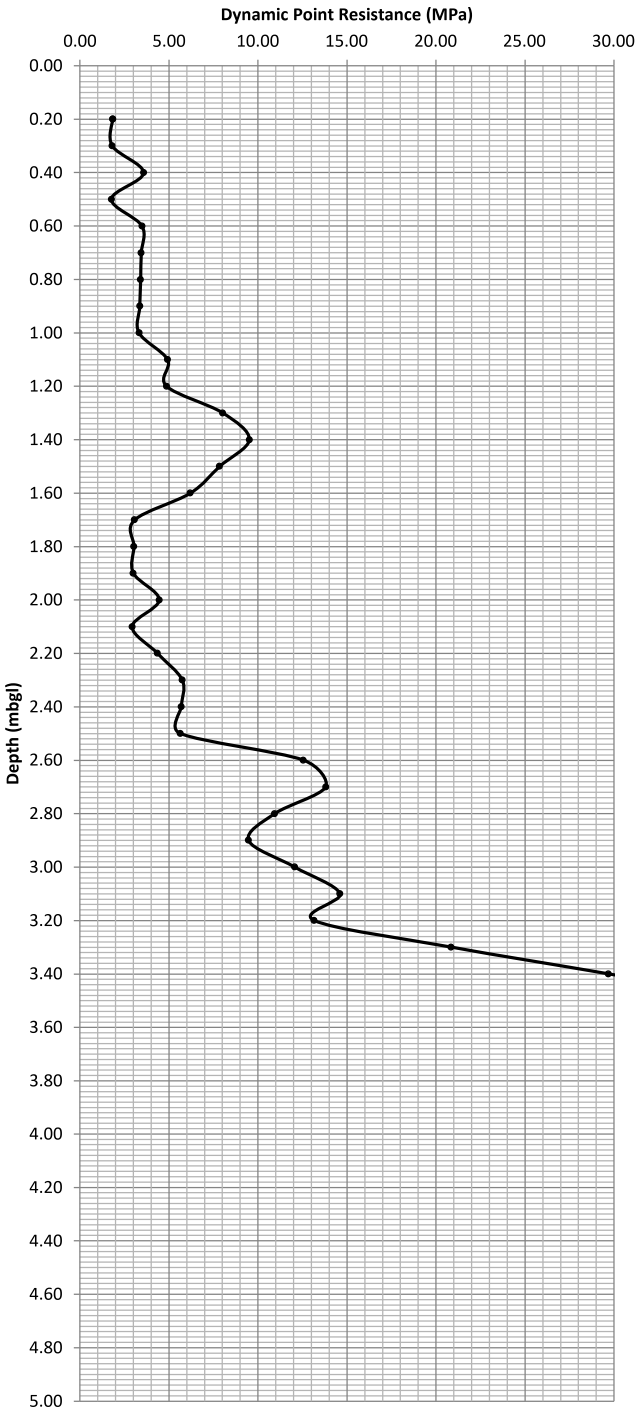
ASHDOWN SITE INVESTIGATION LTD

Dynamic Probe Record

SITE 144 Albion Street, Southwick, West Sussex **Report Ref.** P16136

Test Location Reference	WS01

Depth (mbgl)	Blows (per 100mm)	Average Penetration per Blow (m)	Unit Point Resistance (MPa)	Dynamic Point Resistance (MPa)
0.10				
0.20	1	0.10	1.92	1.84
0.30	1	0.10	1.92	1.81
0.40	2	0.05	3.84	3.58
0.50	1	0.10	1.92	1.77
0.60	2	0.05	3.84	3.49
0.70	2	0.05	3.84	3.45
0.80	2	0.05	3.84	3.41
0.90	2	0.05	3.84	3.37
1.00	2	0.05	3.84	3.32
1.10	3	0.03	5.76	4.93
1.20	3	0.03	5.76	4.87
1.30	5	0.02	9.59	8.02
1.40	6	0.02	11.51	9.52
1.50	5	0.02	9.59	7.84
1.60	4	0.03	7.67	6.20
1.70	2	0.05	3.84	3.07
1.80	2	0.05	3.84	3.03
1.90	2	0.05	3.84	3.00
2.00	3	0.03	5.76	4.45
2.10	2	0.05	3.84	2.94
2.20	3	0.03	5.76	4.36
2.30	4	0.03	7.67	5.75
2.40	4	0.03	7.67	5.69
2.50	4	0.03	7.67	5.64
2.60	9	0.01	17.27	12.55
2.70	10	0.01	19.19	13.81
2.80	8	0.01	15.35	10.94
2.90	7	0.01	13.43	9.48
3.00	9	0.01	17.27	12.07
3.10	11	0.01	21.11	14.61
3.20	10	0.01	19.19	13.16
3.30	16	0.01	30.70	20.85
3.40	23	0.00	44.13	29.69
3.50	30	0.00	57.56	38.37
3.60				
3.70				
3.80				
3.90				
4.00				
4.10				
4.20				
4.30				
4.40				
4.50				
4.60				
4.70				
4.80				
4.90				
5.00				



Notes:
No further progress below 3.50m - Hammer bouncing.

Hammer Mass	63.5 kg
Fall Height	0.76 m
Cone Area	0.0019 m^2
E_{theor}	473 J
Energy Ratio	0.77
Anvil Mass	1 kg
Rod Mass	8.79 kg/m

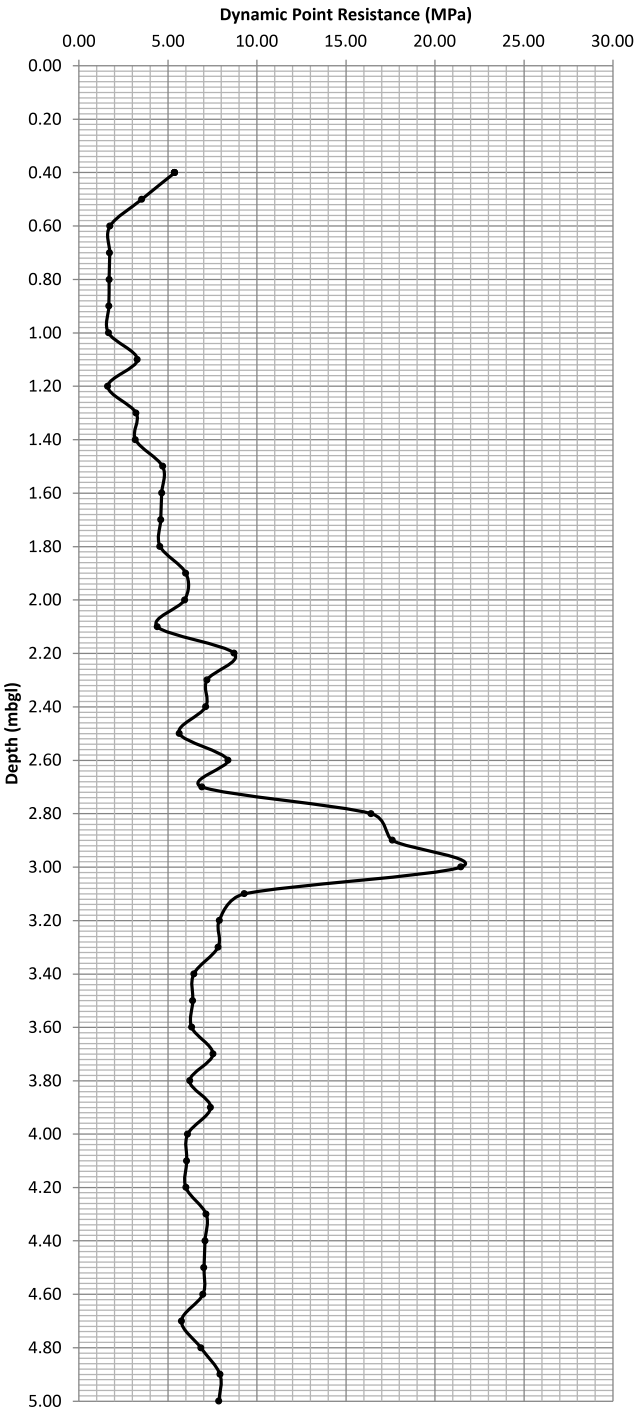
ASHDOWN SITE INVESTIGATION LTD

Dynamic Probe Record

SITE 144 Albion Street, Southwick, West Sussex **Report Ref.** P16136

Test Location Reference	WS02

Depth (mbgl)	Blows (per 100mm)	Average Penetration per Blow (m)	Unit Point Resistance (MPa)	Dynamic Point Resistance (MPa)
0.10				
0.20				
0.30				
0.40	3	0.03	5.76	5.37
0.50	2	0.05	3.84	3.54
0.60	1	0.10	1.92	1.75
0.70	1	0.10	1.92	1.72
0.80	1	0.10	1.92	1.70
0.90	1	0.10	1.92	1.68
1.00	1	0.10	1.92	1.66
1.10	2	0.05	3.84	3.29
1.20	1	0.10	1.92	1.62
1.30	2	0.05	3.84	3.21
1.40	2	0.05	3.84	3.17
1.50	3	0.03	5.76	4.71
1.60	3	0.03	5.76	4.65
1.70	3	0.03	5.76	4.60
1.80	3	0.03	5.76	4.55
1.90	4	0.03	7.67	6.00
2.00	4	0.03	7.67	5.94
2.10	3	0.03	5.76	4.41
2.20	6	0.02	11.51	8.72
2.30	5	0.02	9.59	7.19
2.40	5	0.02	9.59	7.12
2.50	4	0.03	7.67	5.64
2.60	6	0.02	11.51	8.37
2.70	5	0.02	9.59	6.91
2.80	12	0.01	23.02	16.41
2.90	13	0.01	24.94	17.60
3.00	16	0.01	30.70	21.46
3.10	7	0.01	13.43	9.30
3.20	6	0.02	11.51	7.89
3.30	6	0.02	11.51	7.82
3.40	5	0.02	9.59	6.46
3.50	5	0.02	9.59	6.40
3.60	5	0.02	9.59	6.34
3.70	6	0.02	11.51	7.54
3.80	5	0.02	9.59	6.22
3.90	6	0.02	11.51	7.40
4.00	5	0.02	9.59	6.11
4.10	5	0.02	9.59	6.06
4.20	5	0.02	9.59	6.01
4.30	6	0.02	11.51	7.15
4.40	6	0.02	11.51	7.09
4.50	6	0.02	11.51	7.03
4.60	6	0.02	11.51	6.97
4.70	5	0.02	9.59	5.76
4.80	6	0.02	11.51	6.85
4.90	7	0.01	13.43	7.93
5.00	7	0.01	13.43	7.87



Notes:

Hammer Mass	63.5 kg
Fall Height	0.76 m
Cone Area	0.0019 m^2
E_{theor}	473 J
Energy Ratio	0.77
Anvil Mass	1 kg
Rod Mass	8.79 kg/m

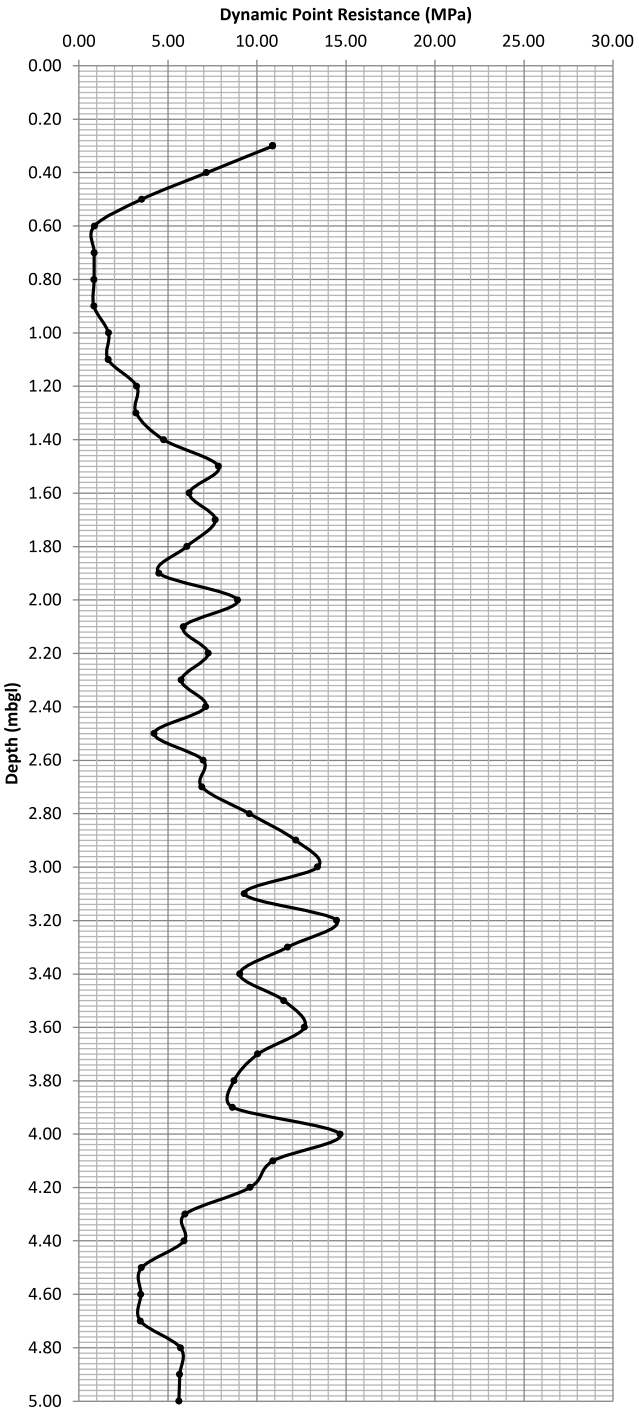
ASHDOWN SITE INVESTIGATION LTD

Dynamic Probe Record

SITE 144 Albion Street, Southwick, West Sussex **Report Ref.** P16136

Test Location Reference	WS03

Depth (mbgl)	Blows (per 100mm)	Average Penetration per Blow (m)	Unit Point Resistance (MPa)	Dynamic Point Resistance (MPa)
0.10				
0.20				
0.30	6	0.02	11.51	10.89
0.40	4	0.03	7.67	7.17
0.50	2	0.05	3.84	3.54
0.60	0.5	0.20	0.96	0.87
0.70	0.5	0.20	0.96	0.86
0.80	0.5	0.20	0.96	0.85
0.90	0.5	0.20	0.96	0.84
1.00	1	0.10	1.92	1.66
1.10	1	0.10	1.92	1.64
1.20	2	0.05	3.84	3.25
1.30	2	0.05	3.84	3.21
1.40	3	0.03	5.76	4.76
1.50	5	0.02	9.59	7.84
1.60	4	0.03	7.67	6.20
1.70	5	0.02	9.59	7.67
1.80	4	0.03	7.67	6.07
1.90	3	0.03	5.76	4.50
2.00	6	0.02	11.51	8.91
2.10	4	0.03	7.67	5.88
2.20	5	0.02	9.59	7.27
2.30	4	0.03	7.67	5.75
2.40	5	0.02	9.59	7.12
2.50	3	0.03	5.76	4.23
2.60	5	0.02	9.59	6.97
2.70	5	0.02	9.59	6.91
2.80	7	0.01	13.43	9.57
2.90	9	0.01	17.27	12.19
3.00	10	0.01	19.19	13.41
3.10	7	0.01	13.43	9.30
3.20	11	0.01	21.11	14.47
3.30	9	0.01	17.27	11.73
3.40	7	0.01	13.43	9.04
3.50	9	0.01	17.27	11.51
3.60	10	0.01	19.19	12.67
3.70	8	0.01	15.35	10.05
3.80	7	0.01	13.43	8.71
3.90	7	0.01	13.43	8.64
4.00	12	0.01	23.02	14.67
4.10	9	0.01	17.27	10.91
4.20	8	0.01	15.35	9.61
4.30	5	0.02	9.59	5.96
4.40	5	0.02	9.59	5.91
4.50	3	0.03	5.76	3.51
4.60	3	0.03	5.76	3.48
4.70	3	0.03	5.76	3.45
4.80	5	0.02	9.59	5.71
4.90	5	0.02	9.59	5.66
5.00	5	0.02	9.59	5.62



Notes:

Hammer Mass	63.5 kg
Fall Height	0.76 m
Cone Area	0.0019 m^2
E_{theor}	473 J
Energy Ratio	0.77
Anvil Mass	1 kg
Rod Mass	8.79 kg/m

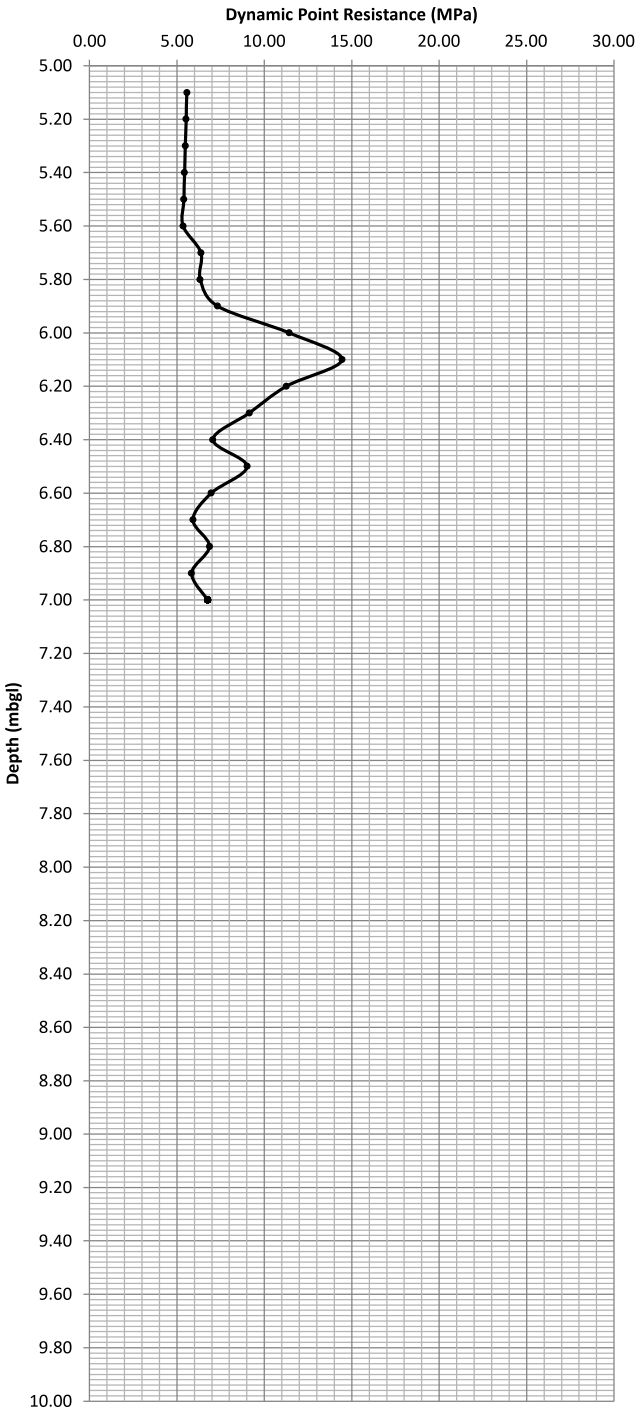
ASHDOWN SITE INVESTIGATION LTD

Dynamic Probe Record

SITE 144 Albion Street, Southwick, West Sussex **Report Ref.** P16136

Test Location Reference	WS03

Depth (mbgl)	Blows (per 100mm)	Average Penetration per Blow (m)	Unit Point Resistance (MPa)	Dynamic Point Resistance (MPa)
5.10	5	0.02	9.59	5.57
5.20	5	0.02	9.59	5.53
5.30	5	0.02	9.59	5.49
5.40	5	0.02	9.59	5.44
5.50	5	0.02	9.59	5.40
5.60	5	0.02	9.59	5.36
5.70	6	0.02	11.51	6.38
5.80	6	0.02	11.51	6.33
5.90	7	0.01	13.43	7.33
6.00	11	0.01	21.11	11.43
6.10	14	0.01	26.86	14.44
6.20	11	0.01	21.11	11.27
6.30	9	0.01	17.27	9.15
6.40	7	0.01	13.43	7.06
6.50	9	0.01	17.27	9.02
6.60	7	0.01	13.43	6.96
6.70	6	0.02	11.51	5.93
6.80	7	0.01	13.43	6.86
6.90	6	0.02	11.51	5.84
7.00	7	0.01	13.43	6.77
7.10				
7.20				
7.30				
7.40				
7.50				
7.60				
7.70				
7.80				
7.90				
8.00				
8.10				
8.20				
8.30				
8.40				
8.50				
8.60				
8.70				
8.80				
8.90				
9.00				
9.10				
9.20				
9.30				
9.40				
9.50				
9.60				
9.70				
9.80				
9.90				
10.00				



