



**GROUND CONTAMINATION
RISK ASSESSMENT REPORT**

**SOUTHWICK NURSERY
15 ROMAN WAY
SOUTHWICK
WEST SUSSEX**

PROJECT REFERENCE: P17510

REPORT REFERENCE: R17013

Report Beneficiary: Darren Tanner

Document Control			
Issue No.	Status	Issue Date	Notes
1	Final	19 th December 2025	
Report Section		Prepared By	Approved By
Preliminary Ground Contamination Risk Assessment		Stuart Card BA (Hons)	Alex Minchell-Bewick BSc MSc DIC MEnvSc CEnv
Factual Section		Stuart Card BA (Hons)	Rebecca Webb BSc FGS
Quantitative Ground Contamination Risk Assessment		Stuart Card BA (Hons)	Alex Minchell-Bewick BSc MSc DIC MEnvSc CEnv

Limitations

This report was prepared specifically for the Client's project and may not be appropriate to alternative schemes. The copyright for the report and licence for its use shall remain vested in Ashdown Site Investigation Limited (the Company) who disclaim all responsibility or liability (whether at common law or under the express or implied terms of the Contract between the Company and the Client) for any loss or damage of whatever nature in the event that this report is relied on by a third party, or is issued in circumstances or for projects for which it was not originally commissioned.

This report is not intended to be either an ecological, archaeological or flood risk assessment. An appropriate specialist should be consulted about any concerns that may arise in this regard.

Head Office:

Unit 3
The Old Grain Store
Ditchling Common Business Park
Ditchling
East Sussex
BN6 8SG

Telephone:

01273 483119

Email:

contact@ashdownsi.co.uk

Company Registration No.
242 6786



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 develop Southwick Nursery, located at 15 Roman Way, Southwick, West Sussex. The development proposals are understood to comprise the demolition of the existing nursery buildings and the construction of a 4 bed dwelling with areas of parking and private garden.

The site currently comprises a derelict nursery containing three greenhouses, an office (with suspected asbestos cement roof) and a wooden storage shed. A burner and chimney were located between two of the glasshouses and an above ground plastic oil tank to the east of the offices. Other areas on site were overgrown and various waste materials were observed throughout.

The site comprised part of an open field at the time of the earliest inspected historical map, dated 1873. A small glasshouse is shown in the northern part of the site by 1912. The site was shown to be developed as a nursery by the late 1960s. Aerial imagery indicates that a fourth glasshouse or polytunnel was formerly present in the east of the site.

Reference to geological datasets indicates that the site is expected to be underlain by the Head deposits overlying White Chalk Subgroup deposits. The ground investigation confirmed the underlying soils to comprise a shallow thickness of made ground, overlying Head deposits.

The Head deposits are classed as a Secondary Undifferentiated Aquifer. The White Chalk Subgroup is classed as a Principal Aquifer. The site does not lie within a SPZ. Groundwater seepages were not encountered during the drilling of the boreholes, though wet soils were noted in one borehole below 2.00m depth.

The site is reported to be within an area where between 5% and 10% of properties are above the action level requiring radon gas protection measures to be installed in new buildings and basic radon protection measures are identified to be required. A suitably qualified and experienced designer should design the radon protection measures for the development in accordance with the guidance presented in BRE211.

The preliminary contamination risk assessment identified potential pollutant linkages relating to proposed end users of the site and controlled waters.

The ground investigation recorded concentrations of lead above soil screening values for human health, and concentrations of petroleum hydrocarbons above the threshold value for the use of PE water supply pipe.

Further works could be considered to inform a more detailed assessment of the risk posed by lead within the made ground. If undertaken, such works should ideally be carried out following clearance of the site.

This report should be submitted to the Local Authority in support of an application to discharge planning Condition 6 part (1) and (2).

The conclusions drawn in this report should be considered as provisional until such time as the report has been accepted and the relevant conditions have been discharged. Agreement may need to be reached with

the Local Authority that demolition can proceed ahead of the full discharge of Condition 6, which is a pre-commencement condition.

TABLE OF CONTENTS

1.	INTRODUCTION	1
2.	SITE CONTEXT	2
2.1	Walkover Survey	2
2.2	Geological Data Review	4
2.3	Hydrogeological and Hydrological Data	7
3.	GEO-ENVIRONMENTAL DATA	8
3.1	Historical Industrial Sites	8
3.2	Landfill and Other Waste Sites	8
3.3	Current Industrial Land Use	9
3.4	Sensitive Land Use	9
3.5	Railway Infrastructure and Projects	9
4.	HISTORICAL MAP AND IMAGERY REVIEW	10
5.	PRELIMINARY CONTAMINATION RISK ASSESSMENT	11
5.1	Introduction	11
5.2	Contaminant Pathways Identified	11
5.3	Potential Contamination Sources Identified	11
5.4	Preliminary Conceptual Model	12
6.	SITE WORKS	13
6.1	Introduction	13
6.2	Exploratory Holes	13
6.3	Sampling	13
6.4	Laboratory Testing	13
7.	GROUND CONDITIONS	14
7.1	Stratigraphy	14
7.2	Stability	14
7.3	Groundwater Conditions	14
8.	QUANTITATIVE CONTAMINATION ASSESSMENT	15
8.1	Introduction	15
8.2	Analysis of Contamination Test Results	15
8.3	Quantitative Contamination Risk Assessment	18
8.4	Risks to Other Potential Receptors	19
8.5	Recommendations	19
8.6	Regulatory Approval	19

FIGURES AND APPENDICES

FIGURES

- Figure 1 Site Location Plan
- Figure 2 Site Plan

APPENDIX A

- Proposed Development Layout

APPENDIX B

- Decision Notice

APPENDIX C

- Classification of Probability, Consequence and Risk

APPENDIX D

- Preliminary Conceptual Model

APPENDIX E

- Explanatory Notes
- Exploratory Hole Records

APPENDIX F

- Laboratory Test Results

APPENDIX G

- Quantitative Conceptual Model

APPENDIX H

- Groundsure Enviro+Geo Insight Report
- Historical Maps

1. INTRODUCTION

It is proposed to develop Southwick Nursery, located at 15 Roman Way, Southwick, West Sussex. The development proposals are understood to comprise the demolition of the existing nursery buildings and the construction of a 4 bed dwelling with areas of parking and private garden. A copy of the proposed development layout is presented in Appendix A.

The development has been approved by Adur District Council, Planning Ref: ADW/1805/22. As part of the planning application, Environmental Health were consulted who requested the imposition of a planning condition with respect to contaminated land, which was incorporated as Condition 6 of the planning decision notice. A copy of the decision notice is included as Appendix B.

Ashdown Site Investigation Ltd was requested to undertake a ground investigation and to provide advice to assist with the discharge of Condition 6 part (1), (2) and the first part of (3).

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 Q15853, dated 24th October 2025. The instruction to proceed was received from Downsvue Associates on behalf of the client, Darren Tanner.

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) Test for the presence of contaminants identified by the preliminary conceptual model; and
- f) Develop a quantitative conceptual model of the site, refining the preliminary model to identify any pollutant linkages that may be present.

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

2. SITE CONTEXT

2.1 Walkover Survey

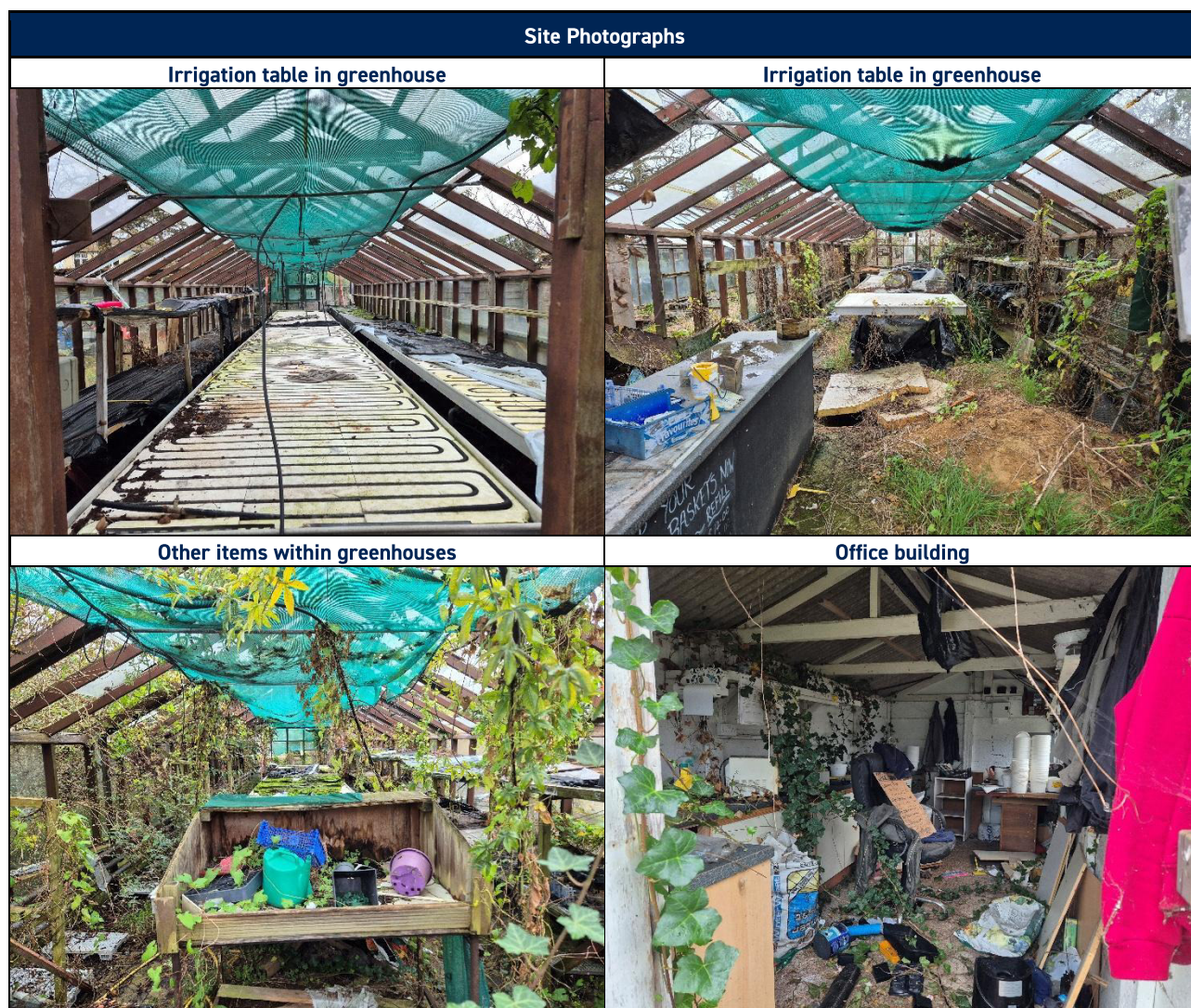
The site is located south of Roman Way, Southwick, West Sussex and is centred on the approximate Ordnance Survey national grid reference 524335, 105786. A site location plan and site plan are presented as Figure 1 and Figure 2, respectively.