Notes:

Hammer Mass	63.5 kg
Fall Height	0.76 m
Cone Area	0.0019 m^2
E_{theor}	473 J
Energy Ratio	0.77
Anvil Mass	1 kg
Rod Mass	8.79 kg/m

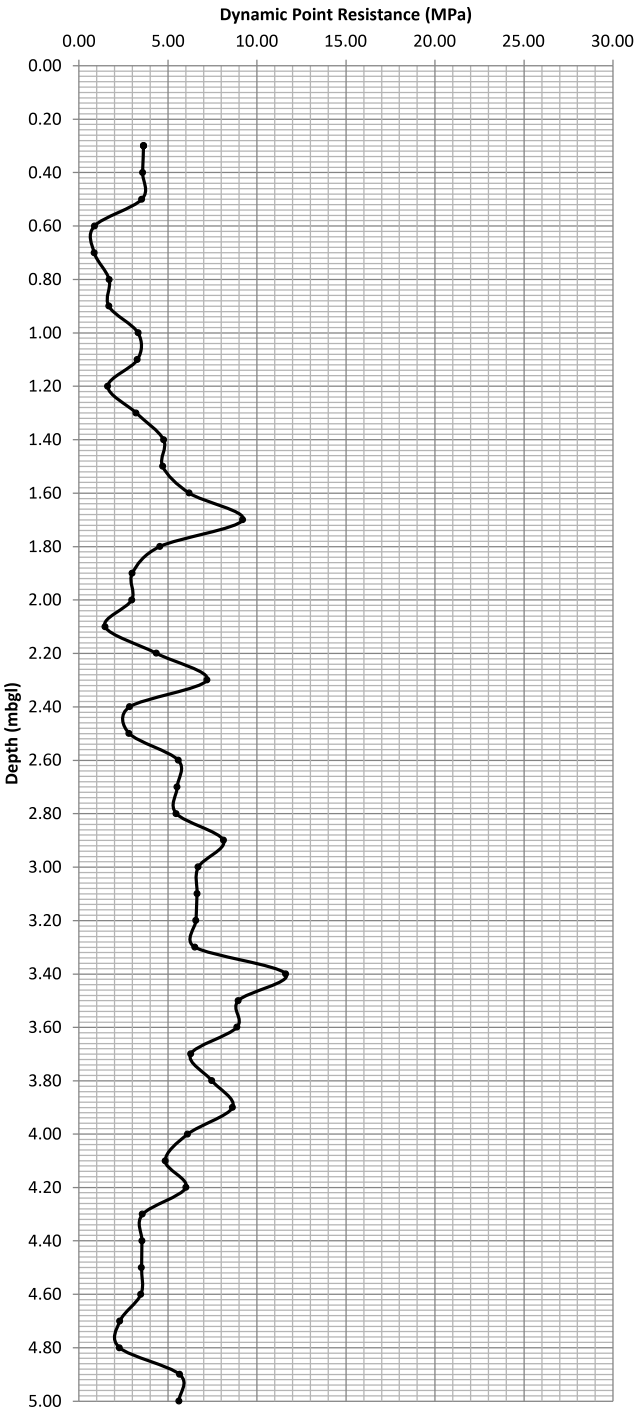
ASHDOWN SITE INVESTIGATION LTD

Dynamic Probe Record

SITE 144 Albion Street, Southwick, West Sussex **Report Ref.** P16136

Test Location Reference	WS04

Depth (mbgl)	Blows (per 100mm)	Average Penetration per Blow (m)	Unit Point Resistance (MPa)	Dynamic Point Resistance (MPa)
0.10				
0.20				
0.30	2	0.05	3.84	3.63
0.40	2	0.05	3.84	3.58
0.50	2	0.05	3.84	3.54
0.60	0.5	0.20	0.96	0.87
0.70	0.5	0.20	0.96	0.86
0.80	1	0.10	1.92	1.70
0.90	1	0.10	1.92	1.68
1.00	2	0.05	3.84	3.32
1.10	2	0.05	3.84	3.29
1.20	1	0.10	1.92	1.62
1.30	2	0.05	3.84	3.21
1.40	3	0.03	5.76	4.76
1.50	3	0.03	5.76	4.71
1.60	4	0.03	7.67	6.20
1.70	6	0.02	11.51	9.20
1.80	3	0.03	5.76	4.55
1.90	2	0.05	3.84	3.00
2.00	2	0.05	3.84	2.97
2.10	1	0.10	1.92	1.47
2.20	3	0.03	5.76	4.36
2.30	5	0.02	9.59	7.19
2.40	2	0.05	3.84	2.85
2.50	2	0.05	3.84	2.82
2.60	4	0.03	7.67	5.58
2.70	4	0.03	7.67	5.52
2.80	4	0.03	7.67	5.47
2.90	6	0.02	11.51	8.12
3.00	5	0.02	9.59	6.70
3.10	5	0.02	9.59	6.64
3.20	5	0.02	9.59	6.58
3.30	5	0.02	9.59	6.52
3.40	9	0.01	17.27	11.62
3.50	7	0.01	13.43	8.95
3.60	7	0.01	13.43	8.87
3.70	5	0.02	9.59	6.28
3.80	6	0.02	11.51	7.47
3.90	7	0.01	13.43	8.64
4.00	5	0.02	9.59	6.11
4.10	4	0.03	7.67	4.85
4.20	5	0.02	9.59	6.01
4.30	3	0.03	5.76	3.57
4.40	3	0.03	5.76	3.54
4.50	3	0.03	5.76	3.51
4.60	3	0.03	5.76	3.48
4.70	2	0.05	3.84	2.30
4.80	2	0.05	3.84	2.28
4.90	5	0.02	9.59	5.66
5.00	5	0.02	9.59	5.62



Notes:

Hammer Mass	63.5 kg
Fall Height	0.76 m
Cone Area	0.0019 m^2
E_{theor}	473 J
Energy Ratio	0.77
Anvil Mass	1 kg
Rod Mass	8.79 kg/m

ASHDOWN SITE INVESTIGATION LTD

Dynamic Probe Record

SITE 144 Albion Street, Southwick, West Sussex **Report Ref.** P16136

Test Location Reference	WS04

Depth (mbgl)	Blows (per 100mm)	Average Penetration per Blow (m)	Unit Point Resistance (MPa)	Dynamic Point Resistance (MPa)
5.10	5	0.02	9.59	5.57
5.20	6	0.02	11.51	6.63
5.30	5	0.02	9.59	5.49
5.40	6	0.02	11.51	6.53
5.50	5	0.02	9.59	5.40
5.60	7	0.01	13.43	7.50
5.70	5	0.02	9.59	5.32
5.80	6	0.02	11.51	6.33
5.90	6	0.02	11.51	6.28
6.00	5	0.02	9.59	5.20
6.10	9	0.01	17.27	9.29
6.20	8	0.01	15.35	8.19
6.30	9	0.01	17.27	9.15
6.40	7	0.01	13.43	7.06
6.50	9	0.01	17.27	9.02
6.60	6	0.02	11.51	5.97
6.70	7	0.01	13.43	6.91
6.80	7	0.01	13.43	6.86
6.90	6	0.02	11.51	5.84
7.00	6	0.02	11.51	5.80
7.10				
7.20				
7.30				
7.40				
7.50				
7.60				
7.70				
7.80				
7.90				
8.00				
8.10				
8.20				
8.30				
8.40				
8.50				
8.60				
8.70				
8.80				
8.90				
9.00				
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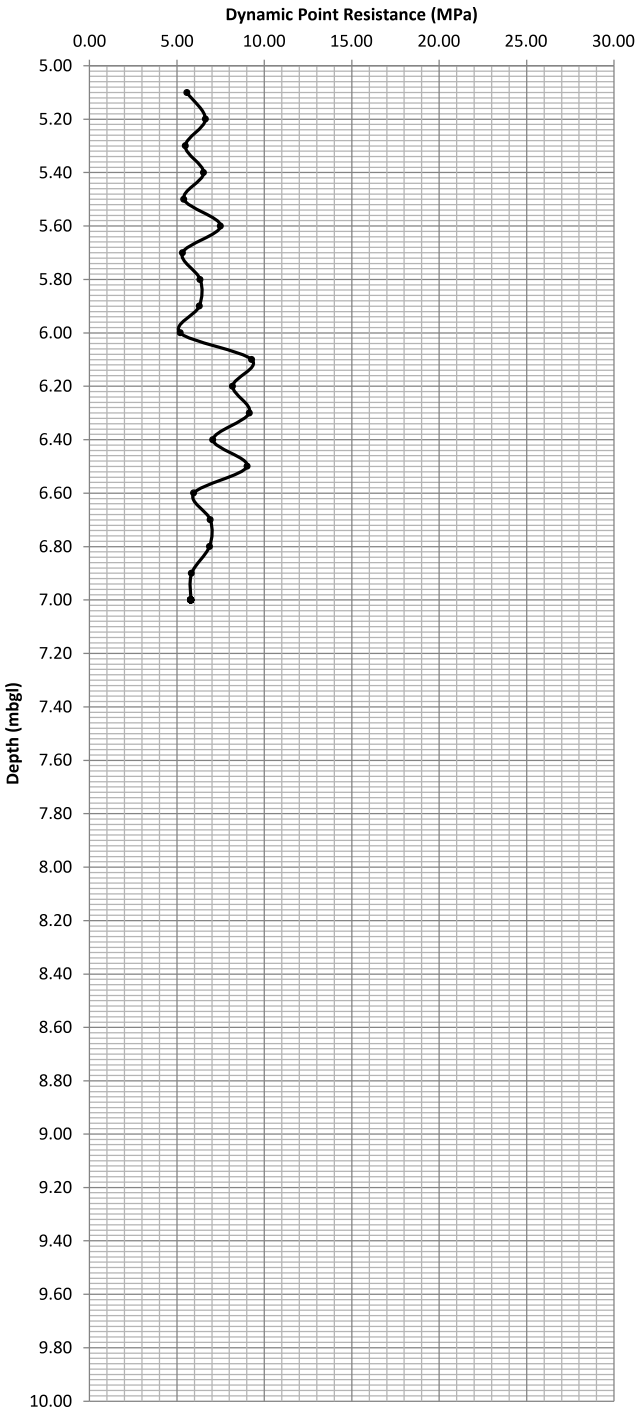
9.70				
9.80				
9.90				
10.00				



Notes:

Hammer Mass	63.5 kg
Fall Height	0.76 m
Cone Area	0.0019 m^2
E_{theor}	473 J
Energy Ratio	0.77
Anvil Mass	1 kg
Rod Mass	8.79 kg/m

APPENDIX E

Geotechnical Laboratory Test Results
Contamination Laboratory Test Results

ASHDOWN SITE INVESTIGATION LIMITED

Soil Classification Summary

Site Name:	144 Albion Street, Southwick, West Sussex	Job No:	P16136

BH/TP No.	Depth (m)	Nat. Moist. Cont. (w %)	Equiv. Moist. Cont. (w_a %)	Atterberg Limits			Class'n	Cons. Index (I_c)	% passing 425 µm sieve	Visual Description of Sample
				W_l %	W_p %	I_p %				
WS01	1.00	21		46	19	27	CIM	0.93*	100	Stiff brown CLAY.
WS02	2.00	18		39	19	20	CIM	1.05*	90	Very stiff orange brown slightly gravelly CLAY. Gravel is fine to medium flint and chalk.
WS03	5.00	17		54	15	39	CIH	0.95*	100	Stiff brown grey CLAY.
WS04	1.50	23		43	18	25	CIM	0.80*	90	Stiff brown slightly gravelly CLAY. Gravel is fine to medium flint.

Test Method: Classification Tests BS1377: Part 2: 1990: Method 4.4, 5.3 and 5.4

Sheet No. 1

* Consistency index based on natural moisture content and not the equivalent moisture content.

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DETS Report No: 23-07051

Site Reference:	144 Albion Street, Southwick
Project / Job Ref:	P16136 1574
Order No:	11143
Sample Receipt Date:	31/05/2023
Sample Scheduled Date:	31/05/2023
Report Issue Number:	1
Reporting Date:	06/06/2023

Authorised by:

Kevin Old
Operations Director

Dates of laboratory activities for each tested analyte are available upon request.

Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

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Soil Analysis Certificate						
DETS Report No: 23-07051	**Date Sampled**	26/05/23	26/05/23	26/05/23	26/05/23	
Ashdown Site Investigations Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: 144 Albion Street, Southwick	**TP / BH No**	WS01	WS02	WS03	WS04	
Project / Job Ref: P16136_1574	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: 11143	**Depth (m)**	2.00	0.50	1.50	4.00	
Reporting Date: 06/06/2023	**DETS Sample No**	654730	654731	654732	654733	

Determinand	Unit	RL	Accreditation				(n)
pH	pH Units	N/a	MCERTS	7.9	8.0	8.3	8.1
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	MCERTS	51	29	< 10	40
W/S Sulphate as SO_4 (2:1)	g/l	< 0.01	MCERTS	0.05	0.03	< 0.01	0.04

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)
(n) Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation

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Soil Analysis Certificate - Sample Descriptions	
DETS Report No: 23-07051	
Ashdown Site Investigations Ltd	
Site Reference: 144 Albion Street, Southwick	
Project / Job Ref: P16136_1574	
Order No: 11143	
Reporting Date: 06/06/2023	

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
654730	WS01	None Supplied	2.00	5.5	Light brown sandy clay with chalk
654731	WS02	None Supplied	0.50	11.5	Brown sandy clay
654732	WS03	None Supplied	1.50	7.2	Brown sandy clay with stones and chalk
654733	WS04	None Supplied	4.00	7.5	White chalk

Moisture content is part of procedure E003 & is not an accredited test
Insufficient Sample I/S
Unsuitable Sample U/S

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Soil Analysis Certificate - Methodology & Miscellaneous Information
DETS Report No: 23-07051
Ashdown Site Investigations Ltd
Site Reference: 144 Albion Street, Southwick
Project / Job Ref: P16136_1574
Order No: 11143
Reporting Date: 06/06/2023

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 – C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received

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List of HWOL Acronyms and Operators
DETS Report No: 23-07051
Ashdown Site Investigations Ltd
Site Reference: 144 Albion Street, Southwick
Project / Job Ref: P16136_1574
Order No: 11143
Reporting Date: 06/06/2023

Acronym	Description
HS	Headspace analysis
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent
CU	Clean-up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
2D	GC-GC - Double coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative eg. EH+HS_Total or EH_CU+HS_Total

Det - Acronym

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DETS Report No: 23-07050

Site Reference:	144 Albion Street, Southwick, West Sussex
Project / Job Ref:	P16136 1575
Order No:	11144
Sample Receipt Date:	31/05/2023
Sample Scheduled Date:	31/05/2023
Report Issue Number:	1
Reporting Date:	07/06/2023

Authorised by:

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

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Soil Analysis Certificate - EPH Texas Banded						
DETS Report No: 23-07050	**Date Sampled**	26/05/23	26/05/23	26/05/23	26/05/23	26/05/23
Ashdown Site Investigations Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: 144 Albion Street, Southwick, West Sussex	**TP / BH No**	WS01	WS01	WS02	WS02	WS03
Project / Job Ref: P16136_1575	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: 11144	**Depth (m)**	0.40	0.80	0.30	0.70	0.45
Reporting Date: 07/06/2023	**DETS Sample No**	654724	654725	654726	654727	654728

Determinand	Unit	RL	Accreditation	(n)				
EPH Texas (C6 - C8) : HS_1D_MS_Total	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
EPH Texas (>C8 - C10) : EH_1D_Total	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
EPH Texas (>C10 - C12) : EH_1D_Total	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
EPH Texas (>C12 - C16) : EH_1D_Total	mg/kg	< 1	MCERTS	2	< 1	1	< 1	< 1
EPH Texas (>C16 - C21) : EH_1D_Total	mg/kg	< 1	MCERTS	4	< 1	15	3	3
EPH Texas (>C21 - C40) : EH_1D_Total	mg/kg	< 6	MCERTS	7	< 6	56	12	16
EPH Texas (C6 - C40) : HS_1D_MS+EH_1D_Total	mg/kg	< 6	NONE	13	< 6	72	15	19

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Soil Analysis Certificate - EPH Texas Banded						
DETS Report No: 23-07050	**Date Sampled**	26/05/23				
Ashdown Site Investigations Ltd	**Time Sampled**	None Supplied				
Site Reference: 144 Albion Street, Southwick, West Sussex	**TP / BH No**	WS03				
Project / Job Ref: P16136_1575	**Additional Refs**	None Supplied				
Order No: 11144	**Depth (m)**	0.60				
Reporting Date: 07/06/2023	**DETS Sample No**	654729				

Determinand	Unit	RL	Accreditation					
EPH Texas (C6 - C8) : HS_1D_MS_Total	mg/kg	< 0.05	NONE	< 0.05				
EPH Texas (>C8 - C10) : EH_1D_Total	mg/kg	< 1	MCERTS	< 1				
EPH Texas (>C10 - C12) : EH_1D_Total	mg/kg	< 1	MCERTS	< 1				
EPH Texas (>C12 - C16) : EH_1D_Total	mg/kg	< 1	MCERTS	< 1				
EPH Texas (>C16 - C21) : EH_1D_Total	mg/kg	< 1	MCERTS	< 1				
EPH Texas (>C21 - C40) : EH_1D_Total	mg/kg	< 6	MCERTS	< 6				
EPH Texas (C6 - C40) : HS_1D_MS+EH_1D_Total	mg/kg	< 6	NONE	< 6				

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Soil Analysis Certificate - Volatile Organic Compounds (VOC)						
DETS Report No: 23-07050	**Date Sampled**	26/05/23	26/05/23	26/05/23	26/05/23	26/05/23
Ashdown Site Investigations Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: 144 Albion Street, Southwick, West Sussex	**TP / BH No**	WS01	WS01	WS02	WS02	WS03
Project / Job Ref: P16136_1575	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: 11144	**Depth (m)**	0.40	0.80	0.30	0.70	0.45
Reporting Date: 07/06/2023	**DETS Sample No**	654724	654725	654726	654727	654728

Determinand	Unit	RL	Accreditation			(n)		
Dichlorodifluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Vinyl Chloride	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Chloromethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Chloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromomethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Trichlorofluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
trans-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
cis-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
2,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Chloroform	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1,1-Trichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1-Dichloropropene	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Carbon Tetrachloride	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
1,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Trichloroethene	ug/kg	< 5	MCERTS	8	< 5	< 5	< 5	< 5
Bromodichloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Dibromomethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
TAME	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
cis-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Toluene	ug/kg	< 5	MCERTS	32	< 5	< 5	< 5	< 5
trans-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1,2-Trichloroethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
1,3-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Tetrachloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Dibromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2-Dibromoethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Chlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1,1,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethyl Benzene	ug/kg	< 2	MCERTS	6	< 2	< 2	< 2	< 2
m,p-Xylene	ug/kg	< 2	MCERTS	10	< 2	< 2	< 2	< 2
o-Xylene	ug/kg	< 2	MCERTS	4	< 2	< 2	< 2	< 2
Styrene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromoform	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Isopropylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1,2,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2,3-Trichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
n-Propylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
2-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,3,5-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
4-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
tert-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2,4-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
sec-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
p-Isopropyltoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,3-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,4-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
n-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2-Dibromo-3-chloropropane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Hexachlorobutadiene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5

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Soil Analysis Certificate - Volatile Organic Compounds (VOC)						
DETS Report No: 23-07050	**Date Sampled**	26/05/23				
Ashdown Site Investigations Ltd	**Time Sampled**	None Supplied				
Site Reference: 144 Albion Street, Southwick, West Sussex	**TP / BH No**	WS03				
Project / Job Ref: P16136_1575	**Additional Refs**	None Supplied				
Order No: 11144	**Depth (m)**	0.60				
Reporting Date: 07/06/2023	**DETS Sample No**	654729				

Determinand	Unit	RL	Accreditation					
Dichlorodifluoromethane	ug/kg	< 5	MCERTS	< 5				
Vinyl Chloride	ug/kg	< 5	MCERTS	< 5				
Chloromethane	ug/kg	< 10	MCERTS	< 10				
Chloroethane	ug/kg	< 5	MCERTS	< 5				
Bromomethane	ug/kg	< 10	MCERTS	< 10				
Trichlorofluoromethane	ug/kg	< 5	MCERTS	< 5				
1,1-Dichloroethene	ug/kg	< 5	MCERTS	< 5				
MTBE	ug/kg	< 5	MCERTS	< 5				
trans-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5				
1,1-Dichloroethane	ug/kg	< 5	MCERTS	< 5				
cis-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5				
2,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5				
Chloroform	ug/kg	< 5	MCERTS	< 5				
Bromochloromethane	ug/kg	< 5	MCERTS	< 5				
1,1,1-Trichloroethane	ug/kg	< 5	MCERTS	< 5				
1,1-Dichloropropene	ug/kg	< 10	MCERTS	< 10				
Carbon Tetrachloride	ug/kg	< 5	MCERTS	< 5				
1,2-Dichloroethane	ug/kg	< 5	MCERTS	< 5				
Benzene	ug/kg	< 2	MCERTS	< 2				
1,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5				
Trichloroethene	ug/kg	< 5	MCERTS	< 5				
Bromodichloromethane	ug/kg	< 5	MCERTS	< 5				
Dibromomethane	ug/kg	< 5	MCERTS	< 5				
TAME	ug/kg	< 5	MCERTS	< 5				
cis-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5				
Toluene	ug/kg	< 5	MCERTS	< 5				
trans-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5				
1,1,2-Trichloroethane	ug/kg	< 10	MCERTS	< 10				
1,3-Dichloropropane	ug/kg	< 5	MCERTS	< 5				
Tetrachloroethene	ug/kg	< 5	MCERTS	< 5				
Dibromochloromethane	ug/kg	< 5	MCERTS	< 5				
1,2-Dibromoethane	ug/kg	< 5	MCERTS	< 5				
Chlorobenzene	ug/kg	< 5	MCERTS	< 5				
1,1,1,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5				
Ethyl Benzene	ug/kg	< 2	MCERTS	< 2				
m,p-Xylene	ug/kg	< 2	MCERTS	< 2				
o-Xylene	ug/kg	< 2	MCERTS	< 2				
Styrene	ug/kg	< 5	MCERTS	< 5				
Bromoform	ug/kg	< 10	MCERTS	< 10				
Isopropylbenzene	ug/kg	< 5	MCERTS	< 5				
1,1,2,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5				
1,2,3-Trichloropropane	ug/kg	< 5	MCERTS	< 5				
n-Propylbenzene	ug/kg	< 5	MCERTS	< 5				
Bromobenzene	ug/kg	< 5	MCERTS	< 5				
2-Chlorotoluene	ug/kg	< 5	MCERTS	< 5				
1,3,5-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5				
4-Chlorotoluene	ug/kg	< 5	MCERTS	< 5				
tert-Butylbenzene	ug/kg	< 5	MCERTS	< 5				
1,2,4-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5				
sec-Butylbenzene	ug/kg	< 5	MCERTS	< 5				
p-Isopropyltoluene	ug/kg	< 5	MCERTS	< 5				
1,3-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5				
1,4-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5				
n-Butylbenzene	ug/kg	< 5	MCERTS	< 5				
1,2-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5				
,2-Dibromo-3-chloropropane	ug/kg	< 10	MCERTS	< 10				
Hexachlorobutadiene	ug/kg	< 5	MCERTS	< 5				

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Soil Analysis Certificate - Sample Descriptions	
DETS Report No: 23-07050	
Ashdown Site Investigations Ltd	
Site Reference: 144 Albion Street, Southwick, West Sussex	
Project / Job Ref: P16136_1575	
Order No: 11144	
Reporting Date: 07/06/2023	

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
654724	WS01	None Supplied	0.40	3.5	Brown sandy clay with stones
654725	WS01	None Supplied	0.80	8.4	Light brown sandy clay with stones
654726	WS02	None Supplied	0.30	1.5	Black sandy gravel with stones and concrete
654727	WS02	None Supplied	0.70	14.3	Light brown sandy clay with stones
654728	WS03	None Supplied	0.45	0.8	Brown sandy clay with stones
654729	WS03	None Supplied	0.60	10.6	Brown sandy clay

Moisture content is part of procedure E003 & is not an accredited test
Insufficient Sample I/S
Unsuitable Sample U/S

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Soil Analysis Certificate - Methodology & Miscellaneous Information
DETS Report No: 23-07050
Ashdown Site Investigations Ltd
Site Reference: 144 Albion Street, Southwick, West Sussex
Project / Job Ref: P16136_1575
Order No: 11144
Reporting Date: 07/06/2023

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 – C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received

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List of HWOL Acronyms and Operators
DETS Report No: 23-07050
Ashdown Site Investigations Ltd
Site Reference: 144 Albion Street, Southwick, West Sussex
Project / Job Ref: P16136_1575
Order No: 11144
Reporting Date: 07/06/2023

Acronym	Description
HS	Headspace analysis
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent
CU	Clean-up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
2D	GC-GC - Double coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative eg. EH+HS_Total or EH_CU+HS_Total

Det - Acronym
EPH Texas (C10 - C12) - EH_1D_Total
EPH Texas (C12 - C16) - EH_1D_Total
EPH Texas (C16 - C21) - EH_1D_Total
EPH Texas (C21 - C40) - EH_1D_Total
EPH Texas (C6 - C40) - HS_1D_MS+EH_1D_Total
EPH Texas (C6 - C8) - HS_1D_MS _Total
EPH Texas (C8 - C10) - EH_1D_Total

APPENDIX F

Quantitative Conceptual Model

144 Albion Street, Southwick, West Sussex				Quantitative Conceptual Model		P16136	
Source	**Receptor**	**Contaminants**	**Pathway**	**Complete Linkage Present?**	**Probability**	**Consequence**	**Risk**
• No sources of contamination that warrant further investigation or assessment have been identified	End Users		Dermal contact with soil and dust (indoor & outdoor)	Pathway severed by hard surfacing			N/A
			Ingestion of soil and indoor dust	Pathway severed by hard surfacing			N/A
			Consumption of home-grown produce and attached soil	No private gardens proposed			N/A
			Inhalation of soil dust (indoor and outdoor)	Pathway severed by hard surfacing			N/A
			Inhalation of soil vapours	No contaminant sources identified			N/A
			Inhalation of soil gases/ Risk of explosion	No contaminant sources identified			N/A
	End Users (via Water Supply Pipework)		Contamination of incoming services	No contaminants present above screening criteria			N/A
	Groundwater		Migration to groundwater	No significant pathway to groundwater exists			N/A

APPENDIX G

Groundsure Enviro+Geo Insight Report
Historical Maps

Groundsure
LOCATION INTELLIGENCE

Enviro+Geo Insight

144, ALBION STREET, SOUTHWICK, BN42 4AU

Order Details

Date: 18/05/2023

Your ref: P16136

Our Ref: GS-UYA-NBV-YIN-7Y1

Site Details

Location: 524446 105030

Area: 0.02 ha

Authority: Adur and Worthing Council ↗



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Summary of findings p. 2 >

Aerial image p. 8 >

OS MasterMap site plan p.13 >

groundsure.com/insightuserguide ↗

Contact us with any questions at:
info@groundsure.com ↗
01273 257 755

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
14 >	1.1 >	Historical industrial land uses >	0	3	13	11	-
16 >	1.2 >	Historical tanks >	0	0	0	10	-
16 >	1.3 >	Historical energy features >	0	0	7	12	-
17 >	1.4 >	Historical petrol stations >	0	0	0	2	-
18 >	1.5 >	Historical garages >	0	0	0	5	-
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
19 >	2.1 >	Historical industrial land uses >	0	6	24	17	-
21 >	2.2 >	Historical tanks >	0	0	0	19	-
22 >	2.3 >	Historical energy features >	0	0	11	19	-
24 >	2.4 >	Historical petrol stations >	0	0	0	3	-
24 >	2.5 >	Historical garages >	0	0	0	7	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
25 >	3.1 >	Active or recent landfill >	0	0	0	0	-
25 >	3.2 >	Historical landfill (BGS records) >	0	0	0	0	-
26 >	3.3 >	Historical landfill (LA/mapping records) >	0	0	0	0	-
26 >	3.4 >	Historical landfill (EA/NRW records) >	0	0	0	0	-
26 >	3.5 >	Historical waste sites >	0	0	0	0	-
26 >	3.6 >	Licensed waste sites >	0	0	0	0	-
26 >	3.7 >	Waste exemptions >	0	0	0	4	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
28 >	4.1 >	Recent industrial land uses >	1	5	29	-	-
31 >	4.2 >	Current or recent petrol stations >	0	0	0	0	-
31 >	4.3 >	Electricity cables >	0	0	0	0	-
31 >	4.4 >	Gas pipelines >	0	0	0	0	-
31 >	4.5 >	Sites determined as Contaminated Land >	0	0	0	0	-

31 >	4.6 >	Control of Major Accident Hazards (COMAH) >	1	0	0	0	-
32 >	4.7 >	Regulated explosive sites >	0	0	0	0	-
32 >	4.8 >	Hazardous substance storage/usage >	0	0	0	3	-
32 >	4.9 >	Historical licensed industrial activities (IPC) >	0	0	0	14	-
34 >	4.10 >	Licensed industrial activities (Part A(1)) >	0	0	11	0	-
36 >	4.11 >	Licensed pollutant release (Part A(2)/B) >	0	0	1	4	-
37 >	4.12 >	Radioactive Substance Authorisations >	0	0	0	0	-
37 >	4.13 >	Licensed Discharges to controlled waters >	0	0	0	1	-
37 >	4.14 >	Pollutant release to surface waters (Red List) >	0	0	0	0	-
37 >	4.15 >	Pollutant release to public sewer >	0	0	0	0	-
38 >	4.16 >	List 1 Dangerous Substances >	0	0	0	3	-
38 >	4.17 >	List 2 Dangerous Substances >	0	0	0	8	-
39 >	4.18 >	Pollution Incidents (EA/NRW) >	0	0	2	3	-
40 >	4.19 >	Pollution inventory substances >	0	0	4	0	-
41 >	4.20 >	Pollution inventory waste transfers >	0	0	1	0	-
44 >	4.21 >	Pollution inventory radioactive waste >	0	0	0	0	-

Page	Section	Hydrogeology >	On site	0-50m	50-250m	250-500m	500-2000m
45 >	5.1 >	Superficial aquifer >	Identified (within 500m)				
47 >	5.2 >	Bedrock aquifer >	Identified (within 500m)				
49 >	5.3 >	Groundwater vulnerability >	Identified (within 50m)				
50 >	5.4 >	Groundwater vulnerability- soluble rock risk >	Identified (within 0m)				
50 >	5.5 >	Groundwater vulnerability- local information >	None (within 0m)				
51 >	5.6 >	Groundwater abstractions >	0	0	0	0	1
52 >	5.7 >	Surface water abstractions >	0	0	0	0	0
52 >	5.8 >	Potable abstractions >	0	0	0	0	0
52 >	5.9 >	Source Protection Zones >	0	0	0	0	-
53 >	5.10 >	Source Protection Zones (confined aquifer) >	0	0	0	0	-

Page	Section	Hydrology >	On site	0-50m	50-250m	250-500m	500-2000m
54 >	6.1 >	Water Network (OS MasterMap) >	0	0	5	-	-

55 >	6.2 >	Surface water features >	0	1	1	-	-
55 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
56 >	6.4 >	WFD Surface water bodies >	0	0	0	-	-
56 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	**River and coastal flooding >**	On site	0-50m	50-250m	250-500m	500-2000m
57 >	7.1 >	Risk of flooding from rivers and the sea >	High (within 50m)				
58 >	7.2 >	Historical Flood Events >	0	0	0	-	-
58 >	7.3 >	Flood Defences >	0	0	0	-	-
58 >	7.4 >	Areas Benefiting from Flood Defences >	0	0	0	-	-
58 >	7.5 >	Flood Storage Areas >	0	0	0	-	-
59 >	7.6 >	Flood Zone 2 >	Identified (within 50m)				
60 >	7.7 >	Flood Zone 3 >	Identified (within 50m)				
Page	Section	**Surface water flooding >**					
61 >	8.1 >	Surface water flooding >	1 in 250 year, 0.3m - 1.0m (within 50m)				
Page	Section	**Groundwater flooding >**					
63 >	9.1 >	Groundwater flooding >	High (within 50m)				
Page	Section	**Environmental designations >**	On site	0-50m	50-250m	250-500m	500-2000m
64 >	10.1 >	Sites of Special Scientific Interest (SSSI) >	0	0	0	0	0
65 >	10.2 >	Conserved wetland sites (Ramsar sites) >	0	0	0	0	0
65 >	10.3 >	Special Areas of Conservation (SAC) >	0	0	0	0	0
65 >	10.4 >	Special Protection Areas (SPA) >	0	0	0	0	0
65 >	10.5 >	National Nature Reserves (NNR) >	0	0	0	0	0
66 >	10.6 >	Local Nature Reserves (LNR) >	0	0	0	0	1
66 >	10.7 >	Designated Ancient Woodland >	0	0	0	0	0
66 >	10.8 >	Biosphere Reserves >	1	0	0	0	0
67 >	10.9 >	Forest Parks >	0	0	0	0	0
67 >	10.10 >	Marine Conservation Zones >	0	0	0	0	0
67 >	10.11 >	Green Belt >	0	0	0	0	0
67 >	10.12 >	Proposed Ramsar sites >	0	0	0	0	0

67 >	10.13 >	Possible Special Areas of Conservation (pSAC) >	0	0	0	0	0
68 >	10.14 >	Potential Special Protection Areas (pSPA) >	0	0	0	0	0
68 >	10.15 >	Nitrate Sensitive Areas >	0	0	0	0	0
68 >	10.16 >	Nitrate Vulnerable Zones >	1	0	0	1	2
69 >	10.17 >	SSSI Impact Risk Zones >	1	-	-	-	-
70 >	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
71 >	11.1 >	World Heritage Sites >	0	0	0	-	-
72 >	11.2 >	Area of Outstanding Natural Beauty >	0	0	0	-	-
72 >	11.3 >	National Parks >	0	0	0	-	-
72 >	11.4 >	Listed Buildings >	0	1	1	-	-
73 >	11.5 >	Conservation Areas >	1	0	1	-	-
73 >	11.6 >	Scheduled Ancient Monuments >	0	0	0	-	-
73 >	11.7 >	Registered Parks and Gardens >	0	0	0	-	-
Page	Section	**Agricultural designations >**	On site	0-50m	50-250m	250-500m	500-2000m
74 >	12.1 >	Agricultural Land Classification >	Urban (within 250m)				
75 >	12.2 >	Open Access Land >	0	0	0	-	-
75 >	12.3 >	Tree Felling Licences >	0	0	0	-	-
75 >	12.4 >	Environmental Stewardship Schemes >	0	0	0	-	-
75 >	12.5 >	Countryside Stewardship Schemes >	0	0	0	-	-
Page	Section	**Habitat designations >**	On site	0-50m	50-250m	250-500m	500-2000m
76 >	13.1 >	Priority Habitat Inventory >	0	0	1	-	-
77 >	13.2 >	Habitat Networks >	0	1	1	-	-
77 >	13.3 >	Open Mosaic Habitat >	0	0	0	-	-
77 >	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
78 >	14.1 >	10k Availability >	Identified (within 500m)				
79 >	14.2 >	Artificial and made ground (10k) >	1	0	6	1	-
81 >	14.3 >	Superficial geology (10k) >	1	2	3	4	-

82 >	14.4 >	Landslip (10k) >	0	0	0	0	-
83 >	14.5 >	Bedrock geology (10k) >	1	1	1	1	-
84 >	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
85 >	15.1 >	50k Availability >	Identified (within 500m)				
86 >	15.2 >	Artificial and made ground (50k) >	1	0	2	0	-
87 >	15.3 >	Artificial ground permeability (50k) >	1	1	-	-	-
88 >	15.4 >	Superficial geology (50k) >	1	1	1	3	-
89 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
89 >	15.6 >	Landslip (50k) >	0	0	0	0	-
89 >	15.7 >	Landslip permeability (50k) >	None (within 50m)				
90 >	15.8 >	Bedrock geology (50k) >	1	0	1	0	-
91 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
91 >	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
92 >	16.1 >	BGS Boreholes >	0	0	7	-	-
Page	Section	Natural ground subsidence >					
94 >	17.1 >	Shrink swell clays >	Very low (within 50m)				
96 >	17.2 >	Running sands >	Moderate (within 50m)				
98 >	17.3 >	Compressible deposits >	Moderate (within 50m)				
100 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
102 >	17.5 >	Landslides >	Very low (within 50m)				
104 >	17.6 >	Ground dissolution of soluble rocks >	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities >	On site	0-50m	50-250m	250-500m	500-2000m
106 >	18.1 >	Natural cavities >	0	0	0	0	-
107 >	18.2 >	BritPits >	0	0	0	2	-
107 >	18.3 >	Surface ground workings >	0	9	7	-	-
108 >	18.4 >	Underground workings >	0	0	0	0	0
108 >	18.5 >	Historical Mineral Planning Areas >	0	0	0	0	-