The site was formerly used as a plant nursery but was largely derelict at the time of the walkover survey. Three greenhouses are located within the main area of the site, with an office building located to the north-west of the greenhouses and a wooden storage shed in the south-east of the site. The office building was observed to be roofed with corrugated cement panels, potentially containing asbestos.



Irrigation tables were located within the greenhouses along with other miscellaneous retail items. The office contained the remains of cupboards and other debris, and the storage shed was primarily empty.

A small wooden shed with a chimney, containing an incinerator, was located between the eastern two greenhouses.



The areas to the east and south of the southern greenhouse were overgrown and contained various waste materials, including gas canisters.

An above ground plastic oil tank was located against the northern boundary, to the east of the office. Piles of waste materials were present around this area.



The site is set within a primarily residential area.

2.2 Geological Data Review

2.2.1 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
Superficial	Head	Secondary Undifferentiated Aquifer
Bedrock	White Chalk Subgroup	Principal Aquifer

The superficial Head is a polymict deposit generally comprising clay and sandy clay with variable amounts of gravel and cobbles. The lithology of the Head reflects the nature of the parent solid strata; the gravel and cobble fraction comprising chalk and flint. 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. It may form infill to solution features within the chalk.

The White Chalk Subgroup comprises chalk with flints. The Subgroup contains discrete marl seams, nodular chalk and flint seams throughout. The formation is of Maastrichtian to Cenomanian age (66 to 100.5 million years old; Late Cretaceous). The subgroup is recorded by the BGS to range in thickness up to 470 to 515m in the Hampshire/Sussex Area.

2.2.2 BGS Borehole

No British Geological Survey (BGS) boreholes are identified within 100m of the site.

2.2.3 Mining and Ground Workings

Table 2. Mining and Ground Workings from Groundsure Data

Section	Groundsure Comment
BritPits	No BritPits are identified within 250m of the site.
Surface Ground Workings	A pond is recorded ~120m south-west of the site. A small <i>Unspecified Pit</i> is recorded 190m west of the site.
Underground Workings	No underground workings are identified within 250m of the site.
Underground Mining Extents	No records are identified within 250m of the site.
Historical Mineral Planning Areas	No records are identified within 250m of the site.
Non-Coal Mining	The site is identified to be in an area where underground mine workings for chalk are uncommon. Further information is presented below.
JPB Mining Areas	No records are identified on the site.
The Coal Authority – Non-Coal Mining	No records are identified within 250m of the site.
Researched Mining	No records are identified within 250m of the site.
Mining Record Office Plans	No records are identified within 250m of the site.
BGS Mine Plans	No records are identified within 250m of 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.

"Historically, chalk deposits were often mined locally. Most commonly historical mines characteristically comprise a narrow shaft with a number of chambers radiating from the base. These structures are colloquially known as "deneholes", "chalk-wells" or "chalkangles".

The depth of the features reflects the depth to the underlying chalk bedrock. The shaft width was commonly in the order of 2m to 3m, widening out into galleries at depth. The chalk was extracted for soil improvement and was usually applied directly to fields though sometimes the chalk was processed, typically by burning in kilns where the chalk was used to produce quicklime (calcium oxide).

Once they had reached their limits the mines were commonly capped. Various capping techniques were used; examples include the use of upturned trees or brick arching. Records pertaining to the distribution of these localised mines are incomplete, usually being limited to features marked as shafts or the occurrence of circular depressions on historic Ordnance Survey maps. In the field they are most likely to be visible as shallow depressions, if at all.

The British Geological Survey identifies the following mines and/or quarries within 1km of the site: Southwick Gravel Pit 442m west of the site, Merton House Chalk Pit 600m north-east of the site and Southwickhill Barn Chalk Pit 700m north-west of the site. A search of the Chelsea Speleological Society records revealed no records within 1km of the site.

Further assessment of the mining hazards can be undertaken, if required, to provide more detailed comment specific to the site.

2.2.4 Radon

Table 3. Radon

Section	Groundsure Comment
Radon Affected Areas	The site is reported to be within an area where between 5% and 10% of properties are above the action level requiring radon gas protection measures to be installed in new buildings.
Radon Protection Measures	Basic radon protection measures are reported to be required within new buildings.

2.2.5 Soil Chemistry

Table 4. BGS Estimated Background Soil Chemistry

Contaminant	Estimated Value (mg/kg)
Arsenic	15
Bioaccessible Arsenic	-
Lead	100-200
Bioaccessible Lead	60-120
Cadmium	1.8
Chromium	60-90
Nickel	15-30

2.3 Hydrogeological and Hydrological Data

2.3.1 Groundwater Abstractions

The closest groundwater abstraction licence is recorded to lie 190m to the north of the site. The abstraction is noted to be historical and is for process water.

2.3.2 Surface Water Abstractions

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

2.3.3 Potable Abstractions

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

2.3.4 Groundwater Vulnerability

The level of groundwater vulnerability, as reported within the Groundsure data, is Medium.

2.3.5 Groundwater Source Protection Zones (SPZ)

The Environment Agency defines SPZs as those areas where groundwater supplies are at risk from potentially polluting activities and accidental releases of pollutants. SPZs are primarily a policy tool used to control activities close to water supplies intended for human consumption.

The site does not lie within a SPZ.

2.3.6 Surface Water Features

No significant surface water features are recorded within 250m of the site.

2.3.7 Flood Risk

The table below summarises the flood risk data provided by the Groundsure report. It is noted that this does not constitute a flood risk assessment.

Table 5. Flood Risk

Section	On Site	Within 50m of the Site
Risk of Flooding from Rivers and Seas (RoFRaS)	None Identified	None Identified
Historical Flood Events	A historical flood event is recorded on site from 1960, with the flood source noted to be drainage.	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	None Identified

Section	On Site	Within 50m of the Site
Environment Agency Flood Zone 3	None Identified	None Identified
Surface Water Flooding	Highest Risk: 1 in 250 year Depth 0.1m – 0.3m	Highest Risk: 1 in 30 year Depth 0.1m – 0.3m
Groundwater Flooding	Highest Risk: Moderate-High	Highest Risk: Moderate-High

3. GEO-ENVIRONMENTAL DATA

3.1 Historical Industrial Sites

The following table summarises past land uses of the site and the surrounding area extracted by Groundsure from historical maps.

Table 6. Historical Industrial Sites

Section	Remarks
Historical Industrial Land Uses	The northernmost part of the site is identified to be part of a nursery that extends to the west of the site. The only other entry within 250m of the site is the unspecified ground working 190m west of the site.
Historical Tank Database	No historical tanks are identified within 100m of the site.
Historical Energy Features	An electricity substation is identified 19m north-west of the site. Given the distance from the site this is not considered to represent a potential source of contamination.
Historical Petrol Stations	No historical petrol stations are identified within 100m of the site.
Historical Garages	No historical garages are identified within 100m of the site.
Historical Military Sites	No historical military sites are identified within 100m of the site.

3.2 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	Groundsure Comments
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 Current Industrial Land Use

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

Table 8. Current Industrial Land Uses

Section	Groundsure Comments
Recent Industrial Land Use	The electricity substation discussed in Table 6 is identified 18m north-west of the site. No other recent industrial land uses are identified within 100m of the site.
National Geographic Database (NGD) – Current or Recent Tanks	No current or recent tanks are identified by the data within 100m of the site.
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	No COMAH sites are identified within 100m 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)	No pollution incidents are identified within 100m of the site.
Pollution Inventory Substances / Waste Transfers / Radioactive Waste	No records are identified within 100m of the site.

3.4 Sensitive Land Use

The site is located within a nitrate vulnerable zone (NVZ). The development proposals are not considered to pose a risk to the NVZ.

3.5 Railway Infrastructure and Projects

No current railway or associated features are identified within 250m of the site.

4. HISTORICAL MAP AND IMAGERY REVIEW

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

It is noted that maps and images present information applicable at the time of production of the maps or image captures, that maps are subject to surveying and cartographic errors and images to atmospheric conditions at the time of their capture. It is possible that significant developments may have taken place on or within the vicinity of the site that are not shown on the inspected maps and images.

'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 and Images

Map/Image Details	On-Site	In the Vicinity of the Site
1873 1:2,500	The site comprises part of an open field, which extends to the south, east and west of the site.	A formal garden, possibly an orchard is located to the north of the site.
1898 1:2,500		A nursery is shown ~20m north-west of the site. A small gravel pit is located to the 150m to the south of the site.
1912 1:2,500	A small glasshouse partly occupies the northern part of the site.	Buildings are located to the south of the site. The nursery to the north-west of the site has been expanded west. A ground working is shown 240m south-west of the site, the working is not labelled and appears to be levelling of an area of land rather than a pit. The gravel pit to the south of the site is no longer shown.
1932-33 1:2,500		A further building is shown to the south of the site. Further development is shown to the nursery to the north-west of the site.
1937 1:2,500		The ground working to the south-west of the site is only partially shown.
1951 1:1,250		Further expansion is shown of the nursery to the north-west of the site, with nursery buildings now shown ~20m to the west of the northern part of the site. The ground working to the south-west of the site is no longer shown.
1953-58 1:1,250		Residential development is shown to the north-east of the site.
1968-1969 1:1,250	The site has been developed as a nursery with three greenhouses shown on the footprints of the current structures. The office building is also shown along with a small structure to the east of the southernmost greenhouse.	The area around the site has been significantly redeveloped, with housing now bounding the site, including in the location of the former nursery.

Aerial imagery including up to 2021 shows a structure to the east of the southernmost greenhouse, which may have been a polytunnel or a greenhouse.

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 guidance¹. 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 C.

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 house with private garden. Pathways associated with gas and vapour intrusion into new buildings are considered to be valid, along with direct contact and dust related pathways, and pathways associated with the consumption of home grown produce.