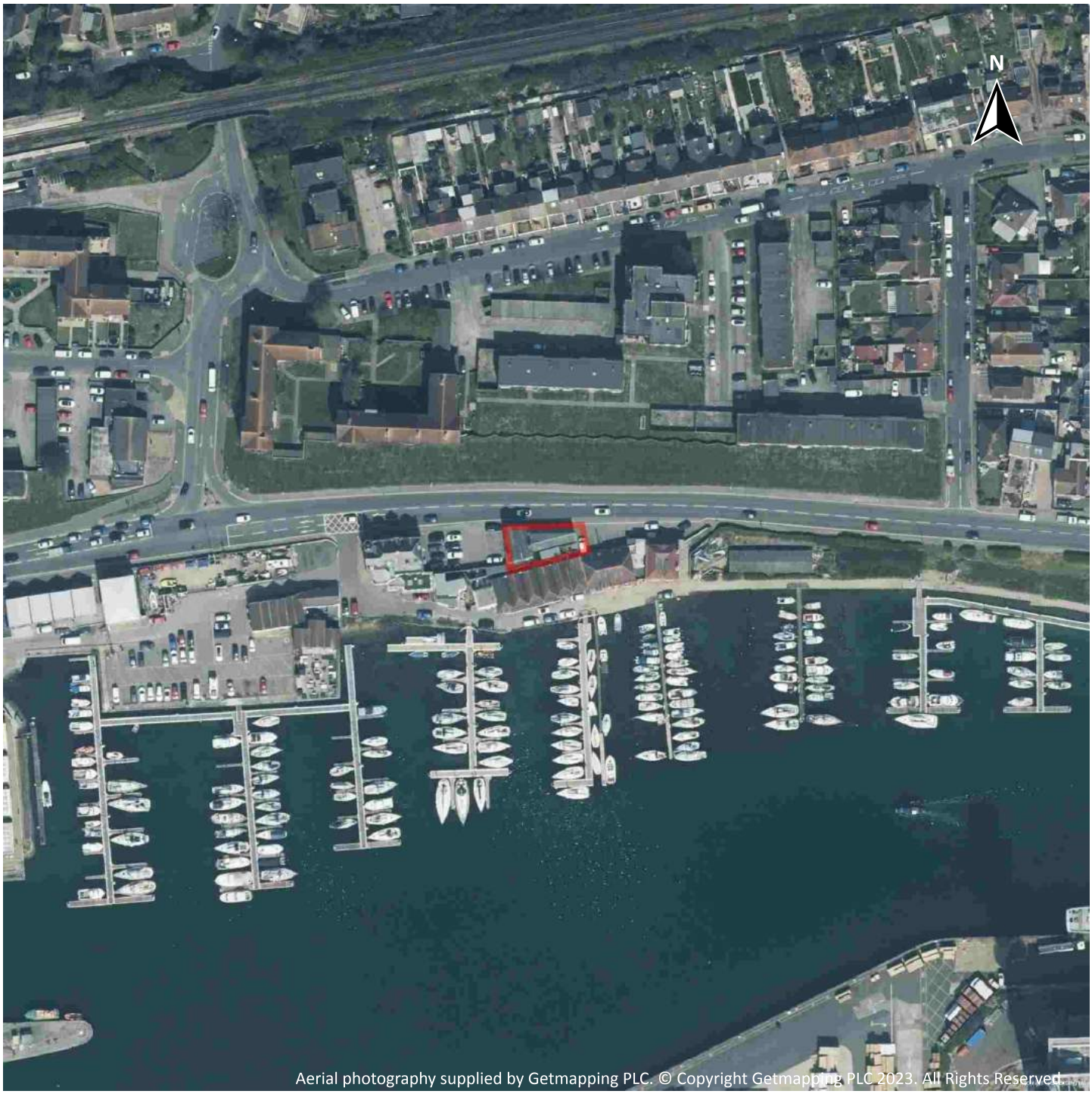
108 >	18.6 >	Non-coal mining >	1	1	1	0	1
109 >	18.7 >	Mining cavities >	0	0	0	0	0
109 >	18.8 >	JPB mining areas >	None (within 0m)				
109 >	18.9 >	Coal mining >	None (within 0m)				
110 >	18.10 >	Brine areas >	None (within 0m)				
110 >	18.11 >	Gypsum areas >	None (within 0m)				
110 >	18.12 >	Tin mining >	None (within 0m)				
110 >	18.13 >	Clay mining >	None (within 0m)				

Page	Section	Radon >					
111 >	19.1 >	Radon >	Between 1% and 3% (within 0m)				

Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
113 >	20.1 >	BGS Estimated Background Soil Chemistry >	1	7	-	-	-
114 >	20.2 >	BGS Estimated Urban Soil Chemistry >	0	0	-	-	-
114 >	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
115 >	21.1 >	Underground railways (London) >	0	0	0	-	-
115 >	21.2 >	Underground railways (Non-London) >	0	0	0	-	-
116 >	21.3 >	Railway tunnels >	0	0	0	-	-
116 >	21.4 >	Historical railway and tunnel features >	0	0	5	-	-
116 >	21.5 >	Royal Mail tunnels >	0	0	0	-	-
117 >	21.6 >	Historical railways >	0	0	0	-	-
117 >	21.7 >	Railways >	0	0	9	-	-
117 >	21.8 >	Crossrail 1 >	0	0	0	0	-
118 >	21.9 >	Crossrail 2 >	0	0	0	0	-
118 >	21.10 >	HS2 >	0	0	0	0	-

Recent aerial photograph



Capture Date: 20/04/2021

Site Area: 0.02ha

Recent site history - 2018 aerial photograph



Capture Date: 28/06/2018

Site Area: 0.02ha

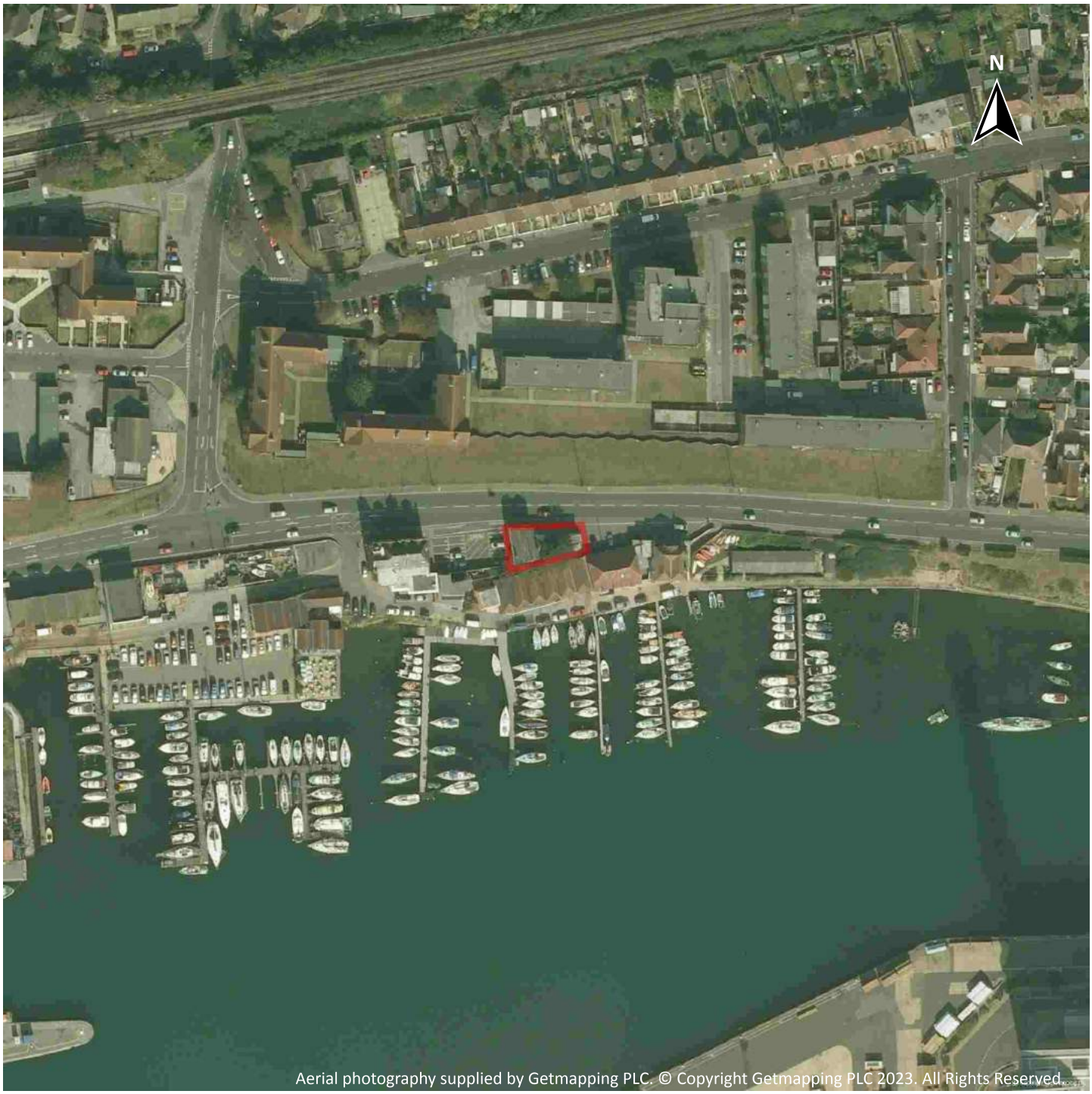
Recent site history - 2012 aerial photograph



Capture Date: 13/09/2012

Site Area: 0.02ha

Recent site history - 2009 aerial photograph



Capture Date: 27/09/2009

Site Area: 0.02ha

Recent site history - 1999 aerial photograph



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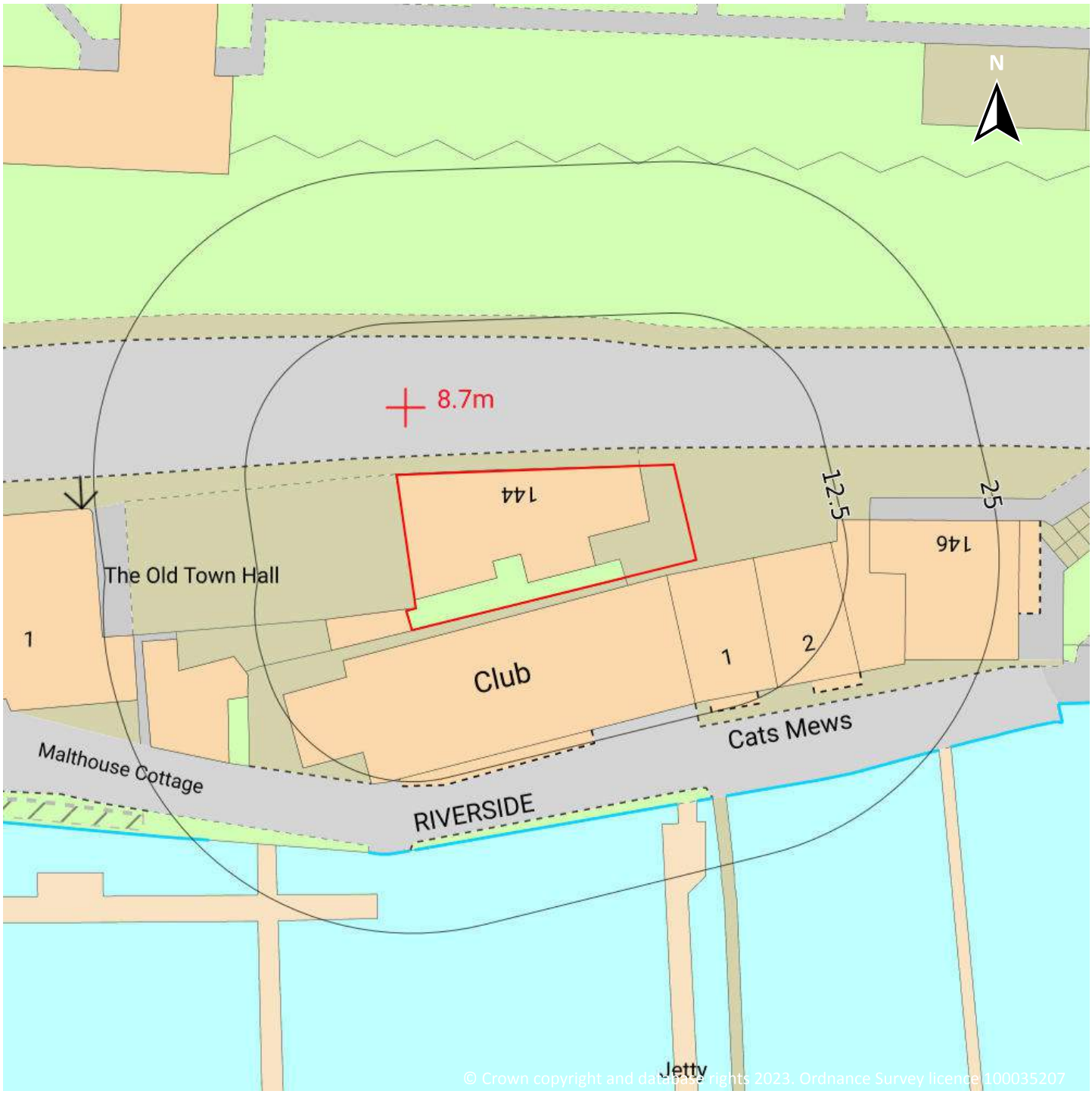
Capture Date: 06/09/1999

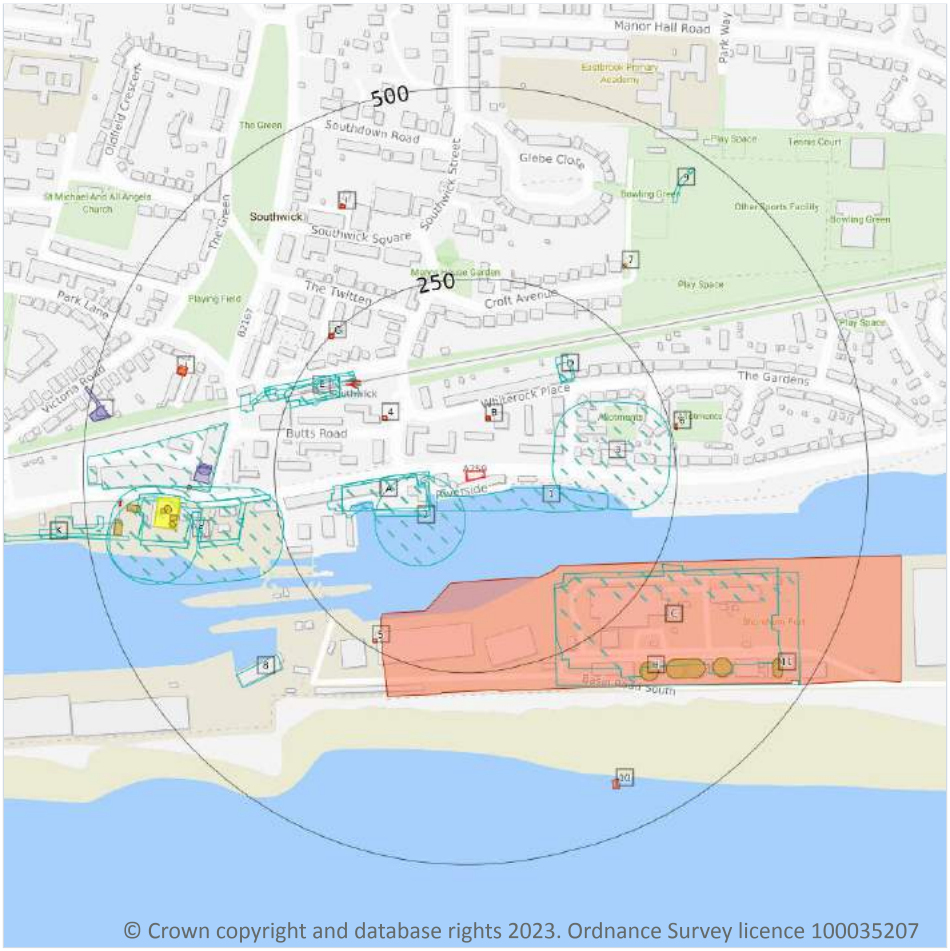
Site Area: 0.02ha

OS MasterMap site plan



Site Area: 0.02ha

1 Past land use



Site Outline

Search buffers in metres (m)

- Historical industrial land uses
- Historical tanks
- Historical energy features
- Historical petrol stations
- Historical garages

1.1 Historical industrial land uses

Records within 500m	27

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	19m S	Timber Ponds	1873	2142691

ID	Location	Land use	Dates present	Group ID
2	21m SW	Unspecified Wharf	1963 - 1982	2221264
A	48m W	Unspecified Wharves	1873	2140489
A	54m W	Unspecified Wharf	1896 - 1909	2194791
A	54m W	Unspecified Wharf	1930 - 1940	2283485
3	89m E	Coastguard Station	1896 - 1909	2239636
D	152m NE	Police Station	1909 - 1930	2282574
D	155m NE	Police Station	1963	2279564
C	163m SE	Unspecified Works	1963 - 1968	2197542
C	171m SE	Power Station	1972 - 1982	2282813
E	173m NW	Railway Station	1963 - 1982	2188536
E	189m NW	Railway Building	1909	2225667
E	189m NW	Railway Building	1930 - 1940	2246337
E	192m NW	Railway Station	1909 - 1912	2268566
E	197m NW	Railway Station	1948	2280656
F	245m W	Unspecified Wharves	1873	2182699
F	257m W	Unspecified Wharves	1896 - 1909	2191551
F	257m W	Unspecified Wharves	1948	2285045
E	268m W	Railway Building	1896 - 1909	2267381
E	275m W	Railway Station	1873 - 1896	2241794
F	296m W	Unspecified Wharves	1912	2195882
F	317m W	Unspecified Works	1982	2159373
8	336m SW	Pump House	1972 - 1982	2254893
F	358m W	Unspecified Wharf	1972	2228052
9	428m NE	Unspecified Heap	1950	2135806
K	447m W	Unspecified Wharf	1948	2202326
K	476m W	Unspecified Beds	1896 - 1909	2268437

This data is sourced from Ordnance Survey / Groundsure.

1.2 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, 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
H	320m SE	Unspecified Tank	1996	360153
H	340m SE	Tanks	1996	375214
F	380m W	Tanks	1951	406839
F	384m W	Unspecified Tank	1951 - 1969	384342
H	385m SE	Unspecified Tank	1996	360154
F	387m W	Unspecified Tank	1951 - 1969	392232
F	394m W	Unspecified Tank	1930	395015
F	428m W	Tanks	1930	375210
11	447m SE	Tanks	1996	375219
F	453m W	Tanks	1930	375211

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	19

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 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
B	66m N	Electricity Substation	-	240679

ID	Location	Land use	Dates present	Group ID
B	67m N	Electricity Substation	1985	241646
4	123m NW	Electricity Substation	1987 - 1994	274970
C	131m S	Power Station	1951 - 1969	257316
5	237m SW	Electricity Substation	1969	241643
G	245m NW	Electricity Substation	1985 - 1994	280525
G	246m NW	Electricity Substation	-	241025
6	256m E	Electricity Substation	1984 - 1995	280946
7	323m NE	Electricity Substation	1984 - 1995	262352
F	359m W	Electricity Substation	1985 - 1994	257199
F	359m W	Electricity Substation	1987	289955
I	378m NW	Electricity Substation	-	240768
I	378m NW	Electricity Substation	1985 - 1994	279332
I	378m NW	Electricity Substation	1987	283214
J	387m W	Electricity Substation	-	240252
J	387m W	Electricity Substation	1951 - 1994	257083
J	387m W	Electricity Substation	1985	269340
10	429m SE	Electricity Substation	1991	241640
F	452m W	Electricity Substation	1950	287856

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	2

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 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
F	375m W	Petroleum Depot	1951 - 1969	4323
F	375m W	Petroleum Depot	1951	4313

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m	5

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 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
F	332m W	Garage	1985	73069
F	333m W	Central Garage	1951 - 1966	80779
F	333m W	Central Garage	-	72887
L	470m W	Garage	1994	76116
L	470m W	Garage	1985 - 1993	82536

This data is sourced from Ordnance Survey / Groundsure.