The site is expected to be underlain by the Head deposits overlying the White Chalk Subgroup deposits, which are classed as a Principal Aquifer. Although the site is not located within a SPZ, and is located within an urban area, pathways relating to controlled waters may be reasonably considered to be present.

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

5.3 Potential Contamination Sources Identified

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

- Made ground from historical demolition of structures on site and in the vicinity of the site.
- Historical use of the site as a nursery, including burning and the presence of waste materials.
- Above ground oil tank.

¹ Contaminated Land Risk Assessment: A guide to good practice, CIRIA C552, 2001.

- The site is reported to be within an area where between 5% and 10% of properties are above the action level requiring radon gas protection measures to be installed in new buildings.

The potential contaminants associated with these sources are set out in the conceptual model.

There is no evidence to suggest the ground working 190m south-west of the site was significantly backfilled, and this is not considered to represent a viable source of ground gas generation.

Given the small size of the pond identified by the geo-environmental data and the small gravel pit 150m south of the site and the date of their backfilling, these are also not considered to be viable sources of ground gas generation.

It is noted that an asbestos survey of existing structures and infrastructure² was beyond the brief of this report. The risk assessment assumes that, should asbestos be identified within buildings or infrastructure, with particular reference to the suspected asbestos cement roof of the office, any such materials will be managed in accordance with current legislation and guidance, to ensure this does not represent an ongoing risk to end users and, specifically, to ensure that asbestos materials are not introduced into the underlying soils.

5.4 Preliminary Conceptual Model

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

² As defined under Section 5(a) of the Control of Asbestos Regulations, 2012.

6. SITE WORKS

6.1 Introduction

The intrusive site works comprised a series of dynamic sampler boreholes. The intrusive work was carried out on 27th November 2025. 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 E, which also includes explanatory notes to assist in their interpretation.

6.2 Exploratory Holes

The following table summarises the intrusive works undertaken at the site.

Table 11. Summary of Intrusive Works Undertaken

Designation	Depth (m bgl)	Method	Purpose
WS01	3.00	Dynamic Sampler	Adjacent to above ground oil tank
WS02	1.00	Dynamic Sampler	Non targeted spread of boreholes across the site
WS03	1.00	Dynamic Sampler	Adjacent to chimney and burner
WS04	1.00	Dynamic Sampler	Non targeted spread of boreholes across the site
WS05	3.00	Dynamic Sampler	Non targeted spread of boreholes across the site

6.3 Sampling

Samples of soil were taken from the exploratory holes at the depths shown in the exploratory hole records. The types of samples taken are indicated on the exploratory hole records. Details on the sample types are provided in the explanatory notes.

Where appropriate, samples 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 Laboratory Testing

Laboratory testing was scheduled by Ashdown Site Investigation Ltd.

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

Results from the laboratory tests are provided in Appendix F.

7. GROUND CONDITIONS

7.1 Stratigraphy

7.1.1 *Surface Covering*

Each of the exploratory holes was excavated through a surface cover of concrete some 170mm to 210mm in thickness.

7.1.2 *Made Ground/Reworked*

Made ground, generally comprising slightly gravelly clay was recorded to depths of between 0.30m and 0.80m below ground level. The gravel fraction comprised variable quantities of brick, chalk, charcoal-like material, crystalline rock, and flint.

In WS05, a silty clay layer with rare gravel of flint persisted to a depth of 1.00m below ground level, and whilst this layer did not contain any anthropogenic material, it appeared to have been reworked.

7.1.3 *Head*

Underlying the concrete surfacing and made ground or reworked soils (where encountered), the investigation progressed into undisturbed slightly gravelly to gravelly (flint) silty clay. These soils persisted to the full depth of boreholes WS01-WS04 and to a depth of 2.00m in WS05. Beneath the clays in WS05 a layer of very clayey gravel of flint was encountered to 2.80m depth overlying a sand deposit to the full depth of the borehole.

These deposits are considered to represent the Head deposits indicated to underlie the site on BGS geological maps.

7.2 Stability

Instability was recorded locally within the coarse-grained soils.

7.3 Groundwater Conditions

Each of the boreholes was recorded to remain dry during drilling, though it is noted the soils within WS01 were noted to be wet below 2.0m.

It should be noted that water levels within the exploratory holes 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. QUANTITATIVE CONTAMINATION ASSESSMENT

8.1 Introduction

Five samples of made ground from across the site were tested for concentrations of heavy metals, polycyclic aromatic hydrocarbons (PAH) compounds and petroleum hydrocarbons, and were screened for the presence of asbestos. This included samples taken from adjacent to the above ground tank (WS01) and the chimney/burner (WS03). A sample of the undisturbed Head deposits from WS01 was also tested for concentrations of petroleum hydrocarbons.

8.2 Analysis of Contamination Test Results

8.2.1 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)³ or, in lieu of an S4UL being developed for lead, the Category 4 Screening Level (C4SL)⁴.

In view of the development proposal, the SSV utilised in this assessment are those calculated for the generic "Residential with homegrown produce" land use.

For the assessment of risk to controlled waters a qualitative assessment has been undertaken based upon the concentrations of contaminants recorded within the soil samples and the information obtained about the sensitivity of the underlying strata or nearby surface water receptors.

8.2.2 Heavy Metals & Polycyclic Aromatic Hydrocarbon (PAH) Compounds

The following table summarises the SSV for heavy metals and PAH compounds, along with the maximum and minimum concentrations recorded.

Table 12. Summary of Test Results – Heavy Metals and PAH Compounds

Contaminant	SSV (mg/kg)	No. of Samples	Minimum Concentration (mg/kg)	Maximum concentration (mg/kg)	Limit of Detection (mg/kg)	No of exceedances
Arsenic	37	5	13	14	0.2	0
Water Soluble Boron	290	5	0.6	1.4	0.2	0
Cadmium	11	5	0.5	0.6	0.1	0
Chromium	910	5	18	21	0.15	0
Hexavalent Chromium	6	5	<LOD	<LOD	1	0
Copper	2400	5	19	31	0.2	0
Lead	200	5	45	760	0.3	1
Mercury	40	5	0.05	0.2	0.05	0

³ 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.

⁴ SP1010: Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination. Final Project Report, published by DEFRA, 2014.

Contaminant	SSV (mg/kg)	No. of Samples	Minimum Concentration (mg/kg)	Maximum concentration (mg/kg)	Limit of Detection (mg/kg)	No of exceedances
Nickel	180	5	17	22	1	0
Selenium	250	5	<LOD	0.6	0.5	0
Zinc	3700	5	98	200	1	0
Naphthalene	2.3	5	<LOD	0.07	0.03	0
Acenaphthylene	170	5	<LOD	<LOD	0.03	0
Acenaphthene	210	5	<LOD	<LOD	0.03	0
Fluorene	170	5	<LOD	<LOD	0.03	0
Phenanthrene	95	5	0.04	0.08	0.03	0
Anthracene	2400	5	<LOD	<LOD	0.03	0
Fluoranthene	280	5	0.1	0.21	0.03	0
Pyrene	620	5	0.09	0.19	0.03	0
Benz(a)anthracene	7.2	5	0.03	0.08	0.03	0
Chrysene	15	5	0.04	0.09	0.03	0
Benzo(b)fluoranthene	2.6	5	0.03	0.12	0.03	0
Benzo(k)fluoranthene	77	5	<LOD	0.04	0.03	0
Benzo(a)pyrene	2.2	5	<LOD	0.07	0.03	0
Indeno(123-cd)pyrene	27	5	<LOD	0.04	0.03	0
Dibenz(ah)anthracene	0.24	5	<LOD	<LOD	0.03	0
Benzo(ghi)perylene	320	5	<LOD	0.05	0.03	0

The sample of made ground from WS02 recorded a significantly elevated concentration of lead (760mg/kg) compared to its SSV (200mg/kg).

The made ground across the site was recorded to be very similar, containing similar gravel materials, and was recorded to similar depths across the site. In view of this, and in view of the level of detail provided by the intrusive works carried out to date, there is not considered to be sufficient data to designate the made ground soils within borehole WS02 as a "hot spot" or an outlier compared to made ground elsewhere on the site.

As there is the possibility for equally high concentrations of lead to be present in made ground elsewhere on the site then, without further testing, the made ground across the site should be considered to pose an unacceptable risk to end users where present in proposed soft landscaped areas, and remedial works will be necessary.

There is the potential that further sampling/testing and a detailed assessment using statistical techniques in accordance with CL:AIRE guidance⁵ could reduce the extent of remedial works required. If undertaken, it would be preferable to carry out such testing following clearance of the site.

⁵ CL:AIRE, Professional Guidance: Comparing Soil Contamination Data with a Critical Concentration, CL:AIRE 2020

At the concentrations recorded, none of the heavy metals or PAH compounds would be expected to exhibit significant mobility within the soils and are therefore not considered to pose an unacceptable risk to controlled waters beneath the site.

8.2.3 Asbestos

No suspected asbestos materials were noted within any of the exploratory holes undertaken at the site. None of the samples recorded the presence of any asbestos materials.

There is not considered to be an unacceptable risk to end users from asbestos materials within soils. Due to the heterogeneity of made ground, there will always remain the potential for localised asbestos materials to be encountered during construction works, though the likelihood of this is considered to be very low. All workers at the site should be made aware of what actions to take in the event that suspected asbestos materials are identified at any time during the development works.

8.2.4 Petroleum Hydrocarbons

The following table lists the SSV for petroleum hydrocarbon equivalent carbon weight fractions and BTEX compounds calculated for 1% organic content.

Table 13. SSV 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	70
Aliphatic EC >6-8	100	Aromatic EC >7-8	130
Aliphatic EC >8-10	27	Aromatic EC >8-10	34
Aliphatic EC >10-12	130	Aromatic EC >10-12	74
Aliphatic EC >12-16	1100	Aromatic EC >12-16	140
Aliphatic EC >16-35	65000	Aromatic EC >16-21	260
Aliphatic EC >35-44	65000	Aromatic EC >21-35	1100
		Aromatic EC >35-44	1100

Whilst full speciation of the concentrations of petroleum hydrocarbons by aromatic and aliphatic fractions was not undertaken in all samples, the results of the testing undertaken can still be compared with the more stringent of the screening values for the respective equivalent carbon weight fraction and, where the concentration recorded is found to be lower, it can be reasonably concluded that no significant risk is present.

No visual or olfactory evidence of suspected petroleum hydrocarbon contamination was observed in any of the boreholes.

No detectable concentrations of petroleum hydrocarbons were recorded in either of the samples taken from WS01, located adjacent to the above ground tank.

None of the other samples tested recorded concentrations of individual fractions above the more conservative screening values. In the absence of evidence of any significant or widespread petroleum hydrocarbon contamination there is not considered to be an unacceptable risk to end users or to controlled waters beneath the site.

However, in the event that any visual or olfactory evidence of suspected contamination is encountered following site clearance then further works may be required to assess any such areas.

Comparison of the test results for petroleum hydrocarbons has been undertaken with the threshold value for PE water supply pipework⁶. Concentrations exceeding the threshold value have been recorded and protective pipework (e.g. barrier pipe) may be required by the local water supply company.

It is strongly recommended that designers consult with the local water supply company to determine the specific water supply pipe material required to be used, or whether they require further laboratory testing and assessment specific to proposed routes of services.

8.3 Quantitative Contamination Risk Assessment

8.3.1 Contaminant Pathways Identified

The development is to comprise a new residential building together with areas of private garden. Pathways associated with gas and vapour intrusion into new buildings are considered to be valid, along with direct contact and dust related pathways, and pathways associated with the consumption of home grown produce.

The site is underlain by the Head deposits, which are classified as a Secondary Undifferentiated Aquifer. However, the Head deposits are recorded to be overlying the White Chalk Subgroup deposits, which are classed as a Principal Aquifer. Although the site is not located within a SPZ, and is located within an urban area, pathways relating to controlled waters may be reasonably considered to be present.

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

8.3.2 Contamination Source Identified

The following source of contamination has been identified by the quantitative contamination risk assessment:

- Made ground soils across the site.
- The site is reported to be within an area where between 5% and 10% of properties are above the action level requiring radon gas protection measures to be installed in new buildings.

8.3.3 Quantitative Conceptual Model

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

⁶ Set out within Table 3.1 of the Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites, UK Water Industry Research, 2010.

8.4 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 what actions they must take in the event that further evidence of contamination is identified or suspected.

8.5 Recommendations

If no further investigation works are undertaken, then a remediation strategy, including a discovery strategy, should be prepared setting out the necessary measures to safeguard end users from the made ground soils in any proposed areas of soft landscaping.

If further investigation works are undertaken to assess the risk from the made ground in more detail, then the findings of these should be presented within a supplementary risk assessment report. If it is concluded that remedial works are still necessary, then an appropriate remediation strategy should be included within the report.

It should be assumed that barrier pipe is required for new water supply runs, unless confirmed otherwise by the water supply company.

A suitably qualified and experienced designer should design the radon protection measures for the development in accordance with the guidance presented in BRE211⁷, and installed by a specialised installer with third party verification as recommended in Section 7 of BRE211.

8.6 Regulatory Approval

This report should be submitted to the Local Authority in support of an application to discharge planning Condition 6 part (1) and (2).

The conclusions drawn in this report should be considered as provisional until such time as the report has been accepted and the relevant conditions have been discharged. Agreement may need to be reached with the Local Authority that demolition can proceed ahead of the full discharge of Condition 6, which is a pre-commencement condition. Details regarding the installation and verification of the radon protection measures may also be required to enable the discharge of Condition 6.

⁷ BRE211, Guidance on protective measures for new buildings (including supplementary advice for extensions, conversions and refurbishment projects), 2023 Edition, BRE.