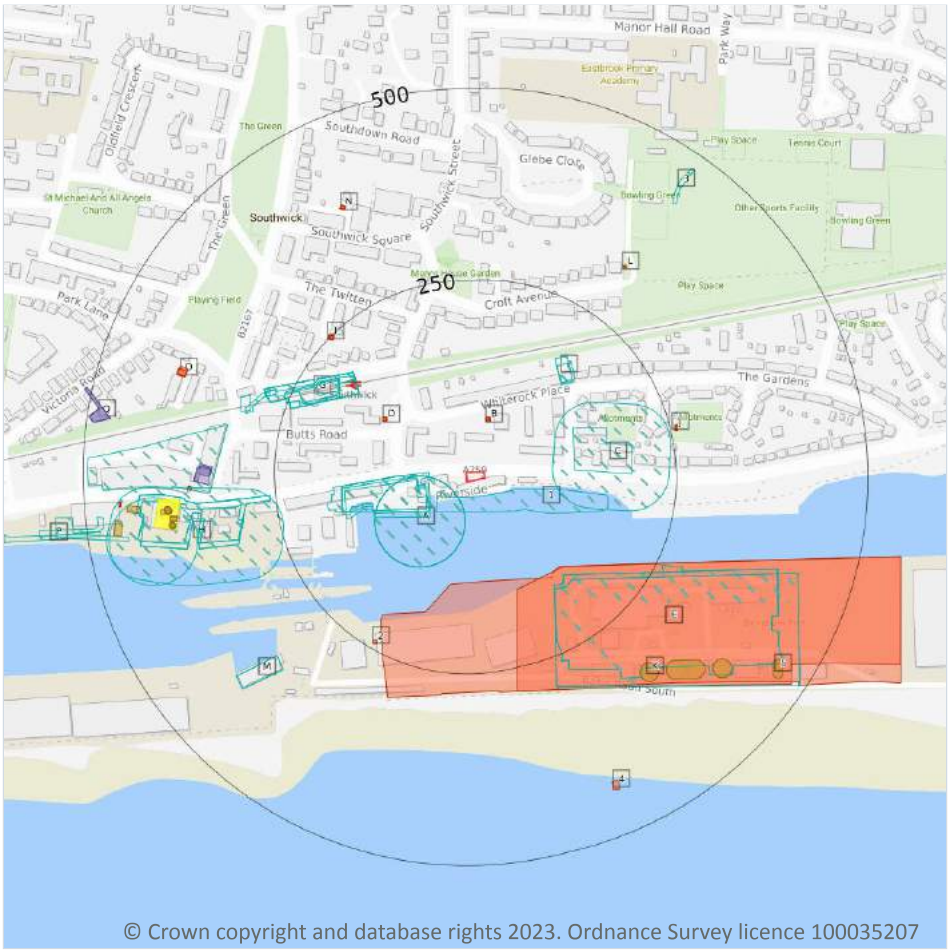
1.6 Historical military land

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 petrol stations
- Historical garages

2.1 Historical industrial land uses

Records within 500m	47

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	19m S	Timber Ponds	1873	2142691
A	21m SW	Unspecified Wharf	1963	2221264
A	21m SW	Unspecified Wharf	1968	2221264

ID	Location	Land Use	Date	Group ID
A	21m SW	Unspecified Wharf	1972	2221264
A	21m SW	Unspecified Wharf	1982	2221264
A	48m W	Unspecified Wharves	1873	2140489
A	54m W	Unspecified Wharf	1909	2194791
A	54m W	Unspecified Wharf	1940	2283485
A	54m W	Unspecified Wharf	1930	2283485
A	55m SW	Unspecified Wharf	1896	2194791
C	89m E	Coastguard Station	1909	2239636
C	117m E	Coastguard Station	1896	2239636
F	152m NE	Police Station	1930	2282574
F	152m NE	Police Station	1909	2282574
F	155m NE	Police Station	1963	2279564
E	163m SE	Unspecified Works	1963	2197542
E	163m SE	Unspecified Works	1968	2197542
E	171m SE	Power Station	1972	2282813
E	171m SE	Power Station	1982	2282813
G	173m NW	Railway Station	1963	2188536
G	173m NW	Railway Station	1968	2188536
G	173m NW	Railway Station	1972	2188536
G	173m NW	Railway Station	1982	2188536
G	189m NW	Railway Building	1940	2246337
G	189m NW	Railway Building	1930	2246337
G	189m NW	Railway Building	1909	2225667
G	192m NW	Railway Station	1912	2268566
G	193m NW	Railway Station	1909	2268566
G	197m NW	Railway Station	1948	2280656
H	245m W	Unspecified Wharves	1873	2182699
H	257m W	Unspecified Wharves	1948	2285045

ID	Location	Land Use	Date	Group ID
H	257m W	Unspecified Wharves	1909	2191551
H	257m W	Unspecified Wharves	1896	2191551
G	268m W	Railway Building	1909	2267381
G	268m W	Railway Building	1896	2267381
G	275m W	Railway Station	1873	2241794
G	293m W	Railway Station	1896	2241794
H	296m W	Unspecified Wharves	1912	2195882
H	296m W	Unspecified Wharves	1912	2195882
H	317m W	Unspecified Works	1982	2159373
M	336m SW	Pump House	1972	2254893
M	336m SW	Pump House	1982	2254893
H	358m W	Unspecified Wharf	1972	2228052
3	428m NE	Unspecified Heap	1950	2135806
P	447m W	Unspecified Wharf	1948	2202326
P	476m W	Unspecified Beds	1896	2268437
P	483m W	Unspecified Beds	1909	2268437

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	**19**

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
K	320m SE	Unspecified Tank	1996	360153
K	340m SE	Tanks	1996	375214
H	380m W	Tanks	1951	406839
H	380m W	Tanks	1951	406839

ID	Location	Land Use	Date	Group ID
H	384m W	Unspecified Tank	1960	384342
H	384m W	Unspecified Tank	1969	384342
H	384m W	Unspecified Tank	1951	384342
K	385m SE	Unspecified Tank	1996	360154
H	385m W	Unspecified Tank	1968	384342
H	385m W	Unspecified Tank	1951	384342
H	387m W	Unspecified Tank	1960	392232
H	387m W	Unspecified Tank	1969	392232
H	387m W	Unspecified Tank	1951	392232
H	387m W	Unspecified Tank	1968	392232
H	387m W	Unspecified Tank	1951	392232
H	394m W	Unspecified Tank	1930	395015
H	428m W	Tanks	1930	375210
5	447m SE	Tanks	1996	375219
H	453m W	Tanks	1930	375211

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m **30**

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
B	66m N	Electricity Substation	-	240679
B	67m N	Electricity Substation	1985	241646
D	123m NW	Electricity Substation	1987	274970
D	124m NW	Electricity Substation	1994	274970
E	131m S	Power Station	1951	257316

ID	Location	Land Use	Date	Group ID
E	149m SE	Power Station	1969	257316
2	237m SW	Electricity Substation	1969	241643
I	245m NW	Electricity Substation	1985	280525
I	246m NW	Electricity Substation	1994	280525
I	246m NW	Electricity Substation	-	241025
I	246m NW	Electricity Substation	1987	280525
J	256m E	Electricity Substation	1984	280946
J	256m E	Electricity Substation	1995	280946
L	323m NE	Electricity Substation	1984	262352
L	324m NE	Electricity Substation	1995	262352
H	359m W	Electricity Substation	1985	257199
H	359m W	Electricity Substation	1994	257199
H	359m W	Electricity Substation	1987	289955
N	378m NW	Electricity Substation	-	240768
N	378m NW	Electricity Substation	1994	279332
N	378m NW	Electricity Substation	1985	279332
N	378m NW	Electricity Substation	1987	283214
O	387m W	Electricity Substation	-	240252
O	387m W	Electricity Substation	1994	257083
O	387m W	Electricity Substation	1951	257083
O	387m W	Electricity Substation	1985	269340
O	388m W	Electricity Substation	1987	257083
4	429m SE	Electricity Substation	1991	241640
H	452m W	Electricity Substation	1950	287856
H	452m W	Electricity Substation	1950	287856

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	3

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'.

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

ID	Location	Land Use	Date	Group ID
H	375m W	Petroleum Depot	1951	4323
H	375m W	Petroleum Depot	1969	4323
H	375m W	Petroleum Depot	1951	4313

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m	7

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
H	332m W	Garage	1985	73069
H	333m W	Central Garage	1951	80779
H	333m W	Central Garage	-	72887
H	333m W	Central Garage	1966	80779
Q	470m W	Garage	1994	76116
Q	470m W	Garage	1993	82536
Q	470m W	Garage	1985	82536

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	4

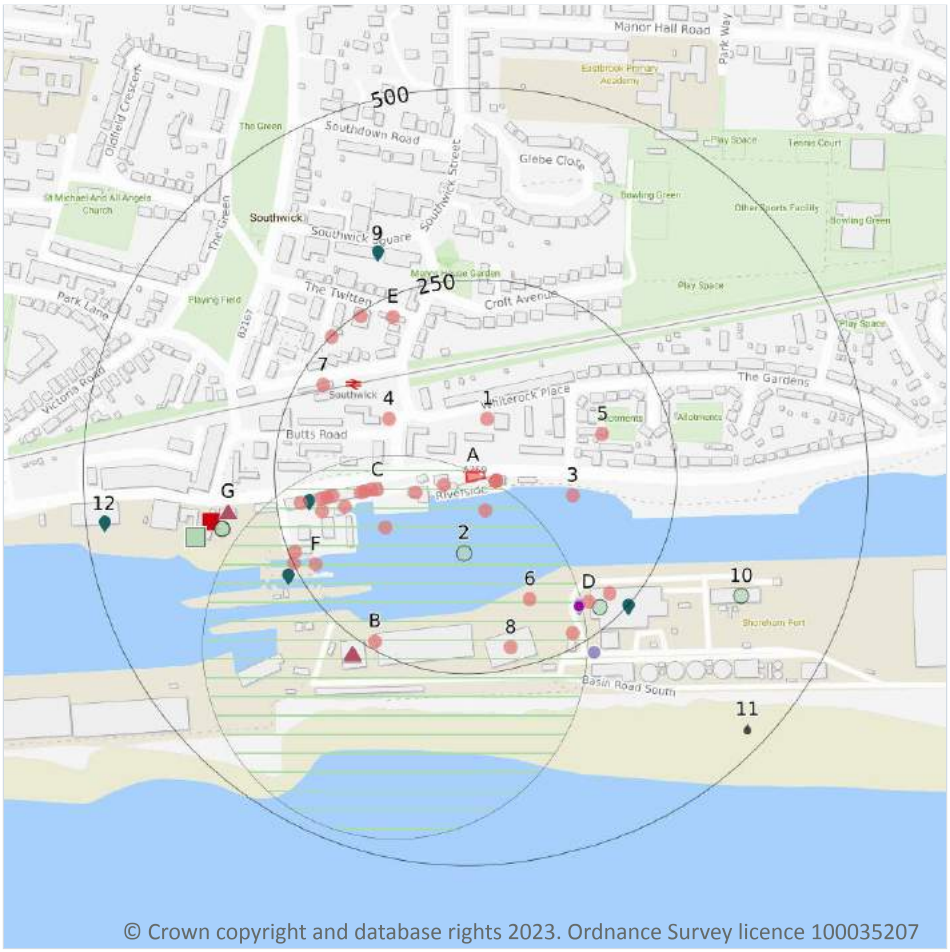
Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on **page 25 >**

ID	Location	Site	Reference	Category	Sub-Category	Description
1	451m S	Beach Basin Road South Southwick East Sussex	EPR/TF0207FP/A001	Treating waste exemption	Non-Agricultural Waste Only	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
A	487m E	-	WEX212902	Storing waste exemption	Not on a farm	Storage of waste in a secure place
A	487m E	-	WEX068745	Storing waste exemption	Not on a farm	Storage of waste in a secure place
A	487m E	Dock Gate 7 Basin Road South Shoreham By Sea	EPR/BH0078VG/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of waste in a secure place

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

4 Current industrial land use



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Site Outline

Search buffers in metres (m)

- Recent industrial land uses
- Control of Major Accident Hazards
- Hazardous substance storage/usage
- Historical licensed industrial activities
- Part A(1) industrial activities
- Licensed pollutant release (Part A(2)/B)
- Licensed Discharges to controlled waters
- List 1 Dangerous Substances
- List 2 Dangerous Substances
- Pollution Incidents (EA/NRW)
- Pollution inventory substances
- Pollution inventory waste transfers

4.1 Recent industrial land uses

Records within 250m	35

Current potentially contaminative industrial sites.

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

ID	Location	Company	Address	Activity	Category
A	**On site**	**Arrow Tyre Services**	**144, Albion Street, Southwick, West Sussex, BN42 4AU**	**Vehicle Repair, Testing and Servicing**	**Repair and Servicing**
A	15m E	Riverside Yard	Riverside Yard, Riverside, Southwick, West Sussex, BN42 4AW	Moorings and Unloading Facilities	Water
A	15m E	Classic Sailor	Riverside Yard, Riverside, Southwick, West Sussex, BN42 4AW	Published Goods	Industrial Products

ID	Location	Company	Address	Activity	Category
A	16m E	Enviro-metal	Riverside Yard Riverside, Albion Street, Southwick, Brighton, West Sussex, BN42 4AW	Scrap Metal Merchants	Recycling Services
A	31m W	McHugh Concrete	The Old Town Hall, 142, Albion Street, Southwick, West Sussex, BN42 4AX	Concrete Products	Industrial Products
A	42m S	Jetty	West Sussex, BN42	Moorings and Unloading Facilities	Water
A	68m W	G P Barnes	Ladybee Marina, 138-140 Albion Street, Southwick, Brighton, West Sussex, BN42 4EG	Marine Equipment Including Boats and Ships	Industrial Products
1	69m N	Electricity Sub Station	West Sussex, BN42	Electrical Features	Infrastructure and Facilities
3	117m E	Landing Stage	West Sussex, BN41	Moorings and Unloading Facilities	Water
C	117m W	Southwick Print Ltd	136, Albion Street, Southwick, West Sussex, BN42 4DP	Published Goods	Industrial Products
C	122m SW	Pontoons	West Sussex, BN42	Moorings and Unloading Facilities	Water
4	123m NW	Electricity Sub Station	West Sussex, BN42	Electrical Features	Infrastructure and Facilities
C	125m W	B Burtenshaw	Unit 2 to 3 Lady Bee Marina, Albion Street, Southwick, West Sussex, BN42 4EG	Furniture	Consumer Products
C	133m W	K W Geere Engineering	Unit 4 Lady Bee Marina, Albion Street, Southwick, West Sussex, BN42 4EG	Precision Engineers	Engineering Services
C	139m W	B Crane Ironwork	Unit 5 Lady Bee Marina, Albion Street, Southwick, West Sussex, BN42 4EG	Metalworkers Including Blacksmiths	Construction Services
C	162m W	Electricity Sub Station	West Sussex, BN42	Electrical Features	Infrastructure and Facilities
5	163m E	Spanlite International Ltd	10a, Colebrook Road, Southwick, West Sussex, BN42 4AL	Lampshades and Lighting	Consumer Products
6	169m SE	Inner Lay-By Wharf	West Sussex, BN41	Moorings and Unloading Facilities	Water
C	176m W	Spark Motorcycles	Unit 7 Lady Bee Industrial Park, Albion Street, Southwick, West Sussex, BN42 4EP	Vehicle Repair, Testing and Servicing	Repair and Servicing
C	184m W	D H Autos	Unit 6, Lady Bee Industrial Park, Albion Street, Southwick, West Sussex, BN42 4EP	Vehicle Repair, Testing and Servicing	Repair and Servicing

ID	Location	Company	Address	Activity	Category
C	191m W	Williamson Pumps Ltd	Unit 5 Lady Bee Industrial Estate, Southwick, Brighton, West Sussex, BN42 4EP	Pumps and Compressors	Industrial Products
C	193m W	Lady Bee Industrial Estate	West Sussex, BN42	Business Parks and Industrial Estates	Industrial Features
D	211m SE	Chimney	West Sussex, BN41	Chimneys	Industrial Features
C	219m W	Bodycare Garage Services	Unit 2 Lady Bee Industrial Park, Albion Street, Southwick, West Sussex, BN42 4EP	Vehicle Repair, Testing and Servicing	Repair and Servicing
7	219m NW	Southwick Rail Station	West Sussex, BN42	Railway Stations, Junctions and Halts	Public Transport, Stations and Infrastructure
D	222m SE	Shoreham Power Station	West Sussex, BN41	Energy Production	Industrial Features
8	223m S	Axtra Transport	Transit Shed 6 Inner Lay-By, Basin Road South, Southwick, West Sussex, BN41 1WF	Distribution and Haulage	Transport, Storage and Delivery
E	224m NW	Works	West Sussex, BN42	Unspecified Works Or Factories	Industrial Features
F	225m SW	Slipway	West Sussex, BN42	Moorings and Unloading Facilities	Water
D	232m SE	Electricity Sub Station	West Sussex, BN41	Electrical Features	Infrastructure and Facilities
B	240m SW	Electricity Sub Station	West Sussex, BN41	Electrical Features	Infrastructure and Facilities
F	242m SW	Works	West Sussex, BN42	Unspecified Works Or Factories	Industrial Features
E	246m NW	Telephone Exchange	West Sussex, BN42	Telecommunications Features	Infrastructure and Facilities
F	249m SW	Slipway	West Sussex, BN42	Moorings and Unloading Facilities	Water
E	249m NW	Electricity Sub Station	West Sussex, BN42	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	0

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	1

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.

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

ID	Location	Company	Address	Operational status	Tier
B	**On site**	**Shoreham Port Authority**	**Shoreham Port Authority, The Port Of Shoreham, Brighton Terminal, Basin Road South, Brighton, East Sussex, BN42 4ED**	**Historical NIHHS Site**	**-**

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	3

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.

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

ID	Location	Details	
B	269m SW	Application reference number: ADC/0106/06 Application status: Historical Consent Application date: 22/05/2006 Address: Transit Shed 8, Inner Lay-By, Basin Road, South Southwick, West Sussex, BN41 1WF	Details: Storage of max 2,800 tonnes of ammonium nitrate. Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
B	270m SW	Application reference number: ADC/0106/06 Application status: Approved Application date: 18/05/2006 Address: Shoreham Port Authority, Shed 8 Inner Lay-By Terminal, Albion Street, Southwick, Brighton, West Sussex, England, BN41 1PQ	Details: Storage of max 2,800 tonnes of ammonium nitrate (under note 2 of Part A of the Regulations) (application for hazardous substances consent) Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
G	314m W	Application reference number: No details. Application status: Withdrawn Application date: No Details Address: Shoreham Port Authority, Harbour House, Albion Street, Southwick, Brighton, BN42 4ED	Details: Storage Of Ammonium Nitrate Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m	14

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.