FIGURES

- Figure 1 Site Location Plan
- Figure 2 Site Plan



Head Office

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

Site

Southwick Nursery
15 Roman Way
Southwick
West Sussex

Project Ref

P17510

Figure No

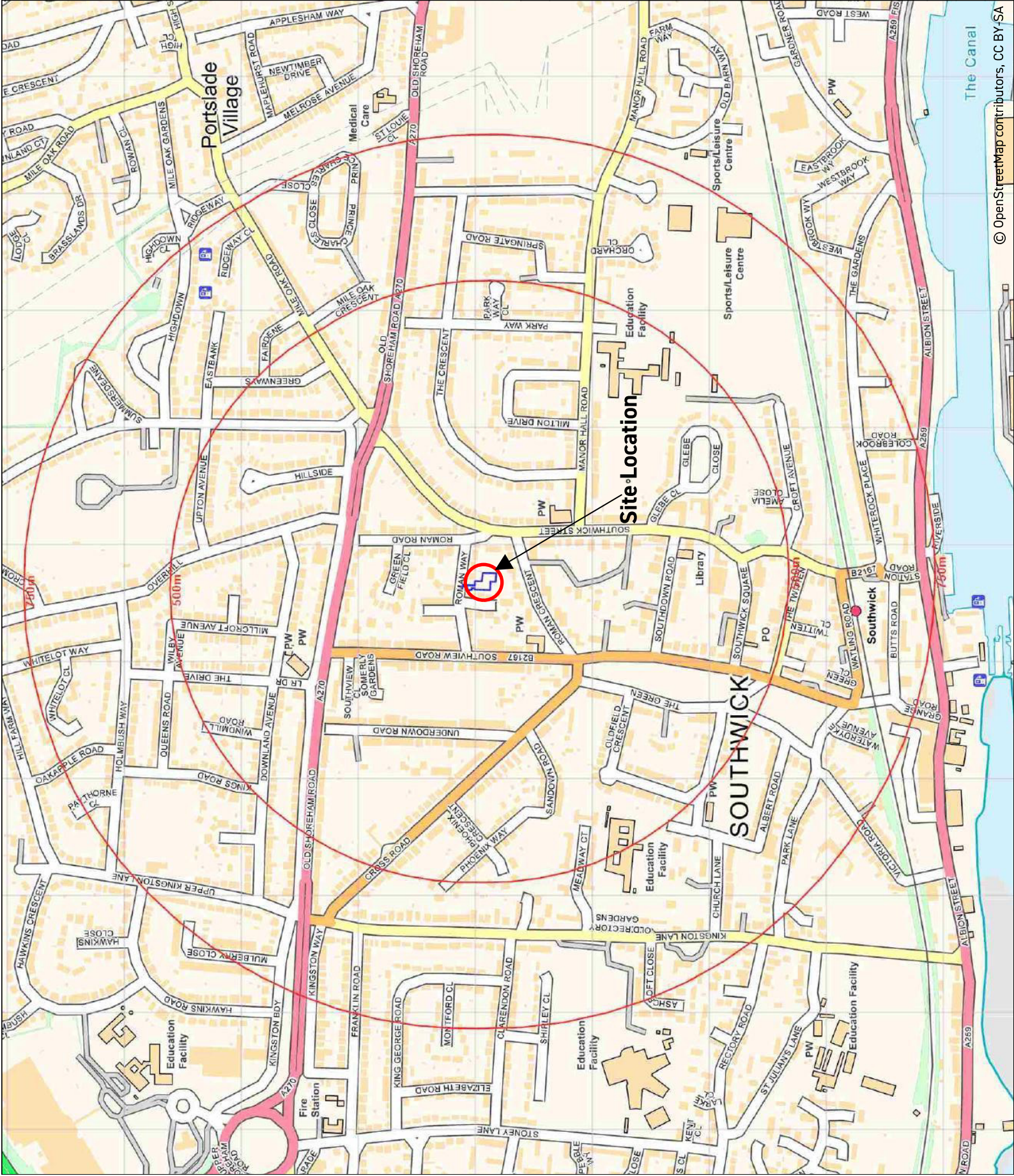
1

Drawing Title

Site Location Plan

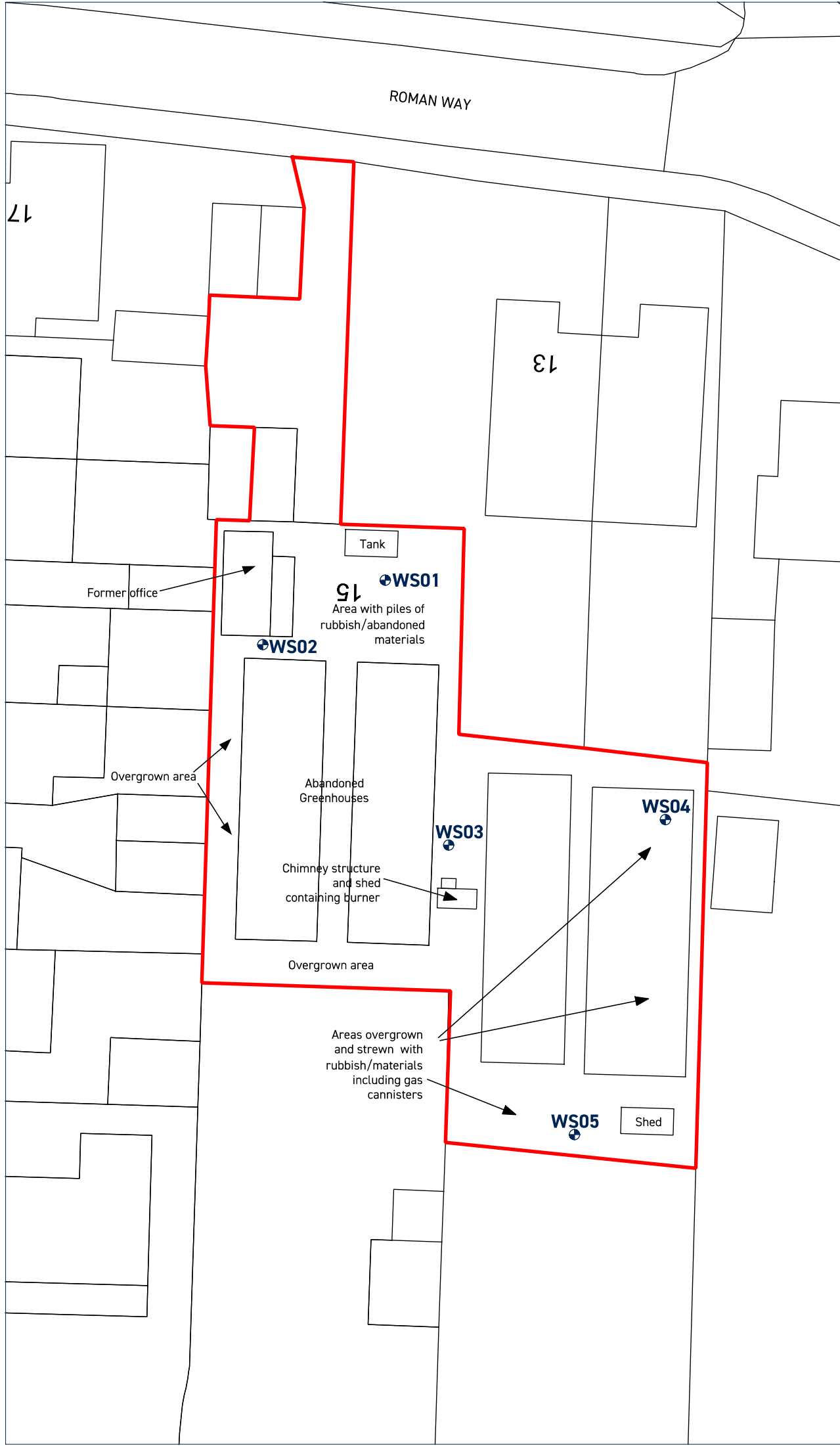
Scale

Not To Scale





ROMAN WAY



Head Office

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

Site

Southwick Nursery
15 Roman Way
Southwick
West Sussex

Project Ref

P17510

Figure No

2

Drawing Title

Site Plan

Scale

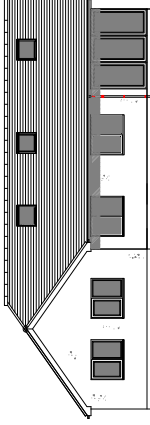
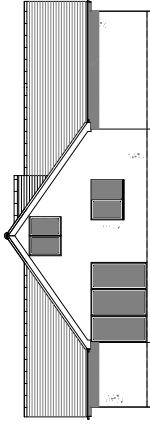
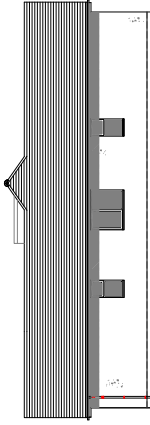
Not To Scale

APPENDIX A

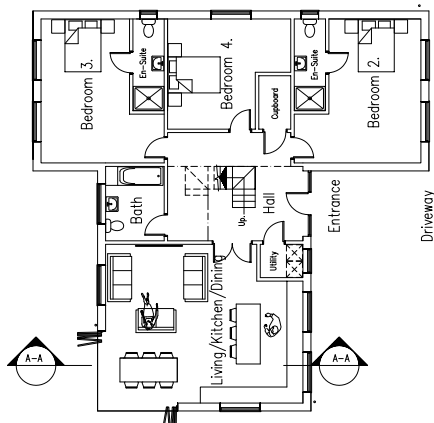
Proposed Development Layout

Fig. 1

Fig. 2



1:100 Scale Bar



1m 2m 3m 4m 5m 6m 7m 8m 9m 10m

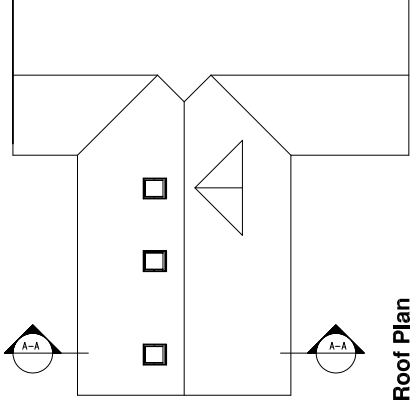
1:100 Scale Bar

Diagram of a house cross-section. The roof is sloped with a height of 1.7m. The interior space is divided into a 'Bedroom' and a 'Living/kitchen/Dining' area. A person is shown sitting on the bed in the bedroom. A label 'south facing rooflights call height 1.7m' points to the roof structure.

1m 2m 3m 4m 5m 6m 7m 8m 9m 10m
1:100 Scale Bar

[illegible]

1m 2m 3m 4m 5m 6m 7m 8m 9m 10m
1:100 Scale Bar



1m 2m 3m 4m 5m 6m 7m 8m 9m 10m
1:100 Scale Bar



1:200 Scale Bar

1m 5m 10m

NOTES:
MATERIALS:
ROOF: smooth grey tile
WALLS: Rendered white
WINDOWS & DOORS: UPVC double glazed windows and doors
New 2 metre high timber fence erected around site boundary
Rainwater gullies connected into new soakways
Paving graded to level access front door
New inspection chamber to connect to existing F/W run

DO NOT SCALE FROM THIS DRAWING EXCEPT FOR PLANNING AS PHOTOGRAPHS WILL BE SUBJECT TO DISTORTION. DRAWINGS TO BE READ IN CONJUNCTION WITH ALL OTHER ARCHITECT'S & STRUCTURAL ENGINEER'S CONTRACT DRAWINGS & SPECIFICATIONS. ANY DISCREPANCIES MUST BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IMMEDIATELY. THE CONTRACTOR MUST VERIFY ALL DIMENSIONS BY SITE MEASUREMENTS OF EXISTING MATERIALS OR MANUFACTURING COMPONENTS. SUBSTITUTE MATERIALS & PRODUCTS TO THOSE NAMED WILL BE ACCEPTABLE IF PROVEN TO BE OF EQUAL OR HIGHER PERFORMANCE AND NOT IN CONFLICT WITH OTHER ELEMENTS.

F	2-2-2023	Wife's biology removed from east elevation
---	----------	--

Project: Proposed Development
At: Southwick Nursery
15 Roman Way
Southwick
Brighton
BN42 4TN

Drawing Title:

Client: Darren Tanner

© Copyright of:

BJW
 01273 441009
 07528 99101
 email: info@bjwarchitectural.co.uk
 website: bjwarchitectural.co.uk

Scale:	As Shown	Paper size	A1
Date:	24.10.2022	Drawn:	BUJ
Drp. No.	03	Rev'n	E



APPENDIX B

Decision Notice



ADUR DISTRICT
COUNCIL

Ms Debbie Marriage
DJM Town Planning
16 Faidene
Southwick
Brighton
BN42 4QN

PLANNING PERMISSION

TOWN AND COUNTRY PLANNING ACT 1990
TOWN AND COUNTRY PLANNING (GENERAL PERMITTED DEVELOPMENT) (AMENDMENT) (ENGLAND) ORDER 2015

APPLICATION NUMBER: AWDM/1805/22

Details of Development

DEMOLITION OF NURSERY BUILDINGS AND CONSTRUCTION OF 1NO. CHALET BUNGALOW

Location of Development

SOUTHWICK NURSERY 15 ROMAN WAY SOUTHWICK WEST SUSSEX BN42 4TN

In pursuance of their powers under the above-mentioned Act and Order the Council hereby notify you that they PERMIT the above development, in accordance with the application and relevant correspondence registered on 3rd November 2022.

This is for reasons stated on the schedule overleaf and subject to compliance with the conditions specified thereon.

A handwritten signature in black ink that reads 'G Peck'.

Gary Peck
Planning Services Manager
03/02/2023

SCHEDULE

Conditions

01. The development hereby permitted shall be carried out in accordance with the following approved plans unless specified otherwise in a subsequent condition imposed on this decision notice.

Reference/Drawing Number	Version	Date Rec
BLOCK & LOCATION PLAN	Drg 04	03.11.2022
PLANS & ELEVATIONS AS PROPOSED	Drg 03 Rev E	02.02.2023

Reason: *For the avoidance of doubt and in the interests of proper planning.*

02. The development hereby permitted shall be begun before the expiration of 3 years from the date of this permission.

Reason: *To comply with Section 91 of the Town and Country Planning Act 1990.*

03. No development shall take place, including any works of demolition, until a Construction Management Plan has been submitted to and approved in writing by the Local Planning Authority. Thereafter the approved Plan shall be implemented and adhered to throughout the entire construction period. The Plan shall provide details as appropriate but not necessarily be restricted to the following matters:-
- the anticipated number, frequency and types of vehicles used during construction
 - HGV construction traffic routings shall be designed to minimise journey distance through the AQMA's;
 - the method of access and routing of vehicles during construction;
 - the parking of vehicles by site operatives and visitors;
 - the loading and unloading of plant, materials and waste;
 - the storage of plant and materials used in construction of the development;
 - the erection and maintenance of security hoarding;
 - a commitment to no burning on site;
 - the provision of wheel washing facilities and other works required to mitigate the impact of construction upon the public highway (including the provision of temporary Traffic Regulation Orders);
 - details of public engagement both prior to and during construction works; and
 - methods to control dust from the site.

Reason: *In the interests of highway safety and amenity having regard to policies 28 and 34 of the Adur Local Plan.*

04. Works of construction or demolition, including the use of plant and machinery, necessary for implementation of this consent shall be limited to the following times:-

Monday - Friday 08:00 - 18:00 Hours

Saturday 09:00 - 13:00 Hours

Sundays and Bank Holidays no work permitted

Any temporary exception to these working hours shall be agreed in writing by the Local Planning Authority at least five days in advance of works commencing. The contractor shall notify the local residents in writing at least three days before any such works.

Reason: *In the interests of residential amenity having regard to policy 34 of the Adur Local Plan.*

05. Development shall not commence, other than works of site survey and investigation, until full details of the proposed surface water drainage scheme have been submitted to and approved in writing by the Local Planning Authority. The design should follow the hierarchy of preference for different types of surface water drainage disposal systems as set out in Approved Document H of the Building Regulations, and the recommendations of the SuDS Manual produced by CIRIA. Winter groundwater monitoring to establish highest annual ground water levels and winter infiltration testing to BRE DG365, or similar approved, will be required to support the design of any Infiltration drainage. No building / No part of the extended building shall be occupied until the complete surface water drainage system serving the property has been implemented in accordance with the agreed details and the details so agreed shall be maintained in good working order in perpetuity

Reason: *To ensure that the proposed development is satisfactorily drained in accordance with policy 36 of the Adur Local Plan.*

06. Prior to commencement of the development hereby approved (or such other date or stage in development as may be agreed in writing with the Local Planning Authority), the following components of a scheme to deal with the risks associated with contamination of the site shall each be submitted to and approved in writing by the Local Planning Authority:

(1) A preliminary risk assessment which has identified: all previous uses; potential contaminants associated with those uses; a conceptual model of the site indicating sources, pathways and receptors; and potentially unacceptable risks arising from contamination at the site.

(2) A site investigation scheme, based on (1) above to provide information for a detailed assessment of the risk to all receptors that may be affected, including those off site.

(3) The site investigation results and the detailed risk assessment (2) and, based on these, an options appraisal and remediation strategy giving full details of the remediation measures required and how they are to be undertaken.

(4) A verification plan providing details of the data that will be collected in order to demonstrate that the works set out in (3) are complete and identifying any requirements for longer-term monitoring of pollutant linkages, maintenance and

arrangements for contingency action. Any changes to these components require the express consent of the Local Planning Authority.

The scheme shall be implemented as approved above and, prior to commencement of any construction work (or such other date or stage in development as may be agreed in writing with the Local Planning Authority), a Verification Report demonstrating completion of the works set out in the approved remediation strategy and the effectiveness of the remediation shall be submitted to and approved in writing by the Local Planning Authority. The report shall include results of sampling and monitoring carried out in accordance with the approved verification plan to demonstrate that the site remediation criteria have been met. It shall also include any plan (a 'long-term monitoring and maintenance plan') for longer-term monitoring of pollutant linkages, maintenance and arrangements for contingency action, as identified in the verification plan, and for the reporting of this to the Local Planning Authority.

Reason: *To prevent pollution of groundwater and in the interests of environmental protection and public health and safety, in compliance with the National Planning Policy Framework and policies 34 and 35 of the Adur Local Plan.*

07. No development shall be carried out unless and until a schedule of materials and finishes to be used for the external walls (including windows and doors) and roof of the proposed building has been submitted to and approved in writing by the Local Planning Authority and the development shall be completed in accordance with the approved schedule.

Reason: *In the interests of visual amenity and to comply with policy 15 of the Adur Local Plan.*

08. No part of the development shall be first occupied until covered and secure cycle parking spaces have been provided in accordance with plans and details submitted to and approved by the Local Planning Authority.

Reason: *To provide alternative travel options to the use of the car in accordance with current sustainable transport policies.*

09. No part of the development shall be first occupied until the vehicle parking, EV charging points and turning spaces have been constructed in accordance with details to be submitted and approved by the Local Planning Authority. These spaces shall thereafter be retained for their designated use

Reason: *To provide adequate on-site car parking and turning space for the development having regard to policy 28 of the Adur Local Plan.*

10. Notwithstanding the provisions of the Town and Country Planning General Permitted Development Order 2015 as amended (or any Order revoking and re-enacting that Order with or without modification), no windows or other openings (other than as hereby approved) shall be formed in the roofslope of the building.

Reason: *To prevent overlooking and to comply with policy 15 of the Adur Local Plan.*

11. Notwithstanding the provisions of the Town and Country Planning General Permitted Development Order 2015 (or any order revoking and re-enacting that Order with or without modification), the proposed dwelling shall not be extended or altered by means of any development as set out within Classes A, AA, B, C, D and E of Part 1 and Class L of Part 4 of the Schedule to that Order.

Reason: *In the interests of amenity and the environment having regard to the nature of the site and policy 15 of the Adur Local Plan.*

12. No development above slab level shall take place until details of the ground source heat pump and its location have been submitted to and approved in writing by the Local Planning Authority. The dwelling shall not be occupied until the heat pump has been installed in accordance with the approved details.

Reason: *To ensure that the development is sustainable and makes efficient use of energy having regard to the National Planning Policy Framework and policy 18 of the Adur Local Plan.*

Informatives / Notes to Applicant

01. The Local Planning Authority has acted positively and proactively in determining this application by identifying matters of concern within the application (as originally submitted) and negotiating, with the Applicant, acceptable amendments to the proposal to address those concerns. As a result, the Local Planning Authority has been able to grant planning permission for an acceptable proposal, in accordance with the presumption in favour of sustainable development, as set out within the National Planning Policy Framework.
02. Infiltration rates for soakage structures are to be based on percolation tests undertaken in the winter period and at the location and depth of the proposed structures. The infiltration tests must be carried out in accordance with BRE365, CIRIA R156 or a similar approved method. All design storms must include a climate change allowance, as per <https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances>, on stored volumes or rainfall intensity. Infiltration structures must cater for the critical 1 in 10 year storm event, (plus 40%) between the invert of the entry pipe to the soakaway and the base of the structure. All surface water drainage design must also have provision to ensure there is capacity in the system to contain the critical 1 in 100 year storm event (plus 45%).

Adequate freeboard must be provided between the base of the soakaway structure and the highest recorded annual groundwater level identified in that location. Any SuDS or soakaway design must include adequate groundwater monitoring data to determine the highest groundwater table in support of the design. The applicant is advised to discuss the extent of ground water monitoring with the council's engineers. Further detail regarding our requirements are

available on the following webpage:

<https://www.adurworthing.gov.uk/planning/applications/submit-fees-forms>.

A surface water drainage checklist is available on this webpage. This clearly sets out our requirements for avoiding pre-commencement conditions, or to discharge conditions.

**TOWN AND COUNTRY PLANNING ACT 1990
TOWN AND COUNTRY PLANNING (GENERAL PERMITTED DEVELOPMENT) (AMENDMENT)
(ENGLAND) ORDER 2015**

YOUR ATTENTION IS DIRECTED TO THE FOLLOWING NOTES FROM THE ABOVE ORDER. THEY ARE FOR INFORMATION ONLY AND DO NOT PRETEND TO SET OUT THE WHOLE OF THE LAW ON THE SUBJECT. IT WOULD BE WELL FOR YOU TO CONSULT YOUR SOLICITOR IF YOU ARE IN ANY DOUBT

Appeals to the Secretary of State

1. If you are aggrieved by the decision of your local planning authority to refuse permission for the proposed development or to grant it subject to conditions, then you can appeal to the Secretary of State under section 78 of the Town and Country Planning Act 1990.
2. If the decision relates to a householder application or minor commercial application, and you want to appeal, then you must do so within 12 weeks of the date of this notice. If the decision relates to express consent for the display of an advertisement, then you must do so within 8 weeks of the date of this notice. If the decision relates to a non-householder application, an appeal must be lodged within 6 months of the date of the decision notice. Appeals must be made using a form which you can get from the Secretary of State at Temple Quay House, 2 The Square, Temple Quay, Bristol BS1 6PN (Tel: 0303 444 5000) or online at <https://acp.planninginspectorate.gov.uk>.
3. The Secretary of State can allow a longer period for giving notice of an appeal, but he will not normally be prepared to use this power unless there are special circumstances, which excuse the delay in giving notice of appeal.
4. The Secretary of State need not consider an appeal if it seems to him that the local planning authority could not have granted planning permission for the proposed development or could not have granted it without the conditions they imposed, having regard to the statutory requirements, to the provisions of any development order and to any directions given under a development order.
5. In practice, the Secretary of State does not refuse to consider appeals solely because the local planning authority based their decision on a direction given by him.

Purchase Notices

6. If either the local planning authority or the Secretary of State refuses permission to develop land or grants it subject to conditions, the owner may claim that he can neither put the land to a reasonably beneficial use in its existing state nor render the land capable of a reasonably beneficial use by the carrying out of any development which has been or would be permitted. In these circumstances, the owner may serve a purchase notice on the District Council in whose area the land is situated. This notice will require the Council to purchase his interest in the land in accordance with the provisions of Part VI of the Town and Planning Act 1990.
7. Where this notice conveys approval or permission, conditional or unconditional, please note that the decision given does not purport to convey any consent or approval which may be required under the Building Act and Building Regulations, or any other legislation.

Reduced time for making a planning appeal where enforcement action is being taken

Where an enforcement notice has been served in relation to the same, or substantially the same, development as in the planning application no earlier than 2 years before the date the application was made, the period for receiving a planning appeal is within 28 days of the date on the planning application decision notice or of the date by which the LPA should have decided the application.

However, the LPA may formally decline to determine a retrospective planning application for permission for any development contained within a pre-existing enforcement notice served on or after 6 April 2012,

where that notice was issued before the application was received by the LPA (see above). There is no right to make a planning appeal in such circumstances.

Where an enforcement notice was served in relation to the same, or substantially the same, development after the decision notice on the application was issued or after the end of the period the LPA had to determine the application, the period for receiving a planning appeal is within 28 days of the date the enforcement notice was served (unless this would extend the period beyond the normal 12 weeks or 6 months deadline).

APPENDIX C

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 D

Preliminary Conceptual Model

Potential Source	Potential Receptor	Potential Contaminants	Potential Pathway	Complete Linkage Present?	Probability	Consequence	Risk
Made ground from historical demolition of structures on site and in the vicinity of the site.	End Users	Asbestos, Heavy Metals and PAH Compounds	Dermal contact with soil and dust (indoor & outdoor)	Yes	P3: Moderate	C3: Moderate	Moderate
			Ingestion of soil and indoor dust	Yes	P3: Moderate	C3: Moderate	Moderate
			Consumption of home-grown produce and attached soil	Yes	P3: Moderate	C3: Moderate	Moderate
			Inhalation of soil dust (indoor and outdoor)	Yes	P3: Moderate	C3: Moderate	Moderate
			Inhalation of soil vapours	Identified contaminants do not pose a risk via this pathway			N/A
			Inhalation of soil gases/ Risk of explosion	Identified contaminants do not pose a risk via this pathway			N/A
Historical use of the site as a nursery, including burning and the presence of waste materials	End Users (via Water Supply Pipework)		Contamination of incoming services	Identified contaminants do not pose a risk via this pathway			N/A
	Groundwater	Heavy Metals and PAH Compounds	Migration to groundwater	Yes	P1: Very Low	C2: Minor	Very Low
	End Users	Heavy Metals, PAH Compounds and Petroleum Hydrocarbons	Dermal contact with soil and dust (indoor & outdoor)	Yes	P2: Low	C3: Moderate	Low/Moderate
			Ingestion of soil and indoor dust	Yes	P2: Low	C3: Moderate	Low/Moderate
			Consumption of home-grown produce and attached soil	Yes	P2: Low	C3: Moderate	Low/Moderate
			Inhalation of soil dust (indoor and outdoor)	Yes	P2: Low	C3: Moderate	Low/Moderate
			Inhalation of soil vapours	Yes	P1: Very Low	C3: Moderate	Low
			Inhalation of soil gases/ Risk of explosion	Identified contaminants do not pose a risk via this pathway			N/A
	End Users (via Water Supply Pipework)	Petroleum Hydrocarbons	Contamination of incoming services	Yes	P2: Low	C3: Moderate	Low/Moderate
	Groundwater	Heavy Metals, PAH Compounds and Petroleum Hydrocarbons	Migration to groundwater	Yes	P1: Very Low	C2: Minor	Very Low