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

ID	Location	Details	
D	268m SE	Operator: Shoreham Operations Co Ltd Address: Shoreham Power Station, Shoreham Harbour, Shoreham-by-sea, West Sussex, BN41 1WF Process: Combustion Processes Permit Number: BA1931	Original Permit Number: IPCAPP Date Approved: 3-6-1998 Effective Date: 15-6-1998 Status: Superseded By Variation
D	268m SE	Operator: Shoreham Operations Co Ltd Address: Shoreham Power Station, Shoreham Harbour, Shoreham-by-sea, West Sussex, BN41 1WF Process: Combustion Processes Permit Number: BE2239	Original Permit Number: IPCMINVAR Date Approved: 24-11-1998 Effective Date: 30-11-1998 Status: Superseded By Variation
D	268m SE	Operator: Shoreham Operations Co Ltd Address: Shoreham Power Station, Shoreham Harbour, Shoreham-by-sea, West Sussex, BN41 1WF Process: Combustion Processes Permit Number: BH7938	Original Permit Number: IPCMINVAR Date Approved: 10-3-2000 Effective Date: 17-3-2000 Status: Superseded By Variation
D	268m SE	Operator: Shoreham Operations Co Ltd Address: Shoreham Power Station, Shoreham Harbour, Shoreham-by-sea, West Sussex, BN41 1WF Process: Combustion Processes Permit Number: BI6686	Original Permit Number: IPCMINVAR Date Approved: 22-6-2000 Effective Date: 28-6-2000 Status: Superseded By Variation
D	268m SE	Operator: Shoreham Operations Co Ltd Address: Shoreham Power Station, Shoreham Harbour, Shoreham-by-sea, West Sussex, BN41 1WF Process: Combustion Processes Permit Number: BJ8839	Original Permit Number: IPCMINVAR Date Approved: 16-11-2000 Effective Date: 17-11-2000 Status: Superseded By Variation
D	268m SE	Operator: Shoreham Operations Co Ltd Address: Shoreham Power Station, Shoreham Harbour, Shoreham-by-sea, West Sussex, BN41 1WF Process: Combustion Processes Permit Number: BK0671	Original Permit Number: IPCMINVAR Date Approved: 1-12-2000 Effective Date: 1-12-2000 Status: Superseded By Variation
D	268m SE	Operator: Shoreham Operations Co Ltd Address: Shoreham Power Station, Shoreham Harbour, Shoreham-by-sea, West Sussex, BN41 1WF Process: Combustion Processes Permit Number: BK7196	Original Permit Number: IPCMINVAR Date Approved: 8-3-2001 Effective Date: 9-3-2001 Status: Superseded By Variation
D	268m SE	Operator: Shoreham Operations Co Ltd Address: Shoreham Power Station, Shoreham Harbour, Shoreham-by-sea, West Sussex, BN41 1WF Process: Combustion Processes Permit Number: BL0120	Original Permit Number: IPCMINVAR Date Approved: 7-5-2001 Effective Date: 7-5-2001 Status: Superseded By Variation
D	268m SE	Operator: Shoreham Operations Co Ltd Address: Shoreham Power Station, Shoreham Harbour, Shoreham-by-sea, West Sussex, BN41 1WF Process: Combustion Processes Permit Number: BW9662	Original Permit Number: IPCMINVAR Date Approved: 15-11-2003 Effective Date: 17-11-2003 Status: Superseded By Variation

ID	Location	Details	
D	268m SE	Operator: Shoreham Operations Co Ltd Address: Shoreham Power Station, Shoreham Harbour, Shoreham-by-sea, West Sussex, BN41 1WF Process: Combustion Processes Permit Number: BX4020	Original Permit Number: IPCMINVAR Date Approved: 10-2-2004 Effective Date: 19-2-2004 Status: Superseded By Variation
D	268m SE	Operator: Shoreham Operations Co Ltd Address: Shoreham Power Station, Shoreham Harbour, Shoreham-by-sea, West Sussex, BN41 1WF Process: Combustion Processes Permit Number: BY3762	Original Permit Number: IPCMINVAR Date Approved: 28-9-2004 Effective Date: 28-9-2004 Status: Superseded By Variation
D	268m SE	Operator: Shoreham Operations Co Ltd Address: Shoreham Power Station, Shoreham Harbour, Shoreham-by-sea, West Sussex, BN41 1WF Process: Combustion Processes Permit Number: BY7806	Original Permit Number: IPCMINVAR Date Approved: 17-12-2004 Effective Date: 24-12-2004 Status: Superseded By Variation
D	268m SE	Operator: Shoreham Operations Co Ltd Address: Shoreham Power Station, Shoreham Harbour, Shoreham-by-sea, West Sussex, BN41 1WF Process: Combustion Processes Permit Number: CA3092	Original Permit Number: IPCMINVAR Date Approved: 9-3-2006 Effective Date: 9-3-2006 Status: Superseded By Variation
D	268m SE	Operator: Shoreham Operations Co Ltd Address: Shoreham Power Station, Shoreham Harbour, Shoreham-by-sea, West Sussex, BN41 1WF Process: Combustion Processes Permit Number: CA8132	Original Permit Number: IPCMINVAR Date Approved: 5-9-2006 Effective Date: 5-9-2006 Status: Revoked - Now Ippc

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m **11**

Records of Part A(1) 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	Details	
D	208m SE	Operator: Scottish Power (SCPL) Limited Installation Name: Shoreham Power Station EPR/EP3934WC Process: COMBUSTION; ANY FUEL =>50MW Permit Number: BP3932AG Original Permit Number: EP3934WC	EPR Reference: - Issue Date: 21/12/2015 Effective Date: 01/01/2016 Last date noted as effective: 21/03/2023 Status: Superceded

ID	Location	Details	
D	208m SE	Operator: Scottish Power (SCPL) Limited Installation Name: Shoreham Power Station EPR/EP3934WC Process: COMBUSTION; ANY FUEL =>50MW Permit Number: EP3934WC Original Permit Number: EP3934WC	EPR Reference: - Issue Date: 27/11/2014 Effective Date: 27/11/2014 Last date noted as effective: 21/03/2023 Status: Superceded
D	208m SE	Operator: Scottishpower Generation Limited Installation Name: Shoreham Power Station Process: COMBUSTION; ANY FUEL =>50MW Permit Number: XP3038SW Original Permit Number: XP3038SW	EPR Reference: - Issue Date: 29/06/2007 Effective Date: 29/06/2007 Last date noted as effective: 21/03/2023 Status: Superceded
D	208m SE	Operator: ScottishPower Generation Limited Installation Name: Shoreham Power Station EPR/EP3934WC Process: COMBUSTION; ANY FUEL =>50MW Permit Number: DP3433DM Original Permit Number: DP3433DM	EPR Reference: - Issue Date: 17/05/2016 Effective Date: 01/06/2016 Last date noted as effective: 21/03/2023 Status: Superceded
D	208m SE	Operator: Drax Generation Enterprise Limited Installation Name: Shoreham Power Station - EPR/DP3433DM Process: COMBUSTION; ANY FUEL =>50MW Permit Number: VP3703SV Original Permit Number: DP3433DM	EPR Reference: - Issue Date: 17/06/2020 Effective Date: 17/06/2020 Last date noted as effective: 21/03/2023 Status: Superceded
D	208m SE	Operator: Drax Generation Enterprise Limited Installation Name: Shoreham Power Station EPR/EP3934WC Process: COMBUSTION; ANY FUEL =>50MW Permit Number: ZP3101PB Original Permit Number: DP3433DM	EPR Reference: - Issue Date: 10/09/2019 Effective Date: 10/09/2019 Last date noted as effective: 21/03/2023 Status: Superceded
D	208m SE	Operator: Scottishpower Generation Limited Installation Name: Shoreham Power Station Process: COMBUSTION; ANY FUEL =>50MW Permit Number: LP3635WE Original Permit Number: XP3038SW	EPR Reference: - Issue Date: 29/09/2014 Effective Date: 01/10/2014 Last date noted as effective: 21/03/2023 Status: Superceded
D	208m SE	Operator: VPI Power Limited Installation Name: Shoreham Power Station - EPR/DP3433DM Process: COMBUSTION; ANY FUEL =>50MW Permit Number: BP3742QD Original Permit Number: DP3433DM	EPR Reference: - Issue Date: 22/05/2022 Effective Date: 13/06/2022 Last date noted as effective: 21/03/2023 Status: Effective
D	208m SE	Operator: Scottishpower Generation Limited Installation Name: Shoreham Power Station Process: COMBUSTION; ANY FUEL =>50MW Permit Number: ZP3032ZN Original Permit Number: XP3038SW	EPR Reference: - Issue Date: 11/03/2013 Effective Date: 11/03/2013 Last date noted as effective: 21/03/2023 Status: Superceded

ID	Location	Details	
D	208m SE	Operator: Scottishpower Generation Limited Installation Name: Shoreham Power Station Process: COMBUSTION; ANY FUEL =>50MW Permit Number: ZP3038KF Original Permit Number: XP3038SW	EPR Reference: - Issue Date: 16/02/2010 Effective Date: 16/02/2010 Last date noted as effective: 21/03/2023 Status: Superceded
D	208m SE	Operator: VPI Power Limited Installation Name: Shoreham Power Station - EPR/DP3433DM Process: COMBUSTION; ANY FUEL =>50MW Permit Number: VP3800MX Original Permit Number: DP3433DM	EPR Reference: - Issue Date: 26/05/2021 Effective Date: 26/05/2021 Last date noted as effective: 21/03/2023 Status: Superceded

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

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

Records within 500m	**5**

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	
C	207m W	Bodycare, Lady Bee Marina, Albion St, Southwick, Brighton, East Sussex, BN42 4EP	Process: Respraying of Road Vehicles Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
D	251m SE	Scottish Power, Basin Road South, Portslade, BN41 1WF	Process: Combustion & Incineration Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
F	263m SW	Bodycare, Lady Bee Marina, Albion St, Southwick, Brighton, East Sussex, BN42 4EP	Process: Respraying of Road Vehicles Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
9	307m NW	Johnson Cleaners, 15 Southwick Square, West Sussex, RH15 9AS	Process: Dry Cleaning Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
12	476m W	Dudman Waste & Environmental Ltd, Albion Wharf, Southwick, BN15 9JL	Process: Use of Bulk Cement Status: Current Permit 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	1

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	
11	474m SE	SHOREHAM WASTE WATER T'MENT PLANT, SHOREHAM WASTE WATER T'MENT PLAN, BASIN ROAD SOUTH, SHOREHAM-BY-SEA, WEST SUSSEX	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: P05365 Permit Version: 1 Receiving Water: INTO LAND	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 19/05/1994 Effective Date: 19/05/1994 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	3

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.

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

ID	Location	Name	Status	Receiving Water	Authorised Substances
G	338m W	Portslade Sea Outfall	Not Active	-	-
G	338m W	London & Brighton Plating Co Ltd 100 North St, Portslade	Not Active	English Channel, The Channel, No Site	Mercury (other), Cadmium
G	338m W	Adur Metal Works Ltd, Imperial Ho. Old Shoreham Rd, Shoreham	Not Active	English Channel, The Channel, No Site	Mercury (other), Cadmium

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

4.17 List 2 Dangerous Substances

Records within 500m	8

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.

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

ID	Location	Name	Status	Receiving Water	Authorised Substances
G	361m W	Mbm Technology, Victoria Road, Portslade	Not Active	-	Chromium, Copper, Lead, Nickel, Zinc
G	361m W	Mbm, Victoria Road, Portslade	Not Active	-	Chromium, Copper, Lead, Nickel, Zinc
G	361m W	Merlin Circuits, Mill Road, Portslade	Not Active	The Channel	Copper, Lead
G	361m W	Adur Metal Works Ltd	Not Active	The Channel	Chromium, Copper, Lead, Nickel, pH, Zinc
G	361m W	Southern United Ltd	Active	The Channel	Chromium, Copper, Nickel, pH, Zinc
G	361m W	C & S Nameplates Co Ltd	Active	The Channel	Chromium, Copper, Lead, Nickel, pH, Zinc
G	361m W	London & Brighton Plating	Active	The Channel	Chromium, Copper, Lead, Nickel, pH, Zinc

ID	Location	Name	Status	Receiving Water	Authorised Substances
G	361m W	M B M Technology Ltd	Active	The Channel	Copper, pH

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m	**5**

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	
2	92m S	Incident Date: 14/07/2001 Incident Identification: 16437 Pollutant: Oils and Fuel Pollutant Description: Unidentified Oil	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
D	225m SE	Incident Date: 14/08/2013 Incident Identification: 1147603 Pollutant: Other Pollutant Pollutant Description: Noise	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 2 (Significant)
G	325m W	Incident Date: 15/03/2018 Incident Identification: 1597112 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 2 (Significant)
G	325m W	Incident Date: 15/03/2018 Incident Identification: 1597112 Pollutant: Contaminated Water Pollutant Description: Firefighting Run-Off	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 2 (Significant)
10	368m SE	Incident Date: 30/07/2013 Incident Identification: 1141311 Pollutant: Other Pollutant Pollutant Description: Noise	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 2 (Significant)

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

4.19 Pollution inventory substances

Records within 500m	4

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.

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

ID: D, Location: 208m SE, Permit: DP3433DM
Operator: VPI Power Limited
Activity: COMBUSTION; ANY FUEL =>50MW
Address: Shoreham Power Station Basin Road South Portslade East Sussex BN41 1WF
Sector Combustion, Sub-sector: Power
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Carbon monoxide	100000kg	382520kg

ID: D, Location: 208m SE, Permit: DP3433DM
Operator: VPI Power Limited
Activity: COMBUSTION; ANY FUEL =>50MW
Address: Shoreham Power Station Basin Road South Portslade East Sussex BN41 1WF
Sector Combustion, Sub-sector: Power
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Carbon dioxide	10000000kg	439502000kg

ID: D, Location: 208m SE, Permit: DP3433DM
Operator: VPI Power Limited
Activity: COMBUSTION; ANY FUEL =>50MW
Address: Shoreham Power Station Basin Road South Portslade East Sussex BN41 1WF
Sector Combustion, Sub-sector: Power
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Wastewater	Mercury	0.1kg	Below Reporting Threshold

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Wastewater	Nitrogen - as total N	50000kg	Below Reporting Threshold
Wastewater	Total organic carbon (TOC)	50000kg	Below Reporting Threshold
Air	Nitrous oxide	10000kg	Below Reporting Threshold
Air	Sulphur hexafluoride	10kg	Below Reporting Threshold
Air	Mercury	1kg	Below Reporting Threshold
Wastewater	Cadmium	1kg	Below Reporting Threshold
Air	Non-methane volatile organic compounds (NMVOCs)	10000kg	Below Reporting Threshold
Controlled Waters	Chlorides - as Cl	2000000kg	Below Reporting Threshold

ID: D, Location: 208m SE, Permit: DP3433DM
Operator: VPI Power Limited
Activity: COMBUSTION; ANY FUEL =>50MW
Address: Shoreham Power Station Basin Road South Portslade East Sussex BN41 1WF
Sector Combustion, Sub-sector: Power
Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Methane	10000kg	29038kg

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

4.20 Pollution inventory waste transfers

Records within 500m	**1**

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.

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

ID: D, Location: 208m SE, Permit: DP3433DM
Operator: VPI Power Limited
Activity: COMBUSTION; ANY FUEL =>50MW
Address: Shoreham Power Station Basin Road South Portslade East Sussex BN41 1WF
Sector Combustion, Sub-sector: Power
Releases:

Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
D8	Biological treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numbers D1 to D12	4.456	absolute value	20 03 04	septic tank sludge	No
D8	Biological treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numbers D1 to D12	163.659	absolute value	20 03 99	municipal wastes not otherwise specified	No
R3	Recycling/Reclamation of organic substances which are not used as solvents (including composting and other biological transformatin processes)	124.72	absolute value	20 03 01	mixed municipal waste	No
R3	Recycling/Reclamation of organic substances which are not used as solvents (including composting and other biological transformatin processes)	19.73	absolute value	20 03 04	septic tank sludge	No
R3	Recycling/Reclamation of organic substances which are not used as solvents (including composting and other biological transformatin processes)	50.007	absolute value	20 03 99	municipal wastes not otherwise specified	No
R4	Recycling/reclamation of metals and metal compounds	5.7	absolute value	20 01 40	metals	No
R5	Recycling/reclamation of other inorganic materials	0.16	absolute value	16 02 14	discarded equipment other than those mentioned in 16 02 09 to 16 02 13	No
R5	Recycling/reclamation of other inorganic materials	16.18	absolute value	17 09 04	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03	No
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	114.4	absolute value	15 01 06	mixed packaging	No

Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
D9	Physio-chemical treatment not specified elsewhere in this Table which results in final compounds or mixtures which are discarded by means of any of the operations numberes D1 to D12 (eg evaporation, drying, calcination, etc.)	14.02	absolute value	13 05 08	mixtures of wastes from grit chambers and oil/water separators	Yes
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	0.205	absolute value	08 01 11	waste paint and varnish containing organic solvents or other dangerous substances	Yes
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	0.03	absolute value	08 04 09	waste adhesives and sealants containing organic solvents or other dangerous substances	Yes
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	0.1	absolute value	11 01 13	degreasing wastes containing dangerous substances	Yes
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	0.03	absolute value	14 06 05	sludges or solid wastes containing other solvents	Yes
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	3.29	absolute value	15 01 10	packaging containing residues of or contaminated by dangerous substances	Yes
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	4.505	absolute value	15 02 02	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances	Yes
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	0.61	absolute value	16 01 07	oil filters	Yes

Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	0.031	absolute value	16 05 04	gases in pressure containers (including halons) containing dangerous substances	Yes
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	0.025	absolute value	16 10 01	aqueous liquid wastes containing dangerous substances	Yes

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

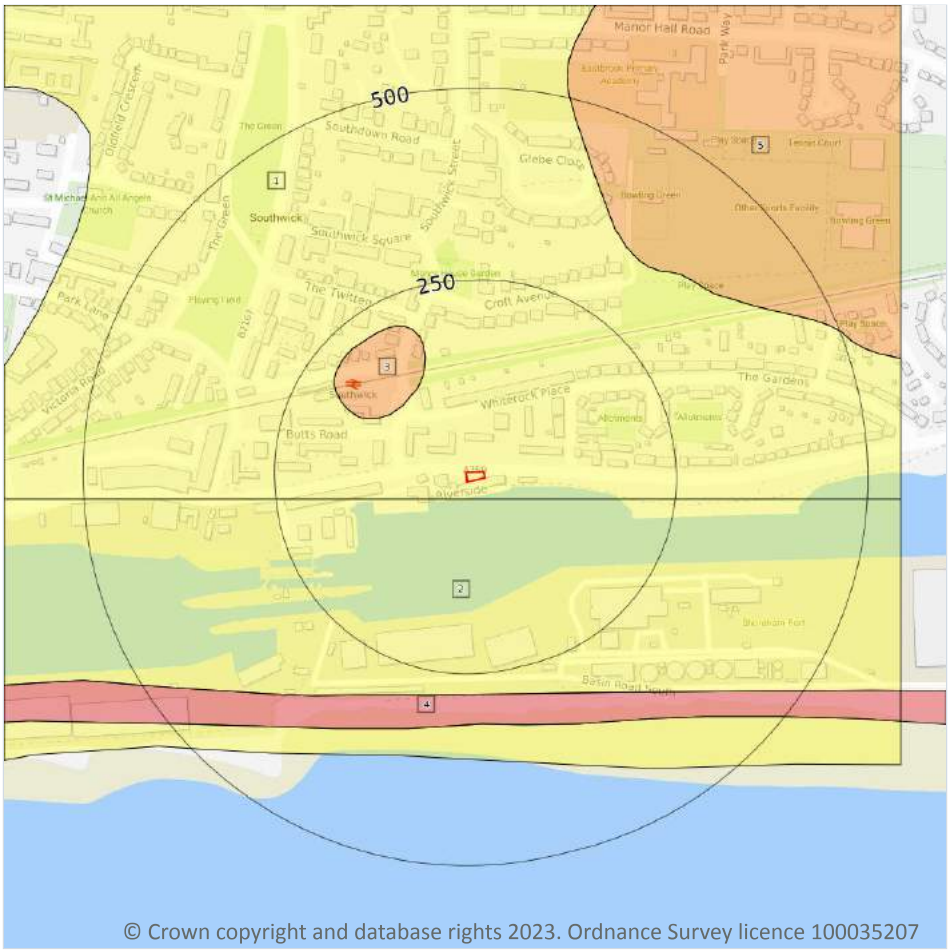
4.21 Pollution inventory radioactive waste

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



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5.1 Superficial aquifer

Records within 500m	5

Aquifer status of groundwater held within superficial geology.