Potential Source	Potential Receptor	Potential Contaminants	Potential Pathway	Complete Linkage Present?	Probability	Consequence	Risk
Above ground oil tank.	End Users	Petroleum Hydrocarbons	Dermal contact with soil and dust (indoor & outdoor)	Yes	P2: Low	C3: Moderate	Low/Moderate
			Ingestion of soil and indoor dust	Yes	P2: Low	C3: Moderate	Low/Moderate
			Consumption of home-grown produce and attached soil	Yes	P2: Low	C3: Moderate	Low/Moderate
			Inhalation of soil dust (indoor and outdoor)	Yes	P1: Very Low	C3: Moderate	Low
			Inhalation of soil vapours	Yes	P1: Very Low	C3: Moderate	Low
			Inhalation of soil gases/ Risk of explosion	Identified contaminant does not pose a risk via this pathway			N/A
	End Users (via Water Supply Pipework)	Petroleum Hydrocarbons	Contamination of incoming services	Yes	P3: Moderate	C3: Moderate	Moderate
The site is reported to be within an area where between 5% and 10% of properties are above the action level requiring radon gas protection measures to be installed in new buildings	Groundwater	Petroleum Hydrocarbons	Migration to groundwater	Yes	P1: Very Low	C3: Moderate	Low
			Dermal contact with soil and dust (indoor & outdoor)	Identified contaminant does not pose a risk via this pathway			N/A
			Ingestion of soil and indoor dust	Identified contaminant does not pose a risk via this pathway			N/A
			Consumption of home-grown produce and attached soil	Identified contaminant does not pose a risk via this pathway			N/A
			Inhalation of soil dust (indoor and outdoor)	Identified contaminant does not pose a risk via this pathway			N/A
			Inhalation of soil vapours	Identified contaminant does not pose a risk via this pathway			N/A
			Inhalation of soil gases/ Risk of explosion	Yes	P3: Moderate	C3: Moderate	Moderate
	End Users (via Water Supply Pipework)		Contamination of incoming services	N/A			N/A
	Groundwater		Migration to groundwater	N/A			N/A
	End Users	Radon	Dermal contact with soil and dust (indoor & outdoor)	Identified contaminant does not pose a risk via this pathway			N/A
			Ingestion of soil and indoor dust	Identified contaminant does not pose a risk via this pathway			N/A
			Consumption of home-grown produce and attached soil	Identified contaminant does not pose a risk via this pathway			N/A
			Inhalation of soil dust (indoor and outdoor)	Identified contaminant does not pose a risk via this pathway			N/A
			Inhalation of soil vapours	Identified contaminant does not pose a risk via this pathway			N/A
			Inhalation of soil gases/ Risk of explosion	Yes	P3: Moderate	C3: Moderate	Moderate

APPENDIX E

Explanatory Notes
Exploratory Hole Records

EXPLANATORY NOTES

Symbols and abbreviations on Exploratory Hole Records

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.
L	Liner sample cut to length indicated.
D	Disturbed Sample
B	Bulk Disturbed Sample
W	Water Sample
ES	Environmental Suite (on older records may be referenced J T)

In Situ Testing

SPT	Standard penetration test (SPT): Using the split spoon sampler.
SPT(C)	Standard Penetration Test (SPT): Using a solid cone instead of the sampler – conducted usually in coarse grained soils or weak rocks.
HV	Shear Vane Test: Undrained shear strength (cohesion).
PP	Hand penetrometer Test: Undrained shear strength (cohesion).
P	Perth Penetrometer Test: Number of blows for 300mm penetration shown under remarks section.

Excavation Method

CP	Cable Percussion Borehole
RC/RO	Rotary Cored Borehole/Rotary Open Hole Borehole
WLS	Dynamic Sampler Borehole using windowless sampler tubes
WS	Dynamic Sampler Borehole using window sampler tubes
TP	Trial Pit excavated using mechanic excavator
HP	Trial Pit excavated using hand tools
HA	Hand Auger borehole

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.

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.

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.

In Situ Strength Testing (where undertaken)

Standard penetration testing (SPT) carried out in accordance with BS EN ISO 22476-3:2005.

Continuous dynamic probe testing conducted using a super heavy DPSH-B (As defined by BS EN ISO 22476-2:2005) 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.

Perth penetrometer tests carried out in accordance with Australian Standard AS 1289:6.3.3-1997, Method of Testing Soils for Engineering Purposes; no equivalent European or British Standard having been published to date.

Undrained shear strength determinations made in-situ using a Geonor hand shear vane or a hand penetrometer.

Testing to determine the in-situ California Bearing Ratio (CBR) of soils conducted at shallow depths using a hand-held Transport Research Laboratory (TRL) cone penetrometer.



Dynamic (Windowless) Sampler

WS01
Sheet 1 of 1

Hole Type WLS	Easting	Northing	Ground Level (m)	Scale 1:25
Project Name Southwick Nursery, 15 Roman Way, Southwick	Project No. P17510	Start Date 2025-11-27	End Date 2025-11-27	

Client	Consultant	Contractor
--------	------------	------------

Inst/ Backfill	Water Levels	Samples and Tests			Level (m)	Depth (m) (thickness)	Strata		
		Depth (m)	Type/ Ref	Results			Legend	Description	
						(0.19)		Concrete.	
						0.19 (0.06) 0.25		MADE GROUND: Orange brown sand.	
		0.40	ES			(0.55)		MADE GROUND: Brown gravelly clay. Gravel is subangular to subrounded fine to coarse brick, flint, chalk, crystalline rock and charcoal-like material.	0.5
		0.85	ES			0.80		Brown slightly gravelly silty CLAY. Gravel is subangular to subrounded fine to coarse flint and chalk. [Head]	1.0
		1.30	ES			(1.05)		becoming very gravelly (chalk) between 1.10m and 1.30m depth. (1.10 - 1.30m) with rare gravel below 1.30m depth. (1.30m)	1.5
		1.70	ES			1.85			
		2.10	ES			(1.15)		Brown gravelly silty CLAY. Gravel is subangular to subrounded fine to coarse flint and chalk. [Head]	2.0
		2.90	ES			3.00			2.5
								End of Borehole at 3.00m	3.0
									3.5
									4.0
									4.5
									5.0

Remarks Borehole cased to 2.00m depth. Borehole dry on completion, although soils noted as being wet below 2.00m depth.	Method, Plant, Stability, Dimensions 0.00 - 3.00m WLS Borehole stable on completion.	Logger GRD
---	--	---------------



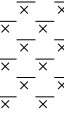
Dynamic (Windowless) Sampler

WS02

Sheet 1 of 1

Hole Type WLS	Easting	Northing	Ground Level (m)	Scale 1:25
Project Name Southwick Nursery, 15 Roman Way, Southwick	Project No. P17510	Start Date 2025-11-27	End Date 2025-11-27	

Client	Consultant	Contractor
--------	------------	------------

Inst/ Backfill	Water Levels	Samples and Tests			Level (m)	Depth (m)	Strata		
		Depth (m)	Type/ Ref	Results			Legend	Description	
		0.25	ES			(0.17) 0.17 (0.13) 0.30	  	Concrete. MADE GROUND: Dark brown gravelly clay. Gravel is subangular to subrounded fine to medium flint, brick and charcoal-like material. Brown slightly gravelly silty CLAY. Gravel is subangular to subrounded fine to coarse flint. [Head]	0.5
		0.70	ES			(0.70)			1.0
						1.00		End of Borehole at 1.00m	
									1.5
									2.0
									2.5
									3.0
									3.5
									4.0
									4.5
									5.0

Remarks Borehole dry on completion.	Method, Plant, Stability, Dimensions 0.00 - 1.00m WLS Borehole stable on completion.	Logger GRD
--	--	---------------



Hole Type	Easting	Northing	Ground Level (m)	Scale
WLS				1:25
Project Name		Project No.	Start Date	End Date
Southwick Nursery, 15 Roman Way, Southwick		P17510	2025-11-27	2025-11-27

Client	Consultant	Contractor
--------	------------	------------

[illegible]

Remarks	Method, Plant, Stability, Dimensions	Logger
Borehole dry on completion.	0.00 - 1.00m WLS Borehole stable on completion.	GRD



Dynamic (Windowless) Sampler

WS05
Sheet 1 of 1

Hole Type WLS	Easting	Northing	Ground Level (m)	Scale 1:25
Project Name Southwick Nursery, 15 Roman Way, Southwick	Project No. P17510	Start Date 2025-11-27	End Date 2025-11-27	

Client	Consultant	Contractor
--------	------------	------------

Inst/ Backfill	Water Levels	Samples and Tests			Level (m)	Depth (m) (thickness)	Strata		
		Depth (m)	Type/ Ref	Results			Legend	Description	
						(0.21)		Concrete.	
		0.30	ES			0.21 (0.19)		MADE GROUND: Dark brown slightly gravelly clay. Gravel is subangular to subrounded fine to coarse flint, brick and charcoal-like material.	
		0.60	ES			0.40 (0.60)		REWORKED: Brown silty clay with rare gravel of flint.	0.5
		1.20	ES			1.00 (1.00)		Brown gravelly silty CLAY. Gravel is subangular to subrounded fine to coarse flint. [Head]	1.0
		1.80	ES			2.00			1.5
		2.40	ES			(0.80)		Brown very clayey subangular to subrounded fine to coarse GRAVEL of flint. [Head]	2.0
		2.90	ES			2.80 (0.20)		Orange brown fine to medium SAND. [Head]	2.5
						3.00		End of Borehole at 3.00m	3.0
									3.5
									4.0
									4.5
									5.0

Remarks Borehole dry on completion.	Method, Plant, Stability, Dimensions 0.00 - 3.00m WLS Borehole unstable below 2.85m depth.	Logger GRD
--	--	---------------

APPENDIX F

Laboratory Test Results

Certificate of Analysis

Certificate Number 25-28103

Issued: 15-Dec-25

Client Ashdown Site Investigations Ltd
Unit 3 The Grain Store
Ditchling Common Business Park
Ditchling Common
West Sussex
BN6 8SG

Our Reference 25-28103

Client Reference ~ P17510

Order No ~ 12549

Contract Title ~ Southwick Nursery, 15 Roman Way, Southwick, West Sussux

Description 6 Soil samples.

Date Received 02-Dec-25

Date Started 02-Dec-25

Date Completed 15-Dec-25

Test Procedures Identified by prefix DETSn (details on request).