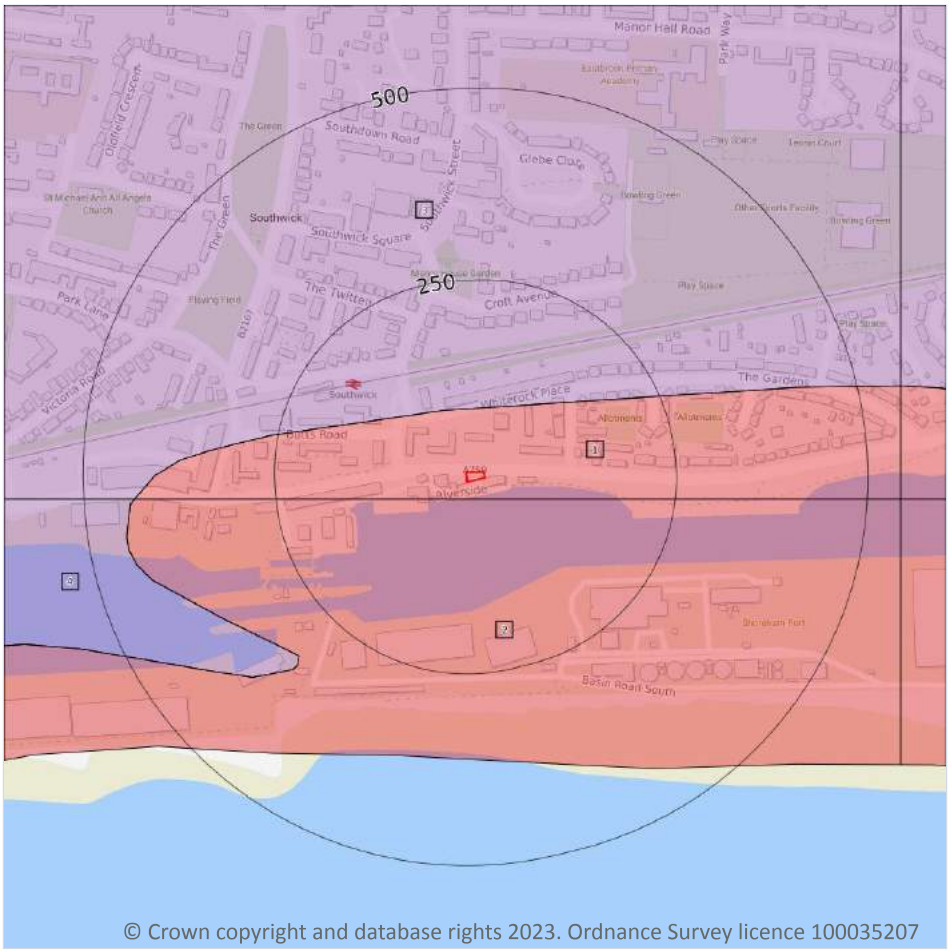
Features are displayed on the Hydrogeology map on page 45 >

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	22m S	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

ID	Location	Designation	Description
3	120m NW	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers
4	277m S	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
5	342m NE	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-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	4

Aquifer status of groundwater held within bedrock geology.

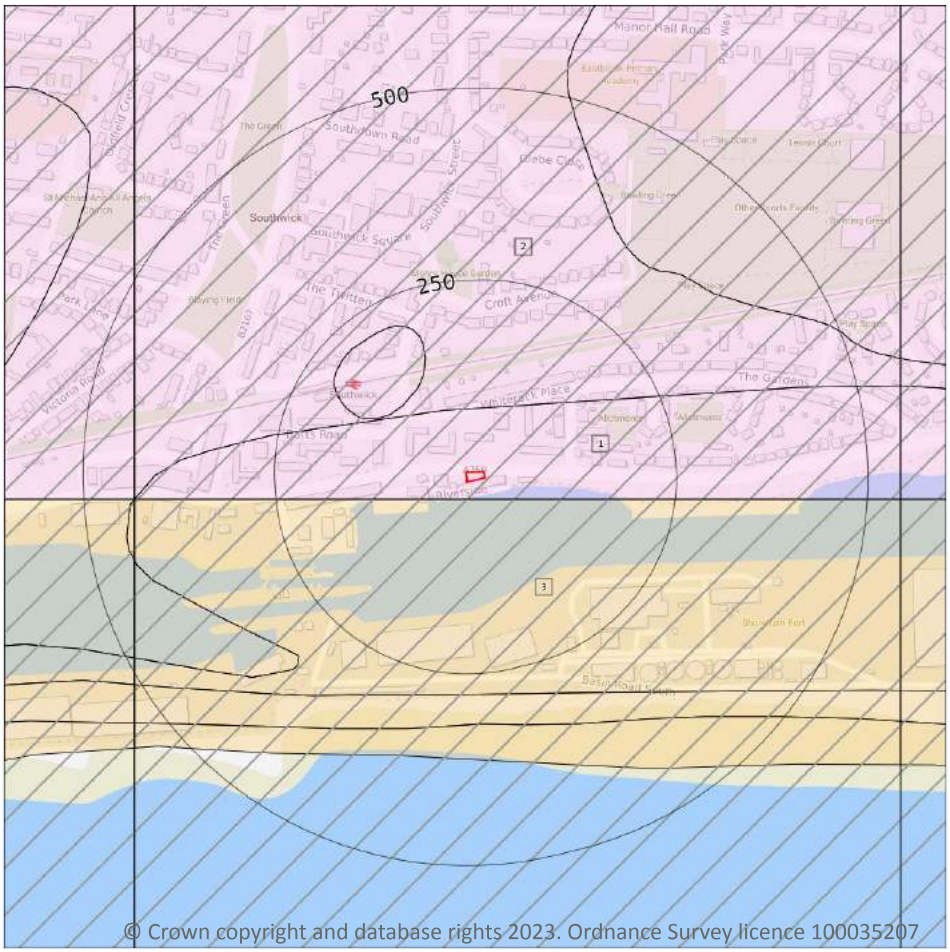
Features are displayed on the Bedrock aquifer map on **page 47 >**

ID	Location	Designation	Description
1	**On site**	**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**
2	22m S	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	83m N	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
4	315m SW	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

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

Groundwater vulnerability



Site Outline

Search buffers in metres (m)

Superficial vulnerability

- Principal superficial aquifer, high vulnerability
- Secondary superficial aquifer, high vulnerability
- Principal superficial aquifer, medium vulnerability
- Secondary superficial aquifer, medium vulnerability
- Principal superficial aquifer, low vulnerability
- Secondary superficial aquifer, low vulnerability

Bedrock vulnerability

- Principal bedrock aquifer, high vulnerability
- Secondary bedrock aquifer, high vulnerability
- Principal bedrock aquifer, medium vulnerability
- Secondary bedrock aquifer, medium vulnerability
- Principal bedrock aquifer, low vulnerability
- Secondary bedrock aquifer, low vulnerability

Other information

- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m	2

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 49 >**

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: No Data**	**Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures**
3	22m S	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: <300mm/year	Vulnerability: High Aquifer type: Secondary Thickness: 3-10m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary 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.**	**15.0%**

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



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5.6 Groundwater abstractions

Records within 2000m	1

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 51 >**

ID	Location	Details	
-	980m N	Status: Historical Licence No: 10/41/310005 Details: Process Water Direct Source: Southern Region Groundwater Point: SOUTHWICK HILL FARM Data Type: Point Name: S D Holdings Ltd Easting: 524260 Northing: 106000	Annual Volume (m^3): 49779 Max Daily Volume (m^3): 136.4 Original Application No: - Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 18/09/1993 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m	0

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.

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.

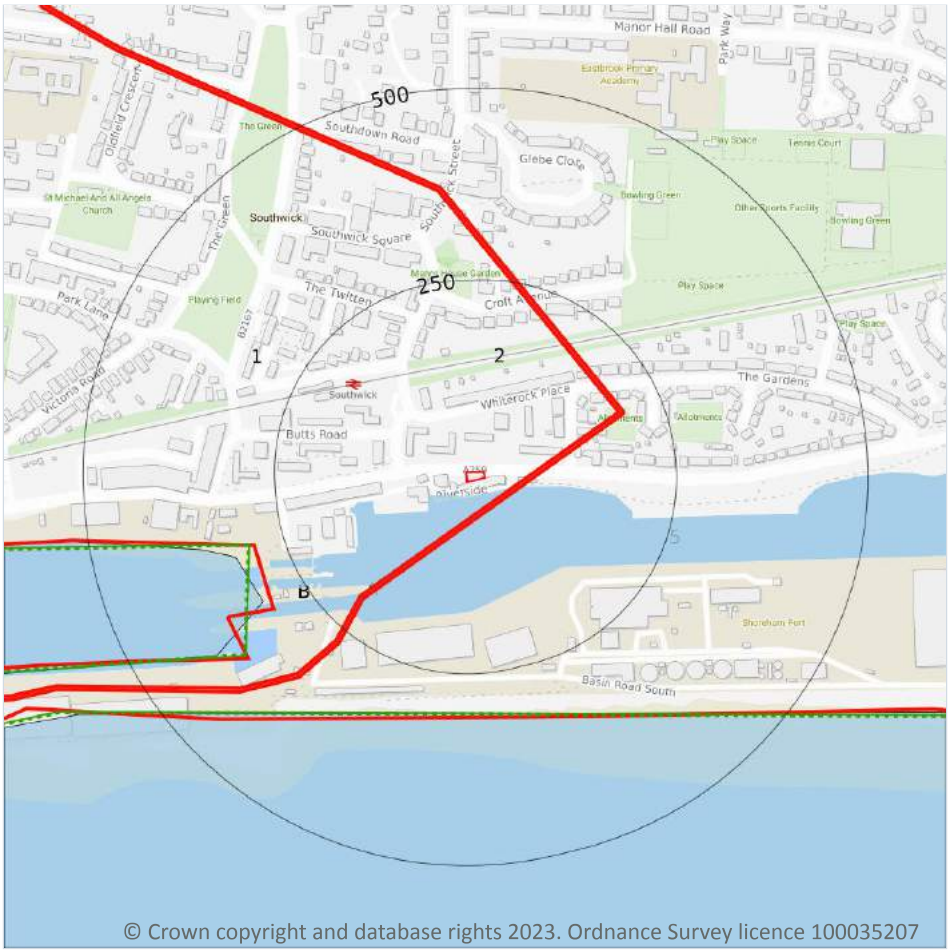
5.10 Source Protection Zones (confined aquifer)

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	5

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 54 >**

ID	Location	Type of water feature	Ground level	Permanence	Name
5	105m SE	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	East Arm

ID	Location	Type of water feature	Ground level	Permanence	Name
A	169m SW	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	The Canal
A	169m SW	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	The Canal
B	225m SW	Lock or flight of locks. An enclosure in a canal or navigable river with gates and sluices at either end.	On ground surface	Watercourse contains water year round (in normal circumstances)	East Arm
B	243m SW	Lock or flight of locks. An enclosure in a canal or navigable river with gates and sluices at either end.	On ground surface	Watercourse contains water year round (in normal circumstances)	The Canal

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 54 >**

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 54 >**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
1	**On site**	**Coastal Catchment**	**Not part of a river WB catchment**	**196**	**Upper Adur**	**Adur and Ouse**

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

6.4 WFD Surface water bodies

Records identified	0

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.

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

6.5 WFD Groundwater bodies

Records on site	1

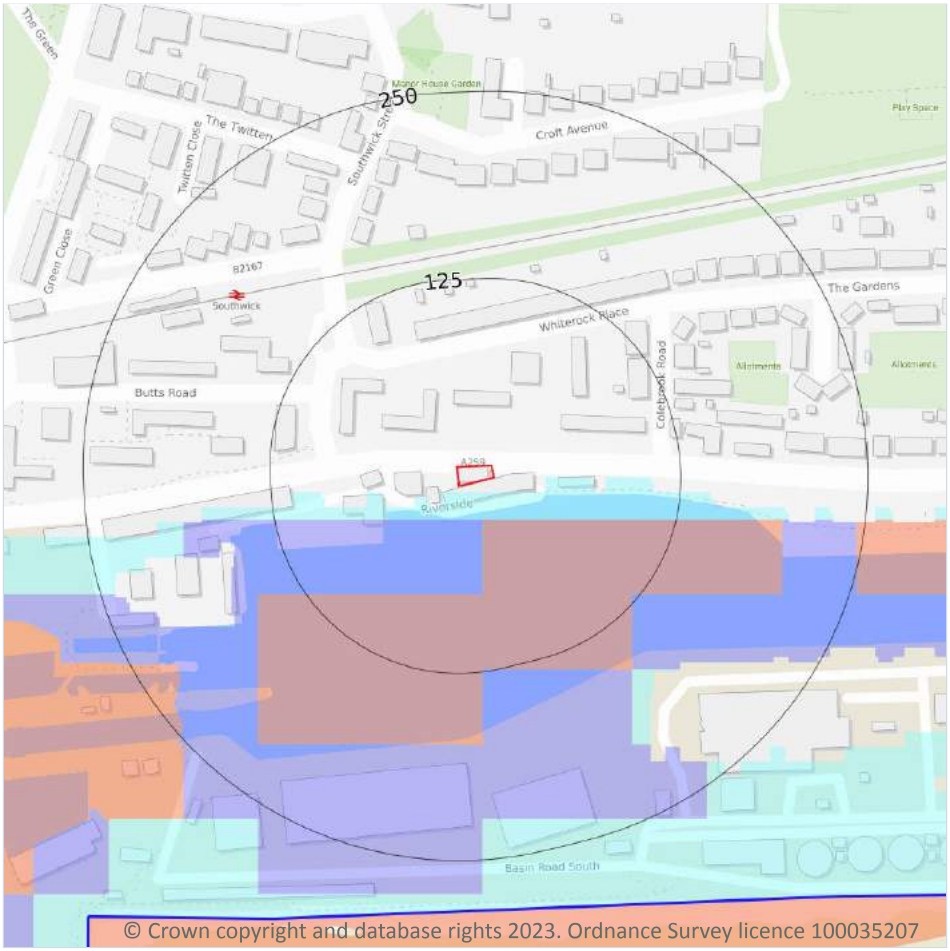
Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

Features are displayed on the Hydrology map on **page 54 >**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
2	**On site**	**Brighton Chalk Block**	**GB40701G502500** ↗	**Poor**	**Poor**	**Poor**	**2019**

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

7 River and coastal flooding



Site Outline

Search buffers in metres (m)

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 the sea

Records within 50m	3

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m within the Risk of Flooding from Rivers and Sea (RoFRaS)/Flood Risk Assessment Wales (FRAW) models. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition. The risk categories for RoFRaS for rivers and the sea and FRAW for rivers are; 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). The risk categories for FRAW for the sea are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 200 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 200 chance) or High (greater than or equal to 1 in 30 chance).

Features are displayed on the River and coastal flooding map on **page 57 >**

Distance	Flood risk category
On site	**N/A**
0 - 50m	High

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

7.2 Historical Flood Events

Records within 250m	**0**

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.

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.

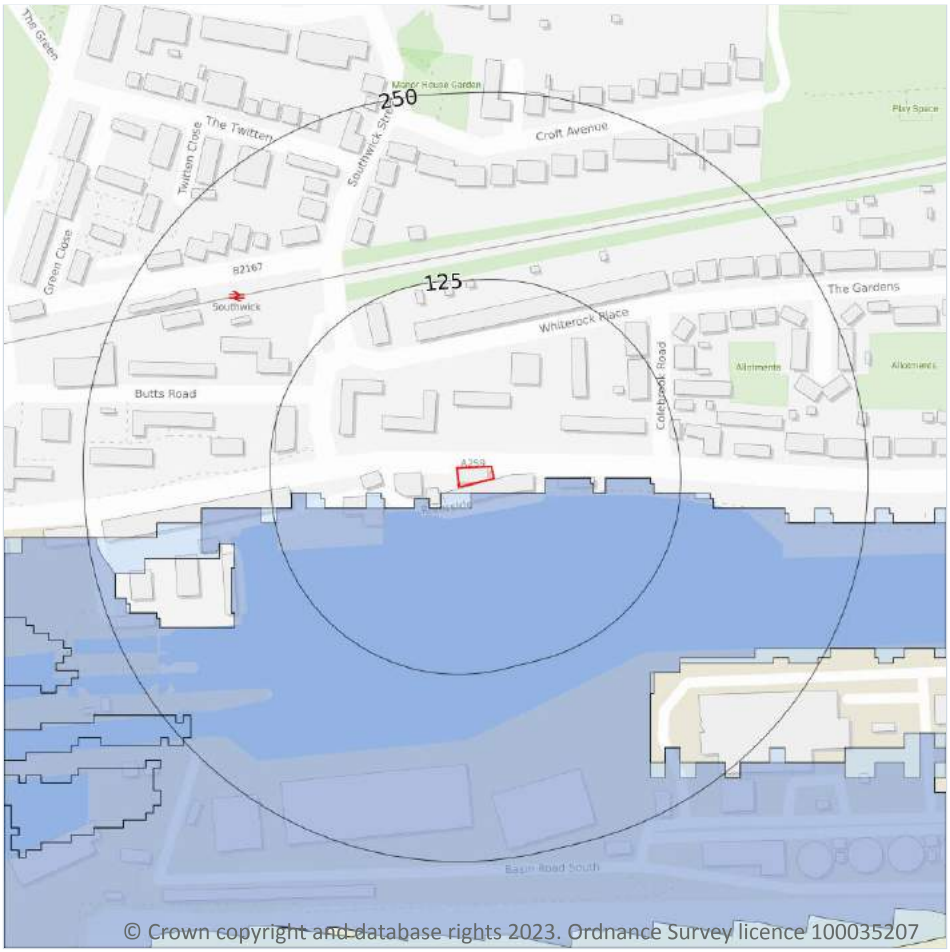
7.5 Flood Storage Areas

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 57 >**

Location	Type
4m SW	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

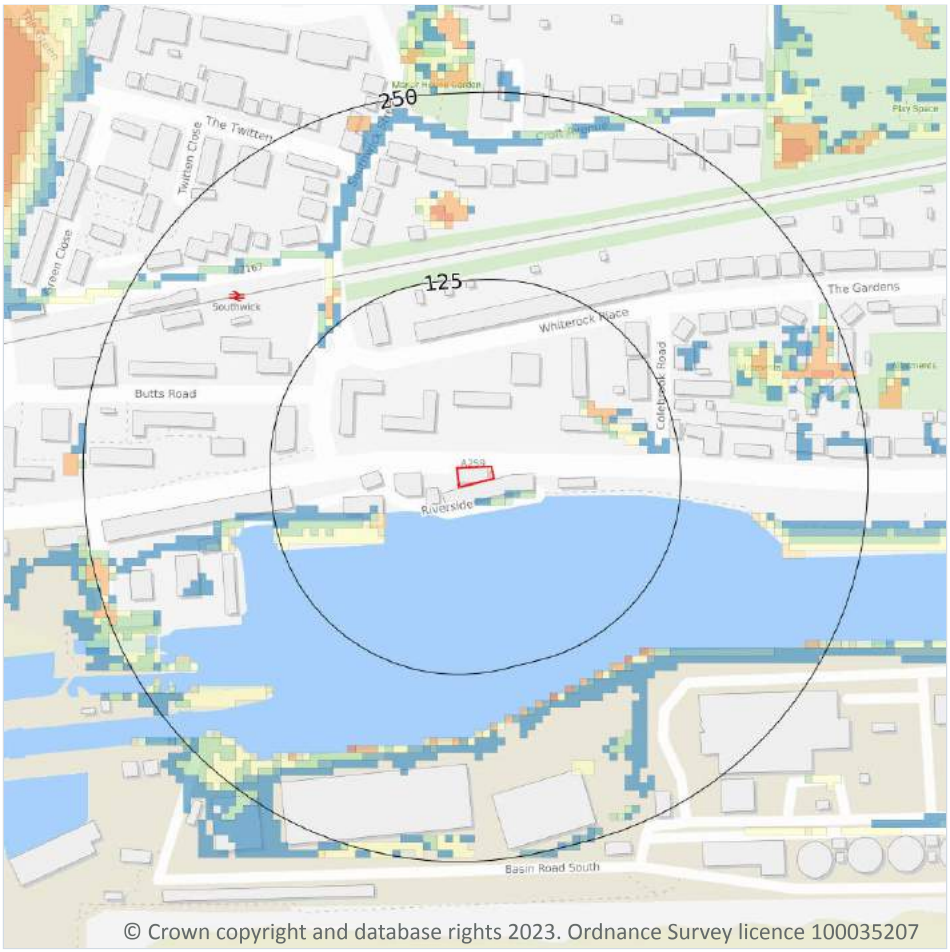
Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

Features are displayed on the River and coastal flooding map on **page 57 >**

Location	Type
6m S	Zone 3 - (Fluvial /Tidal Models)

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

8 Surface water flooding



Site Outline

Search buffers in metres (m)

1 in 1000 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 250 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 100 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 30 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

8.1 Surface water flooding

Highest risk on site	**Negligible**
Highest risk within 50m	**1 in 250 year, 0.3m - 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 61 >**

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	Negligible
1 in 250 year	Negligible
1 in 100 year	Negligible
1 in 30 year	Negligible

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding



9.1 Groundwater flooding

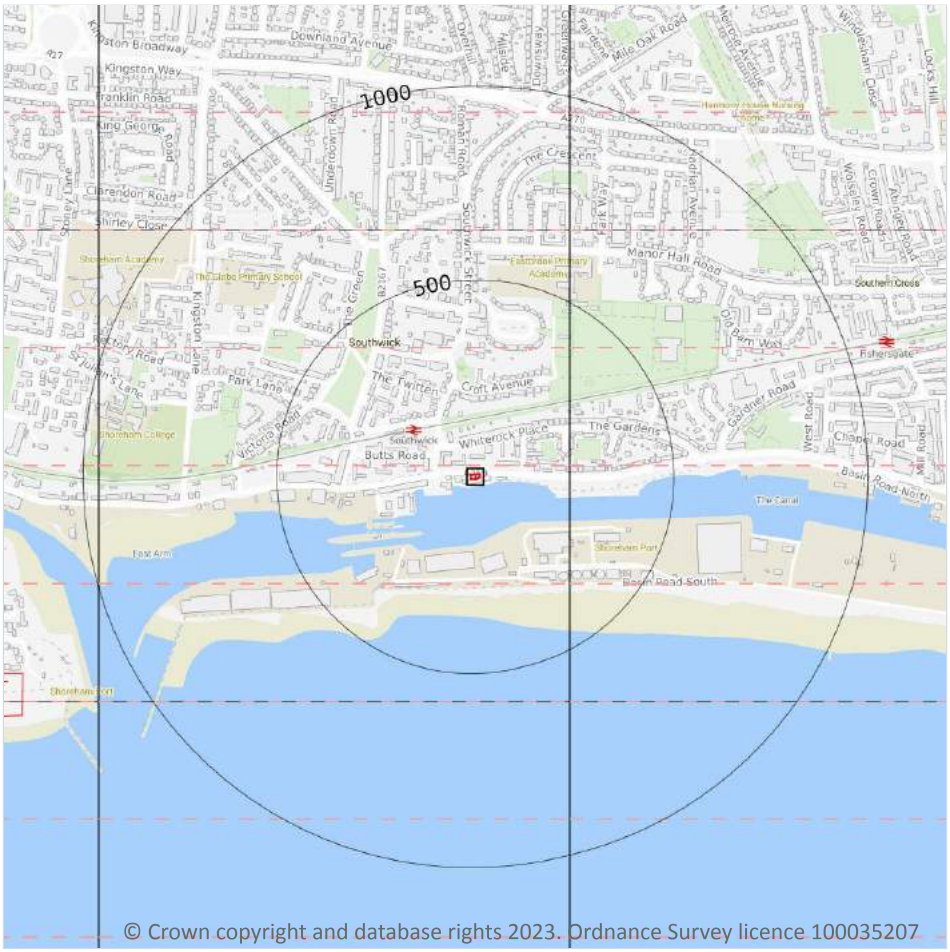
Highest risk on site	**Moderate**
Highest risk within 50m	**High**

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 63 >**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



Site Outline

Search buffers in metres (m)

Local Nature Reserves (LNR)

Biosphere Reserves

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	1

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.

Features are displayed on the Environmental designations map on **page 64 >**

ID	Location	Name	Data source
2	1260m SW	Shoreham Beach	Natural England

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

10.7 Designated Ancient Woodland

Records within 2000m	0

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.

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

10.8 Biosphere Reserves

Records within 2000m	1

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.

Features are displayed on the Environmental designations map on **page 64 >**

ID	Location	Name	Status
1	**On site**	**Brighton and Lewes Downs**	**Declared**

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

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

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

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

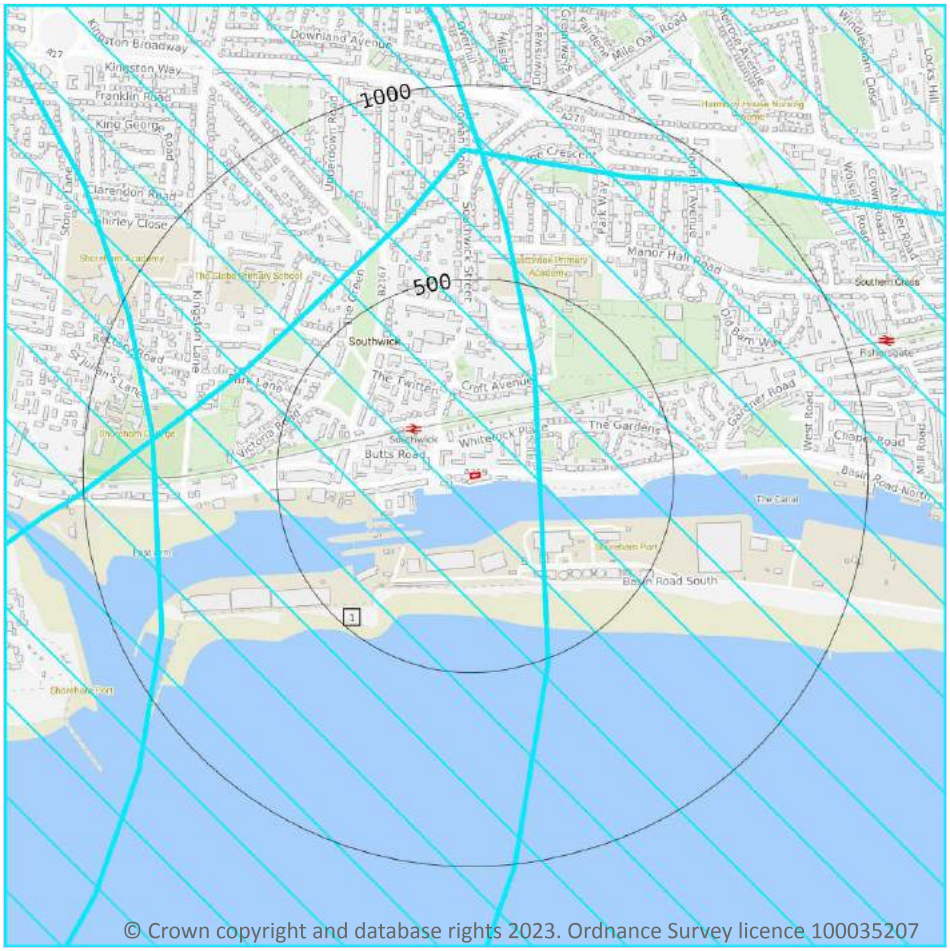
Records within 2000m	4

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
On site	**Sussex Chalk**	**Groundwater**	**56**	**Existing**
341m W	Sussex Chalk	Groundwater	56	Existing
946m N	Sussex Chalk	Groundwater	56	Existing
1006m N	Sussex Chalk	Groundwater	56	Existing

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

SSSI Impact Zones and Units



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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 69 >**

ID	Location	Type of developments requiring consultation
1	On site	**Infrastructure - Airports, helipads and other aviation proposals.** **Wind and Solar - Wind turbines.** **Minerals, Oil and Gas - Oil & gas exploration/extraction.** **Waste - Landfill. incl: inert landfill, non-hazardous landfill, hazardous landfill.**

This data is sourced from Natural England.

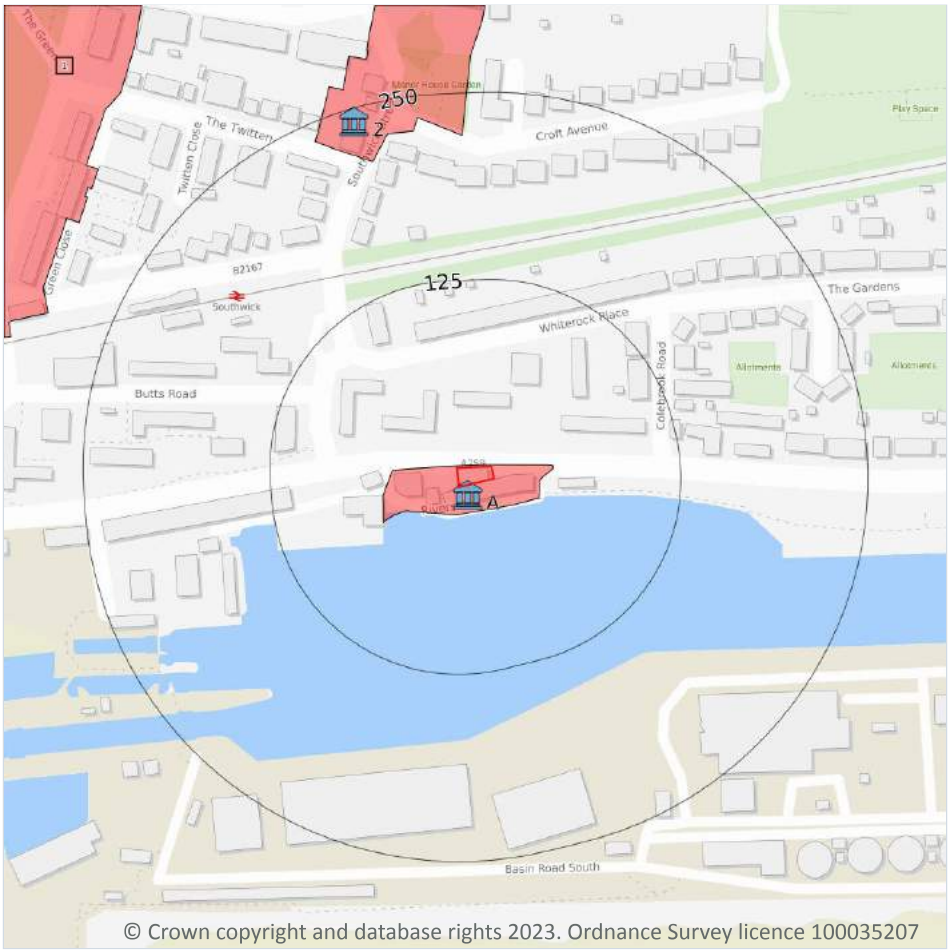
10.18 SSSI Units

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	2

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 71 >**

ID	Location	Name	Grade	Reference Number	Listed date
A	6m S	The Royal Sussex Yacht Club Boat Store, Eastbrook, Adur, West Sussex, BN42	II	1027860	15/05/1985
2	241m N	11, Southwick Street, Southwick Green, Adur, West Sussex, BN42	II	1193360	27/07/1984

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

11.5 Conservation Areas

Records within 250m	2

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 71 >**

ID	Location	Name	District	Date of designation
A	**On site**	**Southwick, Adur**	**Adur**	**06/1976**
1	212m N	Southwick, Adur	Adur	06/1976

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

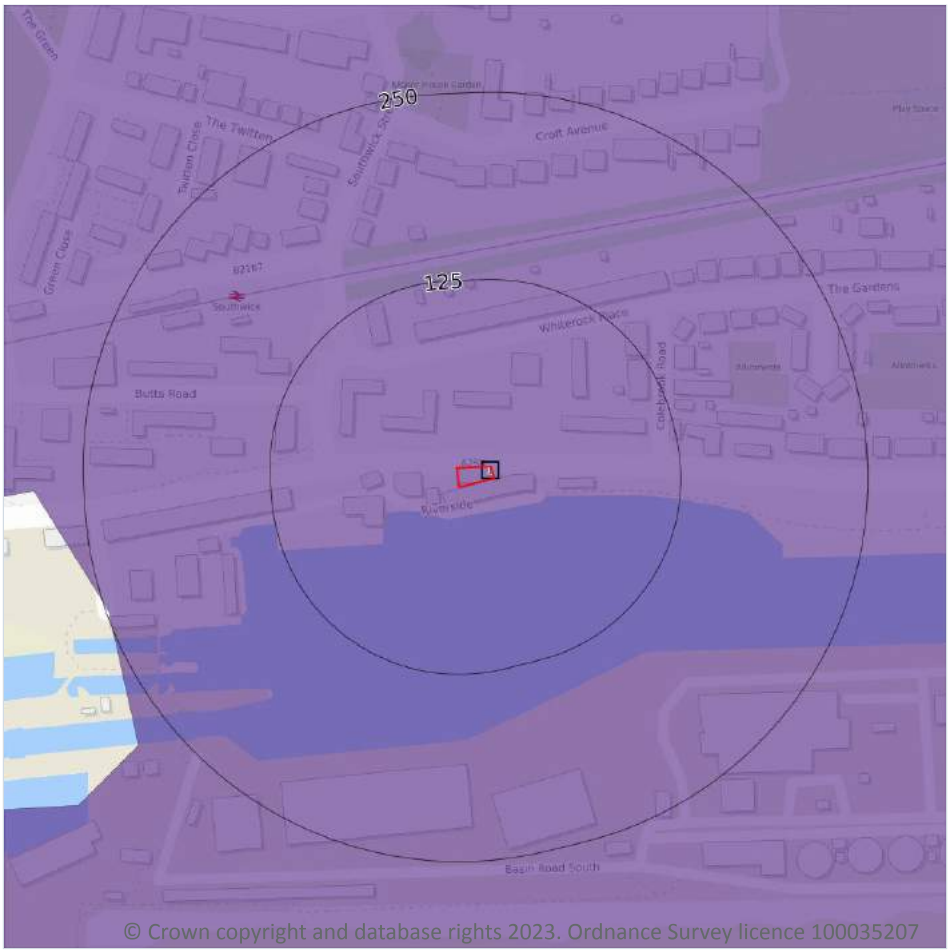
11.7 Registered Parks and Gardens

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 Historic England, 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	1

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 74 >**

ID	Location	Classification	Description
1	**On site**	**Urban**	-

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. The schemes identified may be historical schemes that have now expired, or may still be active.

This data is sourced from Natural England.

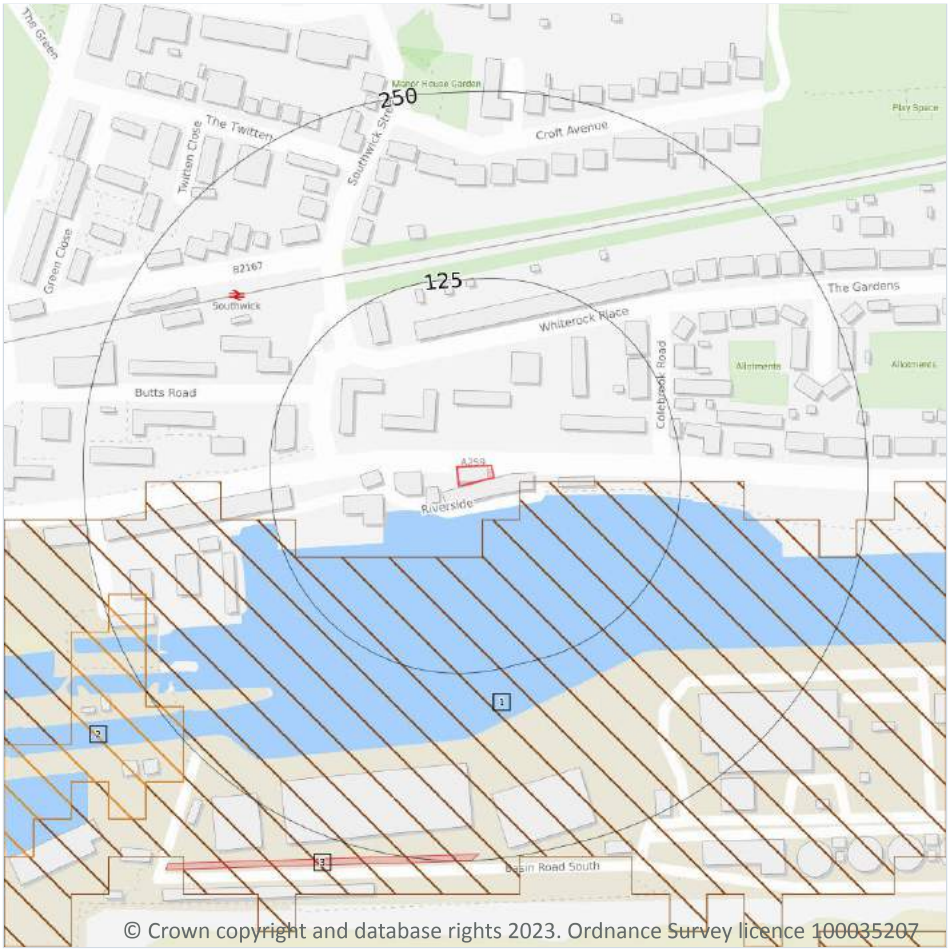
12.5 Countryside Stewardship Schemes

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 76 >**

ID	Location	Main Habitat	Other habitats
3	246m S	Good quality semi-improved grassland	Main habitat: GQSIG (INV > 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	2

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.

Features are displayed on the Habitat designations map on **page 76 >**

ID	Location	Type	Habitat
1	18m E	Network Enhancement Zone 2	Not specified
2	221m W	Network Enhancement Zone 1	Not specified

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	2

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 78 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**No coverage**	**TQ20NW**
2	22m S	Full	Full	Full	No coverage	TQ20SW

This data is sourced from the British Geological Survey.