Notes 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.

Approved By



Reyhan Irfan
Operations Manager



Summary of Chemical Analysis

Soil Samples

Our Ref 25-28103

Client Ref ~ P17510

Contract Title ~ Southwick Nursery, 15 Roman Way, Southwick, West Sussex

Lab No	2608477	2608478	2608479	2608480	2608481	2608482
Sample ID ~	WS01	WS01	WS02	WS03	WS04	WS05
Depth ~	0.40	1.30	0.25	0.30	0.20	0.30
Other ID ~						
Sample Type ~	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date ~	27/11/2025	27/11/2025	27/11/2025	27/11/2025	27/11/2025	27/11/2025
Sampling Time ~	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	13		13	13	14	14
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.9		1.4	1.3	1.0	0.6
Cadmium	DETSC 2301#	0.1	mg/kg	0.6		0.6	0.6	0.5	0.6
Chromium	DETSC 2301#	0.15	mg/kg	20		21	20	18	18
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	22		31	19	20	28
Lead	DETSC 2301#	0.3	mg/kg	140		760	45	90	99
Mercury	DETSC 2325#	0.05	mg/kg	0.05		0.20	0.07	0.12	0.13
Nickel	DETSC 2301#	1	mg/kg	21		22	21	19	17
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5		< 0.5	< 0.5	0.6	< 0.5
Zinc	DETSC 2301#	1	mg/kg	200		140	98	100	200
Inorganics									
pH	DETSC 2008#		pH	8.3		8.4	8.0	8.7	7.9
Organic matter	DETSC 2002#	0.1	%	1.5		3.0	1.8	1.6	2.9
Sulphate as SO4, Total	DETSC 2321#	0.01	%	0.05		0.07	0.06	0.07	0.05
Petroleum Hydrocarbons									
Aliphatic C5-C6: HS_1D_AL	DETSC 3321*	0.01	mg/kg		< 0.01				
Aliphatic C6-C8: HS_1D_AL	DETSC 3321*	0.01	mg/kg		< 0.01				
Aliphatic C8-C10: HS_1D_AL	DETSC 3321*	0.01	mg/kg		< 0.01				
Aliphatic C10-C12: EH_CU_1D_AL	DETSC 3072#	1.5	mg/kg		< 1.5				
Aliphatic C12-C16: EH_CU_1D_AL	DETSC 3072#	1.2	mg/kg		< 1.2				
Aliphatic C16-C21: EH_CU_1D_AL	DETSC 3072#	1.5	mg/kg		< 1.5				
Aliphatic C21-C35: EH_CU_1D_AL	DETSC 3072#	3.4	mg/kg		< 3.4				
Aliphatic C35-C40: EH_CU_1D_AL	DETSC 3072*	3.4	mg/kg		< 3.4				
Aliphatic C5-C40: EH_CU+HS_1D_AL	DETSC 3072*	10	mg/kg		< 10				
Aromatic C5-C7: HS_1D_AR	DETSC 3321*	0.01	mg/kg		< 0.01				
Aromatic C7-C8: HS_1D_AR	DETSC 3321*	0.01	mg/kg		< 0.01				
Aromatic C8-C10: HS_1D_AR	DETSC 3321*	0.01	mg/kg		< 0.01				
Aromatic C10-C12: EH_CU_1D_AR	DETSC 3072#	0.9	mg/kg		< 0.9				
Aromatic C12-C16: EH_CU_1D_AR	DETSC 3072#	0.5	mg/kg		< 0.5				
Aromatic C16-C21: EH_CU_1D_AR	DETSC 3072#	0.6	mg/kg		< 0.6				
Aromatic C21-C35: EH_CU_1D_AR	DETSC 3072#	1.4	mg/kg		< 1.4				
Aromatic C35-C40: EH_CU_1D_AR	DETSC 3072*	1.4	mg/kg		< 1.4				
Aromatic C5-C40: EH_CU+HS_1D_AR	DETSC 3072*	10	mg/kg		< 10				
TPH Ali/Aro C5-C40: EH_CU+HS_1D_Total	DETSC 3072*	10	mg/kg		< 10				
VPH (C8-C10): HS_1D_Total	DETSC 3321*	0.1	mg/kg	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
EPH (C10-C12): EH_1D_Total	DETSC 3311	10	mg/kg	< 10		< 10	< 10	< 10	57
EPH (C12-C16): EH_1D_Total	DETSC 3311	10	mg/kg	< 10		< 10	< 10	< 10	51
EPH (C16-C21): EH_1D_Total	DETSC 3311	10	mg/kg	< 10		< 10	< 10	< 10	< 10
EPH (C21-C40): EH_1D_Total	DETSC 3311	10	mg/kg	< 10		35	< 10	< 10	27
TPH (C8-C40): HS_1D_Total	DETSC 3311*	10	mg/kg	< 10		38	< 10	< 10	140

Summary of Chemical Analysis

Soil Samples

Our Ref 25-28103

Client Ref ~ P17510

Contract Title ~ Southwick Nursery, 15 Roman Way, Southwick, West Sussex

Lab No	2608477	2608478	2608479	2608480	2608481	2608482
Sample ID ~	WS01	WS01	WS02	WS03	WS04	WS05
Depth ~	0.40	1.30	0.25	0.30	0.20	0.30
Other ID ~						
Sample Type ~	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date ~	27/11/2025	27/11/2025	27/11/2025	27/11/2025	27/11/2025	27/11/2025
Sampling Time ~	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	0.07
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	0.06		0.05	0.07	0.04	0.08
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.13		0.10	0.15	0.20	0.21
Pyrene	DETSC 3303#	0.03	mg/kg	0.11		0.09	0.13	0.17	0.19
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.04		0.03	0.04	0.08	0.08
Chrysene	DETSC 3303	0.03	mg/kg	0.05		0.04	0.05	0.09	0.08
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.04		0.03	0.04	0.11	0.12
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03	0.04	0.04
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03	0.07	0.07
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03	0.04	0.04
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03		< 0.03	< 0.03	0.04	0.05
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	0.39		0.28	0.48	0.89	1.1

Summary of Asbestos Analysis

Soil Samples

Our Ref 25-28103

Client Ref ~ P17510

Contract Title ~ Southwick Nursery, 15 Roman Way, Southwick, West Sussux

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2608477	WS01 0.40	SOIL	NAD	none	Vicky Convery
2608479	WS02 0.25	SOIL	NAD	none	Vicky Convery
2608480	WS03 0.30	SOIL	NAD	none	Vicky Convery
2608481	WS04 0.20	SOIL	NAD	none	Vicky Convery
2608482	WS05 0.30	SOIL	NAD	none	Vicky Convery

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 25-28103
 Client Ref ~ P17510
 Contract ~ Southwick Nursery, 15 Roman Way, Southwick, West Sussex

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Incorrect container for tests
2608477	WS01 0.40 SOIL	27/11/25	GJ 250ml, GJ 30ml, PT 1L		
2608478	WS01 1.30 SOIL	27/11/25	GJ 250ml, GJ 30ml, PT 1L		
2608479	WS02 0.25 SOIL	27/11/25	GJ 250ml, GJ 30ml, PT 1L		
2608480	WS03 0.30 SOIL	27/11/25	GJ 250ml, GJ 30ml, PT 1L		
2608481	WS04 0.20 SOIL	27/11/25	GJ 250ml, GJ 30ml, PT 1L		
2608482	WS05 0.30 SOIL	27/11/25	GJ 250ml, GJ 30ml, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

Normec DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 250µm sieve

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Information in Support of the Analytical Results

List of HWOL Acronyms and Operators

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
Aliphatic C5-C6	HS_1D_AL
Aliphatic C6-C8	HS_1D_AL
Aliphatic C8-C10	HS_1D_AL
Aliphatic C10-C12	EH_CU_1D_AL
Aliphatic C12-C16	EH_CU_1D_AL
Aliphatic C16-C21	EH_CU_1D_AL
Aliphatic C21-C35	EH_CU_1D_AL
Aliphatic C35-C40	EH_CU_1D_AL
Aliphatic C5-C40	EH_CU+HS_1D_AL
Aromatic C5-C7	HS_1D_AR
Aromatic C7-C8	HS_1D_AR
Aromatic C8-C10	HS_1D_AR
Aromatic C10-C12	EH_CU_1D_AR
Aromatic C12-C16	EH_CU_1D_AR
Aromatic C16-C21	EH_CU_1D_AR
Aromatic C21-C35	EH_CU_1D_AR
Aromatic C35-C40	EH_CU_1D_AR
Aromatic C5-C40	EH_CU+HS_1D_AR
TPH Ali/Aro C5-C40	EH_CU+HS_1D_Total
VPH (C8-C10)	HS_1D_Total
EPH (C10-C12)	EH_1D_Total
EPH (C12-C16)	EH_1D_Total
EPH (C16-C21)	EH_1D_Total
EPH (C21-C40)	EH_1D_Total
TPH (C8-C40)	HS_1D_Total

Key:

~ Sample details are provided by the client and can affect the validity of the results

* -not accredited.

-MCERTS (accreditation only applies if report carries the MCERTS logo).

\$ -subcontracted.

n/s -not supplied.

I/S -insufficient sample.

U/S -unsuitable sample.

t/f -to follow.

nd -not detected.

End of Report Ver 25.10.03

APPENDIX G

Quantitative Conceptual Model

QUANTITATIVE CONCEPTUAL MODEL

Source	Receptor	Contaminants	Pathway	Complete Linkage Present?	Probability	Consequence	Risk
Made ground soils across the site.	End Users	Lead	Dermal contact with soil and dust (indoor & outdoor)	Yes	P2: Low	C3: Moderate	Low/Moderate
			Ingestion of soil and indoor dust	Yes	P2: Low	C3: Moderate	Low/Moderate
			Consumption of home-grown produce and attached soil	Yes	P2: Low	C3: Moderate	Low/Moderate
			Inhalation of soil dust (indoor and outdoor)	Yes	P2: Low	C3: Moderate	Low/Moderate
			Inhalation of soil vapours	No contaminants present above SSVs			N/A
			Inhalation of soil gases/ Risk of explosion	Identified contaminants do not pose a risk via this pathway			N/A
	End Users (via Water Supply Pipework)	Petroleum Hydrocarbons	Contamination of incoming services	Yes	P2: Low	C3: Moderate	Low/Moderate
	Groundwater		Migration to groundwater	No contaminants present at concentrations posing risk to groundwater			N/A